



# Capital Market Event 2024

## Electrification

**Stephan May**, CEO Electrification & Automation

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# Notes and forward-looking statements

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Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

# The global megatrends of decarbonization and electrification drive secular growth in our market



**Power consumption**  
By 2050

2x



**Decarbonization**  
Renewables by 2030

3x

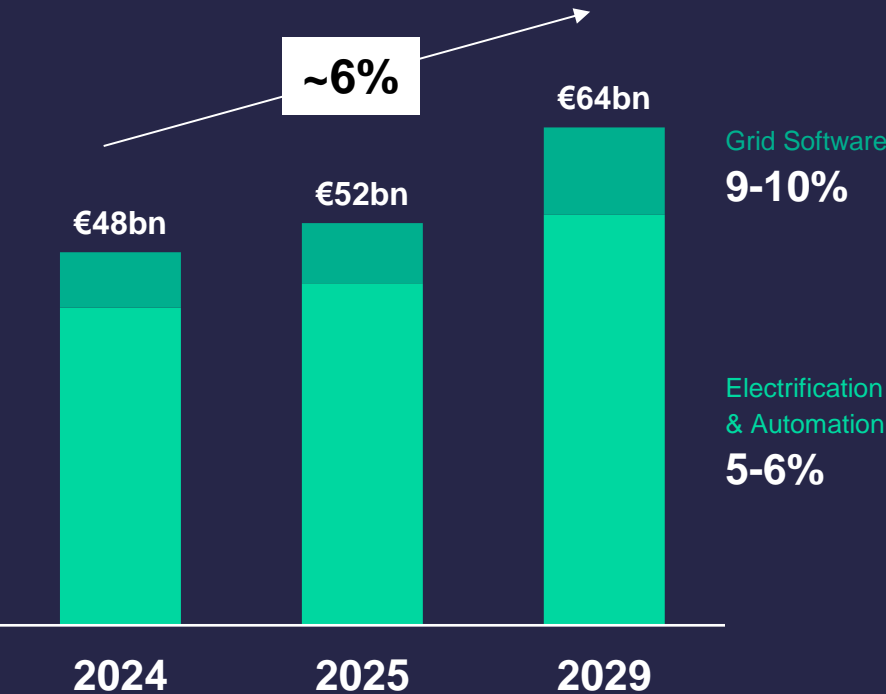


**Grid expansion**  
Grid capacity by 2035

2x

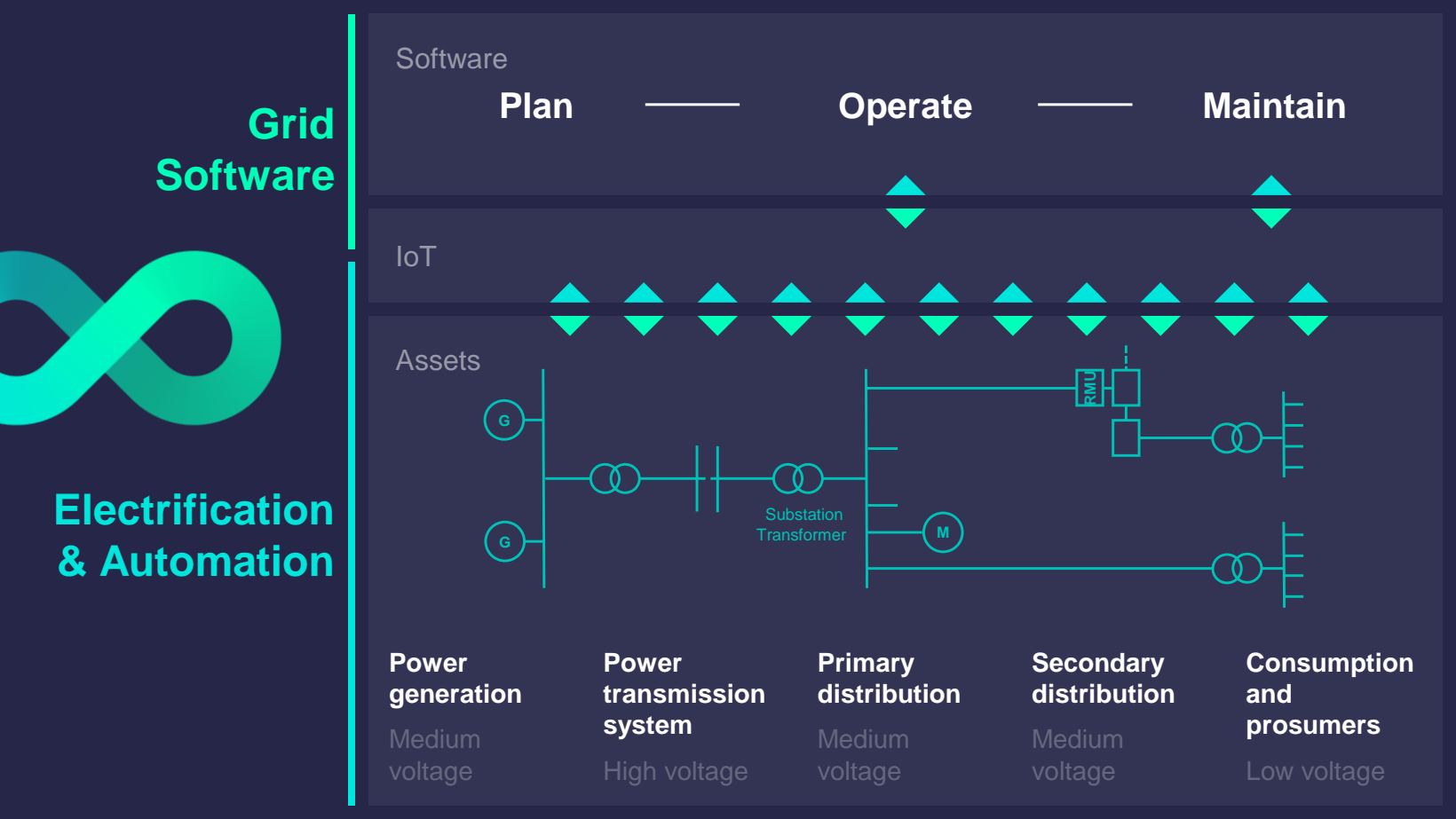
## Electrification market

FY24–29 CAGR (comp.)



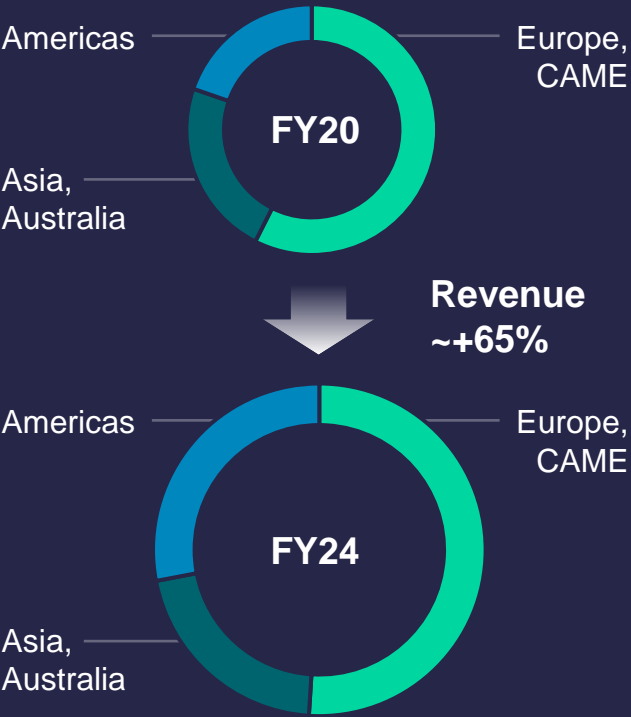
# SI Electrification combines the real and the digital worlds

## Balanced global presence – strategic regional focus



### Geographic mix

Revenue split by regions





By forming a global player in electrification and automation we have established a strong track record in our industry

Electrification & Automation – Achievements since FY20



Leading products in highly dynamic markets

- Market leading F-gas-free blue GIS
- First and unique digital twin of a protection relay



Stringent execution

- Initiated capacity expansions at right time
- Global production base across regions with resilient supply chain



Scalable solutions

- Data center solutions (Orders growth ~8x)
- Smart substations for EV charging

~2x Orders

~2x Profit margin

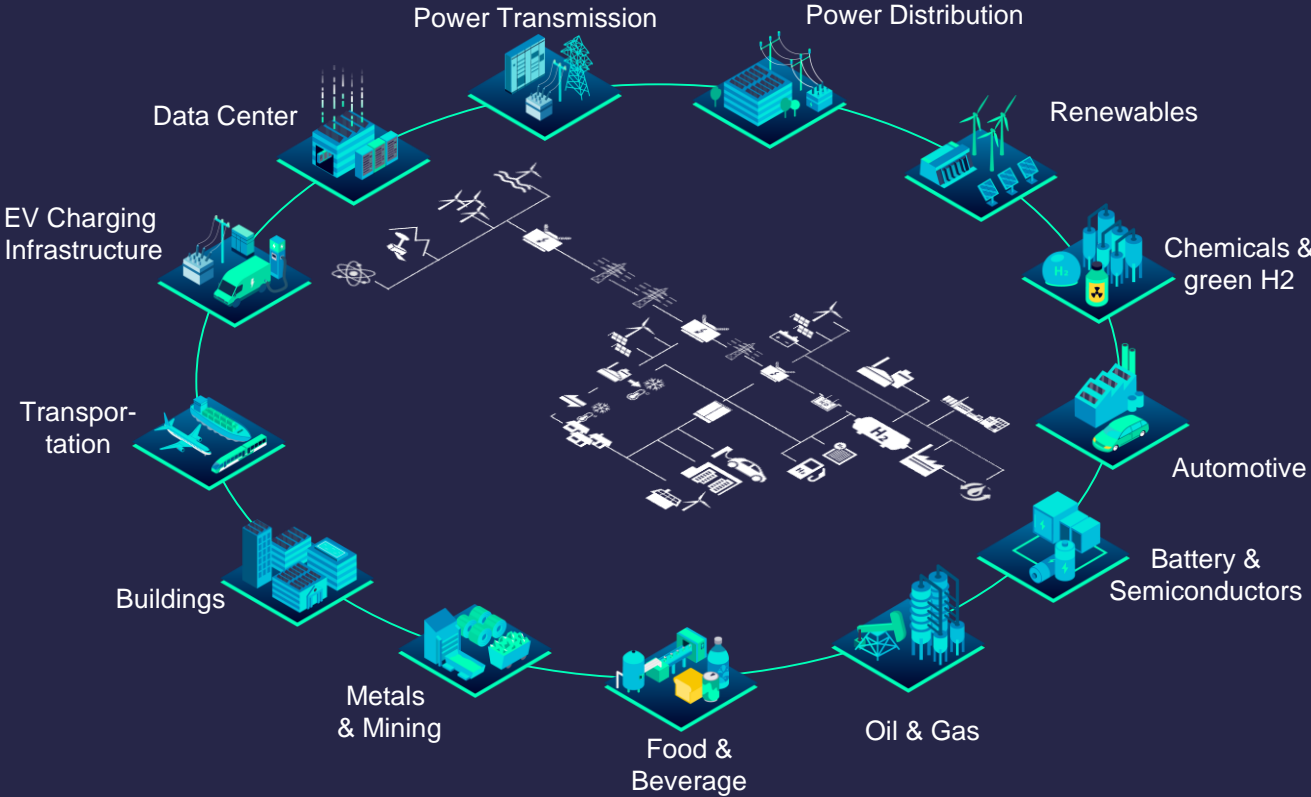
>1 cumulated CCR

# We scale electrification of everything across all verticals

## All electrical grids drives demand

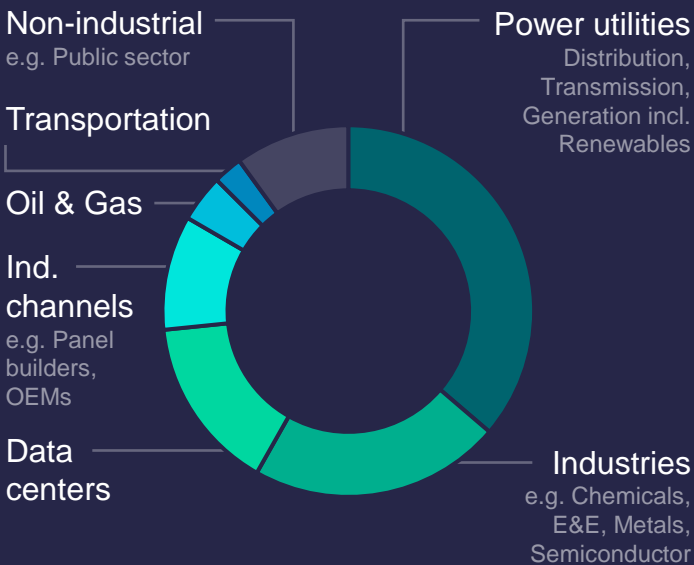
Electrification  
**EA** GridSW

### Enormous expansion of public and private grids in progress

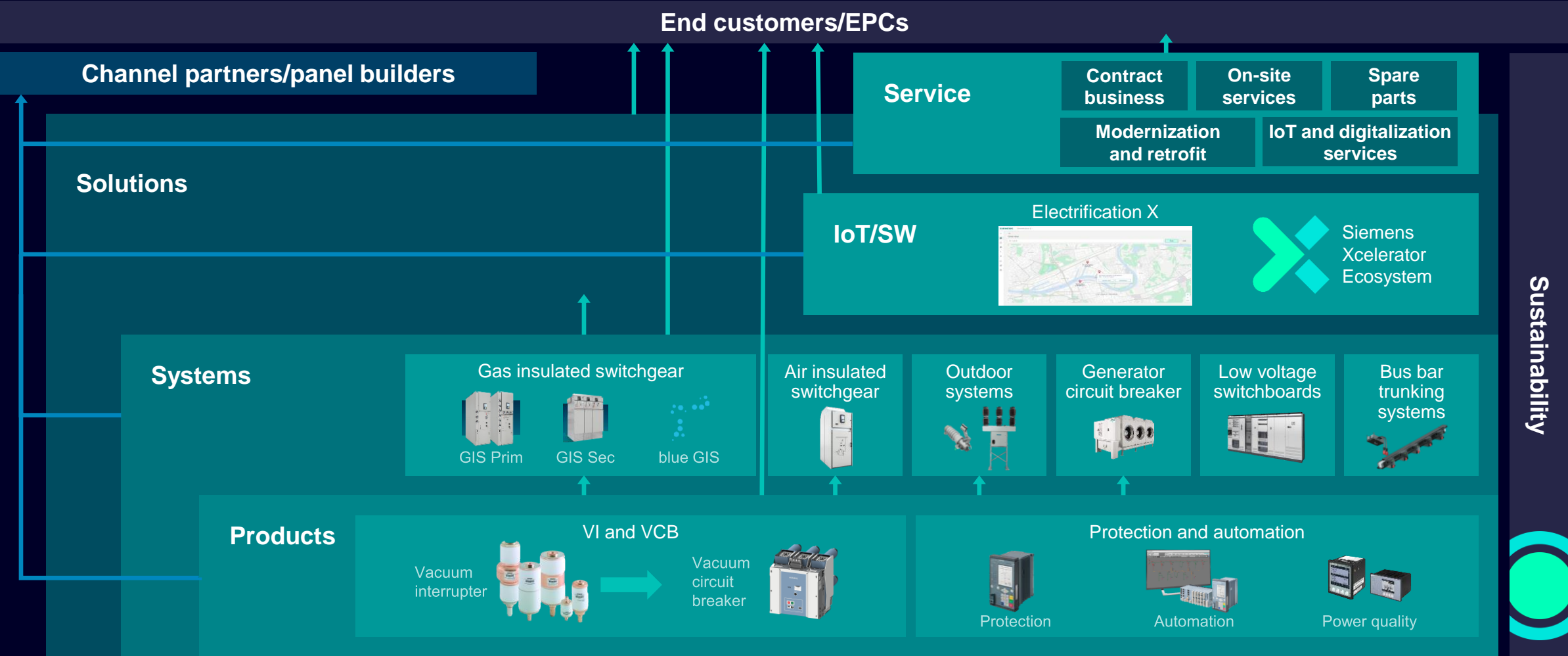


### Well balanced mix across verticals

Revenue FY24



# Our comprehensive portfolio based on relevant technology supports multi-channel go-to-market and a balanced business mix

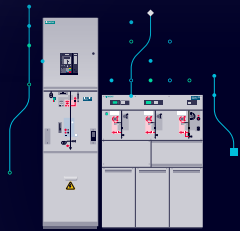


# We differentiate through technology leadership and sustainability

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F-gas-free blue GIS  
MV Switchgear

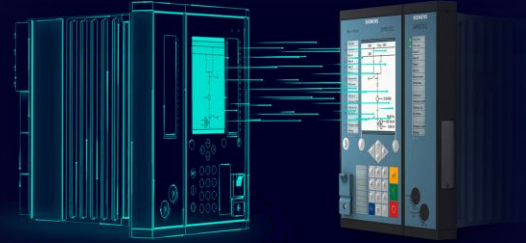


Smart & intelligent  
SIBushing

## blue GIS and SIBushing

### blue GIS with eco-efficient design

- Majority of our gas insulated MV switchgear will be based on **sustainable blue technology by 2027**
- **Reduced efforts** in engineering and planning
- **Simplified** supply chain
- **Market leader** with blue GIS
- **Hit rate** for blue GIS is **>60%**



## SIPROTEC Digital Twin

### SIPROTEC digital twin, the digital replica of a protection relay (part of Siemens Xcelerator)

- **Hardware-free** testing supporting all SIPROTEC 5 devices and firmware
- Pre-testing configurations with up to **50% savings** for device trainings, up to **80% faster** fault analysis
- The **first and unique** digital twin of a relay in the industry



## Electrification X @ Siemens Xcelerator

### Integrated IoT suite to master the key challenges of the energy transition

- **Increase asset uptime** while reducing OPEX and CAPEX
- **Reduce energy cost** and CO<sub>2</sub> emission
- Manage rapidly growing **EV charging networks**
- Keeping distribution **grid stable**
- Localize and manage **network faults**
- Ensure **cybersecurity**



# We have initiated investments at the right time to capture growth opportunities – supported by a growing backlog

Reliable partner with **global network** of >30 factories & workshops and **strong regional presence**

Substantial progress in **adding capacity at existing sites** for minimum ramp up time and maximum impact:

North America	~€110m	<div></div>
Europe	~€250m	<div></div>
India	~€45m	<div></div>
China	~€70m	<div></div>



Resilient supply chain across all regions

## Outgrowing market in booming times

Revenue CAGR FY22–24

	Market	EA
U.S.	~+30%	~+45%
Germany	~+10%	~+20%
India	~+20%	~+35%
China	~+3%	~+8%

Acquisition of **Trayer Engineering** extending portfolio with submersible and padmount MV switchgear

#1 in Medium Voltage Switchgear

#1 in Protection and Automation (IEC)

IEC = International Electrotechnical Commission

# We are the partner of choice for industry and infrastructure customers on their journey to electrification of everything

## ARAL and BP

Siemens and Aral/BP partner to deliver 650 intelligent substations incl. Electrification X and cybersecurity in Germany.



## E.ON Drive

Joint agreement with E.ON Drive Infrastructure to support decarbonization of European road transport with smart infrastructure and services.

## EXAMPLE Intelligent EV charging infrastructure

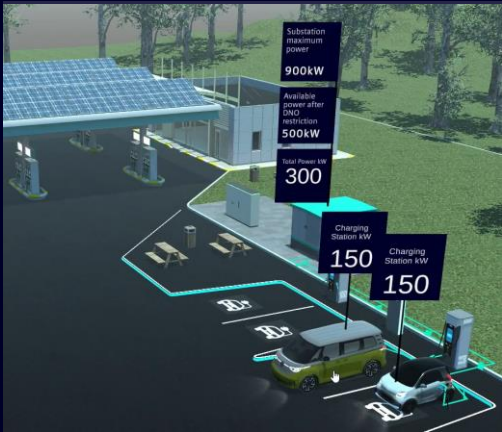
### Optimized grid utilization

- Dynamic load management from grid to charger
- Full integration of renewable sources
- Remote control, reset and operation – real time

### Scalable solution

- Reduced lead times
- Reduced engineering
- Flexible architecture
- Global availability
- Proven solution

Reduced CAPEX up to -15%



Electrification X  
Dynamic Load Management



Scalable solution:  
intelligent EV charging substation

# Utility customers trust and value our solutions

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## Our portfolio

### SIPROTEC 5 Digital Twin

### SIPROTEC 5

protection and automation platform as key for digital substations to digitize analog signals in switchyards

### RuggedCom communications

solutions from Siemens DI

### Local engineering & solution capabilities

## Endeavour Energy

Supplies power to over 2.7 million people in Australia and is transitioning from a traditional “poles and wires” business to a distributed system operator.



## Customer value

- **30% cost** savings compared to traditional substation setup
- Construction time reduced to **15 months** (typically ~3 years)
- **Control room size** reduced by **~50%**
- **Improved safety** for staff due to removal of voltages and currents from control room
- **Improved reliability and reduced maintenance**

## Sustainability impact

- **~90%** fewer copper cables (~7.5km)
- **370m<sup>3</sup>** less concrete, **600m<sup>3</sup>** less soil excavation

# Siemens Grid Software has outgrown the market from an already strong position

## Portfolio

**Grid Planning software**  
#1 position

**Grid Control software**  
Key player, with strong customer base, globally

**Meter Data Management software**  
#1 position

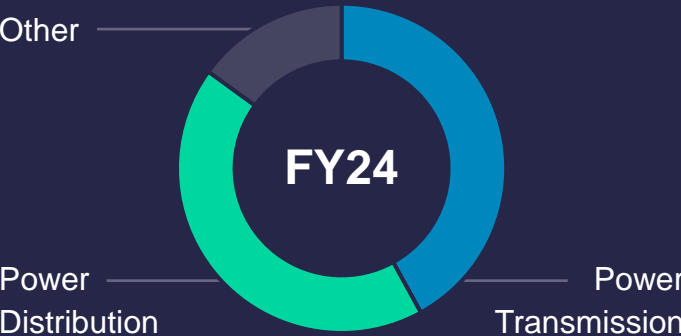
**Power system consulting**  
Advising clients on most complex energy transition challenges



## Performance

**+25% CAGR**  
in software revenue over 4 consecutive years (FY20–24)  
**>50%** of software revenue already **ARR**

## Revenue by verticals



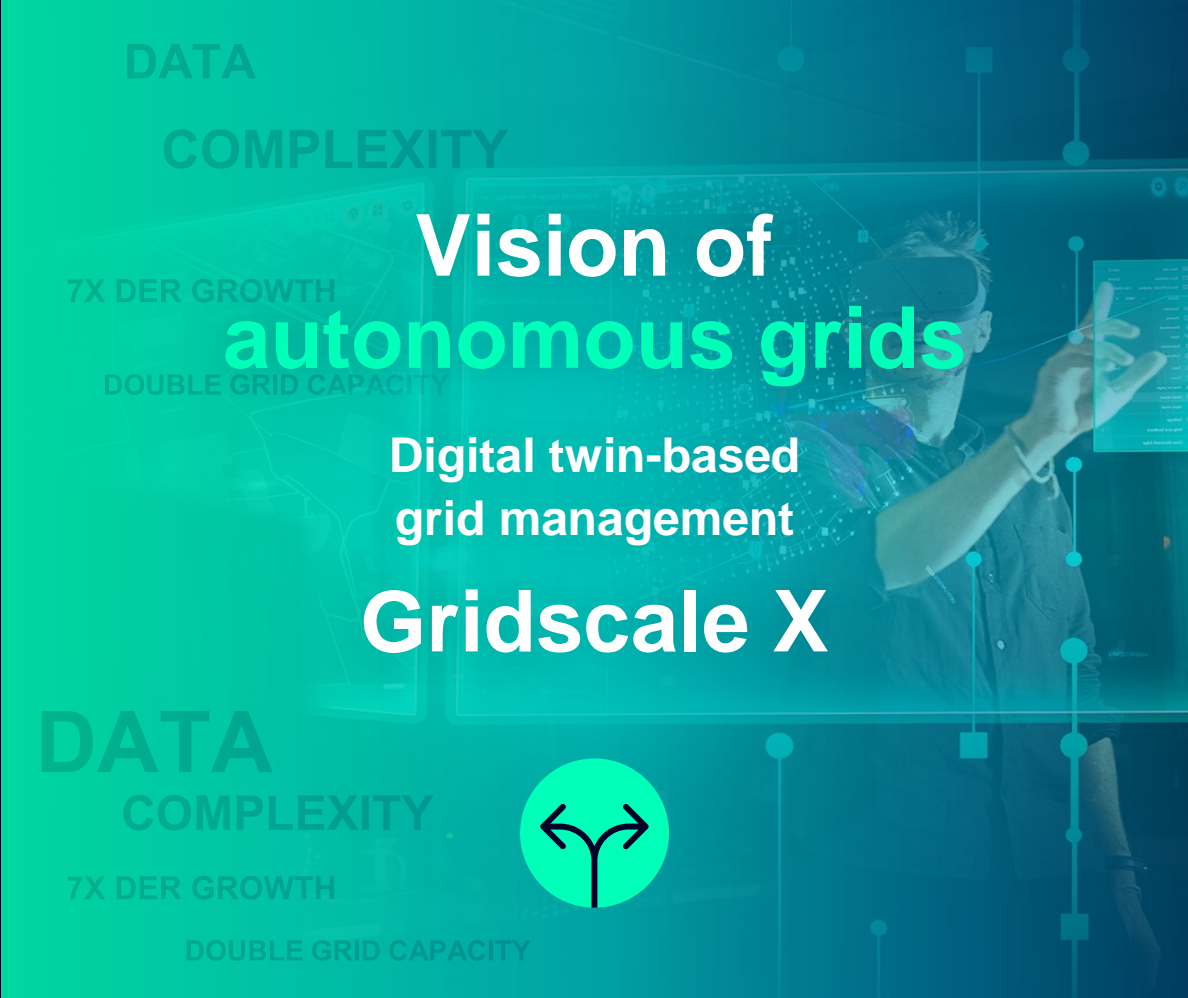
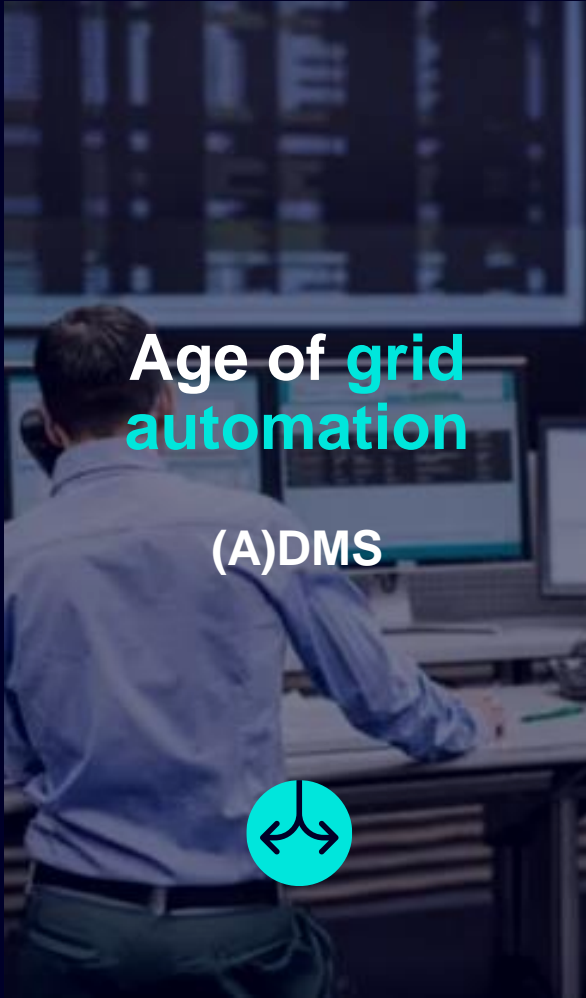
## People

**Management team**  
experienced leaders from native software companies, e.g., Oracle, Salesforce and DI SW

**Sales**  
>200 dedicated software sales professionals carrying quota

**R&D**  
40% of total invest already allocated to cloud developers

# Vision of autonomous grids – we embark into a new era of grid management





# Gridscale X innovates the approach to grid planning and operation based on Digital Twin

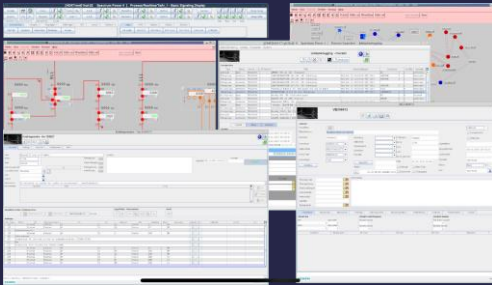
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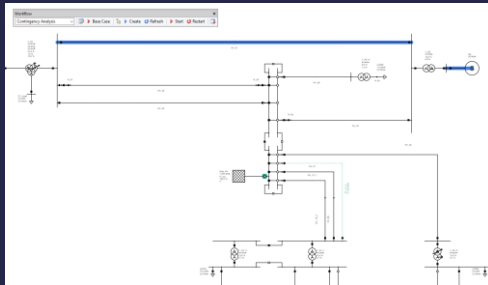
GridSW

## From siloed expert applications ...

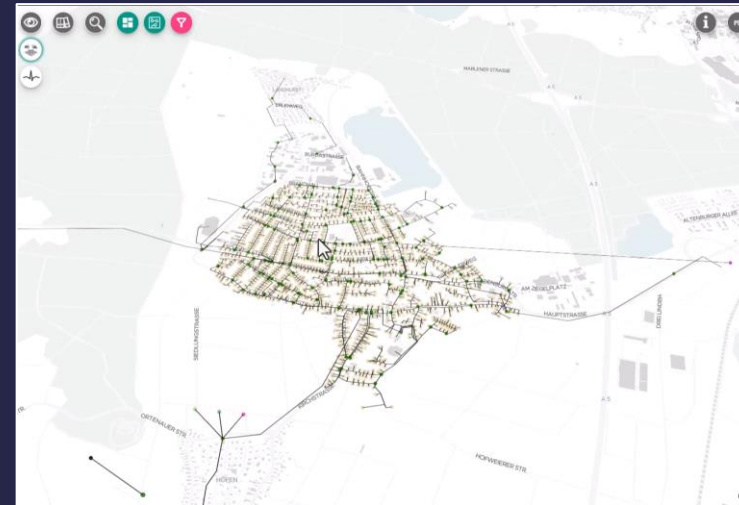
### Grid Operation



### Grid Planning



## ... to an open and modular SW platform



- Enhance usable grid capacity by up to **30%**
- Manage **7x** DER growth
- Optimize hardware investments by up to **45%**

**From**

separate expert tools ...  
assumption driven ...  
human reactions to alarms ...

**To**

... intuitive modular platform  
... data driven  
... autonomous grid management

DER = Distributed Energy Resources

# Siemens Grid Software – best positioned to continue to scale software business faster than market

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## Strong opportunities for continued growth

**Scaling Gridscale X** across system operators in Europe and US based on **strong proof points**, leveraging strong installed base

Significant **long-term double-digit growth** opportunity for **Grid Planning** due to 2x grid expansion and integration of renewables

**Significant expansion** potential from AMI 2.0 and with installed base of **Meter Data Management** customers (+70% of meters yet to be rolled out)

### EXAMPLE

## Strategic partnership with Alliander

**alliander**

- Largest energy network company in the Netherlands
- Recognized leader in digital transformation in Europe
- Increase electrical grid usage in the owned grid **up to 30%** (customer estimation)
- Mitigate societal economic **impact of €10-40bn p.a.** by admitting more connection requests to the grid much faster (bringing an enormous backlog down to ~0)



**We share the same vision and key principles of open, modular and interoperable software.**

Daan Schut, Chief Transition Officer Alliander



## How we contribute to the new SI targets

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### 1 We are in the sweet spot of a secular market growth.

Electrification and digitalization of everything, decarbonization, grid expansion

### 2 We are market leaders.

#1 in MV Switchgear, Protection & Automation IEC, Grid Planning and Meter Data Management

### 3 We are technology and thought leaders.

blue GIS, Digital substations, Digital transformation for grid management, Gridscale X, Electrification X

### 4 We invest to capture global growth opportunities.

Capacity extensions, Siemens Xcelerator ecosystem, NextGen grid management with autonomous grids

### 5 We continue our profitable growth.

Continuously outgrowing the market, execute on record backlog, increasing software ARR