

Semiconductor Industry

Solutions to support and enable digital innovations in the semiconductor space

The semiconductor market will play a significant role in the digital shift. Semiconductors will enable the high-bandwidth, low latency devices that will soon be prolific, thanks to 5G, artificial intelligence and machine learning. Vertiv provides comprehensive, reliable, and effective solutions that support the semiconductor manufacturing process. With proven industry expertise backed by global service support, our solutions are aimed at protecting high-value assets in your facility, ensuring production continuity to help you meet service-level agreements and deliver the best quality products to your customers.

Asia Pacific Semiconductor Market Outlook

Demand for semiconductors is fueled in part by disruptive technology. From 5G to artificial intelligence to machine learning, these innovations are expected to create strong demand for semiconductors. In fact, research predicts that the market will grow at US\$ 79.04 billion by 2027.

The industry is in a “renaissance” period, with electronics driving export activity particularly in Southeast Asian markets. It is expected that increased connectivity, data centers, communication networks, smart automotive and advanced software will continue to drive demand.

With this, the industry is faced with new challenges to adapt to today’s digital environment. Digitization plays a huge role to boost productivity and enhance the overall value chain. Chipmakers are looking at three areas to increase efficiency in the manufacturing process: digitized product and service offerings; digital business models; and the digital semiconductor value chain.

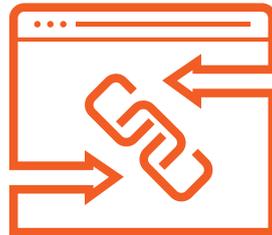


DIGITAL TRENDS SHAPING THE SEMICONDUCTOR MARKET

How is technology disrupting the semiconductor market? Below are three trends that are seen to impact the industry:



Digitized product and service offerings - harnessing technology to develop innovative chips will be essential in addressing today's rapidly evolving market. From AI-integrated chips to increased customization, these innovations will bring more added value to existing products by chipmakers.

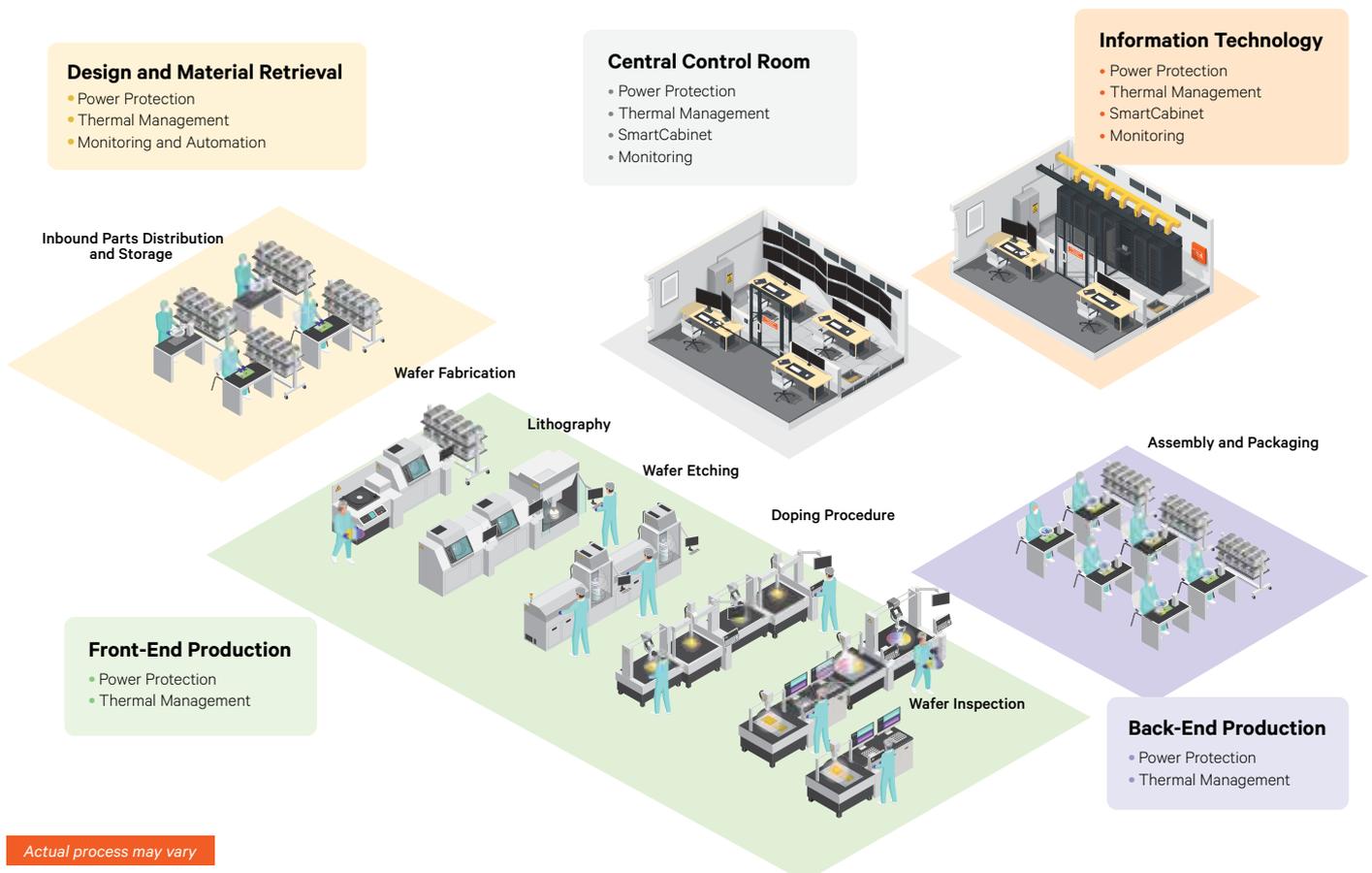


Digital value chain - several business models that leverage on technology and added intelligence are available for semiconductor makers to explore to enhance their capabilities and adapt to customer expectations.



Digital business models - leveraging on AI-driven capabilities to boost end-to-end value chain will be crucial in enhancing efficiency within the manufacturing area.

VERTIV PROTECTS CRITICAL PROCESSES IN THE SEMICON SPACE



VERTIV APPLICABLE PRODUCT SOLUTIONS

Liebert® ITA2 8-10 kVA CE

Compact, Efficient, & Robust UPS for Critical Applications



Features and Benefits

- Eco-Mode provides a superlative efficiency of up to 99%
- Programmable output outlets/terminals with cascade protection to protect key devices during heavy load
- Integrated Ethernet port with HTTP protocol compatibility & streamlined remote monitoring
- Robust structure with cutting edge channelized airflow design
- Dust and moisture resistant

Liebert® AF2

Next Generation Active Harmonic Filter



Features and Benefits

- Improved Current Harmonics and Power Factor
- Close Loop or Open loop Control enables perfection in harmonic compensation based on applications
- Scalable, Adaptable
- Easy to deploy, Set and Forget
- Easy Monitoring and Control
- Easy to Install, Fit & forget Compatible

Liebert® Hipulse-U 80-500 kVA

Utmost Reliable Power Solution for Critical Business Applications



Features and Benefits

- Up to 98% operating efficiency in Eco-Mode operation; up to 93% operating efficiency in double conversion mode
- Standard built in LBS function and smart parallel
- REGEN mode of operation
- Strong 0.9 output PF loading capacity
- Compatible to 1+N and N+1 configuration
- Two independent intellislots to achieve multi-channel data highway

Liebert® NXL 800kVA

High Availability UPS for Medium & Large Data Centers



Features and Benefits

- Internal cable wiring simplifies installation
- Redundant components increases reliability
- Superior handling of present and future computer loads
- Color touchscreen controls improve user interface and reduce risk of human error
- Excellent dynamic performance
- Front access provides easy installation and service
- Compact cabinets require less floorspace
- Built-in battery cabinet breaker isolates string for ease of service

Liebert® PEX4

Unsurpassed Thermal Management Solution with Premium Efficiency



Features and Benefits

- Microchannel evaporator coil
- Electronic expansion valve
- R410A Refrigerant
- Energy efficient EC fans
- Options for 1 and 2 stage electric heating
- Options for infrared and electrode humidification
- Intelligent controller, for precise temperature & humidity control
- Inverter scroll compressor and high return air capability (PEX4 feature)

Liebert® DM

High Performance Cooling for Small Technological Rooms



Features and Benefits
Energy saving

- 7" large touch screen color display standard in bracket
- Advanced algorithms help the unit to run efficiently
- Thermal group control distinctly helps to cool the room as the units work together
- Round the clock monitoring of common problems and solutions
- Shows the unit abnormality help function
- Optional SIC Card enables SNMP with SMS and email notifications

Liebert® LPC

Intelligent, sensible cooling for labs and other special applications



Features and Benefits

- Asia's first standardized constant unit for special application
- Regulation of Sensible Cooling Capacity down to Zero
- Use of variable technology at every steps like compression, distribution & controls
- High quality, perfect harmonized component
- Precise & reliable control system
- Service available throughout Asia Pacific

CASE STUDY

LEADING SEMICONDUCTOR MANUFACTURER IN THE PHILIPPINES



Overview

When the customer set out to expand its manufacturing site located outside Manila, it needed reliable equipment, support, and services to support the new facility, which will be used for assembling and testing chips for computers, aerospace, telecommunications and automotive industries. It turned to Vertiv for a full suite of solutions.

Vertiv Solution

- Liebert UPS
- Thermal Management
- Monitoring
- Services

SEMICONDUCTOR MANUFACTURER IN CHINA



Overview

To further strengthen its manufacturing capabilities, the customer set to construct a large manufacturing facility in the Dalian Economic and Technological Development Zone. To meet production levels and avoid costly downtime, the company sought the expertise of Vertiv to address the power and cooling issues of their business-critical facility.

Vertiv Solution

- Liebert Hipulse
- Liebert XD