Enabling manufacturing of the future

Siemens in China helps manufacturers drive innovation in line with the ‘Made in China 2025’ initiative, with an all-in-one integrated platform for building automation systems.

Customer profile

**SIEMENS**

- **Company**: Siemens Ltd., China (Siemens China)
- **Industry**: Technology
- **Country**: China
- **Employees**: 30,000

Business need

With China keen to boost innovation among manufacturers, Siemens China wanted to create an efficient and advanced R&D environment called the Totally Integrated Automation (TIA) Portal.

Solution

Siemens China worked with Dell OEM Solutions and Dell Configuration Services to create an all-in-one integrated portal based on Dell Latitude notebooks for building automation systems notebooks.

Benefits

- Design efficiency rises 200 percent for customers
- Staff productivity is boosted by accessing protected files in one-third of the time
- Greater user satisfaction with 30 percent more components displayed on a single screen
- Helps drive innovation across China in line with major initiative
- One-key recovery function simplifies portal maintenance

Solutions at a glance

- OEM Solutions
- Client Solutions
- Client Deployment

“The TIA Portal customization platform provides an integrated configuration design environment for industrial software developers. Its efficiency is paramount. Dell has customized SSDs that have accelerated hardware configuration, logic programming and the compilation download. Design files that used to require 30 seconds to open can now be accessed within a few seconds. Work efficiency has greatly improved.”

Liu Likang, Director of TIA PLC Product Management Team, Siemens Ltd., China
Given the choice, most customers would prefer a complete solution. Not having to integrate one piece of technology with another saves time and money. It’s why many businesses are looking to work with original equipment manufacturers (OEMs), which can help create a single solution for their customers to increase efficiencies and reduce costs.

Siemens China looked to create a single, integrated engineering framework for implementing automation solutions. The organization already provided its Totally Integrated Automation (TIA) Portal software to a large number of China’s manufacturers to develop industrial control systems. But now it wanted to go a step further and combine the software framework with a hardware platform to give clients an all-in-one solution.

The drive to help customers operate more efficiently
Siemens China wanted customers to avoid the expense of procuring hardware and the subsequent software installation. In one instance, the design director of a well-known automotive manufacturer told Siemens China how his organization sometimes lost time with software-hardware incompatibility issues, and that software engineers were held up with debugging problems.

The company looked for an OEM provider to enable an integrated design platform for automation solutions. After reviewing the market, Siemens China chose Dell OEM Solutions, and began the development of its configuration design environment, known as the TIA Portal integrated platform.

Finding a solution to deliver an integrated platform
Working together, Siemens China and Dell OEM Solutions created the TIA Portal integrated platform, running on a Dell Latitude notebook hardware solution, with the option of Intel® Core™ i7 and i5 processors. To maximize efficiency, Siemens China also selected Dell Configuration Services to customize the notebooks before they left the Dell factory. Dell Configuration Services customized the boot-up screen and applied the Siemens badge to the outside of the notebook. It also installed the platform’s software and added one-key recovery functionality. Lastly, the Dell Configuration Services team accelerated the notebook’s solid-state drive (SSD) to the requirements of Siemens.

The finished product not only combines Siemens control and monitoring software, but also incorporates an automated configuration design system seamlessly in a singular development environment. Software design developers, using the TIA Portal, can rapidly program control systems and store each program’s algorithms in a software library. This way designers can reuse the algorithms in future control systems, enhancing efficiencies still further.

“The TIA portal notebook customized by Dell has relieved industrial software design developers of cumbersome software installation and compatibility testing work, allowing them to focus on their core automatic tasks using TIA Portal software.”

Liu Likang, Director of TIA PLC Product Management Team, Siemens Ltd., China
Design efficiency increases significantly for Siemens customers

Software developers using the integrated solution have seen a significant increase in productivity. They can manage design processes more efficiently, setting up task cards, development statuses and inspection windows, which in turn make it easier to monitor development. Furthermore, program data is shared more easily between designers to deliver better results. Additionally, a number of operations are automated to speed development and avoid errors, and overall design efficiency is significantly improved.

Greater productivity accessing design files in less than 30 seconds

Siemens China’s director of TIA PLC product management team Liu Likang says, “The TIA Portal customization platform provides an integrated configuration design environment for industrial software developers. Its efficiency is paramount. Dell has customized SSDs that have accelerated hardware configuration, logic programming and compilation download. Design files that used to require 30 seconds to open can now be accessed within a few seconds. Work efficiency has greatly improved.”

Improved user satisfaction with 30 percent more components displayed in a single window

Feedback from developers has been positive. They say the portal interface is user-friendly and suitable for experienced as well as novice software engineers. For instance, expert-level technical personnel can perform controller programming and HMI application development, as well as receive online access for network connection configuration. In addition, novices can use the integrated object-oriented data management technology inherent in the platform to rapidly access parameters of standard components and perform software development.

The Dell Latitude notebooks display network, device, topology, code editor and component properties views, each with a large multitude of subviews. Within the network view, there are network resources, network components, project components, communication interfaces, network connections, component scaling and page navigation subviews. Multiple views on the same page increases design efficiency.

A design director of a well-known auto manufacturer in China says, “The TIA Portal design platform on the Dell Latitude notebook has provided us with a 1920x1080 resolution. This enables the software design developer to display 30 percent more component information in a single window, integrating editors like S7-GRAPH (SFC), LAD, FBD and STL as well as the PLCSim Integrated Application Simulation panel into a single interface, greatly boosting development efficiency.”

Pre-installation of TIA portal and the one-key recovery function allows for easier maintenance

Customers no longer face issues integrating the TIA Portal software with procured hardware platforms. A design director at a well-known auto designer in China says, “In the past, enterprises personally purchased computing equipment and installed portal software. Under such circumstances, because of problematic hardware configurations or hardware-software incompatibilities, there could be software installation accidents or editor operation failures. With TIA Portal customization platform, the challenges have been overcome. At the same time, when an issue occurs, Dell’s one-key recovery can rapidly resolve the issue.”

Liu adds, “The TIA portal notebook customized by Dell has relieved industrial software design developers of cumbersome software installation and compatibility testing work, allowing them to focus on their core automatic tasks using TIA portal software.”

“We expect there to be further cooperation between the two parties in the future. For instance, Siemens hopes to connect with Dell’s sales network to provide product supply services directly to industrial business users.”

Zhang Pengfei, TIA Portal Product Manager, Siemens Ltd., China
Siemens works closely with Dell to tightly integrate the solution

Customers see the Siemens insignia the moment they boot up the notebook, which itself is branded Siemens. This gives clients a real sense of the solution’s level of integration and delivers peace of mind. The service from Dell OEM Solutions has been a complete success. As such, Siemens is planning to deepen its relationship with the Dell OEM team.

Siemens China’s TIA Portal product manager Zhang Pengfei says, “We expect there to be further cooperation between the two parties in the future. For instance, Siemens hopes to connect with Dell’s sales network to provide product supply services directly to industrial business users. Siemens will also continue to update our demand of Dell computing product configurations according to ongoing circumstances. Siemens has recently begun to consider offering customized notebooks with multiple configurations for business users.”

Driving innovation across China through more effective research and development

For Siemens China, the relationship with Dell OEM Solutions supports the ‘Made in China 2025’ initiative to help enhance industry across the country. The TIA Portal integrated platform is helping speed up the development of highly developed control systems for manufacturers. Also, by using the integrated platform, manufacturing enterprises throughout China can enhance their research and development programs and drive innovation. Finally, these same enterprises will make it quicker and simpler to move to smarter modes of working that employ Internet of Things (IoT) technologies.

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