

**Siemens Energy's added value as  
complex solution supplier including  
STG and I&C for SMR projects**

April 10<sup>th</sup>, 2025  
Sofia, Bulgaria



Siemens Energy is a  
**global leader in the  
energy business**

**~1/6**

of global electricity generation  
is based on our technology.

**100,000**

employees work as a team  
to energize society.<sup>1</sup>

We are present in

**>90** countries.

We invest around

**€1.2bn** annually in  
research and development.

<sup>1</sup> Number of employees as of December 31, 2024

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# Our financial performance in the Fiscal Year 2024

Orders  
**€50.2bn**

Revenue  
**€34.5bn**

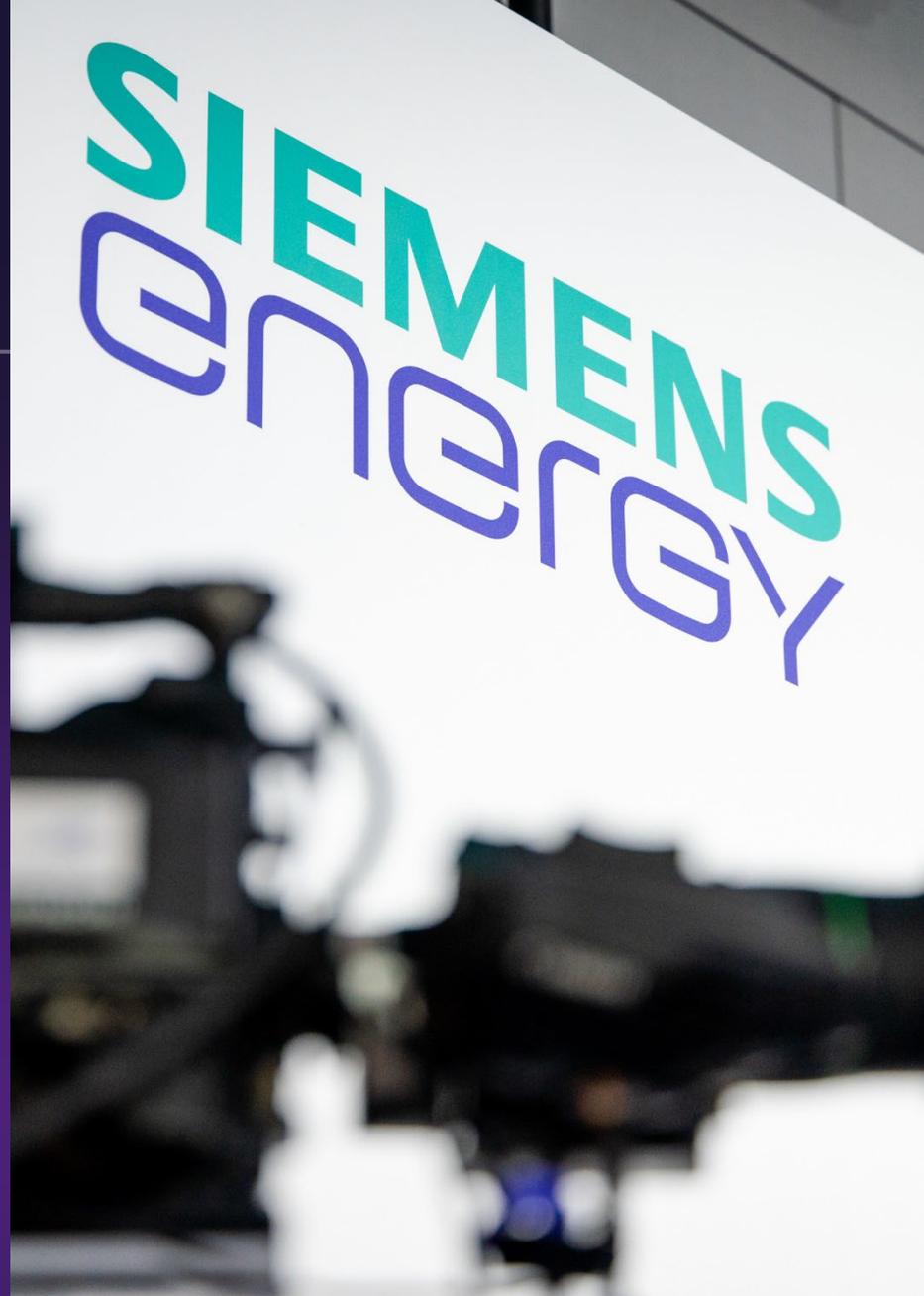
Order backlog  
**€123bn**

## Top end of FY24 guidance reached for all KPIs

- Strong revenue growth and significant margin expansion
- Very strong free cashflow generation
- Record order backlog with improvement margin quality

## Electricity market continues with strong growth momentum

- Increasing electricity demand drives infrastructure needs
- Grid remains focus area of customer investments
- Rising demand of data centers



# Siemens Energy Site Muelheim an der Ruhr

## Competence Center for Energy Transition Technologies



### Key Facts



### Our locational advantage

#### River Ruhr access



#### Balancing bunker



#### Electrical test field





SIEMENS  
ENERGY

**Olkiluoto** - World record turboset for Nuclear Power Plant manufactured & tested in Muelheim, Germany



# Our Nuclear Steam Turbine Know-How

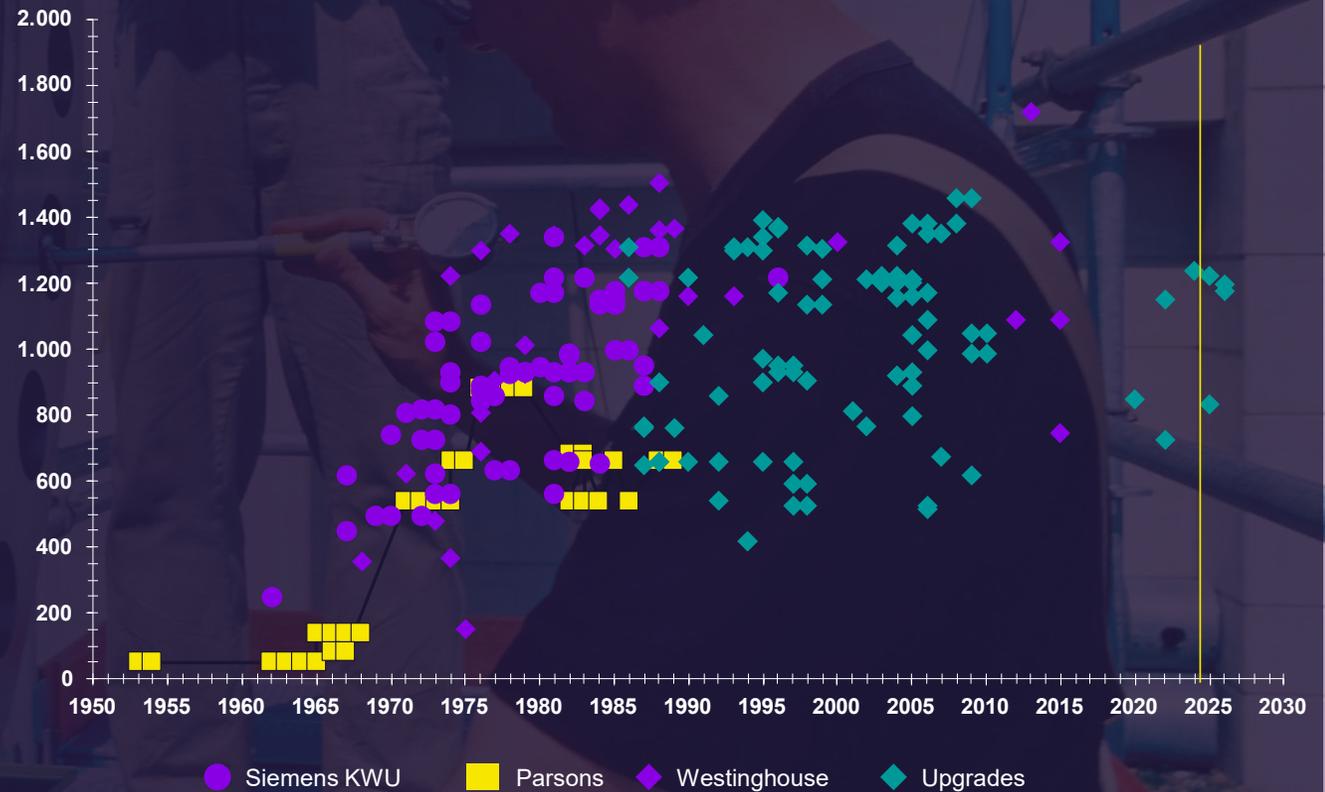


## Maintained through Successful Retrofit Market Service

We secure our nuclear steam turbine expertise by effectively serving a demanding market in maintenance, modernizations and upgrades.

Proudly contributing to nuclear power plant efficiency and reliability worldwide, we are committed to excellence and customer satisfaction.

### References Overview



# Siemens Steam Turbines Overview

Broad application range covered by Siemens Energy Portfolio



Utility steam turbines



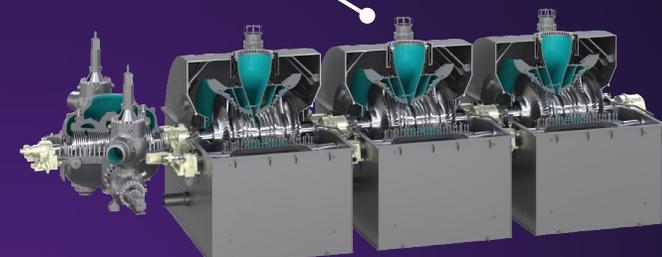
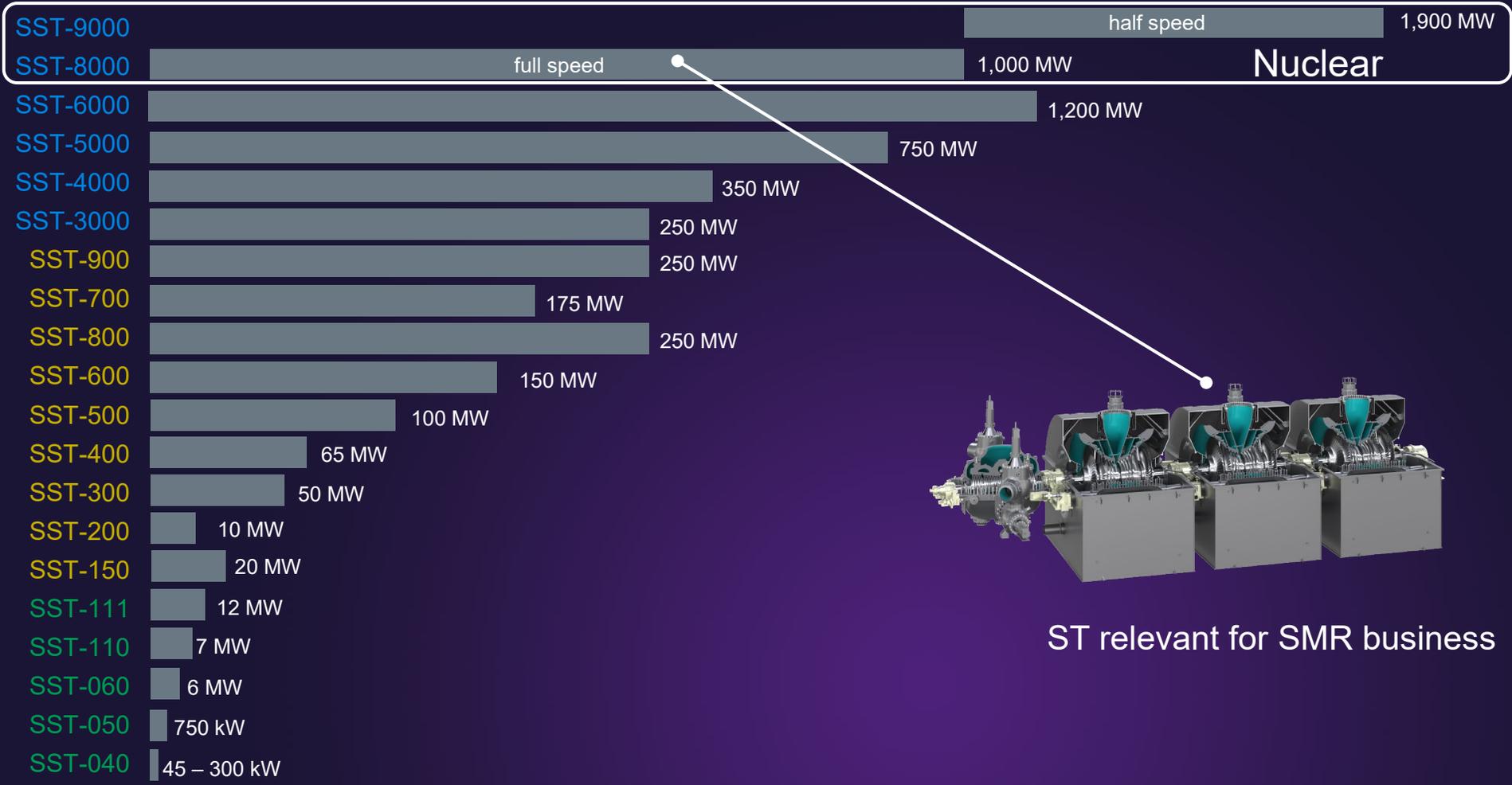
Industrial steam turbines



Pre-designed steam turbines



50Hz or 60Hz



ST relevant for SMR business

Efficiency and Reliability as key drivers

# Gas Services offers strong regional service capabilities for fast response



- 7,400**  
Equipment installed
- ~ 26,500**  
Employees
- > 700**  
Service project managers
- > 3,200**  
Field service staff



# Controls & Digitalization

We offer competitive advantages for our customers



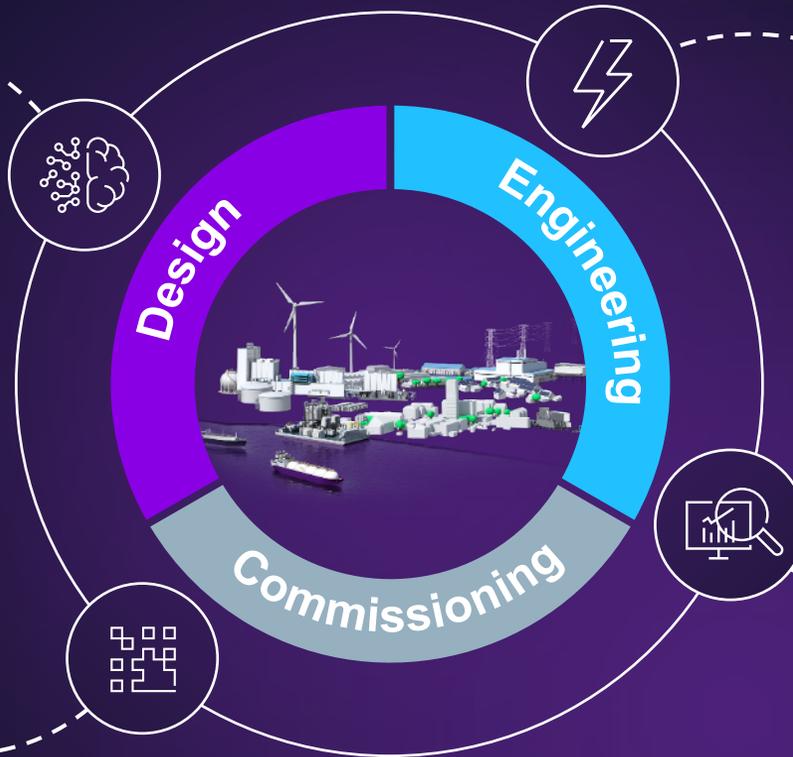
## Integrated controls, electrical and digital solutions and services

### Controls

- Plant DCS (T2000/ T3000)
- Turbine controls
- BoP and auxiliary control
- Unit controls
- Process optimization

### Digitalization

- Cybersecurity
- Asset Management
- Simulator Solutions
- Performance Management



### Electricals

- Electrical balance of Plant (eBoP)
- Diesel, batteries,...
- Electrical protection systems
- Excitation systems, ....
- MV, LV Switch gears
- Field Instrumentation

### I&C Service

- Remote Expert Center
- Spare parts
- Obsolescence management
- Training & Consulting
- Other Services

### Customer value



Minimized project risk – Flexibility in engineering and commissioning – Uniformed operator solution

# Siemens Energy is the only supplier of operational digital operational I&C for nuclear power plants, provable fully complying with European codes and standards



## Our Priorities



We are the **only supplier** of digital operational I&C, **provable complying with European codes & standards.**



We strive for the **best economical solution for our customers.**



We **ensure safe and long-term operation** of nuclear power plants.



We care for the future and **contribute to a safe, carbon free power generation**

## KPIs and Examples

Effectiveness of Paks II supply contract, signature of Sizewell C contract



Tianwan 1&2 with uninterrupted operation since >14 years w/o significant modernizations



15y SPPA-T2000 operation experience in nuclear without incident caused by SPPA-T2000

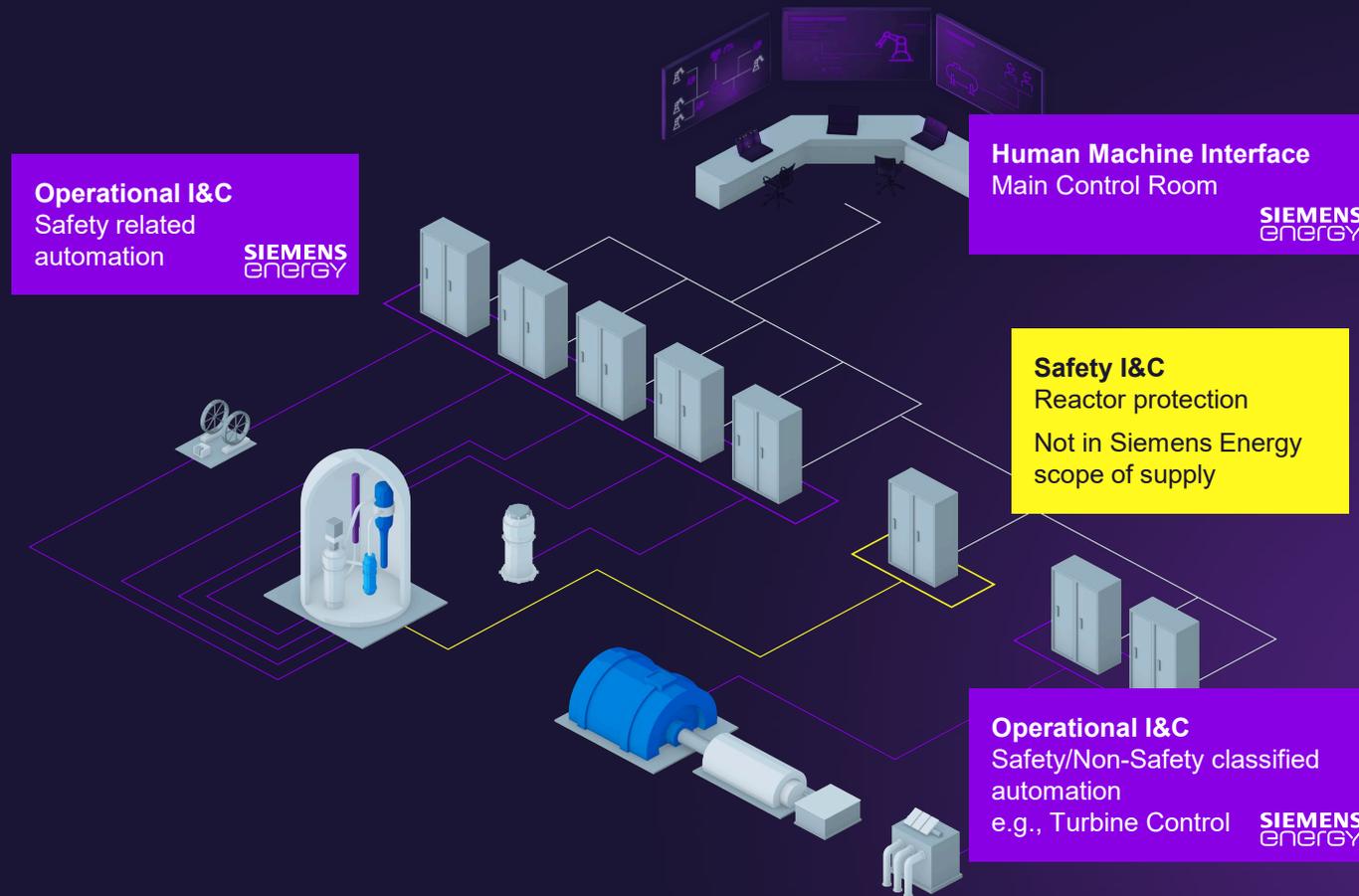
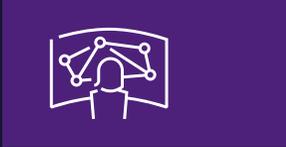


Tianwan 1 saved ~80 million tons of CO2



# Nuclear Operational I&C

Our platform covers the complete NPP Operation Level



## Level 2

Human Machine Interface  
SPPA-T2000 OM690  
Omnivise T3000 HMI



## Level 1

Automation  
SPPA-T2000 AS620B  
Omnivise T3000 Automation



## Level 0

Instrumentation Equipment

# SPPA-T2000 is the only platform that is proven to meet all required European Nuclear Codes and Standards for DCS up to Class 2



- IAEA Safety Standards (Safety requirements and Safety Guides)
- IEC standards implement and detail the principles / safety aspects in IAEA code



**International Standards for instrumentation and control systems important to safety**



**AFCEN**  
founded by EDF and  
FRAMATOME (AREVA)

## Design & Qualification

- IEC 61513 *General requirements safety lifecycle I&C architecture and design Quality Management*
- IEC 62138 *Software and software development requirements*
- IEC 60987 *Hardware design requirements (class 2 only)*
- IEC60780 *Equipment qualification*
  - IEC60980 *Seismic qualification*
  - IEC 62003 *EMC testing*

## I&C Architecture

- IEC 60709 *Separation*
- IEC 62340 *Coping with common cause failures (CCF)*
- IEC 61226 *Classification of Instrumentation & control functions*
- IEC 60671 *Surveillance testing*

## Control Rooms / HMI

- IEC 60964 *Control room design*
- IEC 60965 *Supplementary control for reactor shut down*
- IEC 61772 *Application of visual display units*
- IEC 61227 *Control rooms – Operator controls*
- IEC 62241 *Alarm functions and presentation*

## Cyber Security

- IEC 62645 *Security programs for computer based systems*
- IEC 62859 *Coordinating safety and security*

## Obsolescence Mgmt.

- IEC 62402 *Obsolescence management – application guide*
- IEC 62342 *Management of Ageing*

## RCC-E, 2012, 6th edition

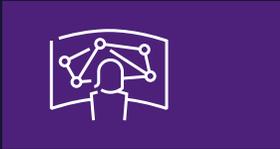
### French design and construction rules

- A General and Quality requirements
- B Qualifications and approval
- C Functional system design
- D Installation
- E Parts of equipment
- MC Verification and testing methods

**! Siemens Energy's platform and process meets the European nuclear qualification requirements**

# Siemens Energy Operational I&C References

100% of recent Large Scale New Build NPPs in Europe and  
~23% of Worldwide NPPs equipped with Siemens Energy I&C



**> 4,500 Units**

Fossil + Nuclear with Siemens Energy I&C



<sup>1</sup> Total < (In Operation + Under Commissioning + Under Construction) due to multi counting