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Transformative Innovation Shaping the Future of Sustainable Business

Ross Conlon
President & CEO
Siemens Thailand

Siemens in Thailand

Digital Industries

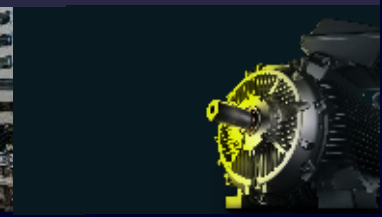
Smart Infrastructure

Strategic Companies

SIEMENS Healthineers

Siemens Mobility

INNOMOTICS



Independent Companies

SIEMENS energy

SIEMENS Gamesa RENEWABLE ENERGY

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of our business enables customers to achieve a positive sustainability impact scaled across three impact areas:

Decarbonization & energy efficiency

Resource efficiency & circularity

People centricity & society

Note: Calculation based on revenue. <10% is excluded as it relates to products that contain SF6-gas or stems from business with sectors like oil and gas, coal mining, or coal power generation. Applies to Siemens w/o Siemens Healthineers.

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Sustainable business growth is driven by clear trends

$2.2 tn
investment in global clean energy in 2025e[1]
Up 6% from 2024 with China leading

63%
growth in renewable energy investment in EU during H1 2025[2]
While 36% drop in US, signalling capital reallocation (e.g., offshore wind developers refocused to North Sea)

$1 tn
to be allocated by governments worldwide to energy efficiency between 2020-2030[3]
To promote efficient buildings & industries, mass & alternative transit, low carbon vehicles

~€600 bn
(5 tn CNY) size of China's circular economy in 2025e[4]

90%
of manufacturers prioritize regionalization to address supply chain disruptions[5]

$3.5 tn
equity invested in sustainable assets at H1 2025, reaching a record high[6, *]
Increased from $3.2 tn at end of 2024

3.5%
annual growth in power demand during 2025-2040 in US (driven by growth in data centers and increased electrification)[7]
Significant increase from the average annual demand growth of 0.67% since 2000

630 GW
estimated addition of of renewable capacity in Europe between 2025 and 2030[8]
Solar PV accounts for over 70% of expansion, followed by onshore and offshore wind

$627 bn
China's investments in clean energy in 2025e[1]

$318 bn
economic damages of climate related extreme weather events in 2024[9]
Water scarcity 2nd to CO_2 urgency with demand for fresh water to outpace supply by 40% in 2030[10]

1.55°C
above pre-industrial temperature levels in 2024, making it the warmest year on[11] record
First calendar year to exceed 1.5°C
Note: As per the Paris Agreement, breaching the 1.5°C threshold is based on a multi-decade average

$266 tn
climate finance needs for the 1.5°C pathway between 2025-2050[12]
vs $1,266 tn estimated cost of inaction on climate change; Investing ~$266 tn until 2050 in climate change mitigation will secure a livable planet through 2100

All numbers based on 2024 or 2025 sources; 2025e = 2025 estimate; CNY/EUR conversion using spot rate on September 1, 2025; * Based on available historical data from 2018

Sources: 1 IEA, 2025a: World Energy Investment 2025; 2 BloombergNEF, 2025: Global renewable energy investment still reaches new record as investors reassess risks; 3 IEA, 2024: Energy Efficiency 2024 & World Energy Outlook; China State-owned Assets Supervision and Administration Commission of the State Council, 2024: Policies to support the healthy development of circular economy; CCID Consulting, 2025: Advanced Manufacturing 2025 | Development of China's Resource Recycling Industry: Current Status, Trends, and Recommendations; Zhiyan Consulting, 2025: Analysis of China's Circular Economy Industry Chain, Market Size, and Key Enterprises by 2025; 5 World Economic Forum, 2024: Beyond Cost: Country Readiness for the Future of Manufacturing and Supply Chains; 6 Morningstar 2025: Global Sustainable Fund Flows: Q2 2025 in Review | Flows recover despite geopolitical and regulatory uncertainties; 7 McKinsey, 2025: Global Energy Perspective 2025; 8 IEA, 2025b: Renewables 2025; 9 SwissRE, 2025: Sigma 1/2025 – Natural catastrophes: insured losses on trend to USD 145 billion in 2025; 10 Global Commission on the Economics of Water, 2024: The Economics of Water: Valuing the Hydrological Cycle as a Global Common Good; 11 World Meteorological Institute, 2025: State of the Global Climate 2024; 12 Climate Policy Initiative, 2024: The Cost of Inaction

Challenges for the industry grow at an extreme rate

With significant implications for sustainable business

Energy Efficient
Using less energy to get the same job done

Decarbonized
Producing less CO_2 without reducing production efficiency and throughput

Resource Efficient & Circular
Optimal use and re-use of materials, water and chemicals and minimize scrap

People-centric
Building a culture of empowerment, health and safety

Innovative, Flexible & Adaptable
Considering new materials and production methods

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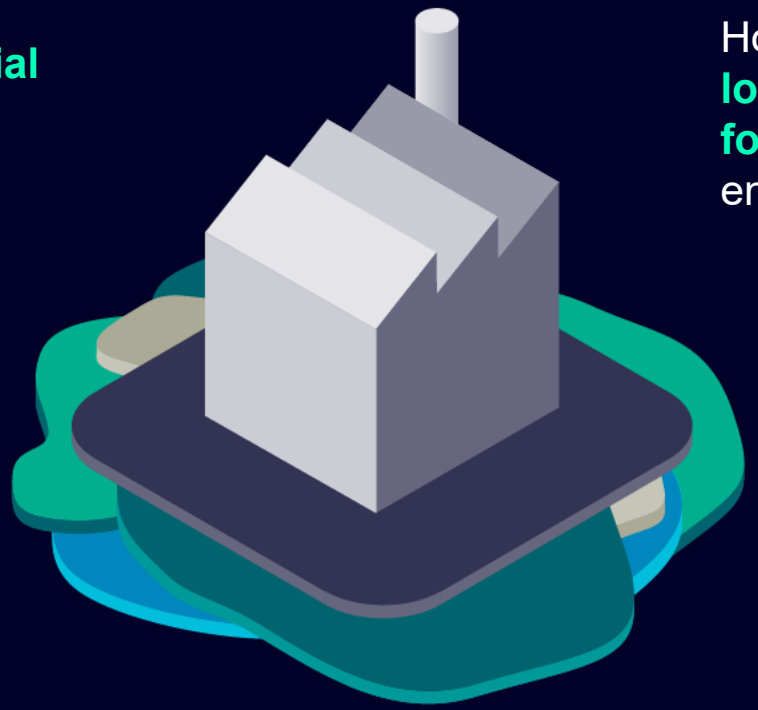
Re-imagining industrial operations: From silo-ed knowledge

How do I **optimize material flow** in my production?

How do I optimize my **logistics network** and **industrial footprint** to minimize environmental impact?



How do I understand the **environmental impact** of my supply chain?

How do I enable **flexible and adaptable** production?

How do I get **enterprise-wide view** of my energy consumption?

How do I plan for **waste disposal, recycling and re-use** of by-products?

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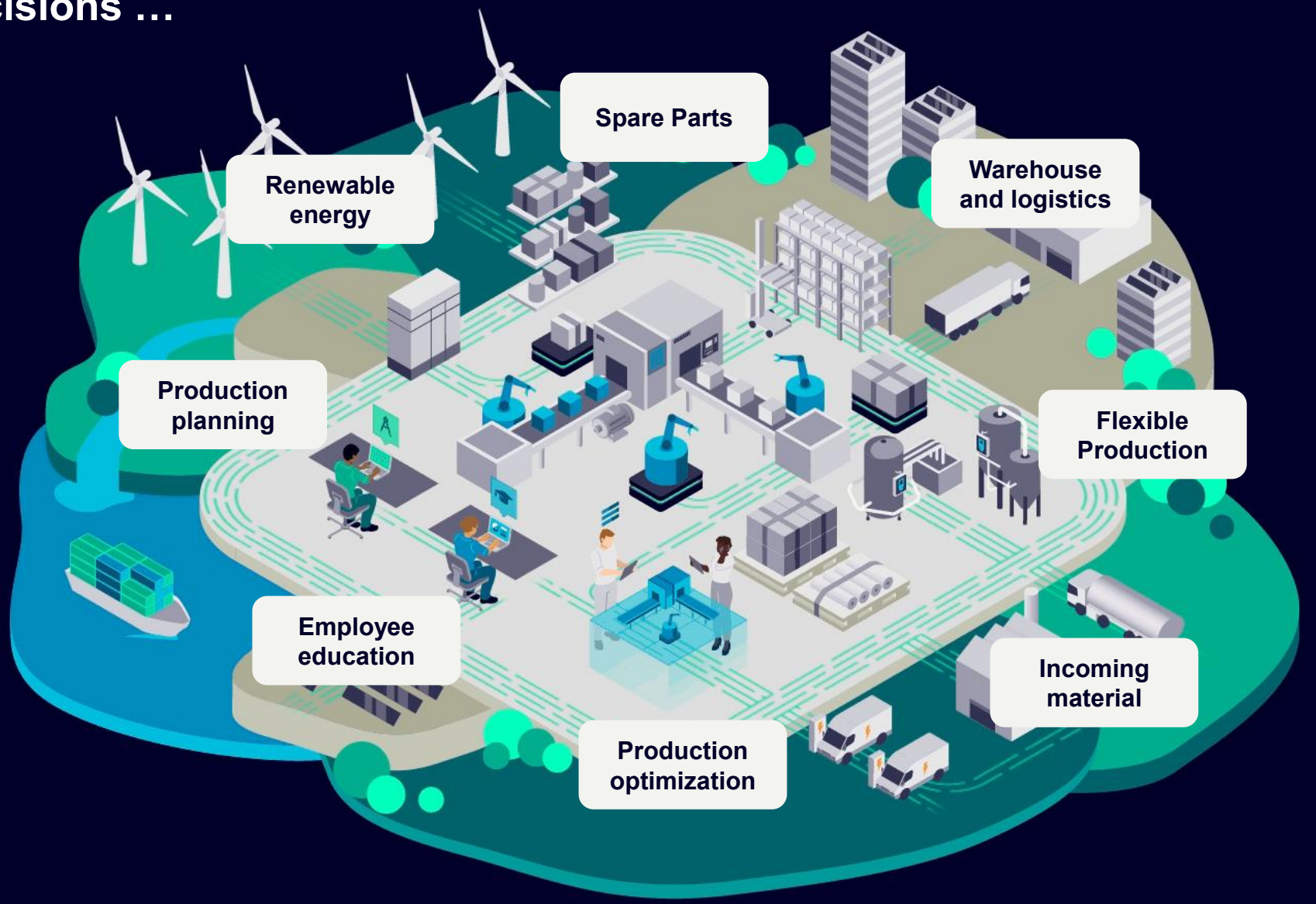
to smart decisions …



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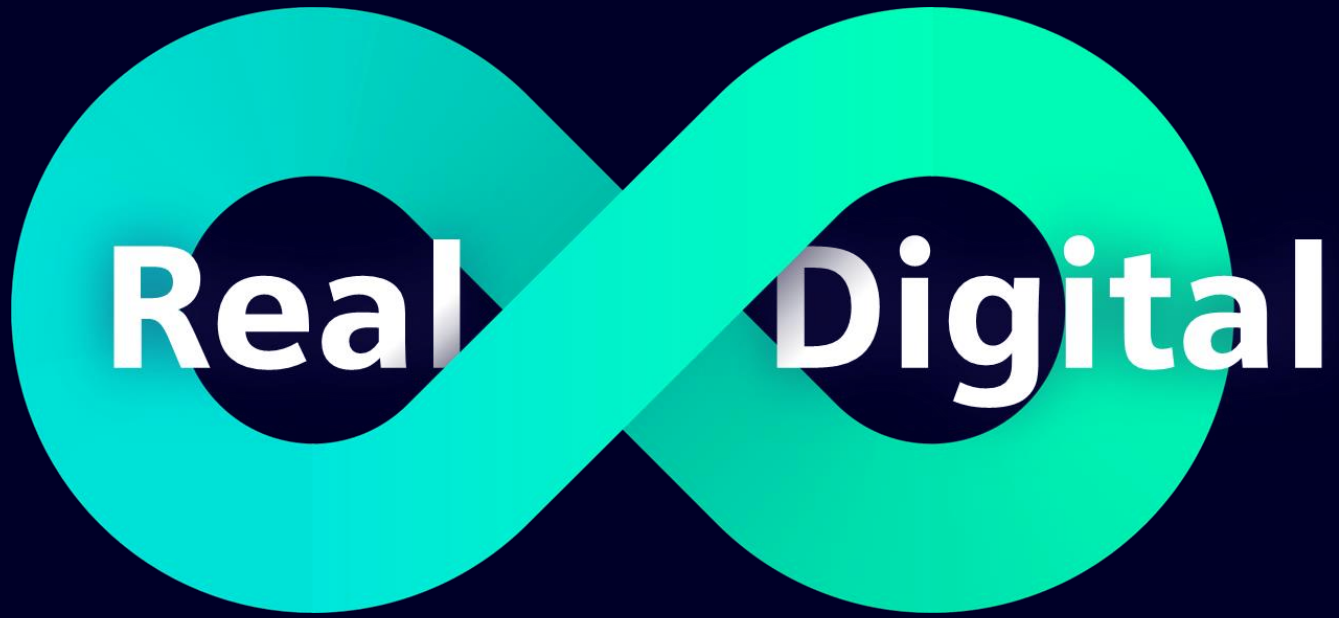
The right strategy

Unlocking the power of data by **combining the real and digital worlds**



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Engineering better outcomes with digital twins

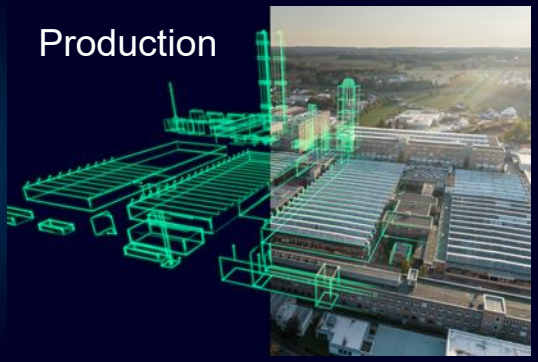
Siemens digital twins support decarbonization and resource-efficiency by driving **efficiency**, **circularity**, and **smarter resource use** across industry, infrastructure, and mobility.

Combining the real and the digital worlds, digital twins define and optimize products, production systems, buildings, and electricity grids, **reducing the need for physical prototypes**. Digital twins create unlimited design freedom for infinite lifetimes and across different circularity R-strategies, such as reuse, remanufacturing, and recycling.

Digital Industries

Product

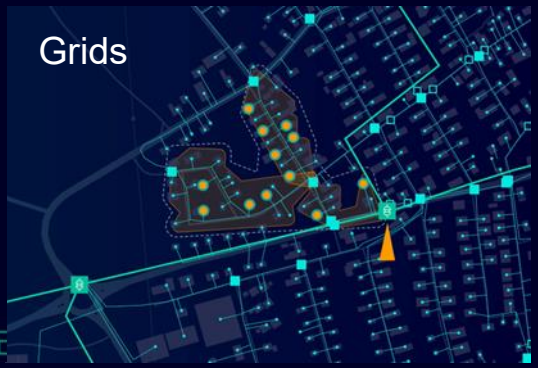
Production



Smart Infrastructure

Buildings

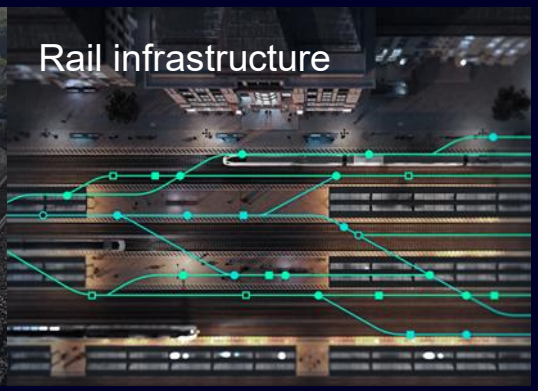
Grids



Mobility

Rolling stock

Rail infrastructure



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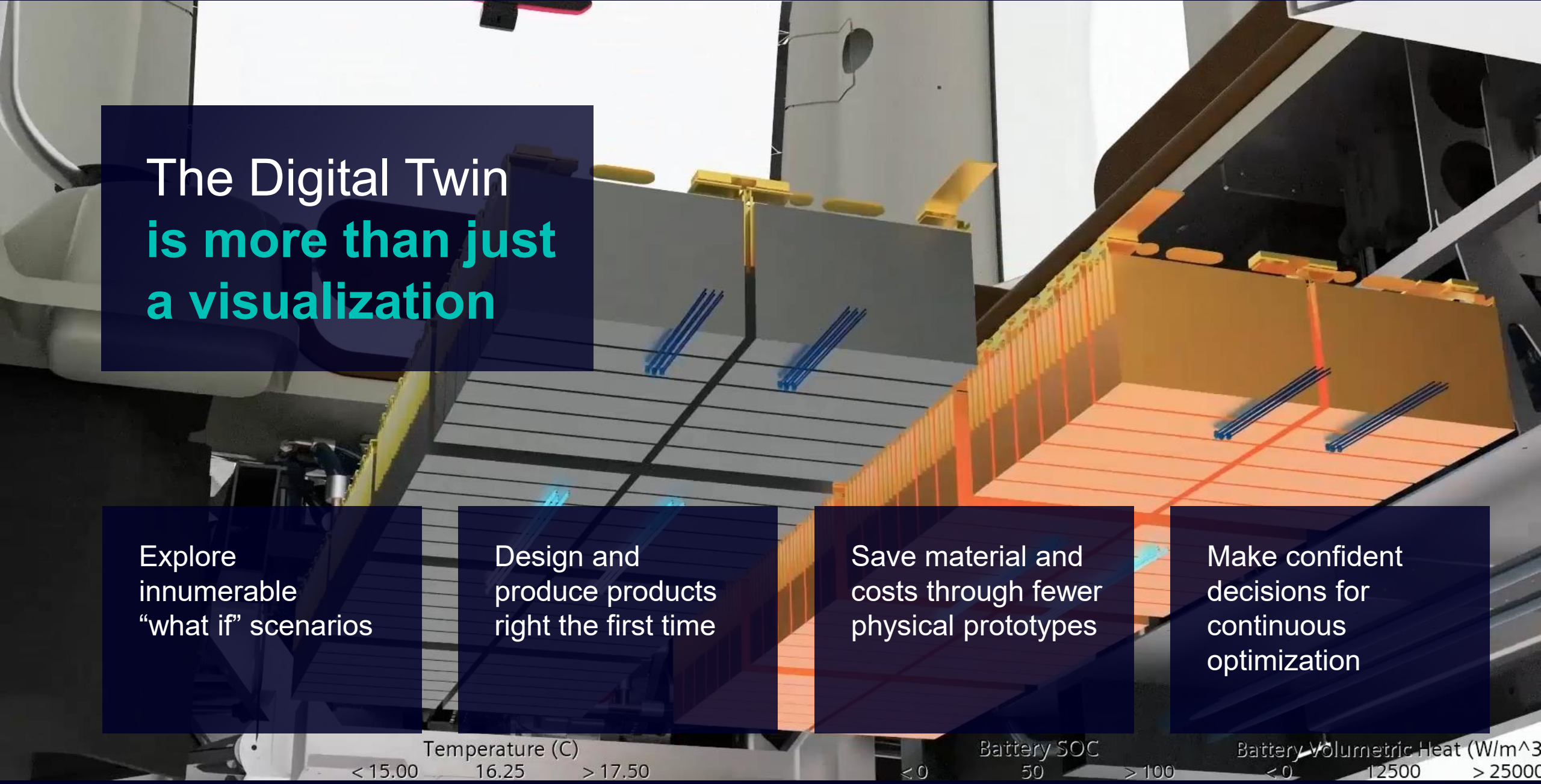
The Digital Twin **is more than just a visualization**



Explore innumerable “what if” scenarios

Design and produce products right the first time

Save material and costs through fewer physical prototypes

Make confident decisions for continuous optimization

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Action steps for sustainable business

Ecosystem transparency

Digital world
Most comprehensive digital twin

Real world
Hardware, software & automation

Strategy definition	Line, process and plant design	Production planning	Production execution	Production and monitoring	Production optimization
Set strategy to optimize for cost, schedule & sustainability	Design production systems based on sustainability KPIs	Plan from raw materials to end product to meet sustainability KPIs	Track and enforce production processes to meet sustainability goals	Gain a comprehensive view of sustainability performance and adapt in real time	Implement actions for improved sustainability outcomes

Digital thread based on digitalization, automation and IT/OT integration

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There is a world

before

and a world

with AI

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AI IS CHANGING
THE INDUSTRY.

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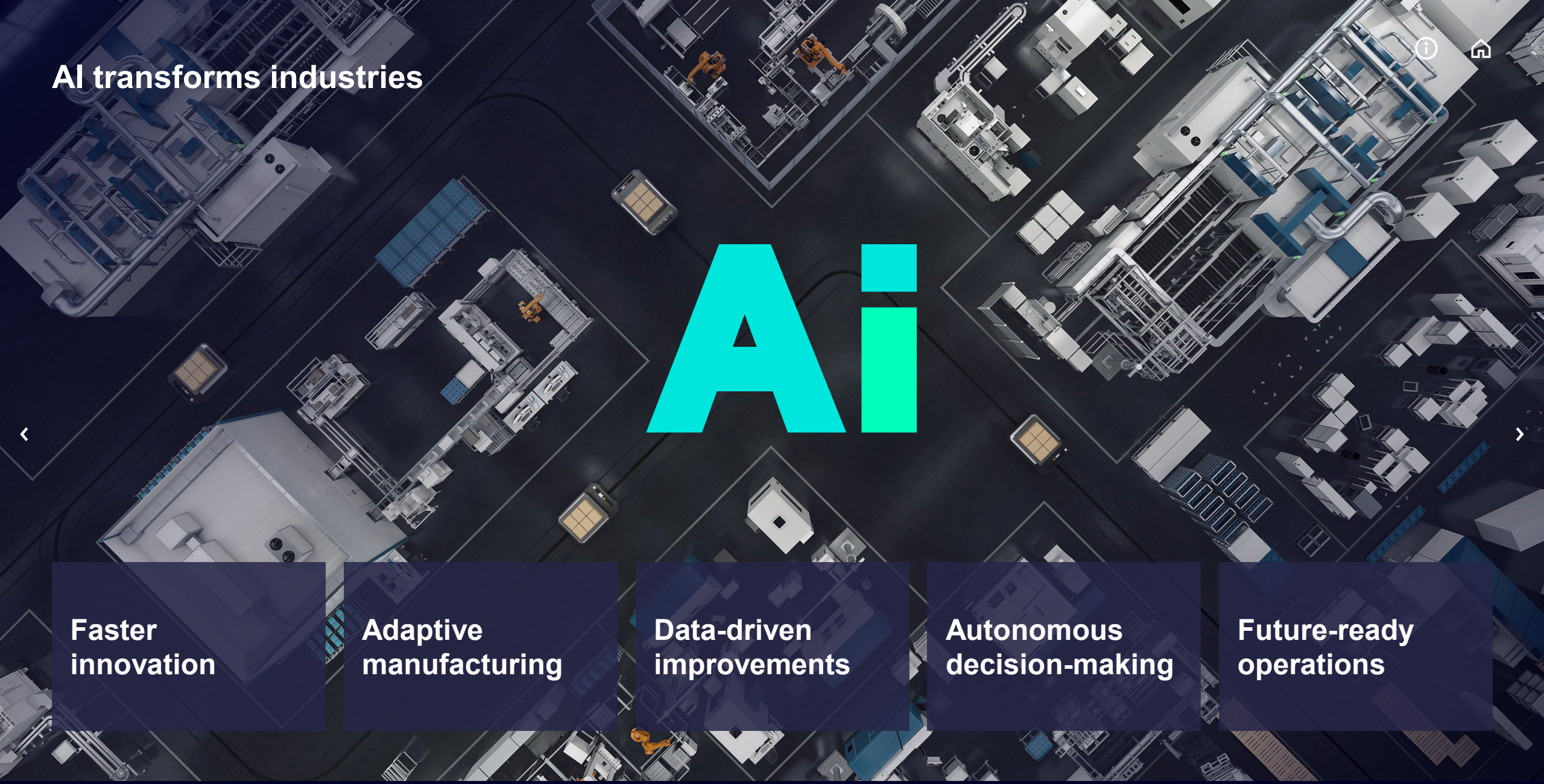
AI transforms industries



Faster innovation

Adaptive manufacturing

Data-driven improvements

Autonomous decision-making

Future-ready operations

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Experience today. Explore tomorrow.

Predictive AI

Generative AI

Agentic AI

Ai

Physical and Embodied AI

Physics-informed AI

Industrial Foundation Models

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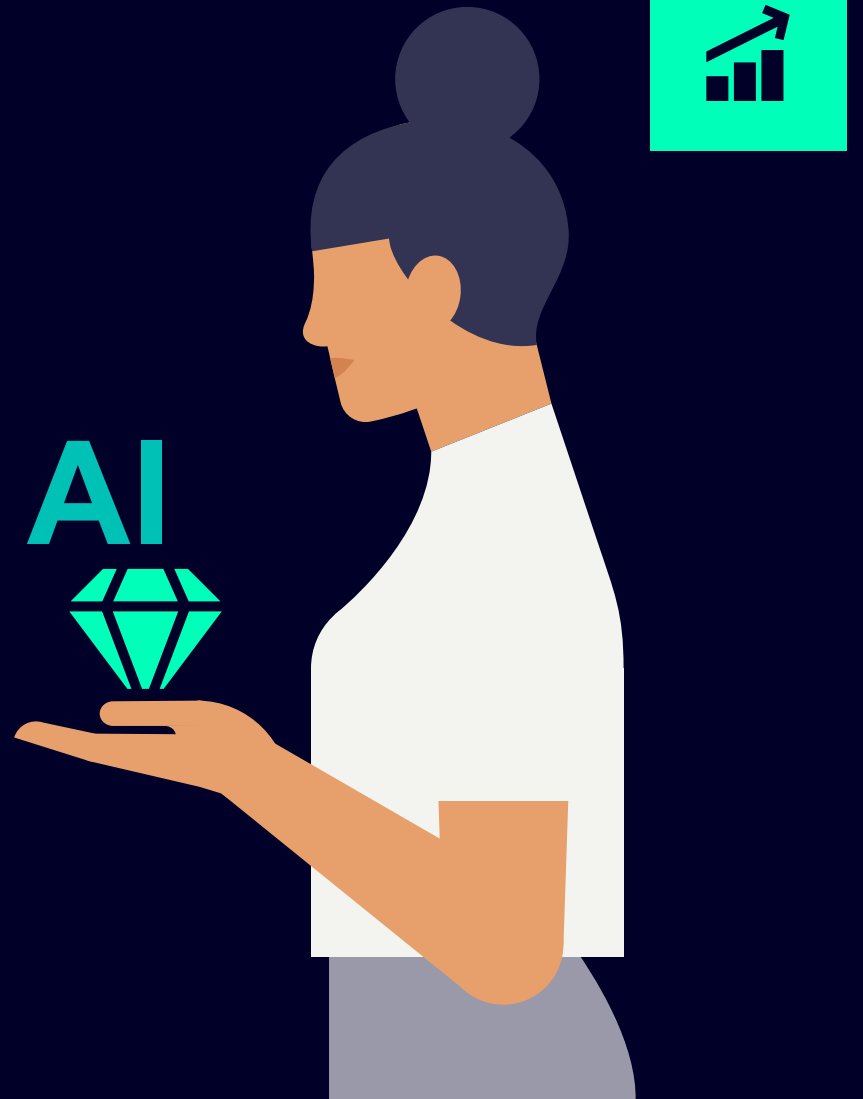
How can companies unlock the full potential of these AI tools?



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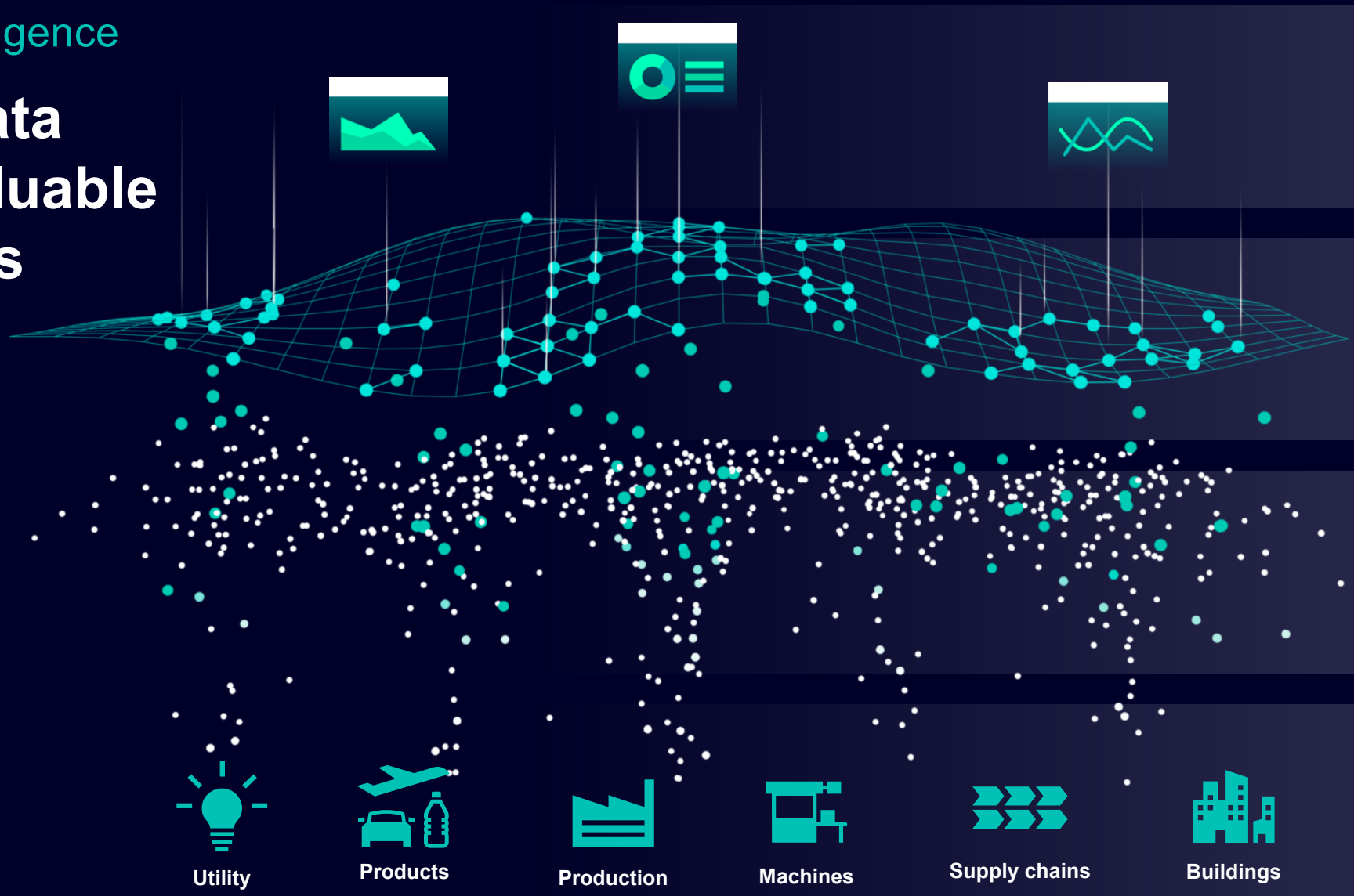
Data Intelligence

Turn data into valuable insights



Act with confidence

Turn data into confident decisions and actions

Contextualize

data to give it meaning with one data fabric

Connect

siloed data to make it usable across the entire lifecycle

Collect

vast amount of data from real-world operations

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Siemens demonstrates leadership in AI

Maximizing AI's positive sustainability impact while actively managing its negative environmental footprint

AI is our lever to scale sustainability – managing its footprint is how we lead responsibly

Impact

AI is a force multiplier for sustainability. Siemens AI solutions deliver measurable decarbonization, energy savings, and resource efficiency across infrastructure, manufacturing, and supply chains.

- Industrial AI enables up to **30% energy savings in infrastructure** platforms and **24% CO_2 reduction in manufacturing.**
- AI-powered design, **predictive maintenance**, and **digital twins** reduce emissions, waste, and resource use throughout product and operational lifecycles.
- Siemens factories in Erlangen and Chengdu have demonstrated up to **48% waste reduction** and **42% energy savings** using embedded AI.

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AI it!

AI transforms every stage of the value chain.

It empowers companies to accelerate innovation and enables faster product development and efficient production.

AI fosters data-driven improvements and enables smart and autonomous decision-making.

With AI, companies can achieve more sustainable, future-ready operations.

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Get ready for the **future!**

Let’s See the real-world practice Digital Twins & AI

Rack design and simulation leveraging AI for dynamic optimization
Its all about managing the white space!

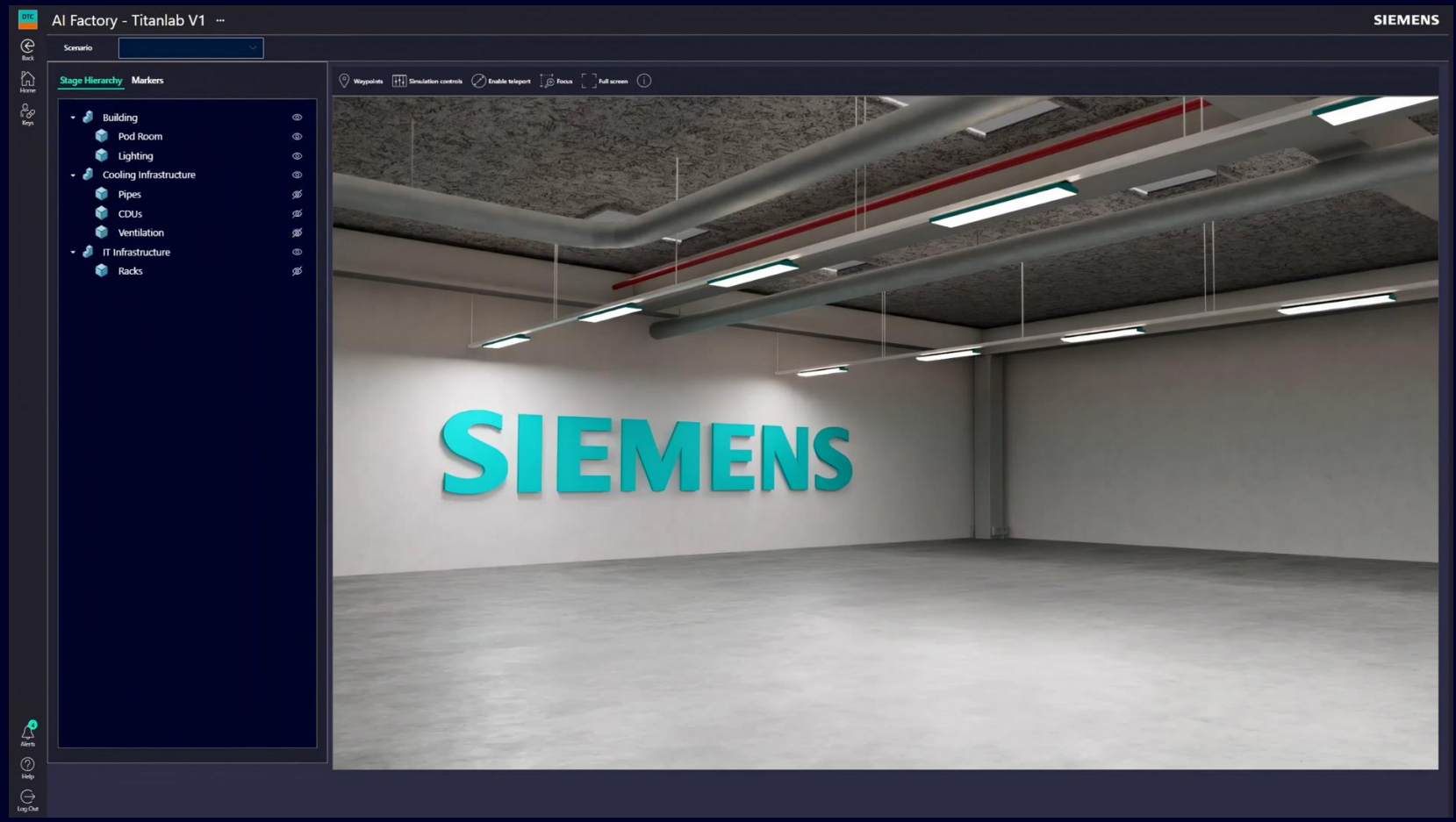
AI for dynamic optimization

Leverage a network of sensors, cooling unit controls, and an AI engine to dynamically optimize cooling management in the white space.

Digital twin technology

Analysis of data and monitoring of systems can actively avert problems before they occur.

Gartner analysts predict that early adoption of AI will be a key factor separating the data centers of the future from those destined to become the dinosaurs of the past.



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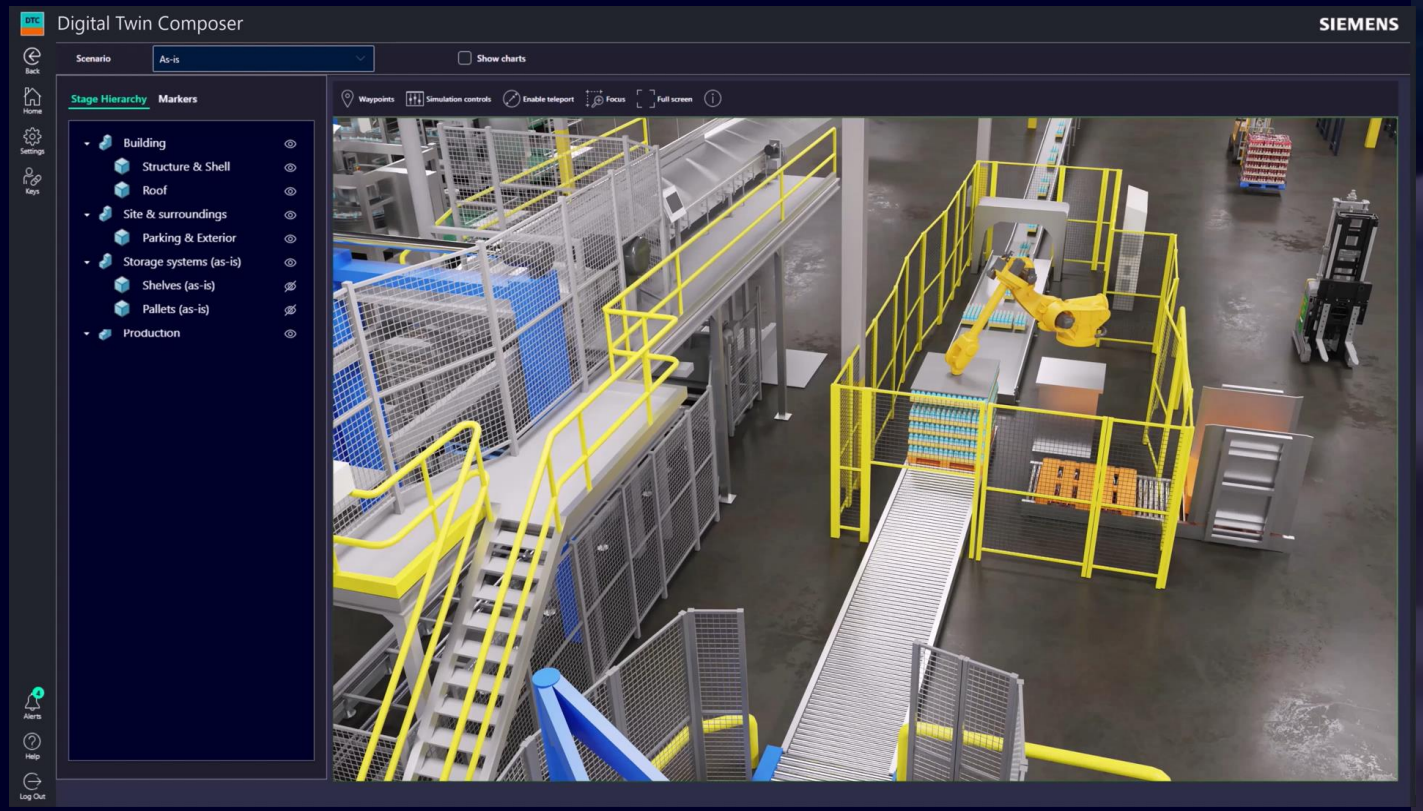
Boosting capacity and throughput
by digitally transforming US manufacturing and warehousing sites



PepsiCo

Customer challenge

- Fulfill high consumer expectations for products to be everywhere, every time, in real time
- Maximize manufacturing and warehouse capacity to drive more operational efficiency and increase throughput

Solution

Launch of Digital Twin Composer in partnership with NVIDIA to simulate, validate and optimize facility layouts before construction begins

Customer benefit

- Delivered a 20% increase in throughput on initial deployment
- Reduced capital expenditure by 10 to 15%
- Identified up to 90% of potential issues before physical build

pepsico
Food. Drinks. Smiles.

20% increase in throughput ↗

<15% lower capital expenditure ↘

Increasing efficiency of supermarket refrigerators through digitalization

↓ 1.1TWh energy saved

↓ 307kt CO_2 avoided

↓ £151m saved

WILLIAMS ADVANCED ENGINEERING

Use Digital Twin technology to save energy and CO_2 by installing high-performance wings on fridge shelves

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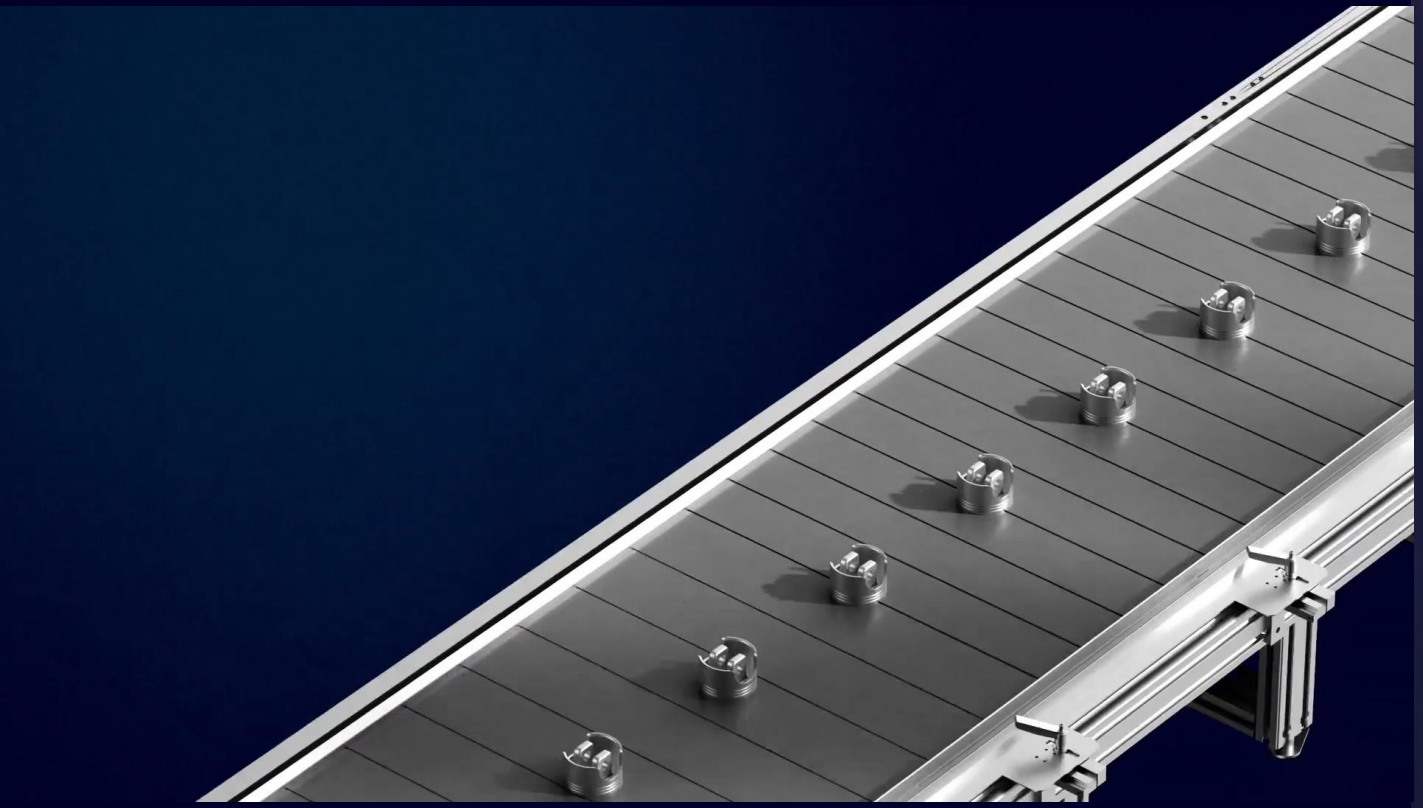
AI-based visual quality inspection
increased efficiency and cut waste by 90%



BSH manufacturing plant

Customer challenge
- Early detection to eliminate rework in an assembly line of oven parts
- Increase process efficiency, reduce costs and inspection time
- Minimize scrap to deliver on company's commitment to sustainability

Solution
- Automated, AI-based system for faster inspection time
- Self-adjusting system per reflections with unique anti-reflection technology
- Quick setup and continual simple operation by own personnel

Customer benefit
- Ease of use and increased reliability and validation with NO need to specify the parameters for image capturing. AI-based, self-adaptive inspection.
- Increased efficiency and minimizing reworking costs, resources not wasted completing a product that is already damaged.
- Reduction of the company's environmental footprint - reduced waste by more than 90%, less scrap generated by the factory.

B/S/H/

Increased accuracy in quality inspection ↗

Reduced waste by 90% ↘

Leverage accurate energy data to optimize energy consumption and sustainability reporting

Building X Energy manager optimizes your energy consumption and monitors sustainability KPIs

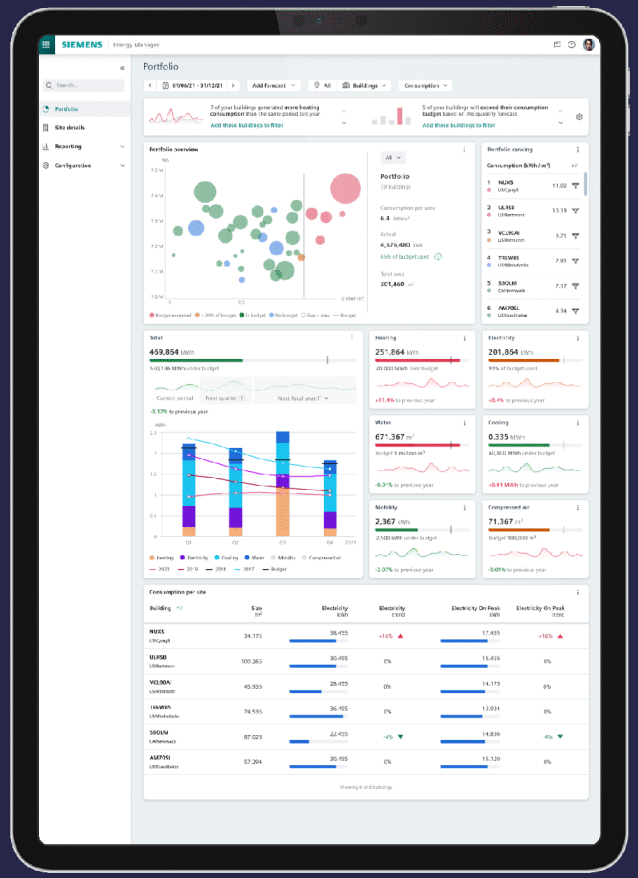
Check all your **buildings portfolio** with one click

Monitor your fleet of site according to their **size & consumption data**

Identify the **outliers in** your portfolio

Deep dive into the specific building to have more insight

Clarify the root cause and check deeper with Operations Manager



Challenge

Taking ESG decisions requires a solid database – tracking & consolidating data between locations and systems can be time-consuming and error-prone

Solution

- **Energy KPI Monitoring:** sustainability KPIs like consumption, cost, water usage, CO2 or GHG emissions in near real-time
- **Energy Benchmarking:** visualization across buildings portfolio
- **AI-based forecasting & notifications:** alerts for potential budget overruns
- **Reporting:** automated reports & ad-hoc reporting for internal/external stakeholder

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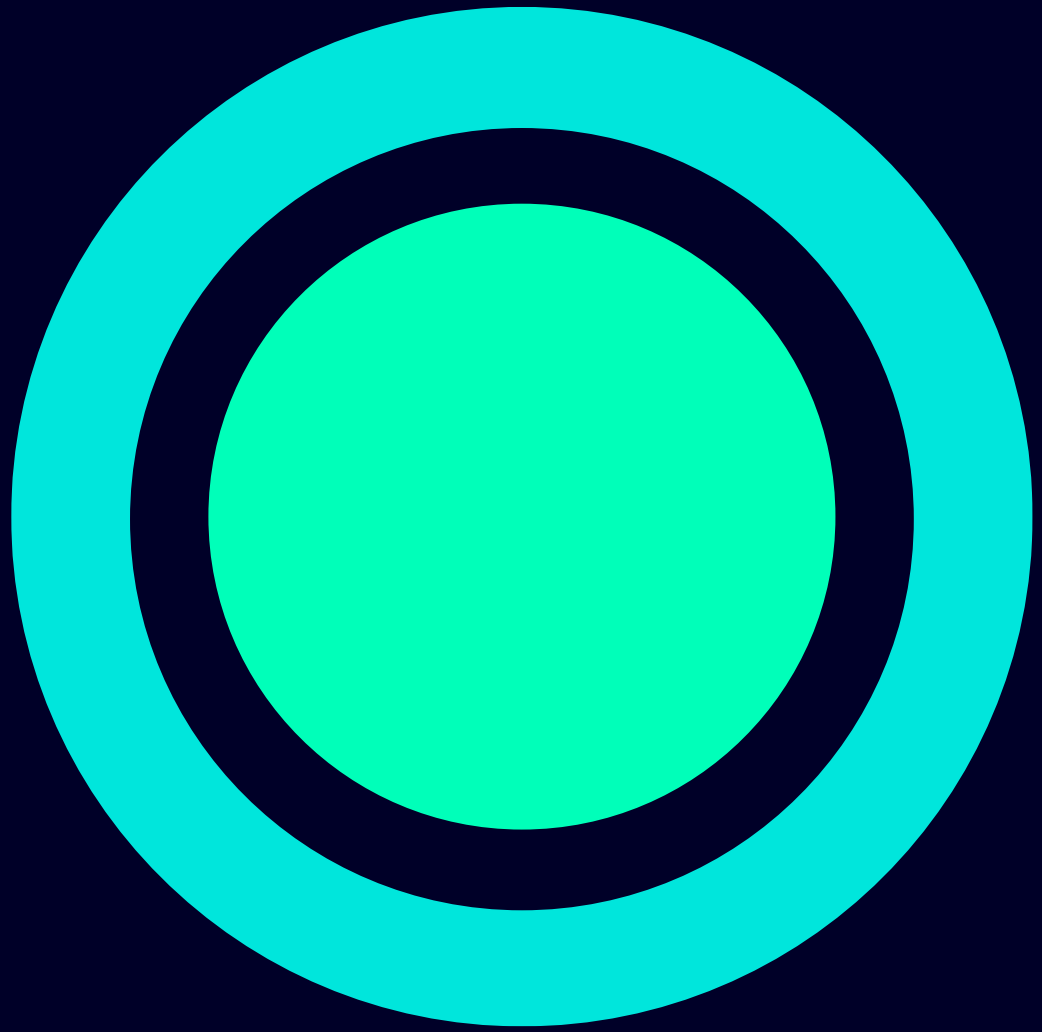

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