

# SISTEMAS DE CONTROLE EM TEMPO REAL DESENVOLVIDOS PELA SIEMENS

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Siemens Grid Software

# It's time to flip the switch on the energy transition

## # DER\_Hosting



From slow manual decisions ...



... to maximum capacity boost

## # Flexibility



From pure CAPEX investments with limits ...



... to adaptable and open incl. SaaS tools

## # Last\_Mile

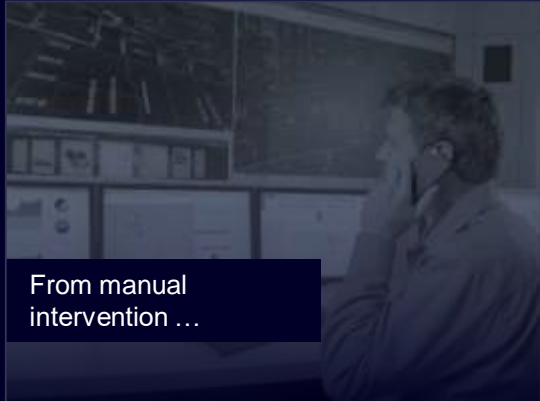


From blindfolded LV management ...



... to AI enabled optimized grid

## # Next\_Level\_Grid



From manual intervention ...



... to self-healing and automation

... and turn visions into reality!

# What customers can expect from working with Siemens Grid Software

Enabling 7x DER integration while delivering on grid operator priorities



## Technical losses



**Using smart meter data** for advanced grid planning to reduce technical losses

-0.3 to -0.8%

## Non-technical losses



**Protect and increase revenue** using smart data: Recovery of non-technical losses

5 to 10%

## Reduce SAIDI



**Reduce time for trouble-shooting** by locating faults faster, reducing SAIDI

-3 to -5%

## Customer Satisfaction



**Zero customer complaints of inaccurate bills** due to high meter data quality

Invaluable

## Decrease OPEX



**Reduce effort for data collection** and model creation, keeping planning, operations and maintenance synchronized

-60% effort

## Return on Invest



**Increase of energy supply** without capital invest

+10% energy supply

## Regulatory Compliance



**Increase of power flow** with dynamic stability analysis

+30% power flow

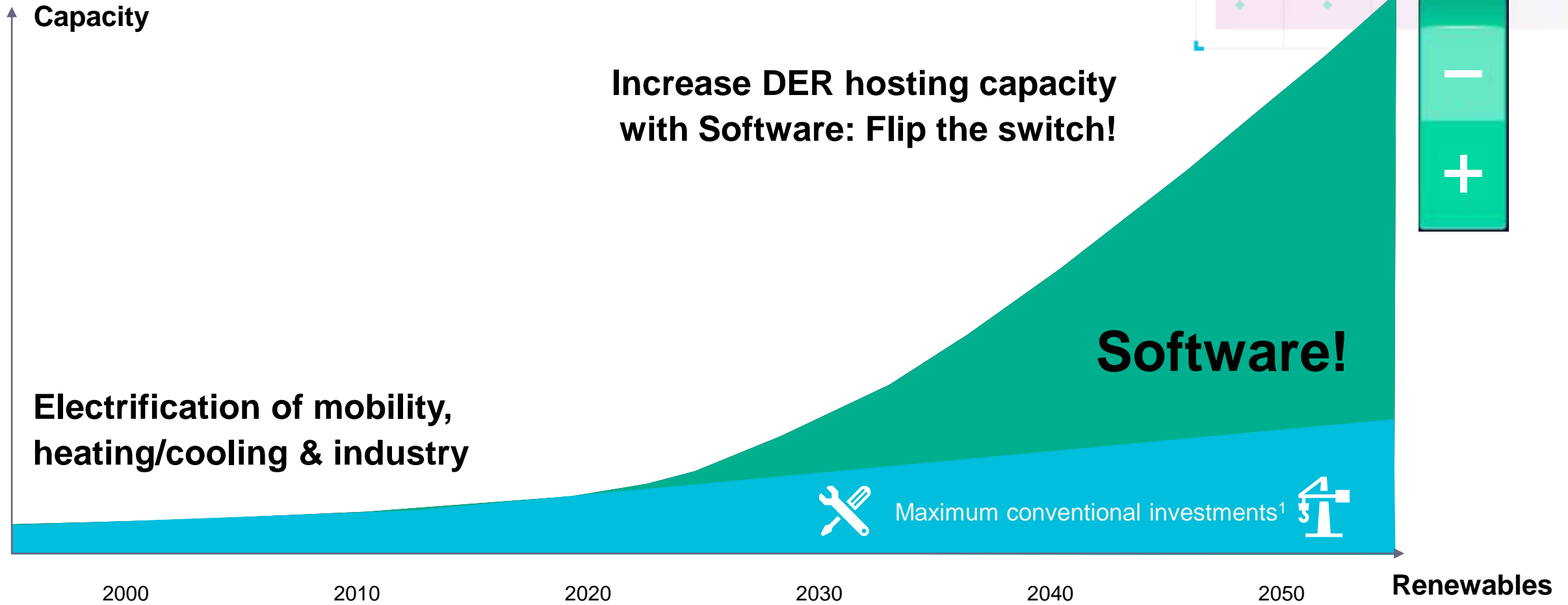
## Cybersecurity

on all levels with Defense-In-depth approach: Siemens cyber security framework, based on IEC 62443 and IEC 62351 and international security standards like NERC CIP, BDEW Whitepaper, ISO 27001 ...



# DER development

Exponential growth towards net zero



# IT Design principles make your investment flexible and sustainable



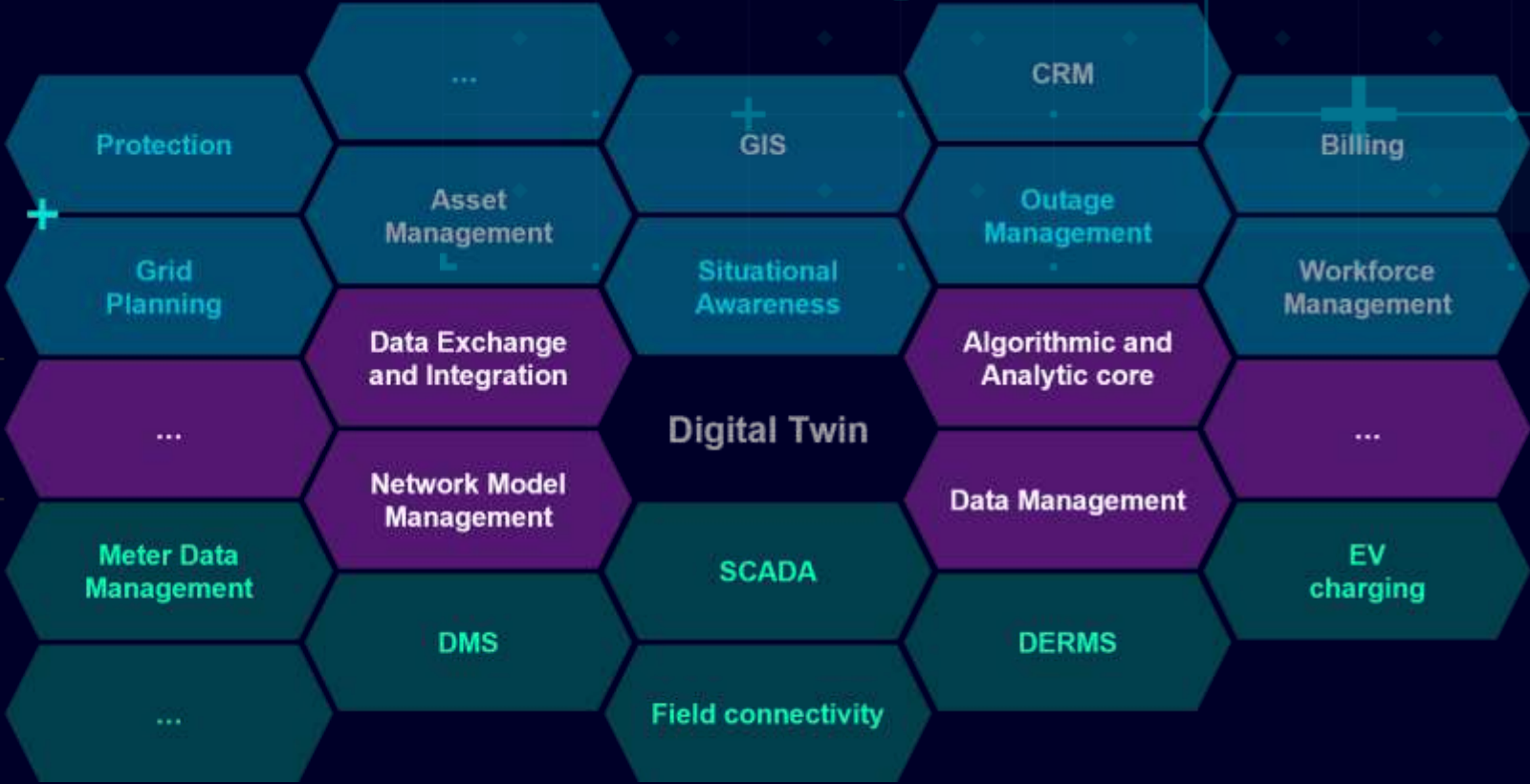
**Our digital mindset** shapes how we deliver value through our products – for a reliable, consistent user experience and synergistic value

# The Grid Software Suite: Rethink Grid Management and Grid Software

Business critical

IT/OT  
Integration

Process critical/  
operations



INTEROPERABLE



MODULAR



OPEN



RESILIENT &  
CYBERSECURE



COLLABORATIVE

# The Grid Software Suite: Rethink Grid Management and Grid Software

PSS®ODMS, PSS®E, PSS®CAPE,  
SIGUARD®DSA Spectrum Power™:  
Single source of truth

PSS®E Cloud:  
30x speed increase

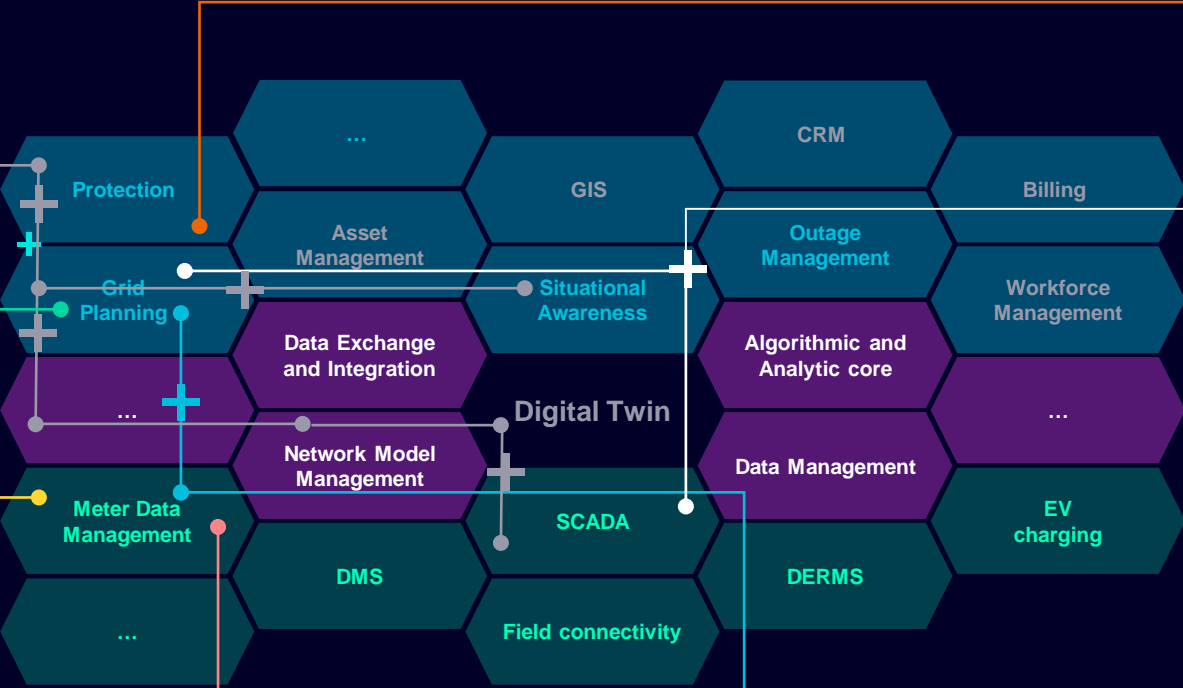
New EnergyIP®: 85% reduction of  
clerical tasks with new UX

Refactored PSS®CAPE protection  
planning with 6x speed increase

30% more power over the same line  
with dynamic line rating: combine  
SIGUARD®DSA and Spectrum Power™

Reduce technical losses by 0.3-0.8% using smart  
meter data in grid planning – combine EnergyIP®  
MDM and PSS®Sincal

Additionally, cloud-native:  
lower TCO with EnergyIP®  
MDM SaaS



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# Siemens Grid Software is an integral part of Siemens Xcelerator for Grids

A comprehensive, curated **portfolio** that includes digital and IoT-enabled offerings from Siemens, and certified partners

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A continuously growing, powerful **ecosystem** of partners

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A **marketplace** to explore, educate, exchange and transact alongside a community of customers, partners and experts

Access to the broadest and deepest domain expertise



Most holistic OT/IT integration capability on the market



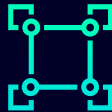
Easiest access & user interface and personalization potential



Supporting customers across the whole digital transformation value chain

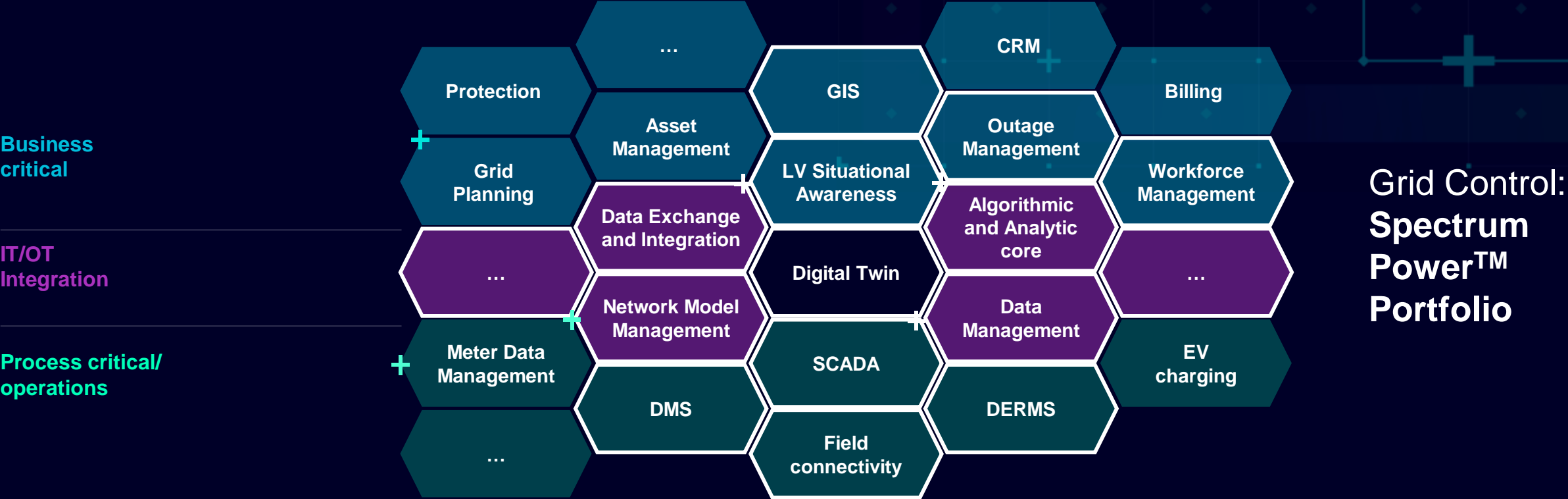


A unique business platform combining expertise across major industries





# Rethink Grid Management and Grid Software



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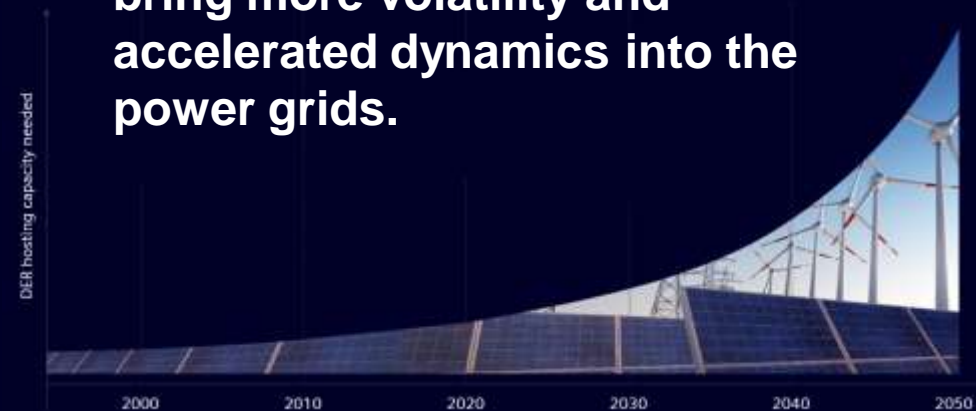
COLLABORATIVE

# Grid operators need intelligent and flexible solutions to manage, orchestrate, optimize transmission & distribution systems



Affordable and fully reliable supply of electricity has been a key driver for society and for prosperity all over the world

But never has there been such a sense of urgency to meet the ambitious decarbonization goals to achieve the ultimate net zero target. Renewable energy sources bring more volatility and accelerated dynamics into the power grids.



**Spectrum Power is right** for you no matter what your specific field of business is, when it comes to power grid management, Siemens Spectrum Power is at your side



**Alleviating the complexity of power grid management**  
Siemens Spectrum Power is the globally leading power grid management software & system



Transmission Management



Advanced Distribution Management



Power Production & Trading



Municipalities & Multi-Utilities



Rail Electrification



Energy Management for Industry & Infrastructure



Energy Market Management



Microgrid Management

# With Spectrum Power you are: Ready for now. Ready for tomorrow.

## Global expertise with local presence

- We know power grid management by heart.
- From field level to applications, from planning to operations and maintenance.
- Trusted domain expertise built over decades.
- With more than 1,300 Spectrum Power™ control centres in operation, we keep the lights on for hundreds of millions on all continents.
- Our local experts know all your region's specific requirements – and they speak your language.

## Resilient, reliable, secure

- Resilience is key to any power grid to ensure reliability of supply. That's why Spectrum Power™ is a software system that is resilient, reliable and secure by design.
- Automated analyses and dependable forecasts prevent outages before they happen.
- Highest standards in cyber security provide the protection you need.

## Scalable and adaptable

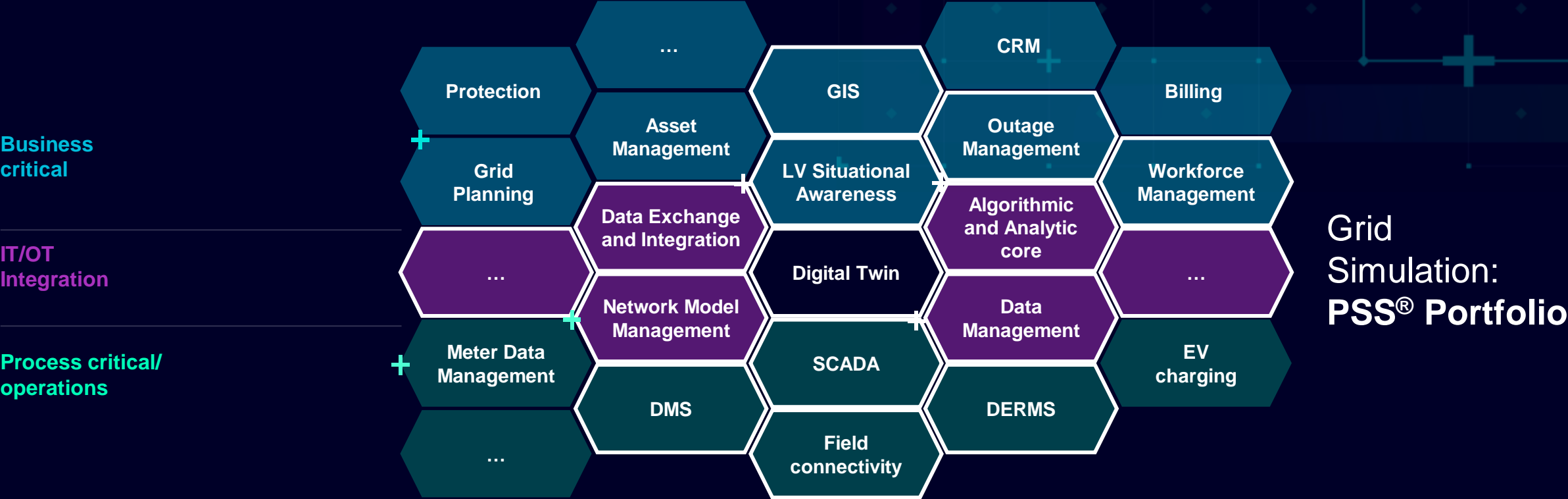
- Spectrum Power™ adapts easily to upcoming market needs, changing regulatory demands and evolving business requirements.
- Coming with no vendor lock-in, Spectrum Power™ is interoperable with existing and new enterprise IT.
- Being part of the Siemens Grid Software Suite, there's an array of added value and efficiency, including agile product development and project implementation.

## Adding value to your business with a digital mindset



## Our design principles

# Rethink Grid Management and Grid Software



Grid Simulation:  
**PSS® Portfolio**



INTEROPERABLE



MODULAR



OPEN

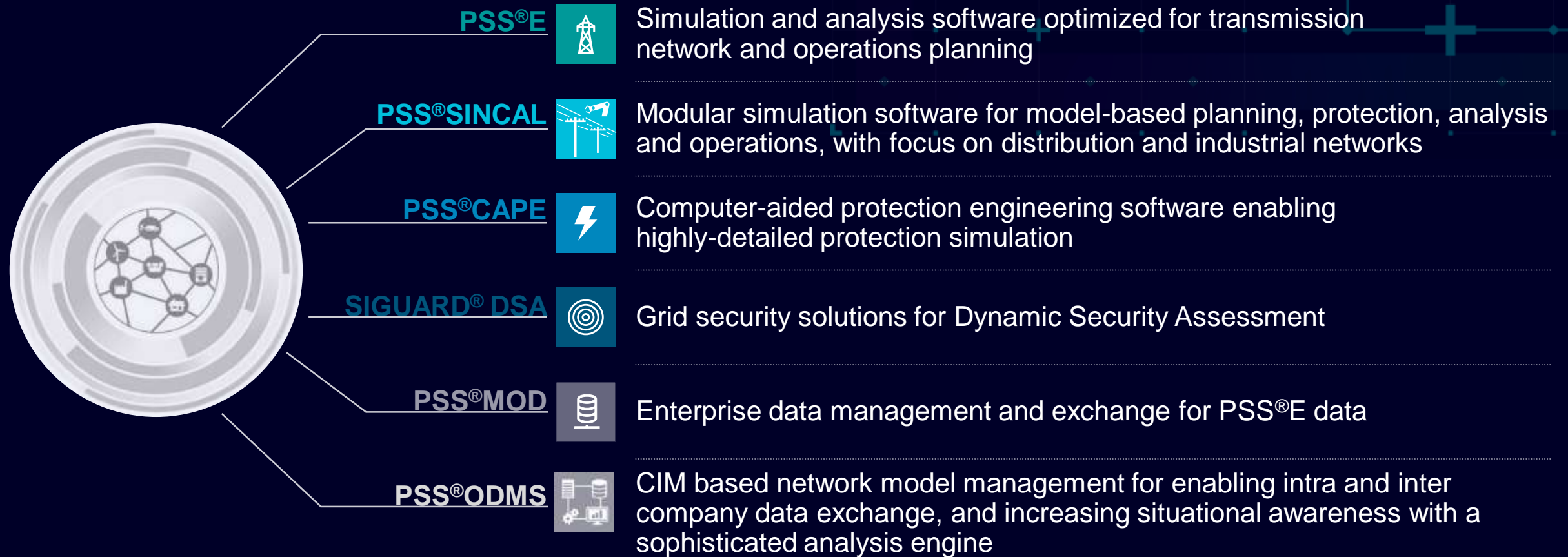


RESILIENT &  
CYBERSECURE



COLLABORATIVE

# The PSS® Portfolio is more than a sum of its parts: High-performance power system modeling, simulation and analysis software



# SIEMENS

## Plante esse papel

Pique o papel em pedacinhos e coloque em um vaso com uma camada de terra. Regue com água. Em até 10 dias sua planta irá germinar.

Semente de Cravo



*<de>  
codificando  
o futuro da  
energia*

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