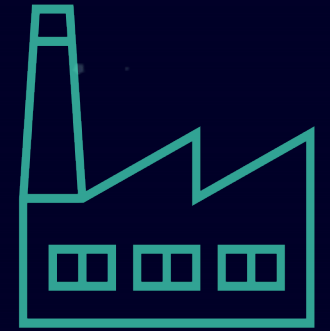




**FACTORY
OF THE YEAR**

SV Veranstaltungen KEARNEY



#factory2be

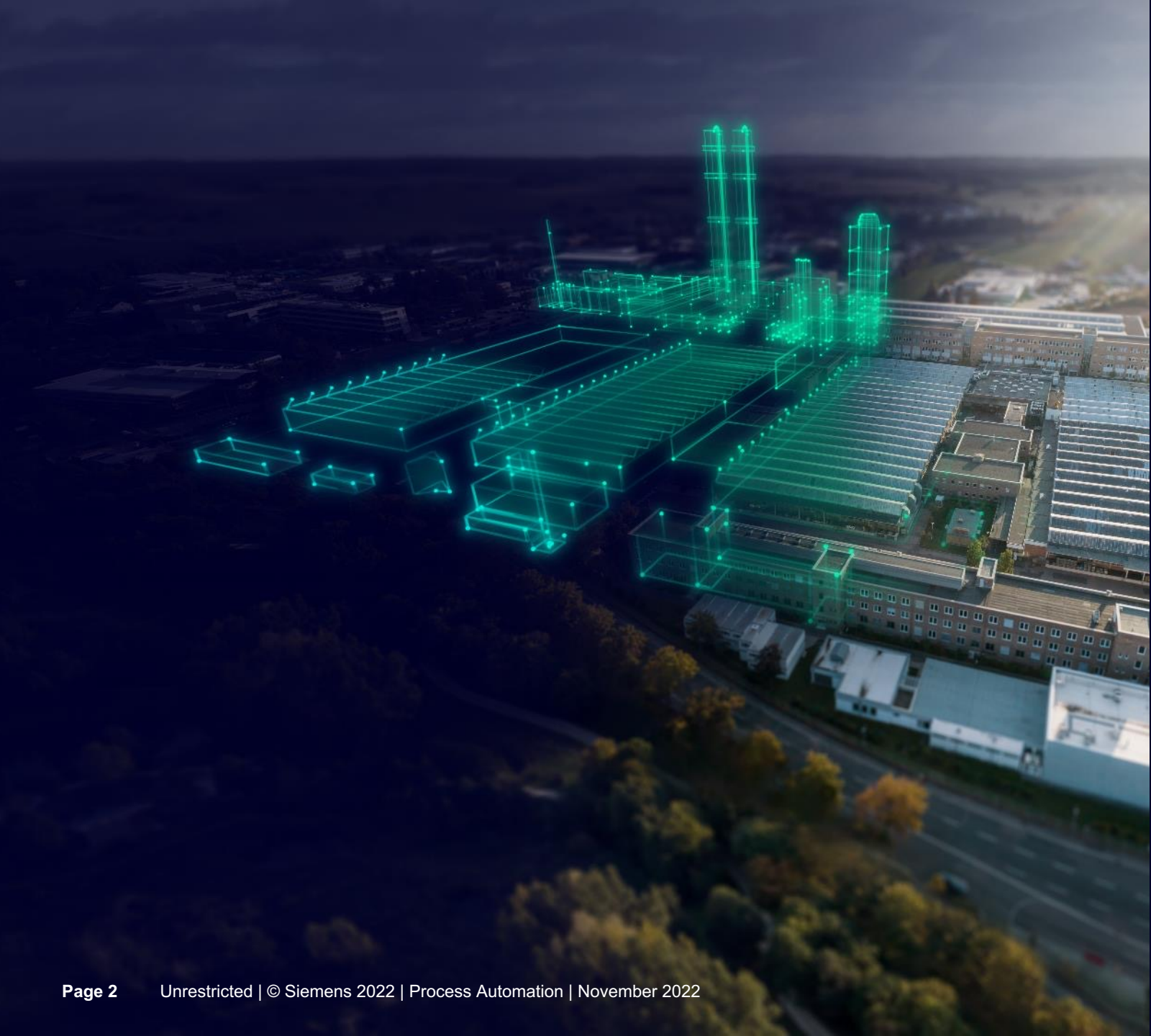
Produktion der Zukunft -

„Die resiliente Fabrik“

sicher, vernetzt, flexibel

#factory2be

SIEMENS



Digital Industries

Industry faces a major challenge: Because our planet's resources are finite, we must produce more with less. Siemens' Digital Enterprise helps meet this challenge by merging the real and the digital worlds in a continuous flow of data. A key part of that is the comprehensive Digital Twin. It collects data on products throughout their entire lifecycle, from the initial concept to their production and deployment. Our cutting-edge technologies make it possible for industry to understand this data and to use finite resources much more efficiently. That is how we are making industry more sustainable.

76,200

employees¹

19.9%

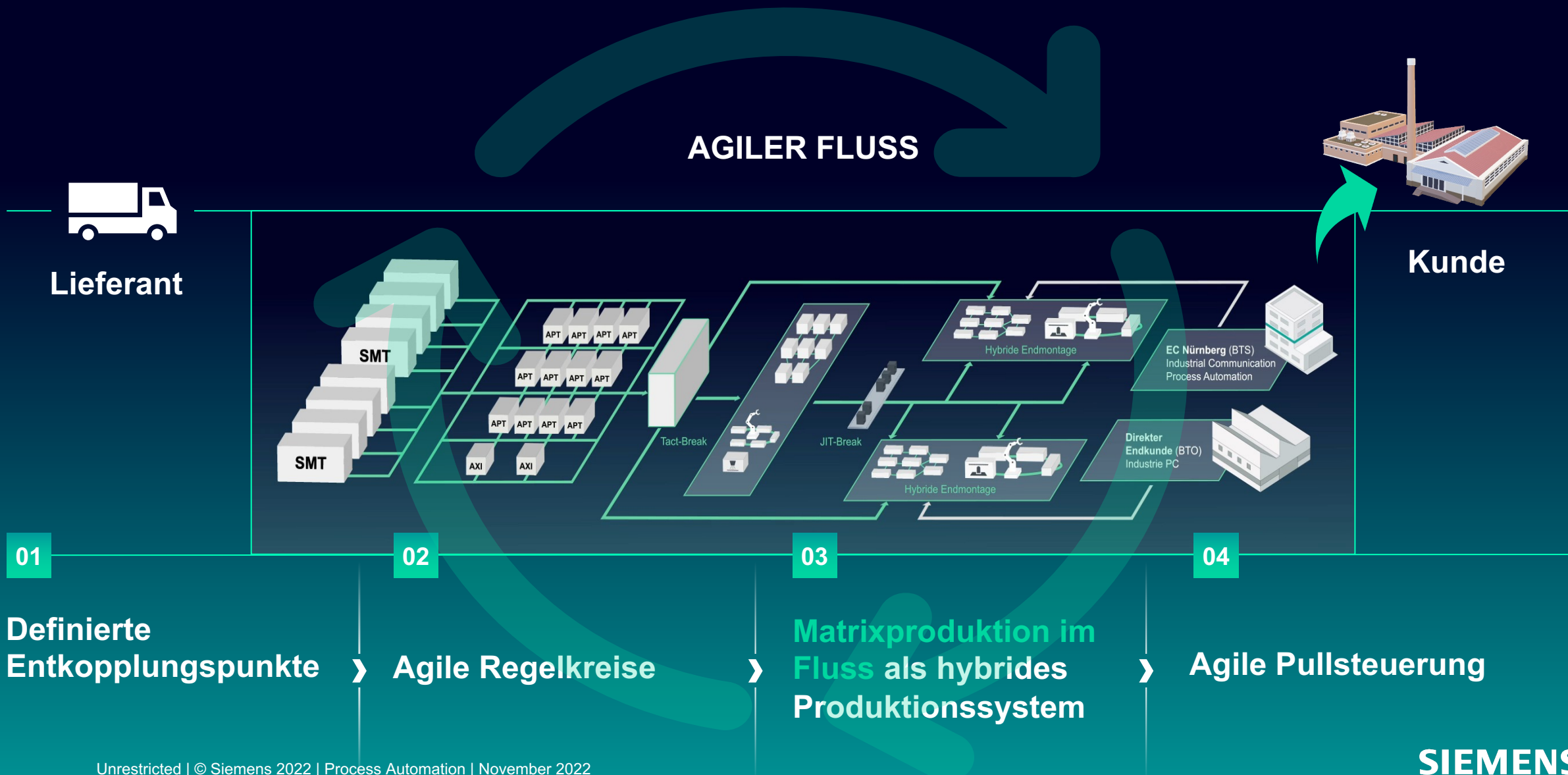
profit margin²

€19.5 billion

in revenue²

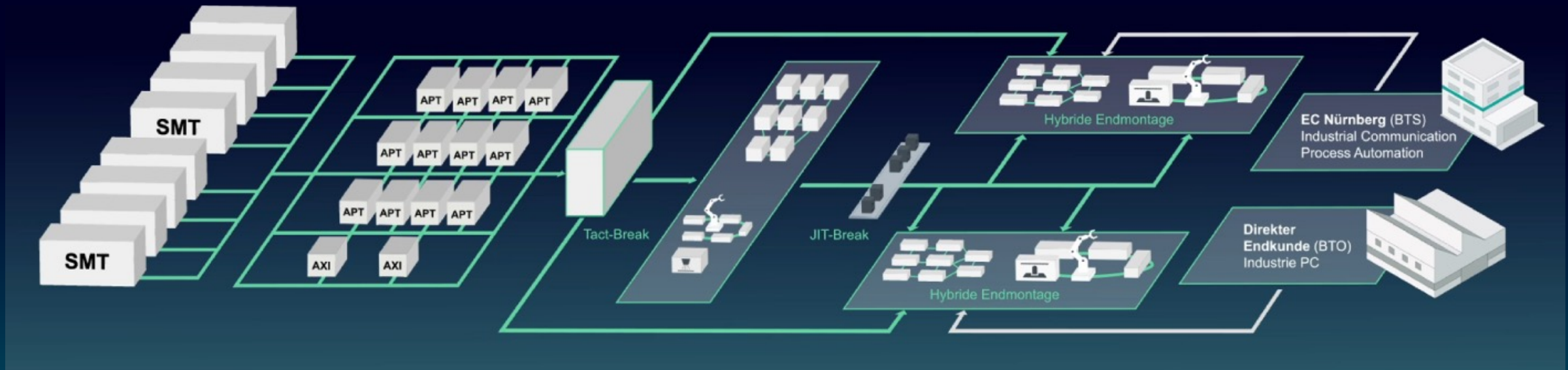
1 As of September 30, 2022 | 2 For fiscal 2022

Wir schaffen unsere resiliente Wertekette mit der **Matrixproduktion im Fluss**



Matrixproduktion im Fluss

Gesamtvisionsbild



SMT/APT MATRIX

- Innovatives und hoch flexibles Technologiezentrum
- Kürzester DLZ bei optimalem Betriebspunkt

JUST IN CONSTANT TIME

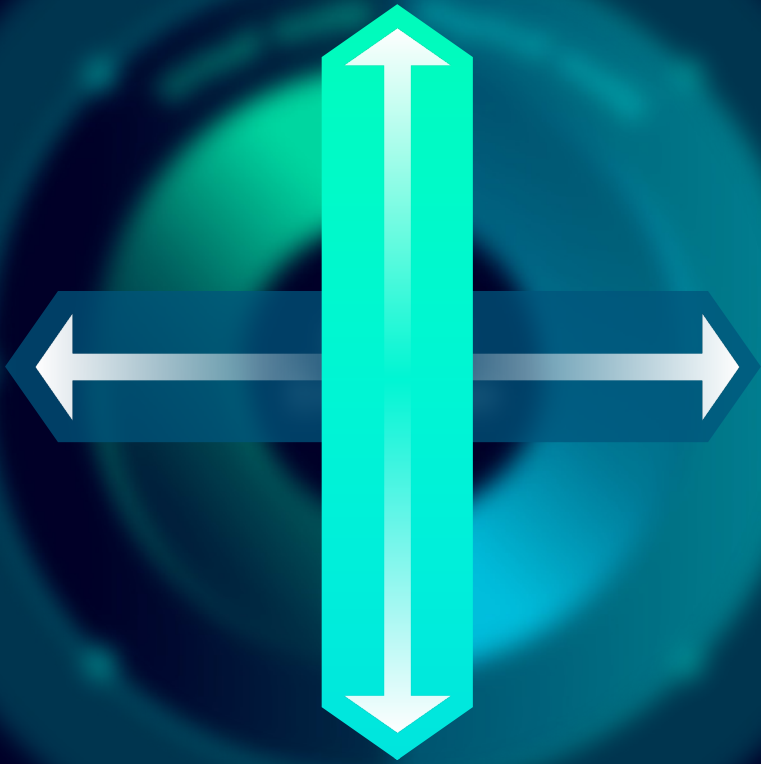
- Taktentkopplung mit definiertem Puffer
- „Agiler Fluss“ als Steuerungslogik unser Matrixproduktion im Fluss

HYBRIDE FERTIGUNGS-STRATEGIE MONTAGE

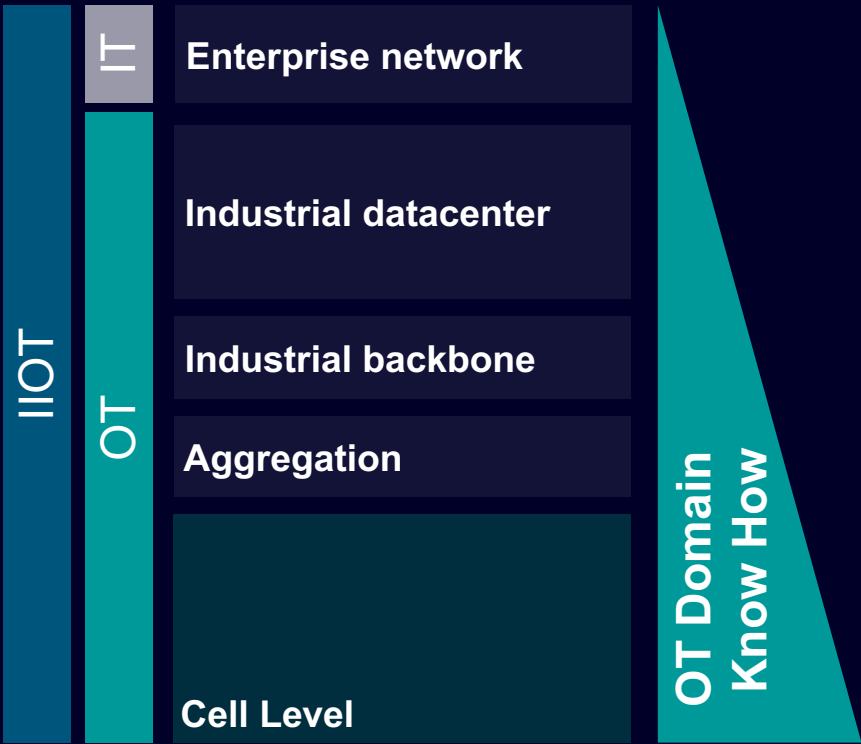
- Flussorientierte Montagemodule für BTS
- Matrixmontage als Weiterentwicklung der hoch flexiblen Einzelarbeitsplätze für BTO

Bringing together OT and IT

Information Technology (IT)



Operational Technology (OT)



Coexistence of public and private 5G networks



Industrial Wireless 5G networks need a private frequency band!

- Self-management guarantees flexibility in production
- Qualified IT-experts with OT-knowledge on-site
- QoS supporting industrial needs e.q. realtime and deterministic
- Data stays on-premises

Private 5G networks combined with private spectrum ensure optimal data privacy



5G spectrum fees for local use in Germany

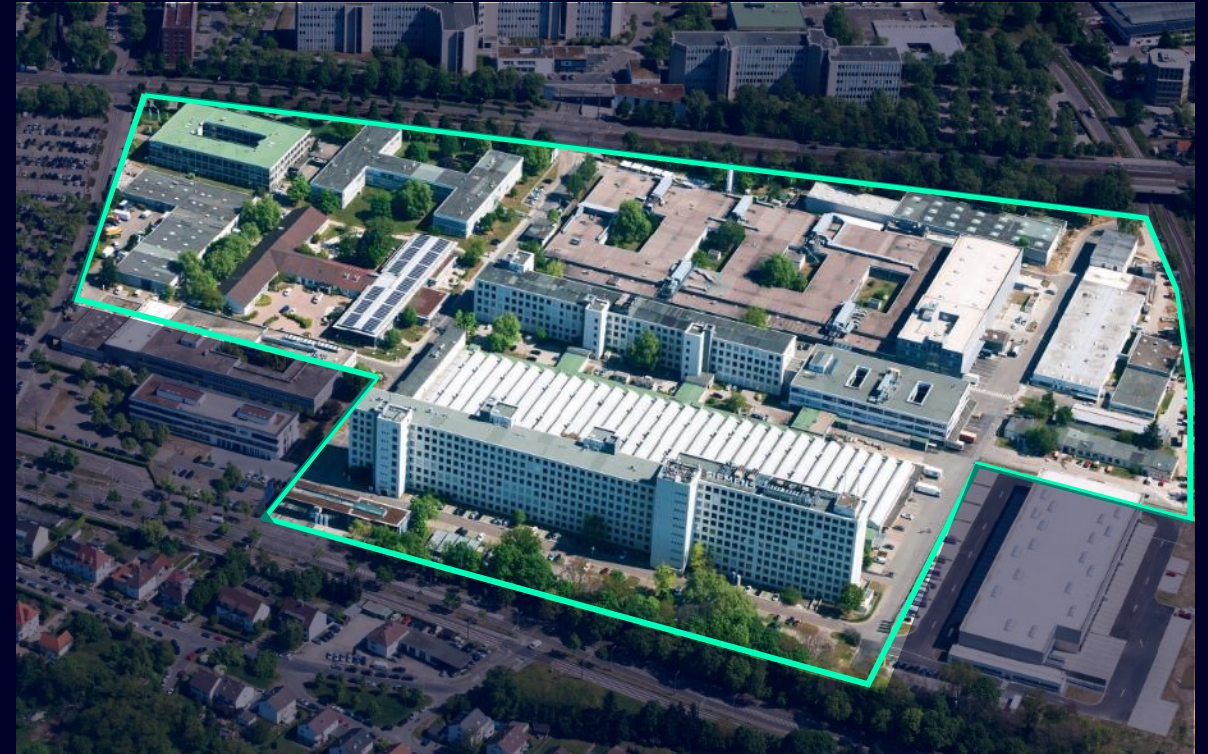
Example: Siemens Factory Karlsruhe (South)

Formula to calculate the fee:

$$1000 + B \cdot t \cdot 5 (6a1 + a2)$$

The fee comprises the following elements:

- A base amount of **1,000 €**
- Planned bandwidth (**B**): 100 MHz
- Planned term (**t**): 10 years
- Surface area covered in square kilometers
 - (**a1**): 0.141 km²
 - (**a2**): 0 km²



$$1,000 \text{ €} + 100 \text{ Mhz} \cdot 10 \text{ Year} \cdot 5 \text{ €} (6 \cdot 0.141 \text{ km}^2 + 0) = 5,230 \text{ €}$$