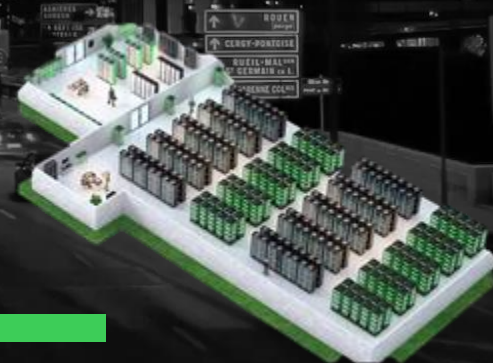


DIGITAL

Schneider Electric
Powering Next-Gen Data Center Innovations



AI is the
next industrial
revolution
touching
every aspect
of our lives



100M ChatGPT Users
in first two months

Reuters



~\$60B YTD Investment
into AI by Private Equity

(Goldmann Sachs)

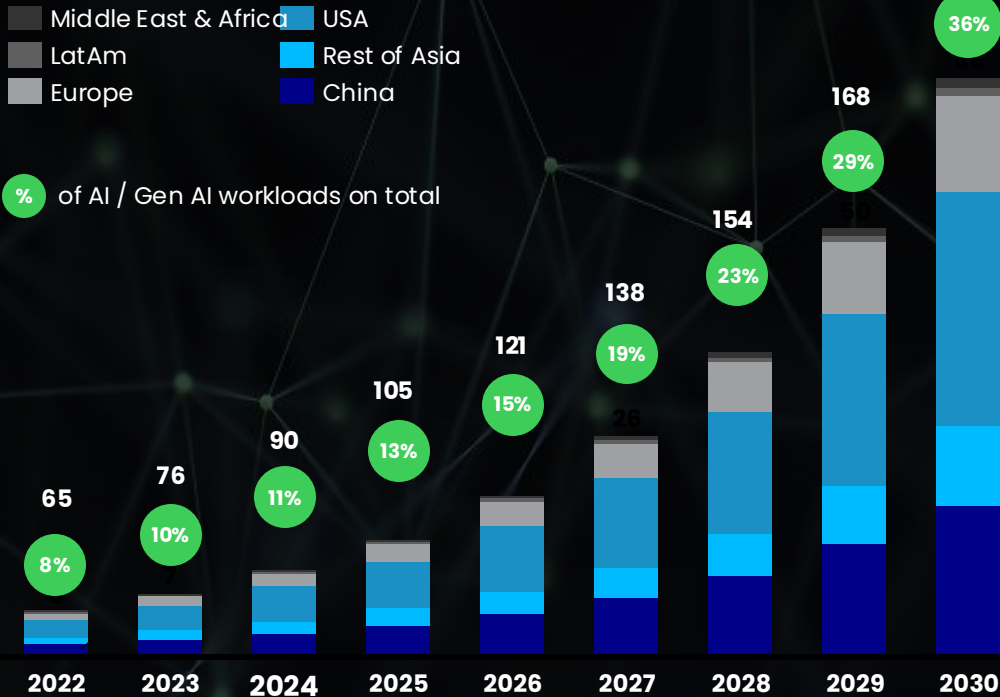


\$1.3T GenAI
Market Cap

By 2032 (Bloomberg)

AI Workloads are Anticipated to Represent 36% of the 187GW Installed Base by 2030

Total cumulative AI / Gen AI workloads repartition per region (2022-2030) (WW)



Key takeaways

WW, [In total GW]

Total new build from 2025 - 30

60%

Total new AI from 2025 - 30

58

By 2030, AI / Gen AI workloads will represent ~36% (baseline scenario) of total Data center workloads, the equivalent of 60% of total new builds between 2025 and 2030.

A background image of two men in business attire walking through a server room. The man on the left is wearing glasses and a grey suit, while the man on the right is wearing a dark suit and a blue lanyard, holding a tablet. They are surrounded by rows of blue server racks.

4.2x

AI Power Consumption
Growth, 2023–2028

10x

More energy consumed for a
ChatGPT query than a simple
Google search

Source: Schneider Electric Energy Management Research Center: *The AI Disruption: Challenges and Guidance for Data Center Design*
IEA: *Electricity 2024: Analysis and forecast to 2026* / Photo: Digital Realty, Australia

Digital Disrupts Efficiency & Sustainability

3x IoT

IoT connections 2018–2025 (GSMA)

>5x Big Data

Generated data from 33 ZBs today to 175 ZBs by 2025 (2018)

6x AI

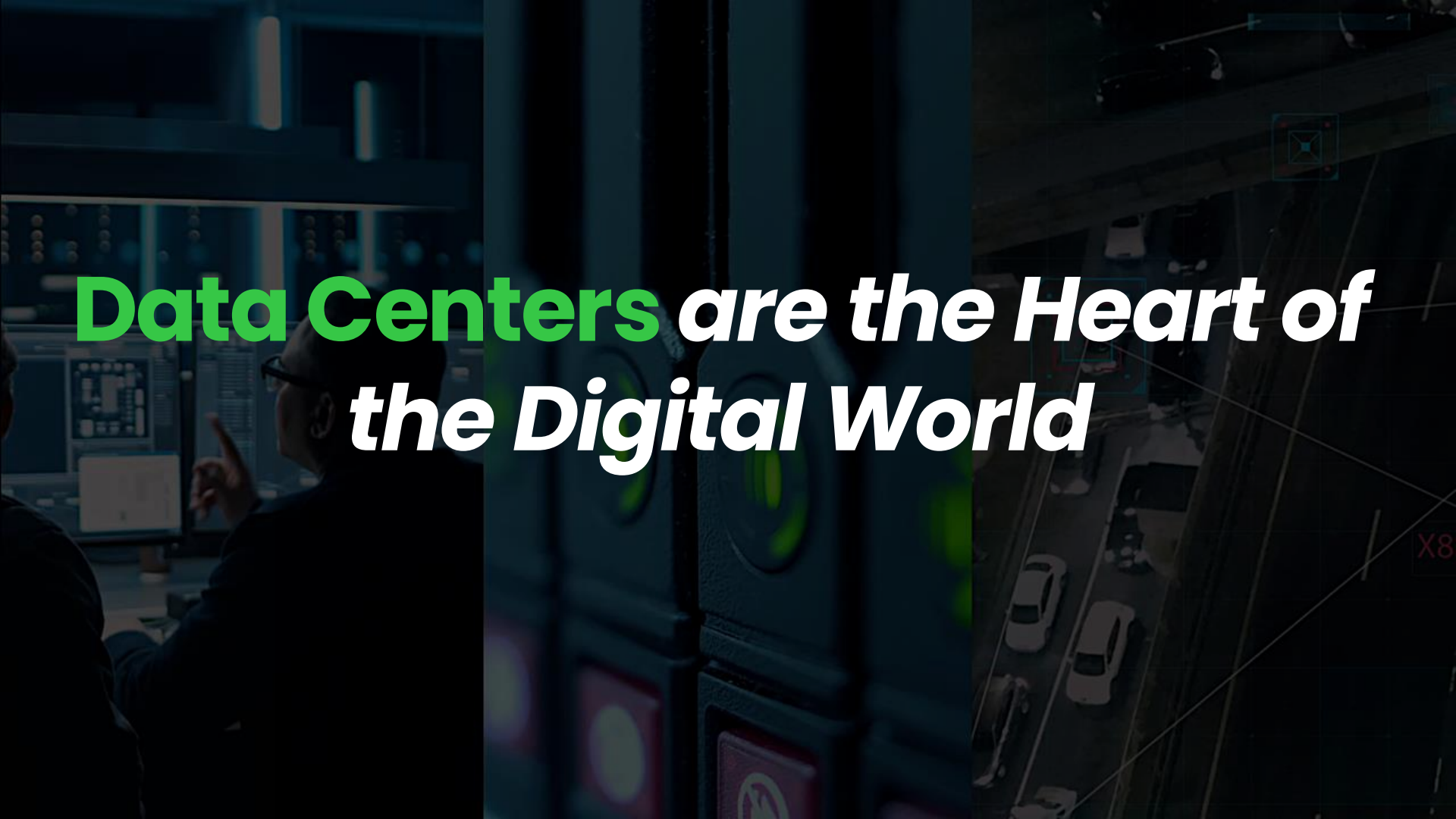
Worldwide spending on cognitive and AI systems btw 2017 & 2025
(International data corporation)



**Digital
Builds a
Smart
Future**



**Home
Building
Industry
Infrastructure
Cities**



Data Centers *are the Heart of
the Digital World*

Our Digital Vision:

Customers



Transform

@SCALE



Employees
& Processes

Partners

To be your Digital Partner for
Sustainability and **Efficiency**



It all starts with the GPU



The data center market is undergoing a transformation. Traditional data center power, cooling, and racks are no longer sufficient for GPU-based servers arranged in high-density AI clusters. Recognizing this challenge, Schneider Electric and NVIDIA have joined forces to address these evolving needs. We've addressed key data center AI challenges by assembling experts from both organizations to co-develop reference designs of the physical infrastructure for both retrofit and purpose-built data centers.

These designs provide data center operators with the guidance and technical specifications to streamline and accelerate deployment of these high-density AI clusters.

- Our first full facility reference design details a design for AI racks (up to 70 kW/rack) with liquid cooling. We offer both an [IEC-based design](#) and [ANSI-based design](#).
- Our newest full facility reference design details a design for NVIDIA's DGX SuperPOD of GB200 NVL72 racks (up to 132kW/rack) with liquid cooling. IEC-based design is currently available.

From 130KW in 2025 to 600KW in 2027 and 1.1MW rack by 2028/2029

Schneider Electric and NVIDIA

ETAP and Schneider Electric Unveil World's First Digital Twin to Simulate AI Factory Power Requirements from Grid to Chip Level Using NVIDIA Omniverse | Schneider Electric USA

Schneider Electric | **NVIDIA**

Planning | Concept Reference Designs

1st Fully Integrated AI Factory

Electrical Digital Twin Simulation

Next Gen DC Architectures

EcoStructure IT Design

Build

Schneider Electric

Schneider Electric and NVIDIA partner to empower AI solutions, particularly focusing on the infrastructure needs for AI adoption. Schneider Electric's expertise in power and cooling solutions supports the high demands of AI workloads, ensuring that facilities are equipped to handle the increased power and cooling requirements that come with AI technologies. This collaboration aims to provide tailored solutions to these end customers.

he most
oud to help

NVIDIA

NVIDIA is a leading technology company that has played a significant role in shaping the gaming, graphics, and AI industries. Their cutting-edge technology and innovative solutions have helped to advance these industries and have contributed to the development of new applications and use cases for technology.

Schneider Electric is a **Solution Advisor Consultant Partner** in the NVIDIA Partner Network.

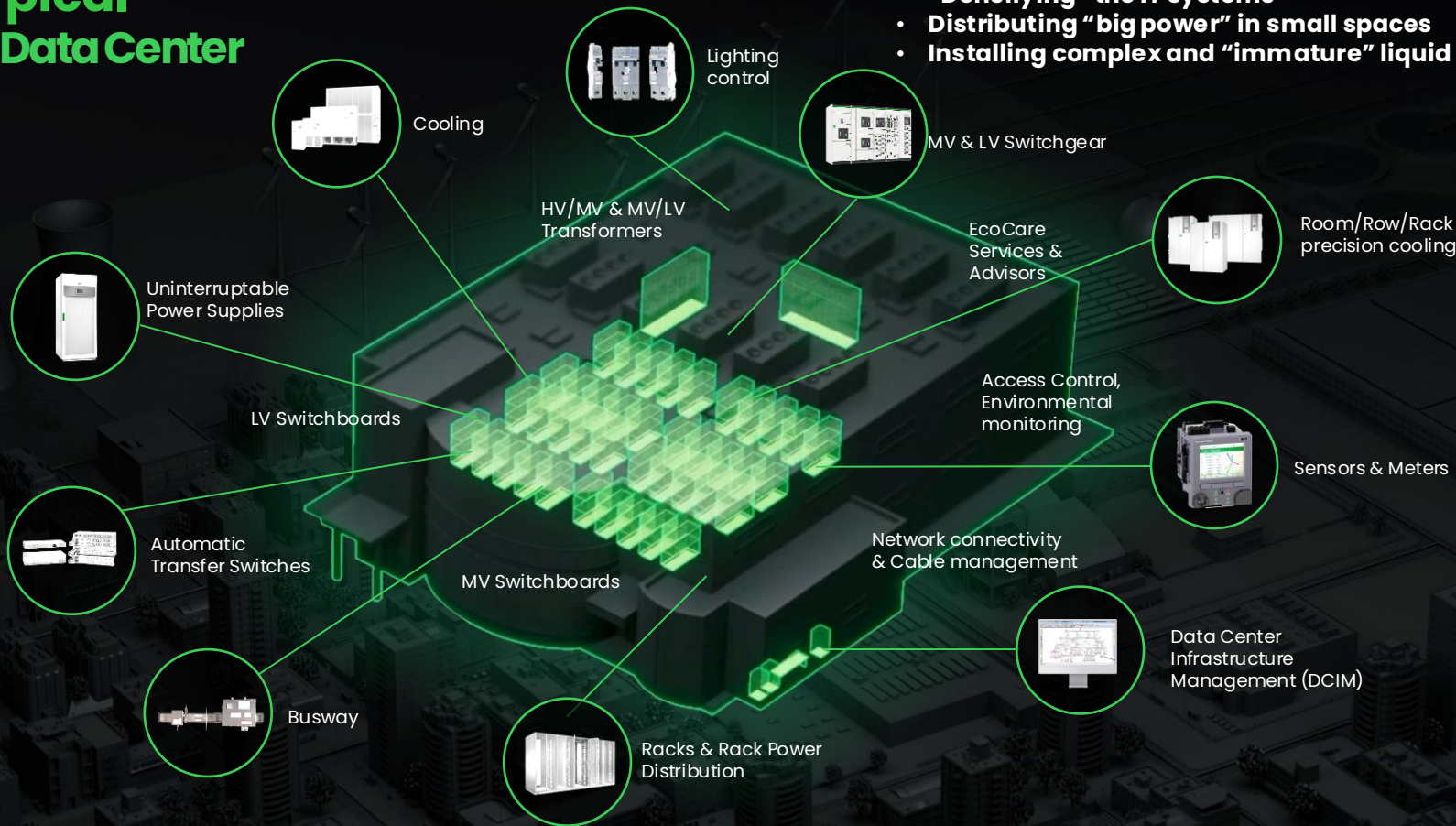
Together, we are delivering **AI factory-ready, energy-efficient data center infrastructure**—from **power and cooling systems** to **digital twin intelligence**.



Typical Data Center

Main Challenges to DC Infrastructure:

- “Densifying” the IT systems
- Distributing “big power” in small spaces
- Installing complex and “immature” liquid cooling



As a Technology Partner,
we Provide **Energy and
Automation** Digital
Solutions for **Efficiency
and Sustainability**

...across the full life cycle

Design

Build

**Operate
&
Maintain**

Ranked #1



**A Global Industrial
Technology Leader in
Electrification,
Automation, and Digitization**

**Unprecedented Partner
Network**

>1 million partners

ESG Champion

and sustainability partner

Multi-Hub Model

160 000+ employees

World-Leading Portfolio

with increased digital footprint

€40.2bn

revenues

Full year 2025

Data Center Macro Trends

A photograph of several wind turbines in a vast, green field under a clear blue sky. The turbines are spaced out, with one in the foreground and others receding into the distance.

Sustainability

“ Decision-makers are increasingly interested in how banks and capital markets can best mobilize the capital required to achieve a number of sustainability goals, potentially some US\$5–7 trillion per annum. ”

A composite image featuring various financial charts, including line graphs with multiple colored lines (yellow, green, red, blue) and a candlestick chart, set against a dark background with a grid.

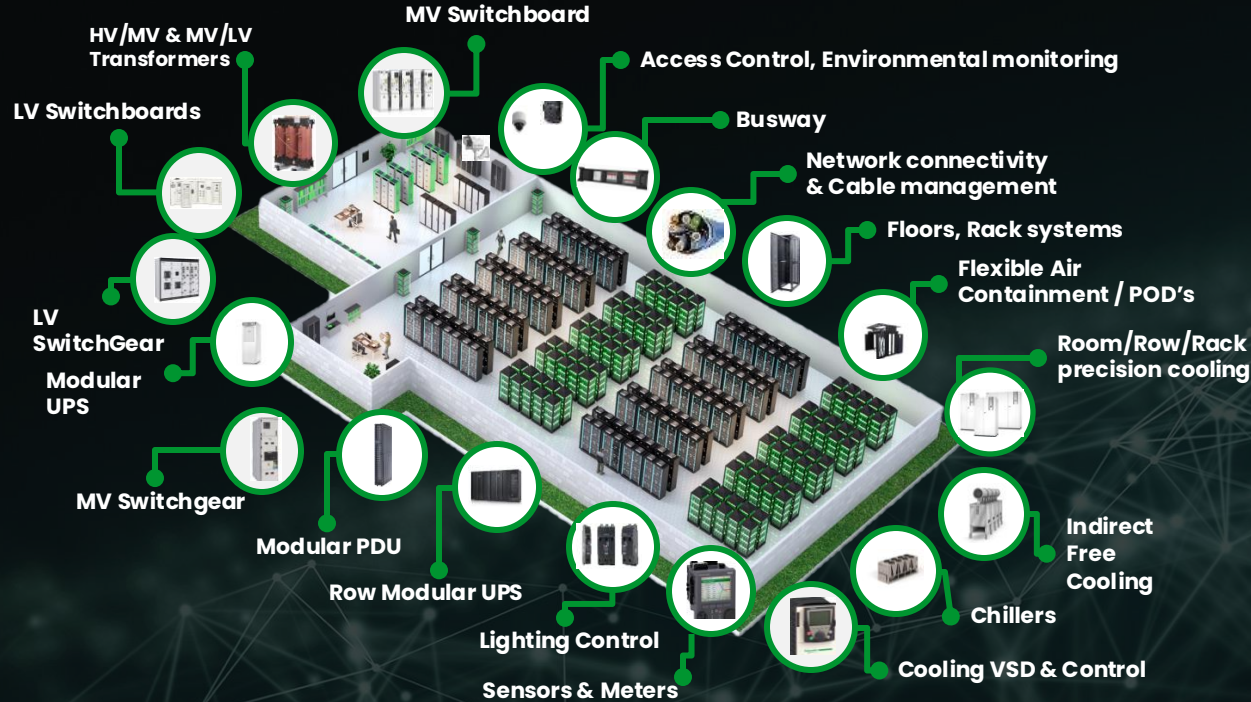
Digital Transformation

“ Disruptive technologies including cognitive, robotic process automation, and blockchain will be in use at 50% worldwide by 2026... ”

A photograph of two men sitting at a desk in a modern office. One man, wearing a green sweater, is pointing at a laptop screen. The other man, wearing a white shirt, is looking at the screen. They appear to be collaborating on a project.

Operational Risk

“ Over the past ten years, [losses from operational risks] have amounted to over \$300 billion, stemming from a wide range of breaches in controls, conduct, and security. ”



Life Cycle Services & Software

Extended
Warranty

Asset
Advisor

Start-up
Services

Advantage
Contracts

Project
Management

Monitor &
Dispatch

Training &
Testing

IT Layer

IT Expert
Resource Advisor
Building Advisor
Power Advisor
IT Advisor



Building Layer

Power Monitoring
Expert

Aveva UOC

Security Expert

Building Operations

Power Scada

Secure Power & Data Center AI Portfolio



Digital Transformation Driving Data Centers

Rise of Edge, Cloud and Artificial Intelligence (AI) Changing the Dynamics of Critical Power

Data Centers

Driven by strong growth of:

New compute & storage
(GPU/TPU, Quantum, DNA)

GenAI (training, inference,
edge)

Full digital experience
(AR/VR/XR, blockchain)

xG & wireless acceleration

Accelerating energy storage tech

EcoStruxure™ for Data Center



Impact¹

Up to 60%

Plan, design,
build time reduction

Up to 34%

Total lifecycle energy
consumption reduction

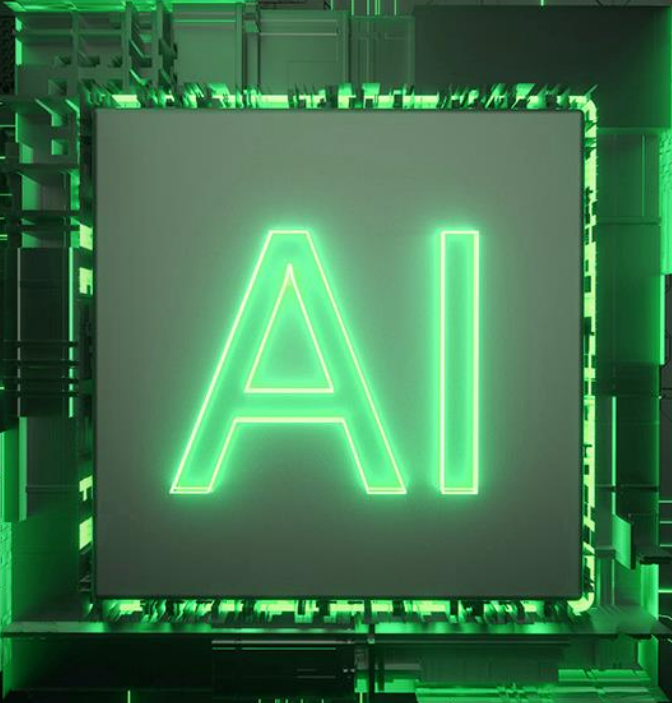
Up to 100%

Elimination of
carbon emissions

Source:

1. Schneider Electric™ Energy Management Research Center and Schneider Electric™ Sustainability Research Institute, Prefabricated Power and Cooling Modules for Data Centers

**Let's Partner for
AI-Ready
Data Centers**

A glowing green 'AI' is centered on a dark square, which is itself set within a larger, glowing green square frame. The frame and the 'AI' text have a neon-like glow. The background is a dark, complex circuit board with glowing green lines and components.

AI

End-to-End for AI



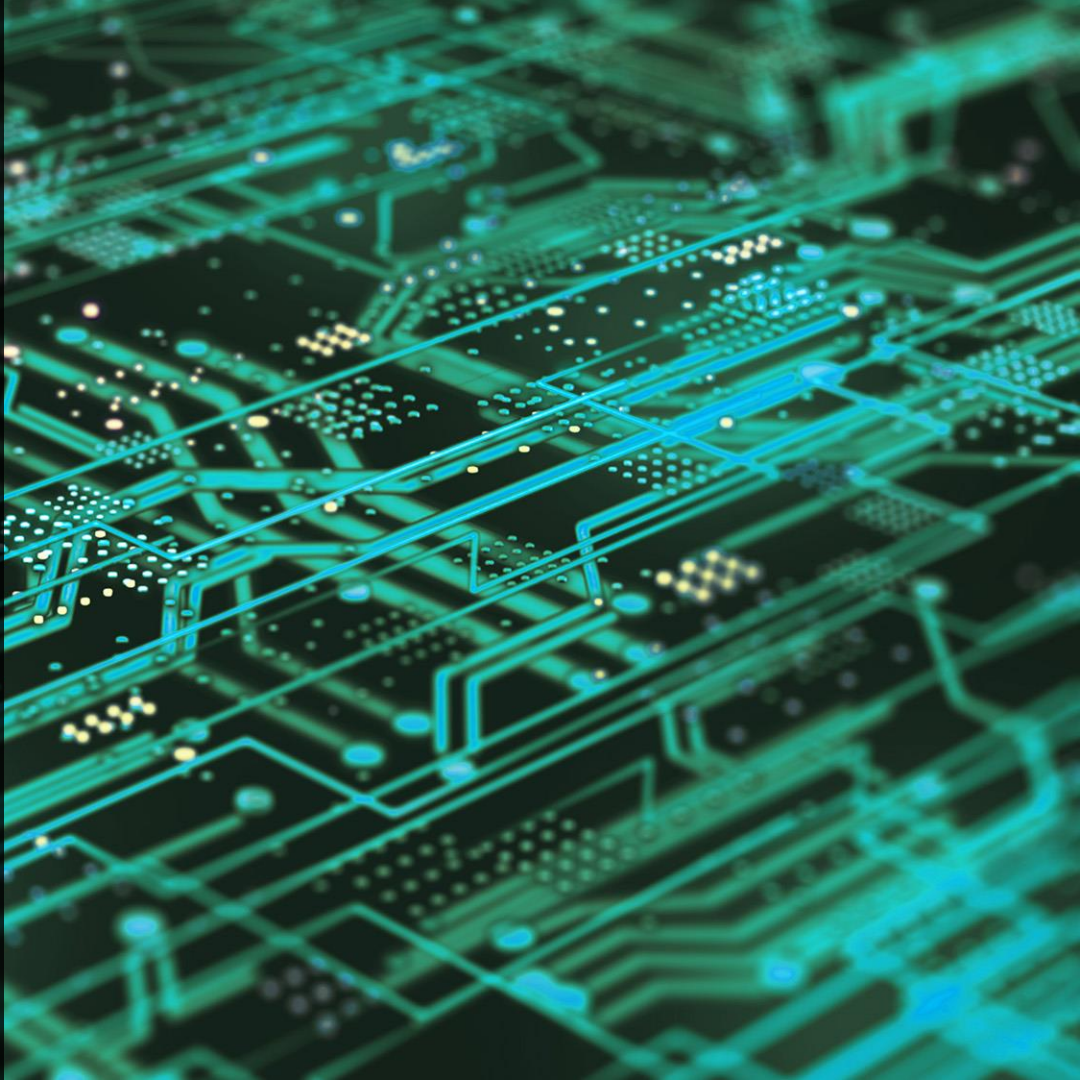
Sustainable AI-Ready Data Center Design

AI-Ready High-Performance Power Trains

**Hybrid & High Efficiency Cooling
Solutions for AI Loads**

Prefabricated modular Data Centers

Safeguard your Operations



Sustainable AI-Ready Data Center Design

Enabling data center providers to design scalable and next gen AI-Ready data centers, using design expert services and best-in-class software-suite solutions.

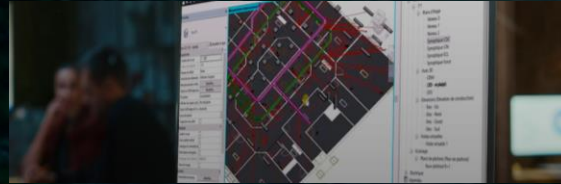
ETAP VOTED

Top 10

ELECTRICAL DESIGN SOFTWARE

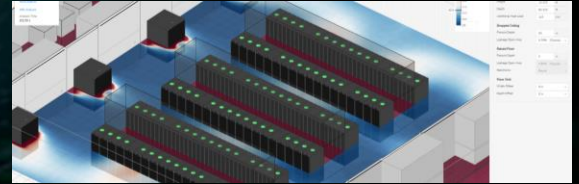
ETAP Digital Twin

Unified engineering and real-time platform to accelerate productivity, increase efficiency, and enable digitization of power systems at every stage of the electrical installation life cycle.



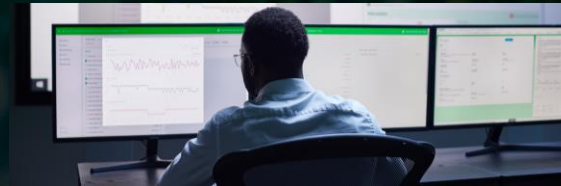
EcoStruxure™ IT Design CFD

Cloud-based data center design software that enables data center managers and designers to reduce OPEX, optimize cooling, and mitigate asset risk using the science of computational fluid dynamics (CFD).



EcoConsult

Consultants who audit, evaluate, and map electrical and automation assets and systems, leveraging software to optimize and digitize those assets and systems.



Power System Analytical Studies

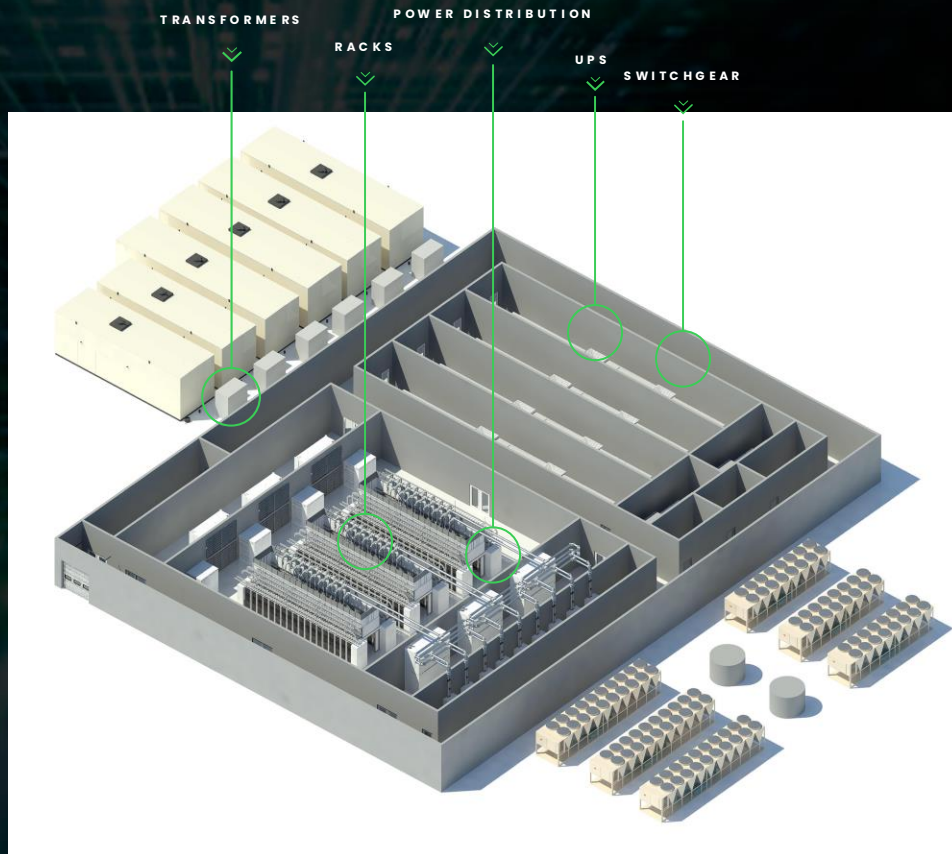
Analytical studies help ensure electrical systems operate as they were designed and intended. In addition to troubleshooting problems, managing an electrical system involves identifying potential issues and eliminating or mitigating their effects. Power system analytical studies guard against improper system operation and the possibility of catastrophic losses.



AI-Ready High-Performance Power Trains

Integrated & intelligent high-density electrical equipment & white space infrastructure suited for AI workloads.

Grid to Chip





Grid to Chip

AI-Ready High-Performance Power Trains

Continued

Offering comprehensive cutting-edge power assets for data centers, ensuring the safety and reliability of operations.

Low Voltage Switchgear and Breakers

Hardware with latest evolutions of IEC and to IEEE standards.



Medium Voltage Switchgear and Breakers

Hardware with latest evolutions of IEC and extended to IEEE standards.



Power Distribution

Efficient power distribution is crucial for maintaining the operational integrity and energy efficiency of a data center. We provide reliable power solutions designed to optimize performance and reduce downtime.

Line Series & Galaxy Power Distribution



Uninterruptible Power

Highly efficient, scalable 10-1500kW range of UPSes featuring modular, redundant design and AI profile compatibility.

Galaxy VXL

Galaxy VL

Galaxy Lithium - ion

Galaxy 3-Phase UPS

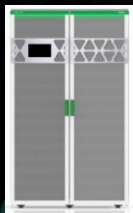


Introducing the Galaxy VXL UPS:

AI-Ready and Most Sustainable UPS of-its-Kind



Galaxy VX –
1250kVA



Galaxy VXL –
1250kVA



Compactness

50%-70% footprint improvement

- Power density 6X (25X vs GVL)



AI-Ready

Modular and scalable

- AI load profile and grid interactive ready
- Accommodates multiple battery chemistries
- Faster deployment w/ modular design



Sustainability

26% Life-cycle carbon reduction

- Efficiency 96% → 97.5%
- 60% raw material weight reduction
- Green Premium

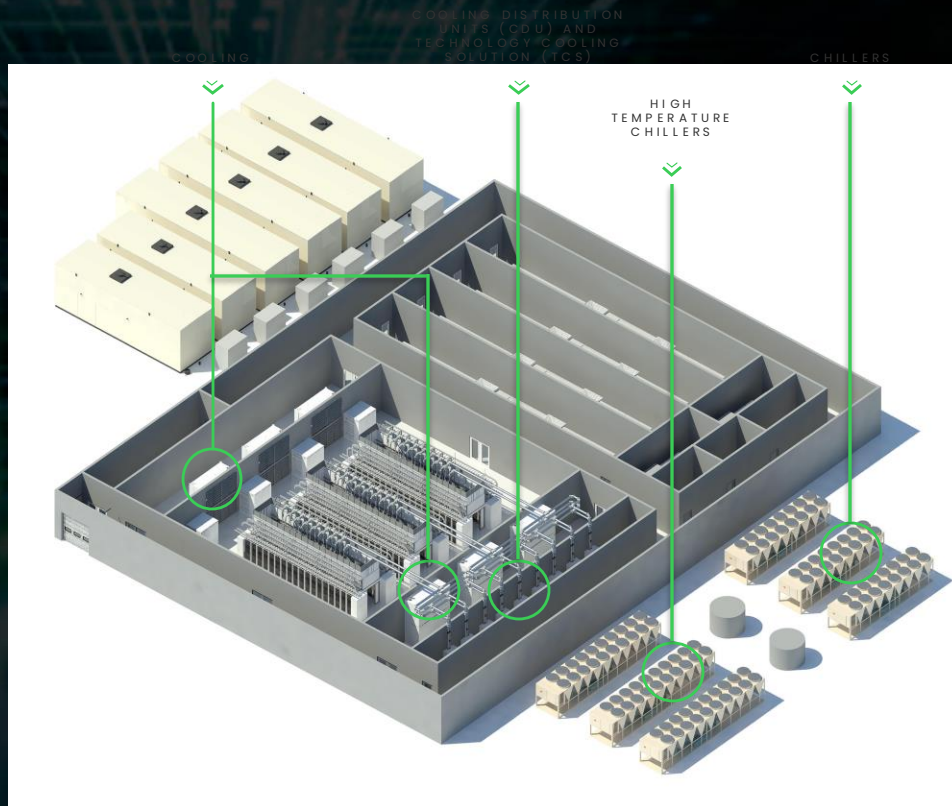


TCO Improvement

33% lower Total Cost of Ownership

Hybrid & High Efficiency Cooling Solutions to Run AI Loads

Schneider Electric is investing and developing high efficiency cooling solutions to adapt to high-compute AI needs.



Chip to Chiller

HYBRID & HIGH EFFICIENCY COOLING SOLUTIONS TO RUN AI LOADS CONTINUED

Liquid Cooling

Liquid cooling is an architecture in which Coolant Distribution Units (CDUs) are the backbone, between servers and heat rejection units.

- Liquid to Liquid CDUs ensure flow control, temperature control, and pressure control to the Technology Cooling System (TCS), as well as fluid treatment, filtration and quality
- Liquid to Air CDUs, are an alternative solution which allows liquid cooling servers to be used in an air based white space
- Manifolds distribute fluid throughout servers, ensuring a consistent flow of cooling
- Cold plates reject chip heat into the fluid distribution, maintaining the device's optimal operating temperature



Uniflair Coolant Distribution Unit (CDU)

High Temperature Chillers

Designed for flexibility and efficiency, using economization / free-cooling as primary heat rejection.

- Oil free centrifugal chillers as a super efficient solution
- Flexible Heat rejection units to be adaptable to uncertain case temperature requirements and to allow a smooth transition from air-cooled to liquid-cooled servers



Uniflair Chillers

Air Cooling

Chilled water and direct expansion solutions for supplementing liquid cooling systems or for auxiliary rooms, independently on the site's architecture.

- Downflow or underfloor solutions for traditional data centers with raised floors
- Frontal discharge fan walls for new and modern data centers without raised floors
- Rear door heat exchangers, connected directly to the racks complement liquid cooling and minimize impact on the white space



Uniflair Room Cooling

Joint Value

Schneider
Electric

motivair

Acquisition Sign Off:
February 2025

01

10 + years experience in liquid cooling and high-density computing applications

02

Design, commissioning, and **full lifecycle** of liquid cooling solutions for more than 10 years

03

"Silicon" sector deep knowledge

04

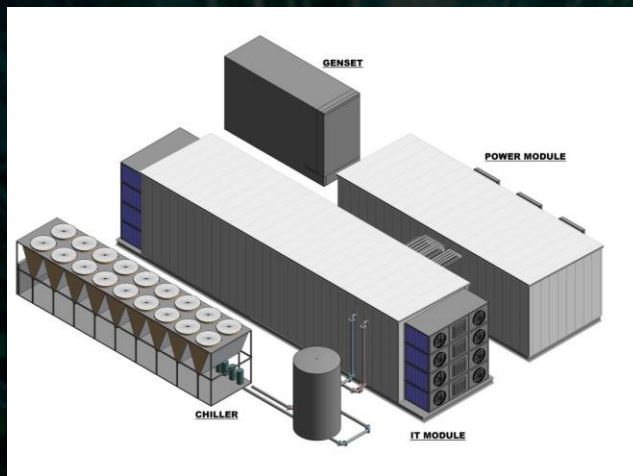
End-to-end cooling portfolio, from Grid to Chip and Chip to Chiller

Prefabricated Modular Data Centers

Modular data centers can provide the infrastructure, power and thermal management necessary for AI model training and inference. Each unit delivers purpose-built solutions customized to achieve your strategic AI goals.

30%

FASTER TIME TO MARKET WHEN
COMPARED TO TRADITIONAL
STICK-BUILT SOLUTIONS



Today, businesses have a growing data need that require the ability to seamlessly add data center capacity. Schneider Electric's Modular Data Center solutions promote designs that not only adapt to complex customer infrastructure requirements, but to different locations and environments.

Today, businesses have a growing data need that require the ability to seamlessly add data center capacity. Schneider Electric's Modular Data Center solutions promote designs that not only adapt to complex customer infrastructure requirements, but to different locations and environments.



Speed to Market

Designed, manufactured, tested and delivered as a complete system.



Predictable Performance

Data center design supporting higher rack densities, thermal management and power load.



Ease of Scalability

Pre-engineered repeatable clusters for deployment wherever organizations need rapid, adaptable, scalable infrastructure.

EcoStruxure Pod Data Center

Prefabricated, Modular Pod

- Hyper and exascale cluster infrastructure for easy plug-and-play
- Pre-built in a Schneider facility (very little onsite assembly required)
- Drives easier, faster, and more reliable IT roll-outs

Configurable Pod

- Streamlined infrastructure for small- to mid-sized deployments
- Configured and tested for seamless integration on site
- Efficiently scales IT power and cooling at smaller increments

**AI Nvidia DGX SuperPOD
validated under NVL72 - GB200
1153GPU**



Safeguard your Operations with Next-Level Proactive Asset Management Services

Developing next-level services to optimize data center maintenance through 24/7 asset tracking to power predictive analytics.

6,000+

ELECTRICAL ASSET EXPERTS

AVEVA Unified Operations Center

Bring end-to-end operational visibility across a data center portfolio to maintain uptime, mitigate costs, and manage complexity.



EcoStruxure™ IT Advisor

Cloud-based asset and planning software to reduce OpEx and plan for uptime, with analytics to facilitate capacity planning.



EcoCare

EcoCare is a next-generation service plan which combines priority support from our services experts with AI-powered advanced analytics to help you boost uptime, safety and efficiency.



EcoStruxure IT Helps Organizations Evolve

Schneider Electric's comprehensive DCIM solution, EcoStruxure IT, ensures business continuity by enabling secure monitoring, management, insights, planning, and modeling whether from a single IT rack to hyper-scale IT, on premises, in the cloud, and at the edge.

EcoStruxure IT



**Monitoring &
management**



**Planning
& modeling**



**Custom solutions
& integrations**

Back to World Map



Summary

Data Center 1 (CRAC)

Data Center 2 (Fan Wall)

NOC Room

Local: 21.01.2022 | 12:35

Today's Figures

- PUE
1.27
- Total Utility (kVA)
39421 kVA
- Total Utility (kW)
38941 kW
- Total IT Load (kVA)
31213 kVA
- Total IT load (kW)
30470 kW
- Average UF Temperature
21.9 °C
- Average UF Humidity
46 % Rh
- Critical Alarms
0

Weather

FORECAST

Cloudy

OUTSIDE TEMP 15.40 °C

WIND 1 KMH

HUMIDITY 52%



Data Center 1 (CRAC)

Site Overview

Areas

Data Hall Cooling

Ventilation

Electrical

Server Rack

PME



Data Center 1 (CRAC)

Site Overview

Areas

Data Hall Cooling

Ventilation

Electrical

Server Rack

PME





SE Data Center

Overview



Campus PUE



Campus Power



Campus Alarms



Efficiency



1.34

Average Campus PUE



2.4%

PUE Over Last Month



15349 L

Water Consumption (Last Month)



1.16

Water Usage Effectiveness (WUE)



Alarms



4

Critical Alarms (Today)



34.7min

Longest Alarm Duration (This Month)



3

Equipment Faults (This Month)

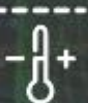


Space Conditions



23.0°C

Average Space Temp



21.9°C

Average Underfloor Temp



48% Rh

Average Space Humidity



46% Rh

Average Underfloor Humidity



Active Campus Alarms



Average Alarm Duration (This Month)

3.5 min

Longest Alarm Duration (This Month)

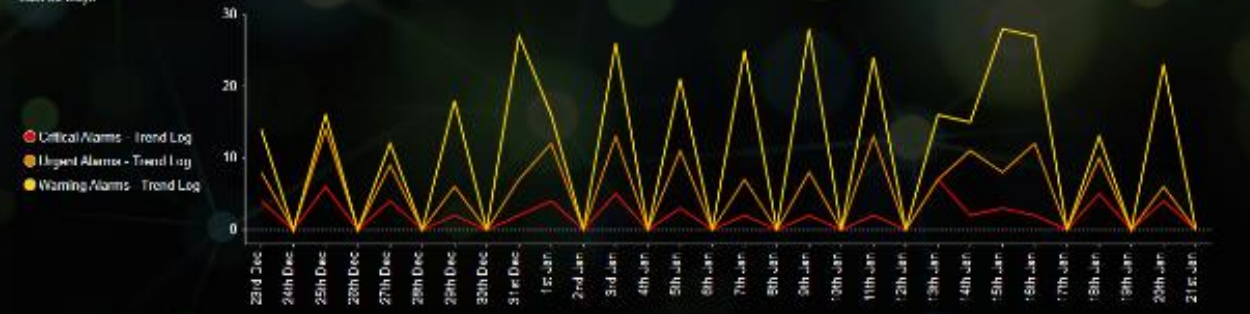
34.7 min

Data Center Alarms



Campus Alarms

Last 30 Days





SE Data Center

Overview



Campus PUE



Campus Power



Campus Alarms



Data Center 1 PUE

- Data Hall 101, Value
- Data Hall 102, Value
- Data Hall 201, Value
- Data Hall 202, Value



Data Center 2 PUE

- Data Hall 101, Value
- Data Hall 102, Value
- Data Hall 201, Value
- Data Hall 202, Value



Average Campus PUE

Last 12 Months over Previous 12 Months



Reference Projects



T964

2MW
Colocation
Data Center,
Solution
Covering (UPS,
Cooling, Racks
and DCIM)



CBI

New CBI
Building,
Solution
Covering UPS,
Cooling and
Panels



EAK

Prefabricated
Data center



Taif Pay

Main Data
Center, Solution
covering (UPS,
Cooling, Racks
and DCIM)



Erbil Airport

Prefabricated
Data center



INIS

Main Data center,
Solution Covering
(Cooling, UPS,
Racks, DCIM and
Panels)



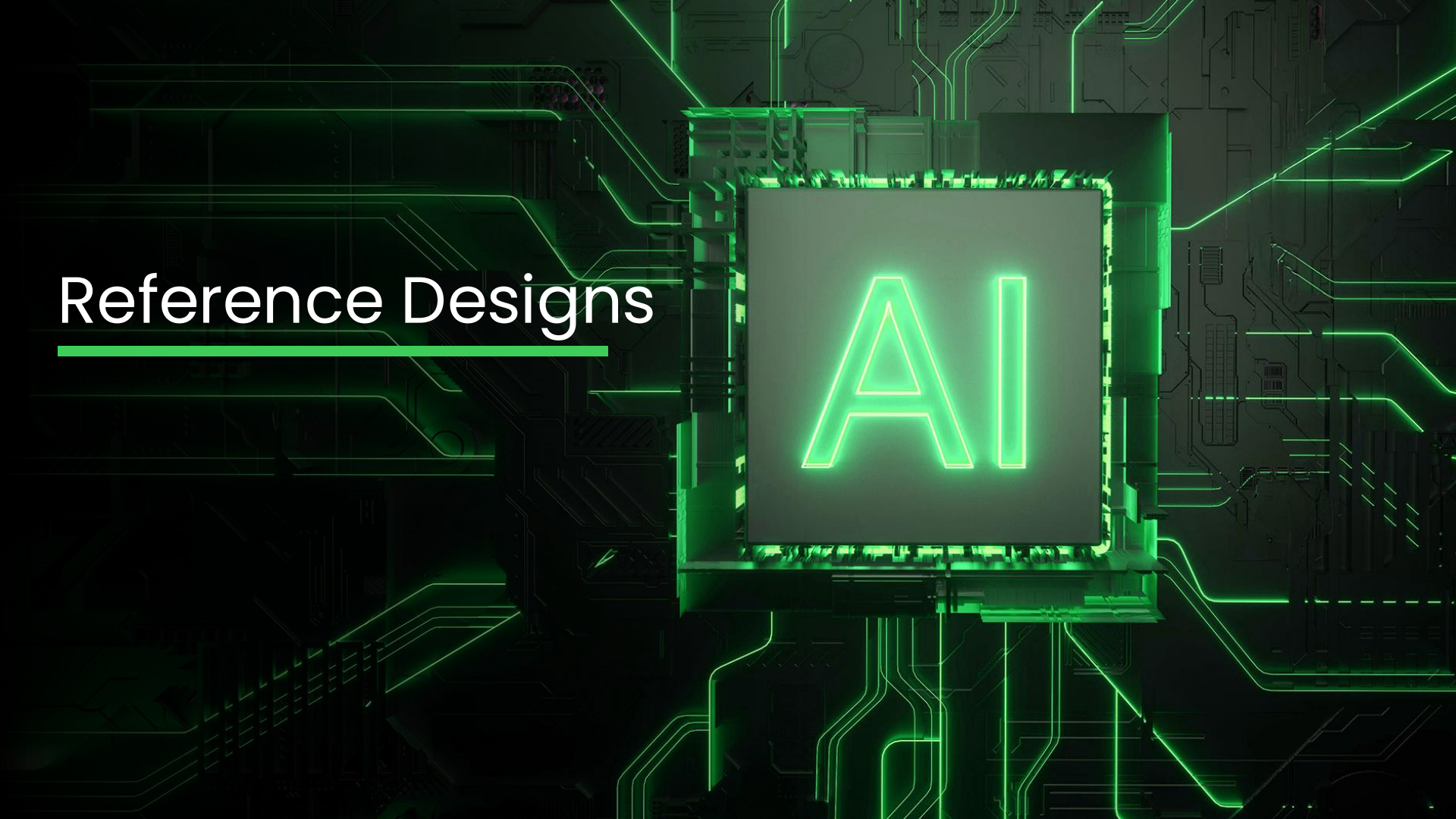
GWY

Infrastructure
Project for 32
Building, Solution
covering (UPS,
Racks, ATS)

Life Is On

Schneider
Electric

Reference Designs

The background of the image is a dark, complex circuit board with glowing green lines representing traces and components. In the center, there is a square chip with a glowing green border. Inside the chip, the letters "AI" are displayed in a large, glowing green, outlined font.

AI

Why Partner in Data Centre Reference Designs ?

You can find our library of reference designs here:

<https://www.se.com/ww/en/work/solutions/for-business/data-centers-and-networks/reference-designs/>

- Detailed design covering various subsystems: power, cooling, IT
- Training tool for new products and architectures
- Serves as an aid to customers as a starting point for data center design

Main challenges to data center physical infrastructure:

- **Densifying the IT systems (rack systems)**
- **Distributing big power in small spaces**
- **Installing complex and immature liquid cooling**

These AI reference designs cover these challenges

Why Customers Choose Schneider Electric

There's a reason we're the partner of choice when it comes to navigating accelerated computing AI data centers.

From our strategic expertise to end-to-end solutions, we have the largest and most global solution portfolio as well as the best local technical experts for data center power, cooling and sustainability.

Our customers trust us to meet their AI workload challenges, no matter what.



End-to-end solutions for all AI workload variations – training, inference/ augmentation.



Investment in R&D, manufacturing capacity and solution architect coverage.



Our expertise ensures innovative solutions and unparalleled support.



The world's 10 leading cloud and service providers trust our solutions.



We advise 40% of Fortune 500 companies on sustainability.



“

”

Speed to market is the most important factor for our client base and it's our #1 value add. Schneider Electric makes it easier for us to make an impact by being a totally integrated supply chain partner.

Chris Crosby, Founder & CEO
Compass Datacenters

A person is walking away from the camera down a long, dimly lit aisle in a server room. On both sides of the aisle are tall server racks filled with equipment, many of which have glowing green and blue indicator lights. The floor is dark with a yellow safety line. The overall atmosphere is technological and professional.

**Schneider Electric has the *Expertise*,
Connected Solutions and *Ambition* to be
your
trusted partner along the journey**

A person is standing in the center of a long, dark server room aisle. The aisle is flanked by tall server racks on both sides. The floor is made of metal grates. The lighting is dim, with some light coming from the racks and the person's reflection on the floor. The text is overlaid on the image.

**We will help you establish a *vision* and
build your *data center of the future***

A person is standing in the center of a long, narrow aisle in a server room. The aisle is flanked by tall server racks on both sides. The racks are filled with various components, and many of them have glowing green and blue lights, creating a sense of depth and perspective. The floor is made of metal grates. The overall atmosphere is dark and technological.

“Without ***Innovative*** Technology Partner like
Schneider Electric, there can be no AI !”

**Schneider Electric is your
Partner for**

Impact

in the Era of AI



Advancing Energy Tech



se.com

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