Power Matters
Totally Integrated Power
reliable. safe. efficient

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Ingenuity for life
Power matters
Challenges and opportunities for industrial power supply

- Load Management
- Economic Efficiency
- Enhanced Operations
- Reliability
- Energy Efficiency
- Sustainability
End-to-end power supply – our strength

Our answer:
Totally Integrated Power – Reliable, safe, efficient
Totally Integrated Power (TIP):
For industry, buildings, and facilities
Totally Integrated Power (TIP):
Flexibility, modularity, outstanding integration capability
Totally Integrated Power and Totally Integrated Automation: Perfectly interlinked

Benefits

- In line with IEC 61850 Standard
- Open interfaces for integration of different applications and vendor systems
- In line with regional standards
- Prevent power outages
- Reduction in down time
- Saving in energy costs as a result of automated consumption reports

OWS: Operator Work Station; AC: Automation Controller; HMI: Human Machine Interface; OPC: OLE for Process Control
Example: Efficiency improvement – Step by step

**Measuring**

Collect energy data

**Machine/Field Level**
e.g. SICAM, PAC, 3VA, SIPROTEC

**Monitoring**

Display and review energy data

**Control Center Level**
e.g. SICAM PQS, SENTRON powermanager, SIMATIC Energy Suite

**Managing**

Manage energy consumption

**Management Level**
e.g. SIMATIC Energy Manager Pro

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From data acquisition to energy management
Enhanced business opportunities: Example industrial campus

- **Distributed energy systems (DES)**
  - Distributed generation
  - Storage solutions
  - Electrical equipment and power electronics
  - Energy automation and management, software

- Wind turbines
- Microgrid manager, energy management systems, etc.
- Photovoltaic system
- eCar charging station
- Battery storage, power to gas
- Medium voltage, low voltage, circuit breakers, etc.
- Combined heat and power
Reference projects demonstrate the broad range of different prosumers

Battery storage system safeguards power supply at VEO

- Black start capability of power plant’s gas turbine at any time and without feeding in power from the public grid
- This island network keeps the critical production processes at the steel mill operating

Data analytics decision-making support for GESTAMP

- Real-time monitoring via web portal
- Early detection of machinery failure and inefficient processes
- Customized reports
- Worldwide implementation possible

Integrated solution for safe power distribution for the City Cube - Berlin

- Electrical planning support for entire power distribution system
- Complete delivery of electrification equipment from medium voltage infeed to low voltage distribution
- Installation of power supply system executed by regional electrician and two franchise partners

Intelligent microgrid for Savona University

- Highly energy-efficient conventional and renewable sources are controlled in real-time
- The campus can generate enough electricity and heat to satisfy its needs autonomously
Totally Integrated Power – Key take aways

Safe and intelligent power supply

**Flexibility**
Quick and easy modification or expansion of the systems

**Consistency**
The basis for automation and digitalization in challenging environments

**Safety**
Portfolio compliant with the highest safety standards

**Reliability**
Customized solution packages ensuring 24/7 power supply

**Efficiency**
Effective energy management to optimize energy consumption
Get ready for the digital future

Profit from TIP