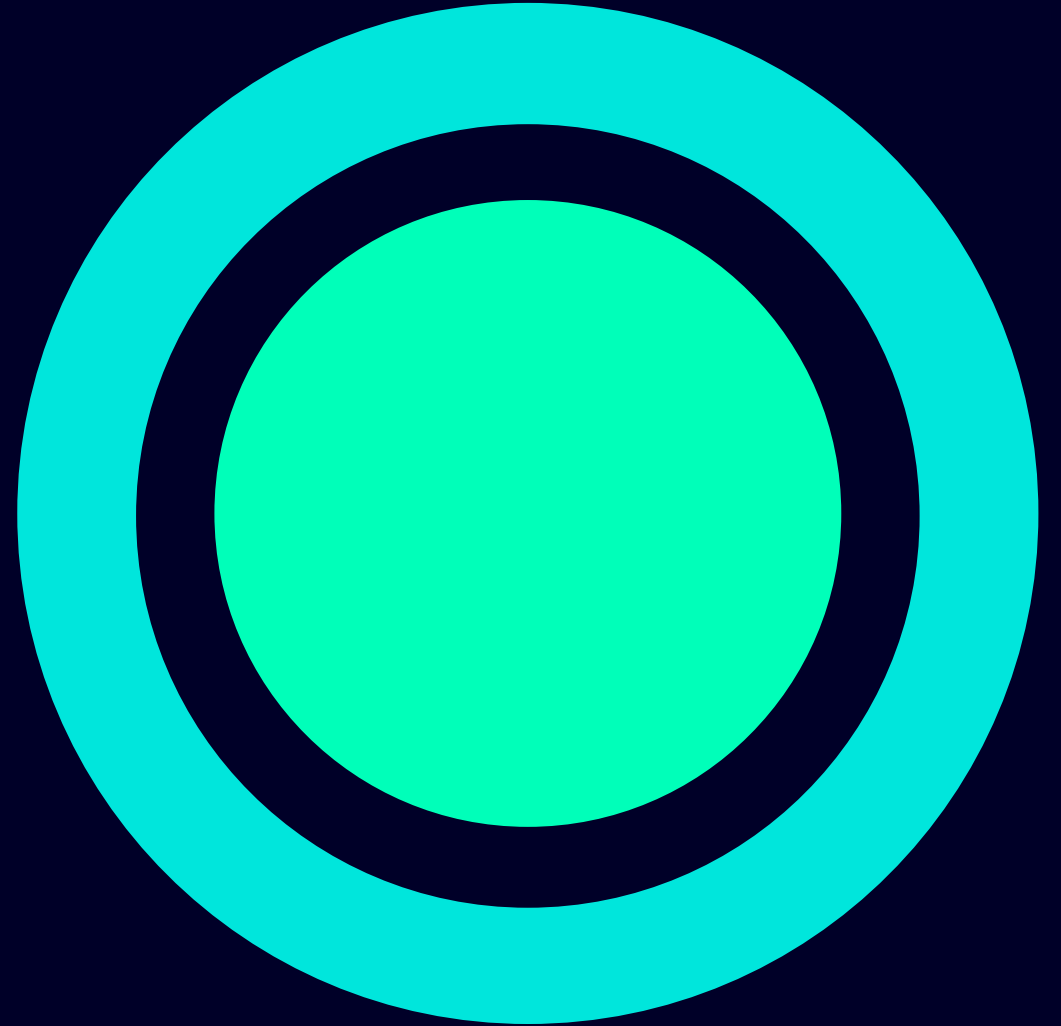


Sustainability at Siemens

Multiply impact






Climate
change



Glocalization



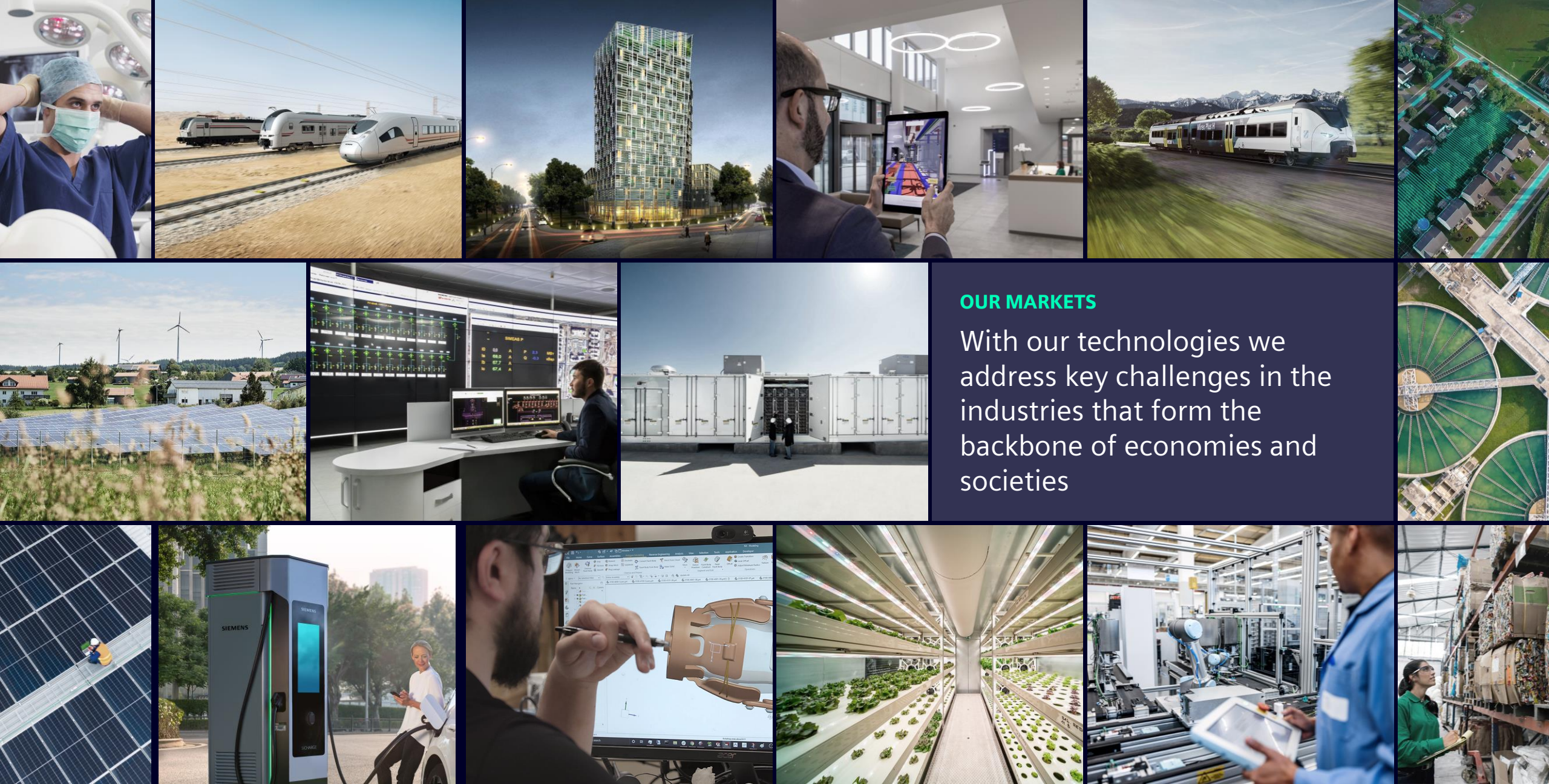
Digitalization



Demographic
change



Urbanization



OUR MARKETS

With our technologies we address key challenges in the industries that form the backbone of economies and societies

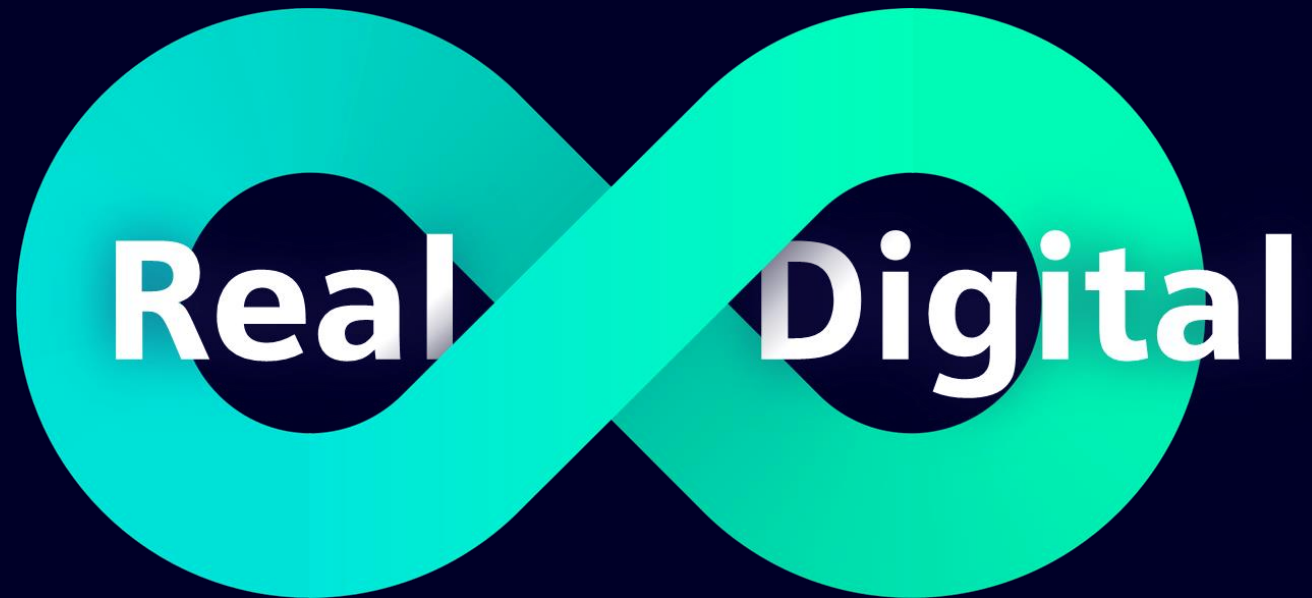
Siemens sustainability track record

More than 15 years of leadership ...



Technology drives sustainability

We enable our customers to do more with less by combining the real and the digital worlds.



Our **DEGREE** framework – a 360° view on Siemens priorities in our business and our own operations



**Our impact in
fiscal year 2022**

~150 Mt
Customer Avoided
Emissions

New pathway target

-55%
physical carbon
emissions in own
operations by 2025

Excl. Siemens Healthineers

Ramping up our ambitions

-90%
physical carbon
emissions in own
operations by 2030

Excl. Siemens Healthineers

Acting on our ambitions

~~~€~~650m

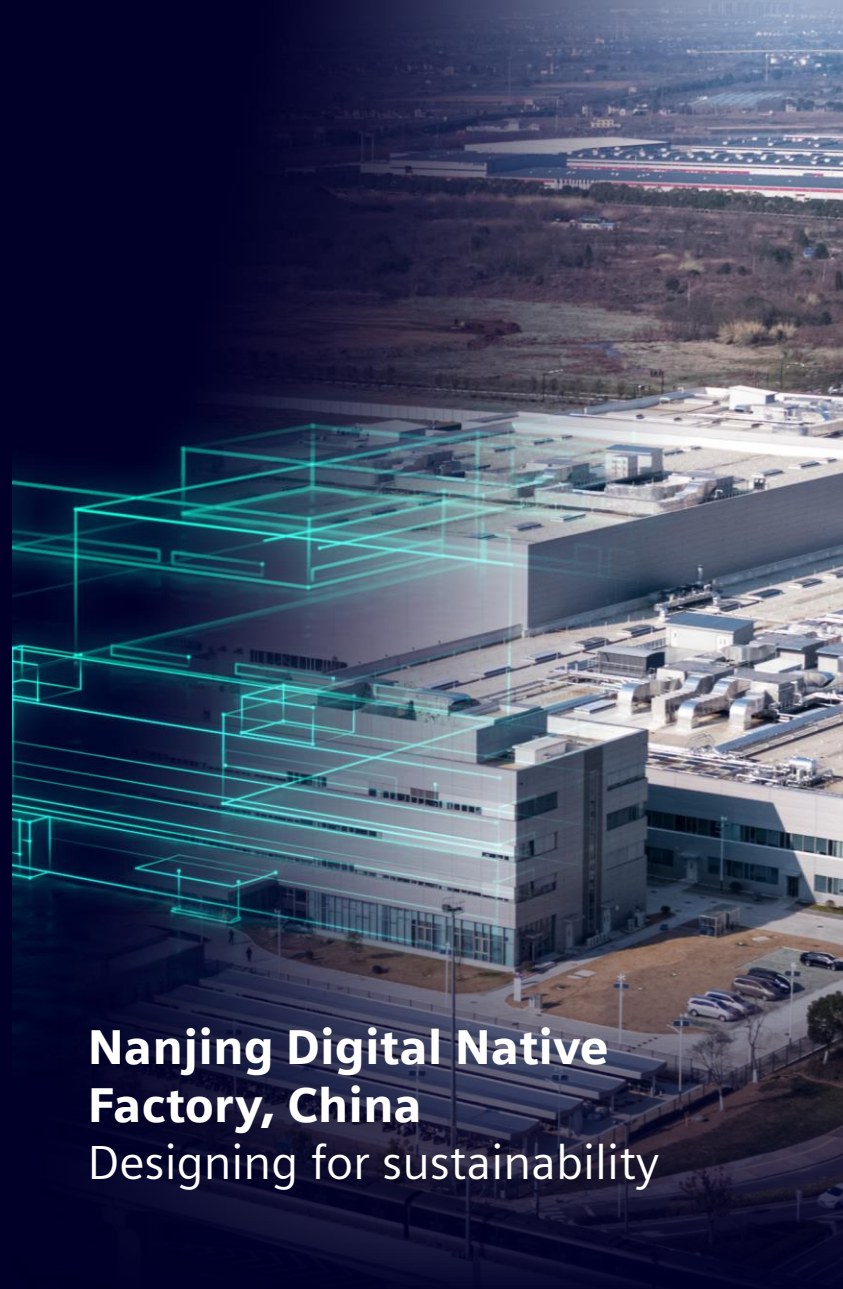
investment in  
decarbonizing own  
operations between  
2022 and 2030

Excl. Siemens Healthineers





**Congleton, United Kingdom**  
Turning brownfield  
into green factories



**Nanjing Digital Native  
Factory, China**  
Designing for sustainability



**Siemensstadt Square,  
Germany**  
The future of urban living  
and production

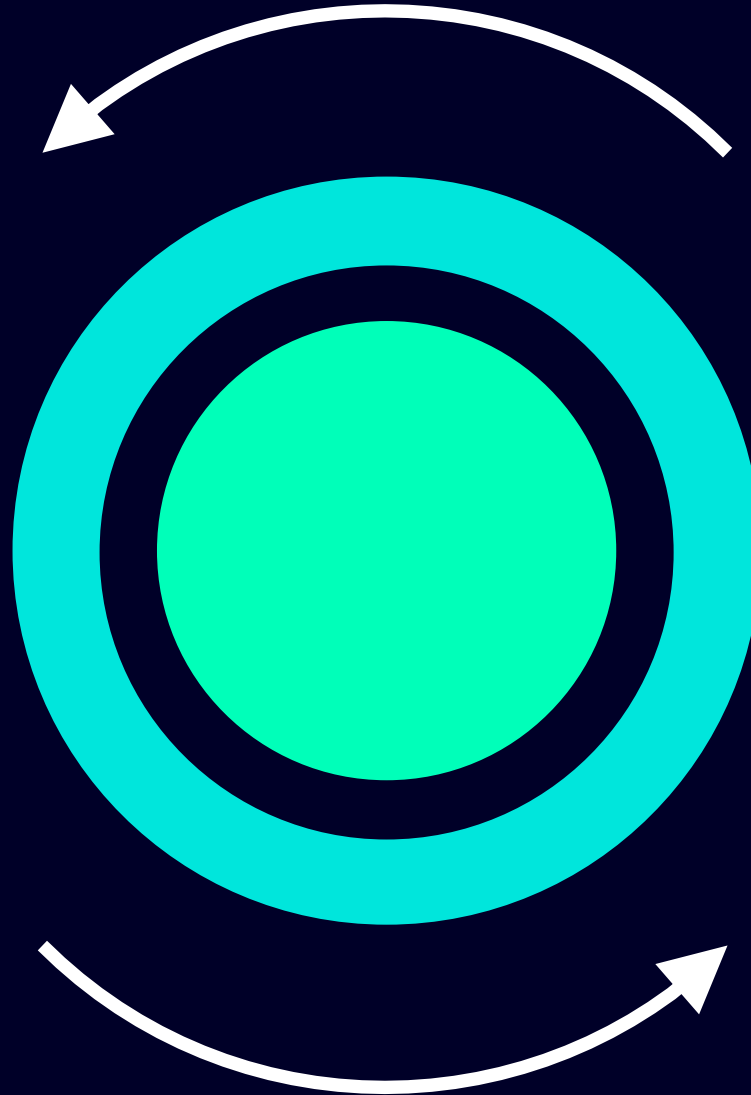




**Continuous focus  
on our people**

**25 by '25**  
digital learning hours  
per person

**Sustainability  
in our own  
operations**



**Sustainability  
business**



# Sustainability business framework

Decarbonization, resource efficiency and people centricity through all businesses



Decarbonization & energy efficiency



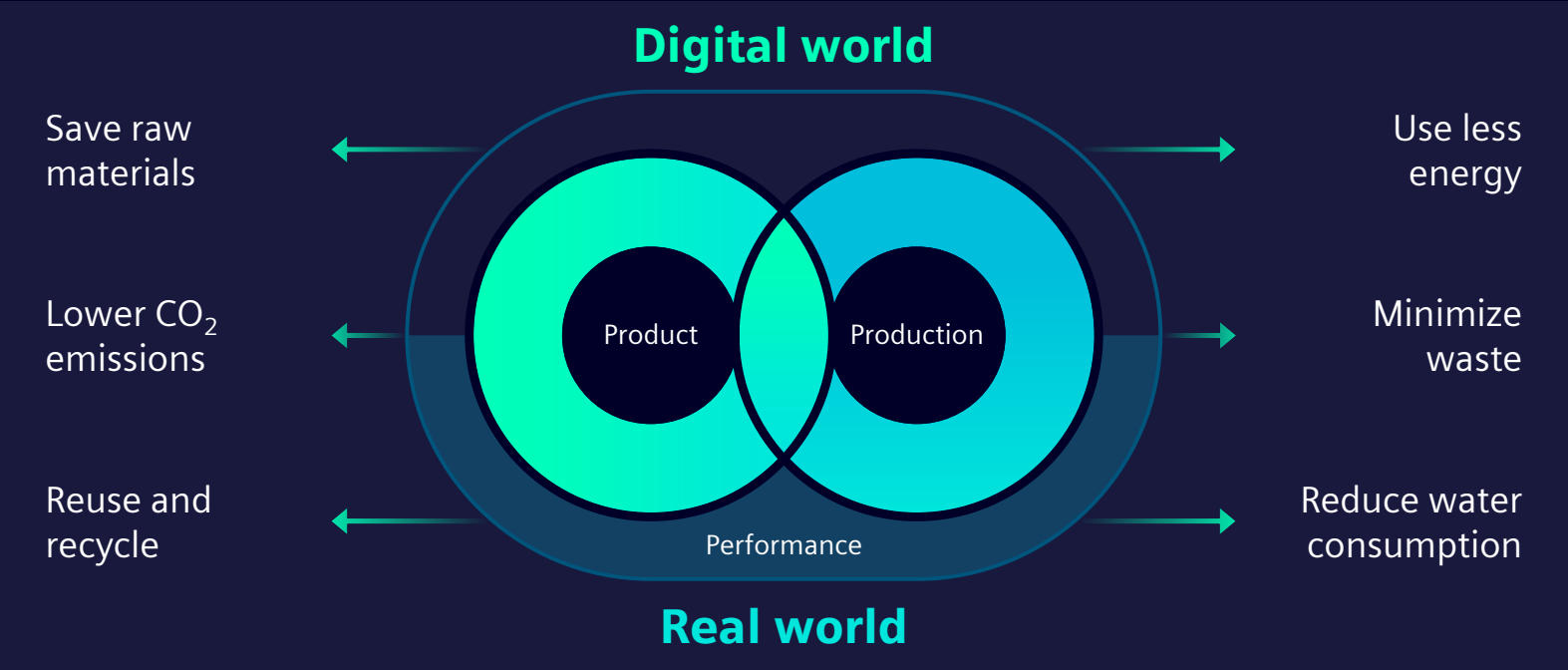
Resource efficiency & circularity



People centricity & societal impact

|                                   |                                                                                  |                                                                     |                                                                                  |
|-----------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>Industry</b>                   | Digital twin for energy and Product Carbon Footprint management                  | Digital twin for reduced material, water and energy usage           | Digital twin workflow and workstation design and simulation                      |
| <b>Buildings</b>                  | Building energy efficiency, end-to-end decarbonization programs                  | Optimized building space utilization and asset management           | Healthy indoor climates, security and access management                          |
| <b>Electrification</b>            | Grid software for renewable integration, eMobility charging                      | Electrical asset performance management and protection              | Electrical safety, secure and resilient power supply                             |
| <b>Mobility</b>                   | Efficient public transport, e.g., high-speed, battery, hydrogen trains           | Extended lifecycles from reparability, reusability or refurbishment | Data-driven services for increased system capacity, availability and reliability |
| <b>Siemens Financial Services</b> | Financing new clean technologies, new business models and sustainable innovation |                                                                     |                                                                                  |

# Sustainability through digital twin technology



- Comprehensive digital twin approach:**
- Seamless flow of information from the real and digital world
  - Holistic view of sustainability impacts along the value chain
  - Continuous optimization loop to achieve greater sustainability





Vertical farming –  
Industry, Buildings, Electrification, Financial Services

**Decarbonization &  
energy efficiency**

**Resource efficiency  
& circularity**

## 80 ACRES FARMS

Creating a more sustainable approach to farming through digitalization and automation

### Customer challenge

- Expanding proven vertical farm technology and infrastructure globally is resource and capital intensive
- Enable continuous improvement to drive down unit economics to open new markets and position the business to operate globally

### Solution

- Development of sustainable large-scale indoor farms
- Complete end-to-end digitalization and automation technology of the farms from recipe to packaged product
- Implementation of an intelligent energy system, including power distribution, environmental control, fire safety and security, and asset management
- Siemens Financial Services invested equity to unlock growth and fund future farm infrastructure and technology innovation

### Customer benefit

- 95% less water used compared to traditional farming
- Powered by 100% renewable energy and eliminating pesticides
- Growing up to 300x as much food per square foot
- Lowering farm-to-table footprint and reducing overall waste





**Decarbonization &  
energy efficiency**

**People centricity &  
societal impact**

## MORGAN STATE UNIVERSITY

# Campus transformation

## Customer challenge

- Morgan State University wants to transform into a smart, sustainable, and efficient campus

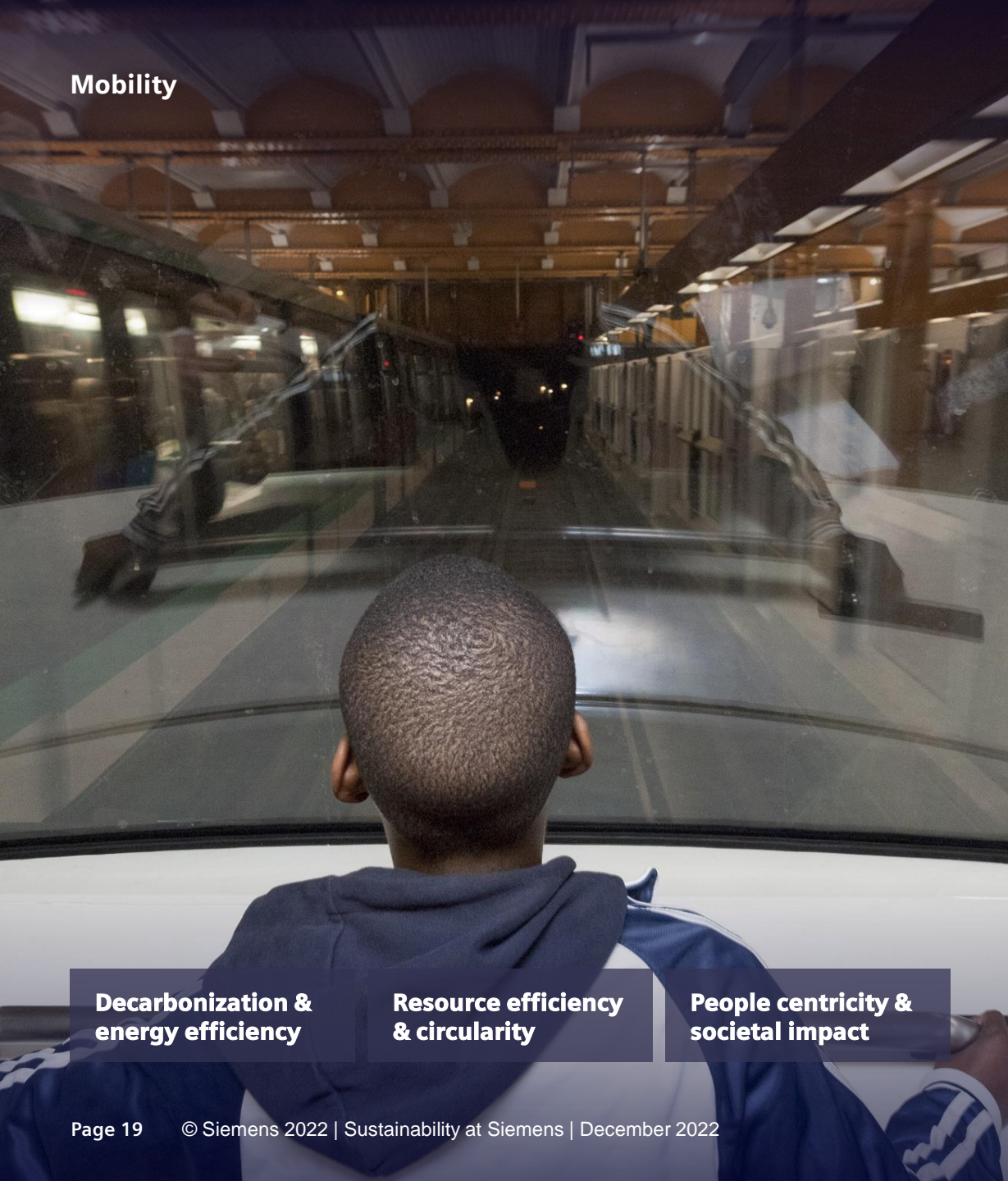
## Solution

- Strategic Energy & Sustainability master plan defines 4-phase campus modernization and transformation
- Delivering a smart campus foundation with Desigo CC integrated automation, HVAC, security, fire and life safety systems, with a focus on energy efficiency, resiliency and sustainability (phase 1)
- Addressing utility systems, renewable energy and enabled digital services for continuous improvement & optimization (phase 2)

## Customer benefit

- Improved infrastructure and operational excellence
- Deliver a healthy, safe, secure, and resilient campus setting
- ~\$10 million guaranteed savings in phase 1
- > 65% planned greenhouse gas emission reduction





**Decarbonization & energy efficiency**

**Resource efficiency & circularity**

**People centricity & societal impact**

## RATP GROUP

Full automation of century-old Parisian metro line to cope with rising demand for sustainable urban transit

### Customer challenge

- Performance upgrade of second busiest metro line in Paris while minimizing the disruption of passenger service

### Solution

- CBTC signaling Grade of Automation 4 for driverless and automatic operation
- Modern Operation Central Command solution
- Implementation of full automation during operation without interruption to traffic

### Customer benefit

- Increased network capacity by ~20% through shortening of intervals between metro trains from 105 to 85 seconds
- Significant performance upgrade of century-old metro line, without resource intensive new construction
- Reduction of traction energy consumption by up to 15% through full automation of operation
- Enhanced passenger experience through higher reliability, fewer delays and up-to-date travel information

## Customer Avoided Emissions

~150

**million tons of  
Customer Avoided  
Emissions** through  
Siemens offerings  
in FY 2022

"Positive" CO<sub>2</sub> impact (saved or avoided emissions) at customers compared to reference solution.

~12

**million tons of CO<sub>2</sub> emissions** were caused in our own operations and supply chain in FY 2022

Scope 1 and 2: 0.6 Mt  
Scope 3 upstream: 11.5 Mt

~13x

**more CO<sub>2</sub> emissions  
are avoided** by our  
products than caused  
in our own operations  
and supply chain



## Calculation methodology for Customer Avoided Emissions

- Siemens' proprietary methodology aligned with GHG Protocol Scope 3 downstream reporting applied from FY 2022
- Calculation method "future impact": Accounting for avoided emissions of offerings sold in reporting year over their entire lifetime
- Expanded scope beyond former Environmental Portfolio
- Excluded since robust calculation under development e.g., DI Software, DI Factory Automation, DI Process Automation, MO Rail Infrastructure



# Consistent steps toward a net zero supply chain (scope 3 upstream)

Net zero supply chain by 2050 and 20% emissions reduction by 2030

## Impact through global supplier footprint

 **~66,000**  
Suppliers

 **~€35bn**  
goods and services purchased

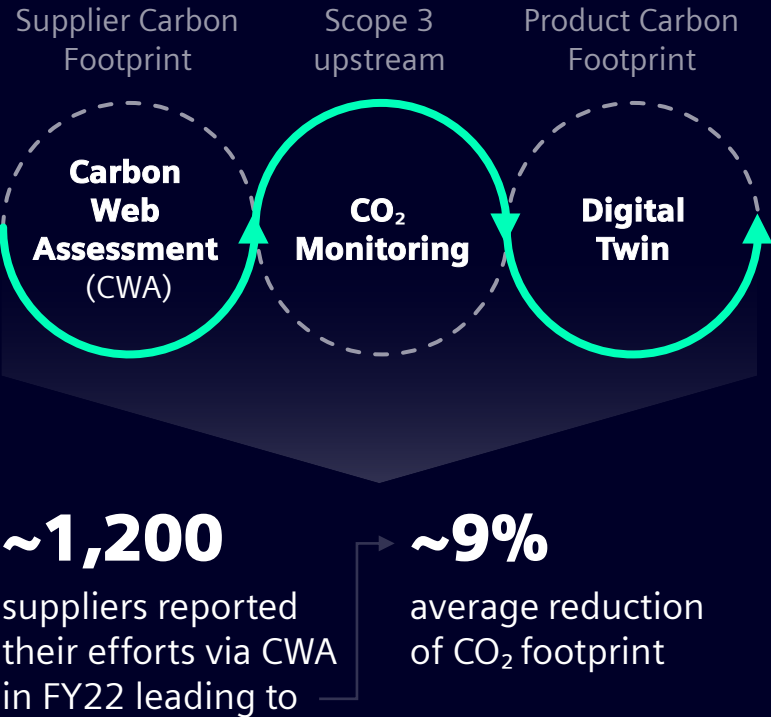
 **~150**  
countries

## Scope 3 upstream development in FY22<sup>1</sup>

**~16%**  
increase of Purchasing Volume (PVO)

**~2.5%**  
increase of scope 3 upstream emissions compared to FY20 baseline

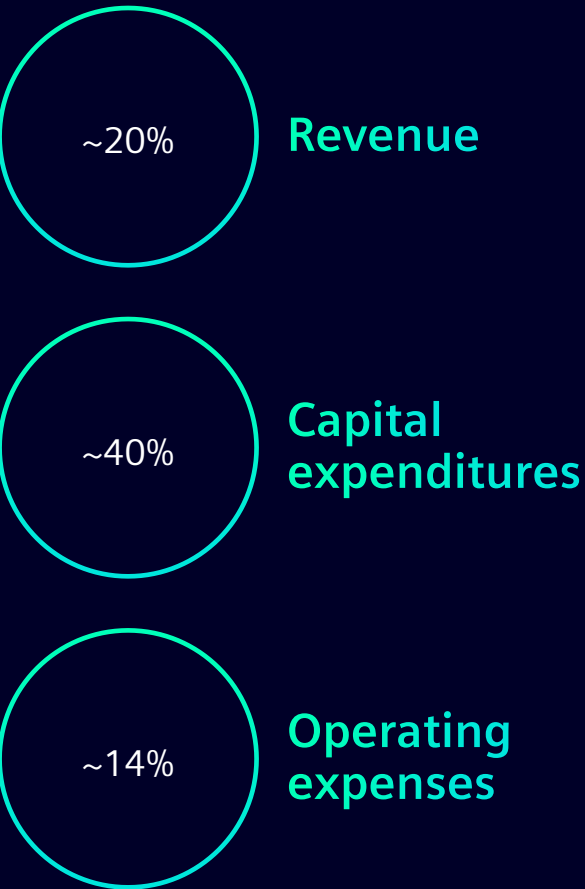
## Collaboration and technology as enabler to reach targets



<sup>1</sup> Excluding SHS

# EU taxonomy in the context of our business

## EU-taxonomy eligibility key figures in FY 2022



## Examples of eligible and non-eligible Siemens portfolio in FY 2022

|                      | Examples of eligible items in Siemens portfolio                                                                                                                                                      | Examples of non-eligible items in Siemens portfolio                                                                                                         |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital Industries   | <ul style="list-style-type: none"><li>Process automation portfolio</li><li>PLM life-cycle collaboration software</li></ul>                                                                           | <ul style="list-style-type: none"><li>Automation products, systems, and services</li><li>Industry software and IT/OT data-controlled solutions</li></ul>    |
| Smart Infrastructure | <ul style="list-style-type: none"><li>Manufacture of energy efficiency equipment for buildings</li><li>E-mobility systems and solutions</li></ul>                                                    | <ul style="list-style-type: none"><li>Technologies for low and medium-voltage power distribution</li><li>Fire protection &amp; security portfolio</li></ul> |
| Siemens Mobility     | <ul style="list-style-type: none"><li>Rail vehicles</li><li>Railway infrastructure, automation, and electrification</li><li>Digital solutions for mobility service providers and operators</li></ul> |                                                                                                                                                             |
| Siemens Healthineers |                                                                                                                                                                                                      | <ul style="list-style-type: none"><li>Entire portfolio</li></ul>                                                                                            |

Siemens'  
business is  
sustainability  
business

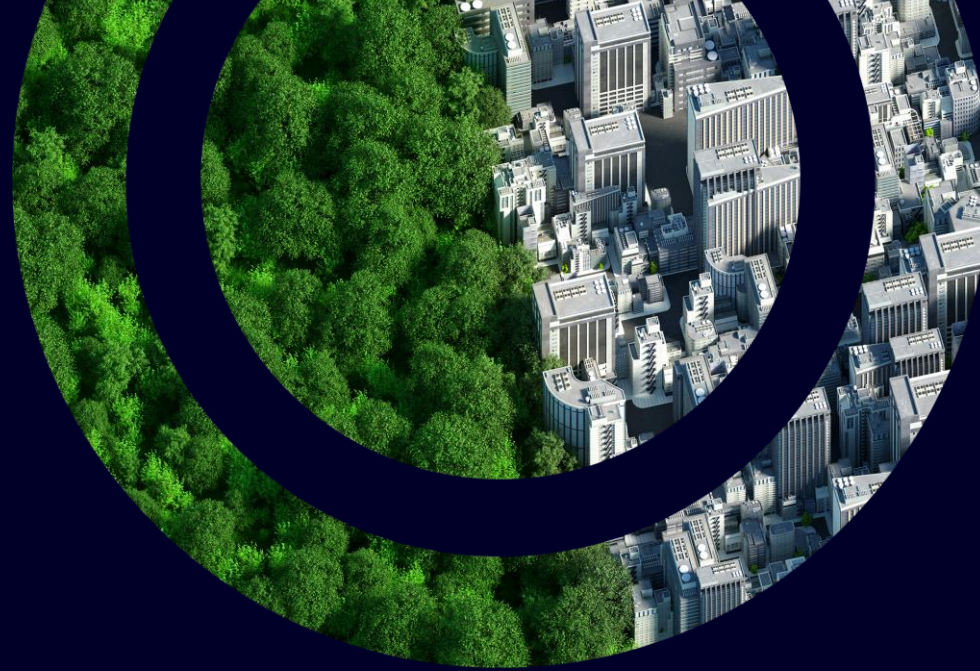
**Strong customer value propositions**

**Our integrated portfolio empowers customers**

**Leveraging our global ecosystems for transformation**



# Sustainability at Siemens



Accelerating  
**DEGREE**

Ramping up  
**Ambitions**

Multiply  
**Impact**