# REDEFIN THE FUTURE

EMC<sup>2</sup>

**2014 EMC Sustainability Report** 

#### ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of this report.



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#### EMC GUIDING SUSTAINABILITY PRINCIPLES

- Pursuing sustainability makes EMC a better business and it's the right thing to do (we don't need to choose)
- 2. Every decision has economic, environmental, and social consequences (they cannot be considered in isolation)
- 3. Businesses will be held accountable for their externalities (either formally or informally)
- 4. We will affect the future with the choices we make today
- 5. We focus on issues where EMC has the potential for greatest impact on our business and the world
- 6. We base our decisions on the best available science and data
- When making decisions, we take into consideration the entire lifecycle
- 8. We do not have all the answers (and thus will collaborate and conduct open and candid discussions)
- 9. We seek to drive change at industry scale
- 10. Perception is important, but reality is much more important

# INTRODUCTION

This report is organized to highlight the nine most important sustainability issues for EMC in 2014. These topics begin with Energy Efficiency & Climate Change; eWaste; Supply Chain Responsibility; and Science, Technology, Engineering, and Mathematics (STEM) Education; all core sustainability factors that are critical to our success as a corporation and as global citizens. Next, the report discusses our Information Security & Privacy activities, the role of Information Technology (IT) in Society and EMC's part in it, and Innovation—areas that define our strengths and offer the greatest opportunities to make positive contributions. The report continues with internal topics that allow EMC to help shape the lives of our employees as well as society at large: dynamic Diversity & Inclusion practices and strong Corporate Governance.

An addendum to this executive summary, called **About EMC's 2014 Sustainability Report**, provides further detail about report methodology and disclosures, our corporate profile, the Global Reporting Initiative (GRI) Index, and restatements for this report.

#### CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this summary and related reports. Please submit any questions or comments to the Office of Sustainability at Office\_of\_Sustainability@emc.com.



### EMC'S PURPOSE:

Together, we redefine what's possible. We transform people's lives by unleashing the power of information. With EMC's enterprise hybrid cloud and Big Data, we help our customers imagine more, realizing the full potential of what is possible.

## CONNECTING SUSTAINABILITY TO EMC'S PURPOSE

Through our Sustainability strategy, we are applying our talent and technology toward realizing the potential of a sustainable future for all.

# MESSAGE FROM EMC CHAIRMAN & CEO JOE TUCCI



We are in a time of dramatic and rapid change in our industry and in our society that is driven by the accelerating adoption of new fundamental technologies—in mobile devices, in social networking, in cloud computing, and in new ways to harness the power of very large data sets (or "Big Data"). As a result, virtually all businesses need to rethink how they engage their customers, partners, and employees, and to build new digital capabilities and business models.

EMC is redefining the future through our business approach, a sustainability-minded model built for today's ever-changing and resourcedependent world. Our approach is to focus on the areas where we have the greatest potential to create positive change, and to hold ourselves accountable by measuring and reporting our progress, maintaining open and candid communication with our internal and external stakeholders, and collaborating with our peer companies and those in our value chain to expand the scale of our contributions.

We are striving to capitalize on our greatest assets — our innovative employees and our industry-leading technology — in ways that create value and provide for the well being of our shareholders, the planet, and society by:

- 1. Delivering products, solutions, and services in a sustainable and responsible manner;
- Producing innovative technologies that help our customers maximize the value from the massive amount of data being created, stored, and processed;
- 3. Collaborating in the development of environmental and social solutions that use our technologies;
- Using our technologies to accelerate our own journey to sustainability; and
- 5. Inspiring and empowering our people to contribute their skills and knowledge to advance a sustainable future.

In these pages, you will read about EMC's commitment to become a more sustainable business, key achievements and challenges in 2014, progress toward our goals, and our outlook for the future. I'm proud to lead an organization committed to creating a sustainable future.

SINCERELY,

JOE TUCCI CHAIRMAN AND CEO

# MESSAGE FROM EMC CHIEF SUSTAINABILITY OFFICER KATHRIN WINKLER



Thank you for taking the time to peruse EMC's 2014 Sustainability Report. At EMC, we know perhaps more than most just how much information is vying for your attention every day. Accordingly, we've tried to organize this material to make it easier for you to find just what you're looking for. But we do hope that you'll take a few extra minutes to scan the Executive Report to learn about the topics most important to us.

After all, a Sustainability Report is very special. It contains the record of our company's sustainability performance, and a description of our priorities with an explanation of why they were chosen and how we approach them. It is the narrative of EMC's story and offers the context for our decisions; an opportunity to celebrate our progress and ponder our challenges. Most important, it is an account of why the work done by EMC employees everywhere and every day is so relevant to the world around us. For me personally, reporting season always generates that strange ambivalence between pride in what we have accomplished and frustration that we're not moving further, faster. But writing this lettermy fifth—has given me an opportunity to reflect on just how much we have redefined sustainability at EMC over the years. I need only look at what's new in this report. We're experimenting with a new metric for measuring the effectiveness of our product take-back program. Our supply chain responsibility team has built a portal for increased engagement and collaboration with our suppliers. Our architects and data scientists are applying their skills to understanding climate change. We have – perhaps not redefined, but refined – our position on climate legislation. We've launched the Global Impact Corps for employees to apply their professional skills to help civil society. And there is so much more. But what is not new is our commitment to continue redefining our jobs to drive environmentally, socially, and economically sustainable outcomes.

I say "we", but of course it is you—our employees especially, but also our suppliers, customers, partners, and engaged stakeholders—who are doing all the heavy lifting. It is a privilege to be on this journey with a company like EMC. Thank you.

BEST REGARDS,

KATHRIN WINKLER CHIEF SUSTAINABILITY OFFICER

# SUSTAINABILITY STRATEGY & MATERIALITY

Companies are responsible for more than a healthy financial bottom line; they also are expected to contribute to a healthy global economy, environment, and society. We determine our most material sustainability priorities through analysis of the critical sustainability factors for our stakeholders, our company, and for the IT industry as a whole.

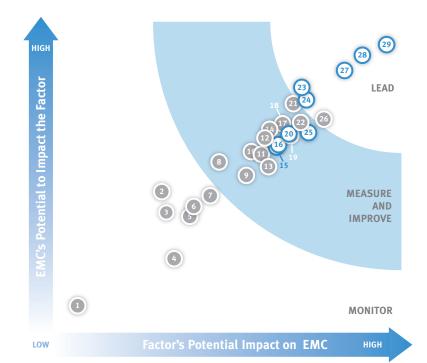
#### OUR APPROACH

At EMC, we are building a more sustainable future for the company, our communities, and the planet. We are applying our technology and our talent to redefine solutions with benefits that both mitigate, and exceed, their impacts.

Our strategy is guided by our sustainability principles and is centered on the nine issues identified in our Sustainability Materiality Assessment. We undertake detailed materiality assessments every few years to identify and prioritize sustainability factors on which we can have the greatest impact and those that can have the greatest impact on us in order to focus our resources, set goals, and evolve and report on our business practices. Our most recent assessment included feedback from 100 internal and 25 external stakeholders, including academics, advisors, customers, partners, suppliers, employees (at all levels), investors, and non-governmental organizations (NGOs). That feedback is plotted on the matrix below with the most salient issues in bold.

In 2014 we conducted an internal review to confirm that our materiality assessment was still applicable. Please see About EMC's 2014 Sustainability Report for more information.

#### EMC SUSTAINABILITY MATERIALITY SURVEY RESULTS



1 Biodiversity

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- 2 Preservation of cultural heritage
- **3** Volunteerism/community support
  - Water
- 5 Lobbying and political contributions
- 6 Climate adaption
- Nanomaterials
- 8 Packaging
- 9 Executive compensation
- **10** Facility waste/hazardous waste
- 11 Conflict minerals and raw material sourcing
- 12 Recycling and use of recycled materials
- **13** Human rights (freedom of expression, right to privacy
- 14 Digital inclusion
- 15 Inclusion and diversity
- 16 STEM education

- 17 Hazardous substances
- 18 Stakeholder engagement
- 19 Occupational health and safety
- 20 Supply chain responsibility
- 21 Product stewardship (including design for the environment)
- 22 Employee engagement
  - 23 eWaste
    - 24 Energy efficiency and climate change
    - 25 Corporate governance
    - **26** Workplace culture (including recruitment/ retention)
    - 27 Role of IT in society28 Information privacy and security
    - 29 Innovation



# STAKEHOLDER ENGAGEMENT 2014 HIGHLIGHTS

In 2014, EMC engaged with a wide variety of stakeholders, including employees, customers, shareholders, NGOs, suppliers, industry groups, and local communities.

• We met with many shareholders as part of our annual outreach program, as well as at other times throughout the year. Topics discussed included our strategy and performance; corporate governance matters such as Board composition and refreshment, succession planning and Board leadership structure; our executive compensation program; and sustainability initiatives. For more information, please see our **Proxy Statement** for the 2015 Annual Meeting of Shareholders.



- We held an in-person stakeholder engagement forum facilitated by Ceres, a nonprofit organization working with investors, companies, and public interest groups to accelerate the adoption of sustainable business practices. The forum focused on our sustainability materiality process and results, the proposed format for the upcoming report, and our top nine priority factors. Several recommendations made at the forum were used to inform the direction for this report and future EMC sustainability practices.
- We continued to expand Sustineo, a social sustainability game that encourages dialogue and helps employees be more sustainable in their work and home lives. We also launched an updated social intranet platform (Inside EMC), as well as the Sustainability at EMC community within it. The community has been very active, discussing everything from the drought in California and Brazil, to creative ideas on how to handle old conference T-shirts.
- We held our inaugural Total Customer Experience (TCE) Day both onsite at 13 offices in seven countries and virtually. Over 4,000 employees and more than 150 customer and partner guests participated in the onsite events. We celebrated EMC's customercentric culture, recognized our passionate and committed employees, and gained insights from customers and employees to continuously improve TCE.

To learn more about our stakeholder engagements in 2014, visit our **Governance** detailed report.

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# GOALS, TARGETS, & PROGRESS

#### OPERATIONAL EMISSIONS & RENEWABLES

METRIC	SCOPE	2005	2010	2011	2012	2013	2014	2015	STATUS
Global Scopes 1 & 2 GHG Emissions Intensity MT CO2e per \$1M revenue	All leased and owned global facilities and mobile assets, including VMware	32.60	22.54	20.38	19.33 Target: 30% below 2005 levels (22.82 MT) ACHIEVED	19.11	18.66	Target: 40% below 2005 (19.56 MT)	ON-PLAN
Global Scopes 1 & 2 GHG Emissions Intensity MT CO2e per \$1M revenue, Accounting for emissions associated with purchased RECs	All leased and owned global facilities and mobile assets, including VMware	32.60	22.54	18.67	13.53	15.61	13.35	Target: 40% below 2005 (19.56 MT)	<b>ON-PLAN</b>

METRIC	SCOPE	2005	2010	2011	2012	2013	2014	2020	2050	STATUS
Global Absolute Scopes 1 & 2 GHG Emissions in MT CO2e	All leased and owned global facilities and mobile assets, excluding VMware; VCE is now in- cluded as EMC emissions	304,931	335,534	346,715 (312,378 with 34,337 due to RECs)	363,975 (237,969 with 126,006 due to RECs)	379,947 (298,583 with 81,364 due to RECs)	387,258 (257,636 with 129,622 due to RECs)	Target: 40% below 2010 (201,320 MT)	Target: 80% below 2000 (estimated at 274,000 MT, target: 54,800 MT)	<b>ON-PLAN</b>
Percent of global electricity needs served by Renewables	% MWh; excludes VMware	N/A	0.0%	8.9%	23.2%	14.9%	20.6%	Target: 20%	Target: 50%	ACHIEVED 2020 AHEAD OF PLAN

#### PRODUCT SUSTAINABILITY

METRIC	SCOPE	2014	2020	STATUS
Percentage of energy intensity reduction by products at a given raw storage capacity	All EMC hardware products	Determined target technologically feasible	Target: 60% (Baseline: 2014)	Start to report in 2015
Percentage of energy intensity reduction by products for computa- tional tasks	All EMC hardware products	Determined target technologically feasible	Target: 80% (Baseline: 2014)	Start to report in 2015
All new products will meet power conversion efficiency specifications in the most recent version of ENERGY STAR®	All EMC hardware products	Power supply and platform purchasing specs specify minimum required efficiency	Target: 100% of products meet efficiency specifi- cation	Start to report in 2015
Hardware and software efficiency improves in each version of EMC products	All EMC products	Continued baseline data collection. Updated data on initial subject programs	Target: 100% of EMC products demonstrate continued improvement	Start to report in 2015

#### SUPPLY CHAIN SOCIAL AND ENVIRONMENTAL RESPONSIBILITY (SER)

METRIC	SCOPE	2014	2020	STATUS
Percentage of Tier 1 & EMC managed Tier 2 suppliers issuing sustainability reports	Strategic Tier 1 and Tier 2 suppliers	50%	Target: 100%	<b>ON-PLAN</b> Note: The current statistic reflects the current focus, which is on strategic Tier 1 and Tier 2 suppliers. This focus will expand as the initiative matures to reflect the broader 2020 goal scope. We will adjust the statistic's scope at that time.
Percentage of EMC managed Tier 2 suppliers monitoring Tier 3 to EMC standards of SER performance	Managed Tier 2 suppliers		Target: 100%	<b>ON-PLAN</b> Note: This goal aligns to a long- term strategy regarding sub-tier management. This data has not been tracked historically, but we are planning to do so and to include it in future reports.

#### LOGISTICS

METRIC	SCOPE	2014	2020	STATUS
Cumulative percentage reduction in global Supply Chain Logistics carbon intensity measured as Kg of CO2e per metric ton-km	Includes inbound, outbound, interplant, and customer service transportation and logistics operations, except for in-country goods freighting for Australia, Brazil, Japan, Russia, and South Africa. Excludes VMware.	3% below 2013 level	Target: 20% below 2013 level	ON-PLAN

#### PACKAGING

METRIC	SCOPE	2014	2020	STATUS
Percentage of outbound packs optimized for sustainable materials and/or right-sizing	Outbound (customer-facing) packs that EMC purchases in volumes greater than 1,000 units per year	76%	Target: 95%	ON-PLAN

#### EWASTE

METRIC	SCOPE	2012	2013	2014	2020	STATUS
Percentage reduction in total audit findings from Tier 1 & managed Tier 2 ITAD suppliers while maintaining a 100% audit program	Tier 1 and managed Tier 2 ITAD suppliers	N/A	N/A	21%	Target: 50% (Baseline 2013)	ON-PLAN
Percentage reduction in major downstream findings	Tier 1 and managed Tier 2 ITAD suppliers	N/A	N/A	19%	Target: 95% (Baseline 2013)	ON-PLAN
Number and locations of EMC-established community eWaste recycling projects	N/A	N/A	N/A	India project established	Target: Community eWaste recycling projects in India, China, and Brazil	ON-PLAN
Percentage of EMC equipment collected through our take back program disposed of at an R2 or e-Stewards certified facility	EMC equipment collected through our take back program	73%	100% Target: 100% by end of 2013	100%	100%	ACHIEVED

#### COMMUNITY INVOLVEMENT

METRIC	SCOPE	2014	2020	STATUS
Reach 20 million beneficiaries by 2020, cumulatively starting in 2014	EMC II	3,006,981	25 million beneficiaries cumulatively	ON-PLAN
Employees will donate 1,920,000 hours of volunteer time by 2020, cumulatively starting in 2014	EMC II	586,243	3,000,000 hours of employee volunteer time cumulatively	ON-PLAN

2020 Energy Efficiency and Climate Change Targets

EMC Response to CDP's 2014 Climate Change Information Request

# ENERGY EFFICIENCY & CLIMATE CHANGE

Among the many human activities that produce greenhouse gases (GHG), the combustion of fuel for the generation of energy represents the largest source of emissions.<sup>1</sup> Companies that use energy from fossil fuels to run their business or power their products, either directly or indirectly, have a responsibility and opportunity to help mitigate climate change.

#### OUR APPROACH

EMC addresses GHG emissions through energy efficiency in our **opera-tions**, including our data centers, labs, and manufacturing plants; in the design and operation of **our products**; by incorporating more renewable energy sources in our portfolio; through application of our technologies by our **customers**; and by encouraging GHG reduction in our **supply chain**.

During 2014, we established goals for improving the energy efficiency of several dimensions of our products: power conversion, computing, storage, and software. As part of that effort, we identified the baseline measurements to be used for each metric to help ensure we can achieve our 2020 goals.

#### 2014 HIGHLIGHTS

#### **Energy Use Measurement**

All platform products sold and reviewed in 2014 met our power conversion efficiency requirements. This is a measurement of useful power output per electrical power input. Moving forward, all new products will be required to meet this standard. In 2014, we also completed ENERGY STAR<sup>®</sup> qualification of our VNX5400<sup>™</sup>, VNX5600<sup>™</sup>, and VNX5800<sup>™</sup> data storage systems.

#### EPA Climate Leadership Award

The U.S. Environmental Protection Agency recognized EMC with a **2015 Climate Leadership Award** for Excellence in Greenhouse Gas Management—Goal Setting for **goals set in 2014**. This prestigious national award recognizes organizations that publicly report and verify organization-wide GHG inventories and publicly set aggressive GHG reduction goals.

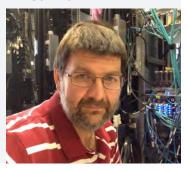
#### **Climate Change Disclosure Recognition**

The environmental nonprofit group CDP noted EMC for its leadership among Standard & Poor's 500 Index companies with a disclosure score of 100—citing the depth and quality of the climate change data disclosed to investors and the global marketplace. This was the sixth time we have been included in the Climate Disclosure Leadership Index (CDLI).

#### PERFORMANCE GURU BECOMES WORKFLOW ORCHESTRATOR

Consultant Performance Engineer Wolfgang "Sam" Klinger (see below) played a challenging and pivotal role in enabling EMC to qualify the VNX5400, VNX5600, and VNX5800 data storage units for ENERGY STAR certification in 2014. He worked with multiple teams and EMC facilities, taking on the voluntary task of workflow orchestrator—a role outside of his normal responsibilities at EMC—during peak performance

configurations and test runs in EMC's lab. From specifying hardware and software for testing by the EMC Russia Center of Excellence to analyzing data and correcting discrepancies, Sam led the way on this complex project.



TO LEARN MORE, visit the Our Products, Supply Chain, and Operations detailed reports. 10

#### STUDENT VOLUNTEER AT PRAKRIYA GREEN WISDOM SCHOOL IN BANGALORE

Vaishnavi Karkare and her recycling team at Prakriya Green Wisdom School in Bangalore, India, collected nearly 130 kilograms of eWaste in a single



month after learning about eWaste recycling from EMC employee volunteers who presented at their school assembly. But that wasn't enough for her. The Grade 8 student then

took the drive to her neighborhood—collecting more eWaste for responsible disposal with local certified recycler SAAHAS. "People were actually clueless, not aware of the dire effects of informal recycling," she said. "They had no knowledge of what happened to the eWaste they disposed of." She and her classmates plan to conduct another eWaste collection drive in 2015.

TO LEARN MORE, visit the **Our Products** detailed report.

# EWASTE

The high demand for technology and its rapid obsolescence makes the generation of electronic waste, or eWaste, one of the fastest-growing waste streams globally. When improperly handled, eWaste can cause potentially serious problems for human health and the environment.

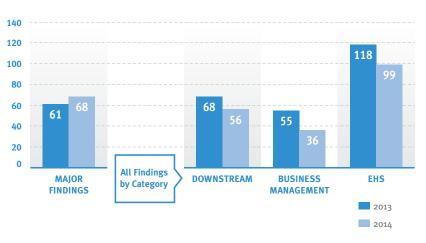
These impacts can occur when workers are exposed to toxic chemicals and heavy metals from shredding, burning, or dismantling materials, and when these materials end up in landfills, waterways, or food sources. Mismanagement of eWaste also has direct economic implications because old or unused electronic material has value both in reuse and as reprocessed commodities that feed back into the global supply chain. EMC has therefore established a robust eWaste program to mitigate risk and maximize benefit to the environment, EMC and our customers, and the broader global community in which we do business.

#### OUR APPROACH

EMC offers take-back services to our customers worldwide when our products reach the end of their useful life. We design our products for disassembly, making it easier to take products apart to reclaim and recycle their content. Our global eWaste program responsibly reclaims, re-uses, reprocesses, and recycles many of the materials in our products, sending less than one percent to landfill. We set high standards throughout the process to protect people and the environment, requiring 100 percent of our Information Technology Asset Disposal (ITAD) suppliers to be **R2-** or **eStewards**-certified. These certifications help to ensure proper and responsible handling of eWaste. We also protect customer data through data erasure and careful tracking and management of returned systems.

By setting high standards for eWaste management, we are reducing risks and maximizing value for our own operations, our customers, our communities, and our industry. In collaborating with suppliers, peers, and communities, we help to build a global system that generates awareness about the impacts of eWaste and enables its responsible, affordable management.

#### NUMBER OF ITAD SUPPLIERS AUDIT FINDINGS: 2013 v. 2014



#### 2014 HIGHLIGHTS

- 100% EDE (Electronics Disposal Efficiency): 100% of ITAD suppliers that receive EMC equipment are certified to R2 or e-Stewards standards
- 100% of Tier 1 ITAD suppliers audited to EMC's standard by third-party auditors
- Began tracking a new metric to estimate percentage of material returned to EMC at the end of its useful life

#### **Supplier Code of Conduct**

#### **Policy on Conflict Minerals**

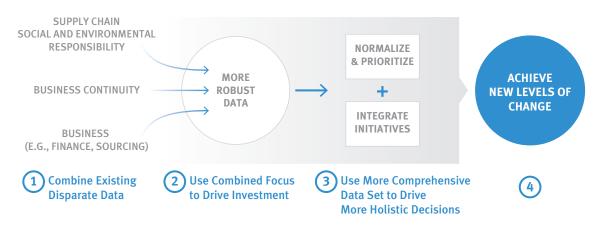
#### Policy Statement on Slavery & Human Trafficking

# SUPPLY CHAIN RESPONSIBILITY

In today's complex, interconnected, globalized economy—where inequality gaps, unfair labor, and poor environmental practices regrettably still exist—leading corporations set standards and promote business practices to improve environmental and socioeconomic conditions in their supply chains.

#### OUR APPROACH

At EMC, we continue to refine our approach to supply chain sustainability. Building a more resilient supply chain requires us to look holistically at all of the economic, environmental, and social issues that affect our suppliers worldwide. We use a multifaceted, strategic approach to mitigate risks and enhance our resiliency, including integrating Supply Chain Social and Environmental Responsibility (SER) with other supply chain programs, such as Business Continuity Planning (BCP). This approach enables more robust supplier management through enhanced data analytics that inform priorities, help communicate comprehensive messages, and drive positive change.



TO LEARN MORE, visit the Supply Chain detailed report.

We also continue to integrate sustainability more fully into our business, as an important part of overall supplier management, and work to extend our impact more deeply into the supply chain. Moving forward, we will focus on measuring impact, expanding existing initiatives, and continuing to enhance program integration to deepen supply chain resiliency and sustainability of impact.

Throughout this process, we continually collaborate with reputable industry associations, including the Electronic Industry Citizenship Coalition (EICC), to develop and improve standards to scale our impact.

#### 2014 HIGHLIGHTS

#### **Spot Check Program**

In 2014, regional EMC supply chain technical and commercial staff completed 31 spot checks to assess key social and environmental indicators, exceeding our goal of 20 spot checks. Piloted in 2013, spot checks are designed to identify and remedy small problems before they become significant issues.

#### Start of the SMaRT Library

The Supply Chain Sustainability Management and Resource Training, or "SMaRT" library provides training modules, case studies, and access to other resources to build EMC's suppliers' capacity to address SER issues in their own operations and to help their own suppliers improve. It is also now part of the training provided to EMC supply chain staff.

#### **Centralizing Risk Management**

The launch of a new internal engagement tool built on EMC's Archer<sup>®</sup> Governance Risk and Compliance platform is centralizing risk management and supplier communications across EMC's supply chain sustainability programs.

To learn more, visit the Supply Chain detailed report.



" iNERDE went from being just an idea that I presented at the EMC Transformative Action Summit to a dedicated team of 10 who spend the majority of their time using their education to educate others."

— MOHAMED KANTE

Watch the Video Cork Robotics Program

TO LEARN MORE, visit the **Communities** detailed report.

# EXECUTIVE REPORT

# STEM EDUCATION

The long-term success of the IT industry depends on a robust pipeline of qualified future employees. This requires skills in the fields of STEM, which depend on programs that expand access to education and encourage students from all backgrounds and around the globe to pursue science and math programs.

#### OUR APPROACH

EMC focuses on expanding access to education, particularly for underrepresented groups. We rely on partnerships with nonprofits and schools around the globe, a robust internship program, and inspired employees to teach STEM subjects, as well as providing consultation on class curricula. We're starting new partnerships in regions such as Africa and Latin America with educational foundations and incorporating the skills of employees to engage students from around the world who might not otherwise be reached.

#### 2014 HIGHLIGHTS

#### Test Engineer Starts STEM Camp in His Native Mali

In 2014, Mohamed Kante, an employee in EMC's Advanced Design Services at its U.S. headquarters, founded a **seven-week summer science and engineering program for kids** called **iNERDE** in Bamako, Mali, to bring STEM education opportunities to young people in his native country. Mohamed's camp aims to empower African youth by giving them the opportunity to achieve their fullest potential.

#### **EMC's New Global Impact Corps**

In 2014, we launched the Global Impact Corps as an opportunity for EMC employees to use their professional skills and expertise to build capacity in NGOs around the world. A small team of three to five employees is paired with an NGO that is facing a critical capacity challenge in an area, such as technology, product development, or marketing, where EMC has expertise. Over the course of an intensive two-day work session, the team provides the NGO with an applicable solution to address its challenge. We conducted a successful pilot in 2014, and plan to expand the program in the coming year.

#### **Cork Robotics Program Expanded to Younger Students**

In 2014, EMC employees in our Cork, Ireland, Center of Excellence launched the next iteration of the VEX Robotics program, VEX IQ, aimed at teaching primary school children the value of STEM. Though a version of this program has existed for secondary school and college



students, VEX IQ is a first for primary school children. It challenges younger students to design and build robots using VEX technology, and culminates in a competition in which the robots are programmed and remote-controlled to complete tasks.

#### WHITE PAPER **EMC Product Security: Enhancing the Trustworthi**ness of EMC Solutions

# INFORMATION SECURITY & PRIVACY

and their tactics, techniques,

and procedures are evolving

in breadth and sophistication.

Fortunately, the strategies and

technologies used to combat

OUR APPROACH

EMC is redefining how our

employees and customers

people understand that a perimeter-based defense aimed

understand and address infor-

mation security and privacy. The

most significant shift is helping

at prevention can no longer be

the primary approach for protect-

ing an organization's technology

and information. Instead, we are

prioritizing monitoring for and

detecting breaches, analyzing

their threat, and responding

them are evolving just as rapidly.

Information security and privacy is now a familiar and recurring topic as companies across all industries are increasingly becoming targets of cybercrime and espionage.

The challenge is greater than ever as companies' operations are increasingly digital; their attack surfaces are expanding thanks to the adoption of mobile, cloud, and social technologies; and cyber attackers

#### The 2014 Enterprise Threat Landscape

81%	38%	48%	34%
of large organizations had a security breach	of large organizations were affected by denial-of-service attacks	increase in the total number of security incidents detected over 2013	increase in the total financial losses attributed to security compromises over 2013

#### **EMC'S TRUSTED IT STRATEGY**



protect their infrastructures.

rapidly to thwart or minimize damage. This approach is being applied across EMC's three-pronged strategy: protect our own infrastructure, protect customers who use our products, and help customers

#### 2014 HIGHLIGHTS

#### **RSA Advance Security Operations Center Solution**

RSA, the security division of EMC, launched its Advanced Security Operation Center Solution at the division's inaugural Global Summit in September, arming security teams with new tools to help identify the undetected threats that often result in data breaches. Providing real-time detection of emerging and targeted threats without a reliance on signatures or prior experience of those threats enables organizations to see, recognize, and mitigate the most dangerous threats faster.

#### **RSA and Pivotal Create Big Data for Security Analytics Reference Architecture**

RSA and Pivotal, one of EMC's Federation of businesses, announced the availability of a Big Data for Security Analytics reference architecture, giving organizations the platform and tools they need to guickly and more effectively detect, investigate, and respond to security incidents before they have the opportunity to affect operations or business.

#### **EMC Releases Privacy Index**

The **2014 EMC Privacy Index** surveyed 15,000 people in 15 countries to produce a ranking of nations based on consumer perceptions and attitudes about data privacy, and their willingness to trade privacy for greater convenience and benefits online.

#### **EMC Publishes Principles on Transparency in Government Requests for Customer Data**

IT companies, service providers, and social networks are increasingly being asked to provide customer data to governments to aid in matters of national security. EMC believes our customers have a right to know when that data is being requested or provided. In 2014, EMC released a statement explaining how we address government requests for customer data.

2014 Information Security Breaches Survey conducted by PricewaterhouseCoopers

TO LEARN MORE, visit the **Our Customers, Operations and Our Products** detailed reports.

# ROLE OF IT IN SOCIETY

Technology can be applied to solve some of the world's biggest problems, enhance quality of life, and preserve history's best human achievements. Big Data and cloud computing are creating profound opportunities for redefining how technology can best be used to solve pressing social and environmental issues.

#### OUR APPROACH

EMC's approach to problem solving, coupled with our expertise in Big Data and cloud computing, puts us in a position to create positive change for business, society, and the planet. Through the use of our technology, we focus on key issues that affect our company's work and society as a whole, including climate change, the need for STEM education, public health initiatives, and digital preservation through our **Information Heritage Initiative**. We are constantly redefining our solutions to bring technology to an ever-expanding group of people and to benefit generations to come.

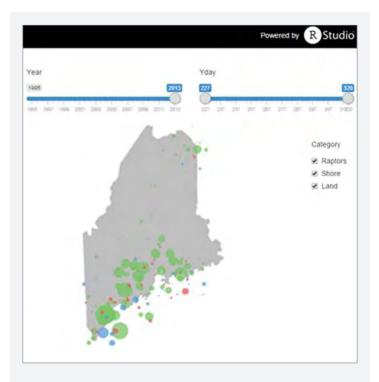
#### 2014 HIGHLIGHTS

#### Studying the Ecological Impacts of Climate Change using Big Data

In 2014, EMC embarked on a new partnership with Earthwatch Institute, the U.S. National Park Service, and the Schoodic Institute at Acadia National Park in Maine. The new "Big Data vs. Climate Change" project will use leading Big Data architecture built on EMC platforms to enhance the information being collected to analyze bird migration and the effects of climate change on these patterns. The program involved sending researchers, including EMC employees, to the park to help capture data on bird migration.

#### Using City Data in Rio de Janeiro to Track Dengue Fever

In conjunction with the launch of EMC's newest Research & Development (R&D) center in Brazil, we joined with the City of Rio de Janeiro on a Big Data initiative to integrate many of the city's previously disparate databases. EMC developed an application that allows Rio city officials to track dengue fever within the city and to identify a previously unknown relationship between the spread of the disease and construction sites.



The "Big Data vs. Climate Change" team is creating interactive visualizations that allow citizen scientists to explore relationships between the data they collect and other publicly available data sets. The example above lets users study information from observations in the state of Maine over time for various categories of birds.

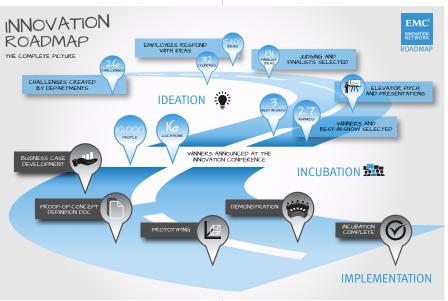
TO LEARN MORE, visit the **Customers** detailed report.

# INNOVATION

Innovation is the lifeblood of any IT company. EMC embodies that principle, as a spirit of innovation courses through the company and our people. It's the factor that holds the most opportunity for business, environmental, and societal returns.

#### OUR APPROACH

Our culture of innovation includes a range of programs and activities designed to solicit, evaluate, and incubate employees' ideas, large and small. We address many of our most pressing business problems each year with these employee suggestions, with the most notable emerging



from the **Innovation Roadmap** competition. We also know innovation happens when people pursue new discoveries together.

An ever-growing community of researchers collaborates through the Innovation Central platform, developed by EMC for multinational and multicultural collaboration throughout EMC to promote breakthrough technology and business ideas. By bringing together talent from inside and outside the company, we are expanding our knowl-

edge in strategic areas of technology through a continual exchange of information. The Innovation Network is central to our research and development mission, which taps into expertise and insights around the world. Collaborating with the IT industry, partners, and customers plays an important role in finding the best solutions and then scaling them for impact.

# 2014 HIGHLIGHT Ignition Sequence

The 2014 Innovation Roadmap competition ended with the creators of the top three of 27 winning projects competing for funding in a venturepitch format show called **"Ignition Sequence."** The show, filmed for our employees worldwide, featured a high-stakes elimination round judged by the founder of a technology startup accelerator along with three senior EMC executives.

#### WEARABLE SECURITY WINS BEST-IN-SHOW FROM 2014 INNOVATION ROADMAP

Senior Technical Writer Tamar Wisemon in our Israel Center of Excellence set out to solve a frustrating problem: How does one help alleviate the burden of repeatedly logging in to secure systems during the day? Tamar, with the help of four colleagues who specialize in software engineering and technology and research architecture, developed a wearable device that detects unique movements, such as a person's walking gait or pulse, and uses this information to authorize him or her as a system user. The idea was named one of three Best-in-Show entries in the 2014 EMC Innovation Roadmap competition, and is in development in 2015.



Best-in-show Winner Tamar Wisemon presenting her idea to the judges at Ignition Sequence

TO LEARN MORE, visit the Our People and Workforce detailed report.

#### VETERAN HIRING WINS AWARDS

In 2014, EMC won four national awards as a **Top Military-Friendly Employer**, and received national certification for our Veterans Employee Circle, with chapters established in Massachusetts and Utah. EMC also hired 24 employees through the "**Hiring our Heroes**" program that pairs veterans with employers.



# DIVERSITY & INCLUSION

The last few years have brought an increased focus on the talent pipeline and hiring efforts in the IT industry. The demand for tech expertise, especially among women and minorities, far exceeds availability—so only organizations with cultures that fully embrace diversity and inclusion will win the battle for talent. The IT industry has struggled to reflect society as a whole in its hiring, and has pledged to make improving this situation a priority.

#### OUR APPROACH

At EMC, we view diversity and inclusion as a business imperative. We seek to cultivate an inclusive culture reflective of the diverse perspectives, backgrounds, and cultures of the communities in which we live and conduct business. We acknowledge the gap that remains in our industry, and are taking part in concerted efforts to build an inclusive workforce. To do this, we promote a variety of offerings, from internship programs to training, career coaching, and employee affinity groups. Moving forward, we aim to strengthen and expand our multi-pronged approach to attract and retain employees, and take advantage of the power of data analytics to better prepare for a changing future.



# 2014 HIGHLIGHTS Implicit Bias Training

In 2014, we continued our focus on the importance of recognizing our implicit biases and their impact on the workplace. More than 500 EMC managers participated in sessions on implicit bias in 2014, and we expect even more to attend in 2015.

EMC earns third consecutive score of 100 in the Human Rights Campaign Corporate Equality Index

#### **New Parental Leave Benefit**

In January 2015, we announced a new parental leave benefit for our U.S. employees, retroactive to 2014. This benefit for both mothers and fathers supports the many definitions of family at EMC. It is designed to assist parents and encourage bonding time with a new child by providing up to four weeks of paid leave within the first year following a birth or adoption. This is in addition to any paid leave already provided by EMC and enhances our current offerings covering maternity leave and adoption assistance.

#### **FastLane Accelerates Careers of Women at EMC**

In 2014, EMC's FastLane program continued in its eighth year to select a global class of 29 high-performing women for a three-day program designed to share experiences and hone important skills needed to take on challenging leadership positions. They then joined a strong alumnae network, becoming peer mentors for each other as well as for other women across the organization. Retention of FastLane graduates tops 90 percent.

To learn more, visit the **Our People and Workforce** detailed report, and **Diversity & Inclusion Annual Report**.

#### 2015 Proxy Statement

#### Corporate Governance Guidelines

**Business Conduct Guidelines** 

Corporate Governance and Nominating Committee Charter

#### **Political Contributions Policy**



William D. Green Independent Lead Director

# CORPORATE GOVERNANCE

Corporate governance is an important and necessary framework for any company, as it shapes how a company operates and how decisions are made. Governance helps allocate roles and responsibilities among the Board of Directors, management, shareholders, and other stakeholders, and helps ensure accountability, fairness, and transparency.

#### OUR APPROACH

EMC believes strong governance helps us compete more effectively, sustain our success, and build long-term value for shareholders. The Board of Directors has implemented corporate governance practices that it believes are in the best interest of EMC and its shareholders. The Board reviews these practices on an ongoing basis.

#### 2014 HIGHLIGHTS

#### **EMC Appoints Two New Directors**

In January 2015, EMC appointed José E. Almeida and Donald J. Carty to the Board of Directors. Mr. Almeida is the former chairman, president, and chief executive officer of Covidien PLC. Mr. Carty is the retired chairman and chief executive officer of AMR Corp. and American Airlines, and retired vice chairman and chief financial officer of Dell Inc.

#### **Commitment to Identify and Recruit Diverse Board Candidates**

In early 2015, the Board amended the Governance Committee's charter to state explicitly the Board's commitment to actively identify and recruit diverse candidates, including women and minority candidates, as part of the search process for Board members.

#### **New Independent Lead Director**

The Board believes in a strong independent board leadership structure to ensure accountability. In February 2015, after its annual review, the independent directors designated William D. Green as the Board's independent Lead Director. Mr. Green has substantial experience leading a large public corporation, governance expertise from serving as chairman and a member of other company boards and committees, and a deep understanding of the IT industry.

#### **Executive Compensation**

Members of our executive leadership team were eligible to receive semiannual cash bonuses contingent upon achievement of a number of shared and individual performance goals under the 2014 Executive Management by Objectives Plan. The Leadership and Compensation Committee assigned shared goals to the executive leadership team, including a goal to increase employee engagement.



TO LEARN MORE, visit the Governance detailed report.

# ABOUT EMC'S 2014 SUSTAINABILITY REPORT

#### BOUNDARY AND SCOPE

This is EMC's eighth annual Sustainability Report. Previous reports are available for download **here**. This report covers EMC and our subsidiaries for the 2014 fiscal year (January 1, 2014 to December 31, 2014), except where otherwise noted or where intermediary updates are made, and indicated, prior to the next full report.

In areas where the scope is defined as "EMC," information includes all our subsidiaries, but does not include VMware, Inc. unless otherwise specified.

Where we refer to "owned and operated" facilities, we include buildings that we fully own, as well as buildings or parts of buildings that we lease and over which we have operational control.

Tier 1 suppliers are companies who sell directly to EMC. Managed Tier 2 suppliers are companies from whom we instruct Tier 1 suppliers to purchase parts for the components they sell to us, and with whom EMC has a direct commercial relationship.

The information on our workplace policies and programs is global and includes EMC and all of our subsidiaries, but does not include VMware, Inc.

#### CONTENT AND MATERIALITY

To determine the content for this report, we used our 2013 sustainability materiality assessment to identify the most relevant issues to EMC and our industry, as well as expectations and requirements of our stakeholders. The process involved gathering input from external and internal sources, as well as feedback gleaned from our annual stakeholder forum facilitated by Ceres. We have focused the content for this report on the highest-ranked aspects identified through the materiality process with the addition of updates from key subject matter experts. To learn more, visit **Sustainability Strategy & Materiality** in this report.

#### DISCLOSURE AND ASSURANCE

EMC's Office of Sustainability is responsible for the preparation and integrity of the information in this report.

We engaged an independent third party to review our 2014 GHG inventory and received limited assurance of its accuracy and completeness. The scope of the review included all global Scope 1 and Scope 2 GHG emissions and global Scope 3 GHG emissions associated with business travel, downstream leased assets, fuel and energy-related activities, and use of sold products.

EMC contracted with a consultancy that specializes in sustainability reporting to assist us with the process and content development of this Executive Summary report. However, this report was not externally assured or verified by an independent third party. It was produced in accordance with the Global Reporting Initiative (GRI) G<sub>3.1</sub> Sustainability Reporting Guidelines. EMC has self-declared an application Level B for this report. Please refer to the **GRI Index** for a listing of all disclosures that are covered in our detailed reports online.

# CORPORATE PROFILE

At EMC, we believe investing in a sustainable future makes our company healthier and stronger. A sustainable business is one that takes a holistic, forward-looking view of economic, environmental, societal, and governance practices—and one that creates value for our shareholders and other stakeholders.

EMC Corporation, based in Hopkinton, Massachusetts, is a leading Information Technology company with the mission to lead businesses and service providers to transform information technology (IT) operations to an "as a service" model (ITaaS). This transformation enables IT organizations to evolve from cost centers to value drivers that are more agile, more cost-effective and more responsive to business needs. Through best-of-breed products and services, EMC customers are able to move to cloud computing, gain value through analysis of Big Data and to do so within a trusted computing environment.

EMC has a unique federated business model that includes EMC Information Infrastructure ("EMC II"), VMware, and Pivotal. Under the "EMC Federation" of Companies, each of the three businesses operates independently to build its own ecosystem and culture, operate with greater speed and agility, and offer customers technology solutions that are free from vendor lock-in. At the same time, they are strategically aligned in the mission to lead customers and partners through unprecedented transformational shifts occurring in IT.

EMC supports a broad range of customers, including businesses, governments, not-for-profit organizations and service providers, around the world, in every major industry, in both public and private sectors, and of sizes ranging from the Fortune Global 500 to small businesses and individual customers. EMC employs approximately 70,000 employees worldwide, of which approximately 18,000 are employed by or working on behalf of VMware. We have the world's largest sales and service force focused on information infrastructure, and we work closely with a global network of technology, outsourcing, systems integration, service, and distribution partners.

Our differentiated value stems from our sustained and substantial investment in research and development (R&D), a cumulative investment of \$12.8 billion since the beginning of 2010. To strengthen our core business and extend our market to new areas, EMC has invested \$8.6 billion in mergers and acquisitions during the same period.

EMC is supported by thousands of technical R&D employees around the globe. We operate R&D centers in Brazil, China, France, India, Ireland, Israel, the Netherlands, Russia, Singapore, and the United States (U.S.), and manufacturing facilities in the U.S. and Ireland.

We are a publicly traded company, listed on the New York Stock Exchange under the symbol EMC. In 2014, EMC was ranked #128 on the Fortune 500 companies list. Full-year 2014 revenue was \$24.44 billion, an increase of 5.3 percent year over year.

# GRI INDEX

INDICATOR G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
STRATEGY AN	ID ANALYSIS			
1.1	G4-1	Statement from the most senior decision-maker of the organization	Message from EMC Chairman & CEO Joe Tucci	F
1.2	G4-2	Description of key impacts, risks, and opportunities	Message From EMC Chief Sustainability Officer Kathrin Winkler Sustainability Strategy & Materiality	F
ORGANIZATIO	ONAL PROFILE	·		

G4-3	Name of the organization	Corporate Profile	F
G4-4	Primary brands, products, and/or services	2014 10-К	F
G4-17	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures	Corporate Profile	F
G4-5	Location of organization's headquarters	Corporate Profile 2014 10-K	F
G4-6	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	Corporate Profile 2014 10-K	F
G4-7	Nature of ownership and legal form	2014 10-К	F
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers/ beneficiaries)	Corporate Profile	F
G4-9	Scale of the reporting organization	Corporate Profile 2014 10-K	F
G4-12	Supply chain description	2014 10-К	F
	G4-4 G4-17 G4-5 G4-6 G4-7 G4-8 G4-9	G4-4Primary brands, products, and/or servicesG4-17Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint venturesG4-5Location of organization's headquartersG4-6Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the reportG4-7Nature of ownership and legal formG4-8Markets served (including geographic breakdown, sectors served, and types of customers/ beneficiaries)G4-9Scale of the reporting organization	G4-4Primary brands, products, and/or services2014 10-KG4-17Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint venturesCorporate ProfileG4-5Location of organization's headquartersCorporate Profile 2014 10-KG4-6Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the reportCorporate Profile 2014 10-KG4-7Nature of ownership and legal form2014 10-KG4-8Markets served (including geographic breakdown, sectors served, and types of customers/ beneficiaries)Corporate Profile 2014 10-KG4-9Scale of the reporting organizationCorporate Profile 2014 10-K

<b>INDICATOR</b> G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙϹ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
ORGANIZATIO	ONAL PROFILE (CC	NTINUED)		
2.9	G4-13	Significant changes during the reporting period regarding size, structure, or ownership	2014 10-К	F
2.10		Awards received in the reporting period	EMC.com	F
REPORT PARA	AMETERS		·	
3.1	G4-28	Reporting period (e.g., fiscal/calendar year) for information provided	About this Report	F
3.2	G4-29	Date of most recent previous report (if any)	About this Report	F
3.3	G4-30	Reporting cycle (annual, biennial, etc.)	About this Report	F
3.4	G4-31	Contact point for questions regarding the report or its contents	Executive Summary/Introduction	F
3.5	G4-18	Process for defining report content	Message From EMC Chief Sustainability Officer Kathrin Winkler About this Report	F
	G4-19	Material aspects included in the report	Executive Summary	F
3.6	G4-19	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.	About this Report	F
3.7	G4-20, G4-21	State any specific limitations on the scope or boundary of the report (see completeness principle for explanation of scope)	About this Report	F
3.8	G4-20, G4-21	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations	About this Report	F
3.9		Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report Explain any decisions not to apply, or to substantially diverge from, the GRI Indicator Protocols	About this Report Executive Summary/Sustainability Strategy & Materiality	F

INDICATOR G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
REPORT PARA	METERS (CONTIN	IUED)		
3.10	G4-22	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g. mergers/acquisitions, change of base years/periods, nature of business, measurement methods)	About this Report	F
3.11	G4-23	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report	About this Report	F
3.12	G4-32	Table identifying the location of the Standard Disclosures in the report	GRI Index	F
3.13	G4-33	Policy and current practice with regard to seeking external assurance for the report	About this Report	F

#### GOVERNANCE, COMMITMENTS, AND ENGAGEMENT

4.1	G4-34, G4-38	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight	Governance/Corporate Governance/ Governance Structure: 2014 Detailed Report	F
4.2	G4-39	Indicate whether the Chair of the highest governance body is also an executive officer	Governance/Corporate Governance/ Board Leadership: 2014 Detailed Report	F
4.3	G4-38	For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and/or non-executive members	Governance/Corporate Governance/ Governance Structure: 2014 Detailed Report	F
4.4	G4-37, G4- 49, G4-53	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body	Governance/Corporate Governance/ Stakeholder Engagement: 2014 Detailed Report	F
			Governance/Corporate Governance/ Contacting the Board: 2014 Detailed Report 2015 Proxy Statement	

INDICATOR G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
GOVERNANC	E, COMMITMENTS	, AND ENGAGEMENT (CONTINUED)		
4-5	G4-51	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance)	Corporate Governance Guidelines 2015 Proxy Statement Governance/Risk Management	F
4.6	G4-41	Processes in place for the highest governance body to ensure conflicts of interest are avoided	Governance/Corporate Governance/Ethics: 2014 Detailed Report Corporate Governance Guidelines Business Conduct Guidelines	F
4.7	G4-40	Process for determining the composition, qualifications, and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity	Governance/Corporate Governance/Board Membership Criteria: 2014 Detailed Report Corporate Governance Guidelines 2015 Proxy Statement	F
4.8	G4-56	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation	Executive Summary/Introduction/EMC Guiding Sustainability Principles Governance/Global Inclusion/Core Beliefs Governance/Ethics/Business Conduct Guidelines: 2014 Detailed Report	F
4.9	G4-45, G4-47	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	Governance/Corporate Governance/ Sustainability Governance: 2014 Detailed Report Governance/Corporate Governance/ Risk Management: 2014 Detailed Report 2015 Proxy Statement	F

<b>INDICATOR</b> G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
GOVERNANCI	E, COMMITMENTS	, AND ENGAGEMENT (CONTINUED)		
4.10	G4-44	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	Governance/Corporate Governance/ Board Evaluations: 2014 Detailed Report Corporate Governance Guidelines	F
	G4-35	Process for delegating authority for sustainability topics from the board to senior executives and other employees	Governance/Corporate Governance/ Director and Executive Compensation: 2014 Detailed Report	F
	G4-36	High-level accountability for sustainability topics	Governance/Corporate Governance/ Sustainability Governance: 2014 Detailed Report	F
	G4-48	Highest committee or position that formally reviews and approves the organization's sustainability report	About this Report/Disclosure and Assurance	F
	G4-52	Process for determining remuneration	2015 Proxy	
4.11	G4-14	Explanation of whether and how the precautionary approach or principle is addressed by the organization	Our Products/Product Material Content: 2014 Detailed Report	F
4.12	G4-15	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	Governance/Human Rights: 2014 Detailed Report Governance/Public Policy: 2014 Detailed Report	F
4.13	G4-16	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: * Has positions in governance bodies; * Participates in projects or committees; * Provides substantive funding beyond routine membership dues; or * Views membership as strategic	Governance/Public Policy: 2014 Detailed Report Governance/Industry Collaboration: 2014 Detailed Report	F

<b>INDICATOR</b> G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
GOVERNANCE	, COMMITMENTS	, AND ENGAGEMENT (CONTINUED)		
4.14	G4-24	List of stakeholder groups engaged by the organization	Governance/Stakeholder Engagement: 2014 Detailed Report	F
4.15	G4-25	Basis for identification and selection of stakeholders with whom to engage	Governance/Stakeholder Engagement: 2014 Detailed Report	F
4.16	G4-26	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	Governance/Stakeholder Engagement: 2014 Detailed Report	F
4.17	G4-27	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	Our People & Workforce/Global Inclusion/ Stakeholder Inquiries: 2014 Detailed Report Governance/Stakeholder Engagement: 2014 Detailed Report	F
	G4-57	Helplines or advice line for employees	Governance/Ethics/Business Conduct Guidelines: 2014 Detailed Report Business Conduct Guidelines	F
	G4-58	Mechanisms for reporting concerns about unethical or unlawful behavior	Governance/Ethics/Business Conduct Guidelines: 2014 Detailed Report Business Conduct Guidelines	F

<b>INDICATOR</b> G3.1	STANDARD DISCLOSURE G4	ΤΟΡΙϹ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
ECONOMIC PI	ERFORMANCE IND	DICATORS		
5.0 - DMA	Aspects	Economic performance	Corporate Profile Customers/Customer Information Security & Privacy: 2014 Detailed Report	F
		Market presence	Customers/Role of IT in Society: 2014 Detailed Report Communities: 2014 Detailed Report	F
		Indirect economic impacts	2014 10-K 2015 Proxy Statement	F
EC1	G4-EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	Corporate Profile Executive Summary/STEM Education Governance/Public Policy: 2014 Detailed Report Communities: 2014 Detailed Report	F
EC2	G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Executive Summary Energy Efficiency & Climate Change Operations: 2014 Detailed Report 2014 10-K 2014 Carbon Disclosure Project Report	F
EC8	G4-EC7	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	Communities: 2014 Detailed Report Customers/IT & Society: 2014 Detailed Report	F
EC9	G4-EC8	Understanding and describing significant indirect economic impacts, including the extent of impacts	Customers/IT & Society: 2014 Detailed Report Communities/Information Preservation/ Information Heritage Initiative Executive Summary/STEM Education	Ρ

INDICATOR	STANDARD	ТОРІС	LOCATION	COVERAGE
G3.1	DISCLOSURE			(FULL OR
	G4			PARTIAL)

ENVIRONMENTAL PERFORMANCE INDICATORS

5.0 - DMA	Aspects	Materials	Executive Summary/Sustainability Strategy & Materiality	F
		Energy	Operations/Energy Efficiency/	
		Water	Our Approach: 2014 Detailed Report	
		Biodiversity	Operations/Environmental Strategy: 2014 Detailed Report	
		Emissions, effluents and waste	Supply Chain/Social & Environmental Responsibility: 2014 Detailed Report	
		Products and services		
		Compliance		
		Transport		
		Overall		
EN3	G4-EN3	Direct energy consumption by primary energy source	Operations/Efficient Facilities: 2014 Detailed Report 2014 Carbon Disclosure Project Report	F
EN4	G4-EN3	Indirect energy consumption by primary source	Operations/Efficient Facilities: 2014 Detailed Report	F
EN5	G4-EN6	Energy saved due to conservation and efficiency improvements	Operations/Efficient Facilities: 2014 Detailed Report	F
EN6	G4-EN7	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	Executive Summary/Energy Efficiency & Climate Change	F
			Operations/Efficient Facilities: 2014 Detailed Report	
			Our Products/Product Stewardship and Efficiency: 2014 Detailed Report	

<b>INDICATOR</b> G3.1	STANDARD DISCLOSURE G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
ENVIRONMEN	ITAL PERFORMAN	ICE INDICATORS (CONTINUED)		
EN7	G4-EN6	Initiatives to reduce indirect energy consumption and reductions achieved	Operations/Efficient Facilities: 2014 Detailed Report	Р
EN8	G4-EN8	Total water withdrawal by source	Operations/Water Use & Management: 2014 Detailed Report	F
EN10	G4-EN10	Percentage and total volume of water recycled and reused	Operations/Water Use & Management: 2014 Detailed Report	F
EN16	G4-EN15, G4-EN16	Total direct and indirect greenhouse gas emissions by weight	Operations/Energy & Climate Change Strategy: 2014 Detailed Report	F
EN17	G4-EN17	Other relevant indirect greenhouse gas emissions by weight	Operations: 2014 Detailed Report Supply Chain/Supply Chain Social & Environmental Responsibility: 2014 Detailed Report	F
EN18	G4-EN19	Initiatives to reduce greenhouse gas emissions and reductions achieved	Operations: 2014 Detailed Report Our Products/Product Stewardship & Efficiency: 2014 Detailed Report Our People & Workplace/Employee Travel & Commuting: 2014 Detailed Report 2014 Carbon Disclosure Project Report	F
EN23	G4-EN24	Total number and volume of significant spills	Operations/Recycling & Waste: 2014 Detailed Report	F
EN26	G4-EN27	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	Operations: 2014 Detailed Report Our Products: 2014 Detailed Report Supply Chain/Supply Chain Social & Environmental Responsibility: 2014 Detailed Report	F

<b>INDICATOR</b> G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
ENVIRONME	NTAL PERFORMAN	ICE INDICATORS (CONTINUED)		
EN28	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compli- ance with environmental laws and regulations.	Operations/Environmental Strategy: 2014 Detailed Report	F
EN29	G4-EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	Operations/Logistics: 2014 Detailed Report Our People & Workforce/Employee Travel and Commuting: 2014 Detailed Report 2014 Carbon Disclosure Project Report	Ρ
HUMAN RIGH	ITS PERFORMANC	E INDICATORS		1
5.0 - DMA	Aspects	Investment and procurement practices	Governance/Human Rights: 2014 Detailed Report Governance/Ethics: 2014 Detailed Report Supply Chain/Social & Environmental	F
		Non-discrimination		
		Freedom of association and collective bargaining		
		Child labor	Responsibility: 2014 Detailed Report	
		Prevention of forced and compulsory labor	_	
		Security practices	_	
		Indigenous rights		
		Assessment		
		Remediation	_	
HR1	G4-HR1	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening	Supply Chain/Social & Environmental Responsibility: 2014 Detailed Report	F
			Supply Chain/Conflict Minerals: 2014 Detailed Report	
			Governance/Human Rights: 2014 Detailed Report	

<b>INDICATOR</b> G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
HUMAN RIGH	TS PERFORMANC	E INDICATORS (CONTINUED)		
HR2	G4-HR10	Percentage of significant suppliers, contractors and other business partners that have undergone human rights screening, and actions taken	Supply Chain/Social and Environmental Responsibility: 2014 Detailed Report	Р
HR4	G4-HR3	Total number of incidents of discrimination and corrective actions taken	Supply Chain/Social and Environmental Responsibility: 2014 Detailed Report	Р
HR5	G4-HR4	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights	Supply Chain/Social and Environmental Responsibility: 2014 Detailed Report	Ρ
HR6	G4-HR5	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	Supply Chain/Social and Environmental Responsibility: 2014 Detailed Report	Р
HR7	G4-HA6	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	Supply Chain/Social and Environmental Responsibility: 2014 Detailed Report	Ρ

#### LABOR PRACTICES & DECENT WORK PERFORMANCE INDICATORS

5.0 - DMA	Aspects	Employment	Our People and Workforce: 2014 Detailed Report	F
		Labor/management relations		
		Occupational health and safety		
		Training and education		
		Diversity and equal opportunity		
		Equal remuneration for women and men		
LA1	G4-10	Total workforce by employment type, employment contract, and region, broken down by gender	Our People & Workforce/Global Inclusion	Р
LA3	G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations	Our People and Workforce/Health & Wealth Benefits: 2014 Detailed Report	F

<b>INDICATOR</b> G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
LABOR PRAC	TICES & DECENT V	VORK PERFORMANCE INDICATORS (CONTINUED)		
LA7	G4-LA6	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work- related fatalities by region and by gender	Our People & Workforce/Workplace Health & Safety: 2014 Detailed Report	Р
LA8	G4-LA7	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases	Our People & Workforce: 2014 Detailed Report	F
LA10	G4-LA9	Average hours of training per year per employee by gender, and by employee category	Our People & Workforce/Employee Career Development: 2014 Detailed Report	Р
LA11	G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	Our People & Workforce/Employee Career Development: 2014 Detailed Report Supply Chain/Social & Environmental Responsibility: 2014 Detailed Report	Ρ
SOCIETY PER	FORMANCE INDIC	ATORS		
5.0 - DMA	Aspects	Local communities	Governance/Corporate Governance: 2014 Detailed Report	F
		Corruption		
		Public policy		

		Public policy	-	
		Anti-competitive behavior		
		Compliance		
S02	G4-S03	Percentage and total number of business units analyzed for risks related to corruption	Business Conduct Guidelines	F
S03	G4-SO4	Percentage of employees trained in organization's anti-corruption policies and procedures	Governance/Ethics/Business Conduct Guidelines: 2014 Detailed Report	F

<b>INDICATOR</b> G3.1	<b>STANDARD</b> <b>DISCLOSURE</b> G4	ΤΟΡΙΟ	LOCATION	<b>COVERAGE</b> (FULL OR PARTIAL)
SOCIETY PERI	FORMANCE INDIC	ATORS (CONTINUED)		
S05		Public policy positions and participation in public policy development and lobbying	Governance/Public Policy: 2014 Detailed Report	F
S06	G4-SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country	Governance/Public Policy: 2014 Detailed Report Corporate Political Contributions 2014	F

#### PRODUCT RESPONSIBILITY PERFORMANCE INDICATORS

5.0 - DMA	Aspects	Customer health and safety	Our Products: 2014 Detailed Report	F
		Product and service labeling	Customers: 2014 Detailed Report	
		Marketing communications		
		Customer privacy		
		Compliance		
PR1	G4-PR1	Lifecycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures	Our Products: 2014 Detailed Report	F
PR5	G4-PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	Customers: 2014 Detailed Report Governance/Stakeholder Engagement: 2014 Detailed Report	F

# EXECUTIVE REPORT

# RESTATEMENTS

The following GHG and energy metrics were adjusted:

 Global Absolute GHG Emissions, Scopes 1 and 2 were adjusted due to receipt of additional energy data and updates to emission factors and Global Warming Potential (GWP) values. Additionally, our 2020 target and 2050 goal now include VCE as a result of EMC's full acquisition of VCE in 2014. Current year and past year GHG emissions figures have been updated to include VCE's contributions.

Since EMC cannot directly impact VMware's GHG emissions, their emissions remain out of scope for the 2020 target and 2050 goal. Emissions figures were updated for 2005 and 2010-2013. 2013 total (excluding VMware) updated to 379,947 metric tons of CO2e, scope 1 updated to 39,937 MT, and scope 2 updated to 340,009 MT. 2013 total (including VMware) updated to 443,769 MT, scope 1 updated to 47,722 MT, and scope 2 updated to 396,047 MT.

 Global GHG Emissions Intensity per \$1M revenue, Scopes 1 and 2 (including VMware and VCE) were updated for 2005 and 2010-2013. This metric continues to include VMware and VCE as revenue includes those entities. 2013 total adjusted from 19.29 MT to 19.11 MT; 2015 goal was modified from 19.52 to 19.56 MT due to adjustments in the 2005 base.

- Global Facilities Electricity Consumption (including VMware) was updated for 2010-2013 due to receipt of additional global energy data. 2013 consumption updated from 901,762 to 891,567 MWh and 3,246,343 to 3,209,641 GJ.
- Global Facilities Natural Gas Consumption (including VMware) was updated for 2010-2013 due to receipt of additional global energy data. 2013 consumption updated from 5,857,069 to 5,971,490 Therms[US] and 617,806 to 629,875 GJ.
- Scope 3 GHG Emissions, Business Travel (including VMware) was updated for 2013 due to receipt of additional data and updates to emission factors. 2013 GHG emissions updated from 171,571 to 156,666 MT CO2e.

In the Recycling & Waste section of the 2013 Operations Detailed Report, EMC stated that manufacturing waste had been reduced to three percent; however, this was an error in rounding and should have been noted as four percent.

In the EMC Cafeteria waste graphic in the Recycling & Waste section, the North Carolina compost data from 2013 is restated from 11.9 metric tons to 19.1 metric tons. The 2013 number (11.9) represented only the data from Apex, while the 2012 number included all 3 facilities in North Carolina.

2012 and 2013 Global Water Withdrawal values were adjusted due to more accurate data. 2012 values were adjusted to from 959,333 to 1,002,583 m3. 2013 values were adjusted to from 1,084,053 to 1,176,714m3.



# CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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# REDEFICE THE FUTURE

**2014 EMC Sustainability Report** 



# ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of the **Executive Report**.



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# EMPLOYEE ENGAGEMENT

As a large global company with a multi-generational workforce, we recognize that being engaged at work means different things to different people. We provide an environment and workplace that encourages every EMC employee to be their best each day.

Great workplaces operate from a foundation of trust. Gathering feedback across the five pillars of respect, credibility, fairness, pride, and camaraderie has proven vital in EMC's ongoing journey. In 2014, we focused our efforts around the core themes of connecting, communicating, and giving back. We continue to utilize our most current MyVoice Survey results as a platform to drive change and evolution of our culture across the organization. For 2015, we will focus on three new themes described below, that we believe will strengthen and engage our workforce even more on our journey to becoming an even better place to work.

### **EMC RECOGNIZED AS GREAT PLACE TO WORK**



2014 was a remarkable milestone in the history of EMC, as we were recognized by the Great Place to Work (GPTW) Institute as the #18 global GPTW and a top 25 global GPTW. We want to thank the more than 40,000 EMC employees who contributed to this year's MyVoice Survey, the primary source of input to this rating.

### VOICE OF OUR EMPLOYEES

First introduced in 2013, EMC's global MyVoice Survey is our primary way of understanding how employees think about EMC. The survey has proven to be an exceptional tool to help our leaders around the globe drive engagement with their local teams. It has been the catalyst of big changes within the company, as well as inspiration to achieve even greater things in coming years.

We continue to ask employees to take the MyVoice Survey on an annual basis to ensure that we maintain an accurate pulse on the culture and the increasing satisfaction of EMC employees around the world.

### **Spark the Conversation**

The 2014 MyVoice Survey asked our employees if they had meaningful conversations with their managers regularly. GPTW analysis of these results showed a 0.72 correlation between employees who ranked that question a 4 or 5, and people believing that EMC is a Great Place to Work. This is a key priority of 2015 as we aim to share meaningful conversation regularly to build a community of employees on all levels and roles who are actively engaged across EMC and share a common dedication to communicating with one another.

### **Show We Care**

Highlighting that EMC cares is a crucial component in retaining and attracting talent, as well as creating a collaborative workforce of people who feel valued. From taking the time to contribute to our communities, to using equipment and resources more sustainably, our goal is to fuel a culture where people care about their work, how it impacts others, and how it impacts the world.

### **Share our Vision and Purpose**

EMC is not just a company that builds and provides storage equipment and solutions. We help cities in the developing world run more efficiently. We help researchers cure disease and doctors diagnose more quickly. We help secure financial transactions online for millions of people each day. EMC's higher purpose touches on far more than providing technology, due solely to the hard work of our employees. In 2015, we are galvanizing a broader conversation amongst leaders and individual contributors alike to capture their perceptions of what it really means to work at EMC.

Our 2014 MyVoice Survey showed that we're doing a lot of things right. Our employees believe that their feedback is heard. We do a good job of work/life balance and employees can take time off when needed. We have high levels of trust between leaders and employees.

We will continue to drive change in 2015 in a number of specific ways, tied to the themes described above.

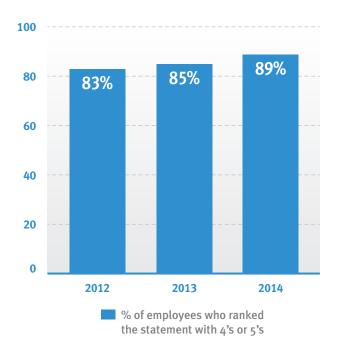
# ENGAGING EMPLOYEES IN SUSTAINABILITY INITIATIVES AT EMC

Employee engagement may be the most important factor in driving sustainability to all levels of EMC. Engaged employees are much more involved in their work, are more likely to innovate to make EMC a better environmental steward and contributor to society, and are more satisfied, productive, and loyal. By engaging employees, we are able to advance our sustainability practices and establish those behaviors as the company's norm.

The Office of Sustainability (OOS) is primarily responsible for focusing on global activities related to Sustainability Employee Engagement. The OOS works closely with Human Resources when developing programs and planning the expansion of sustainability activities within the employee community. The OOS also provides guidance and encourages collaboration between teams that execute regionally. For example, we sponsor a Centers of Excellence (COE) Sustainability Summit quarterly to facilitate the sharing of sustainability best practices and collaboration among our global Centers of Excellence.

Engaged employees have a shared awareness of EMC's commitment to sustainability throughout the workforce. When prompted with the statement, "EMC demonstrates a commitment to environmental and social responsibility," on this year's MyVoice Survey, GPTW analysis showed that 89 percent of employees rated this statement positively. This response shows a steady improvement year over year, indicating that employees are continually increasing their awareness of EMC's sustainability initiatives. (See graph below)

# MYVOICE SURVEY STATEMENT: EMC DEMONSTRATES A COMMITMENT TO ENVIRONMENTAL AND SOCIAL RESPONSIBILITY



# EMC'S PURPOSE:

Together, we redefine what's possible. We transform people's lives by unleashing the power of information. With EMC's enterprise hybrid cloud and Big Data, we help our customers imagine more, realizing the full potential of what is possible.



### EMPLOYEE ENGAGEMENT | 3



Michael Robillard Recipient of 2014 Environmental Stewardship Innovation Award



Earth Day Expo at EMC's headquarter building in Hopkinton, Massachusetts



EMC employee Mark Stephan installed 27 solar panels on the roof of his newly constructed home through the EMC Home Solar program. We engage employees in sustainability initiatives throughout the year in several ways. Following are some of the most notable initiatives of 2014.

- EMC's annual Innovation Roadmap encourages and recognizes the power of employee innovation to shape the future. Since launching the program in 2009, we have identified and implemented employee ideas focused on data center energy consumption, monitoring enterprise information technology's (IT's) carbon footprint, and sustainable packaging practices. In 2014, the OOS continued our support of innovation at EMC through sponsorship of the Environmental Stewardship challenge. The winner of the challenge was Michael Robillard, whose idea entitled "Efficiency Modeling Process" describes a new method to develop techniques for modeling product efficiency early in the development phase. To learn more about the Innovation Roadmap, visit the **Culture of Innovation** section of this report.
- EMC facilities across the world host annual family days and activities to celebrate and educate employees about environmental stewardship on Earth Day and World Environment Day. In 2014, several locations held events, including Franklin, Massachusetts; Apex, North Carolina; Cork, Ireland; and Bangalore, India.
- New sustainability-related benefits were launched, including a reduced cost for employee home solar panels. Several employees participated, and we are expanding the program in 2015.
- EMC's sustainability priorities were highlighted through projects in our social sustainability platform, Sustineo. Employees can learn about our priorities, why these topics are important to EMC, and what steps they can take in their own lives both at work and at home. In 2014, we added 15 new projects to the platform, including several based upon the key sustainability factors of innovation, energy efficiency, the role of IT in society, information privacy and security, supply chain responsibility, and eWaste. We also ran an Intern Competition using Sustineo, in which EMC interns competed to collect points for sustainable actions and won prizes for participation.
- Inside EMC, EMC's new intranet portal, was launched in 2014, within which we formed the "Sustainability at EMC" on-line community. This virtual space allows us to interact easily with employees from around the world.

In 2014, EMC held its second EcoKids Art Competition, inviting the children of EMC employees to create their own artwork showing their concerns for the environment as well as ideas for how to conserve and protect it. This year, 183 children participated from 23 countries, with global winners chosen from 3 age ranges: 0-5 years old, 6-9 years old, and 10-14 years old.

### **GLOBAL WINNERS, 2014 ECOKIDS ART CONTEST**

0-5 YEARS OLD Ella Lee, 5 Taiwan



6-9 YEARS OLD Yuna, 9 South Korea



10-14 YEARS OLD Suzie Maniak, 12 USA





Employees Volunteering at the Toronto Food Bank



EMC Employees in Italy Volunteering at a Local School



EMC Employees in India Volunteering at a Local Hope School

# COMMUNITY INVOLVEMENT

EMC and our employees play an active role in the communities in which we operate around the world. By supporting education, health, human services, arts programs, and disaster relief efforts, we strengthen society and shape a better future for local communities. EMC's efforts are helping employees expand their skills and build on their understanding of the importance of our communities to EMC's business.

On this year's MyVoice Survey in Europe, when given the statement "This organization participates in the solution of global problems, such as: pollution, hunger, human rights violations, curable diseases, etc.",



95 percent of EMC employees selected positive responses, a five percent increase from 2013.

With this data in mind, we are focusing this year on encouraging employees to give to the causes they believe in and engage with the communities where they work and live. We launched a new initiative called EMC Gives Back,

providing employees an opportunity to be more engaged in EMC's philanthropic efforts and drawing the EMC community closer together. To learn more, visit the **Community Involvement** section of the **Communities Detailed Report**.

# AWARDS AND RECOGNITION

We foster our culture by rewarding and recognizing employees for their hard work. This includes rewarding innovative ideas through our annual Innovation Roadmap competition, driving the importance of customer service with our annual Total Customer Experience Excellence Awards, and celebrating employees who give back to communities outside of causes we support at the corporate level with our annual Community Service Awards.

To learn more about these programs, visit the **Culture of Innovation** section of this report and our detailed reports titled **Customers** and **Communities**, respectively.



When thinking about **diversity**, we consider the way we recognize and appreciate human differences including ethnicity, gender, age, national origin, disability, sexual orientation, and beliefs.

When thinking about inclusion, we consider how we value, respect, and support differences, as well as creating a workplace environment where differences are embraced and each person can achieve his or her full potential.

# GLOBAL INCLUSION

At EMC, we view diversity and inclusion as a business imperative. We strive to cultivate an inclusive culture that is reflective of the diverse perspectives, backgrounds, and cultures of the communities in which we live and conduct business.

This not only leads to more creative ideas and fuels our innovative spirit, but also helps develop, retain, and energize the talent that drives our company forward.

Diversity and inclusion touch every part of our business and come to life through a variety of initiatives. This includes their role in innovation, leadership and career development, and external engagement with the communities we serve through internal and external initiatives, all of which make our company stronger.

We are fortunate to have many global and award-winning programs that support diversity and inclusion, and are ready to accelerate their momentum and reach. Highlights of some of our programs and recognition include:

- Named as one of 25 Noteworthy Companies for Diversity by Diversity Inc.
- Top supporter of Historically Black Colleges and Universities (HBCU)/Engineering Schools by U.S. Black Engineer & Information Technology Magazine
- Summer Intern Program for HBCU students
- A perfect score of 100 on the Human Rights Campaign Corporate Equality Index (for the third consecutive year)

- Healthcare benefits directed to the needs of our transgender employees
- Global training on implicit bias
- Global training on empowering EMC through diversity and inclusion
- Host of Regional Women's Leadership Conferences in the Americas, EMEA and Asia-Pacific Regions
- Dedicated Leadership Development Programs for High Potential Women
- Girls Inc. Award for Best Workplace Partner
- Girl Scouts Leading Women Award
- Diversity Women's Peer to Peer Award
- Black Engineer of the Year Award
- Urban League Corporate Partner Award
- Civil Rights Founders Association Award
- Annual Speed Coaching Career Development Program sponsored by Employee Affinity Groups
- Disability Matters Champions and Employer-of-Choice Awards
- Disability Matters Workplace Award for EMC India
- YWCA Leading Women Award
- Best for Vets: A Top Employer for Veterans



**JACKIE GLENN** 

As Global Chief Diversity Officer at EMC, Jackie Glenn leads the diversity and inclusion strategy for the company's global operations. A 15-year veteran of EMC, Jackie has developed several efforts at EMC, including the design and implementation of a D&I curriculum, introduction of the company's Transgender Reassignment Program, and the launch and execution of its High Potential Women's Program.



Jackie Glenn Speaking at the FastLane Program

Our programs and external recognition affirm that we have a strong foundation on which to build as we continue on our diversity and inclusion journey.

### CORE BELIEFS

We continue to focus our efforts around a set of core beliefs that best reflect who EMC is and the values that guide us.

### WE BELIEVE:

- ... in being inclusive throughout EMC
- ... that diversity and inclusion are the foundation of our business strategy
- ... in reflecting our diverse marketplace of global customers
- ... that innovation is connected to creativity and diversity
- ... that we make better decisions by hearing multiple perspectives
- ... in always developing our talent and helping everyone realize their full potential
- ... that engaging in our communities builds our strength as a company
- ... in developing the next generation of experts in Science, Technology, Engineering, and Math

### OUR APPROACH

We are committed to creating a workplace that is representative of our customers and our communities, that allows each and every employee to reach his or her full potential, and that inspires the creativity and excitement that will drive EMC's success. While we are making progress, we can do better as a company and as an industry.

We take a multi-faceted approach to addressing the challenges of inadequate pipelines of skilled talent, shifting demographics, and the speed of change in the marketplace. With the active support and engagement of our senior management team, our strategy is to:

- Change behavior through training and self-awareness. Our training focuses on three critical aspects of behavior: implicit bias, micro-inequities, and cultural competence.
- Through our diverse employee circles, build strong communities of employees with like interests to network with one another and with other circles, to provide leadership from within the organization, and to inspire their colleagues with social, educational and philan-thropic endeavors.
- Bolster the talent pipeline, particularly for under-represented groups through our many STEM education programs, our relationships with academic organizations, our memberships in programs such as Society for Women Engineers and Human Rights Campaign, and our engagement with students and teachers in communities where we conduct business.
- Focus on leadership development and retention through initiatives such as the FastLane program for high-performing women (described below), as well as expanded mentoring and sponsorship programs.
- Hold ourselves accountable by being vigilant in tracking and analyzing our ability to attract, engage and retain a diverse population of talent; ensuring active program participation by senior leadership; refining our recruiting programs to diversify our slates of candidates; and incorporating diversity performance into our performance appraisal process.

During 2014, the technology industry was actively engaged in an open conversation about diversity and inclusion. There has been a lot of dialogue and action taken with the goal of increasing the number of diverse professionals working in the technology industry, as well as increasing the pipeline of diverse graduates with STEM education. EMC has been focused on both of these topics for a long time, and we are doing many things inside the company as well as in the communities where we live and work. To learn more about EMC's STEM education programs, please visit the **Communities** detailed report.

### WORKFORCE STATISTICS

As of March 31, 2015, women represent 22.3% percent of our workforce globally. In U.S., 23.2% of our employees are women, 16.5% are Asian, 3.7% are Black, and 3.9% are Hispanic.

### TRAINING

Diversity and Inclusion training at EMC includes extensive leader-led courses as well as on-line training for employees at all levels of the organization. For example, in 2014, we introduced "Empowering EMC through Diversity and Inclusion," an eLearning module translated into eight languages. At the end of 2014, over 19,000 employees had taken the training, with the goal of full participation by the end of 2015.

Our diversity training portfolio also includes dedicated courses for managers. Implicit bias is defined as the process by which the brain uses "mental associations" that are so well-established as to operate without awareness, without intention, or without control. All people have implicit biases, but at EMC, we believe it is important to recognize this trait and its impact on the workplace, especially for managers and supervisors.

Given the demographics of our rapidly changing world, the more conscious we are of implicit bias, the more effective we will be in fulfilling our organizational mission, and doing it fairly and equitably. EMC's approach to minimizing implicit bias in our workplace is to deliver an implicit bias training program that will raise consciousness enterprise wide among all managers. This training also offers participants tools and activities to reference after training is complete. In 2014, over 500 managers attended sessions on Implicit Bias.

### AFFINITY GROUPS

Our Affinity Groups, which we also refer to as "Employee Circles", are self-governing networks of employees with common interests. They help their members develop personally and professionally through peer mentoring, coaching, and networking, and work across the company to lead changes in behavior and perception. Certain Employee Circles have also taken on added responsibilities to recruit, engage and promote STEM talent. EMC Employee Circles are initiated by employees, and each has an executive sponsor committed to ensuring that they have a voice within the company and support from senior management. Many of these groups have created multiple chapters around the world, to enable a regional focus and better engage employees locally.

In 2014, EMC added our 12th affinity group, the Faith-Based Circle, and now has a total of 34 separate Employee Circle chapters. The following is our roster of Employee Circles:

- Asian Circle
- Black Employees Affinity Group
- Caregivers Awareness and Resources for Employees
- Diversify, Expand, Meet and Connect
- Disability Employee Resource Group
- EMC Lesbian, Gay, Bisexual, Transgender Advocates
- EMC Latino Leadership Interest Team
- Faith-Based Circle
- Indian Subcontinent Employee Circle
- Multigenerational Employee Circle
- Veterans and Their Supporters
- Women's Leadership Forum

### **OTHER HIGHLIGHTS FROM 2014**

### DIVERSE STUDENT RECRUITING REMAINS STRONG

We recognize the benefits of attracting talented people who reflect the diversity of our global communities. We continued in 2014 to cooperate with five Historically Black Colleges and Universities (HBCUs) in the United States to offer their students programming and mentoring as part of our increased outreach efforts. We hired 21 interns from the HBCUs in our summer internship program, and nine of ten eligible college seniors accepted positions as full-time employees.



EMC at Boston Pride Parade



### **Additional Information**

# EMC India Sponsors Internships for the Profoundly Disabled

### **ANITA BORG INSTITUTE**

EMC has identified The Anita Borg Institute as a best-in-class organization for recruiting and developing women in computer science. With a priority place as one of EMC's 2015 Diversity Partners, Anita Borg is widely known for its Grace Hopper Conference, the world's largest technical gathering for women in computing. In 2014, the Institute honored EMC's Chief Sustainability Officer Kathrin Winkler with their Women of Vision Award for Social Impact. EMC has increased our investment and commitment with Anita Borg through active involvement on the group's Partnership Council, quarterly meetings and conference planning committees.



Kathrin Winkler With Dr. Telle Whitney, President and CEO of the Anita Borg Institute

### NEW PARENTAL LEAVE BENEFIT

In January 2015, we announced a new Parental Leave benefit for our U.S. employees, retroactive to 2014. This benefit for both mothers and fathers supports the many definitions of family at EMC. It is designed to assist parents and encourage bonding time with a new child by providing up to four weeks of paid leave within the first year following a birth or adoption. This is in addition to any paid leave already provided by EMC and enhances our current offerings covering maternity leave and adoption assistance.

### FASTLANE ACCELERATES CAREERS OF WOMEN AT EMC

In 2014, EMC's FastLane program continued in its eighth year to select a global class of 29 high-performing women for a threeday program designed to share experiences and hone important skills needed to take on challenging leadership positions. They then joined a strong alumnae network, becoming peer mentors for each other as well as for other women across the organization. Retention of FastLane graduates tops 90 percent.

# CO-CHAIR OF MASSACHUSETTS CONFERENCE FOR WOMEN EMC co-chaired the state's renowned women's conference for more than 8,000 attendees in 2014. The annual event, started in 2005, offers dozens of speakers, workshops, and seminars on the issues that matter most to women such as personal finance, business and entrepreneurship, and health. EMC, in its third year as a major sponsor, was represented by over 800 women at the event.

### ACTIONS FOR WORKPLACE EQUITY

To address issues of gender equity in the workplace, EMC proudly endorsed two important efforts in Massachusetts. In partnership with Bentley University's Center for Women and Business, EMC joined other leading companies to take part in the "Getting to More" Corporate Challenge. This multiyear initiative brings together major employers to share ideas for how to advance women in the workplace. EMC also signed The Boston Women's Compact, a voluntary pledge that over 50 local companies have signed to indicate their commitment to closing the gender wage gap.

# STAKEHOLDER INQUIRIES

We continue to receive inquiries from our customers and partners regarding our Diversity and Inclusion journey. They recognize our strategy and resulting programs and initiatives to be best practice and ones that can have tremendous impact in winning the competition for talent as well as having a positive impact on employee engagement and retention. Customers want to see themselves reflected in EMC's business. We speak with these customers about the evolution of our programs, the issues we are addressing, and our efforts to be inclusive. Our program strategy sets the bar for driving an exemplary diversity and inclusion journey and is emulated by customers and partners as they establish and grow their own strategies.

# MOVING FORWARD

While we continue to accelerate our internal and external programs, EMC is also working to understand how demographic shifts in the world and changes in our own workforce can affect our ability to achieve our company's and industry's goals. By analyzing data from internal and external sources, we are developing greater insights into the investments that will best enable us to realize our vision.

Diversity and inclusion are basic, essential and important parts of what makes EMC a great place to work. They help us to recognize the strengths of each individual; to identify and remove hidden barriers



to collaboration; and to cultivate creativity. EMC remains committed to a diverse and inclusive environment which we believe is foundational to driving innovation, and to attracting and retaining top talent globally.

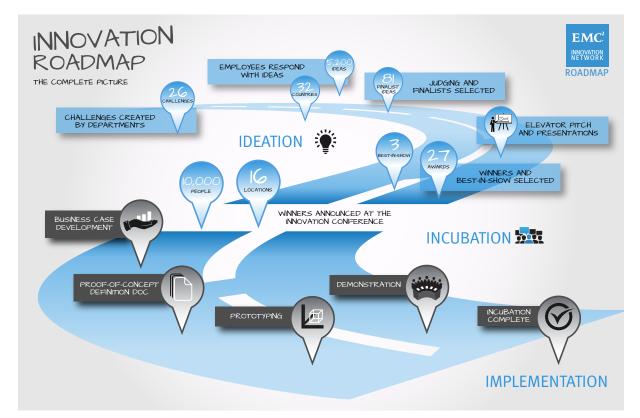
To learn more about EMC's diversity initiatives, visit our **2014 Inclusion Annual Report.** 

# CULTURE OF INNOVATION

Innovation is at the core of everything we do at EMC—from how we run our operations to how we develop and deliver new products and services. We rely on innovation to survive and thrive.

We believe that the intersection of innovation and sustainability is where we can uncover solutions to our greatest business, social, and environmental challenges. Innovation and forward thinking at EMC means questioning the existing industry "status quo", observing internal operations and customers' behavior, networking through existing channels, and experimenting with products and services to develop solutions.

The EMC Innovation Network, our innovation engine, is led by the Office of CTO. Its mission is to spark the creation and delivery of high-value



ideas that accelerate change and drive progress. The team reaches out to over 16,000 people across EMC who actively engage in Innovation Network events, programs, and processes, and who work together to advance the organic growth at EMC. Innovative ideas improve the operational efficiency of the company, result in new products and solutions that exceed customer expectations, and are the bases of new partnerships to address emerging trends and challenges. Through these programs, the Innovation Network identifies opportunities to shape the future of EMC and to make a positive impact on the environment and society.

### INNOVATION CONFERENCE & INNOVATION ROADMAP

The Innovation Conference is EMC's annual celebration of innovation. Because we believe that co-creation drives innovation, the participants are not only EMC employees, but also partners, customers, universities, industry associations, and other external stakeholders. In 2014, the Innovation Conference was digitally recorded and broadcast to more than 4,000 people participating in conferences hosted at 16 EMC global Centers of Excellence (COE's). To learn more, visit the **Community of Innovation Site**.

The cornerstone of the Innovation Conference is the Innovation Roadmap, EMC's innovation competition and incubation engine, where innovative ideas are collected, strengthened, recognized, incubated, and implemented. Executives from various business units (BU's) and COE's post "challenges" representative of EMC's most pressing business problems, which are open to innovative solutions from any employee or team of employees in the company.

In 2014, the Innovation Network received a record high of 5,477 submissions in response to 26 challenges, showing the widespread innovative climate and creative thinking throughout the company.

## **EMC GLOBAL INNOVATION NETWORK**

NUMBER, GEOGRAPHICAL LOCATION, AND YEAR OF INNOVATION IDEA SUBMISSION

# 2008-2014 Global Innovation Footprint





After a comprehensive judging process, three "best in show" ideas were selected from among the 26 challenge winners. The creators of these three ideas competed for funding in a venture-pitch format show called **Ignition Sequence**. The show featured a high-stakes elimination round judged by a panel of EMC and tech startup finance executives including EMC's CTO John Roese, CFO Zane Rowe, EVP of HR ML Krakauer, and Founder and President of MassChallenge Akhil Nigam.

### **INNOVATION & INCUBATION PROCESS**

Gathering innovative ideas and aligning them with EMC's vision is only the beginning of the Innovation Roadmap. To ensure that the ideas can be realized, innovators are encouraged to follow the EMC Incubation Process.

The Incubation Process starts with the development of the business case and proof-of-concept. These documents describe the business value and development path from the idea conception to the first viable prototype.

Throughout this process, Innovators receive domain expertise, financial support and resources for testing (see also table below).



KNOWLEDGE

- Leadership Development Program Consultants (diverse backgrounds)
- Fellow & Distinguished Engineer (Specialized Experts in IT tech and markets)



### FINANCE

- Sponsor Support (Business Unit (BU) strategy, project development guidance)
- Incubation Fund (additional resources allocation)



### TESTING

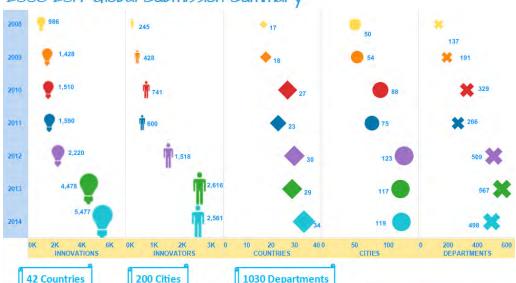
- Existing (internal/external) products and services (access to data, processes, market information)
- EMC Lab (Corporate R&D/ testing facility)

# INNOVATION ROADMAP ACHIEVEMENTS AND CHALLENGES

### **Organic Growth and BU Strategic Evolution**

One of the measures of Innovation Roadmap is the number of submitted ideas. Since 2008, the number of submitted ideas has grown steadily, resulting in last year's record of 5,477. The increasing number of submitted ideas poses a significant challenge to the Innovation Network in managing the ideation process and selection of most promising ideas. In 2013, Innovation Central, a web-based platform, was built and put in place to facilitate idea submission, judging, management, and innovation incubation project tracking across the company. Participants in the Innovation Roadmap use Innovation Central to submit ideas, comment on and support the evolution of ideas from their colleagues, and build on each other's ideas to form new combined solutions. Innovation Central is a global tool used by over 16,000 EMC employees around the world.

# EMC GLOBAL INNOVATION NETWORK SUBMISSION SUMMARY



# 2008-2014 Global Submission Summary

### **Incubation Fund**

Winning Ideas have access to the Incubation Fund. The Incubation Fund is a cross departmental pool of resources funded through "donations" of BUs and COEs to support the further development of winning ideas. This fund demonstrates our collective cross-regional and cross-functional approach to innovation, highlighting the benefits that innovation provides to the global company regardless of the origins of the winning ideas.

### INTERN INNOVATION INITIATIVE

In 2014, we introduced the Innovation Intern Initiative, inviting interns from universities and schools around the globe to work with EMC engineers and managers on innovative ideas and projects. Over 135 interns volunteered and were broken into focus groups to help advance the incubation of nine winning Innovation Roadmap ideas. Interns performed market research and put together strategic action plans, which they later presented to the Innovation Network team. Through the Intern Innovation Initiative, students get exposed to the technical edge of the company and have the opportunity to work with global customers.

### IMPACT OF THE INNOVATION NETWORK

Measuring the impact of innovation activities is challenging due to the nature of innovation (the creation of tangible and intangible assets), the time frame for innovations to reach the market space, and the dynamic and fast evolving nature of the IT industry. The Innovation Network is the support structure that allows EMC employees to experiment with new technologies, products, and services. The results oftentimes are very successful, but even when not, can generate lessons learned and inspire additional research and development. In 2014, an all-time record of 43 percent of the ideas selected for incubation successfully reached implementation, indicating the maturity of our innovation network processes for advancing ideas.

# SPONSORED CHALLENGES FOR EMC'S 2014 INNOVATION ROADMAP

- Asia—Pacific—Japan (APJ) <15K
- APJ COE (China COE & India COE) "Future of EMC II"
- APJ COE (China COE & India COE) "Future of EVP (EMC Federation)"
- Brazil R&D Center
- Community Involvement
- Customer Services
- Data Protection & Availability Division—Total Customer experience automation
- Durham COE
- Education Services
- Egypt COE
- Enterprise and Mid-Range Storage Division
- Office of Sustainability Environmental Stewardship
- Global Product Operations
- Global Services
- Human Resources
- Information Intelligence Group
- Ireland COE
- Israel COE
- IT
- Office of CTO (OCTO)
- RSA
- Russia COE
- Skolkovo R&D Center
- Solutions/xBU (cross Business Unit)
- Total Customer Experience
- Utah COE

# FELLOW & DISTINGUISHED ENGINEER PROGRAM

Our Corporate EMC Fellow & Distinguished Engineer (FDE) Program has been recognizing and honoring the accomplishments of outstanding leaders in our technical community since 2007. Currently there are four Fellows and 66 Distinguished Engineers in the program, recognized for their contributions in four key areas:

- Technologist
- Domain Expert
- Business Impact
- Technical Leadership

Achieving this pre-eminent technical distinction requires passing a rigorous nomination and review process. Nomination alone is an achievement and showcases an individual's contributions to the company. The designation of Distinguished Engineer or Fellow is awarded on the basis of demonstrated individual achievement and leadership. Distinguished Engineers are recognized for their contributions to EMC; Fellows are recognized not only for their contributions to EMC, but for having significant impact on our industry.

After the Innovation Roadmap and Conference, the FDEs provide support in teams and as individuals to assist innovators in idea development and incubation. FDEs also serve as mentors for our employees and contribute to EMC's overall strategy development.

In 2014, we were proud to announce that Radia Perlman joined EMC as our first Industry Fellow.

Additionally the following 12 individuals were named as EMC Distinguished Engineers:

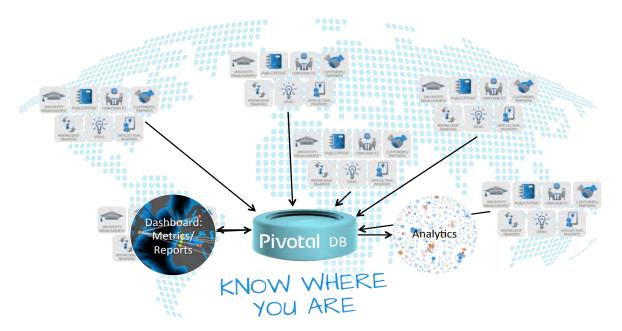
- Saar Cohen, Senior Consultant Software Engineer
- Daniel Cummins, Senior Consultant Software Engineer
- James Espy, Senior Consultant Hardware Engineer
- Dave Harvey, Senior Consultant Software Engineer
- David Humby, Senior Consultant Software Engineer
- Stephen R. Ives, Director Software Engineering
- Michael Robillard, Senior Manager Hardware Engineering
- Adnan Sahin, Senior Director Engineering
- Michael Shanzer, Principal Solutions Architect
- Darryl B. Smith, Senior Consultant Technologist
- Erez Webman, CTO Xtreme Software Suite

### GLOBAL INNOVATION NETWORK ANALYTICS

In 2014, we continued to advance the Global Innovation Network Analytics (GINA) initiative across the company. Leveraging an EMC Greenplum<sup>®</sup>-based repository, GINA enables employees to submit meeting agendas or minutes to a central database that automatically maps the distribution of EMC's global activities, showing the specific lines of connection across the company through recruiting, innovation activities, research and development, publications, patents, and more. It provides a single pane-of-glass view of major collaboration and knowledge transfer across the globe, enabling the Innovation Network to achieve its mission to "expand knowledge locally, transfer it globally, and leverage it strategically."

In 2014, in addition to entering our ideas, research, and publications into the tool, we worked directly with our customers and gathered their feedback into GINA to measure what our customers are saying about our vision and compare it to other data in GINA. We conducted a detailed analysis of customer feedback and addressed any gaps that our customers found. We also had follow-up innovation meetings with certain customers that were attracted to the vision and wished to work directly with us on innovation initiatives going forward.

**GINA Gather Information Data** 



GINA distributes a weekly newsletter on global innovations and initiatives called Vision-X Newsletter. Any team is welcomed to submit data to GINA at gina@emc.com and spread their knowledge across the company.



We continued to use and improve the GINA tool in

2014. The GINA team conducted a global survey of every advanced development and research product occurring within our product teams. The data was entered into GINA for the first-ever dashboard view of advanced development. This dashboard view for advanced development activity was also synchronized with external research data to present one common dashboard for all internal and external innovation activity related to EMC's interests.

Another benefit we realized from the GINA tool in 2014 was the formation of new innovation communities within EMC. The tool allowed global technologists to learn what others were working on. The GINA team created weekly "Tech Talks" that stimulated knowledge transfer from one area of technology expertise and was broadcast to the entire advanced development community. An internal social media site was set up for the Advanced Development community to further facilitate knowledge transfer.

# RECRUITING & UNIVERSITY RELATIONS

EMC is always on the lookout for the biggest thinkers and most innovative minds in our communities and on campuses around the world. Because they are sources of talent and innovation, we collaborate with academic institutions to identify prospective employees and to partner in advanced research.

EMC University Relations is our centralized resource for identifying, building, and managing strategic partnerships between universities and our global business groups. Our goal is to nurture strong relationships with students so they consider EMC as an innovative thought-leader in technology and sustainability as well as a potential employer and partner upon graduation.

# COLLABORATING TO SUPPORT THE BUSINESS STRATEGY

University Relations works closely with the Academic Alliance, Innovation Network, Office of the Chief Technology Officer, Centers of Excellence, Office of Global Workforce Inclusion, Office of Sustainability, and Community Involvement. This internal collaboration informs the selection of EMC's key schools, where we have developed recruiting, research, and faculty relationships.

### RECRUITING FOR DIVERSITY

EMC strives to attract talented people who reflect the diversity of our global communities. In 2014, we continued to partner with five Historically Black Colleges and Universities (HBCUs) to offer students programming and mentoring opportunities and to build relationships with faculty, students, and administration by partnering with student



organizations and Industrial Advisory Boards. We hired 21 interns from the HBCUs into our summer internship program, and nine HBCU interns out of the ten rising seniors eligible for hiring were converted to full time employees.

In 2014, EMC continued to partner with the University of Puerto Rico/ Mayaguez (UPRM) and Florida

International University. Our partnership with UPRM has resulted in several full-time hires, sponsorship of their local college bowl competition, and opportunities for technical talks, information sessions, and student contests and projects, all resulting in very strong EMC brand awareness. In 2014, EMC hosted the annual meeting for an organization called Advancing Minority Interest in Engineering (AMIE), which partners technology companies with engineering deans from HBCUs.



# HBCU INTERN CONVERTED TO FULL TIME EMPLOYEE

Enrico Scott, a student at Morehouse College, was one of the rising college seniors in EMC's internship program focused on HBCU students. The Chicago native, who is an Oprah Winfrey Scholar, athlete, student leader, and Morehouse Dean's List honoree, will be a member of the EMC Financial Training Program's 2015 class.



# **Additional Information**

Serving Those Who Served—EMC's Veterans' Workforce Initiatives

Watch the Video

# EMC Hiring Veterans in North Carolina





**Russia COE Students Family** 

### **RECRUITING MILITARY VETERANS**

In 2014, EMC won four national awards acknowledging EMC as a military friendly employer. We also received national certification for our Veteran's Employee Circle, which has established new chapters in Massachusetts and Utah. We continued to partner with the organization HirePurpose to reach veterans and transitioning military personnel at targeted military bases and through social media (taskandpurpose.com).

We continued our involvement as a founder of the 100,000 Jobs Mission, a recruiting initiative with a goal to hire 100,000 transitioning service members and military veterans by 2020. The coalition, which now includes 180 companies, has hired more than 190,000 veterans to date. In 2014, through the coalition, EMC partnered with another company to create the Veteran's Exchange System **vtx.jobs** which enables coalition members to share military resumes with each other.

These initiatives are based on EMC's desire to bring veterans' specific skillsets and deep knowledge of IT to our company—especially as a high percentage of military professionals are expected to re-enter civilian life during the next few years. In one year our outreach efforts have contributed to a 167 percent increase in military hires.

# SUPPORTING EDUCATION OUTREACH EFFORTS

In 2014, EMC formed a new partnership with NAFTrack, which provides special consideration to students who have earned a National Academy Foundation (NAF) credential in high school. The NAF is a consortium of 11 companies that work to provide opportunities for under-served high school students to experience industry-specific courses, work-based learning, and networking occasions with business professionals. In addition, EMC continued to partner with **Bottom Line**, a non-profit dedicated to helping disadvantaged students get admitted to college, earn a degree, and succeed in life. Bottom Line provides low-income and firstgeneration students with oneon-one guidance through the application process and during college. EMC provides mentoring,



career counseling, information sessions, and resume writing workshops to the students, and also tracks where they go to college. After two years of working with the organization, we have hired three Bottom Line students into full-time positions at EMC.

As one of the founding partners, EMC has had the opportunity to partner with Bunker Hill Community College's Learn and Earn program from its inception in 2012. We provide internships to Bunker Hill students in the areas of IT, Marketing, Community Involvement and University Relations/Talent Acquisition. Since this partnership began, the quality of talent that has come through this program has been exceptional, and the students' professionalism, work ethic, and desire to learn have been outstanding. EMC has hired 16 interns into different roles across the company over the past two years from this program.

# EXPANDED RECRUITING IN EUROPE

In 2014, EMC's Europe, Middle East and Africa (EMEA) region ranked 45th among the Top 100 companies and third in the IT Services and IT Consulting Sector by **theJobCrowd.com**. We had a 38 percent increase in student applications from 2013, and four of our Associate and Leadership Development Programs have expanded their hiring into EMEA in 2014. The EMC EMEA Talent Acquisition team has built strong relationships with organizations for young women and saw a significant increase of female hires over the past two years.

# EMPLOYEE CAREER DEVELOPMENT

EMC offers an array of programs to guide employees on their journeys at EMC and beyond. We believe individuals should play an active role in their own career development to achieve their professional goals.

We empower employees to develop their careers and task managers with helping people to hone skills and seek development opportunities. Nighty-three percent of our employees took part in some sort of formal development in 2014, including leadership coaching, instructor-led training, and eLearning.

## PERFORMANCE MANAGEMENT

Performance appraisals and even more importantly, the resulting dialogue, help EMC team members to deliver great results, feel more engaged and satisfied, and grow in their careers. Managers are expected to communicate with their employees openly and frequently throughout the year to clearly outline goals and expectations, provide ongoing feedback, and identify and support development needs. During the annual review, managers and employees review the prior year and set clear expectations for the future. These conversations also ensure that career development is discussed and that actions are identified to help our employees achieve their career goals.

# LEARNING AND DEVELOPMENT PROGRAMS

New employees are introduced to EMC through the award-winning EMC Proven Professional<sup>™</sup> program, where they receive an overview of the IT industry and learn about EMC's values, best practices, and methodologies.

We offer rotational development programs for recent graduates to provide job-specific skills, mentoring, peer networking opportunities, and a holistic understanding of EMC's business. Our rotational leadership development programs include:

- Business Operations Leadership Development Program
- Finance Training Program
- Global Services Leadership Development Program
- Human Resources Leadership Development Program
- Information Technology Leadership Development Program
- Leadership Engineering Accelerated Program
- Marketing Development Program

Interested candidates can learn more at http://www.emc.com/careers.

EMC offers a tailored learning path for employees at different levels within the organization. The curriculum consists of a development roadmap for each career level, including robust and targeted portfolios of courses that are custom-developed for managers and directors in the areas of strategy, business, and leadership. Each learning path includes a combination of highly interactive, team-based foundational courses, and electives that allow employees and leaders to explore topics in more detail.





# INTERNAL MENTORSHIP: SPEED COACHING GIVES EMPLOYEES DIFFERENT PERSPECTIVE

10

0

EMC runs an annual "Speed Coaching" program sponsored by the Office of Workforce Inclusion for our employees at all levels and in multiple locations. The participants attend three 20minute meetings with executive coaches in order to gain perspectives on different functions, a better understanding of career paths in different disciplines, and the opportunity to be coached by a broad spectrum of executives. The 2014 event saw a group of 85 EMC leaders provide mentoring to more than 200 employees. The program is open to every employee and gives the executive coaches the opportunity to contribute more directly to employee engagement and retention.

# 2014 PARTICIPATION FIGURES FOR TRAINING PROGRAMS AVERAGE HOURS PER EMPLOYEE



EMC employees can also take advantage of informal learning opportunities, including podcasts and book summaries through the online repository of business book abstracts at **getAbstract**.

EMC continues to offer scholarships for EMC employees with MIT Sloan Executive Education, and in 2014, expanded the program to include USC Marshall School of Business. In addition, we have relationships with Stanford University's Center for Professional Development to offer discounted courses to our employees.

# TALENT REVIEW PROCESS

Our talent is the engine that fosters innovation for EMC's continued growth. We annually conduct an Organization and Talent Review (OTR) to plan our leadership and talent agenda for the future. During OTR, our leaders identify their high-potential employees, critical talent, and successors. This process yields a plan to actively engage and retain these employees through movement across business units and geographies, promotions, and targeted development opportunities to prepare them for their next roles at EMC. To learn more, see the Organization and Talent Review discussion in EMC's Proxy Statement for the 2015 Annual Meeting of Shareholders.

# WORKPLACE HEALTH & SAFETY

EMC ensures our worldwide facilities provide safe and healthy work environments for our employees and visitors. Our occupational health and safety programs are audited regularly to look for opportunities to improve our performance by engaging our employees and redefining our approach.

### HEALTH & SAFETY MANAGEMENT & TRAINING

**Additional Information** 

Health & Safety Policy

**EMC Corporation Occupational** 

EMC has developed extensive health and safety procedures that are regularly updated to comply with governmental regulations, standards, and best business practices. Job safety analyses, risk assessments, and comprehensive training support and drive our policies and procedures. We conduct audits and inspections to ensure the effectiveness of these policies and procedures, and engage our employees to continuously improve our programs.

Our manufacturing facilities, located in the U.S. and Ireland, are certified to OHSAS 18001, the global standard for excellence. These locations were chosen for certification because as an IT company, our primary health and safety risks are in the manufacturing facilities. As of 2014, our OHSAS 18001 facilities certification statuses are as follows:

- Manufacturing facility in Cork, Ireland, certified since 2005
- Manufacturing facility in Franklin, Massachusetts, certified since 2009
- Shipping and warehouse facility in Franklin, Massachusetts, certified since 2011
- Manufacturing facility in Apex, North Carolina, certified since 2010

Employees take health and safety training relevant to their work through online and instructor-led courses. In 2014, we offered 24 computerbased training modules and conducted regular in-house training. Training was updated throughout the year based on regulation and process changes. Employee-led Safety Action Teams meet regularly to review safety issues, perform audits, and organize training programs.

# 15 1.25 1.0 0.75 0.5 0.25 0.10 0.09 0.06 2007 2008 2009 2010 2011 2012 2013 2014 All U.S. U.S. manufacturing

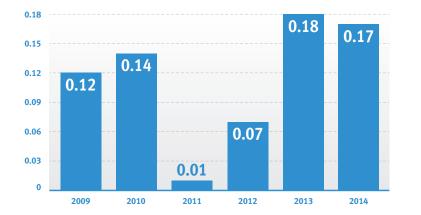
### LOST TIME INCIDENT RATE (LTIR)

18

U.S. OSHA RECORDABLE INCIDENT RATE (ORIR)



# H.S.A. REPORTABLE SAFETY INCIDENT RATE IRELAND MANUFACTURING



### **HEALTH & SAFETY VIOLATIONS**

EMC was not cited for any health and safety violations in 2014.

# PANDEMIC PREPAREDNESS

EMC recognizes communicable diseases may pose a potential threat to the health of our employees, our business operations, and our global customers. Comprising representatives from business units across the EMC Federation, our Global Pandemic Preparedness Team monitors emerging threats of pandemic and disease outbreaks that have the potential to impact our employees or disrupt our operations. The team is globally dispersed so that a local response is available in the event of any potentially impacting incident. Should there be a large-scale



outbreak of an infectious disease, EMC's virtual private network (VPN) allows the vast majority of employees to work remotely, a best-practice for containing the spread of infectious disease.

During 2014, EMC established an Ebola Working Committee in response to the devastating outbreak of the Ebola Virus Disease

(EVD) in the West African nations of Guinea, Liberia and Sierra Leone. The Ebola Working Committee developed response protocols and travel requirements in order to mitigate the risk of exposure our employees, partners, and customers to the EVD.

To learn more about how EMC plans for supply chain resiliency, visit our detailed report titled **Supply Chain**.

# HEALTH & WEALTH BENEFITS

At EMC, we use the power of technology to help employees manage their health and wealth. Our tools and resources enable employees and their family members to understand individual status, receive targeted information, improve their health, and grow their wealth.

We offer a comprehensive benefits package for our employees around the world. In the U.S., we provide:

- Many health plan options which include PPO's, HMO's, tiered HMO's, and Health Savings Accounts to help meet the diverse needs of our employees and their families
- Dental, vision, and prescription insurance
- Adoption assistance
- Parental Leave

N/AANA HAANAAA TATATATA

- Autism benefits
- Telemedicine benefits
- Best Doctors
- Maternal health, smoking cessation, disease management, and life coaching programs
- Onsite biometric screenings
- Health management seminars/webinars
- Access to Group Legal, Identity Theft and Pet Insurances
- Opportunities for employees to participate in pilots and studies
- Retirement planning through a 401(k) plan
- Access to an employee stock purchase plan
- Tuition Assistance

EMC employees scheduled to work at least 20 hours per week are eligible for our benefits package. More information about benefits for EMC's U.S. employees can be found at **www.peoplelinkbenefits.com**. Information about benefits offered to employees in other countries where we conduct business can be found on the appropriate EMC local website.

In 2014, EMC was recognized as one of the 44 Healthiest Companies to work for in America by Greatist.

# HEALTHLINK

EMC believes patients should be in control of their own health information and have access to it anytime, anywhere. Creating an all-in-one secure, meaningful, actionable, and technologically based Personal Health Record (PHR) is a safety imperative, and we have demonstrated our commitment to improving access to PHRs for more than a decade.

HealthLink, EMC's health management portal, is powered by WebMD. It enables employees and their family members to manage healthcare information 24/7 anywhere in the world. It has been accessed by 89 percent of EMC's U.S. employees and 72 percent of spouses/domestic partners. Users enter health information into a confidential, secure portal and receive targeted communications about resources to help with their individual health needs. Users may also choose to share information in the PHR with healthcare providers.

The PHR helps employees and adult family members review complete clinical data with their healthcare providers, avoid duplicative tests and procedures, and manage drug interactions and side effects. This health management approach has improved outcomes and contained costs for employees and for EMC. Since implementing the wellness program in 2004, our average per capita cost increase has been two percent lower than the national average. Our employees and family members used these programs and resources extensively in 2014, increasing their engagement as healthcare consumers by taking greater care of their health, and better understanding the true cost of care.

### INFLUENCING THE HEALTHCARE IT MARKETPLACE

EMC was a leading adopter of electronic PHR for its employees with a program offered in our healthcare benefits options in 2004. Since then, we have been playing an increasingly influential role in accelerating the movement to harness the full potential of digital technology to improve health. In fact, our innovation and expertise in healthcare technology and in employee benefits are being sought out by Fortune 500 companies, business leaders, and the Commonwealth of Massachusetts. For example, EMC was the only employer selected to participate on the Governor of Massachusetts' Healthcare Transition Committee.

We also influenced the Healthcare IT marketplace in 2014 by participating in the Health Care Cost Institute's (HCCI) Massachusetts-based initiative to drive health care transparency, helping HCCI connect with local employers, state agencies, and policy groups. In addition, in collaboration with the Joslin Diabetes Center, we launched a pilot program focused on providing an integrated and coordinated approach to diabetes management.

### WEALTHLINK

WealthLink is EMC's wealth accumulation and protection program. It provides employees with the opportunity to learn how to develop their



own wealth management plans to meet their individual and family needs and goals, while optimizing the benefits provided by EMC. Through WealthLink, employees have access to onsite seminars, webinars, financial planning sessions, the employee stock purchase plan, 401(k) plan, and other programs.

# GLOBAL EXPANSION

As a multinational company competing in a global market, EMC is continuously expanding the geographic scope of our customer base and developing centers for research and development and services to access world-class talent around the globe.

EMC serves customers in more than 100 countries. The expansion of our employee base internationally allows us to be in close proximity to customers in rapidly-growing emerging markets. These centers are an essential element of our journey to find the best talent in the world that delivers an enriching diversity of perspectives on the global challenges of our customers.

## CENTERS OF EXCELLENCE

EMC Centers of Excellence (COE) are key pillars of our strategy for cultivating talent and expanding our presence in key markets worldwide. We operate COEs in seven countries: China, Egypt, India, Ireland, Israel, Russia, and the U.S. In addition to supporting in-country market growth, our COE network model is a globally consistent platform that attracts and develops top talent to drive ground-breaking operational and financial value through superior performance, best practice sharing, and creative innovation.

COEs coordinate initiatives with local university programs, government representatives, and community partners for maximum impact. In addition, each of our COE teams plays an important role in contributing to EMC's vision for sustainability. In 2014, the China, Egypt, India, Ireland, Israel, and Russia COEs published internal reports describing their sustainability achievements and initiatives. Each COE delivers online publications and uses social media to report on its sustainability achievements and initiatives to employees and external stakeholders. The COEs bring local expertise and skills to advance our global business strategy. In conjunction with EMC business units, the COEs are responsible for the development of many products across EMC's broad software and hardware offerings, and for providing global services support to EMC customers worldwide. Additionally, the COEs provide back office processing activities for internal operations.

The COEs have been designed to provide EMC business units with world-class talent, infrastructure, and management to deliver to the needs of EMC's customers. EMC business units are, in essence, internal customers of the COEs. Each COE is managed locally, and a crossfunctional leadership team consisting of EMC's senior executives oversees strategy and investment decisions. Nearly 100 percent of senior management at the COEs is hired from the local community.

One unique advantage of our COE model is that employees from different business units have more opportunities for collaborative innovation. Each year, the COEs contribute a high percentage of submissions to EMC's annual worldwide Innovation Roadmap, and they play a part in hosting the global event.

Our COEs are highly collaborative and work closely with University Relations, the Academic Alliance, Corporate Training, and the Innovation Network on local recruiting strategies. Although many technology companies are seeking to hire top talent in our COE locations, we have kept attrition rates below the market average by focusing efforts on employee retention, including benefits, work environment, career development, and compensation. In addition, sustainability teams at our COEs met three times in 2014 to share best practices and improve their programs.





# **Additional Information**

### **Brazil R&D Center**



LEED Gold Certified Building at BRDC

Expansion of the EMC COE network is based on business unit demand for talent. Current COEs will continue to grow as necessary, and we will continue to explore new locations that could best serve the needs of the business. In 2014, EMC opened the Brazil Research and Development Center (BRDC) to strengthen its applied research and development capabilities within the Latin American and global marketplaces. The BRDC houses EMC research staff whose main activity is to conduct applied research related to Big Data challenges encountered within the Oil & Gas industry. It is located in the heart of the Rio Technology Park on the campus of the Universidad Federal de Rio de Janeiro. The facility houses an applied research center, solutions development laboratories, and an Executive Briefing Center which is designed to showcase and disseminate EMC technology.

### MANAGING CHANGE

EMC continues to navigate the rapidly changing IT industry, drawing on all of our knowledge and expertise.

Retaining top talent is more important than ever, not only to help manage change, but also to preserve innovation. When other companies join us through mergers or acquisitions, we devote extra attention to the way people are welcomed into the EMC family. Acquisitions are a chance for us to evolve the overall EMC culture with the benefit of new thinking and ideas.

When we restructure areas of our business to focus on emerging technologies, we place a priority on making transitions as smooth as possible for employees, in order to retain top talent and preserve future relationships. When business reasons cause employees to be displaced, we make these decisions only after thoughtful consideration and with an understanding of how our actions can affect lives and careers. If we are unable to redeploy impacted employees to growth areas within EMC, we provide global job search assistance in addition to providing separation pay and benefits. Throughout this transitional time, we treat our colleagues with dignity, compassion, fairness, and respect. In addition, in order to mitigate the impact of restructures on employees, we have occasionally offered voluntary separation programs for long service employees wanting to change career direction or pursue other interests.

# EMPLOYEE TRAVEL & COMMUTING

EMC encourages alternative travel, commuting, and communications methods including e-conferencing, virtual meetings, remote work assignment programs, and shuttle services. We encourage employees to reduce their environmental impact and achieve savings for our business at the same time.

Our online travel booking tool, for example, provides users with carbon information that allows them to select different routes and methods of transportation. In addition, we continue to add efficiencies to our corporate fleet to reduce environmental impacts associated with travel.

### E-CONFERENCING

We provide a number of technology options for employees to collaborate more effectively and more often without having to travel. Our options for e-conferencing include TelePresence, video conferencing, web



conferencing, and audio conferencing. We have 62 Cisco TelePresence facilities around the globe, offering employees a high-quality experience to meet with customers and partners alike, "face to face", without having to leave the office.

During 2014, EMC continued to see a growing demand for

conferencing services, adding an average of 300 new Desktop Video Conferencing accounts each month, and increased accessibility by adding more than 20 new in-office Video Conferencing systems globally.

We have also implemented other initiatives that will reduce business travel costs and impacts over time, including increased use of highdefinition video conferencing, and redesigned job responsibilities to reduce the number of different individuals required to perform common services. For example, in our Europe, Middle East and Africa (EMEA) region, our Travel Optimization program promoted conferencing and communications technologies, reducing travel costs by 16.8 percent, or \$20 million, over 2013.

In 2014, EMC IT began the roll-out of Microsoft Lync, a Unified Communications platform that enhances instant messaging, content sharing, conferencing, voice, and video services for our employees. We are planning to complete the global deployment of the platform in 2015.

# CORPORATE FLEET

We continually examine our fleet and potential replacement aircraft to improve fuel efficiency and reduce emissions. Our total emissions from our fleet aircraft were 3,312 metric tons CO2e in 2014, 473 metric tons less than in 2013. We have been participating in the EU-Aviation Emissions Trading Scheme (EU-ETS or AVETS) since its inception in 2010. The EU-ETS or AVETS went live in 2012, and we have reported our CO2e emissions since 2013.

# TELECOMMUTING/WORKWISE

More and more of our employees are working remotely and with other flexible work arrangements. Our WorkWise program, for example, empowers eligible employees in either a partial or full commitment to work remotely. The environmental benefits include reduced emissions from and time lost to commuting and facility consolidation, which allows more efficient use of space and energy.







EMC's hybrid shuttle and Denis Olsen, Fleet, Transportation and Commuter Services Manager



Seattle Bike to Work Secure Bicycle Storage

## UTAH'S TRANSIT PROGRAM

In 2014, EMC Utah COE started a partnership with the Utah Transit Authority (UTA) to offer subsidized annual public transit options, including a carpool app. We have over 200 active participants in this program, eliminating approximately 8,000 pounds of carbon emissions daily. The COE also participates in the Utah Clean Air (UCAIR) initiative by supporting mass transit and communicating regularly with our employees about ways to travel more efficiently.

### Employee Commuting & Shuttle Programs

EMC facilities around the globe offer shuttle programs to create efficiencies, while reducing carbon emissions and easing our employees' commuting challenges. Our facilities in the U.S. and in Cork, Ireland, offer carpool matching programs for employees. In 2014, we added six double electric car charging stations in California, one in Massachusetts, and one in North Carolina. These double outlet stations have given us the ability to charge 16 electric vehicles at one time. In addition, EMC's Hopkinton, Massachusetts, location received the Massachusetts Excellence in Commuter Options (ECO) Award at the highest Pinnacle level for the fourth year in a row.

# Commuting programs and projects available at various EMC facilities include:

# Programs to encourage biking to work

- Bike racks and showers for employees who bike to work
- Cycle to Work program at the Ireland COE
- Secure bicycle storage

# Electric car charging stations at three U.S. campuses

Preferential parking spaces for low-emission vehicles and ride sharing

# Incentives to encourage employees to use public transportation and EMC sponsored shuttles

- Direct service to our locations from some local train stations
- A commuter pretax savings plan
- Shuttle services between buildings at our central Massachusetts facilities to limit employees' use of their own vehicles; shuttle fleets include hybrid vehicles

- Shuttle services between our two Santa Clara, California locations and to local commuter train stations
- Transportation provide by the India COE used by approximately 3,600 employees and contractors daily
- Bus service at the India COE for approximately 1,300 employees, further reducing dependence on individual vehicles
- Transportation provided by the Egypt COE used by approximately 210 employees daily
- Shuttle lines at the Israel COE from the center of Tel-Aviv and Ramat Gan to EMC facilities for the benefit of the employees and to reduce carbon emissions. We continue to work with the local city municipality and other companies to better accommodate the commuting needs of employees
- Two public transportation options at the BRDC: the internal campus bus and an electric car for up to 8 passengers
- An extension of the public bus service route to the site entrance to facilitate employees at the Ireland COE

# **IRELAND'S CYCLE TO WORK PROGRAM**

The Cycle to Work program was an initiative launched by the Irish Government in 2009 and was first offered to our Ireland COE in 2010. The program offers several benefits, including:

- PERSONAL HEALTH AND FITNESS: Employees can burn approximately 4,000 calories per week by cycling to/ from work
- **REDUCED ENVIRONMENTAL IMPACT:** Cycling is a zero emission form of transportation
- FINANCIAL SAVINGS: Employees can save up to 52 percent off the retail cost of a bicycle through the program, which also covers bicycle accessories up to €1,000 per employee

In 2014, an additional 122 Ireland COE employees participated in the Cycle to Work program, bringing the total to 649.





# CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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# REDEFINE THE FUTURE 2014 EMC 5-11

**2014 EMC Sustainability Report** 



# ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of the **Executive Report**.



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# IDENTIFYING IMPACTS VIA LIFECYCLE ANALYSIS

Environmental Lifecycle Analyses conducted prior to 2014 confirmed our expectations that more than 90 percent of lifecycle impacts are due to electricity consumed during the product use phase. Throughout 2014 we continued to focus on designing more energy-efficient products and communicating more frequently with our enduse customers about how our products could be operated more effectively. Applying the energy efficiency requirements that have been integrated into our go-to-market process for all new products, we reviewed the efficiency plans of 12 product releases in 2014. We also continued to publish guidance on how to use our hardware and software products efficiently and effectively. This includes providing up-to-date information to customers for our products via the EMC Power Calculator. To learn more, see the **Emissions from** Use of Sold Products subsection of this detailed report.

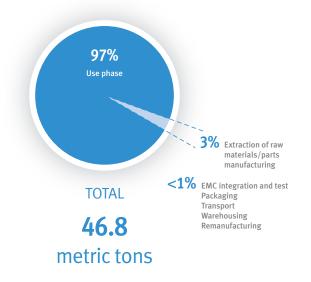
# PRODUCT STEWARDSHIP AND EFFICIENCY

EMC's social and environmental impacts expand far beyond the technologies and resources needed to create our products. By developing more efficient products and solutions, we can redefine how we use energy, water, and materials in order to reduce GHG emissions, waste, and costs—both for EMC and our customers.

These improvements, which apply to both hardware and software products, include embedding sustainability into each step of the lifecycle, delivering industry-leading functionality to manage demand, driving increased energy efficiency, and tightly integrating our products within the data center.

To learn more about how data center efficiencies come to life at EMC, visit the Efficient Data Centers section of our detailed report titled Operations.

GHG EMISSIONS PER STAGE OF A REPRESENTATIVE EMC MIDRANGE PRODUCT (LCA) 5 YEAR USE PHASE—METRIC TONNES



### EFFICIENCY THROUGHOUT THE BUSINESS

Following the success of the Product Sustainability Assessment process introduced in 2013, ten different product teams have used the process for multiple products at varying development checkpoints. The process itself was updated at the end of 2014 to reflect lessons learned about ease of use and to improve focus on software efficiency criteria. This process is integrated into EMC's overall business readiness process, enabling increased visibility and cross-company awareness of sustainable product design.

The following topics are covered in this section:

- Design for Environment
- Software
- Efficient Drives
- Efficient Power & Cooling
- Emissions for EMC Products

### ENERGY STAR SPECIFICATION AND REVIEW

Having worked with the EPA and the storage industry since 2009, EMC began qualifying its eligible products in 2014 against the ENERGY STAR® for Data Center Storage specification which was finalized in December 2013. During 2014, engineers from VNX Engineering, Compliance Engineering, and the St. Petersburg (Russia) COE collaborated to complete the detailed qualification testing preparation and execution of VNX 5400<sup>™</sup>, VNX5600<sup>™</sup> and VNX5800<sup>™</sup> systems.

On an organizational level, EMC's Energy, Efficiency, and Effectiveness (E3) team played an important role in reviewing **ENERGY STAR requirements**, providing test and planning consultation, and developing a related internal white paper to assist product teams in planning and testing. E3 is a voluntary group of employees from technology, operations, and product groups across EMC that shares information and advocates for technology efficiency initiatives. The E3 team was also engaged with the Storage Networking Industry Association (SNIA) in developing the efficiency metric specification used by the EPA for the ENERGY STAR Data Center Storage Specification.

### **Design for Environment**

In addition to the Product Sustainability Assessment process, we take other steps to measure and improve the sustainability of our hardware products. This includes a Design for Environment (DfE) approach that uses current product development to inform future sustainability practices in hardware. It starts with our designers and architects who gain sustainability insights by using proxy indication systems embedded in their design tools. As work continues, our hardware engineers consult development checklists to ensure products adhere to our corporate standards and best practices. During the final stage, when products become ready for general release, we conduct lifecycle analyses on representative product configurations to inform future efforts.



Moving forward, we continue to focus on:

- Increasing the energy efficiency of our hardware and software products
- Developing products that foster significant improvements in Power Usage Efficiency (PUE)
- Implementing standards that help measure and define areas for energy-efficient operations of IT equipment
- Working with suppliers to reduce impacts of manufacturing disk drives
- Investigating less carbon-intensive options for transport of products and components, including cabinets and other high volume, heavy components
- Exploring lightweighting techniques
- Reducing impacts of product materials using informed design decisions
- Collaborating with suppliers to continually improve environmentally friendly printed circuit board materials
- Improving packaging efficiency without compromising efficacy
- Maximizing recoverability and recyclability of products at end of use

In addition to DFE, EMC has incorporated the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) environmental standards into our hardware development process. ASHRAE is a building technology society with more than 54,000 members worldwide, and focuses on building systems, energy efficiency, indoor air quality, refrigeration and sustainability. The Society develops standards for refrigeration processes and the design and maintenance of indoor environments. To learn more, visit the **ASHRAE** website. In September 2013, we launched our first products meeting these standards. In 2014, we used the standards for all relevant products and will continue to do so moving forward.

#### PRODUCT STEWARDSHIP AND EFFICIENCY | 3



## Watch the Video

## Agro-Culture Liquid Fertilizers on EMC VSPEX<sup>®</sup> Analysis



Watch Agro-Culture Liquid Fertilizers and partner Sentinel Technologies staff discuss why this liquid fertilizer manufacturer turned to EMC and how EMC VSPEX supports its environmental and business goals. With VSPEX, AgroLiquid reduced its data center footprint by 75 percent and simplified remote site operations.

#### Software

We continually strive to develop new products that are more efficient and effective. We leverage our key software and technologies—virtual provisioning, data deduplication, compression, and Fully Automated Storage Tiering (EMC FAST)—to deliver significant energy and cost savings. Key technologies we provide for our customers and deploy in our labs include:

- Virtual Provisioning: A strategy for efficiently managing physical storage needs and capacity by allocating physical storage only when it is actually needed. In a traditional data center, applications are provisioned to the maximum resource capacity they could potentially require, rather than to the resources they actually consume at the time. The agile nature of the cloud reduces the need for such "over-provisioning," enabling more efficient use of IT assets by consolidating hardware resources and reducing energy consumption.
- Data Deduplication: A technology that looks for redundancy of sequences of bytes across very large comparison windows. Sequences of data (averaging 8 KB long) are compared to the history of other such sequences. The first unique sequence is stored and all follow-on matching sequences are referenced rather than stored again.
- **Compression:** A storage efficiency feature that reduces the total space used by a dataset, requiring less energy needed to store, send, or access the set of data.
- EMC FAST: A technology that automatically moves active data to the appropriate tier of storage, such as flash drives for ultra-high performance or serial advanced technology attachment (SATA) drives for infrequently used information. With EMC FAST® technology, enterprise Flash drives increase application performance by up to 800 percent, and SATA drives lower costs by up to 80 percent—further optimizing our storage infrastructure for performance, energy-efficiency, and cost.

To learn more about the implications for data centers or how we use this hands-on experience as a guide to help our customers, visit the **Efficient Data Centers** section of our detailed report titled **Operations**.

#### **Efficient Drives**

EMC offers a variety of disk drives to meet varying needs of capacity, performance, and cost—each with its own set of characteristics to consider when pursuing energy efficiency. For example, SATA drives run at lower revolutions per minute (rpm) but have a relatively higher capacity, while fibre channel/serial attached SCSI (FC/SAS) drives run at higher rpm but have a relatively lower capacity.

EMC was the first in the industry to use highly efficient Flash, or solid state, drives in enterprise storage systems. Enterprise Flash drives use up to 97.7 percent less energy per IOPS (operations per second) than high-performance FC/SAS drives, and up to 38 percent less energy per terabyte of data stored. The energy savings come from their solid state nature — they do not spin like conventional disk drives — and from the



ability to reduce the total number of drives required across an entire system to achieve stringent performance targets. EMC FAST technology can leverage a smaller number of high-performance drives (e.g., Flash or high-speed rotational) in conjunction with high-capacity drives (e.g., SATA) to achieve both greater performance and greater efficiency.

Our XtremIO<sup>™</sup> products use only Flash drives in their configurations. They augment the efficiency of this high-performing solution through the comprehensive use of deduplication technology. This results in significant capacity and energy savings for our customers.

## PRODUCT STEWARDSHIP AND EFFICIENCY | 4

## **Efficient Power & Cooling**

Beyond drives, there are three other key initiatives aimed at reducing power use in our storage platforms:

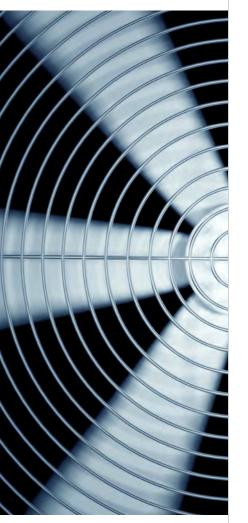
- Using more efficient power supplies to reduce energy loss as power is delivered to the storage platform. The use of high-efficiency power supplies reduces total equipment power and minimizes the generation of waste heat. Power supplies in our current Enterprise and Mid-range products have demonstrated a "Gold" rating against the 80 PLUS benchmark.
- 2. Embedding instrumentation and utilizing tools to monitor and report power use and ambient temperature.
- 3. Embracing adaptive cooling technology to save energy by dynamically adjusting fan speeds in the storage platform. Our adaptive cooling technology continuously samples the operating environment and adjusts fan operation to minimize power consumption, while maintaining reliability.

## **Emissions from Use of Sold Products**

EMC estimates that the lifetime GHG emissions from use of EMC products shipped to customers during 2014 will be approximately 4,066,255 metric tons CO2e. This value represents our customers' Scope 2 GHG emissions from powering our equipment. It is based on an assumed product lifespan of five years and includes overhead for power distribution and cooling with an average PUE of 1.7.

EMC's configurations vary substantially from customer to customer, as well as over time with a single customer. As such, it is not possible to sum the expected emissions from each and every system shipped in 2014 or to measure an expected lifetime. Rather, this estimate is based on the measured power consumption of disk drives, the inventory of disk drives shipped in 2014, an engineering estimate that of 80 percent of system power is attributable to the disk subsystems, and an extremely conservative average system utilization of 90 percent.

We believe this approach to be conservative (i.e., that the directly measured value, if feasible to obtain, would be lower) as our calculation takes into consideration neither the reduction over time in carbonintensity of fuel used by our customers, nor improvements in data center power and cooling efficiency.





## Additional Information

To learn more about our work in conflict minerals, visit **Supply Chain**.

Watch the Video

# Sustainability in the VMAX Lifecycle

Watch how EMC's Global Product Operations is cutting costs, material waste, and greenhouse gas emissions, managing social and environmental risks, and exceeding customer expectations.



# PRODUCT MATERIAL CONTENT

At EMC, we consider the entire product lifecycle when selecting materials to use in our products. Material selection can have human health or environmental impacts in the supply chain or at the products' end of life if disposal is improperly managed.



To protect people and the environment, EMC takes a proactive approach to minimizing the use of these substances in our products. We constantly redefine our research and design process to identify alternative materials and take measures to prevent these substances from entering the natural ecosystem. We not only adhere to regulations on material

use, we go beyond what is required to minimize potential negative impacts through broad collaboration with industry peers, suppliers, academia, and government organizations.

## IDENTIFYING ALTERNATIVE SUBSTANCES

At EMC, we work to find alternative substances to use in our products that are less harmful to the environment or human health, but still meet or exceed our rigorous technical requirements. We prioritize substances to assess, and then collaborate with other companies and academia to identify and qualify alternatives that meet the same or higher standards of reliability, cost effectiveness, performance, and availability as the materials we currently use. We implement substitutes in new designs where feasible.

## HALOGENS AND PHTHALATES

EMC has been working for several years to reduce the use of halogens in our newly designed printed circuit boards (PCBs). Halogens are an ingredient in flame retardants commonly used in laminates for PCBs, but there are concerns about halogens' impact on the environment and human health. Since 2013, 100 percent of all of our new PCB designs use halogen-free laminates. In 2014, we also implemented a halogen-free solder mask, making our newly designed PCBs 100 percent halogen-free.

We are also working on substitutes for the halogens in our cables. In 2014, we qualified new halogen-free cable designs to ensure they meet our technical requirements. These low-smoke, zero-halogen wires are also phthalate-free. We will be implementing these new cables on select designs in 2015.

Collaboration is a central part of this effort. We work with chemists and engineers in our supply chain to help advance EMC's products on the road to being halogen-free. On a broader scale, EMC participates in the U.S. Environmental Protection Agency Partnership on Alternatives to Certain Phthalates, a project of its Design for Environment program. We are also engaged with the Green Chemistry and Commerce Council which is conducting its own tests of these materials to determine human toxicity.

## FULL MATERIAL DISCLOSURE

EMC's Full Material Disclosure (FMD) database catalogs the substances used in EMC products. This database enables us to quickly and easily identify the presence of substances—when there are new regulations regarding their use—and respond more rapidly to those requirements. To gather this information, we ask suppliers to identify materials used in every part of EMC products by CAS number (a unique identifier for chemical substances). Compiling this database is complex due to the vast number of parts in our hardware products, the constant evolution of our product portfolio, and the maturity level of each supplier's ability to report FMD. We continue to gather this information from our suppliers, adding data for our new products and backfilling data from our older product releases.

In keeping with our holistic approach, EMC also works with our communities to expand responsible consumer eWaste recycling. In 2014, we launched a project in Bangalore in partnership with local schools, Saahas (a nonprofit organization), and our local IT Asset Disposal vendor to educate thousands of students on the importance of responsibly disposing of old electronics. For a glimpse of how this project is making an impact, see the Prakriya Green Wisdom School story in the eWaste section of the Executive Report.

# PRODUCT END OF LIFE

The increasing power and reach of technology is constantly unlocking new opportunities for economies, for the environment, and for society worldwide. With this evolution, however, the volume of electronic waste (eWaste) has also grown, and poses ongoing challenges, particularly—though not exclusively—in the developing world. As a leading IT company, EMC accepts its responsibility to protect human health, as well as the environment, through the proper management of eWaste.

To uphold this responsibility, EMC strives to effectively manage processes associated with product end-of-life so that we can meet the highest standards of human health and safety and environmental stewardship, and at the same time maximize the economic value of returned products. Our global eWaste program seeks to improve the management of used electronics worldwide, both within EMC and externally. We offer product take back to all of our customers, and work with our carefully selected and managed IT Asset Disposal (ITAD) suppliers to help ensure products are recycled and disposed of responsibly and in compliance with the law.

We continually measure and manage our performance, and work closely with our ITAD suppliers to maintain standards for certification, audits, and reporting. In 2015, we plan to continue that maturation and growth. This includes the launch of a new scorecard to evaluate and drive the performance of our ITAD suppliers.

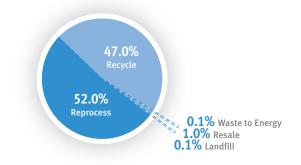
## KEY METRICS: 2014

- 100% EDE (Electronics Disposal Efficiency): 100% of ITAD suppliers that receive EMC equipment certified to R2 or e-Stewards standards
- 100% of Tier 1 ITAD suppliers audited to EMC standard by third-party auditors
- Estimated 66% by weight of product taken back at end-of-life

## PRODUCT TAKE BACK

We encourage and accept returns of all EMC-branded products at the end of their useful life. When product is returned to EMC, we perform data erasure to protect customer information. Products are disassembled and, where possible, some subassemblies are reprocessed and tested to new product standards so they can be used again. Components that cannot be reprocessed are sent to our ITAD suppliers, who responsibly reclaim, recycle, or resell the remaining material. Less than one percent is sent to landfill. Disk drives sent to ITAD suppliers for disposal are degaussed (magnetically erased) and/or physically shredded prior to recycling. We use ITAD supplier certifications, site visits, and independent audits to verify that our standards are being met and to confirm that eWaste is being disposed of responsibly.

#### **2014 EWASTE DISPOSITION**

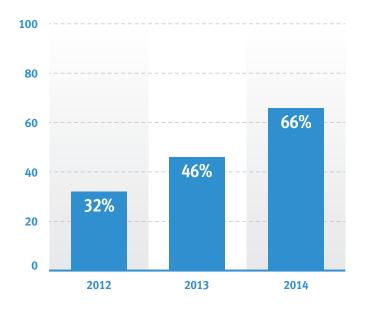


## MEASURING OUR PERFORMANCE

EMC measures performance and sets goals regarding responsible management of the eWaste we receive. In 2014, we took back an estimated 18,869 metric tons of eWaste. Our cumulative returns from 2008-2014 stand at more than 165 million pounds (75,226 metric tons).

Continuing our performance from 2013, EMC's Electronics Disposal Efficiency (EDE) metric (developed by The Green Grid) remained at 100% in 2014. The EDE metric measures the percentage of EMC eWaste disposed of by a certified facility. In keeping with EMC's stated objectives, the metric focuses on responsible disposition instead of simply the volumes of eWaste recovered.

## **EMC TAKEBACK PERFORMANCE** PERCENTAGE OF PRODUCTS TAKEN BACK VERSUS PRODUCTS SOLD, BY WEIGHT (ESTIMATE)



To further support these objectives, in 2014 EMC began tracking the percentage of products we take back versus the products sold, by weight, over an estimated product lifespan. This metric, while necessarily based on several assumptions, helps EMC approximate the net amount of material we recover after placing it on the market. The chart here shows our performance from 2012 through 2014.

For all material taken back in 2014, we continued to maintain a high environmental standard, with 99.98% recycled, reprocessed, or resold for new use.

## ITAD SUPPLIER CERTIFICATIONS

Partnering with responsible and transparent ITAD suppliers is crucial to proper eWaste management. Since 2013, we have required all of our Tier 1 ITAD suppliers to become R2 or e-Stewards certified the two most widely recognized third-party certification programs. This is helping to ensure that our electronics recyclers:

- Maximize re-use and recycling
- Minimize risk to human and environmental health, both in their own facilities and by downstream handlers
- Protect data on used electronics

In 2014, we took back an estimated 18,869 metric tons of eWaste. Our cumulative returns from 2008-2014 stand at more than 165 million pounds (75,226 metric tons).

## ITAD SUPPLIER AUDITING

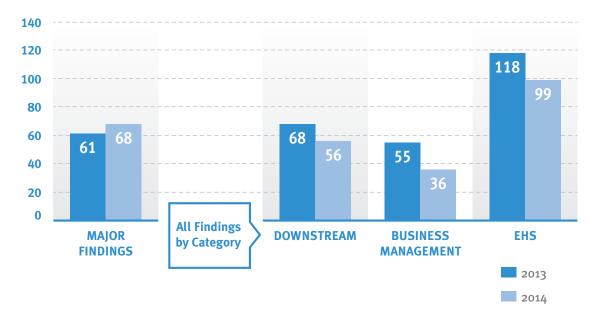
In 2014, we continued to audit all of our ITAD suppliers. Auditing ITAD supplier facilities monitors compliance with EMC requirements and drives continuous improvement at each facility. The following provides an overview of the topics verified during that process.

#### Downstream Disposition-

#### Proves and documents responsible eWaste disposal

- Mass balance accounting
- Shipping documentation

## NUMBER OF ITAD SUPPLIERS AUDIT FINDINGS: 2013 v. 2014



Note: This graph shows the audit findings from all ITAD audits conducted in 2013 and 2014. This represents a revision in the data from that published in last year's report, in which only sites audited both years (2012-2013) were included in scope, and thus results a slight shift in the 2013 numbers represented.

#### **Business Management**-

#### Demonstrates proper operating procedures and planning

- Training
- Process documentation
- Contingency planning
- External certifications, such as R2 or e-Stewards
- · Working conditions
- · Data and hardware security

## Environmental, Health and Safety (EHS)— Creates a workplace that protects human health and the environment

- Proper guarding and machine operation
- Use of Personal Protective Equipment
- Environmental monitoring
- Emergency exits and building safety
- Spill preparedness and response

Audit results from 15 facilities revealed 56 downstream findings, 36 business management findings and 99 EHS findings. Examples of findings included incomplete downstream documentation, incomplete site closure and contingency plans, and insufficient employee health and safety training.

While this is still a significant number of findings, a year-on-year comparison shows strong progress was made in 2014. Business management, downstream, and EHS findings declined 35 percent, 18 percent, and 16 percent, respectively. In general, EMC found that suppliers made significant improvements in all three audit question categories. For example, facilities demonstrated improved chemical management, stronger downstream tracking systems, and increased management system certifications. We expect to see continued progress in 2015.

When issues are identified, EMC works closely with our ITAD suppliers to address audit findings. Each ITAD supplier creates a Corrective Action Plan and EMC provides coaching throughout the process. Most findings are closed (with documentation) within three months of discovery. Audit findings are considered a key performance indicator for all ITAD suppliers.

## PROGRESS TO 2020 ITAD AUDIT GOALS

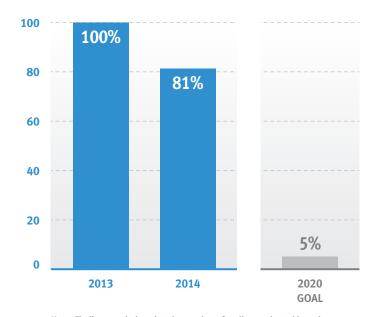
Comparing our 2014 ITAD audit data to our 2013 baseline shows good progress toward our 2020 goals, as demonstrated in the data below. While we have further to go toward our downstream goal, we believe that continued education of our suppliers and increased strength in their respective management systems will propel the required progress in future years.

## PROGRESS TOWARD 2020 GOAL OF 50% REDUCTION IN ITAD AUDIT FINDINGS FROM 2013 BASELINE

# 100 80 60 40 20 2013 2014 2020 GOAL

Note: Findings are indexed to the number of audits conducted in a given year, with percentages normalized to reflect the volume of audits completed.

# PROGRESS TOWARD 2020 GOAL OF 95% REDUCTION IN MAJOR DOWNSTREAM FINDINGS FROM 2013 BASELINE



Note: Findings are indexed to the number of audits conducted in a given year, with percentages normalized to reflect the volume of audits completed.





Additional Information

White Paper: EMC Product Security—Enhancing the Trustworthiness of EMC Solutions

**EMC Product Security Blog** 

# PRODUCT INFORMATION SECURITY & PRIVACY

EMC and RSA, the security division of EMC, are guiding our customers and the industry through a migration to a new Intelligence-Driven Security strategy that not only addresses the threats of today but also the evolving challenges of tomorrow.

Traditional security practices focus more on defending a well-defined organizational perimeter with preventative controls and tools (firewalls, anti-virus, intrusion-detection systems, etc.). That approach has been rendered moot as the perimeter has been eroded by the dramatic



adoption of cloud-based applications and mobile devices.

Today's business and IT practices, coupled with a more dangerous threat landscape, require organizations to not only prevent network intrusions but also rapidly detect and effectively respond to attacks before they result in damage or loss. This prevention,

detection, and response strategy provides organizations with the ability they need to defend themselves from external or internal threats.

RSA provides the products and services companies need to gain that visibility, analysis, and ability to act by focusing on the following areas:

- Advanced Security Operations
- Identity and Access Management
- Governance, Risk, & Compliance
- Fraud & Risk Intelligence

As a provider of information infrastructure products, it is also critical for EMC to establish processes that ensure our own products and services are resilient against cyber-attacks. Our Product Security Office leverages advanced security engineering and secure supply chain practices to minimize the risk of vulnerabilities in our products.

To learn more about information security and privacy as it relates to areas outside of our products, visit our detailed reports titled **Operations** and **Customers**.

## SECURE PRODUCT DEVELOPMENT

EMC's Product Security Office promotes secure development via a set of requirements integrated into a product security standard. We apply this standard through specification, design, development, documentation, testing, readiness, and vulnerability response, minimizing risk in our products.

When security issues do arise, EMC's Product Security Response Center proactively alerts our customers. We issue EMC Security Advisories to notify customers about potential vulnerabilities and provide corrective measures before adversaries are able to exploit the situation.

To learn more about EMC's approach to product security, visit **emc.com/security**.

## Secure Supply Chain

EMC's security strategy manages risk across the full supply chain, including credentialing, supplier management, secure product development lifecycle, the protection of intellectual property, and our support and service delivery capabilities. We are accelerating the rollout of security controls across our supply chain to mitigate the risk of counterfeit or malicious components. This program complements our existing controls for secure product development, and helps ensure we deliver trustworthy products to our customers.

To learn more, visit our detailed report titled **Supply Chain**.

#### **Compliance and Risk Management**

We engage risk practitioners from across our organization through our Governance, Risk, and Compliance (GRC) framework that spans our business units and geographic locations. Reporting to the EMC Management Risk Committee, the Enterprise GRC council drives our risk management program, provides a point of governance, and initiates policies to drive compliance across the organization. GRC Councils meet monthly or more frequently based on the needs of specific initiatives, which include information security and privacy. Each of EMC's product business units, as well as our geographical regions, also has a risk assessment program that reports outcomes into the GRC framework. We utilize the RSA Archer® GRC tool as a common platform to gather, monitor, and report on risks and controls throughout the company.

RSA's Compliance & Risk Management (CRM) team advises on compliance with data security requirements including PCI, ISO 27001, and SSAE-16 in RSA's Software as a Service (SaaS) environment.

To learn more, visit the **Risk Management** section of our detailed report titled **Governance**.

## **Partnering to Advance Security**

As with any company today, one of the ongoing challenges for EMC and its divisions is maintaining and enhancing our security processes in technology environments that are constantly new and changing. As our company evolves, we are becoming a hyper-extended enterprise, sharing information with more people and using more technology tools across more geographies than ever before.

Our stringent information security strategy and practices—including the compliance and risk management approach mentioned above— continue to prepare us for this challenge.

We also recognize that we don't have all the solutions, and we are working with partners to address the evolving technology landscape. As it relates to product security and privacy, EMC continues to participate with **SAFECode**, a global organization it helped launch in 2007 that is focused on improving trust in IT products and services. In 2014, EMC continued to offer five **software development training modules** through SAFECode. These modules are free and publicly available, and aim to raise the bar on software development security across the industry.

To learn more about 2014 partnerships, visit the **Security & Privacy** section of our detailed report titled **Operations**.





# CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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## ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of the **Executive Report**.



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EMC's Global Environmental Policy



# ENVIRONMENTAL STRATEGY

EMC's environmental strategy guides our approach to managing the environmental impacts of our business and allows us to work towards creating a net positive value for our company, stakeholders, and the planet.

We collaborate and engage with external groups with our primary focus on compliance, energy and climate change, material use, and waste. This approach provides EMC with a thoughtful direction and a unified purpose, while enabling us to revise and update our efforts as needed based on the changing IT, environmental, and regulatory landscape.

## DEFINING ENVIRONMENTAL SUSTAINABILITY AT EMC

Environmental sustainability is defined by keeping in mind the key stakeholders we serve: our employees and their families, customers, suppliers, partners, investors, and the greater global community. We seek to:

- Protect and conserve the environment in which we live and work
- Create value through adaptations that are required to thrive into the future
- Mitigate risks from changes in the planet that we cannot influence

## ENVIRONMENTAL MANAGEMENT SYSTEM

Our environmental management system covers regulatory compliance, waste reduction, conservation of energy and materials, and overall environmental impact. This has allowed us to certify all our companyowned global manufacturing sites with ISO 14001 and limit non-compliance.

We did not incur fines or nonmonetary sanctions at any of our companyowned global manufacturing sites for noncompliance with environmental laws and regulations in 2014.



## **Additional Information**

Climate Change Policy Statement



# ENERGY & CLIMATE CHANGE STRATEGY

EMC's primary GHG emissions arise from the generation of the electricity needed to run our business—including our supply chain—and power our products. Therefore, our energy and climate change strategy focuses on the following key areas:

- I. Reducing emissions from our own operations by:
- Decreasing the demand for energy
- Maintaining a highly efficient infrastructure
- Optimizing logistics routes and modes to decrease carbon intensity and footprint
- Designing and operating data centers for energy efficiency
- Identifying opportunities to adopt renewable energy sources that are economically and environmentally sound

## II. Reducing emissions in our supply chain by:

- Engaging suppliers in measuring and reporting
- Collaborating with suppliers in taking measures to reduce emissions
- Working with the IT industry to develop standards for reporting supply chain emissions

#### III. Reducing energy demand in our customers' IT infrastructures by:

- Supplying energy-efficient products
- Developing innovative approaches to manage the exponential growth of data in their operations
- Delivering services to help customers implement the most energy-efficient solutions for their businesses

## IV. Reducing global energy demand by:

• Supplying information solutions to optimize business functions, accelerate research, leverage data assets, and enhance public infrastructure

In 2014, EMC signed the **Corporate Renewable Energy Buyers' Principles,** sponsored by the World Wildlife Fund and World Resources Institute.

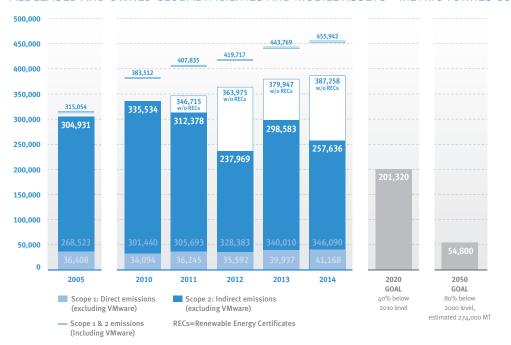
"The Buyers' Principles provide EMC with a useful framework for evaluating opportunities for renewables in our own operations. They also provide a powerful foundation for collaborating with energy providers and our peers to increase the quantity, availability and economic attractiveness of renewables to a wider range of businesses."

- KATHRIN WINKLER, CHIEF SUSTAINABILITY OFFICER, EMC

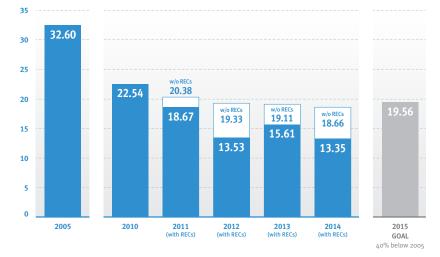
Also in 2014, EMC aligned with the World Bank's **Put a Price on Carbon Statement** to voice our support for carbon pricing and developed a process for pricing carbon internally that we expect to implement in 2015.

EMC is a signatory to **The Climate Declaration**, a project of Ceres that brings together companies and individuals to demonstrate support for national action on climate change.

## EMC GLOBAL ABSOLUTE GHG EMISSIONS, SCOPES 1 AND 2 ALL LEASED AND OWNED GLOBAL FACILITIES AND MOBILE ASSETS—METRIC TONNES CO2e



## **EMC GLOBAL GHG EMISSIONS INTENSITY PER \$1M REVENUE, SCOPES 1 AND 2** ALL LEASED AND OWNED GLOBAL FACILITIES AND MOBILE ASSETS (INCLUDES VMWARE)—METRIC TONNES CO2e PER \$1 MILLION USD REVENUE



## OUR GOALS AND PERFORMANCE

We began measuring our GHG emissions in 2005. Since then, our energy intensity by revenue—the amount of global GHG we emit per \$1 million we earn—has declined by more than 42 percent, from 32.6 to 18.66 metric tons.

Our goals:

- 40% reduction of global Scopes 1 and 2 GHG emissions per revenue intensity below 2005 levels by 2015. Achieved in 2012, 2013, and 2014; We are not retiring the goal yet, as we need to remain ontarget to meet reduction levels through 2015.
- 20% of global electricity needs served by renewable sources by 2020 (excluding VMware)
- 40% absolute reduction of global Scopes 1 and 2 GHG emissions below 2010 levels by 2020 (excluding VMware)
- 50% of global electricity needs to be obtained from renewable sources by 2040 (excluding VMware)
- 80% absolute reduction of global Scopes 1 and 2 GHG emissions below 2000 levels by 2050 (excluding VMware)

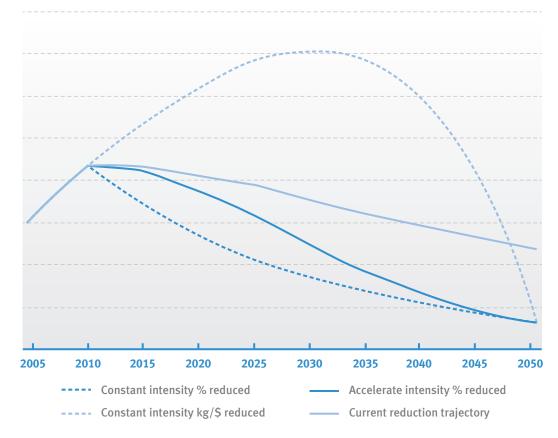
## DETERMINING OUR GOALS

To set our long-term goals, we began with the imperative to achieve an absolute reduction of at least 80 percent by 2050 in accordance with the Intergovernmental Panel on Climate Change's (IPCC's) Fourth Assessment Report recommendations. We then modeled various reduction trajectories; our goal was to identify a solution that would be elastic enough to adjust to changes in our business, while achieving a peak in absolute emissions by 2015, in accordance with recommendations from the 2007 Bali Climate Declaration.

#### ENERGY & CLIMATE CHANGE STRATEGY | 4

Our model was based on the Corporate Finance Approach to Climatestabilizing Targets (C-FACT) proposal presented by Autodesk in 2009. The model calculates the annual percentage reduction in intensity required to achieve an absolute goal. We selected this approach because intensity targets better accommodate growth through acquisitions (in which net emissions have not changed but accountability for them has shifted), and aligns business performance with emissions reductions performance rather than forcing tradeoffs between them. Setting an intensity trajectory also drives investment beyond one-time reductions to those that can be sustained into the future.

#### **TRAJECTORY DIAGRAM**



The C-FACT system, however, is "front-loaded" as it requires a declining absolute reduction in intensity each year. EMC developed a variant of the model that requires reductions to be more aggressive than the previous year. This makes better economic sense for the company as it takes advantage of the learning curve for alternative fuels as they become more efficient and cost effective. Please see the "Trajectory Diagram" in this section for more information.

While EMC put much thought into setting our long-term goals, some stakeholders felt that they were too distant for most people to conceptualize. In response to this feedback, in 2014, we established our new 2020 targets to mark progress.

The basis of our mid-term targets is an understanding of the contribution that businesses must make to greenhouse gas mitigation to avoid dangerous climate change, as described in the CDP and World Wildlife Fund report "3% Solution." We believe these mid-term goals are aggressive and aspirational, particularly given the anticipated growth in our busi-



ness. However, we also realize the potential for a combination of escalating effects of climate change and a lack of collective action could require that all businesses, including EMC, accelerate their mitigation plans. We will continue to monitor conditions and adjust our targets accordingly.



## Additional Information

EMC 2014 CDP Climate Change Response

EMC 2013 Investor CDP Response

EMC 2012 Investor CDP Response

## ENERGY MANAGEMENT AND RENEWABLE ENERGY



EMC's reduction targets will best be achieved through a holistic approach to all aspects of energy management—including supply, demand, and procurement. We continue to explore strategies for meeting our renewable energy goals by investigating renewable energy options that are economically and environmentally sound. In 2014, our efforts included:

- Activities of the Global Energy & Water Management Steering Committee, which is tasked with: reviewing and refining energy and water goals and projects; developing recommendations for management; establishing plan, task, and cost models; and implementing programs.
- Establishing cross-functional representation for a global team to drive long-term energy strategy for EMC. This body is tasked with long-term planning of our energy supply, demand, and procurement in all of our four global theaters—Asia Pacific and Japan (APJ), Europe, Middle East and Africa (EMEA), Latin America, and North America.
- Evaluating new tools for managing our global carbon accounting and reporting.
- Conducting more detailed research on solar photovoltaic (PV) energy generation in the U.S., including investigating potential hosting of solar PV generation facilities, becoming a consumer of solar PV generated off-site through purchased power agreements (PPAs), and other possible solar PV models. These efforts are continuing into 2015.
- Continuing to investigate other potential alternative energy purchasing in the U.S., India, Ireland, and other locations where we have large global facilities.

During 2014, EMC purchased 157,000 MWh of Renewable Energy Certificates (RECs) in support of renewable energy generated in the U.S. The RECs purchased supported renewable electricity delivered to the national power grid by alternative energy sources. The RECs are third-party verified by Green-e Energy to meet strict environmental and consumer protection standards. The 157,000 MWh represents 27 percent of the grid electricity consumed at all EMC facilities in the U.S., including all divisions during 2014.

Also in 2014, a cross-functional team from Global Real Estate & Facilities, Finance, Global Product Operations, and the Office of Sustainability researched a variety of models for using an internal cost of carbon to reflect anticipated long-term financial impacts from changes in greenhouse gas emissions. We expect to implement the resulting proposal in 2015.

## **REPORTING & ACCOUNTABILITY**

We are committed to reporting our progress transparently and disclosing our GHG emissions annually to CDP. To learn more, see the link in the sidebar for our **2014 CDP Climate Change questionnaire response**.

Our Ireland Center of Excellence (COE) continues to participate in the European Emissions Trading Scheme (ETS), which is a cap and trade Scope 1 emissions program that has now entered the third trading phase from 2013 to 2020. This COE has consistently remained within its operating allowance for the previous phases since 2005, but phase three of trading has, as expected, proved to be challenging, and the Ireland COE produced 2,594 metric tons of CO2e against an allowance of 2,550. Previous years of strong performance against our allowance ensured that we have more than adequate additional spare allowances available to cover this excess.

#### ENERGY & CLIMATE CHANGE STRATEGY 6

Further energy reduction projects within the Ireland COE due for commissioning in early 2015 will have the effect of bringing our total thermal rated input below 20 MW and consequently, we will fall outside of the criteria to be a member of the EU ETS. We will, however, continue to monitor and drive reductions in our CO2e emissions.

## EMC RECOGNIZED FOR CLIMATE DISCLOSURE AND GHG MANAGEMENT

CDP 2014 S&P 500 CLIMATE DISCLOSURE LEADERSHIP INDEX (CDLI) For the sixth time, EMC was included on the CDLI, earning a score of 100 for the depth and quality of the climate change data disclosed to investors and the global marketplace. To learn more, read the **Press Release**.

#### 2015 CLIMATE LEADERSHIP AWARD

In 2015, EMC was recognized by the U.S. Environment Protection Agency (EPA) with a 2015 Climate Leadership Award for Excellence in Greenhouse Gas Management—Goal Setting. To learn more, read the **Press Release**.

#### SCOPE 3 EMISSIONS

At EMC, we continually strive to increase the breadth and depth of our GHG reporting. In our 2014 CDP Climate Change questionnaire response, we reported estimated global corporate emissions for eight of the 15 categories of Scope 3 emissions based on the WRI Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The following five reported categories represent the greatest opportunity to drive improvement and minimize emissions through our own actions and influence.

#### **Business Travel**

In 2014, the GHG emissions associated with business travel was 153,752 metric tons CO2e, including VMware. We track global corporate business travel miles from commercial flight and rail via our corporate travel booking tool. In addition, we estimate the GHG emissions associated with global business travel car rentals and global hotel stays based on data provided by our Travel department. The methodology for calculating the emissions associated with business travel is aligned with the GHG Protocol Corporate Accounting and Reporting Standard.

We continually seek to reduce GHG emissions associated with employee business travel by implementing advances in technology, business processes, and resource management. We apply technology to allow us to perform changes remotely to customer technical environments,

resulting in reduced emissions from travel. To learn more, visit the Employee Travel & Commuting section of our detailed report titled Our People & Workforce.

#### **Employee Commuting**

As of the publication of this report, our 2014 global GHG emissions from employee commuting have not yet been estimated. Please



refer to EMC's 2015 CDP Climate Change response for updated information. EMC maintains a comprehensive employee commuter services program focused on minimizing single-occupancy vehicles and unnecessary local employee travel. To learn more about our employee commuting programs, visit the Employee Travel & Commuting section of our detailed report titled Our People & Workforce.

#### **Direct Tier 1 Suppliers**

In 2014, the GHG emissions associated with EMC's direct material suppliers was 215,000 metric tons CO2e. This reflects Scope 1 and Scope 2 GHG emissions data reported by direct Tier 1 suppliers comprising 98 percent of our annual spend. Using economic allocation, we use their data to calculate our share of their GHG emissions. The increase in estimated emissions compared to 2013 is primarily due to merger and acquisition activity among our suppliers, which affects the estimated values derived by the economic allocation methodology. To learn more, visit the **Supply Chain Social and Environmental Responsibility** section of our detailed report titled **Supply Chain**.

## Logistics

EMC's Global Logistics Operations generated approximately 92,081 metric tons CO2e in 2014. This number covers inbound, outbound, interplant, and customer service transportation and logistics, but excludes in-country goods freighting for Australia, Brazil, Japan, Russia and South Africa. In 2014, we collected data related to carrier operations representing 93 percent of our logistics spend and extrapolated total emissions proportionately based on the reports we received. To learn more, visit the Logistics section of this report.

#### **Use of Sold Products**

Environmental Lifecycle Analyses conducted prior to 2012 confirmed our expectations that more than 90 percent of lifecycle impacts are due to electricity consumed during the product use phase. EMC estimates that the lifetime GHG emissions from use of EMC products shipped to customers during 2014 will be approximately 4,066,255 metric tons CO2e, including VMware. This value represents our customers' Scope 2 GHG emissions from the generation of electricity that is powering our equipment. To learn more about how we provide ongoing information to end-use customers about how to use our products more efficiently, visit our detailed report titled **Our Products**.

## A SNAPSHOT OF EMC'S GLOBAL 2014 GREENHOUSE GAS EMISSIONS METRIC TONS CO2e



Scope 1 & 2 GHG Emissions from EMC Global Operations

455,942



Emissions Associated with Use of Products Sold in 2014

4,066,255



EMC headquarters in Hopkinton, Massachusetts

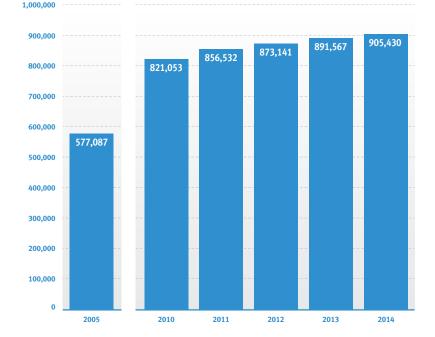
# EFFICIENT FACILITIES

We recognize and embrace our role in mitigating the impacts from the various energy sources we use and their contributions to climate change. We address this issue in our owned and operated facilities by evaluating, optimizing, and adapting our operations—an important piece of the overall approach that drives and redefines our climate change and energy strategy.

## EFFICIENCIES VIA INTERNAL COLLABORATION

Our global Energy & Water Management Steering Committee seeks to maximize efficiencies across the business and create a consolidated approach to energy procurement, management, and sustainability. This cross-functional committee meets quarterly and is comprised of representatives from the four geographical regions in which EMC operates.

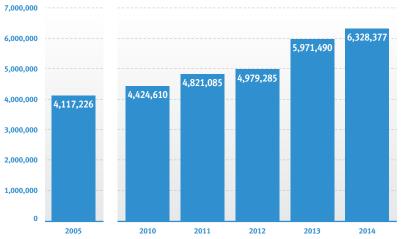
EMC GLOBAL FACILITIES: ELECTRICITY CONSUMPTION ALL LEASED AND OWNED GLOBAL FACILITIES (INCLUDES VMWARE)—MWH



The committee is tasked with: reviewing and refining energy and water strategy; identifying and prioritizing goals; developing recommendations for management; establishing plan, task, and cost models; and implementing programs.

Our facilities and manufacturing teams continue to work closely with engineering and IT to manage global energy consumption by monitoring power use and implementing energy efficiency initiatives in our labs, data centers and manufacturing floors. Our data centers are designed to automatically capture and report Power Usage Efficiency (PUE), which is **The Green Grid** metric for measuring the energy efficiency of data center infrastructures. We use PUE across all data center and

## EMC GLOBAL FACILITIES: NATURAL GAS CONSUMPTION ALL LEASED AND OWNED GLOBAL FACILITIES (INCLUDES VMWARE)—U.S. THERMS



lab facilities, including our locations in Hopkinton, Massachusetts; Durham, North Carolina; and Cork, Ireland. These systems allow data center managers to consistently monitor and measure the impact of changes they make.

In 2014, the Ireland Center of Excellence (COE) data center retained a PUE of 1.6. Since the lab areas in the COE consume a significant percentage of overall electricity, much of the focus has been on efficiency gains in lab areas, which continue to operate at the equivalent of an average 1.16 PUE.

## PURCHASING EFFICIENT EQUIPMENT

We purchase energy-efficient servers, printers, photocopiers, and personal computers for our operations worldwide. The purchases are guided by explicit efficiency requirements (including ENERGY STAR<sup>®</sup> certification) and help achieve efficiencies by replacing older equipment with more efficient equipment, and by creating energy reductions through consolidation and virtualization.

## EFFICIENT FACILITIES AROUND THE GLOBE Hopkinton, MA

Research and development labs can be a challenge due to the amount of energy required and the flexibility in product layouts needed for equipment testing. In 2014, our facilities teams continued to work closely with the R&D teams to better understand how operations could be improved, with the goal of realizing efficiencies that could be shared across the business. In 2014, we implemented various energy efficiency projects at our Hopkinton headquarter facilities, ranging from optimizing of building management systems and upgrading volume air control units to installing electrically commutated fan motors in fan powered terminal boxes. We modulated the minimum outdoor air damper, reducing both the amount of fresh air brought into the building and the demand on the heating and cooling equipment without negatively affecting occupant comfort, saving approximately 123,764 kWh and 228,200,000 BTUs, or \$26,482 annually.

## Cork, Ireland

The Ireland COE has seen a reduction of 25 percent in electricity consumption and a reduction of 15 percent in natural gas consumption since 2007. In 2014, we continued to look for new ways to make our operations and

facilities more energy efficient. Our effort included upgrading lighting, updating the control of air handling unit, and replacing the existing chiller plant with high efficiency chillers. We installed over 400 LED energy efficient light fittings in external car parks, perimeter walkways, and on all exterior walls. This installation is estimated to reduce electrical consumption associated with external lighting by approximately 150,000 kWh annually, or a 70 percent reduction in energy consumption.

The Cork facility is certified to ISO 50001 energy management standard. This followed on from management systems which we previously implemented such as IS 393 in 2008 and EN16001 in 2009.

# EMC BUILDING CERTIFICATION THROUGH THE YEARS 2009

• EMC's Apex manufacturing facility was recognized by the North Carolina Department of Environment and Natural Resources (NCDENR) as a North Carolina Environmental Stewardship Initiative (ESI) Environmental Steward.

## 2011

- EMC's corporate headquarters building at 176 South Street, Hopkinton was awarded Leadership in Energy and Environmental Design (LEED) Gold certification.
- Our Milan, Italy office location received LEED "Core & Shell" Silver Certification.

#### 2012

- EMC's cloud data center in Durham, North Carolina received LEED Gold certification.
- EMC's COE facility in Bangalore, India received LEED Platinum certification.

#### 2014

- EMC's COE facility expansion space in Bangalore, India received LEED Gold certification.
- EMC's Apex manufacturing facility went through a 5 year reassessment for the NCDENR ESI program and was granted a continuation at the Steward level for another 5 years.

#### 2015

• EMC's Brazil Research and Development Center received LEED Gold certification.



EMC Durham Data Center



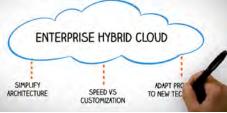
Additional Information

## WHITE PAPER EMC IT Redefined



## EMC IT Proven— The Animated Story

1. INFRASTRUCTURE TRANSFORMATION



Watch to get an animated overview of EMC IT's transformation journey—from a reactive IT organization to true service provider.

## **EMC IT Proven Videos**



Watch interviews with EMC IT leaders discussing IT transformation, IT as a service (ITaaS), cloud, and Big Data.

# EFFICIENT DATA CENTERS

EMC IT continues to face the same challenges as our customers surrounding the growth of data and IT demand. By innovating and deploying new technologies, we advance our vision for secure cloud computing and Big Data while at the same time developing and redefining best practices that we can deliver to our customers.

## EMC'S JOURNEY TO CLOUD COMPUTING

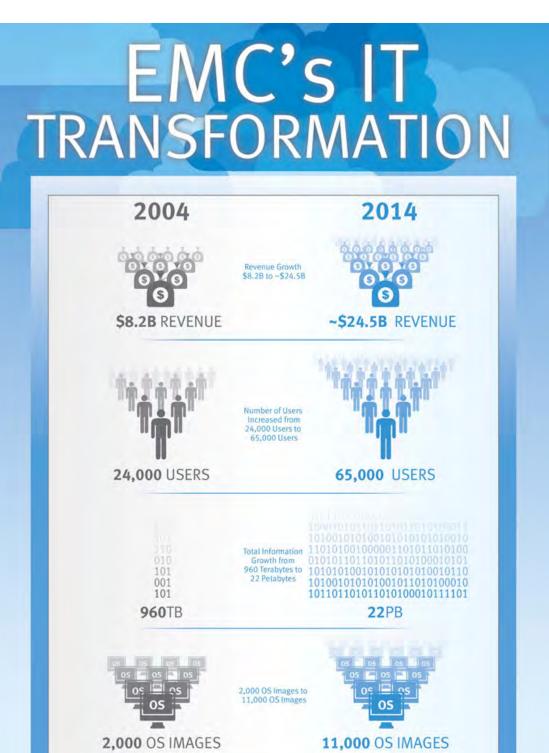
EMC IT supports more than 70,000 "internal" users working in approximately 400 sales and corporate offices in more than 86 countries — not to mention the home offices of our large telecommuting population. EMC's Global IT environment spans five data centers with approximately 11,000 OS Images and 95 percent of all servers virtualized, and hosts more than 500 applications and 22 petabytes of information storage.

EMC IT began its multi-year journey to the cloud in 2004. What began as "doing more with less" became an opportunity to completely rethink the way IT is built, managed, and consumed.

As EMC's technology portfolio evolved to deliver cloud computing, the EMC IT organization also had to adapt to deliver IT-as-a-Service and become a true service provider to the business. In a journey spanning six years, EMC IT transformed the organizational structure, culture, people, and processes to align more closely to the needs and objectives of the business. In the process, the IT organizational transformation dramatically improved IT efficiency, saving EMC tens of millions of dollars. It also improved end-user satisfaction, as well as EMC's business agility and competitive position in the global market. Our initial goal was to reduce IT costs by consolidating and virtualizing the IT infrastructure, including servers, storage, networks, and desktops. This resulted in significantly higher utilization rates for storage and servers and dramatically improved efficiency and power consumption in our data centers. We then focused on improving quality of service and time-to-value for our business units and employees. EMC accomplished this by extending virtualization to existing business-owned, mission-critical applications, including enterprise resource planning, email, customer relationship management, and decision support/ business intelligence.

Rather than building complex, custom solutions for every need throughout the company, EMC IT began automating, simplifying, and packaging competitive IT services for dynamic selection. The EMC IT service catalog offers transparent prices and service levels that give the business choices based on needs, usage, and budget. EMC IT's cloud operating model enables the business to embrace our standardized technology and application platforms for a broader spectrum of choice, while allowing EMC IT to spend more time consulting proactively with our business professionals in support of their strategic objectives.

While our journey was fueled initially by economic factors, it has also produced environmental benefits from both lower GHG emissions and reduced material consumption. To learn more about our cloud journey, please visit **EMC IT Proven**.



# CONTINUOUS IMPROVEMENT AT THE HOPKINTON DATA CENTER

In late 2013, EMC began an optimization program at our Hopkinton data center. The goals of this project were to reduce energy consumption without reducing the level of client services, upgrade critical infrastructure to support future needs, and improve the overall efficiency of the data center.

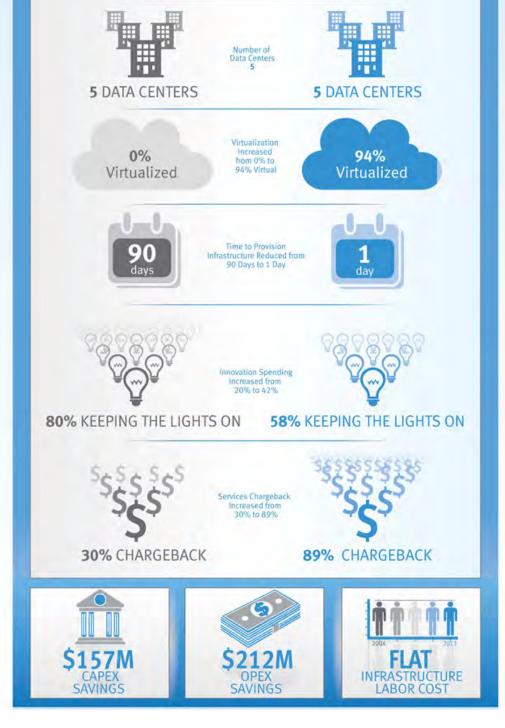
The effort consisted of multiple activity streams, and was substantially completed in 2014. Through the end of 2014, 209 servers have been decommissioned and removed from the data center. In addition, a total of 53 storage systems have also been powered down. These changes have resulted in better utilization of the remaining assets. The data center's IT equipment has been reconfigured to meet current best practices for efficient deployment and operation.

To date, these changes have resulted in electricity use reductions of 834 kWh (518 kWh in 2014), or a 20 percent decline in consumption. The data center is now configured in a manner that will support best practices as it grows, including additional infrastructure enhancements to improve efficiency. The changes through 2014 have resulted in a decrease of 0.1 in the data center's PUE.

## LEVERAGING OUR TECHNOLOGY FOR EFFICIENCY

Virtualization and cloud computing are improving energy efficiency in our data centers. By leveraging our own products and technologies virtualization, data deduplication, and Fully Automated Storage Tiering (EMC FAST)—we are delivering significant energy and cost savings on our journey to the cloud.

Dynamic allocation of server and storage resources in a highly virtualized IT infrastructure allows us to strike the right balance between energy efficiency and business performance.



Our virtualization strategy includes:

- Tiered, shared, and virtualized server and storage—based on the VCE Vblock<sup>®</sup> converged infrastructure
- Virtual (thin) Provisioning of IT infrastructure
- Integrated management and automation for virtualized infrastructure

By the end of 2014, EMC IT had virtualized 95 percent of OS images using the VMware vSphere platform. On average, we are achieving virtual to physical consolidation ratios of 14:1. Capacity utilization rates across compute and storage have been consistent with our target utilization rate of 75 percent. EMC FAST VP<sup>™</sup> technology, which automatically moves data to the appropriate tier of storage, such as Flash drives for ultra-high performance or SATA drives for infrequently used information, is further optimizing our storage infrastructure for



performance, energy efficiency, and cost.

By deploying EMC Avamar® and Data Domain® data deduplication solutions, EMC IT has transformed backup and restore. We have eliminated backup for certain applications by providing online archiving, removing more than 1 PB of email, file system, and

database data from the backup schedule. Data deduplication, using Data Domain for databases and Avamar for virtual machines (VMs) and file systems, has further reduced the amount of data to be backed up and reduced backup times by 75 percent since we implemented diskless backup. Avamar is also used to centralize backups for 121 remote sites, increasing data availability and eliminating offsite backup costs.

# RECYCLING & WASTE

EMC continues to increase recycling and material reuse in our owned and operated facilities, and encourages recycling and reuse in our leased facilities.

In addition to meeting regulatory requirements for waste reduction and recycling in the countries where we operate, EMC's global waste minimization strategy is to seek opportunities to augment and expand reduction techniques, material reuse, and recycling efforts. Looking ahead in 2015, we will continue to explore evolving technologies, collaborate globally to expand successful regional waste initiatives, and drive employee engagement across business units.

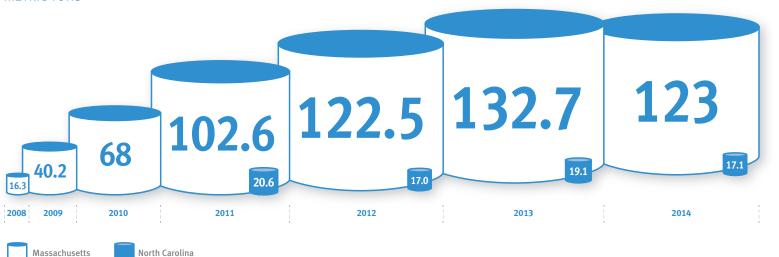
## MINIMIZING MANUFACTURING WASTE

We further reduced the waste we sent to landfill from four percent of our overall manufacturing refuse stream in 2013 to three percent in 2014<sup>1</sup>.

## **RECYCLING & COMPOSTING**

We are continuously looking for opportunities to improve our reuse, recycling, and composting efforts at our global facilities in order to reduce waste. Throughout the world, EMC facilities maintain convenient recycling points for employees' use, including paper and plastic collection bins in office areas as well as recycling and compost containers in our cafeterias. In addition, we use the following approach to capture recyclable materials in our facilities:

- In our Massachusetts, New Hampshire, North Carolina, California, and Cork locations, recyclables are removed from the waste stream by waste management contractors or municipal providers.
- In our manufacturing operations, waste materials are segregated and recycled by our waste management vendors into reusable commodities, reducing the overall cost of recycling to the business.



Although EMC generated less compost in 2014 compared to 2013, this was the direct result of an overall decrease in total waste generated at the Massachusetts and North Carolina campus facilities during 2014, as noted in the highlights section.

<sup>1</sup> In the 2013 Corporate Sustainability report, EMC stated that manufacturing waste had been reduced to three percent; however, this was an error in rounding and should have been noted as four percent.

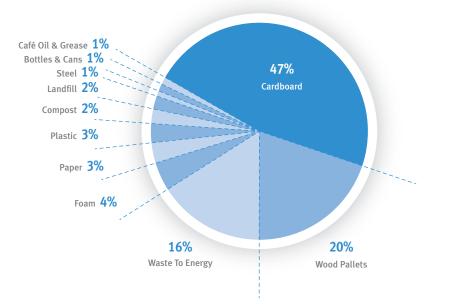
## ORGANIC CAFETERIA WASTE SENT FOR COMPOSTING METRIC TONS

Highlights from 2014 include:

- Our Massachusetts campus locations recycled more than 595 metric tons, and composted more than 123 metric tons of waste. Overall, the Massachusetts campus facilities generated 12 percent less solid waste in 2014 as compared to 2013.
- Our North Carolina locations recycled more than 562 metric tons, and composted more than 17.1 metric tons of waste. The total solid waste generated at our North Carolina campus locations decreased 2.3 percent from 2013 to 2014.
- Our Cork, Ireland, location recycled more than 929 metric tons, and composted over 31 metric tons of waste. The total solid waste generated at the Ireland COE decreased 4.4 percent from 2013 to 2014.
- The Bangalore, India, location recycled 25.84 metric tons and reused 2.39 metric tons—approximately 66 percent of the waste generated.

The graphic below depicts our solid waste metrics from our owned and operated manufacturing locations. Note that operational waste recycling performance depends on both EMC performance and the availability of

## 2014 SOLID WASTE STREAMS AT GLOBAL OWNED MANUFACTURING FACILITIES



supporting services by local waste hauling and disposal vendors. This breakdown of waste streams illustrates our key sources of solid waste and demonstrates the complexity of proper waste stream segregation as well as the need for and importance of local recycling services.

## STRIVING FOR ZERO WASTE AT NORTH CAROLINA MANUFACTURING LOCATION

Our manufacturing facility in Apex, North Carolina, is taking an aggressive and creative approach to waste management, and achieved more than 98 percent avoidance of the total waste stream to landfill in 2014. In 2014, we continued to work with



Operating the densifier



White foam packaging compressed and heated to form a patty our suppliers to reduce the polypropylene and polyethylene foam packaging coming into the facility in the first place, and used equipment to melt the foam that we did receive into highly compressed "bricks" that can be cost-effectively transported to recycling processors. In addition, we worked with our service provider to divert an amount of waste equivalent to our own from landfill to a waste-to-energy facility.



# YOU HAVE THE **POOVER** TO FLIP THE SWITCH ON ENERGY WASTE



# WASTE WATCH PROGRAM AND WASTELESS WEEK AROUND THE U.S.

In September 2014, EMC's cafeteria food service vendor Sodexo launched Waste Watch, a new pre-consumer waste measuring program. The program focuses on the three pre-consumer areas that create the most waste: production, over production, and expired product. Waste is measured by quarts in clear containers creating layers so waste can be easily identified by station. Based on what is seen in the containers, actions such as changing preparation procedures or reducing production on slower business days were identified to minimize waste.

In October 2014, Sodexo held its annual WasteLESS Week at EMC to raise awareness about waste. Each day, a different area of waste food, water, energy, paper and materials—was highlighted. We displayed posters to illustrate ways in which to reduce waste, and we used pledge boards made of materials available at the cafeteria for people to commit to wasting less at work or at home.

## EWASTE

We encourage and accept returns of all EMC-branded products at the end of their useful life. We also strive to re-use office electronics, extend their useful life, and reduce waste at all of our company-owned and operated facilities. When office electronics reach the end of their useful life, they are either returned to those manufacturers who accept them, or sent to IT Asset Disposal suppliers for reuse or recycling.

To learn more about EMC's vision for and management of eWaste, visit the **Product End-of-Life** section of our detailed report titled **Our Products**.

## HAZARDOUS WASTE

We are committed to reducing and eliminating the use of hazardous materials in our operations wherever possible. Our manufacturing operations generate only small quantities of hazardous waste (as defined by the U.S. and Ireland Environmental Protection Agencies). In addition:

- The **Apex, North Carolina**, manufacturing facility is a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste and a Small Quantity Handler (SQH) of universal waste. As a CESQG, the Apex facility generates 100 kilograms or less of hazardous waste in any calendar month.
- The **Franklin, Massachusetts**, manufacturing facility is registered as a Small Quantity Generator (SQG) of hazardous waste and waste oil, and is considered an SQH of universal waste. As an SQG, the Franklin facility generates less than 1,000 kilograms of hazardous waste in any calendar month.
- The **Cork, Ireland**, manufacturing facility produced 24.58 metric tons of hazardous waste over the course of 2014 that was removed and managed by specialist licensed operators.

In 2014, there were no significant spills on any EMC property.

# PACKAGING

EMC's sustainable packaging program promotes innovation and seeks to maximize environmental benefits across the product lifecycle. We collaborate—both internally and externally with suppliers and other stakeholders—to identify opportunities, generate ideas, and implement projects that reduce environmental impact and cost.

Packaging presents sustainability challenges and opportunities related to material consumption, greenhouse gas emissions from freighting, and waste generation and recycling. We consider packaging from a lifecycle perspective, without losing sight of our highest priority: protecting our products. This consideration becomes a gateway for exploring new materials and design features for new and existing packs, improving user experience, and addressing end-of-life considerations. All of these aspects are intrinsically related to cost and waste reduction for EMC and our customers. Moreover, we understand that our packaging design choices visibly demonstrate our commitment to integrating sustainability into how we do business.

Our approach includes these elements:

- **Product sourcing**—we collaborate with suppliers to apply packaging best practices that integrate sustainability into our inbound supply chain. Our attention in this area is on high-volume packs for multi-sourced parts to promote "positive competition" among suppliers.
- **Right Sizing**—we focus on optimizing the packaging of our finished product for transport, emphasizing "right-sizing" to reduce excess material weights and volumes. This helps us lower costs and fuel consumption, as it allows more product to be loaded into each truck, plane, train, and ship we use to transport our products to our customers.
- **Sustainable Materials**—we design our packaging with end-of-life in mind, prioritizing reusability and sustainable materials to drive cost and waste reductions for EMC and our customers.
- **Outbound Sustainable Packaging Scorecard**—we measure and manage progress toward our goals for right-sizing and sustainable material use in our high-volume customer-facing packs.

During 2014, we focused our efforts on generating awareness of the scorecard and how it supports packaging design decisions, and on screening of all of our high-volume packs to identify redesign priorities. For 2015, we will work to expand the scorecard and its purpose to identify ways to provide input into the design process of new packs, and develop a methodology to more systematically manage and measure our inbound packaging performance.

## PACKAGING DESIGN GOALS AND PERFORMANCE

Different product shapes, sizes, and transportation scenarios require different protective solutions, and our sustainable packaging design approach is adaptable to take into account these varying needs. With an emphasis on right-sizing and renewable materials, we have set a target to optimize 95 percent of our high-volume customer-facing packs for sustainable design by 2020.

During 2014, we implemented the outbound sustainable packaging scorecard to drive and measure progress toward this target. This involved establishing target ratios between pack and product weight, and setting preferred percentages for renewable, recyclable, and biodegradable content. Our intention is to make sure that we get the right ratio by limiting the use of excess material wherever possible and by reducing the impact of our packs at the end of their life.

Although there may not yet be substitutes for foams, electro static discharge (ESD) bags, or other less sustainable materials that are effective for our applications, we believe our systematic approach is leading us to more sustainable packaging alternatives.



Drive Packaging Optimization Team

## HOW THE OUTBOUND SUSTAINABLE PACKAGING SCORECARD WORKS

In 2014, EMC implemented a systematic approach to determine whether a packaging design is sustainable and to help us prioritize efforts for performance improvement. The scorecard allows us to emphasize the use of sustainable materials and right-sizing, without dictating a one-size-fits-all approach. A pack can receive anywhere between o and 6 total points. This number is a composite score based on the sustainable material content and right sizing criteria identified in the scorecard. The process begins by identifying customer-facing packs that EMC purchases in volumes greater than 1,000 units per year. These packs are then screened using the scorecard to establish their sustainability performance score. Packs with a score of 2 or less become candidates for redesign.

## OUTBOUND SUSTAINABLE PACKAGING SCORECARD CRITERIA & SPECIFICATIONS

SCORE VALUE	1	2	3
RENEWABLE <sup>2</sup> /RECYCLABLE <sup>3</sup> / BIODEGRADABLE CONTENT BY WEIGHT	75%	90%	99+%
RATIO OF PACK WEIGHT TO FINAL PRODUCT SHIP WEIGHT	30%	20%	10%

 $^{\rm 2}$  By "renewable," we mean made from majority recycled or biologically derived content, by weight.

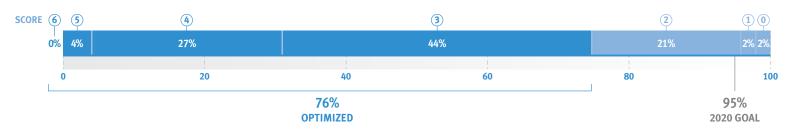
<sup>3</sup> By "recyclable," we mean recyclable at curbside or as part of consumer-accessible waste management infrastructure in a majority of markets in which we do business.

EMC's overall performance is calculated by weighting the sustainability performance of each high-volume, customer-facing packaging design by its annual volume. In 2014, 76 percent of our packs were identified to be optimized for sustainable materials and/or right sizing. The following graph represents the breakdown by score of our high-volume packs purchased during 2014.

## **CUSTOMER-FACING PACKAGING REDESIGN**

In 2014, we completed a packaging redesign project for one of our high volume customer-facing drive packs in response to customers' requests for a more sustainable solution. The previous design involved four to five separate boxes, and used high volumes of foam and corrugated materials. In addition, it required an "overpack" to bundle drive boxes and the use of an oversize pallet, all of which were driving up packaging costs. The new solution not only improved usability of the pack by creating special compartments for cables and other miscellaneous items, it also minimized the use of materials and when possible replaced them with more sustainable ones. The new design uses only one box and allows double shipment configuration. The design optimization achieved a 41 percent reduction in cube utilization (i.e., space required), 25 percent reduction in weight, and 23 percent reduction in costs, and represents a saving of 203 metric tons of carbon dioxide equivalent emissions each year.





# LOGISTICS

Timeliness, quality, and cost are the key focal areas of our global logistics operations at EMC, as our customers expect our product to be delivered on time, in perfect condition, and at a competitive price. We have consistently found that working to reduce our carbon impact helps us execute on these objectives.

For example, choosing a transport route or mode with a lower carbon footprint often leads to lower cost. By route consolidation, mode of transport optimization, and logistics carrier engagement, we are able to reduce GHG emissions from product shipping. In 2014, we implemented an enterprise data management system that will help us track our carbon performance goals for our global logistics operations.

## LOGISTICS CARBON FOOTPRINT AND INTENSITY APPROACH AND PERFORMANCE



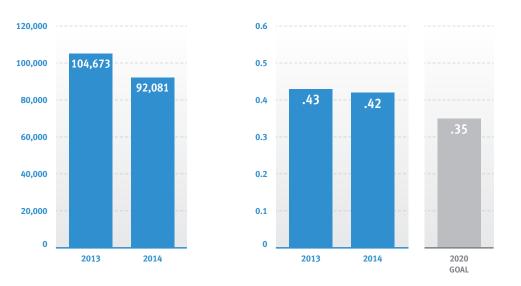
EMC's logistics carbon emissions management has focused on partnering with our carriers to optimize individual route designs and mode choices. Optimizations include merging shipments in transit, and shifting from truck to rail and air to ocean transport where possible. We have tracked the carbon footprint associated with our global logistics opera-

tions, and have made changes that saved money and led to thousands of tons of carbon emissions reductions each year. In 2014, we expanded these strategies to manage and reduce our carbon impact even more effectively. While we track our absolute carbon footprint, this metric alone does not give us enough insight into how our decisions regarding mode, scheduling and consolidation impact our GHG emissions. For a more complete understanding, we are also tracking our carbon intensity, measured as kilograms of CO2e emitted per metric ton-kilometer moved. Using 2013 as a baseline, we set a 2020 goal to reduce by 20 percent the carbon intensity associated with our global logistics operations.

In 2014, we completed the implementation of a data management solution that is enabling us to track the average kilograms of GHG emissions associated with each metric ton of product we ship globally (kg CO2e/metric tons-km). In 2015, we will conduct tests to ensure all algorithms and assumptions have been taken in correctly, and then fully transition our reporting to this system. Understanding the carbon intensity associated with our logistics operations worldwide, as well as that related to each of our carriers, will allow us to systematically prioritize lower-carbon routes and modes where these make sense for our business and our customers.

This year we are restating our 2013 footprint due to some inconsistencies in data reporting we identified throughout 2014. These issues will be mitigated once the new data management system is completely implemented. We are also publishing for the first time our carbon intensity baseline and yearly performance. The following graphic illustrates EMC's carbon footprint and carbon intensity for our global logistics operations, using 2013 as the baseline.

## LOGISTICS CARBON FOOTPRINT<sup>1</sup> MT CO<sub>2</sub>e



<sup>1</sup> The footprints presented here include our inbound, outbound, interplant, and customer service transportation and logistics operations, except for in-country goods freighting for Australia, Brazil, Japan, Russia, and South Africa.

EMC's global logistics operations generated approximately 104,673 MT CO2e in 2013 and 92,081 MT CO2e in 2014. To calculate these numbers, we collected from our logistics partners job-level reports that include weight of goods transported, as well as route and mode data where available. We then applied associated standard emissions factors and calculation methodologies using Defra's 2013 freighting goods guidance. The footprints presented here represent 96 and 93 percent of our logistics spend for 2013 and 2014, respectively. Total emissions were extrapolated proportionately based on the data received. Our absolute carbon footprint dropped 12 percent from 2013 to 2014, while our carbon intensity was reduced by 3 percent from our 2013 baseline.

LOGISTICS CARBON INTENSITY<sup>1</sup>

Kgs CO<sub>2</sub>e/MTKm

#### PARTNERING WITH OUR CARRIERS

During 2014, we performed a carrier survey to benchmark our partners' sustainability practices and develop a high-level performance baseline to identify opportunities for collaboration to further integrate sustainability into their operations. For 2015, our plan is to enhance this collaboration by holding sustainability-specific meetings with our logistics partners on a yearly basis, to continue identifying opportunities to further reduce the emissions from our logistics operations and to bring new initiatives to light.

In 2014, 94 percent of our U.S. domestic freight was transported by U.S. Environmental Protection Agency (EPA) SmartWay-member carriers. The **SmartWay** program helps freight carriers and shippers improve efficiency and decrease GHG emissions.

#### Leveraging Technology to Reduce Emissions

Managing an effective customer delivery model is the result of multiple factors, including fuel efficiency, fleet optimization, scheduling, and routing. The latter two are critical to maintaining high efficiency and delivery performance, which are directly linked to our customers' satisfaction. Working with one of our European partners, we implemented an automated delivery process in the United Kingdom in 2014. The use of this process enabled more efficient scheduling and routing, maximized vehicle utilization, and reduced fuel consumption, all of which have a direct impact on carbon emissions reductions. Additionally, the system reduced the number of expedited shipments and their associated costs, and improved communication between our logistics partner, EMC and end customers. Due to its success, the automated delivery process will be rolled out to all our European operations during 2015.

# WATER USE & MANAGEMENT

Although EMC has a relatively modest water footprint throughout our operations, we take a conscientious approach to conserving this important global resource today and for future generations. We are guided by our focus on minimizing water consumption and managing wastewater in our owned and operated facilities to help protect local water quality.

Our owned global manufacturing facilities produce no industrial wastewater. Our greatest potential water impact, however, is directly tied to energy efficiency. By creating more efficient products, we reduce the need for water to cool them and decrease the quantities of water demanded for generating electricity. To learn more, visit the Efficient Products section of our detailed report titled Our Products.

## WATER RISK ASSESSMENT

EMC has conducted water risk assessments to evaluate the physical, regulatory and other risks related to water occurring now, or possibly impacting our business in the future.

Water is integrated into a comprehensive corporate risk assessment process incorporating both direct operations and supply chain. A sustainability overlay has been created detailing how water and other sustainability issues impact the likelihood and magnitude of strategic, financial, operational, and reputational risk. Risk registers are created to itemize specific risks for roll-up into the corporate view. To learn more about EMC's corporate risk assessment process, visit the **Risk Management** section in the **Governance Detailed Report**.

As part of our assessment, we used the World Business Council on Sustainable Development (WBCSD) Water Tool and the WRI Aqueduct Water Risk Atlas Tool to identify physical, regulatory, and reputational water risks at both the country and river basin level. To learn more, visit EMC 2014 CDP Water Disclosure Response. Water is also an element of the risk assessment we conduct for our supply chain, which combines an internally-developed risk assessment with Electronic Industry Citizenship Coalition (EICC) tools. We work directly with our suppliers to evaluate risk factors and associated controls. To learn more, visit the **Supply Chain Detailed Report**.

## WATER CONSERVATION EFFORTS

EMC's approach includes the use of various water efficiency and conservation features in our facilities worldwide, such as low-flow plumbing fixtures, rainwater capture systems, and free air cooling. We also consider water conservation and efficiency elements when designing and constructing new facilities. In 2014, our Global Energy & Water Management Steering Committee helped to focus regional efforts on



water consumption and to expand water conservation programs across the globe. To learn more about the committee, visit the **Efficient Facilities** section in this report.

Water is integral to the cooling of our data centers and accordingly, our focus on reducing energy consumption has resulted in reduced

water use. We are initiating a program to measure our Water Usage Effectiveness (WUE) as defined by The Green Grid and are planning to begin implementation of these assessment regimes during 2015.

EMC 2014 CDP Water Disclosure Response

EMC 2013 CDP Water Disclosure Response

EMC 2012 CDP Water Disclosure Response

#### WATER USE & MANAGEMENT | 21

## OPERATIONS

#### MASSACHUSETTS FACILITIES-CUBIC METERS 22,194 17,710 18.594 17,227 15,687 .59 13,196 12,602 12,541 10.446 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014



Employees Touring the Hopkinton Water Treatment Facility during the 2014 Earth Day Event At our headquarters in Hopkinton, Massachusetts and our Bangalore, India Center of Excellence (COE), wastewater is reclaimed at the onsite treatment plants, which filter wastewater through treatment and disinfection processes, resulting in treated "gray" water. In 2014, we reused more than 17,710 cubic meters of gray water for cooling, sanitation, and irrigation at the Hopkinton facility, and 40,690 cubic meters at the Bangalore COE facility. Unused gray water is returned to the ground through infiltration systems to replenish local watersheds.

**EMC CORPORATE WATER REUSE** 

## STORMWATER MANAGEMENT

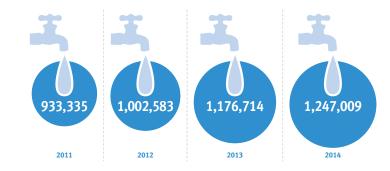
At EMC's Massachusetts campus facilities, which account for more than 30 percent of our corporate physical footprint, we have implemented a stringent Stormwater Management System to help protect and maintain the integrity of the surrounding resources. At these facilities, we have also implemented an Integrated Pest Management program to minimize and eliminate the use of chemical herbicides, insecticides, and pesticides where possible. Through diligent management efforts, we ensure a high quality of storm water runoff from our facilities. This minimizes the impact of our operations on natural resources, including groundwater and surface water, and helps ensure that these resources are protected in the future.

## WATER FOOTPRINTING

EMC's owned manufacturing process is not water intensive, and produces no industrial wastewater. In EMC's operations, water is consumed through normal building systems use such as for cooling, drinking and other sanitary purposes. Since 2007, we have tracked water consumption data for all of our owned facilities and most of the larger facilities that we lease. We use WBCSD's Global Water Tool to analyze our operations and calculate our water footprint in water-stressed areas.

Our estimated total 2014 global water withdrawal was 1,247,009 cubic meters. Seventy-five percent of the water withdrawal data were compiled from reliable water bills and water meter readings. The remaining annual corporate water consumption was estimated using a water intensity factor calculated by benchmarking consumption at metered EMC facilities.

## **GLOBAL WATER WITHDRAWAL** ALL LEASED AND OWNED GLOBAL FACILITIES (INCLUDES VMWARE)—CUBIC METERS (M3)



## ENERGY-WATER NEXUS

We recognize that water, energy, and carbon emissions are interconnected. Water is required to generate and transmit the energy EMC consumes, and energy is used to supply the water we use. Our suppliers also use water in their operations to produce the material components in our products. Thoughtful water conservation and efficiency practices help save energy and reduce the carbon emissions generated from these activities.

We also understand that there can be trade-offs between water and carbon emissions. Water and energy are needed to power and cool our own offices and data centers, as well as those of our customers, and our wastewater treatment plant consumes energy, while reducing our water footprint.

We take a systematic view of energy and water use and the resulting carbon emissions, and focus on driving efficiencies in our products and operations. For example, applying free air cooling technology has allowed us to reduce the amount of energy and water consumed in our data centers and labs.

# INFORMATION SECURITY & PRIVACY IN OUR OPERATIONS

The unprecedented number of targeted, increasingly sophisticated cyber-attacks is requiring companies to rethink and redefine their security strategies for this new threat environment. EMC has adopted a new intelligence-driven security strategy to address not only today's threats but also the evolving challenges of tomorrow.

The preventative value of traditional perimeter-focused security practices of firewalls, anti-virus, and intrusion detection systems has been diminished as the perimeter has been eroded by the dramatic adoption of social and cloud-based applications and mobile devices. Today's increasingly agile and consumerized business and IT practices, coupled with a more dangerous threat landscape, require a change in our approach from one that focuses only on preventing network intrusions to one that is able to prevent, rapidly detect and effectively respond to attacks in a highly-dynamic environment. Intelligence-Driven Security provides EMC the necessary visibility, insight, and ability to respond to threats that enable us to protect both our own infrastructure and any sensitive information we hold about our customers and our products. EMC's Global Security Organization (GSO) develops the security strategy that identifies the high-level objectives to be addressed and strategic initiatives to be undertaken to fulfill EMC's security mission.

To achieve this mission, the GSO addresses the following organizational responsibilities:

- Security Operations and Incident Response
- Emerging Technology and Security Engineering
- Governance, Risk and Compliance



## These responsibilities are fulfilled through the following functions:

CRITICAL INCIDENT RESPONSE CENTERUses technical solutions coupled with detailed processes and skilled analysts to provide a holistic approach to operating, monitoring, analyzing, responding to and researching the latest threats to the enterprise.SECURITY RACHITECTUREProvides consulting to IT and other internal business units and delivers designs for application and data security. These internal teams include product engineering and customer service.SECURITY ENGINEERINGVorks with other TT functions to design and build EMCS global network infrastructure, including WAN, LAN, Internet gateways, remote access infrastructure, wireless infrastructure, firewalls, internet filtering technology, IDS and network for EMC product engineering.STRATEGYAND EMERCING TECHNOLORSoluates new technology, drives proof of concept programs, provides input to architecture and consulting comstoned which have the responsibility to understand EMC's overall compliance to applicable regulations and standards. Many standards—for example, Product Source Code Protection—are included in this assurance process.SECURITY ENABLEMENTConsulting group with alignment to specific areas of EMC to understand their unique operations and align information risk management, resolving identified security issues and providing guidance on the direction of keep programs that are utimately delivered to our customers as products and services.SECURITY ENABLEMENTDevelops and manages the EMC FirstLine Security Awareness and Training Program involves serving and chaining resources, sies, sanct oppingers based approach, sies used oppingers and resoluting security alers and learning resources as products and services and provides intervolves, sies, sanct program involves everyone in the organization. The program components include anelysers and collateral,		
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## OPERATIONS

#### **RESPONDING TO CYBER SECURITY RISKS**

As with any large company, EMC experiences and successfully defends numerous cyber-attacks on its IT infrastructure every day. We remain committed to our relentless pursuit of building trust in the digital world and have dedicated ourselves to maintaining the confidence of our customers and partners. Through a rigorous process of regular enhancements to our products and services, we continuously strengthen EMC's internal security to better protect our business and customers from cyber threats.

#### **IT PROVEN PROGRAM**

Through the IT Proven Program, EMC's GSO implements our security solutions across IT operations throughout the enterprise. By tackling the same problems our customers face, we can test our own products and provide real-world feedback on their performance.

The GSO also supports the development of new security solutions for EMC. For example, in collaboration with RSA product management, the GSO developed a Security Operations Management module for RSA's Archer<sup>®</sup> eGRC software platform. This module enables enterprises to seamlessly orchestrate people, process, and technology to respond to security incidents.

#### PROTECTING PERSONAL INFORMATION

At EMC, confidential, personal information may not be used or disclosed except as necessary for legitimate business purposes, such as for human resources and employment functions or as otherwise permitted or required by applicable law. From a data security standpoint, we use reasonable administrative, technical, and physical measures to safeguard confidential, personal, and corporate information.

EMC complies with the U.S.-E.U. Safe Harbor Framework and the U.S.-Swiss Safe Harbor Framework ("Safe Harbor") as set forth by the U.S. Department of Commerce regarding the collection, use, retention, and transfer of personal information from the European Union, the European Economic Area, and Switzerland. EMC has certified that it adheres to



the Safe Harbor Privacy Principles of notice, choice, onward transfer, security, data integrity, access, and enforcement. EMC has been awarded TRUSTe's Privacy Seal signifying that its **Privacy Statement** and EMC's practices as described in that statement have been reviewed by TRUSTe for compliance with TRUSTe's program requirements.

#### CERTIFICATIONS

EMC's security program is based on industry standards for security management systems. Our RSA Archer GRC hosted environment is in the final stages of attaining SOC-2 Type 2 certification this year. Nine business units in four countries are ISO 27001 certified, and many of our data centers follow policies and procedures based on the ISO 27001 Information Security Management System.

#### PARTNERING FOR SECURITY IN A CHANGING WORLD

An ongoing challenge for EMC, and all large companies, is the implementation of security processes for new, rapidly changing technology environments. As our company evolves, we are becoming a hyperextended enterprise, sharing information with more people and using more technology tools across more geographies than ever before.

Our information security strategy and practices prepare us for this challenge. We also recognize that we don't have all the solutions, and we are working with partner organizations to address the evolving security landscape. Some of our 2014 initiatives include:

• National Cyber Security Alliance (NCSA) — Through funding and board-level participation, EMC actively supports the NCSA, a nonprofit organization dedicated to promoting Internet safety and security at home, work, and school. For the eighth year in a row, we collaborated with NCSA to celebrate National Cyber Security Awareness Month in October 2014.

# OPERATIONS

When company leadership communicates that security is important, employees take notice. EMC kicked off Cyber Security Awareness Month with an exhibit to introduce EMC's new cross-enterprise security program—a joint initiative by the information, product, and corporate security teams-at our third guarter 2014 employee review. With an employee-focused theme of "You Define a Secure EMC," the exhibit included a video featuring executives who discussed the importance and value of building security into EMC products; information on detecting and handling phishing emails; awareness materials providing guidance to avoid tailgating and piggybacking into buildings and restricted areas; and the launch of EMC's new Employee Emergency Communication System. As a highlight of Cyber Security Awareness Month, EMC's Office of Sustainability and Global Security Organization jointly launch a new "Privacy and Security Badge" on the Office of Sustainability's Sustineo platform. While earning the badge in this gamified, social platform, users participate in enjoyable, interactive educational activities to learn about cyber security issues and practices to keep sensitive information secure.



Cyber Security Awareness Program Volunteers with Students

In 2014, we brought our EMC FirstLine Cyber Security Awareness Volunteer Program to the next level, launching our volunteer in-school and community education program on a yearround basis. Through this program we organize and support employee volunteers who deliver educational programs for students at primary and secondary schools, at institutions of higher education, and with community groups across the U.S. and around the world. The **"STOP.THINK.CONNECT"** national

cybersecurity education and awareness campaign developed by the Anti-Phishing Working Group and the NCSA serves as the foundation for this program.

- SAFECode As it relates to product security and privacy, EMC continues to participate with SAFECode, a global organization it helped launch in 2007 that is focused on improving trust in IT products and services. In 2014, EMC continued to offer five software development training modules through SAFECode. These modules are free and publicly available and aim to raise the bar on software development security across the industry. To learn more, visit the Product Information Security & Privacy section of our detailed report titled Our Products.
- Internet Engineering Task Force (IETF)—EMC supports the development of Internet standards through our work with IETF, an open, international community of IT professionals and researchers concerned with the evolution of Internet architecture and seamless operation. EMC's involvement continued in 2014 with EMC's Global Lead Security Architect in the EMC Office of the CTO serving as the organization's IETF Security Area Director. EMC is sponsoring her as she focuses on providing security insight and approval for a new set of IETF standards.
- **Open Group**—EMC is a member of Open Group, a nonprofit organization working to develop open, secure, vendor-neutral IT standards and certifications. Through the Open Group Trusted Technology Forum, EMC is helping the organization to develop solutions for a more trusted global supply chain.
- **Computer Security Research Alliance (CSRA)**—In 2014, EMC continued to work with CSRA, a nonprofit research consortium it helped found in 2012 that aims to tackle information security challenges. The consortium works closely with industry members, universities, and government agencies to develop breakthrough technologies to improve cyber security.
- Cloud Security Alliance (CSA) EMC is an executive member of CSA, a nonprofit industry coalition that promotes best practices in security assurance within cloud computing and provides education on the uses of cloud computing to help secure all other forms of computing.

# OPERATIONS



Additional Information

Practices for Secure Development of Cloud Applications

EMC Corporation Privacy Statement



#### International Information Integrity Institute (I-4)—

I-4 is the leading forum for senior information security leaders involved in implementing sophisticated risk management and security operations, many of whom hold the highest ranking positions within some of the most influential global

organizations. I-4 brings together some of the leading minds in the world of information security and risk to help its members stay one step ahead of the big issues. I-4 is recognized for its thought leadership role, and members are united by their willingness to share their extensive experience to make a valuable contribution to today's security issues.

- Financial Services–Information Sharing and Analysis Center (FS-ISAC)—Information sharing is a key component of an Intelligence-Driven Security strategy. In 2014, RSA continued its strategic relationship with FS-ISAC's global operations, including maintaining its Board position with the organization.
- PCI Security Standards Council (PCI SSC)—RSA continues to be a Participating Organization and serve on the Board of Advisors for the PCI SSC, an open global forum launched in 2006, that is responsible for the development, management, education and awareness of best practices for securing consumers' payment card data.

- **FIDO (Fast IDentity Online) Alliance**—RSA is a Board member of FIDO, an non-profit industry organization dedicated to addressing the problems users face with creating and remembering multiple usernames and passwords for websites and cloud applications—a key issue in making users safe online.
- Organization for the Advancement of Structured Information Standards (OASIS) — EMC employees actively participate on several OASIS Technical Committees helping to define industry standards in areas such as security, content management, and cloud computing. These standards help ensure that EMC products are able to interoperate with other systems and products.
- Security for Business Innovation Council (SBIC)—In 2008, EMC formed SBIC, a group of leading security executives from Global 1000 enterprises. SBIC publishes recommendations to help advance information security worldwide. We sponsored two reports in 2013 focused on the transformation of two of the three elements of information security: people and processes, and published a report focused on the third element, technology, in 2014. To learn more, visit the SBIC website.

To learn more about information security and privacy in our products, visit our detailed reports titled **Our Products** and **Customers**.



# CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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# REDEFINE THE FUTURE

**2014 EMC Sustainability Report** 



#### ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of the **Executive Report**.



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# INTRODUCTION

Building a resilient supply chain is not only about EMC's operations. It requires understanding of the part we play as a global citizen. Climate change and pollution, human rights and labor management, natural resources and mineral extraction, economic and geopolitical conditions—these and other issues present risks to address and opportunities to improve.

The risks arising from these issues have a wide reach, ranging from product delivery and quality to corporate reputation and community well-being. In short, sustainability in the supply chain is important to our employees, our suppliers and their employees, our customers, our investors, our communities, and our other stakeholders worldwide.

EMC works directly with suppliers in more than 30 countries, and relies indirectly on many more. Varying economic, environmental, societal, and corporate norms increase the complexity involved in achieving the broader goals we have set. To address these challenges, we work with our suppliers directly and collaborate with our industry peers through consortia. We believe that by continually engaging with suppliers and peers, we will drive positive change.

Our vision is to win competitive advantage and stakeholder confidence through building a more resilient supply chain. To advance that aim, we embed sustainability in our supplier management processes along with cost, quality, availability, and time-to-market. Our message to our suppliers is that sustainability is a key component of their business relationship with EMC. We also integrate our data from multiple supply chain sustainability programs to create a holistic view that helps us set strategic priorities and drive change more effectively. The graphic to the left provides a brief snapshot of this approach. For more detail, see **Business Continuity Planning, Social and Environmental Responsibility,** and **Conflict Minerals**.

		1	) MONITOR	2	ASSESS	3	) IMPROVE	4	REPORT
PROGRAM	Business Continuity Planning (BCP)	>	Supplier Surveys Manufacturing Sites Recovery Capabilities Global Events Monitoring	Risk Assessment	<b>&gt;</b> ->	Risk Mitigation Projects Simulations	->->	Reviews	
	Social and Environmental Responsibility (SER)	>	Self-Assessment Questionnaires Environmental Reporting Audits Spot Checks		<b>&gt;</b> ->	Corrective Action Plans Training Coaching Peer Discussions Newsletters		Scorecard	
	Conflict Minerals	>	Conflict Minerals Reporting Templates		R	->->	Supplier Education and Risk Mitigation Smelter Engagement	->->	Quarterly

#### MANAGING SUPPLY CHAIN RESILIENCY

# SUPPLY CHAIN BUSINESS CONTINUITY PLANNING

Supply chain resilience in the face of unexpected disruptions is essential to meeting customer expectations for quality and availability. The EMC Supply Chain Business Continuity Planning (BCP) program sets strategies to prepare for, and react to, unexpected environmental, financial or social events that could disrupt our supply chain.

EMC's supply chain operations were not impacted by natural disasters or social or economic disruptions in 2014. Even though we have been successful in avoiding disruption, we are continually improving our program to perform more effectively and efficiently within an industrial environment fraught with increased complexity and risk.

#### OUR APPROACH

In 2014, we enhanced our BCP program by extending data collection more deeply in the supply chain; using that data more effectively to drive actions that increase our resilience; and tracking metrics to assess our progress over time.

#### **Data Collection**

In 2014, we continued to augment visibility into our supply chain. We mapped our products' parts to more than 900 Tier 1 and Tier 2 supplier sites, allowing us to visualize and analyze our global manu-



facturing footprint. These parts are then mapped back to EMC products and revenue metrics to understand the significance of any one part, site or supplier to EMC's financial performance.

#### **Risk Assessment and Mitigation Planning**

Once parts are mapped to specific supplier sites, each part is assessed for risk across multiple dimensions, including:

- Natural disaster and other geographic risks
- Supplier capability to recover from risk scenarios
- Supplier financial risk

Risk scores are compiled at the supplier, factory site, product and part levels to highlight areas of highest risk. This exercise enables EMC to proactively identify weaknesses in our sourcing strategies and supply chain footprint. We mitigate those risks through targeted actions including alternative source qualifications, component buffering, and deeper supplier assessments and testing of their business continuity plans.

In addition, EMC collects supplier BCP self-assessments to understand suppliers' tactical readiness in the face of potential disruption. Where needed, the EMC BCP team coaches suppliers on capabilities to enhance their resiliency and decrease risk to EMC.

All of this valuable data that we collect and manage enables us to develop effective policies, set standards, and track the performance of our supply chain to those standards. For example, we can identify parts that, even though sourced from multiple suppliers, are manufactured at sites within a 50 kilometer radius of one another. This increases risk in the event of a natural disaster or an economic or social disruption in that location. When such geographic clustering is identified, we can work with our engineering and supplier teams to qualify additional manufacturing sites outside of that area.

#### **Event Monitoring and Disaster Recovery**

Each supplier site mapped to an EMC part is monitored for adverse events on a 24/7 basis. Events monitored include: natural disasters; labor stoppages; supplier bankruptcies; and human-caused disasters such as factory fires and chemical spills. When an event occurs, the part numbers and products impacted are immediately identified. With parts proactively mapped to sites, EMC spends minimal time collecting data to understand exposure and risk at the time of the event. Instead, the organization is able to immediately begin response and recovery procedures.

In 2014, we implemented a proactive "playbook" to address seasonal flooding in Thailand. By regularly monitoring rainfall, dam levels, and climactic factors such as ocean temperatures against our supplier sites' flood defense capacities, we are able to assess flood risk weeks before flooding actually occurs and proactively take appropriate action.

#### 2015 FOCUS

In 2015, we will be using the supplier self-assessment data to assess our suppliers' capability gaps against business continuity best practices and standards such as ISO 22301. We will launch both "horizontal" projects (addressing common gaps across groups of suppliers) and "vertical" projects (working one-on-one with suppliers that display several gaps) to improve our suppliers' capabilities, which we believe will increase the resiliency of our supply chain as a whole.

We will also be enhancing the product design and strategic sourcing processes to formally drive BCP risk data and metrics deeper into our product development and planning activities. This will help assure that every possible effort is taken to reduce supply chain BCP risk prior to product launch.



# SUPPLY CHAIN SOCIAL AND ENVIRONMENTAL RESPONSIBILITY

EMC's Supply Chain Social & Environmental Responsibility (SER) program is about mitigating risk, identifying and building opportunity, and increasing the resiliency of our supply chain. We seek to achieve these objectives by collaborating with our suppliers and industry peers to create and use common standards and tools. This includes continually refining our approach based on what we learn.

Our strategy centers around three main pillars: 1) set expectations, using the industry-standard Electronic Industry Citizenship Coalition (EICC) Code of Conduct; 2) monitor and assess supplier performance to



that standard, using a combination of industry-standard tools and our own tools and requirements; and 3) continually engage with our suppliers and with the industry to improve.

In 2014, EMC fully implemented key initiatives we had begun in 2013. These included business integration, spot checks, training,

and public sustainability reporting by suppliers. As we look forward to 2015, our strategic priorities and pillars will remain the same, with increased focus on targeted capacity building and assessing impacts.

#### 2014 HIGHLIGHTS

#### **Monitoring and Assessment**

- Completed 31 spot checks in 6 countries, exceeding our 2014 goal by more than 50 percent
- Saw a 62 percent reduction in the number of audit findings from initial audits to closure or full re-audits
- Received environmental reporting from suppliers representing 98 percent of spend

#### **Engaging to Improve**

- Developed a tool, built on EMC's Archer<sup>®</sup> Governance Risk and Compliance platform, to more effectively track supplier performance, communicate required actions, and connect suppliers to targeted resources and information
- Increased education and incentives for suppliers to publish sustainability reports to the Global Reporting Initiative (GRI) guidelines
- Launched the SMaRT Library, an online training resource that targets SER topics of high priority in EMC's supply chain, including working hours, human trafficking, and labor management systems
- Instituted new methods of data analytics and hypothesis testing to correlate risk factors and more effectively target education and outreach to suppliers in 2015 and beyond

#### MONITORING AND ASSESSMENT

EMC joined the EICC in 2008. Since then, we have collaborated with the organization on its common standards, tools, and questionnaires, which we use to monitor our own suppliers. In 2014, this collaboration included continued leadership in the EICC, particularly through EMC's position as lead of the Environmental Sustainability Workgroup. EMC was also elected to the EICC Board of Directors for the 2015-2017 term.

#### **Collaborating to Set Standards and Monitor Suppliers**

In accordance with our commitment to shared standards, we use the following suite of EICC tools as the core of our supply chain responsibility monitoring and assessment activity:

- EMC Supplier (EICC) Code of Conduct: Covering labor, ethics, environment, health and safety, and management systems, the EICC Code sets the standard for our expectations for ourselves as well as our suppliers. Code of Conduct acknowledgements are collected from all managed direct materials suppliers, and compliance to the Code is part of our standard contract language for all vendors.
- EICC Self-Assessment Questionnaire (SAQ): This risk assessment tool evaluates the presence of policies and procedures needed to

support compliance with the Code of Conduct, as well as risk factors and associated controls. EMC collects SAQs from all strategic Tier 1 and Tier 2 suppliers.

- **EICC Environmental Reporting:** This shared EICC questionnaire collects information about suppliers' carbon, water, and waste volumes, goals, and initiatives, and is aligned with CDP and GRI. In 2014, 98 percent of EMC's Tier 1 and Tier 2 suppliers by spend completed environmental reporting.
- **EICC Audits:** Audits evaluate conditions and practices in supplier manufacturing facilities. EMC uses EICC-Validated Audit Program (VAP) audits wherever possible. The result of this rigorous audit can be shared by a supplier with multiple companies, thereby reducing the overall volume of audits. VAPs are conducted by third-party auditors and are valid for two years. In the rare cases where EMC does not use a VAP audit, we still follow EICC standard audit protocol and use certified third-party auditors.

Reporting associated with these EICC tools is conducted through EICC-ON, the EICC's online platform for easily and confidentially sharing data between suppliers and customers.

#### **EVALUATING SUPPLIER SITE RISK**



#### 1. Geography

Supplier sites receive a geographic risk score based on the human rights, ethics, and environmental risks of their location. These scores are weighted according to indicators of governance and accountability.

#### 2. Exposure

Sites are then evaluated based on exposure data from our Business Continuity program. This incorporates spend, sole sourcing, and the percentage of purchased parts made at that location.

# **3. Company-specific** Information

Past performance indicates supplier-specific risk. Past audit scores provide the primary variable, supplemented by Corrective Action Plans, first-hand insights from EMC staff, Self- Assessment Questionnaires, and media and NGO reports.

#### 4. Commodity

Commodity—indicating what the site manufactures for EMC, and where the supplier falls in our supply chain—provides the final input to our risk calculation. Suppliers who are further upstream or have more chemicals involved in their production, for example, may pose greater risk.

#### **SPOT CHECKS**

Spot checks are conducted by in-region EMC supply chain technical and commercial staff who visit supplier sites to assess a set of key social and environmental indicators. The staff conducting these visits receive regular training to build their knowledge of the specialized issues they evaluate. In 2014, this included two fullday, Chinese-language classes held in Shanghai and Shenzhen, reaching 22 staff.

In 2014, the spot check program grew significantly from the 2013 pilot. Exceeding our goal of spot checking 20 sites globally, EMC staff completed 31 spot checks in 6 countries. These spot checks identified more than 50 issues requiring corrective action, and in one case identified safety concerns severe enough to prioritize the site for immediate remediation and a full audit. The issues identified in a spot check are addressed with the same expectations of corrective action closure as findings from the more comprehensive EICC-VAP audits.

We complement these industry-standard tools with internally-developed assessments and requirements, including the following:

- **Risk Assessment Process:** EMC's internally-developed risk analysis determines which sites we consider to be high risk, and are therefore to be prioritized for audits and spot checks over the course of the year (see graphic "Evaluating Supplier Site Risk").
- Spot Checks: These assessments of key social and environmental indicators at supplier sites are conducted by in-region EMC supply chain technical and commercial staff. Spot checks identify and remedy small problems before they become significant issues. They also give us a more frequent view to on-the-ground conditions, complementing the formal auditing process. EMC staff completed 31 spot checks in 6 countries in 2014.
- Institute of Public & Environmental Affairs database: EMC regularly checks the database of pollution violations maintained by the Institute of Public & Environmental Affairs in China. Any concerns identified through these channels are corrected promptly using direct supplier discussion and Corrective Action Plans (CAPs), where relevant.
- **Public Sustainability Reporting:** EMC's strategic direct materials suppliers are required to publish a sustainability report using the GRI guidelines. As of the end of 2014, 80 percent of our top 80 percent of suppliers by spend published public sustainability reports, all but one of which followed the GRI guidelines. See **"Engaging to Improve"** for more on this topic.

# METRICS AND RESULTS Audits

We view audits as a mechanism for performing due diligence, getting baselines of supplier site performance, and evaluating the effectiveness and longevity of improvements over time. They can also raise awareness of different expectations and management systems that were previously unknown to the company or site. Growth in the EICC's VAP audits, combined with a more refined risk prioritization by EMC, increased our overall audit numbers as well as our coverage of high risk sites in 2014.

#### NUMBER OF SUPPLIER SER AUDITS, 2011–2014



A CAP follows every audit that produced findings. EMC works directly with our suppliers to understand underlying causes, review plans, and evaluate evidence demonstrating completion of all corrective actions. A supplier may also undergo a closure or follow-up audit after CAP completion to validate the results of their actions.

SUPPLY CHAIN SOCIAL AND ENVIRONMENTAL RESPONSIBILITY | 7

Taken in aggregate, our suppliers show a 62 percent reduction in the number of findings from initial audits to closure audits or full re-audits. This progress speaks to the key goal of audits: not simply to assess, but also to identify and follow through on areas of improvement.



Examining the detailed results of our suppliers' 2014 audits highlights the difficulties of solving industry-wide challenges. Working hours and emergency preparedness continued to be the most prevalent systems-level (major) non-conformances outside of overall management systems findings. We also saw findings regarding freely chosen employ-

ment. Although we did not see any instances of forced labor, we did see a need for suppliers to improve the management systems they use to monitor their own suppliers and vendors, particularly in the high-risk area of labor agents.

Although the number of major findings has not changed significantly year over year, there was some movement in the most frequent types of minor findings. For example, we saw a reduction in minor findings associated with fair payment of wages.

In addition to looking at year-over-year trends, EMC also looks at all of our data in aggregate, analyzing across different factors to identify patterns and prioritize training, incentives, and any policy changes related to supplier performance management. For more information, see **"Engaging to Improve."** 

#### **HUMAN TRAFFICKING**

Human trafficking received increasing attention in 2014 from national governments, nonprofit organizations, and corporations. It is a challenge that is much bigger than any single company, or even any single industry. However, as described in our **Statement Against Slavery and Human Trafficking**, EMC has taken multiple actions over the last few years to monitor for risks of human trafficking in our supply chain, remedy any gaps identified, and educate our employees and suppliers about this important issue. We will continue to focus on this important area in 2015.

In 2014, our activities included:

- MANAGEMENT SYSTEMS: Through audits and on-site visits, EMC identified gaps and outdated practices in suppliers' management systems and worked with those suppliers to implement corrective actions. For example, one supplier completely revised their policies and procedures, which had formerly allowed the holding of passports with worker permission, a practice which has been identified as a risk for human trafficking. In another case, a supplier that had formerly not monitored its labor agents leveraged industrystandard best practices to put in place a robust program to communicate with, train, and monitor its vendors for any incidents of human trafficking.
- TRAINING: A new online training module on human trafficking was launched for both internal employee and supplier education.
- SUPPLIER FORUM: EMC hosted a peer discussion and Q&A with a number of suppliers at different levels of maturity in their human trafficking management. This included completion of the online training module, followed by participation in an open conversation in which they exchanged knowledge, ideas, and challenges.

" After working with EMC on our corrective action plans over the last year, we were finally able to demonstrate significant improvements in conditions at one of our Chinese manufacturing locations. It was especially gratifying because we had been audited twice before that and struggled with repeat findings and stagnant results. The most recent audit results showed a rating reduction or complete closure in every finding category—even working hours!"

— TIER 2 STRATEGIC SUPPLIER

#### **SUPPLY CHAIN SER DETAILED SUPPLIER AUDIT FINDINGS: 2014**

EICC CODE	PERCENT OF NON-CONFORMANCE	MAJOR	MINOR
LABOR	31.6%	28.9%	26.7%
Child Labor Avoidance		4.1%	4.1%
Freedom of Association		2.0%	0.7%
Freely Chosen Employment		12.2%	11.5%
Humane Treatment		1.4%	2.0%
Non-discrimination		3.4%	3.4%
Wages & Benefits		8.8%	8.1%
Working Hours		20.3%	18.2%
ETHICS	9.0%	5.3%	10.5%
Disclosure of Information		2.4%	2.4%
Fair Business, Advertising, & Competition		16.7%	7.1%
Protection of Identity		2.4%	7.1%
Business Integrity		2.4%	7.1%
Intellectual Property		2.4%	11.9%
No Improper Advantage		0.0%	16.7%
Non-Retaliation		2.4%	4.8%
Privacy		4.8%	4.8%
Responsible Sourcing of Materials		2.4%	4.8%
ENVIRONMENT	9.0%	9.8%	6.0%
Air Emissions		7.1%	0.0%
Hazardous Substances		21.4%	19.0%
Environmental Permits & Reporting		16.7%	4.8%
Pollution Prevention & Resource Reduction		7.1%	2.4%
Product Content Restriction		4.8%	2.4%
Wastewater & Solid Waste		4.8%	9.5%
HEALTH AND SAFETY	30.1%	36.8%	16.2%
Emergency Preparedness		21.3%	6.4%
Food, Sanitation, & Housing		8.5%	4.3%
Industrial Hygiene		7.8%	0.7%
Occupational Injury & Illness		7.8%	6.4%
Machine Safeguarding		2.8%	2.8%
Occupational Safety		17.7%	8.5%
Physically Demanding Work		3.5%	1.4%
MANAGEMENT SYSTEMS	20.1%	18.8%	16.5%

#### FACTS AND FIGURES: SCOPE 3 EMISSIONS

The greenhouse gas emissions associated with EMC's direct material suppliers was 215,000 metric tons CO2e in 2014. This reflects Scope 1 and Scope 2 GHG emissions data reported by direct Tier 1 suppliers comprising 98 percent of our annual spend. Using economic allocation, we use their data to calculate our share of their GHG emissions. This involves determining the ratio of our spend to each company's revenue and applying that ratio to their reported emissions. This methodology follows the WRI GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and is currently the best available option given the level of data tracked and reported. Because this allocation approach requires access to supplier revenues, a small number of private companies are excluded from the analysis. The total reported metric tons of CO2e is weighted to provide an estimated figure for 100 percent of our direct materials supplier emissions.

#### **Environmental Risk and Performance**



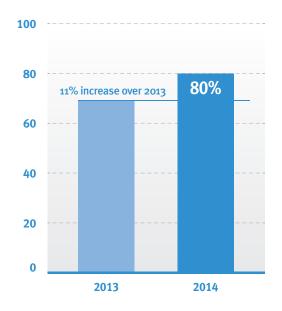
Our 2014 data show a supply base that has embraced water and waste reporting alongside the traditional carbon emissions disclosures. The percentage of suppliers complying with our requests or proactively providing us environmental data has increased by an average of 15 percent over each of the last two years. This reflects a growing

familiarity with, infrastructure for, and emphasis on environmental tracking and reporting across the industry. Over the last two years, we have achieved greater than 95 percent conformance with our requests for strategic suppliers to provide environmental impact data through EICC-ON, reflecting trends toward transparency across the industry as well as the increased ease of sharing through shared industry tools like EICC-ON.

#### GREENHOUSE GAS (GHG) SPOTLIGHT

In addition to clear upward trends in tracking and reporting, we saw a demonstrated improvement in GHG management across our global supply base in 2014. Even among the many companies with mature carbon reporting systems, not every supplier sets goals and improvement targets around GHG reductions. The year-over-year trend, however, shows clear improvement in this regard: in 2014, 11 percent more suppliers reported having structured goals to guide their GHG management activities, bringing the total to 80 percent of reporting suppliers.

#### PERCENTAGE OF SUPPLIERS (WHO REPORTED) WITH A GHG EMISSIONS REDUCTION GOAL



#### WATER SPOTLIGHT

Water is becoming increasingly critical to stakeholders globally. The graph below shows improvement over the last four years in EMC's suppliers' reporting on this issue, including how many suppliers track and report on water use, how many have actionable goals in place to reduce it, and how many engage in responsible management of their wastewater outputs. Since 2011, we have seen a 62 percent increase in the number of suppliers reporting on this data, a 25 percent increase in the number of suppliers who have goals to reduce their water use, and a 42 percent increase in the number of suppliers who have number of suppliers who treat their production wastewater according to best management practices.

#### 100 88% 80 78% 60 59% 53% 51% 46% 40 43% 33% 20 0 REPORTING **GOALS TO IMPROVE TREATED PRODUCTION** H<sub>2</sub>0 USE **H<sub>2</sub>0 MANAGEMENT** WASTEWATER\*\* 2011 2012 2013 2014

2011–2014 WATER MANAGEMENT PERCENTAGE OF SUPPLIERS\*

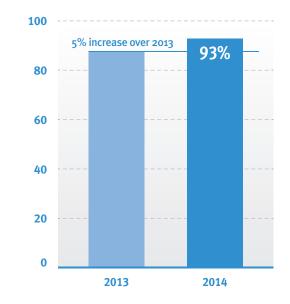
\* Data only for those suppliers who completed EICC Environmental Reporting

\*\* Due to changes in the EICC Environmental Reporting Questionnaire, we cannot directly compare the water management statistics reported in 2014 to those prior to 2013. We are therefore combining information from EICC Environmental Reporting with information from the EICC Self-Assessment Questionnaire. These data come from suppliers representing more than 80 percent of our Tier 1 spend, as well as strategic Tier 2 suppliers. Comparisons between 2013 and 2014 are based on consistent source data.

#### WASTE SPOTLIGHT

2014 was the second year that we collected standard waste management data from our suppliers as part of the Environmental Reporting module in EICC-ON. We see reporting trends in waste that mirror the wider movement in environmental reporting disclosures, in that more suppliers reported to EMC on their waste outputs in 2014 than in 2013. A total of 93 percent of suppliers who reported environmental impact data to us included their waste data as a part of that reporting, reflecting a 5 percent increase over 2013.

#### PERCENTAGE OF SUPPLIERS REPORTING ON WASTE OUTPUTS



We further analyzed our suppliers' waste data at an aggregate level by breaking it out between hazardous and non-hazardous categories, as we did in 2013. In 2014, this comparison revealed a 10 percent increase in suppliers either recycling or reusing their non-hazardous waste, bringing the aggregate percentage to 92 percent and indicating a strong and improving emphasis on the environmentally responsible disposal of material.

#### ENGAGING TO IMPROVE

Collaboration and continuous improvement are core to EMC's Supply Chain SER program. Initiatives in these areas enable us to support our suppliers, our internal staff, and multi-stakeholder initiatives, while



simultaneously providing incentives for strong performance and opportunities to learn.

In 2014, we continued the supplier education, training, and incentives established in previous years. Our quarterly newsletter, SER Link, announces new resources and training opportunities, and spotlights case studies of suppliers

who have made important advances in SER. Our annual Blue Sky Supplier Sustainability Award recognizes suppliers with strong commitment and innovative approaches to sustainability. We also continued one-on-one mentoring for suppliers that are early in the development of their sustainability programs, and training for new EMC staff who are learning how SER fits into EMC's business culture. For more formal training, we encouraged suppliers to attend the EICC's training on the Code of Conduct, Worker-Management Communication, and Health & Safety, and to make use of the EICC Learning Academy's online training modules.

In 2014, we also launched, or further developed, initiatives to help our suppliers understand SER issues, why they are important to EMC's and our suppliers' success, and what they can do to address those issues.

#### **Business Integration**

A supplier's social and environmental responsibility is part of its overall business performance. EMC has scored our strategic suppliers on their sustainability performance since 2009. This information feeds into our overall Supplier Scorecard, which also includes other business metrics such as quality, cost, and availability, and provides a key input into sourcing decisions.

In 2014, we continued embedding SER monitoring into the responsibilities of our commodity teams as a way to reinforce its importance. To facilitate this process, we launched a new tool built on EMC's Archer Governance Risk and Compliance platform to automate and centralize scoping, task management, and risk and performance data across all of our supply chain sustainability programs. This helped our commodity teams to better track open items, compare the sustainability performance of their suppliers, and access training and resources. It also raised the visibility of relative status and performance to senior leadership by providing them with direct, real-time access to that information. At the same time, we launched a supplier portal, for the first time providing suppliers the ability to directly access tasks, status, and training resources.

" Our efforts and transparency around corporate sustainability have served as a differentiator for our business, and provided our employees, customers, investors, and other stakeholders with greater insight into the way we think and operate. As a result of our first report, we are working to more fully account for the impacts of our business while also pursuing new innovation opportunities."

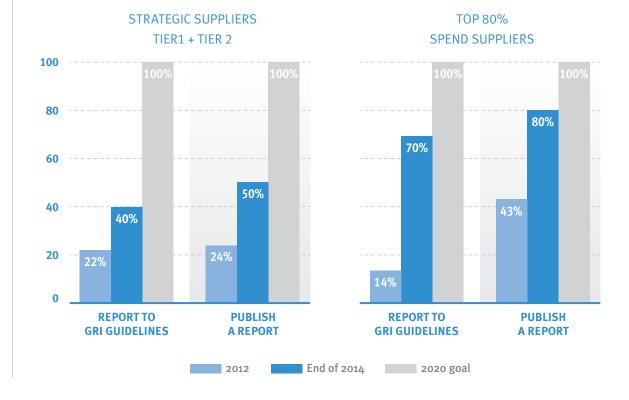
- TIER 2 STRATEGIC SUPPLIER

#### Public Sustainability Reporting

We believe that public sustainability reporting advances transparency and accountability in our supply chain. In 2013, we formalized our requirement for EMC's strategic direct materials suppliers to publish a sustainability report using the GRI guidelines. In 2014, reporting status was highlighted through its integration into the Supplier Scorecard, through personalized report cards distributed to executives at the supplier companies, and at Quarterly and Executive Business Reviews. All of these initiatives include suppliers who are in both the first and the second tiers of EMC's supply chain. To help prepare and incent suppliers who were not already reporting publicly, we held a webinar series to share the experiences of companies at different stages of maturity in their reporting and to provide an open Q&A forum. The sessions were well attended and well-received. We have since turned the knowledge shared into case studies and a Q&A resource guide posted in our SMaRT Library.

The combination of increased visibility, education, and scoring has already brought important gains in the transparency demonstrated by our suppliers. Looking at 2014 reporting data as compared to 2012, the progress is very visible. We are pleased to see this forward movement, and will continue to emphasize and support the importance of public transparency with suppliers who do not yet publish sustainability reports.

#### SUPPLIER PUBLIC SUSTAINABILITY REPORTING PROGRESS 2012–2014



" EMC was our first maior customer to challenge us to produce a comprehensive CSR report, which we were successful in doing this year. The outcome has provided us with opportunities to share best practices across our business units, and has been a new way for us to communicate with the increasing number of customers who look for insights into our sustainability practices. We are using the success of the report to drive further investments in sustainability and are excited to push forward." - TIER 2 STRATEGIC SUPPLIER

#### **SMaRT Library**

EMC's suppliers have a wide range of expertise and challenges, as well as varied operations, worker demographics, and locations. In 2013, we began analyzing past audit and SAQ data to identify the most common areas of need across our supply base. We also spoke with multiple supplier contacts in different geographies and commodities to better understand which resources would provide the most value. Additional input came from a gap survey conducted in 2013, concerns raised in the media and NGO reports, and conversations with peers in the industry.

In 2014, we used that knowledge to launch an online resource library for suppliers, dubbed the SMaRT Library (Sustainability Management and Resource Training Library). The resource contains short training modules on different topics and at different levels, including best practices, case studies, and hundreds of references to already-existing resources available through public sources. It launched in the early part of the year with four training modules addressing topics we saw as particularly high priorities: human trafficking, working hours (two modules), and labor management systems.

Over the course of the year, we translated the entire library into Chinese, added new content to the external resources listed, linked users to the EICC Learning Academy for additional training modules, instituted tracking to build a baseline for usage statistics and impact assessment, and began pushing modules to individual suppliers as we saw applicability through their audit or spot check results and from their questions. We also hosted a discussion on one of the modules to begin building a new level of peer interaction and learning, using the modules as the entry point. The modules have also proven valuable for internal users from across EMC, who are increasingly leveraging them to enhance their own understanding and skills in managing social and environmental responsibility. Although 2014 was focused more on growth and development than on module adoption, we have already seen good initial uptake, with nearly 40 internal and external users across eight countries globally. We will continue to engage users through the SMaRT Library's content throughout 2015 and beyond.

In 2015, we will also add at least nine new modules at different levels on additional topics, including emergency preparedness, advanced environmental management and financing, hazardous substance management, ethics management systems, root cause analysis, and correlating key performance indicators (KPIs). We will also increase our focus on developing the methodology and infrastructure to measure, to the extent possible, the impact of the training and other engagement activities we do.

#### **Hypothesis Testing and Targeted Outreach**

As part of our efforts to build supply chain resiliency holistically, in 2014 we began to integrate our analyses from across sustainability functions to support targeted hypothesis testing. Our intent is to identify the suppliers and facilities that may demonstrate higher risk, and to target specific discussion, corrective action, and/or capability building where it will be most effective. We began to implement this approach with a



focus on water, grouping supplier sites based on a combination of water risk factors, including water availability and quality in-region, process water use, and/or lack of water management controls. This approach integrates data from multiple sources, including global risk data (e.g., water risk data from the World Resources Institute) and data on supplier performance and

risk (e.g., Self-Assessment Questionnaires from EICC-ON and business continuity site assessment data). In 2015, we will reach out to those suppliers and sites with the greatest water risk to clarify individual situations and provide education as applicable. We will also engage suppliers on additional topics as we identify them through applying this methodology to other priority areas. As we refine our data analysis and normalization, we will increasingly reach out to specific suppliers that would benefit from targeted guidance or training, tying together even more closely the monitoring and assessment activities we conduct with effective and impactful engagement.

# CONFLICT MINERALS

As part of our global approach to the protection of human rights, EMC is committed to the ethical sourcing of minerals, and in particular of tantalum, tin, tungsten and gold (3TG), often referred to as "conflict minerals."

In the Democratic Republic of the Congo (DRC), some mines are controlled by armed militias who use the proceeds from the sale of these minerals to fund ongoing conflict in the region. EMC's **Conflict Minerals Policy** states our goal to be DRC Conflict-Free, our expectations of our suppliers, and our approach of broad collaboration with suppliers, industry peers, and other stakeholders.

#### OUR APPROACH

Researching the origin of minerals through the supply chain is a complex endeavor. As a manufacturer of enterprise storage systems, we do not purchase 3TG directly from mines, smelters, or refiners. Therefore, to meet our goal of being DRC Conflict-Free, we must collaborate with suppliers, industry peers, and other stakeholders. We seek to advance tools and programs that simplify due diligence processes through the supply chain and increase the supply of verifiably DRC Conflict-Free minerals.

EMC is an active member of the Conflict-Free Sourcing Initiative (CFSI), which was founded by the EICC and the Global e-Sustainability Initiative. We participate in workgroups and projects to advance the CFSI and its Conflict-Free Smelter Program (CFSP). The CFSP offers independent third-party audits of 3TG smelters to assess whether they have systems in place to assure sourcing of only conflict-free materials. Our engagement in CFSI helps us advance toward our goal, and also helps build a global supply chain system for responsible and ethical mineral sourcing, making it more widely possible for other companies to source DRC Conflict-Free minerals for their products.

#### **Our Strategy**

We have a three-pronged strategy focused on suppliers, smelters, and responsible sourcing in the DRC and adjoining countries (collectively called the "Covered Countries"). The strategy aims to:

#### Engage suppliers in due diligence and DRC Conflict-Free sourcing

- Survey suppliers using CFSI's Conflict Minerals Reporting Template (CMRT)
- Offer resources and education on the issue of conflict minerals and best practices in due diligence
- Influence the supply chain to shift to CFSP-compliant smelters

#### Increase the number of DRC Conflict-Free Smelters

- · Identify smelters and refiners in our supply chain
- Help advance the CFSP through active participation in CFSI workgroups
- Encourage smelters and refiners in our supply chain to undergo an audit to be CFSP-compliant

#### Encourage responsible sourcing from Covered Countries:

• Promote verifiable conflict-free sourcing from the Covered Countries in order to support peaceful economic activity

#### **Our Program**

Supplier requirements for conflict minerals due diligence are integrated in EMC's supply chain business processes. Our **Supplier Code of Conduct** requires direct material suppliers to have a conflict minerals policy and conduct due diligence on the source and chain of custody of 3TG in their products. Our standard contracts and purchase agreements also include requirements for suppliers to have a conflict minerals policy and to report to us on their due diligence and smelter list with a completed CMRT. We set a 2014 goal for 100% of Tier 1 direct material suppliers who sell us products containing 3TG to have a conflict minerals policy published on their website. More than 99% (by spend) of our Tier 1 suppliers in scope have done so.

In 2014, EMC collected completed CMRTs from suppliers representing more than 99 percent of our Tier 1 and 93 percent of our Tier 2+ 2014 spend. We then mapped the suppliers against our products and reviewed the smelter and refiner lists for those suppliers. We found that each product category had some 3TG sourced from smelters that are not CSFP-compliant—meaning that we cannot yet determine those minerals' country of origin. The remainder is sourced from CFSP-compliant smelters, including those that source responsibly from Covered Countries.

Beyond collecting information, we take action to address potential risks of purchasing product materials containing minerals whose sale financed armed conflict in the DRC. Throughout 2014, EMC issued targeted communications to help our suppliers improve their due diligence and reporting, informed by frequently-identified risks from our 2013 and our 2014 supplier surveys. These risks included: absence of a conflict minerals policy; inaccurate smelter lists; and declarations of sourcing from the Covered Countries without specifying CFSPcompliant smelters as the source. As suppliers responded, we contacted those whose responses indicated potential risk in order to obtain more information and request additional due diligence on their part. We also embedded communications and incentives in supply chain management business processes. This included adding suppliers' conflict minerals risk score based on their response to the 2014 survey into the supplier scorecard which informs business decisions, and communicating their risk score and opportunities to improve in Quarterly Business Reviews.

Another focus for risk mitigation was working to increase the number of CFSP-compliant smelters. We actively participated in a CFSI workgroup that encourages 3TG smelters to undergo CFSP audits. We also pledged a contribution to CFSP's Initial Audit Fund, which pays the costs of a smelter or refiner's first CFSP audit, a major incentive for smelters to participate. As the number of CFSP-compliant smelters grows, we can more effectively engage our suppliers to shift purchasing to them.

EMC desires to be DRC Conflict-Free, but not to avoid sourcing from the Covered Countries altogether. Such an approach could indirectly punish responsible mining operations and negatively impact the economy in the region, further adding to the difficulties of the people. Therefore, we promote awareness in our supply chain of responsible sourcing from the Covered Countries, and EMC's support for doing so.

We also recognize the need to continue developing the supply of verifiably conflict-free minerals from the region to support peaceful economic activity. This is a complex problem that we believe should be addressed through multi-stakeholder initiatives that include governments, industry, and civil society. To this end, EMC has applied to join the **Public-Private Alliance for Responsible Minerals Trade** (the PPA), a multi-sector and multi-stakeholder initiative to support supply chain solutions to conflict minerals challenges in the DRC and the Great Lakes Region of Central Africa. We expect to be notified of our acceptance in 2015.

For additional information, including data, smelter lists, and more, please see our **Conflict Minerals Report** on EMC.com.

We set a 2014 goal for 100% of Tier 1 direct material suppliers who sell us products containing 3TG to have a conflict minerals policy published on their website. More than 99% (by spend) of our Tier 1 suppliers in scope have done so.



# CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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# REDEFINE THE FUTURE 2014 EMC S-14 EMC<sup>2</sup> 2014 EMC Sustainability Report

#### ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of the **Executive Report**.



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" Total Customer Experience Day is a special occasion to reinforce our commitment to providing customers and partners with the very best experience in our industry."

DAVID GOULDEN, CEO, EMC II

Watch the Video

#### EMC TOTAL CUSTOMER EXPERIENCE:

Global Adventures with Mountain Biking and Customer Advocacy

Views of the Horizon in Sailing and Service Quality

Going Deep with Cave Diving and Customer Listening

# CUSTOMERS

#### TOTAL CUSTOMER EXPERIENCE

EMC's commitment to a customer-first approach begins at the top and permeates every level and aspect of our company. EMC's Total Customer Experience (TCE) model is a demonstration of our commitment to exceed customer expectations for quality, service, innovation, and sustainability. Through TCE, customers, partners, and EMC field personnel provide feedback on their experiences, and EMC measures the quality of every customer interaction. We use Big Data analytics of the feedback provided to gain deeper insights, identify trends, and drive continuous improvement and process excellence throughout the enterprise.

#### TCE Day

In 2014, EMC held its inaugural TCE Day both onsite at 13 offices in 7 countries—China, Egypt, India, Ireland, Russia, Singapore, and the U.S.—and virtually. Over 4,000 employees and more than 150 customer and partner guests participated in the onsite events. We celebrated



EMC's customer-centric culture, recognized our passionate and committed employees, and explored ways to further improve TCE. The virtual celebration featured **on-demand videos** as well as live Q&A discussions with EMC experts from around the world and across the company. The event had over 100,000 social media impressions.

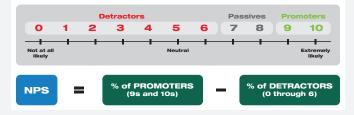
#### MEASURING CUSTOMER FEEDBACK

EMC places high importance on measuring customer satisfaction (CSAT), maintaining industry-leading levels, and using feedback to continually drive improvements. This includes setting quarterly CSAT targets across EMC's field and remote service organizations. EMC posts surveys and results on our internal dashboard site for EMC's Customer Services (CS) to reference. We set goals for all CS managers based on quarterly CSAT results.

In 2014, EMC was recognized with its highest Industry Net Promoter Score (NPS) and continued to achieve best-in-class CSAT levels. EMC implemented an MBO goal for all senior executives focused on customer feedback and overall customer loyalty. We continued to implement new initiatives to enhance our comprehensive view of our customers' experiences. In particular, TCE began to leverage social media as an additional "listening post" and means of expanding the EMC TCE brand. We modified and leveraged existing TCE programs to obtain actionable customer feedback along the holistic end-to-end customer journey.

#### NPS

NPS is a metric used by companies worldwide as the standard for measuring and improving customer experience and loyalty, with the underlying question of "How likely are you to recommend EMC products and services to a colleague or an associate?"





TCE Day at Cairo



TCE Day at Utah

Following are elements of TCE programs for the "Customer Journey Map":

- **Buy:** EMC conducts customer interviews with decision makers to understand the touch points they experience. In the process, we collect detailed feedback on areas of success and areas of opportunity. In addition to these one-on-one interviews, EMC continues to explore how to gather even more detailed feedback about the buyer experience from a wider customer base. The TCE team partners with EMC Sales and Pre-Sales to develop this initiative.
- Deploy and Support: Transactional surveys play a key role in measuring customer satisfaction after a deployment or service event. These transactional surveys are supplemented with input from EMC personnel to provide an employee view of the voice of the customer, enabling our customer-facing employees to share best practices and offer suggestions to improve the customer experience.
- **Product Use:** Every EMC business unit participates in the TCE Product Survey program. This program enables the business to view customer feedback on their products in real time and, after detailed analysis, allows business unit leaders to identify and implement any changes needed. Combined with the Voice of Field facilitated sessions, the Product Survey program enables EMC's TCE team to generate an action plan for initiatives to improve customers' product experiences.

#### **Voice of Experience Program**

TCE has a comprehensive "VOX" program comprised of Voice of Customer, Voice of Partner, and Voice of Field. We use supporting data analytics to gain deeper insight into feedback provided and drive continuous improvements based on this insight.



Our extensive Customer Relationship Survey evaluates the endto-end view of EMC's relationship with customers. We use the survey to determine priority areas, establish initiatives, and identify metrics and goals that are important to our customers—driving actionable recommendations and improvement initiatives that align with customer perspectives.

In addition to Voice of Customer, the survey included the following components to develop a broader and more accurate picture of our customers' experiences:

- Voice of Partner: Measures the relationship with EMC's partners and what EMC needs to provide to enable the partner to deliver TCE to the customer
- Voice of Partner's Customer: Captures feedback on the quality of the service our partners provide to their customers that have EMC products
- Voice of Field: Leverages knowledge of those who interact with the customer the most through sales, support, and professional services

#### Lean Six Sigma Audit Group

The TCE team leverages its Lean Six Sigma (LSS) and Audit group to identify key opportunities for improvement across EMC. These improvements are prioritized to drive continual improvement in EMC's product quality, time to resolution, cost efficiencies, and overall process improvement. While we focus on many internal improvements, the team also addresses key customer concerns.

In 2014, the LSS and Audit group aligned to lead Top TCE Enterprise Initiatives and launched Yellow Belt and Green Belt Video Instructor-Led training to increase return on investment and operational efficiency. In addition, we successfully completed the ISO external surveillance audits with no findings.



#### Additional Information

EMC Total Customer and Partner Experience Program

2014 TCE Annual Report

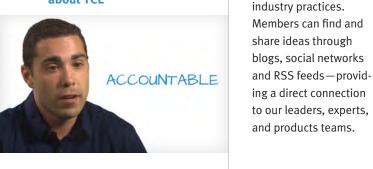
TCE Experience Analytics Showcase

Watch the Video

# Featuring EMC leaders who talk about the importance of TCE



#### Featuring global EMC team members who are passionate about TCE



#### EXTERNAL CUSTOMER SERVICE AWARDS

In 2014, for the third year in a row, EMC won the **Temkin Group Award**, an accomplishment that speaks to the focus we place on the customer experience. The Temkin Group is a customer experience research and consulting firm devoted to helping large companies build customer loyalty.

EMC was also recognized with the 2014 Technology Services Industry Association Star Award for Customer commitment, and the 2014 Impact Award from Customer Experience Professionals Association.

#### TCE INNOVATION AWARD

The TCE team sponsors an Innovation Award as part of EMC's annual Innovation Roadmap. The award recognizes innovative approaches to maintaining and growing customer loyalty while enhancing EMC's customer solution portfolio, service capabilities and engagement model. In 2014, the TCE Innovation Award winner recommended a unified EMC product and service feedback system to capture customer feedback real-time. This feedback will be utilized to drive real-time product and solution enhancements while providing key insight into our future development roadmaps.

#### EMC COMMUNITY NETWORK

from EMC products to

The EMC Community Network on emc.com launched in 2008 and is still evolving. This online site creates a social network that links some of our stakeholders, such as our employees, customers, and partners, who have common interests in collaborating and innovating on everything

> PRODUCTS & SOLUTIONS STORE SERVICES SUPPORT COMMUNITIES PARTNERS EMC+ **EMC<sup>2</sup>** FIND A COMMUNITY EXPLORE EVENTS CREATE Login / Register Help Find Communities by: Category | Product Data Protection Cloud Big Data Storage nfrastructure EMO Education Program Platform Solutions

#### EXECUTIVE BRIEFING PROGRAM

EMC's Executive Briefing Program provides customers, partners, and prospects the unique opportunity to interact with executive management, business leaders, and technology experts across the company. By specifically tailoring conversations to audiences ranging from Systems Architects and IT Managers to C-suite Executives, the Executive Briefing Program allows customers and partners to connect with EMC both technically and strategically. This interaction allows visitors to explore EMC's position in the marketplace while collaboratively addressing their individual challenges, redefining strategies, and ultimately working to transform their underlying business.

Founded in 1994, the Executive Briefing Program now reaches over 20,000 attendees annually. The program consists of 11 briefing locations around the world in conjunction with a robust global field program. To learn more, visit EMC's Worldwide Executive Briefing Program.

**CENTER LOCATIONS:** Hopkinton, MA (HQ); Bedford, MA (RSA); Rio de Janeiro, Brazil; Silicon Valley, CA; Washington, D.C.; Cork, Ireland; Bangalore, India; Beijing, China; Shanghai, China; Singapore; Tokyo, Japan

Additional Information

#### **Big Data vs. Climate Change**

Watch the Video

#### Big Data vs. Climate Change: EMC and Citizen Scientists Team Up



# IT & SOCIETY: ADVANCEMENTS FOR THE GREATER GOOD

The pervasive nature of Information Technology (IT) comes with both great opportunity and great responsibility. EMC recognizes that utilizing the positive potential of IT is critical to long-term environmental, societal, and economic prosperity.

The IT megatrends of cloud, social, and mobile bring technology to an ever expanding number of people from all corners of our planet. With this growth comes unprecedented opportunity to leverage the power of data through the use of Big Data analytics and other emerging technologies. EMC is proud to work on projects like those highlighted below, that utilize our technology for the greater good.

We recognize that not all aspects of IT are inherently positive. As seen throughout this report, we are working diligently to mitigate environmental and social impacts throughout the value chain. We also realize that an increasingly interconnected world can result in the creation of societal issues never before encountered. We understand that IT is only a tool, and that it is our responsibility to encourage its use in ways that protect and promote well-being.

# STUDYING THE ECOLOGICAL IMPACTS OF CLIMATE CHANGE USING BIG DATA

In 2014, EMC embarked on a new partnership with Earthwatch Institute, the National Park Service, and the Schoodic Institute at Acadia National Park. The new Big Data vs. Climate Change project plans to enhance the power of data being collected to provide increased analytics and present interactive visualizations of information in forms more accessible to citizens, educators, and scientists worldwide. The program began with a team of EMC employees working with researchers studying bird migration in Acadia National Park. The team set out to determine if bringing together publicly available data sets on birds, the timing of fruiting and flowering, and climate could provide new insights into the effects of climate change on bird migration. As a proof of concept, the team used citizen science data sets from eBird, iNaturalist, HawkWatch, the National Phenology Network, and the National Park Service. The outputs of analysis will be presented through visualizations that allow citizen scientists to understand how their data is being used and learn about the potential effects of a changing climate on the subjects they study. They will also be providing key insights for park officials to plan the resources and tools needed to maintain park programs.

Looking ahead, the program plans to include additional data sets from Earthwatch's global research partners, and create a data science sandbox that will allow citizen scientists to gain the data science expertise they need to build their skills and interact with their data in a deeper way.



#### Additional Information

#### See how EMC helps City University of Hong Kong

reduce its carbon footprint through integrated, innovative technologies.

#### DEVELOPING SPECIFIC TECHNOLOGY SOLUTIONS FOR HEALTHCARE ENABLEMENT IN INDIA

The Center for Transformational Innovations in EMC's India Center of Excellence is driving an initiative to create a comprehensive platform for delivery of healthcare based on technologies from the EMC Federation. Various healthcare applications can be developed on the platform to deliver a broad array of capabilities including: Care Coordination, Remote Monitoring, Clinical Decision Support and Care Plan Design.

EMC LifeCare aims to address the most pressing challenges within the current healthcare delivery system by enabling patient-centric care management; proactive, real-time connection between providers and patients; and critical management of chronic and geriatric care. Health-care data is complex, and the need to store this data over much longer periods of time is driving an unprecedented need for scalability, reliability, and cost efficiency. LifeCare's cloud-enabled delivery framework is



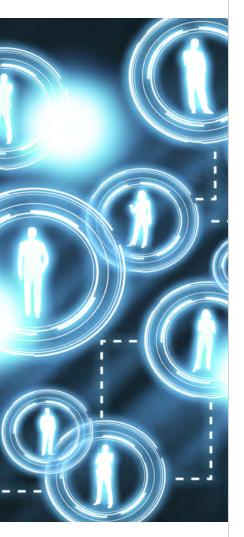
powered by storage technology from EMC, virtualization technology from VMware, security software from RSA, and advanced analytics from Pivotal Labs. LifeCare supports healthcare industry standards such as IHE and HL7 for integrating data from electronic medical records/electronic health records and healthcare information systems. LifeCare portals

and mobile applications offer an intuitive user interface that simplifies monitoring, alerting, and analyzing health data. The dashboard provides role-based information and personalized experience for patients, care coordinators, and physicians. In addition, the portals provide advanced video consulting capabilities which provide a truly immersive experience for the patients. The video sessions are recorded and stored securely on EMC's storage infrastructure for audits, thus complying with all necessary medical mandates. LifeCare integrates EMC's leading technology with healthcare applications for data-driven diagnosis and analytics-based proactive care. The solution helps healthcare providers focus their cost-intensive hospital resources and medical equipment on critical cases, while automating general monitoring and follow-up.

#### **Utilizing City Data to Track Dengue Fever**

In conjunction with the launch of its newest R&D center located in Brazil, EMC partnered with the City of Rio de Janeiro on a Big Data initiative to bring together many of the city's previously disparate databases, and use the data to make better decisions. Through this process, they developed an application that allows Rio to track the spread of dengue fever within the region and to identify relationships between the spread of disease and other demographic and event-based factors. The technology allows for a full suite of data storage, analytics, modeling, and visualization, with a dashboard that quickly gives city decision makers the information they need to implement and focus their prevention processes. Of note was the resulting discovery of a link between construction sites — a breeding ground for insects that carry the disease — and the number of dengue fever cases in humans. Based on this finding, city planners were able to better focus their public health efforts in these areas.

In 2015, EMC is planning to expand this smart cities effort to help with additional health issues, as well as traffic and congestion.



# CUSTOMER INFORMATION SECURITY & PRIVACY

The world's dependence on IT has brought with it increasing concern about information security and privacy. The continued evolution and adoption of cloud computing and mobile technologies are revolutionizing how we manage and use digital information.

While we have realized tremendous productivity gains and resource efficiencies through use of these technologies, they have created new complexities for organizations seeking to maintain the security and privacy of their people, data, and systems.

Cyber-attacks designed to steal proprietary information and disrupt operations and critical infrastructures are becoming increasingly sophisticated, requiring companies to rethink and redefine their security strategies for the new threat environment. RSA, the Security Division of EMC, is leading the organization and the industry away from the traditional but increasingly ineffective cycle of prevention and remediation that has dominated security for decades, emphasizing instead the development of a cycle of rapid detection and effective response that will better enable organizations to counter the advanced threats they face today and will face tomorrow.

Traditional security practice sought to defend a well-defined organizational perimeter with preventative controls and tools (firewalls, antivirus, intrusion detection systems, etc.). That approach has crumbled as the perimeter has been eroded by the dramatic adoption of cloudbased applications and mobile devices. Today's business and IT practices, coupled with a more dangerous threat landscape, require organizations to have a balanced data security program—one that does not focus too heavily on prevention at the expense of detection and response. Security measures should be in place not only to prevent network intrusions but also to rapidly detect and effectively respond to network intrusions before they result in damage or loss. This prevention, detection and response strategy provides organizations with the ability to defend themselves from today's external or internal threats.

We continue to see an increasing awareness by customers of the need to invest more resources in detection and response security measures. The continued growth of reported security breaches and corresponding costs to brand, customer loyalty, and revenue have made it abundantly clear that today, data security risk is business risk. Through its extensive suite of products and services that support this strategy, EMC continues to be an industry leader in helping organizations build and maintain a trusted digital world for communication, collaboration, and commerce.

To learn more about information security and privacy as it relates to other areas of our business, visit the **Products** and **Operations** detailed reports.



#### Additional Information

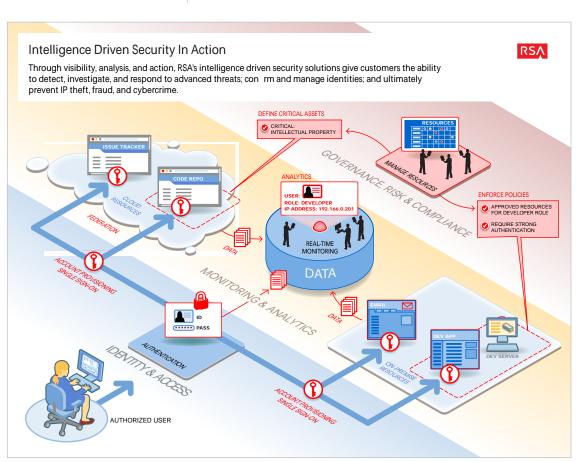
Security for Business Innovation Council — Transforming Information Security: Focusing on Strategic Technologies

RSA Industry Perspectives – Failures of the Security Industry: Accountability and Action Plan

#### PROTECTING CUSTOMERS FROM CYBER-ATTACKS

We continue to see an expansion and commoditization of cyber-attacks due to the growth of underground marketplaces for attack products and services, and a lower bar for the technological skill necessary to conduct an attack. Even Advanced Persistent Threat attacks, once the sole domain of nation-states that had the resources to conduct such sophisticated attacks, have moved down market so that they are within the reach of criminal organizations and terrorist groups.

In response, EMC continued to focus development of our suite of products and services on providing comprehensive visibility from the endpoint to the cloud to enable our customers to more rapidly detect



and effectively respond to attacks and attack campaigns. In October 2014, RSA continued the evolution of its Advanced Threat platform with the launch of Security Analytics 10.4, providing visibility into increasingly dynamic IT environments.

Identity is one of the few remaining constants in the dynamic cloud, mobile and social IT environments in which we live and work and is therefore a "control" on which we can build out a stronger security strategy. EMC is investing to give organizations the ability to more effectively manage the identity of the individuals (and—in the era of the Internet of Things—the devices) that are accessing their environments. In June 2014, EMC acquired Symplified's technology, completing the technological foundation of our new Via Identity platform that will launch in 2015. With Via, EMC will provide the industry's first Smart Identity solution that protects from the endpoint to the cloud.

EMC continues to build out its RSA Archer<sup>®</sup> Governance, Risk and Compliance (GRC) platform to give organizations visibility into how their business operations map to their IT environment. Beyond providing the necessary context to fully understand an attack and prioritize a response, RSA Archer GRC gives organizations the automation, workflow, and tools necessary to rapidly respond to and disrupt attacks.



#### Additional Information

**Reporting a Vulnerability** 

#### CUSTOMER SECURITY MANAGEMENT OFFICE

Organizations have become increasingly dependent on information and technology to meet their business objectives. As a result of this dependency, information security has become a high priority and EMC customers across the globe, representing and including the world's largest corporations, financial institutions and government agencies, are increasingly concerned about the security preparedness of their vendors. As data protection and, more recently, privacy concerns, rise in importance, these companies must require their vendors to conform to numerous security standards, laws and regulations at the local, national and international levels.

EMC's Customer Security Management Office (CSMO), part of EMC's Global Security Organization, serves as an internal resource to help our sales teams and business units effectively respond to customers' security-related inquiries.

The CSMO promotes awareness of and compliance with EMC policies, providing guidance on good security practices relating to EMC policy through service offerings that include:

- Responding to customer security-related assessments, inquiries
   and RFPs
- Understanding and responding to information security-related regulatory and compliance provisions within contracts
- Working closely with EMC Legal to advise EMC sales teams and business units on information security-related provisions commonly requested by EMC customers in definitive agreements; suggesting acceptable, alternative security-specific agreement language as needed to alleviate inadvertent risk to EMC
- Providing metrics and counsel to support and inform management prioritization of initiatives to address customer security, employee security awareness and training, and governance, risk and compliance efforts



The EMC Product Security Response Center also proactively alerts customers when security issues with our products arise. Through our Product Security Response Center, we issue EMC security advisories (ESAs) to notify customers about potential vulnerabilities and provide corrective measures before adversaries are able to exploit the situation. In 2014, we issued over

150 ESAs to our customers. To learn more about product security, visit the **Our Products** detailed report.

EMC also takes secure product development very seriously. Through our Product Security Office, we promote secure product development throughout the company via a set of security requirements integrated into a product security standard. We apply this standard through requirements, design, development, documentation, testing, readiness, and vulnerability response, minimizing the risk of susceptibilities in our products. To learn more about EMC's approach to product security, visit emc.com/security.

At the intersection of supply chain responsibility and product security lies supply chain risk management. EMC manages the risk across its full supply chain, which complements our existing controls for secure product development and helps ensure we deliver trustworthy products to our customers.

To learn more, visit the **Our Products** detailed report.



# CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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# GOVERNANCE

# REDEFINE THE FUTURE EMC<sup>2</sup>

2014 EMC Sustainability Report

## ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of the **Executive Report**.



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José E. Almeida



Donald J. Carty

# CORPORATE GOVERNANCE

#### GOVERNANCE GUIDELINES

Our **Corporate Governance Guidelines** provide a framework for the effective governance of EMC. The Guidelines address many areas, including selection criteria for Board members, Lead Director responsibilities, selection and evaluation of the CEO, management succession planning, and assessment of Board performance.

#### GOVERNANCE STRUCTURE

EMC recognizes that corporate governance is only as strong as the board of directors behind it. We are fortunate to have a highly experienced, well-informed, and fully engaged Board.

We currently have **12 Board members**, comprised of one woman and 11 men. Ten Directors are independent as defined in our Categorical Standards of Independence and the listing standards of the New York Stock Exchange. We require each Board member to stand for election annually, and have adopted a majority vote standard for the election of directors. In January 2015, EMC appointed José E. Almeida and Donald J. Carty to the Board of Directors. In February 2015, the independent directors designated William D. Green as the Board's independent Lead Director. Gail Deegan did not stand for re-election at the 2015 Annual Meeting of Shareholders. The EMC Board of Directors has established five standing committees:

- Audit Committee
- Corporate Governance and Nominating Committee (the "Governance Committee")
- Finance Committee
- Leadership and Compensation Committee (the "Compensation Committee")
- Mergers and Acquisitions Committee

The Audit, Governance, and Compensation Committees consist entirely of independent directors.

#### **BOARD LEADERSHIP**

We believe that strong, independent board leadership is a critical aspect of effective corporate governance, and that such independent leadership can be achieved in several ways. Our **Bylaws** and **Corporate Governance Guidelines** permit the roles of Chairman and CEO to be filled by the same or different individuals. This provides the Board with the flexibility to determine whether the two roles should be combined or separated based upon our needs and the Board's assessment of its leadership from time to time.

The Board reviews the structure of its leadership on an annual basis and determines each year whether it is best for the Company that the Chairman role be combined or separated from the CEO role and whether the Chairman should be an independent director. Among other things, the Board considers:

- the Company's strategic positioning;
- the Company's challenges;
- industry dynamics;
- the experience of the then current CEO;
- the qualifications of directors who could serve as Chairman; and
- any relevant legislative or regulatory developments.

The Board believes that EMC and its shareholders are best served at this time by having Joseph M. Tucci serve as our Chairman and CEO, and William D. Green, an independent director, serve as our Lead Director. Mr. Green has substantial experience leading a large public corporation, governance expertise from serving as chairman and a member of other company boards and committees, and a deep understanding of the IT industry. In addition, Mr. Green's proven ability to assert independent leadership while working collaboratively with other directors, his ability to solicit, balance and build consensus around different points of view, and the respect he has garnered among our Board members will enable him to serve effectively as our Lead Director. The Board believes a Lead Director is an integral part of our Board structure and facilitates the effective performance of the Board in its role of governance and oversight. Our Lead Director has significant responsibilities, which are set forth in EMC's Corporate Governance Guidelines. These include:

- Presiding at the meetings of the Board at which the Chairman is not present, including the executive sessions of the nonmanagement directors and independent directors, establishing the agendas for such executive sessions and providing appropriate feedback to the CEO regarding these meetings
- Acting as a liaison between the independent directors and the Chairman
- Facilitating discussions among the independent directors on key issues and concerns outside of Board meetings
- Having the authority to call meetings of the independent directors
- Approving information sent to the Board, including providing for the quality, quantity and timeliness of the flow of information from management that is necessary for the independent directors to effectively and responsibly perform their duties
- · Approving meeting agendas for the Board
- Approving meeting schedules to assure that there is sufficient time for discussion of all agenda items
- In collaboration with the Compensation Committee, approving CEO goals, evaluating CEO performance, setting CEO compensation levels and reviewing CEO succession planning
- In collaboration with the Governance Committee, making recommendations to the Board regarding committee members and chairs and overseeing the performance evaluations of the Board, each of the applicable committees and the individual directors
- In collaboration with the Chairman, recommending to the Board the retention of consultants who report directly to the Board
- If requested by major shareholders, ensuring that he or she is available for consultation and direct communication
- Performing such other duties as may be requested from time to time by the Board as a whole or by the independent directors



William D. Green Independent Lead Director

In 2015, the Board amended the Governance Committee's charter to state explicitly the Board's commitment to actively identify and recruit diverse candidates, including women and minority candidates, as part of the search process for Board members. In addition, each of the Board's key committees—the Audit Committee, Compensation Committee, and Governance Committee—is comprised entirely of independent directors. As a result, oversight of key matters, such as the integrity of EMC's financial statements, the nomination of directors and evaluation of the Board and its committees, and executive compensation, is entrusted exclusively to independent directors. Finally, the Board meets in executive session without the CEO in connection with each regularly scheduled Board meeting.

The active involvement of the independent directors, combined with the qualifications and significant responsibilities of our Lead Director, promote strong, independent oversight of EMC's management and affairs.

For more information on the Board's annual review of its leadership structure, see EMC's **Proxy Statement** for the 2015 Annual Meeting of Shareholders.

## BOARD MEMBERSHIP CRITERIA

The Board believes that its members, collectively, should possess diverse and complementary skills and experience in order to oversee our business and evaluate management strategy effectively. In addition, the Board believes that each director should possess certain attributes, as reflected in the Board's membership criteria described below. Accordingly, the Board and the Governance Committee consider the qualifications of directors and director candidates individually and in the broader context of the Board's overall composition and dynamics and EMC's current and future needs. The Governance Committee is responsible for reviewing, assessing and recommending Board membership criteria to the Board for approval. The criteria, which are set forth in the **Governance Committee's charter**, include judgment, integrity, diversity, prior experience, the interplay of the nominee's experience with the experience of other Board members, the extent to which the nominee would be desirable as a member of any committees of the Board, and the candidate's willingness to devote substantial time and effort to Board responsibilities. The Governance Committee also considers service on other public company boards as this provides directors with a deeper understanding of the role and responsibilities of boards and insight into matters being handled by our Board.

In 2015, the Board amended the Governance Committee's charter to state explicitly the Board's commitment to actively identify and recruit diverse candidates, including women and minority candidates, as part of the search process for Board members.

In addition, the Board has determined that it is important to have individuals with the following skills and experiences:

- **Industry expertise,** including a deep understanding of the information technology industry and the disruptive impact of new technology, or another industry that has undergone rapid growth or transformational change, to assess EMC's strategy and long-term business plan to take advantage of the opportunities ahead.
- **Functional expertise** in areas such as finance and accounting, talent management or marketing to support the Company's business development and growth as well as the Board's required committees.
- International expertise, including experience attained through key leadership or management roles in a global business or responsibility for non-U.S. operations, which is important given EMC's growth in markets around the world.
- **Operational experience** with a business of significant scale and complexity or in an industry with continual structural change to understand the competitive dynamics of our business strategy and execution and key business processes as well as the leadership requirements and organizational dynamics driven by rapid change.

In identifying director candidates, the Governance Committee may establish other specific skills and experience that it believes the Board should seek in order to maintain a balanced and effective Board.

At least once a year, the Governance Committee assesses the skills and experience of Board members, and compares them with those skills that might prove valuable in the future, giving consideration to the changing circumstances of the Company and the then current Board membership. This assessment enables the Board to consider whether the skills and experience described above continue to be appropriate as the Company's needs evolve over time, the effectiveness of the Board membership criteria, and whether the Board should seek individuals with specific areas of expertise in the future. To facilitate this process, from time to time, the Governance Committee may use a critical skills matrix.

#### **BOARD EVALUATIONS**

Each year, the Governance Committee, together with the Lead Director, oversees an annual evaluation process. The evaluations help inform the Governance Committee's discussions regarding Board succession planning and refreshment, and complement the Governance Committee's evaluation of the size and composition of the Board. The process, as described in more detail in the chart below, is as follows

- Each director evaluates the Board as a whole;
- Each member of the standing committees of the Board of Directors evaluates the committees on which he or she serves; and
- Each director prepares an individual self-evaluation.

After these evaluations are complete, the results are discussed by the Board and each committee, as applicable, and changes in practices or procedures are considered as necessary. The Lead Director meets with each director to discuss the individual self-evaluations and Board performance. To the extent possible, these one-on-one meetings are scheduled as in-person meetings. Among other topics, the Lead Director discusses with each director the individual's role, the individual's performance, committee service, and the individual's willingness to continue serving on the Board. The Chairman discusses the Lead Director's self-evaluation with the Lead Director, and the Governance Committee considers the Lead Director's performance.

In 2014, this three-tier process generated robust comments and discussion at all levels of the Board, including with respect to Board refreshment and Board processes. The self-assessments also led, along with other considerations, to several changes in committee memberships, as indicated in the table below. These changes reflected the Board's focus on director succession planning and independent oversight.

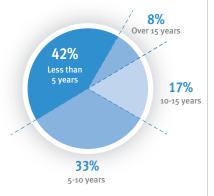
COMMITTEE	ROTATED ON	ROTATED OFF
Corporate Governance and Nominating	James S. DiStasio	Gail Deegan
Leadership and Compensation	Randolph L. Cowen, Chair Gail Deegan William D. Green Paul Sagan	Michael W. Brown David N. Strohm
Mergers and Acquisitions	William D. Green	Michael W. Brown Paul Sagan



A summary of the Board's evaluation process in 2014 is set forth below.

EVALUATION	ВҮ	PROCESS	OUTCOME
Full Board (Annual)	All members of the Board	Board members complete a detailed questionnaire which (a) provides for quantitative ratings in key areas, (b) seeks subjective comment in each of those areas and (c) solicits specific topics on which directors would like to focus on during the Board's discussion. Responses are reviewed by the Chairman and Lead Director.	Results are discussed by the Board in an executive session chaired by the Lead Director. Changes in practices or procedures are considered as necessary.
Board Committees (Annual)	All members of each committee	Members of each committee complete a detailed questionnaire to evaluate how well their respective committee is operating.	Results are discussed by each committee in executive session. The Chair of each committee reports on the committee's discussion to the full Board. Changes in practices or procedures are considered as necessary. The Board reviews and considers any proposed changes to the committee charter.
Individual Directors (Annual)	Each Director	Each director completes a detailed questionnaire. The Lead Director receives the questionnaires. The Lead Director meets with each director to dis- cuss the individual's performance and contributions to the Board and applicable committees.	Lead Director discusses the results with the Governance Committee and reports summary results to the full Board.

#### **BOARD MEMBER TENURE**



The Board is focused on ensuring it has individuals with the right skills and experience to exercise independent judgment in overseeing our business. Accordingly, the Board pays careful attention to succession planning and refreshment for members of the Board. The Board's process reflects both a deliberate search for specific skills and experiences, as needed, as well as opportunistic additions when high-caliber individuals become available. This practice has become a foundation of our Board's effectiveness and, very importantly, keeps our Board energized with valuable expertise and additional perspectives. The Board also considers the tenure of its members when evaluating its composition and nominees for election. The Board believes that varied lengths of service provide an effective balance of experience from longer-serving directors and fresh perspectives from newer directors. The average tenure of our Board members is 7.8 years and the average tenure of the independent members of our Board is 5.6 years.

#### IDENTIFYING POTENTIAL DIRECTOR CANDIDATES

The Governance Committee identifies Board candidates through numerous sources, including recommendations from directors, executive officers, and shareholders of EMC, as well as professional search firms retained from time to time to assist in identifying Board candidates. The Governance Committee seeks to identify those individuals most qualified to serve as Board members and considers many factors with regard to each candidate, including those described above. New candidates are interviewed by members of the Governance Committee and other Board members.

EMC shareholders may recommend individuals to the Governance Committee for consideration as potential director candidates by submitting their names and appropriate background and biographical information to the Governance Committee, 176 South Street, Hopkinton, MA 01748. Assuming the appropriate information is timely provided, the Governance Committee will consider these candidates in substantially the same manner as it considers other Board candidates it identifies. EMC shareholders may also nominate director candidates by following the advance notice provisions of EMC's Bylaws as described in EMC's **Proxy Statement** for the 2015 Annual Meeting of Shareholders.

#### DIRECTOR AND EXECUTIVE COMPENSATION

Non-employee directors receive cash fees and equity awards for their service. The director compensation program emphasizes equity incentives, as they serve to align the interests of our directors with those of our shareholders. For more information, see EMC's **Proxy Statement** for the 2015 Annual Meeting of Shareholders .

Our executive compensation programs are based on strong pay-forperformance practices that require the attainment of challenging goals designed to drive profitable revenue growth and market share gains. We believe achievement of these goals will create long-term shareholder value. Members of our executive leadership team were eligible to receive semi-annual cash bonuses contingent upon achievement of a number of shared and individual performance goals under the 2014 Executive Management by Objectives Plan. The Compensation Committee assigned shared goals to the executive leadership team, including a goal to increase employee engagement. Senior managers also had goals related to sustainability, including goals for innovation, customer satisfaction, and talent management as well as execution of sustainability initiatives in areas for which they have substantial responsibility. In addition, our governance structure for hardware and software products includes sustainability criteria that senior managers and executives are accountable for as part of the successful release of these products.

A detailed description of our 2014 executive compensation programs is set forth in EMC's **Proxy Statement** for the 2015 Annual Meeting of Shareholders.

## CONTACTING THE BOARD



To facilitate open communications, we provide various means for shareholders and other interested parties to contact the non-management directors, the Audit Committee, and the Compensation Committee. The Board strives to provide clear, candid, and timely responses to any substantive communication it receives. To build constructive, informed relation-

ships with shareholders and encourage transparency and accountability, directors may also be available for dialogue with shareholders from time to time, as appropriate, and the Lead Director is available for consultation and direct communication if requested by major shareholders. During 2014, members of EMC's Board of Directors and management dialogued and met with stakeholders on a variety of topics. To learn more, visit the **Stakeholder Engagement** section of this report.

Additional Information



# SUSTAINABILITY GOVERNANCE

EMC has a tiered structure of management and oversight of our sustainability practices. At the highest level, the Governance Committee, as specified in its **charter**, is responsible for overseeing our sustainability efforts. The Governance Committee meets regularly with the Chief Sustainability Officer throughout the year.

In 2014, we continued to engage our Executive Sustainability Council (ESC) to ensure our sustainability strategy and objectives are aligned with and integrated into our overall corporate strategy. The ESC consists of senior leaders, including:

- Chief Accounting Officer
- EVP and General Counsel
- EVP of Human Resources
- President, Products & Marketing
- SVP and Chief Technology Officer
- President of the Core Technologies Division
- President of Global Product Operations
- SVP and Chief Risk Officer
- Chief Security Officer

Working with the Chief Sustainability Officer, the ESC meets to discuss and consider stakeholder feedback, and to review and approve overarching strategy, messaging, and corporate sustainability goals.

At an operational level, EMC also receives insights from the Sustainability Leadership Council (SLC). Drawn from more than 20 different business units and functions, the SLC shares ideas and practices, aligns programs, and drives company-wide sustainability initiatives throughout our worldwide businesses.

# ETHICS

Ethical conduct builds relationships of trust among employees, customers, partners, shareholders, communities, and other stakeholders. EMC's corporate compliance program educates employees about our ethical standards and monitors compliance with those standards. The Audit Committee of the Board of Directors oversees the corporate compliance program.

#### **BUSINESS CONDUCT GUIDELINES**

The cornerstone of the corporate compliance program is our **Business Conduct Guidelines**. The Guidelines apply to all EMC employees and contractors worldwide and are organized around five principles:

- Act honestly and ethically;
- Treat others with dignity and respect;
- Conduct business fairly and responsibly;
- Safeguard EMC's assets and information; and
- Ensure the integrity of EMC's business records.

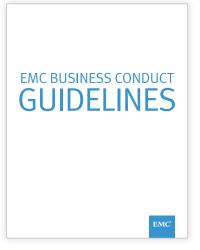
The Guidelines are reviewed at least annually and are translated into eleven languages including Chinese, French, German, Hebrew, Italian, Japanese, Korean, Polish, Portuguese, Russian, and Spanish. The Guidelines are distributed to all employees and contractors on an annual basis, and are always available on EMC's corporate website and intranet. All new employees are required to acknowledge and agree to abide by the Guidelines when they join EMC.

The Guidelines provide guidance on and link to EMC's policies on key topics, including anti-bribery, insider trading, equal employment, workplace violence prevention, anti-harassment, privacy and information security, confidentiality, antitrust and competition, environmental sustainability, trade compliance, and financial reporting. In 2014, EMC updated its Guidelines to reflect updates to various EMC policies and to enhance readability. The Guidelines also provide information about the several methods that are available to report concerns, which are kept confidential to the maximum extent possible and may be made anonymously where local law allows. The Guidelines specify that EMC will not retaliate against anyone who makes a report in good faith.

All new employees are required to complete a comprehensive online training module on the Guidelines and EMC's policies on key topics. In 2014, EMC expanded the training required for all new hires to include enhanced content on data privacy and security. As in

previous years, more than 90 percent of new hires with access to EMC's system had completed the training by the end of 2014.

EMC also provides ongoing compliance training to select employee groups throughout the world on various topics. In 2014, for example, all employees were required to participate in at least two compliance trainings, and more than 60 live or webcast training sessions were delivered to employees in countries including Canada, China, England, France, Germany, Israel, Mexico, Poland, Portugal, Russia, South Africa, Spain, Switzerland, and the United States. The training addressed various topics, including EMC's Business Conduct Guidelines, bribery, data privacy and security, conflicts of interest, trade compliance, workplace harassment, and more.





#### Additional Information

Business Conduct Guidelines

EMC's Partner Code of Conduct

**Supplier Code of Conduct** 

Human Rights and Global Labor Principles



EMC actively encourages its employees and other parties to report concerns directly or through EMC's hotline, which is maintained by a third-party provider. The different ways through which reports can be made are included in the Guidelines, corporate compliance training materials, and elsewhere. Specifically, questions and guidance regarding a potential

violation of law, regulation, the Guidelines, or other EMC policy can be reported in any of the following ways:

- Contact the Office of the General Counsel by telephone (508-435-1000, extension 77267), facsimile (508-497-8079), or email (General\_Counsel@emc.com).
- Contact the Audit Committee of the EMC Board of Directors by email (AuditCommitteeChairman@emc.com) or mail (Alertline, PMB 3767, 13950 Ballantyne Corporate Place, Charlotte, NC 28277).

 If you are located within the United States, contact the EMC hotline, which is monitored by an independent third-party provider, by telephone (877-764-0557), or via a secure web report to https://emccorporation.alertline.com. A list of country-specific dialing and web-reporting information can be found on EMC's intranet and in the Guidelines.

#### PARTNER COMPLIANCE PROGRAM

In 2014, EMC continued to take steps to enhance its partner compliance program. EMC expects the partners with whom we do business to act ethically, which includes following all anti-bribery and export control laws, as well as EMC's Human Rights and Global Labor Principles. EMC achieves this through various methods, including strict contractual requirements, a robust trade compliance program, requiring periodic certifications of compliance with those laws, and training. Examples of enhancements to EMC's partner compliance program from 2014 include the debut of EMC's Partner Code of Conduct and the creation of the first-ever online training module for EMC partners on bribery.

# HUMAN RIGHTS

EMC supports and respects the protection of internationally proclaimed human rights for all, including our employees, workers within our supply chain, and people impacted by the use of our products.

In furtherance of its commitment to human rights, EMC is an active participant and member of the board of directors of the Electronic Industry Citizenship Coalition (EICC), a collaboration of the world's leading information and communications technology companies dedicated to improving social and environmental responsibility in the global supply chain through collaboration and common tools and standards. We have adopted the EICC's Supplier Code of Conduct, which sets standards for labor, ethics, environment, health and safety, and management systems. All direct materials suppliers are required to acknowledge the Code, and compliance with the Code is part of our standard contract language for all EMC vendors. To learn more about how we monitor suppliers' compliance to the Code, assess risk, engage with suppliers to drive positive change, and create incentives for improvement, visit **Supply Chain Social and Environmental Responsibility**.



EMC's commitment to human rights is also reflected in its Human Rights and Global Labor Principles. EMC's Principles, which are based on the United Nations Global Compact, the United Nations Guiding Principles on Business and Human Rights, International Labour Organization standards, and other respected standards, reflect the company's

commitment to core human rights issues including, but not limited to, freely chosen employment, child labor avoidance, working hours, wages and benefits, humane treatment, non-discrimination, freedom of association, and freedom of expression. Those Principles also state clearly that we will not tolerate misuse of our products. In 2014, EMC continued its discussions with NGOs as well as our peers to clarify how best to apply these Principles to the information technology industry.

We have a process in place for clear and accurate communication of our policies, practices, and performance expectations to workers, suppliers, and customers. We encourage worker feedback and regularly review results of audits and assessments.



Additional Information

**Global Labor Principles** 

**Supplier Code of Conduct** 

**Human Rights and** 

# PUBLIC POLICY

EMC is committed to responsible and transparent participation in the political process. We engage in this process to help shape public policy that impacts the company and our industry. Our involvement aims to ensure that the interests of customers, shareholders, employees, and other stakeholders are fairly represented at all levels of government.

#### OVERSIGHT

The Governance Committee regularly reviews our corporate political activity and the activity of the EMC Political Action Committee (the "EMC PAC"), including review of our semi-annual disclosure statements, key public policy priorities, and the appropriateness of EMC's **Political Contributions Policy**.

Since 2007, we have had a publicly available Political Contributions Policy, which outlines procedures for contributions made with corporate funds. The Political Contributions Policy also describes oversight of the EMC PAC, a nonpartisan committee registered with the Federal Election Commission.

Any proposed corporate political contribution by EMC, whether monetary or "in-kind," must be submitted in advance to EMC's Office of Corporate Government Affairs and the Chief Compliance Officer for pre-approval.

Any contribution by the EMC PAC must be reviewed and approved by the EMC PAC Board. Our due diligence process includes, among other things, consideration of whether the proposed recipient of a contribution represents a state or district where a major EMC facility is located, supports employee interests in his or her district, serves on a Congressional committee with jurisdiction over issues of importance to EMC's business, or has been supportive of the IT industry on key issues. Contributions may be made to members of all political parties and are made without regard to the political preferences of EMC executives.

## PUBLIC POLICY PRIORITIES

Our desire to assist in the development of sound public policy guides how we prioritize our government affairs activities. Our priorities align with our business interests and are reviewed with our Board of Directors. The following are examples of our public policy priorities and the rationale behind our support.

• Informing Federal Cloud Computing Policies - Cloud computing and data center consolidation are critical elements of federal IT policy. Federal stakeholders are pushing agencies to adopt these policies to increase productivity, reduce environmental impacts, and achieve cost savings. We work with trade associations and industry partners to educate policy makers on these topics, including enhancing their understanding of cloud computing deployment, service models, and information security and privacy issues. EMC is a founder and board member of the Cloud Computing Caucus Advisory Group, a coalition of technology companies and industry groups focused on educating lawmakers and the public about cloud computing. EMC also continues to participate in various events to discuss the company's own journey to the cloud, and expertise and knowledge of industry best practices regarding data center consolidation. The Cloud Business Director for EMC Federal served as a panelist along with federal agency CIOs in the "Using Cloud Computing to Build (Better and Cheaper) Next-Generation Government Services" event sponsored by the Information Technology & Innovation Foundation.



## EMC'S TESTIMONIES BEFORE THE HOUSE JUDICIARY COMMITTEE

October 29, 2013 House Testimony: House Judiciary Testimony

February 12, 2015 House Testimony: House Judiciary Committee

March 18, 2015 Senate Testimony: Senate Judiciary Committee

EMC is a signatory to **The Climate Declaration**, a project of Ceres that brings together companies and

individuals to demonstrate support for national action on climate change.

In 2014, EMC signed the Corporate Renewable Energy Buyers' Principles.

EMC's Policy Position on Climate Change

- Leveraging Big Data to Advance Key Public Sector Missions— The era of Big Data has spurred organizations to find new ways to scale and manage their storage environments and to develop and leverage advanced data analytics capabilities. We support policies that harness Big Data to enhance intelligence and defense programs and advance health and environmental sciences by meeting massive storage requirements through cost-effective and scalable solutions. Pivotal, one of the companies that make up the EMC Federation, showcased its technology and capabilities at the White House event, "Data to Knowledge to Action: Building New Partnerships" and participated in the Meritalk event, "Stealing from Uncle Sam," about how Federal agencies can use Big Data analytics to stop fraudulent behavior. EMC also participated in the President's Climate Data Initiative announcement on harnessing climate data to boost ecosystem and water resilience. To learn more about Big Data, visit the IT & Society section of our detailed report titled Customers.
- Patent Litigation Reform EMC supports legislation that eliminates abusive and frivolous patent litigation. EMC testified twice before the House Judiciary Committee and once before the Senate Judiciary Committee about patent litigation abuse and the importance of enacting legislation to improve and rebuild our patent system. EMC has also repeatedly met with Members of Congress and their staffs and worked with trade associations and industry stakeholders to promote patent litigation reform. EMC also participated in a meeting with Gene Sperling and other White House officials on patent reform with other industry leaders and stakeholders.
- Comprehensive Immigration Reform Through our activity with trade associations and industry partners, such as the Technology CEO Council, EMC supports bipartisan comprehensive immigration reform that includes critical high-skills provisions. EMC participated in a fly-in sponsored by Information Technology Industry Council (ITI) during which HR executives met with Members of Congress and their staffs to discuss the importance of high-tech visa reform.
- Prompting Effective Sustainability/Energy Efficiency Approaches Through Congressional testimony and other outreach, we communicate frequently with federal stakeholders about our sustainability strategy and environmentally sound IT policies in the public sector.

EMC supports the introduction of legislation that would save the federal government energy and money, and reduce greenhouse gas emissions, by requiring the use of energy-efficient and energy-reduction technologies, particularly in federal data centers. To learn more about EMC's efficiency approach, visit the Energy Use & Climate Change section of our detailed report titled Operations.

- Promoting Policies to Address Advanced Cyber Threats Organizations face cyber threats every day—including increased attempts to steal sensitive data such as intellectual property—and cyber security has become a major national and economic security priority. The Administration and Congress are actively considering cyber security legislation and EMC, along with our Security Division, RSA, has advocated for policy recommendations that will address the security and privacy concerns of our customers. Furthermore, we continue to encourage the U.S. government to collaborate with our international partners to adopt a rational, standardized approach to IT policy issues.
- Securing the Information Technology Supply Chain—Ensuring that the public sector supply chain remains secure and free from malicious attempts to modify products and services remains a top priority for EMC and the technology sector. We continue to work with Congress and the Administration on creating effective policies that keep our federal supply chains strong and free of counterfeit parts and other malicious attempts to weaken the security of information technology systems.
- Harnessing the Influence of the Global Technology Industry— Many countries have turned to strengthening regulatory initiatives to improve their nation's cybersecurity and enhance the privacy and civil liberties of their citizens. Some of these regulatory efforts can have the consequence of stifling innovation and restricting market access to foreign IT vendors by forcing data localization and requiring indigenous technologies. Maintaining access to foreign markets and globalized supply chains are major sources of growth, jobs and new investments, in particular for developing economies. EMC is working with the U.S. government, IT industry, and our international partners to harness a consistent, international standards-based approach to enhancing the security and protecting privacy of consumers as the most effective approach to solving these complex challenges.

## **Additional Information**

POLICY STATEMENT Political Contributions Policy

DISCLOSURE STATEMENTS Political Contributions Disclosure Statement: Six Months Ended December 31, 2014

Political Contributions Disclosure Statement: Six Months Ended June 30, 2014

U.S. Senate Lobbying Disclosure Act Reports

Federal Election Commission

Massachusetts Lobbyist Reports

ARCHIVED DISCLOSURES Semi-Annual Political Contributions Disclosure Statements (2007-2013)

- **Corporate Tax Policy**—EMC supports comprehensive tax reform aimed at improving U.S. corporate competitiveness. EMC is a member of the Alliance for Competitive Taxation (ACT), a coalition of 41 Fortune 500 companies that support comprehensive tax reform that lowers the corporate rate to 25 percent, establishes a modern globally competitive tax system, and is fully paid for by ending tax breaks and preferences.
- Advancing Effective Education Policy and STEM Education As a technology company, our primary interest and expertise lies in advancing Science, Technology, Engineering, and Math (STEM) education to build a highly diverse, trained, and innovative workforce for the future. We also work to improve education systems around the world.

## POLITICAL CONTRIBUTIONS

EMC is committed to responsible participation in the political process in compliance with applicable federal, state, and local laws and reporting requirements.

In the interest of transparency for our shareholders and other stakeholders, we provide information about our corporate and EMC PAC contributions, lobbying expenditures, and major trade association memberships on our website.

The amount of our contributions is relatively small, but nonetheless we believe it is in the best interests of EMC and our shareholders to keep lines of communication open with our elected officials and help shape public policy consistent with our business priorities. Political contributions represent just a fraction of EMC's involvement in our communities and our activities as a responsible corporate citizen. To learn more, visit the **Community Involvement** section of our detailed report titled **Communities**.

## CORPORATE CONTRIBUTIONS

We make information about our corporate political contributions publicly available on a semi-annual basis. A listing of our 2014 corporate political contributions is available **here**.

## EMC PAC

The purpose of the EMC PAC is to promote good citizenship and further business interests that are of concern to shareholders and employees of EMC. The EMC PAC provides eligible employees with an opportunity to participate in the elective process at the federal level of government and to support the election of qualified, informed, and constructive candidates for office. The EMC PAC is funded entirely by voluntary employee contributions; no corporate funds are used to fund the EMC PAC.

While we do not expect recipients of contributions to agree at all times with our positions on all issues, we seek to support individuals who will promote the interests of EMC.

A list of the EMC PAC's contributions is available here.

## LOBBYING

We work closely with many different stakeholders in an effort to promote well-considered public policy for the benefit of our customers, employees, shareholders, and company. This pragmatic approach to the development of sound policy is effectuated through engagement with policymakers at all levels.

A list of EMC's federal lobbying expenditures and disclosures is available **here**, and information on state-level lobbying activities in Massachusetts, where our headquarters is located, is available **here**.

## TRADE ASSOCIATION MEMBERSHIPS

EMC participates in various trade associations and organizations that engage in activities such as education, lobbying, advertising, and knowledge sharing. We take a collaborative approach in working with the trade associations to advance the best interests of EMC and our stakeholders. Among other things, we consider whether the trade association has been effective in advancing EMC's priorities when considering whether to join an organization or renew our membership.

We publicly disclose our major U.S. trade associations, the amount of our annual membership dues, and information we received from these organizations regarding lobbying expenses and political expenditures using membership dues. Details regarding our trade association memberships and dues paid are updated annually and available here.

# RISK MANAGEMENT

EMC's Board of Directors is ultimately responsible for overseeing risk management. The Board regularly considers our risk profile when reviewing our overall business plan and strategy and when making decisions impacting the Company. The Governance Committee is responsible for overseeing the Board's execution of its risk management oversight responsibility. The management risk committee, comprised of the Chief Financial Officer, the General Counsel and the Chief Risk Officer, monitors and manages EMC's risk management processes and reports directly to the Governance Committee and the Board of Directors.

#### **EMC RISK COMMITTEES**



In addition, each of the other standing committees of the Board regularly assesses risk as part of its core responsibilities. The Leadership and Compensation Committee oversees the design and implementation of and the incentives and risks associated with our compensation policies and practices. The Audit Committee discusses with management the major financial risks facing EMC as well as the steps management has taken to monitor and control such risks. The Mergers and Acquisitions Committee considers risks in connection with acquisitions, divestitures and investments. The Finance Committee considers risks in connection with matters related to the Company's capital structure, stock repurchase program, investment management policy, and swap transactions. All of the committees report regularly to the Board of Directors on their activities.

EMC's Chief Risk Officer is responsible for developing and managing processes to identify, assess, monitor and reduce risks that could interfere with the achievement of the Company's goals and objectives.

Many sustainability factors serve as drivers or multipliers of enterprise risk. EMC's Chief Sustainability Officer collaborates with the Chief Risk Officer to ensure sustainability-related risks are incorporated into the risk assessment and monitoring framework.

We have taken a cross-functional and collaborative approach to risk management. We have established Governance, Risk and Compliance (GRC) committees within various levels of the business to assist with risk communication, strategy alignment and reporting. Committee members include representatives from functional, business and/or geographic areas depending on the reporting level. This structure enables consistent risk reporting from business units up to the EMC Board of Directors. Our Sustainability organization participates as a core member of the Enterprise GRC Council.

As part of the growth of our program, we have defined a common risk taxonomy and common risk analysis components to prioritize risk within the business. By engaging our risk practitioners on a common risk framework, we are able to leverage resources more efficiently, avoid duplicating processes and tools, encourage more open discussion, highlight interdependencies, prioritize mitigation investment, balance mitigation against crisis management, and provide increased visibility into risk mitigation.

EMC has extended its deployment of an enterprise GRC platform used to manage risk use cases for EMC functional organizations. In 2014, we added multiple functional teams, including the Office of Sustainability and the Centers of Excellence, to the platform. Managing issues, developing remediation plans, building risk registers, and conducting audits are some examples of the use cases being deployed by these groups. By automating what were previously manual workflows, risk reporting up to the enterprise level has become easier and more consistent.

To learn more about risk factors related to EMC's business, see **2014** Annual Report on Form 10-K.



# STAKEHOLDER ENGAGEMENT

EMC has a long history of stakeholder engagement. We are committed to engaging in constructive and meaningful dialogue with stakeholders to build trust, leverage their expertise and perspectives, and gain insights into emerging issues important to our stakeholders and our business. In addition, engagement helps us validate our material issues as well as the solutions to address them within our company and beyond.

EMC engages with a wide variety of stakeholders, including employees, customers, shareholders, NGOs, suppliers, industry groups and local communities. We believe that positive, two-way dialogue builds informed relationships that promote transparency and accountability. The on-going dialogue has influenced our sustainability strategy beyond the pages of this report; assisted in the selection of metrics and appropriate indicators when absolute metrics are not feasible; increased engagement of employees throughout EMC, including members of the Board of Directors, the CEO, and other executives; and generated ideas for leveraging technology for positive impact and greater employee engagement.

Our engagement with stakeholders provides an opportunity to test new ideas, solicit suggestions for ways to address industry-wide challenges, determine priority areas in which EMC can have the greatest impact, and identify emerging issues and opportunities. It also serves as a vehicle for EMC to share our perspectives on key issues, highlight areas of importance, and help stakeholders better understand EMC's journey.

#### SHAREHOLDER ENGAGEMENT

While the EMC Board of Directors, through the Governance Committee, oversees shareholder matters and participates in meetings with shareholders as appropriate, management has the principal responsibility for shareholder communications and engagement. Management provides regular updates to the Board concerning shareholder feedback. The Board considers shareholder perspectives as well as the interests of all stakeholders when overseeing company strategy, formulating governance practices and designing compensation programs.

During 2014, members of EMC's Board of Directors and management dialogued and met with shareholders as part of our annual outreach program as well as at other times throughout the year. We spoke with representatives from our top institutional investors, mutual funds, public pension funds, labor unions and socially focused funds (representing approximately 36% of our outstanding shares). Topics discussed included our strategy and performance; corporate governance matters such as Board composition and refreshment, succession planning and Board leadership structure; our executive compensation program; and sustainability initiatives. We solicited feedback from shareholders on these subjects and provided a summary of responses to the Board. Directors who participated in the meetings also shared their perspectives on these meeting with the full Board.

Our engagement with stakeholders provides an opportunity to test new ideas, solicit suggestions for ways to address industrywide challenges, determine priority areas in which EMC can have the greatest impact, and identify emerging issues and opportunities. At our 2014 Annual Meeting of Shareholders, our shareholders expressed strong support for our executive compensation program, with over 93% of votes cast voting in favor of the proposal. Following the 2014 Annual Meeting of Shareholders, we dialogued and met with many shareholders to discuss our executive compensation program and we received positive feedback on the enhancements the Compensation Committee made to our 2014 executive compensation program.

For more information, please see EMC's **Proxy Statement** for the 2015 Annual Meeting of Shareholders.

## SUSTAINABILITY STAKEHOLDER FORUM



In 2014, EMC held a stakeholder engagement forum facilitated by Ceres, a nonprofit organization working with investors, companies, and public interest groups to accelerate the adoption of sustainable business practices. EMC participants included members of the Board of Directors and the executive leadership team, subject matter experts, sustainability

professionals, and other interested employees from throughout the Company. Stakeholder participants included consultants, NGOs, investment analysts, supply chain auditors, and business academics. Key topics covered during the forum included:

- · Our sustainability materiality process and results
- Our new 2020 goals, including near-term absolute GHG, product efficiency, and STEM targets as well as supply chain responsibility and eWaste goals
- The proposed format for the upcoming report
- Our Top 9 priorities of energy efficiency & climate change, eWaste, supply chain responsibility, STEM education, information security & privacy, role of IT in society, innovation, diversity & inclusion, and corporate governance. For more information on each of the priorities, please visit the **Executive Report**.

The topics and feedback from the stakeholder forum were used to inform direction for this report and future EMC sustainability practices.

In 2014, we received additional feedback about our 2013 report, and based on the feedback, we made several changes. We decided to continue with the same format as last year, but understood the need to make the summary report shorter and more targeted, and focus further on the aspects that are most material to our stakeholders and our business. Additionally, we removed the technical aspects of the report to a new detailed report, 2014 Report Methodology & Disclosures, in order to further tighten up the message of the summary report. Though we were unable to implement all of the good suggestions this year, many will inform our reports going forward.

Below are some additional examples of how we incorporated stakeholder feedback in 2014.

STAKEHOLDER GROUP	HOW WE ENGAGE	EXAMPLES OF IMPACT
CURRENT EMPLOYEES	"Great Place to Work (GPTW)" employee survey Inside EMC, our corporate social media and communications platform Annual Innovation Conference & Roadmap Sustineo, an employee engagement platform Quarterly COE Sustainability Summits Earth Day and World Environment Day events	EMC uses the GPTW survey results as a platform to drive change and evolution of our culture across the organization. For example, EMC launched a program in 2014 that gives employees 3 paid work days per year to volunteer in their local communities—a direct response to their survey input. In addition, the service recognition program was modified to offer greater flexibility in response to employee feedback from our Inside EMC platform.
PROSPECTIVE EMPLOYEES	Academic relationships "EMC me" Internships Career days Surveys	In response to the changing needs of prospective employees, <b>EMC me</b> was launched in 2014. EMC me gives candidates a customized, data- driven social experience to learn about EMC. The portal provides real- time content from social and web sources and from a host of EMC live blogs. It also aggregates content from EMC sources, bringing candidates relevant job openings based on their unique search criteria and provid- ing an intuitive way to apply or keep in touch.
CUSTOMERS	TCE Day "Voice of Experience" survey TCE Innovation Award EMC Community Network (ECN) Customer council focus group CDP supplier reports Executive Briefing Centers EMC World Customer Security Management Office Product Security Response Center Extensive RFP questions, supplier questionnaires, and one-on-one meetings	In 2014, EMC held its inaugural Total Customer Experience (TCE) Day, both onsite at 13 offices in 7 countries, and virtually. TCE Day provided an opportunity for over 4,000 employees and more than 150 customer and partner guests to visit EMC locations all over the world and provide feedback both in person and online. Feedback from customers and partners led to resources such as the <b>Experience Analytics Showcase</b> , in which customers can interact with real EMC data as well as explore our TCE programs, and to the creation of EMC's first ever <b>TCE Annual Report</b> . EMC places high importance on measuring customer satisfaction (CSAT), maintaining industry-leading levels, and using feedback to continually drive improvements. In 2014, EMC achieved an all-time high Net Promoter Score (NPS) and continued to achieve best-in-class Customer Satisfaction (CSAT) levels. Additionally in 2014, TCE began to leverage social media as an additional "listening post" and means of expanding the EMC TCE brand.

STAKEHOLDER GROUP	HOW WE ENGAGE	EXAMPLES OF IMPACT
SHAREHOLDERS	Regular outreach with institutional investors and other shareholders Annual Meeting of Shareholders Inclusion of Sustainability overview in Annual Report on Form 10-K CDP reports (water and carbon) Analyst ratings surveys Bloomberg Sustainability Survey	In 2014, the Lead Director met in person and spoke by telephone with various shareholders to discuss Board diversity. The Board appreciated shareholders' input and willingness to dialogue on this issue. In 2015, the Board amended the Governance Committee's charter to strengthen our public statements and more clearly state our commitment to Board diversity.
SUPPLIERS	Audits and Corrective Action Plans Supplier Scorecard Quarterly Business Reviews Supplier Portal SER Link newsletter SMaRT Library One-on-one mentoring Peer discussions	<ul> <li>EMC launched the SMaRT Library in 2014, informed by supplier risk and performance data, a gap survey conducted in 2013, concerns raised in the media and NGO reports, and conversations with suppliers and peers in the industry. The library houses a set of training modules on various sustainability topics as well as case studies and hundreds of references to other resources. These modules will help drive continuous improvement across our entire diverse supply base.</li> <li>To extend our training initiatives, we also hosted peer discussions on sustainability reporting and human trafficking. These sessions allowed suppliers at different levels of maturity in their programs to share ideas, challenges, and best practices with others.</li> </ul>
NGOS AND INDUSTRY GROUPS	Individual feedback to sustainability report NGO relationships Participation in industry and cross- industry groups Board and other leadership roles Public policy advocacy	In 2014, EMC became a signatory to the <b>Corporate Renewable Energy</b> <b>Buyers Principles.</b> Through this initiative begun by the WWF and WRI, we are engaging with NGOs, peers, and utilities seeking to expand the production of renewable energy in response to the urgent need to reduce greenhouse gas emissions.
SCHOOLS AND COMMUNITIES	Volunteerism with education Town meetings Faculty engagement activities Classroom discussions and guest lectures	We partnered with online resource tool Science Buddies to create a landing page highlighting science projects in a variety of topic areas where Big Data is used. This page is used by teachers worldwide as a resource to provide their students with up to date information.

# INDUSTRY COLLABORATION

The responsibility of making changes at industry scale does not reside with any one company. Instead, the changes needed to shift to a more sustainable world require engagement and collaboration with peers. Only then can the landscape of environmental issues impacting our industry and society be effectively understood and addressed. The IT industry shares deep interconnections throughout the value chain. Our collaborative approach helps identify emerging trends and issues, and enables us to make smart decisions about where to focus future efforts.

#### INDUSTRY EXPERTS AND NGOS

In addition to leveraging the contributions of tens of thousands of company employees, we also reach out to external stakeholders as a guide to sustainable innovation at the company. This includes a long list of community leaders, academia, non-profit organizations, industry experts, customers, shareholders, and suppliers.



In 2014, we collaborated with many different partners, industry groups, local governments, and universities, including Business for Social Responsibility (BSR), Ceres, CDP, the U.S. and Ireland Environmental Protection Agencies, the U.S. EPA SmartWay Transport Partnership, the Center for Advanced Life Cycle Engineering, Conflict-Free Sourcing Initiative,

the Irish Government, and the Massachusetts Institute of Technology, in addition to many local organizations around the world.

#### CONSORTIUM MEMBERSHIPS

Consortium memberships are another important means for engaging with the greater IT community. Our employees—ranging from engineers to sustainability professionals—actively participate with industry groups to transform the future landscape. Our memberships include The Green Grid, the Storage Networking Industry Association (SNIA), the Electronic Industry Citizenship Coalition (EICC), the Digital Energy and Sustainability Solutions Campaign (DESSC), the ICT's for Sustainable Energy Partnership (ISEP), the Information Technology Industry Council (ITI), the Distributed Management Task Force (DMTF), Electronics Products Stewardship Canada (EPSC), TechAmerica Europe (TAE), Utah Technology Council (UTC), and the Utah Data Center Consortium (UDCC).



# CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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# REDEFINE THE FUTURE EMC<sup>2</sup>

2014 EMC Sustainability Report



## ABOUT THE COVER

EMC employees participate in citizen science data collection activities in conjunction with Earthwatch Institute and the Schoodic Institute at Acadia National Park. To learn more about this partnership that utilizes Big Data to study the impact of climate change on migrating birds, please visit the **"Role of IT in Society"** section of the **Executive Report**.



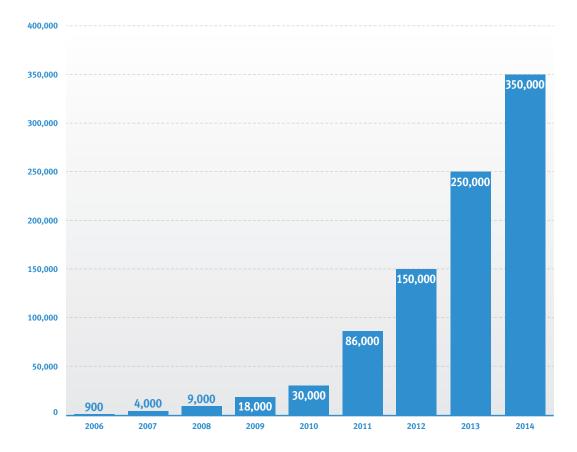
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# ACADEMIC ALLIANCE

To develop the workforce of tomorrow, society needs to anticipate the skills that will be required in the future. EMC plays an active role as a community partner by collaborating with colleges and universities around the globe to close the growing technology skills gap through our EMC Academic Alliance initiative.

## NUMBER OF STUDENTS PARTICIPATING GLOBALLY IN EMC'S ACADEMIC ALLIANCE PARTNERSHIP



This initiative provides cloud computing, Big Data analytics, information storage, and backup recovery courseware designed to fit a variety of IT-related programs. This enables students to develop highly marketable knowledge relevant to the IT industry's future needs, and helps ensure that the industry has a strong pipeline of graduates to meet future workforce needs.

Approximately five hundred new universities and colleges joined EMC Academic Alliance in 2014, increasing total membership to 2,200 organizations. The program's global footprint grew from 74 to 82 countries. More than 100,000 students took EMC Academic Alliance courses in 2014. In total, the program has reached more than 350,000 students since its launch in 2006.

#### **CURRICULUM & TOOLS**

Membership in the EMC Academic Alliance provides free access to "open" curriculum-based education, covering topics such as cloud computing, Big Data analytics, information storage and management, and backup recovery. We provide faculty with free training, courseware, and resources developed by EMC subject-matter experts who work with professors to validate curricula and ensure technical relevance and integration into academic programs.

As part of the EMC Academic Alliance program, registered students have access to an online portal that includes free e-Learning, case studies, videos, podcasts, and white papers. We also encourage students to connect with their global peers and industry experts through Facebook, Twitter, and the EMC Proven Professional online community.



#### **Additional Information**

## Academic Alliance Facebook Page

EMC Academic Alliance has more than one million likeminded people across diverse geographies following our program on Facebook, helping us to increase our reach into the community.

#### FACULTY ENGAGEMENT

The EMC Academic Alliance team continually engages with faculty to update and enhance the program. The team encourages feedback through our faculty portal, regular email communications, and interactions with Academic Alliance program managers.

#### EMC ACADEMIC ASSOCIATE

EMC Academic Associate recognition was launched in 2014. Students who pass the highly technical online test were given the designation of EMC Academic Associate — an easily identifiable credential that sets job candidates apart. Several unique features distinguish this new recognition for college students. As a globally standardized test that provides objective validation of their knowledge, the EMC Academic Associate credential is a meaningful indication of a student's abilities to prospective employers. Each EMC Academic Associate has demonstrated the same measurable level of knowledge in the high demand and growing areas of information storage management and cloud computing.

Students can promote this recognition through use of the EMC Academic Associate logo and credential on resumes, email signatures, and in social media. They also join a large and diverse EMC technical community, where they can network, seek and give advice, and learn more through online forums such as the EMC Proven Professional community.

The tests, which are free of charge, provide benefits for faculty as well. Professors choose when and where to administer the test, in a format that is both easy to deploy and manage. The question banks are created by the same EMC technical subject matter experts who develop EMC's unique 'open' curriculum, ensuring strict alignment to the course materials and strong relevance in the industry. The validation of students through EMC Academic Associate recognition provides expanded evaluation options to busy faculty members, and offers graduates additional tools for their career options.

#### EMC LOCALIZATION INTERNSHIP PROGRAM

Created in 2009, the EMC Localization Internship Program (ELI) fosters collaboration between university students and EMC's Globalization Team, which is responsible for translating EMC product and marketing material into multiple languages worldwide. Through the ELI Program, EMC collaborates with local schools and universities to disseminate knowledge and terminology in emerging IT technologies. By providing tailored training modules that integrate into the schools' existing curricula, we are helping to close the gap between theoretical teaching and business needs.

Additionally, engineering and localization students gain experience by working in real-world conditions through hands-on exercises and cross-cultural teamwork. Students are further engaged through their participation in the ELI Community, the program's social platform and portal for accessing training and documentation. The ELI Program



enables participants to learn about the latest technology trends in the localization industry such as machine translation, terminology management, and translation management systems.

# EDUCATION PARTNERSHIPS

Technological skills are critical to continued innovation and can have profound effects on our business, communities, and even the sustainability of our planet. Our future competitiveness as an IT company depends on a pipeline of employees skilled in the STEM fields.

The future well-being of society hinges on the availability of an educated workforce, paying long-term economic, human health, and environmental dividends. And access to education is increasingly enabled through the implementation of information technologies such as cloud computing. For all of these reasons, STEM education was determined to be one of EMC's top material factors.

## COUNTRIES WITH EMC EDUCATION AND COMMUNITY PARTNERSHIPS



In 2014, we supported primary and secondary education programs in 34 countries. This is down in number over 2013, as programs in several countries completed their courses, though we did introduce new programs in six locations. We have entered into agreements with several new non-governmental organizations (NGO's) which will expand our reach in 2015.

See the additional information below to learn more about the impact of some of our education partnerships in 2014.

## PROGRAM HIGHLIGHTS AMERICAS Encouraging Interest in STEM through Citizen Schools Apprenticeships

In 2014, EMC continued to partner with Citizen Schools to help support its mission of bringing an extended school day and rich learning opportunities to public middle schools in low-income areas in the United States. Through Citizen Schools' apprenticeships, EMC employees in California, Massachusetts, and North Carolina volunteered to teach a variety of STEM topics including building solar cars, design thinking,

and electrical engineering. The volunteer teachers went to their assigned campuses weekly to teach an afterschool class on the



topic of their choice. The ten-week session concluded with a **WOW!** event in which all of the students in the school have the opportunity to share what they learned with their teachers, families, and communities. The goal of this program is to engage and excite the middle school students, and to give our employees a chance to teach a topic about which they have passion and expertise. Whether learning about solar energy, engineering, designing systems, or creating marketing plans, all of the EMC apprenticeships support Citizen Schools' commitment to providing their students with rich learning opportunities while simultaneously engaging them in exciting and meaningful STEM activities.

- Since the school
  adoption, enrollment in
  the school has gone up
  significantly due to the
  new programs started
  by the EMC volunteers.
  Parents are also very
  excited about their
  children developing
  English skills as well as
  their overall confidence
  and personality."
  - PRINCIPAL OF ONE OF THE ADOPTED SCHOOLS
- " It was thrilling to help organize the Sports Day. We conducted various events including a 100-meter run, lemon and spoon run, tug of war, which more than 130 children thoroughly enjoyed! I learned the true spirit of joy from these students!"
- SHEEJA NAMBIAR, SENIOR TECHNICAL WRITER AT EMC

# PROGRAM HIGHLIGHTS ASIA PACIFIC & JAPAN Sikshana Foundation in India





In 2014, EMC collaborated with Sikshana Foundation, an Indian NGO committed to an effective public school system, to help improve the quality of education in three government schools. EMC volunteers visited each school to conduct a baseline assessment, helping the team to identify areas of need in English and computer skills. Volunteers then visit the school each week to teach classes for students between 7th and 9th std.

In addition to English and computer classes, EMC volunteers

engaged with the students in various extracurricular activities that provide a more holistic development experience and help the students to increase their confidence.

## PROGRAM HIGHLIGHTS EUROPE, MIDDLE EAST & AFRICA La Fundación Síndrome de Down de Madrid: "Ways to Be Safe on the Internet"

Over the years, EMC Spain has chosen La Fundación Síndrome de Down de Madrid as a local charity partner. Down Madrid, a non-profit organization created in 1997, believes that all persons with intellectual disabilities have the right to a dignified and respectable place in society. Every year EMC Spain supports Down Madrid's ITC classroom programs and engages in other mentoring activities. Our main objective is to teach students with intellectual disabilities how to use technologies effectively in their daily lives. In 2014, EMC sponsored an eLearning platform called "Ways to be Safe on the Internet". Students designed the platform and created all of the content including a user guide, tutorial videos, and self-evaluation tests. As a result of this project, the students created four video tutorials to promote and provide training to others in their community.

## COMMUNITY SERVICE AWARDS SPOTLIGHT: MOTLOKWE THONEJANE

Motlokwe Thonejane, an Associate Delivery Specialist at EMC South Africa, is the winner of a "Motivator Award" in EMC's Community Service Awards program. He was recognized for his volunteer work in 2014 as a co-founder of the non-profit Mohlotlo Thuto Foundation. The Foundation fosters and advocates academic excellence by supporting and engaging disadvantaged students through provision of educational assistance (tutoring), motivational talks, mentorship, financial assistance, and career guidance. Its pilot schools are in the rural Sekhukhune District, Limpopo Province. As part of his engagement with the Foundation, Thonejane helped create, communicate, and implement the foundation's vision, mission, objectives, and overall direction with stakeholders including schools, volunteers, other NGOs, and potential donors.

"Given the challenges (e.g. socioeconomic, education, youth unemployment) facing our country South Africa, I decided to be part of the solution through establishing an educational structure like Mohlotlo Thuto. As part of our implementation framework, we incorporate youth as change agents to foster the objectives of our Foundation."

- MOTLOKWE THOBEJANE





EMC employees volunteering at a Habitat for Humanity build



EMC employees in Hopkinton, MA volunteering in the food pantry at the South Worcester Neighborhood Center

# COMMUNITY INVOLVEMENT

EMC and our employees play an active role in the communities in which we operate around the world.

By supporting health, human services, arts programs, and disaster relief efforts for example, we are strengthening society and helping shape the future of our local communities. At the same time, EMC's efforts are helping employees expand their skills and build on their understanding of the importance of our communities to EMC's business. In 2014, EMC reached more than 3,000,000 beneficiaries and logged almost 600,000 volunteer hours.

We have also revised upward our goal for the number of beneficiaries reached by 2020, cumulatively starting in 2014, from 20 million to 25 million to reflect the level of engagement resulting from our newly introduced EMC Gives Back program. We have similarly increased our goal for volunteer hours contributed by employees over the same time from 1,920,000 hours to 3,000,000 hours.

## COMMUNITY PARTNERSHIPS

EMC's primary corporate giving and volunteer efforts are focused on supporting programs that provide access to education for people around the globe. We also recognize our responsibility to invest in other ways in the communities in which we live and work.

We encourage employees to organize volunteer activities. From volunteering at food banks across the U.S. to teaching young students about the importance of education in Colombia and Ireland, EMC employees participated in a wide range of service projects throughout 2014. Our dedicated Community Involvement team provides guidance and resources to support these efforts, including promoting activities internally, matching volunteers and initiatives based on skills, and recognizing employees through the Community Service Awards.

#### SOME OF EMC'S MAJOR COMMUNITY PARTNERS AROUND THE WORLD

ACEV (Mother-Child Education Foundation)	Fundación Leer	North Carolina State Math Competition
Acorn Foundation	Fundación Madrid Sindrome de Down	Pacific Science Center
AlfaSol	Girls Who Code	PADF (Pan American Development Foundation)
Alutare i Bambini	Give2Asia	PARI (Pisgah Astronomical Research Institute)
Big Bang UK	Hadasa Neurim	PAUTA (Programa Adopte un Talento)
Breakthrough Silicon Valley	Haogen Hakehilati	PAVEL Association
BT Young Scientist	Hope School India	RAFT (Resource Area for Teachers)
Camara	Hope Worldwide	Robotics Education Competition Foundation
Camp Harborview Foundation	(Singapore, Malaysia, Philippines, Thailand)	(RECF)
charity: water	IISME	Science and Technology in Action (STiA)
Citizen Schools	(Industry Initiatives for Science & Mathematics)	Science Buddies
Colciencias & FENCTY	Inclúyeme	Second Harvest
Copredeli	Inner-City Scholarship Fund	Tech Challenge
Cottolengo	Junior Trampoline Educational Center	United Way Australia/New Zealand
Divesra/Rodrigo Mendez Institute	KJ Choi Foundation	Youth for Seva
Euler Fund for Mathematics	Lazos	ZOO Memorial Foundation
Fe y Alegría (Colombia & Venezuela)	Massachusetts State Science Fair	

Looking forward, we plan to grow the Global Impact Corps, and make enhancements to the next iteration of the program to cover additional locations so that we can engage a wider range of EMC employees.

## GLOBAL IMPACT CORPS

The Global Impact Corps is a skill-based volunteer program that was designed to enable EMC employees to leverage their professional skills and expertise to build capacity in NGOs around the world. This program was developed through a partnership between Corporate Community Involvement and the Global Talent Organization, under advisement from the **Taproot Foundation**, and is intended to both provide professional development opportunities to nominated EMC employees and a service to NGOs globally.

Program development began in 2014 with the creation of the Advisors and Council groups, the selection of NGO partners for the pilot program and EMC participants, and the planning and mapping of logistics.

For this pilot, we reached out to nine NGOs who currently partner with EMC, have a focus on educational programming, and together cover multiple EMC geographic locations. Each NGO submitted an overview of its organization and program(s), and proposed a challenge it was facing that EMC participants could tackle. Once all NGOs were vetted, EMC participants were chosen based on how well their abilities intersected with the challenge and the feasibility of addressing the challenge in a two-day period. The pilot was launched in February 2015 with projects in two geographies.



In one project, employees from Cork, Ireland worked with an organization called **Building Tomorrow** to address

a supply chain problem. Building Tomorrow was seeking help to figure out how to efficiently transport construction materials. The EMC team created a roadmap that outlined ways to build a database of suppliers and transporters, along with recommendations for how to rent storage space and negotiate pre-arranged agreements with suppliers to ensure the timely arrival of construction materials.



The second project brought together employees from Hopkinton, MA and Apex, NC to work with an organization called **Rumie** to address

a production and distribution problem. Rumie manufactures and distributes tablets preloaded with educational content and curriculum to areas of the world that otherwise wouldn't have access to educational resources and/or technology. Rumie was interested in determining how to better partner with their supplier in China to procure smaller batches of tablets for faster distribution. The EMC team was able to use their experience with manufacturing and distribution challenges to help Rumie strategize how to create better, and more efficient, partnerships with suppliers. They mapped out a number of recommendations, including specific questions to ask suppliers and the hiring of a supply chain professional, and arranged for EMC employees in China to meet Rumie employees later in 2015 to help them navigate the supplier evaluation process.

The pilot was deemed a success by EMC participants and NGOs alike. Looking forward, we plan to grow the Global Impact Corps, and make enhancements to the next iteration of the program to cover additional locations so that we can engage a wider range of EMC employees.

We saw wonderful examples in 2014 of the many ways EMC employees gave back to their communities using their 24 volunteer hours.

- In Brazil, EMC supported its partnership with Lionsraw by helping build a sports and education center for children during the FIFA World Cup finals
- Volunteers in Italy helped a school that provides a safe environment for at-risk children
- A South African team conducted an outing for 100 children at a local zoo
- For the third year, EMC China held Women in Technology forums
- Working with United Way, EMC Australia volunteered at a Lifecare center helping those in need
- In the U.S., EMC supported Second Harvest and the various food banks around the country to provide over 400,000 meals

## EMC GIVES BACK

In 2014, EMC launched a new initiative called EMC Gives Back. This program provides employees an opportunity to be more engaged in EMC's philanthropic efforts and draws the EMC community closer together. EMC Gives Back has three pillars: Time, Commitment and Focus.



- **Time:** Employees now receive 24 paid hours annually to participate in volunteer activities during the work day.
- **Commitment:** Our service anniversary recognition program is now enhanced by awarding employees **GlobalGiving** vouchers on the annual anniversary of their date of hire. The vouchers may then be directed to one of thousands of charitable efforts in countries around the world.
- **Focus:** Biannual giving campaigns have been established that address two basic and universal human needs around the world each year. In 2014, our focus areas were water and food. The campaigns provided the necessary infrastructure to rally the entire global EMC organization around each cause, building awareness, and providing additional support to the communities where we work and live.

In our first year of this program, we logged over 500,000 hours of service during the working hours. Through the annual anniversary program, employees funded over 1,250 projects around the world. In our focus areas of clean water and food, we worked with **charity:water** to provide more than 12,000 people with access to safe clean water, and partnered with local food banks, farms and hunger relief agencies to deliver over 800,000 meals around the globe.

## COMMUNITY SERVICE AWARDS

We foster a culture of giving back by recognizing employees who make exceptional contributions in their communities. Established in 2009, EMC's annual Community Service Awards (CSA) recognize employees for their contribution to communities outside of causes we support at the corporate level. CSA winners can designate a nonprofit to which EMC makes a one-time financial grant in their honor. Since the program's inception, EMC has given out 121 CSA awards to employees, and made contributions totaling \$345,000 on behalf of CSA winners. Please see the following list of 2014 CSA recipients and organizations.

#### **TOP 2014 COMMUNITY SERVICE AWARD WINNERS**

EXEMPLARY AWARDEE Mohamed Kante—iNERDE Inc

#### **MOTIVATOR AWARDEES (5)**

Brian Cunningham—Appalachian Service Project Dennis Debord—Hospice of Wake County Brian Kling—Kingston Animal Shelter Jennifer Marcure—Seattle Union Gospel Mission Motlokwe Calvin Thobejane—Mohloto Thuto Foundation

#### **STEWARDSHIP AWARDEES (16)**

Carl Adams—Hopkinton Center for the Arts Marie Pierre Dubreuil—AFSEP (French Association of Multiple Sclerosis) Linda Gazoorian-Enter Stage Left Theater Matthew Groves-Literacy Volunteers Michael Guthrie-Avon Walk for Breast Cancer Billy Jenkins-South Melbourne Athletic Club Evangeline Mangum-Truth Evangelistic Ministries, Inc Bishoy Megally-Maaan Denise O'Riordan (Ireland COE Special Olympics Committee) -Special Olympics Sherifa Osman-Stabl Antar Dream/Sohbet Kheir NGO Bernadette Paillaud – Planete Urgence Xavier Prouvost-GED World Isaac Rodolfo Aldana Romero Vaishal Shah—Tie Young Entrepreneurs Katharine Tracy-Northbridge PTA Tina Yules-Touchstone Furniture Depot

Watch the Video



Watch EMC Chairman and CEO Joe Tucci challenge EMC executives to take the ALS Ice Bucket Challenge as he gets doused himself to raise awareness for ALS.



Additional Information

Typhoon Yolanda/Haiyan Interim Report

## COMMUNITY SERVICE AWARD SPOTLIGHT: MOHAMED KANTE

Mohamed Kante, a Test Engineer for Advanced Design Services at EMC in Hopkinton, MA, USA, is the winner of an "Exemplary Award" in EMC's Community Service Awards program. He received the award for his 2014 volunteer work as founder of iNerde, a summer program in Bamako, Mali, to bring STEM education opportunities to his native country. In the summer of 2014, iNERDE successfully launched its pilot project, their first STEM summer camp which hosted 30 fourth and fifth grade students in partnership with a local school, L'École du Progrès. iNERDE plans to replicate this model throughout Africa and, in the longterm, play in role in fostering opportunities for iNERDE "graduates" to become inventors, discoverers, innovators and entrepreneurs—changing the landscape of opportunity in Africa ... and the world.

"Founding the nonprofit organization iNERDE brings tremendous joy to my life, and I am lucky to work with a great group of people who share the same vision as I do—to empower others to reach their fullest potential. iNERDE went from being just an idea that I presented at the Transformative Action Summit in November last year, to a dedicated team of 10 that spend the majority of their time using their education to educate others."

- MOHAMED KANTE

To learn more, watch this **video**.



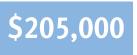
## DISASTER RELIEF

In the wake of natural disasters and emergencies, EMC assists communities with support for relief and recovery efforts. We respond by donating corporate funds, as well as by matching employee donations to responding organizations, including the American Red Cross, the Australian Red Cross, Give2Asia, the International Red Cross, and the New Zealand Red Cross and Red Crescent Societies.

In 2014, EMC provided financial support in the wake of the Indian and Serbian floods and matched employees' gifts towards responding to the typhoon in the Philippines. EMC Corporation and employees donated \$205,000 in relief funding to these crises.

## DONATIONS MADE IN RESPONSE TO DISASTER RELIEF (INCLUDING MATCHING)

2014, GLOBAL—\$U.S.



#### Highlights of impact from Typhoon Yolanda/Haiyan

EMC made a corporate donation to the Give2Asia fund set aside for this tragic event. Give2Asia decided to target many of the dollars provided towards long-term recovery, a need that is all too often forgotten.

EMC employees in the Philippines worked with the local Give2Asia team to assess the needs of the community after the typhoon. The decision was to work with HOPE Philippines and create three centers in affected areas funded by EMC matching dollars. These centers will serve as community computer labs, libraries, daycare centers, and skills development training locations, and are expected to be completed in late 2015/early 2016.

# INFORMATION PRESERVATION

Cultural heritage is captured in books, art, and artifacts stored in museums, libraries and other facilities around the world. However, many treasures are in locations where they are unprotected from the risks of degradation or destruction.

Additional Information



"We want to be sure everyone has access to the material. Without the EMC Information Heritage program it never would have been possible to make the project as big as it has been."

RANDA ALCHIDIAC,
 EXECUTIVE DIRECTOR,
 LIBRARY, USEK AND PRESIDENT
 OF THE LIBRARY ASSOCIATION
 OF LEBANON

EMC contributes our expertise to help ensure these cultural treasures are available for future generations to access and enjoy. Through our Information Heritage Initiative, EMC provides products, services, and financial assistance for digital information preservation programs worldwide. Through our Heritage Trust Project, EMC provides grants to local institutions striving to preserve the artifacts under their care. Digitizing not only prevents these pieces from disappearing, but provides access for students, scholars, and others who may not be able to visit these items in person. Since 2007, we have provided more than \$40 million in products, services, and financial assistance for digital information preservation programs worldwide.

## INFORMATION HERITAGE INITIATIVE EMC & USEK

For decades, the Middle Eastern country of Lebanon—Land of the Cedars—has been torn apart by political and social upheaval. In this climate of unease and uncertainty, the library at the Holy Spirit University of Kaslik (USEK) has taken on the task of preservation of Lebanese and, increasingly, Middle Eastern—culture.

Over the last dozen years, the library's work has expanded to include preservation of:

- More than 10,000 manuscripts from all over Lebanon and the Middle East
- 1,500 rare books
- Archives of works by luminaries in every area of Lebanese society
- Special collections, including treasures such as the first edition of the New Testament in the ancient language of Syriac, edited and printed in Vienna in 1555

- A Latin American Collection
- A newspaper collection with issues dating back to the 1920s of out-of-circulation papers
- A collection of film, photos, and music, and
- Archives of public records such as baptism records and property deeds

Besides digitizing its own projects, the library now also offers digitization services to institutions and individuals across the Middle East.

The USEK team began by digitizing and preserving materials using EMC Isilon<sup>®</sup> technology, created specifically to store and effectively manage large amounts of data such as the many terabytes involved in the project. The team then created an infrastructure employing VNX<sup>®</sup> unified storage — which will serve the library and other areas of USEK—along with a backup and recovery system. The next step will be to make the library's materials available online.

## HERITAGE TRUST PROJECT

EMC's Heritage Trust Project recognizes the importance of local preservation projects. The Project supports community-based digital curation efforts around the world with cash grants to local cultural institutions, archives, or private collections. New grants are awarded every year through an open application process. The 2015 application cycle will open on May 6, 2015.

Beginning in 2012, we showcased the Project on EMC's Facebook page, where applicants now submit their proposals directly. An internal group of judges reviews the proposed projects, looking specifically at the potential impact and the sensitive nature of the project. The group chooses seven finalists and then a public vote is held to pick the winners.

In 2014, 15 countries were eligible to participate in the Project. The three winners are:

#### **Royal Institution, United Kingdom**

The Royal Institution hosts an annual series called the Christmas Lectures in which a leading British scientist delivers a series of engaging talks on a scientific topic aimed at audiences of children and young people. The Heritage Trust Project grant will help the organization to digitize and make available online all the lectures going back to 1966, and will assist in finding ten missing lectures.

#### The Nikkei National Museum, Canada

The Nikkei National Museum is dedicated to preserving and making accessible photographs and artifacts that depict the treatment of Japanese Canadians during World War II. Grant funding will allow the museum to digitize more of the collection and make these pieces accessible to community members and researchers around the globe.

#### Folk Arts Rajasthan/Lok Kala Sagar Sansthan, United States/India

The U.S.-based Folk Arts Rajasthan (FAR) and India-based Lok Kala Sagar Sansthan (LKSS) are bound together by a shared vision of a thriving and just future for the Merasi people and culture. The goal of their collaboration is to preserve an intangible cultural heritage on the brink of extinction and achieve social justice for a continually marginalized people. Using a musical narrative framework, the project will digitize long lost stories about the Merasi culture, mystic, and historic origins.



# LITERARY LEGEND: PRESERVING THE HEMINGWAY COLLECTION

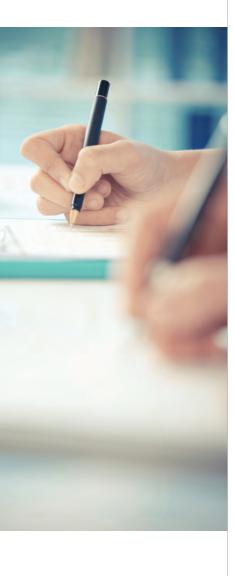
Through an agreement with the Cuban Government, the Finca Vigia Foundation was formed with the help of EMC to preserve, digitize, and store author Ernest Hemmingway's legacy for future generations.





Watch the Video

Preserving the Lectures of Christmas Past



# FUNDING GUIDELINES

We are proud to support the work of our nonprofit partners who are advancing important causes in communities around the world. Through our partnerships, EMC contributes funding, in-kind products and services, and employee volunteer time.

## FUNDING CRITERIA

To be eligible for funding, organizations must meet the following criteria:

- Must be a nonprofit and tax-exempt organization according to section 501(c)(3) of the Internal Revenue Code, a publicly funded academic institution, or a municipality
- Must support an EMC site community
- Must have overhead expenses that do not exceed 25 percent of total operational budget

## INELIGIBLE FOR FUNDING

The following are not eligible for funding:

- Organizations without 501(c)(3) status, with the exception of publicly funded academic institutions and municipalities
- Individuals; religious, veterans, or fraternal organizations; political causes or candidates
- Organizations that promote or practice discrimination
- Direct mail solicitations
- Courtesy advertising
- Endowments
- Tickets for contests
- Reduction of debt

## SUBMITTING A PROPOSAL FOR FUNDING

EMC considers proposals bi-monthly, and the review process takes approximately eight weeks. There is no set financial range for the grant awards. All proposals should be emailed to **CommunityInvolvement@ emc.com** and must include the following information:

- Application form (download and complete this form)
- A listing of all current funding sources and amounts, and other revenue
- Names and affiliations of members of the Board of Directors

Incomplete proposals will not be considered. EMC will respond to you in writing. If your proposal is selected for funding, EMC will require the following additional documents:

- Copy of IRS 501(c)(3) determination letter
- Audited financial statement for most recent fiscal year
- Annual report, if available

## FINAL REPORT

All EMC grant recipients must submit a report outlining the expenditures of the funds within 12 months of receiving the award. New requests will not be considered until the evaluation for the last grant has been submitted.



## CONTACT

EMC encourages its stakeholders to provide feedback on the topics covered in this report. Please submit any questions or comments about the report or its contents to the Office of Sustainability at Office\_of\_Sustainability@emc.com.

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