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Totally Integrated Power

Reliable operation of your data center

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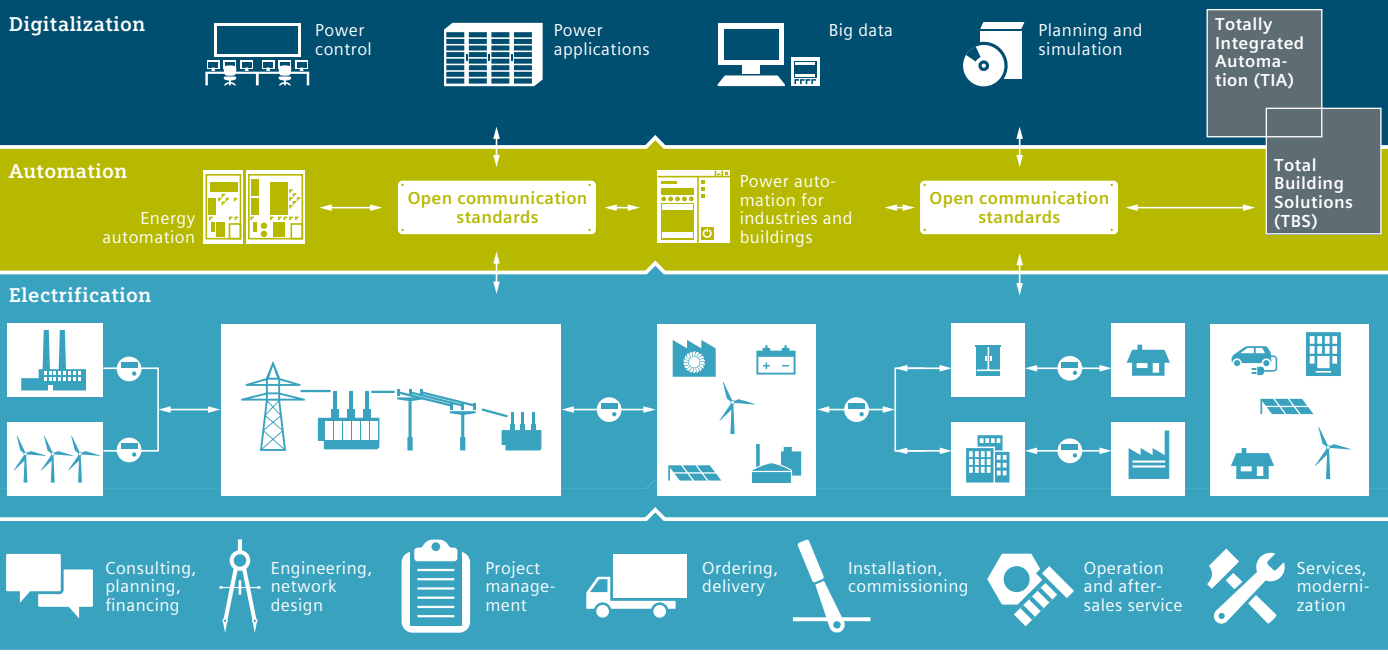

A comprehensive portfolio and extensive integration expertise makes Totally Integrated Power (TIP) unique

A bundled, consistent power supply portfolio from high to medium and low voltage

Electrification for overall solutions – the right technologies to optimally support processes and maximum ROI

Totally Integrated Power (TIP) Power for challenging environments – Reliable. Safe. Efficient.

A reliable, highly available, and flexible power supply for industrial plants, buildings, and other facilities lays the foundation for industrial processes and infrastructure solutions. Siemens' solution is Totally Integrated Power (TIP) – a comprehensive power supply portfolio that offers integrated software and hardware products, comprehensive systems for all voltage levels, and energy management solutions. TIP is closely linked to industrial and building automation systems and can thus be integrated into enterprise IT systems.

This makes it possible to fully exploit the entire optimization potential of an integrated solution. TIP meets even the toughest requirements for supply-critical equipment. The Totally Integrated Power portfolio is rounded out by extensive support throughout the entire lifecycle, from planning to maintenance.

Our power supply concepts for data centers are as individual as the tasks they perform. As we tailor them to our customers' process requirements, we develop a system or overall solution that focuses on reliability and availability and provides a reliable supply of power to the most important systems of a data center in the event of a power failure.

The challenge

With a 41 percent cost increase per minute of data center downtime on average from 2010 to 2013 (and a steady escalation anticipated in coming years), guaranteeing maximum uptime has become a major challenge for data center operators. The availability of the power supply is a key factor. What's more, the power supply must be flexible enough to support future changes and upgrades to data center performance and computing power. This places new demands on the availability of data center power supplies as well as on their design concept, modularity, and energy efficiency.

Totally Integrated Power offers more:

- **Regional partnering and indirect channels:** optimized global presence through four Centers of Competence, worldwide consultants and planning support, and numerous highly qualified regional partners
- **Safety:** perfect protection of personnel and equipment through optimized protection and switching devices
- **Reliability:** long service life of all components, thanks to the highest quality standards worldwide and decades of experience – as well as flexible integration of UPS systems
- **Application expertise:** industry and lifecycle expertise plus design support (SIMARIS) plus effective energy management means optimized end-to-end solutions
- **Cyber security:** keeping the grid safe and sound under all circumstances, cost-effectively and in compliance with all regulatory requirements
- **Power monitoring, energy efficiency:** effective energy management for maximum availability, more transparency, and higher efficiency
- **Consistency:** improved system planning and commissioning, easy integration of building automation

The solution

Totally Integrated Power (TIP) for data centers is more than just a comprehensive portfolio of products, systems, and components for electrification: It is a clever and integrated concept to support your data center's diverse business goals with intelligent links to building automation and uninterruptible power supply solutions. Based on our leading expertise and innovative planning tools, our TIP solutions support you from consulting through planning to commissioning and services along the entire lifecycle of your investment. In addition, our global footprint with dedicated Centers of Competence offers a fast response and speedy services to help our customers maintain a competitive edge in their market.

Simply efficient
Our TIP offering integrates all products and systems from a single source – even third-party systems. TIP power supply concepts optimally support your processes and maximize your return on investment, while achieving considerable cost savings during installation and operation. Extensive planning and design expertise means even greater potential for a long-term reduction of energy consumption and costs – for example, through an optimized design of the power supply.

The benefit

With TIP, operators receive either a modular system tailored to their requirements or a complete solution that offers them safety in all power supply matters and beyond. This allows them to focus on their core business – the operation of the data center. Thanks to intelligent technology from Siemens, their data center will be on the right track economically as well, beginning with the effective management of their company's energy flow to exploit saving potentials.

Optimal system performance
The high quality of Siemens power supply products pays off in two ways: They pave the way for smooth data center operation while significantly extending the maintenance and service intervals – which in turn reduces lifecycle costs.

Industry reference project: ENI Green Data Center, Italy

- An integrated, highly energy-efficient, turnkey solution incorporating electrical, mechanical, and air conditioning systems, cooling units, and building automation
- The result: a truly remarkable energy efficiency success story, a green TIER IV data center with a power usage effectiveness (PUE) of less than 1.2

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