

Sustainable digitalization in SME

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Lecture outline

- SME definition criteria in EU countries
- SMEs Strategy for a sustainable and digital Europe
- SME Digitalization directions
- What gives digitalization to SMEs

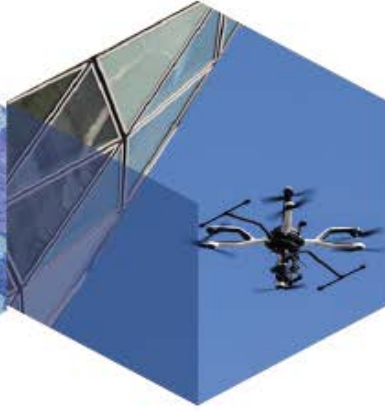
SMEs significance in EU

25
million
SMEs in
Europe



2 out of 3 jobs
in SMEs

50%
of Europe's
GDP



50%
of all SMEs
undertake
innovation
activities

POWER

ILLUMINATION

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SME criteria

What is EU SME criteria?

- staff headcount
- annual turnover
- annual balance sheet total



Staff headcount

Employ < 250 persons

and



Annual turnover

< or =
EUR 50 million

or



Balance sheet
total

< or =
EUR 43 million

Types of SMEs

- **Micro-enterprises** employ fewer than 10 persons and annual total turnover or annual balance sheet does not exceed EUR 2 million
- **Small enterprises** employ fewer than 50 persons and annual total turnover or annual balance sheet does not exceed EUR 10 million
- **Medium-sized enterprises** employ fewer than 250 persons and annual total turnover does not exceed EUR 50 million, or annual balance sheet does not exceed EUR 43 million

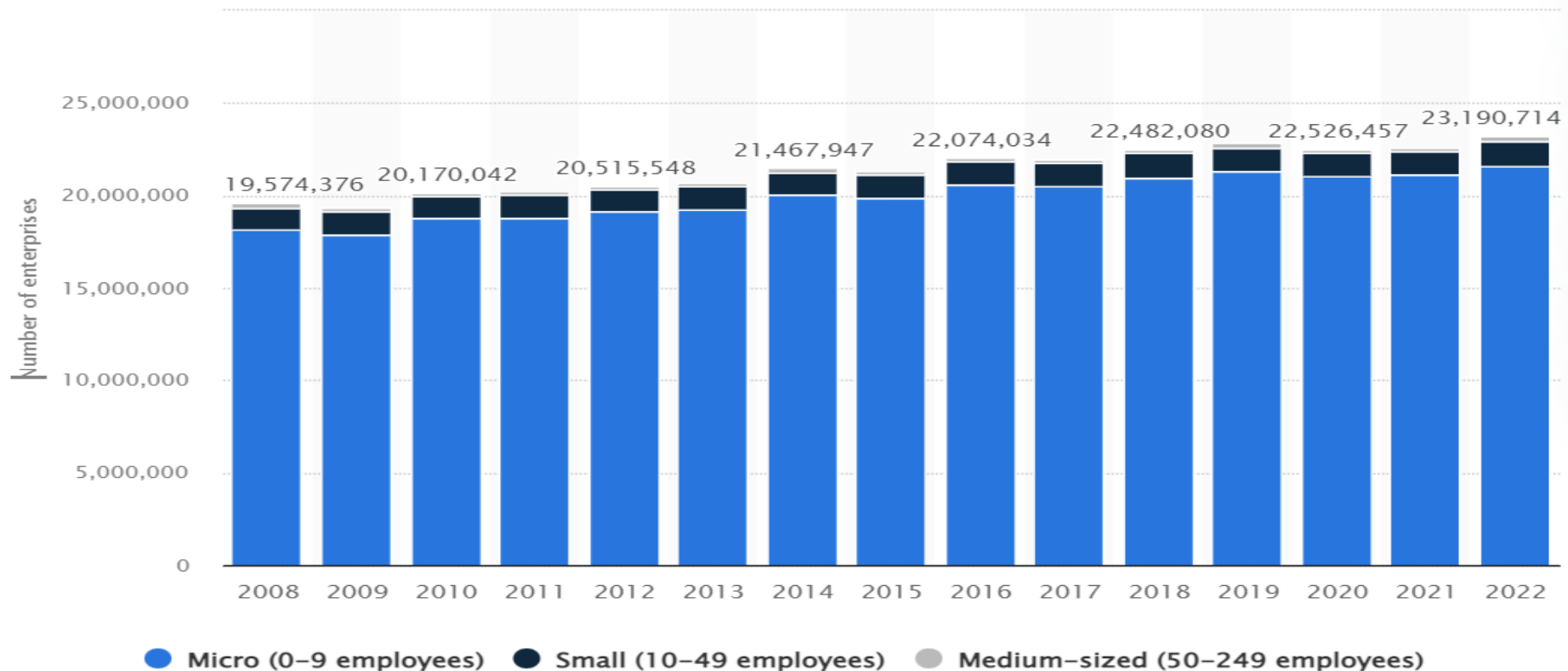


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Enterprise category	Headcount: annual work unit (AWU)	Annual turnover	Annual balance sheet total
Medium-sized	< 250	≤ EUR 50 million	≤ EUR 43 million
Small	< 50	≤ EUR 10 million	≤ EUR 10 million
Micro	< 10	≤ EUR 2 million	≤ EUR 2 million

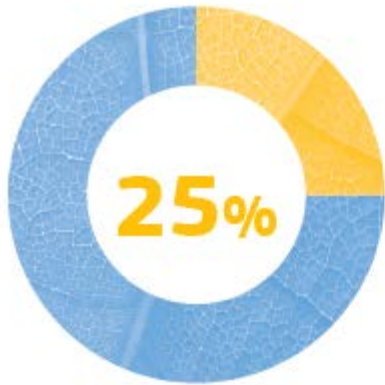
Number of small and medium-sized enterprises (SMEs) in the European Union (EU27) from 2008 to 2022, by size



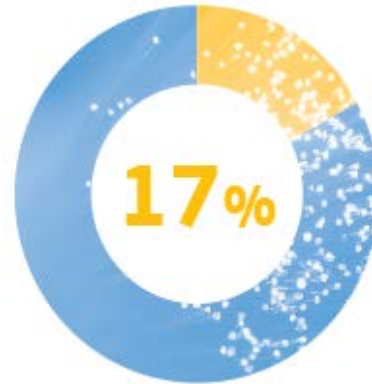
SMEs Strategy in EU

The EU will support SMEs in 3 key areas:

1. The sustainable and digital transitions



of EU SMEs
work on green
products or
services



of SMEs have successfully
integrated digital
technologies, compared to
54% of large companies

SMEs Strategy in EU

Based on the new SME Strategy:

- ▶ **Sustainability Advisors** will be appointed within the existing Enterprise Europe Network to help SMEs with environmental and social challenges and improve access to skills.
- ▶ Up to 240 **Digital Innovation Hubs** will advise SMEs on how to integrate digital innovations into their products, business models and processes.
- ▶ The new European Innovation Council (EIC) will make available €300 million as of next year to encourage **breakthrough innovations** delivering Green Deal objectives.



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2. Doing business freely in the Single Market and beyond, notably by cutting red tape

SMEs need improved access to markets. The SME strategy will reduce barriers within the Single Market and open up access to finance to cover the investment needed for the ecological and digital transition.



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Challenges

80%

While 80% of exporting SMEs sell their products and services on the Single Market, certain sectors like services face more obstacles. And only 600,000 SMEs export goods outside of the EU

40%

Only 40% of businesses in the EU are paid on time. This is the cause of 1/4 of SME bankruptcies

78%

78% of SMEs cite complex administrative procedures as the biggest obstacle to operating in the Single Market

Actions



Partnerships among border regions to encourage them to jointly improve, align or coordinate the rules and procedures on cross-border provision of services, for example, on posting of workers and using digital tools. And an extended Erasmus for Young Entrepreneurs Global Scheme to support internationalisation



Support Member States in implementing the **Late Payment Directive**, by setting up monitoring and enforcement tools



Develop an **EU Start-up Nations Standard** with Member States to accelerate growth of high tech SMEs and start-ups in the Single Market

SMEs Strategy in EU



3. Better access to finance

Hurdles to accessing finance

10%

Only 10% of European SMEs' external financing is from capital markets

11%

Only 11% of businesses in Europe consider equity as a viable financing option while only 1% have used it

Venture capital investments in Europe are many times smaller than in the US, with three times fewer scale-ups

Actions



Creating an **SME Initial Public Offering (IPO) Fund** with investments channelled through a new private-public fund set up under the InvestEU programme and launching a gender-smart finance initiative to stimulate funding for female-led companies and funds



Create the ESCALAR initiative, a mechanism to **boost the size of venture capital funds** and attract more private investment, to help high-potential enterprises to grow

SME digitalization directions: Enabling technologies



 IOT ANALYTICS

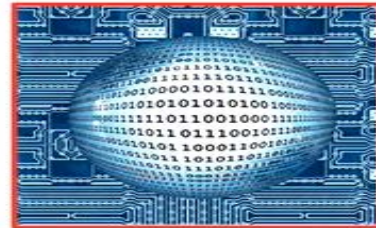
7 core technologies make up Industry 4.0



1. Cyber Physical Systems



2. Cloud Computing



3. Big Data



4. System Security



5. 3D Printing



6. Augmented Reality

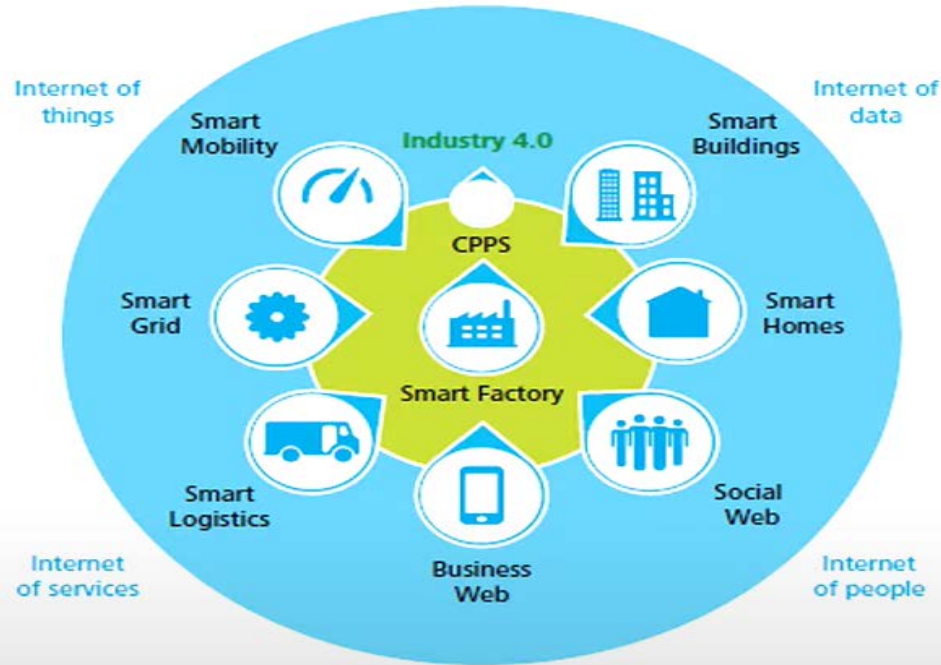


7. Humanoid Robots

SME digitalization directions: The new environment



The industry 4.0 environment²



What gives digitalization to SMEs



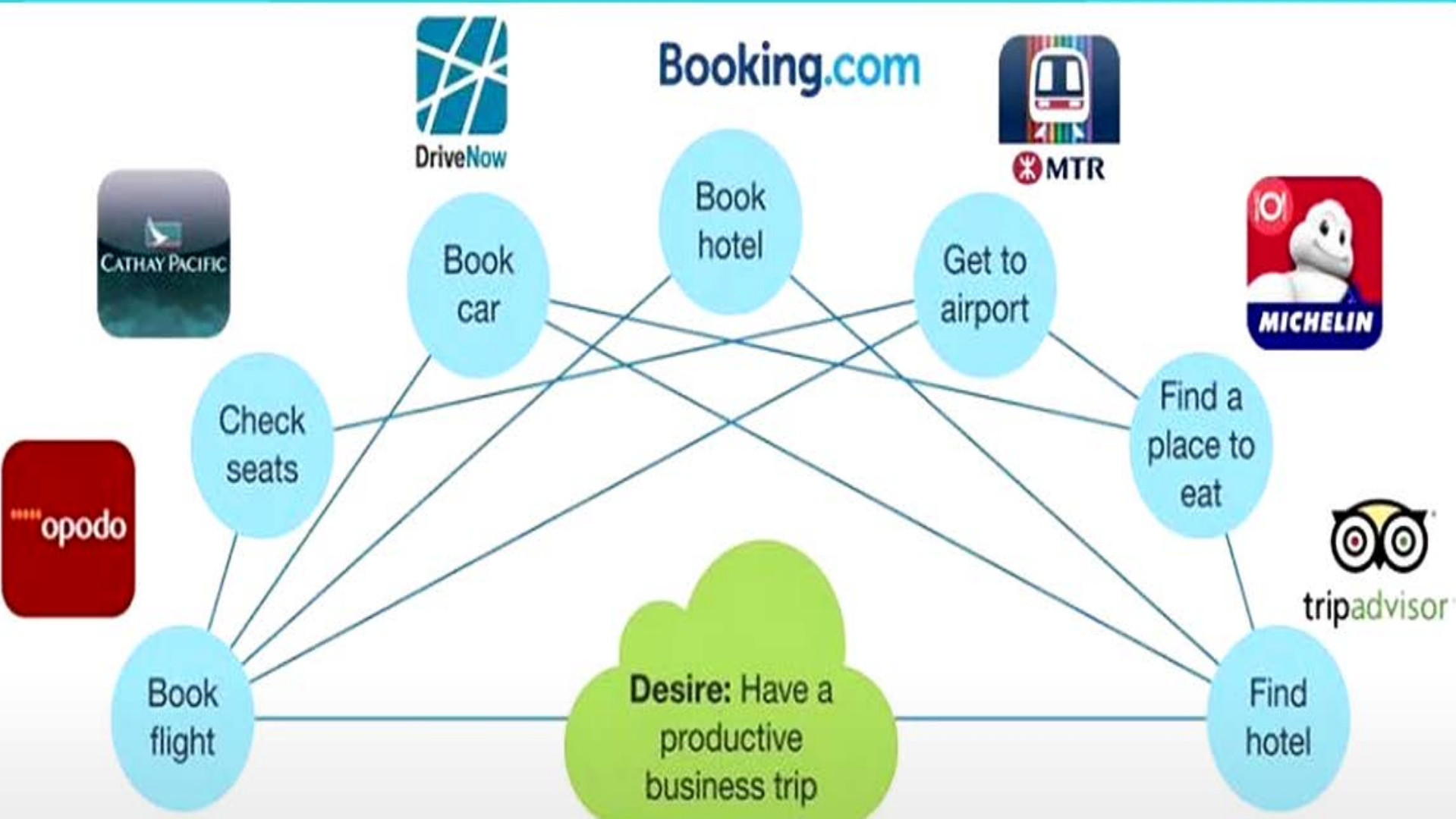
- ❑ **Industry 4.0** and digitalization are often perceived as technological concepts aiming at increasing efficiency and reduced costs
- ❑ Many companies still underestimate the huge market impact of innovative business models and their integration into superior digital ecosystems

e thought of as a network
data and processes are
al platforms to encourage
useful results to all parties

ollection of flexible services
d adapt to a company's ever-

- Digital ecosystems can be thought of as a work where companies, people, data and processes are connected to shared digital platforms to encourage collaboration and provide useful results to all parties involved
- The idea is to create a collection of flexible services that can quickly move and adapt to a company's ever-changing needs





Task

The background features a teal-to-white gradient. On the right side, there is a silhouette of a person sitting on a chair, reaching up towards a glowing light source. Surrounding this are various technical and digital-themed words and symbols: 'POWER', 'ILLUMINATION', '0101', '0110', '0111', '0100', 'ENGINEERING', 'TEAM', and 'INNOVATION'. The overall aesthetic is modern and tech-oriented.

- 1st group: formulate digital ecosystem for agricultural products market
- 2nd group: formulate digital ecosystem for Healthcare Services
- 3rd group: formulate digital ecosystem for Entertainment
- 4th group: formulate digital ecosystem for Education services

Build a Parallel Processing Machine

Build something that can sort data through multiple parallel channels

- **Suggested Materials**

- paper bowls
- skewers
- rubber bands
- ping pong balls
- marbles
- scissors
- Optional styrofoam, cardboard, or foam core
- hot glue
- paper plates

