

**Let ideas grow: technology transfer from research labs to successful realities**

*How Competence Centers can support  
and help grow startups*

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# Outline

- **Italian Competence Centers I4.0: mission and services**
- **Italian Technology Transfer Centers: mission and services**
- **Italian Innovation Ecosystem**
- **MedTech Competence Center: features and mission**



# **Italian Competence Centers I4.0: mission and services**

# The role of CCs in the Italian 4.0 strategy

The National Industry 4.0 Plan launched by the Italian Government in 2016 led to the creation of three entities, which make up the Italian national network for Industry 4.0

1. **PUNTI IMPRESA DIGITALE (PID):** service structures located in the various Italian Chambers of Commerce, whose main purpose is to disseminate basic knowledge on Industry 4.0 technologies and to evaluate the level of technological maturity (TRL) of the factories.
2. **DIGITAL INNOVATION HUBS (DIHs):** entities led by network organizations (CONFINDUSTRIA, CONFARTIGIANATO). They operate at regional level with the main objective of guiding SMEs towards digital innovation.
3. **COMPETENCE CENTERS (CCs):** 8 centers of excellence for Industry 4.0, operating nationwide. They are distinguished by areas of specialization and deal with training, positioning and project development.





Industry 4.0 Competence Center on  
Advanced Robotics and  
enabling digital Technologies  
& Systems



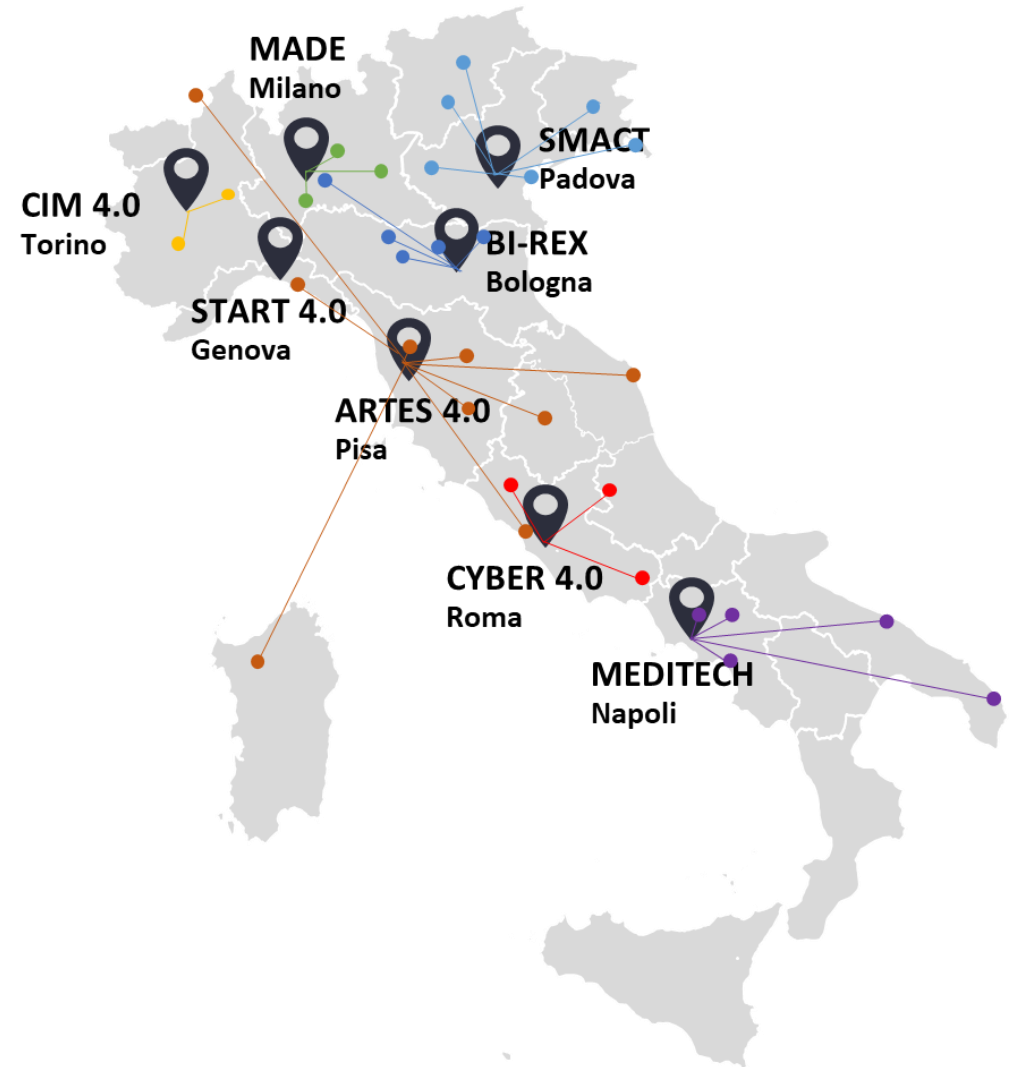
+ COMPETENCE  
INDUSTRY  
MANUFACTURING  
4.0



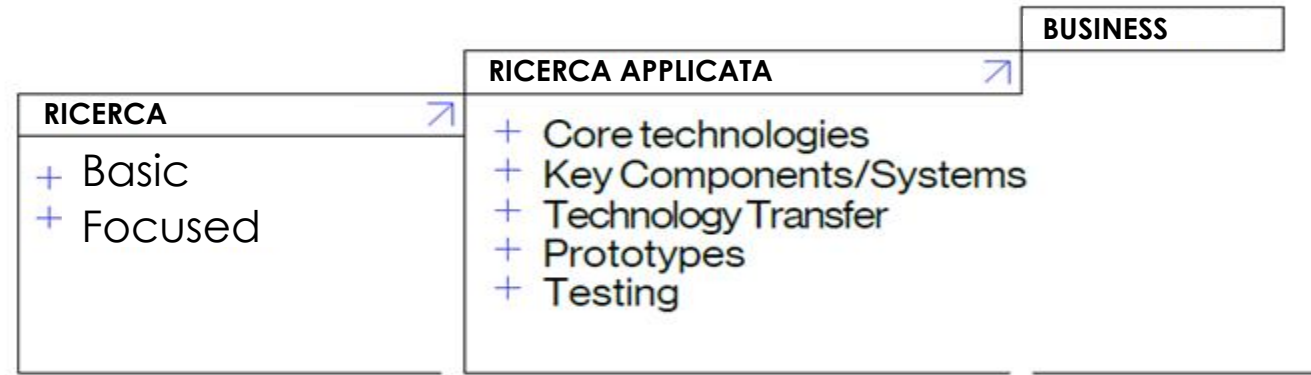
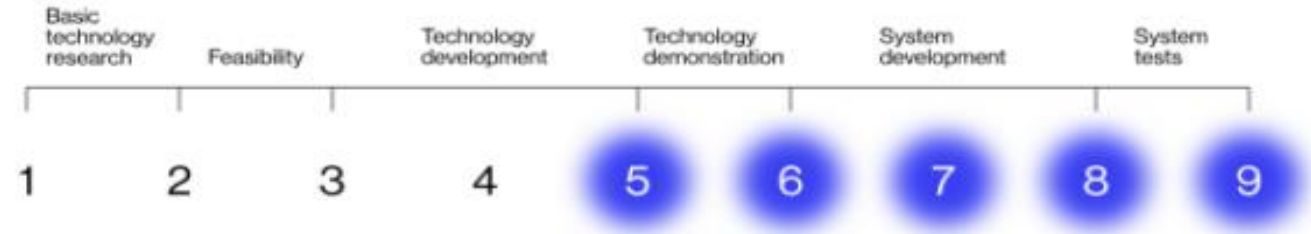
# The 8 Italian CCs

# The 8 Italian CCs

Competence Center	Reference Research Centers	Investigation Areas
CIM4.0	Politecnico of Turin University of Turin	<ul style="list-style-type: none"> <li>• Aerospace/Automotive</li> <li>• Digital Factory</li> <li>• Additive Manufacturing</li> </ul>
MADE	Politecnico of Milan	<ul style="list-style-type: none"> <li>• Enabling technologies</li> <li>• Cyber-physics systems</li> </ul>
BI-Rex	University of Bologna	<ul style="list-style-type: none"> <li>• Smart city &amp; Logistics</li> <li>• Big data</li> </ul>
Artes 4.0	Scuola Superiore Sant'Anna of Pisa	<ul style="list-style-type: none"> <li>• Advanced Robotics</li> <li>• AI</li> </ul>
Smact	University of Padova and al.	<ul style="list-style-type: none"> <li>• Agribusiness</li> <li>• Clothing &amp; Furniture</li> <li>• Automation</li> </ul>
Start 4.0	University of Genova and al.	<ul style="list-style-type: none"> <li>• Cybersecurity</li> <li>• Safety (freight transport and infrastructure)</li> </ul>
Cyber 4.0	University "La Sapienza" of Rome	Cybersecurity
MedITech	University "Federico II" of Napoli and al.	Integration 4.0: Horizontal and Vertical



**TRL**  
Technology  
Readiness  
Level



Key enabling technologies

UNIVERSITA'

COMPETENCE CENTER I4.0

AZIENDE

Vertical implementations

CNR  
ENEA

KNOWLEDGE PRODUCTION CHAINS

Production Chains





**SERVICES FOR  
ENTERPRISES  
AND  
STARTUPS**



**Assessing digital maturity  
(Positioning)**

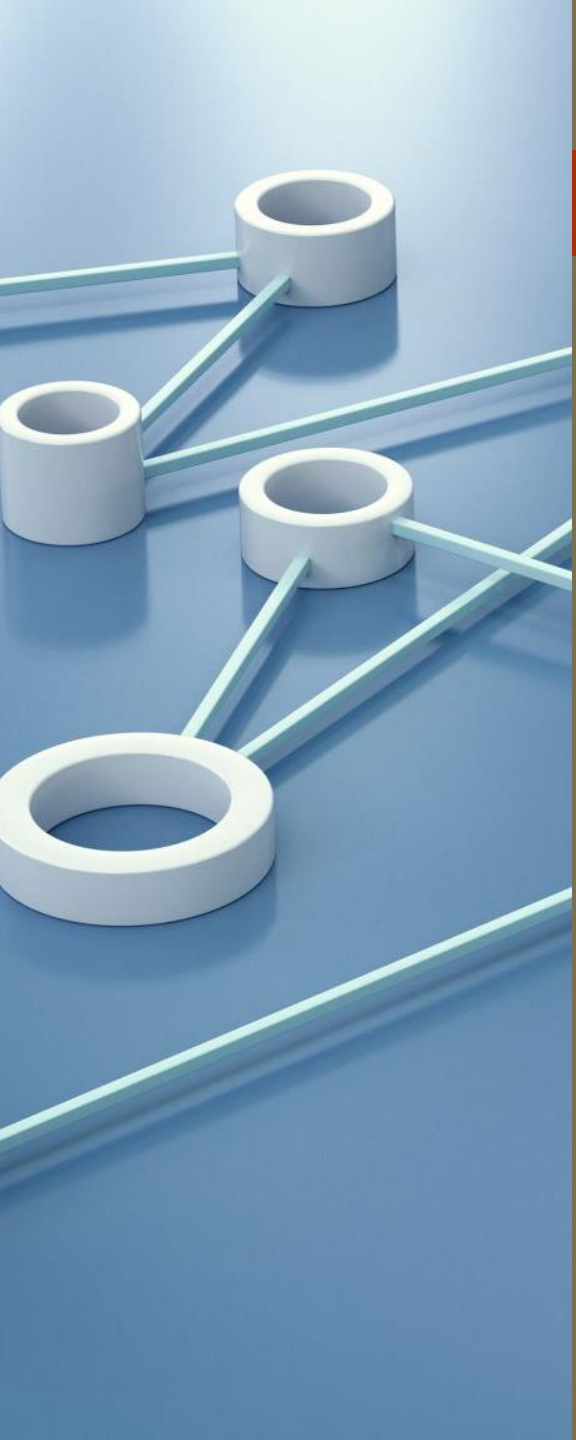


**Training on I4.0 enabling  
technologies**



**Promoting industrial research  
and innovation projects**





# POSITIONING

- ▶ **Support is provided to companies**, in particular SMEs, **in self-diagnosis and in the assessment of their level of digital and technological maturity**, in identifying potential intervention segments, in technological and organizational solutions and attainable improvements.
- ▶ Animation actions are promoted, encouraging the sharing of "best practices" and experiences between entrepreneurial and institutional subjects.
- ▶ **This activity is carried out in collaboration and close synergy with the Digital Innovation Hubs.**

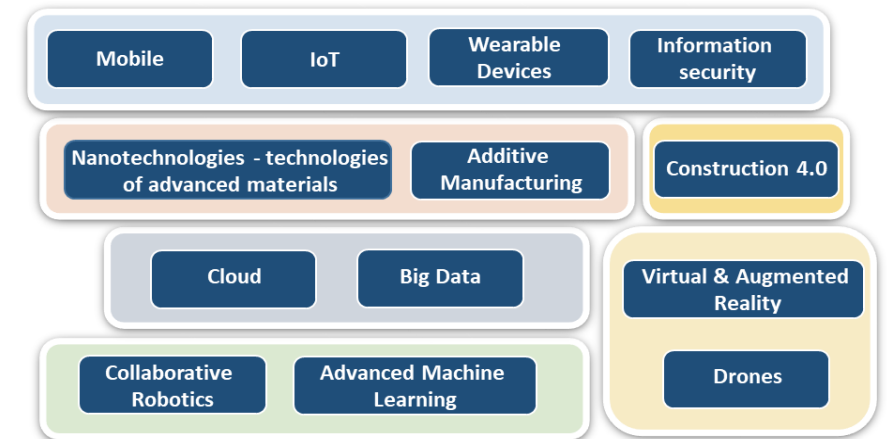
# TRAINING

- ▶ Three steps towards the acquisition of competences:
- ▶ from a general theoretical introduction
- ▶ through the deepening of each enabling technology
- ▶ to learning by doing on production lines

## Theoretical module on transversal themes 14.0

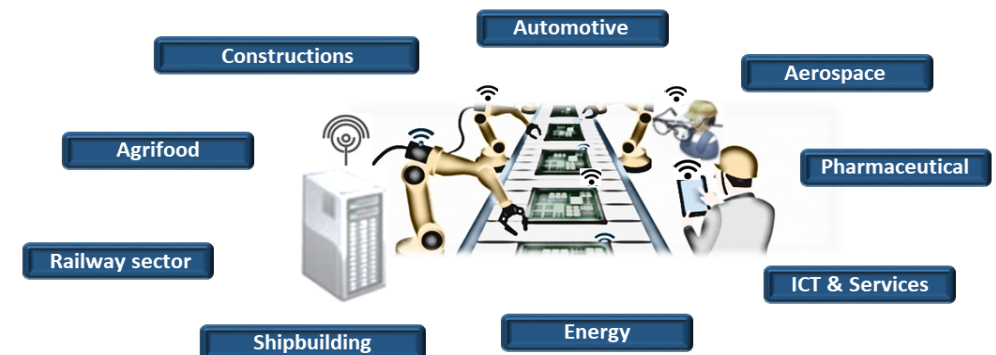


## Theoretical and practical thematic modules on enabling technologies



## Training module 'by doing' on production lines

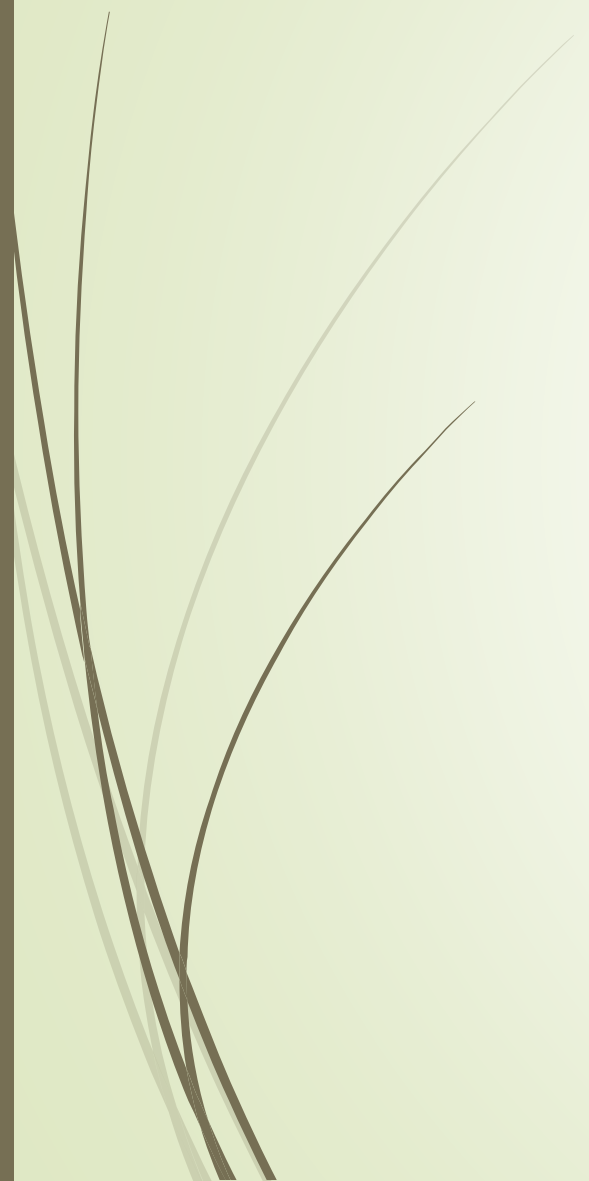
integrating the contribution of all the enabling technologies on each intervention area



# INNOVATION AND R&D PROJECTS

- **CCs promote innovation, industrial research and experimental development projects** characterized, preferentially, by a sufficiently high starting Technology Readiness Level (TRL), normally at least equal to 5.
- This with the aim of completing the development of technologies and production processes of which there is already evidence of feasibility at least at the prototype level.





# **Italian Technology Transfer Centers: mission and services**

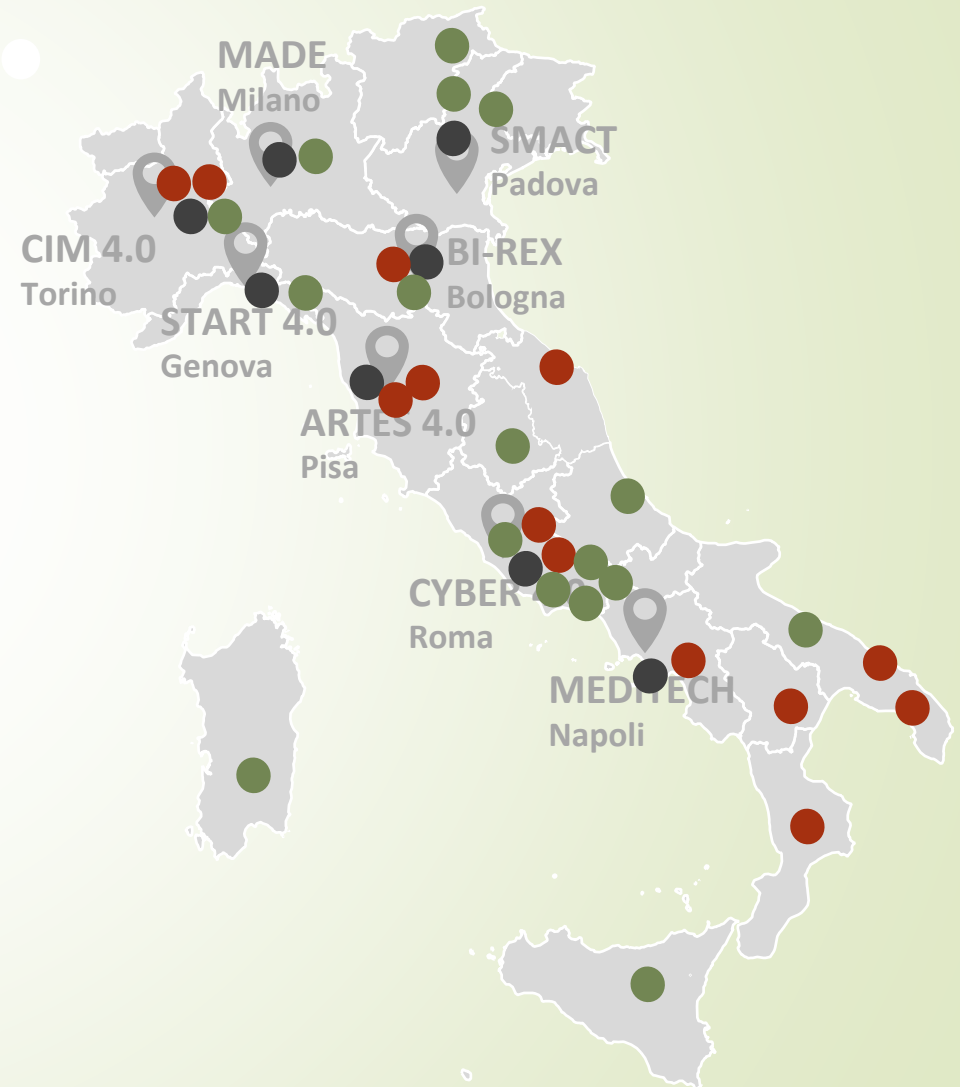
# Italian Technology Transfer Centers

**#8 National Competence Centers**  
Highly Specialized Competence Centers for Industry 4.0

**#13 European Digital Innovation Hubs**

Competence centers of digital core competences:  
AI, Cybersecurity, HPC  
(4 national, 9 regional/territorial)

**#17 «Seal Of Excellence» Centers**  
Competence centers of digital core competences:  
AI, Cybersecurity, HPC  
(7 national, 10 regional/territorial)



**SERVICES FOR  
ENTERPRISES  
AND  
STARTUPS**



**TEST BEFORE INVEST**



**Training on core technologies**



**Scouting of funding sources**





## TEST BEFORE INVEST

### Thematic Labs

- IoT & Sensors
- Mixed Reality, Augmented Reality, Virtual Reality
- Blockchain
- Additive Manufacturing & Advanced Materials
- BIM & Digital Technologies for Constructions
- Robotics & AI
- Cloud & Big Data
- Quantum Computing & QKD
- Drones





# TEST BEFORE INVEST

## Pilot Lines

- Production line for the railway sector (already equipped as a cyber physical system)
- Production line for the Aerospace sector
- Filtration plant for the agri-food sector
- Production lines for the ICT & Services sector



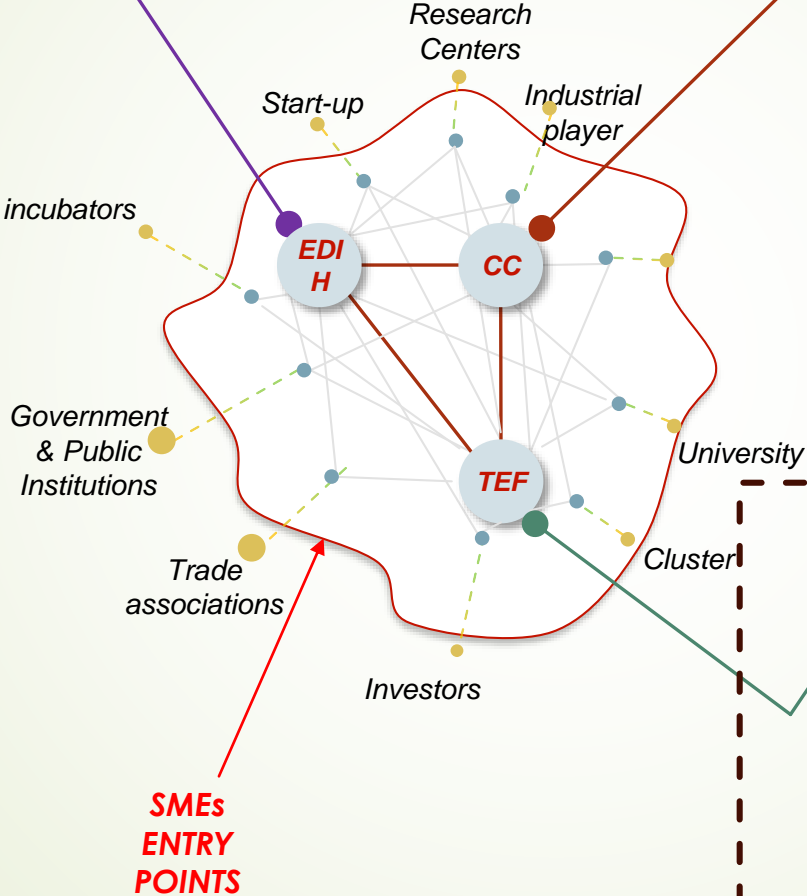
# Italian Innovation Ecosystem

# ITALIAN INNOVATION ECOSYSTEM

## European Digital Innovation Hub

**Features:**

- Pre-selected by individual Member States and subsequently selected by the European Commission, to support the digital transformation of European societies and economies
- **Mission:**
  - Carrying out the digital transition of industry, in particular of SMEs, and of the public administration.
  - Ensuring the digital transition of industry through the adoption of advanced digital technologies, such as artificial intelligence, high-performance computing and cybersecurity.



## Competence Center 4.0

**Features:**

- 8 existing public-private centres/partnerships, selected in 2018 through a public tender
- **Mission:**
  - Positioning and training activities for companies on Industry 4.0
  - Support in the implementation of innovation, industrial research and experimental development projects, aimed at the creation, by user companies, of new products, processes or services through advanced technologies in the field of Industry 4.0.

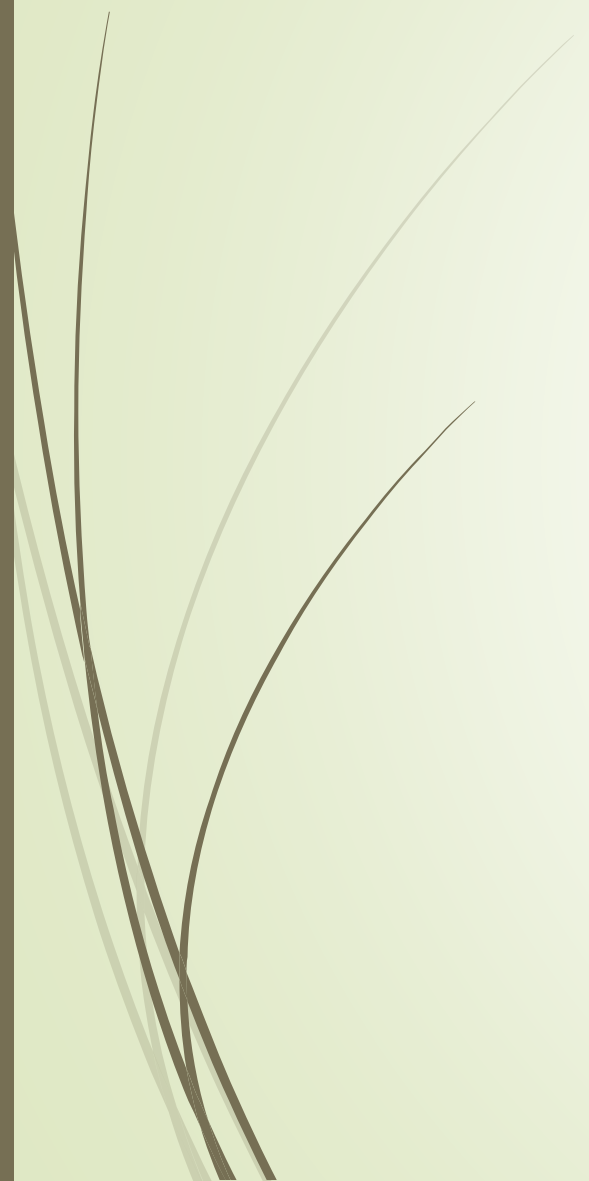
## TEF – Test Environment Facilities

**Features:**

- Co-financing between the European Commission (through the Digital Europe Programme) and the Member States.

**Mission:**

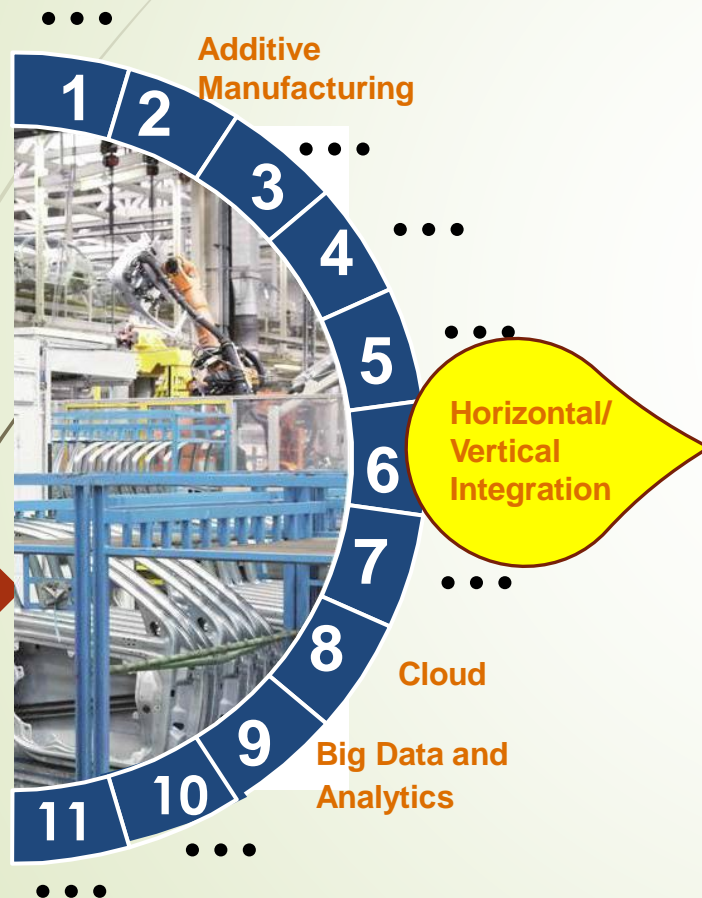
- Large-scale specialized reference sites open to all technology providers across Europe to test and trial leading-edge technology solutions on a large scale, including both software and hardware products and services, e.g. robots in real environments.



# **MedTech Competence Center: features and mission**



# STRATEGIC POSITIONING



Development and application of I4.0 enabling technologies for **Supply Chain Integration / System Integration**, both in a vertical and horizontal sense:

**Vertical Integration**

Integration of information along the value chain, promoting the sharing and integration of multi-company products and processes, technological innovations and organizational models

**Horizontal Integration**

Integration of 4.0 solutions on specific application domains

*Source: MISE 21/2/2016*

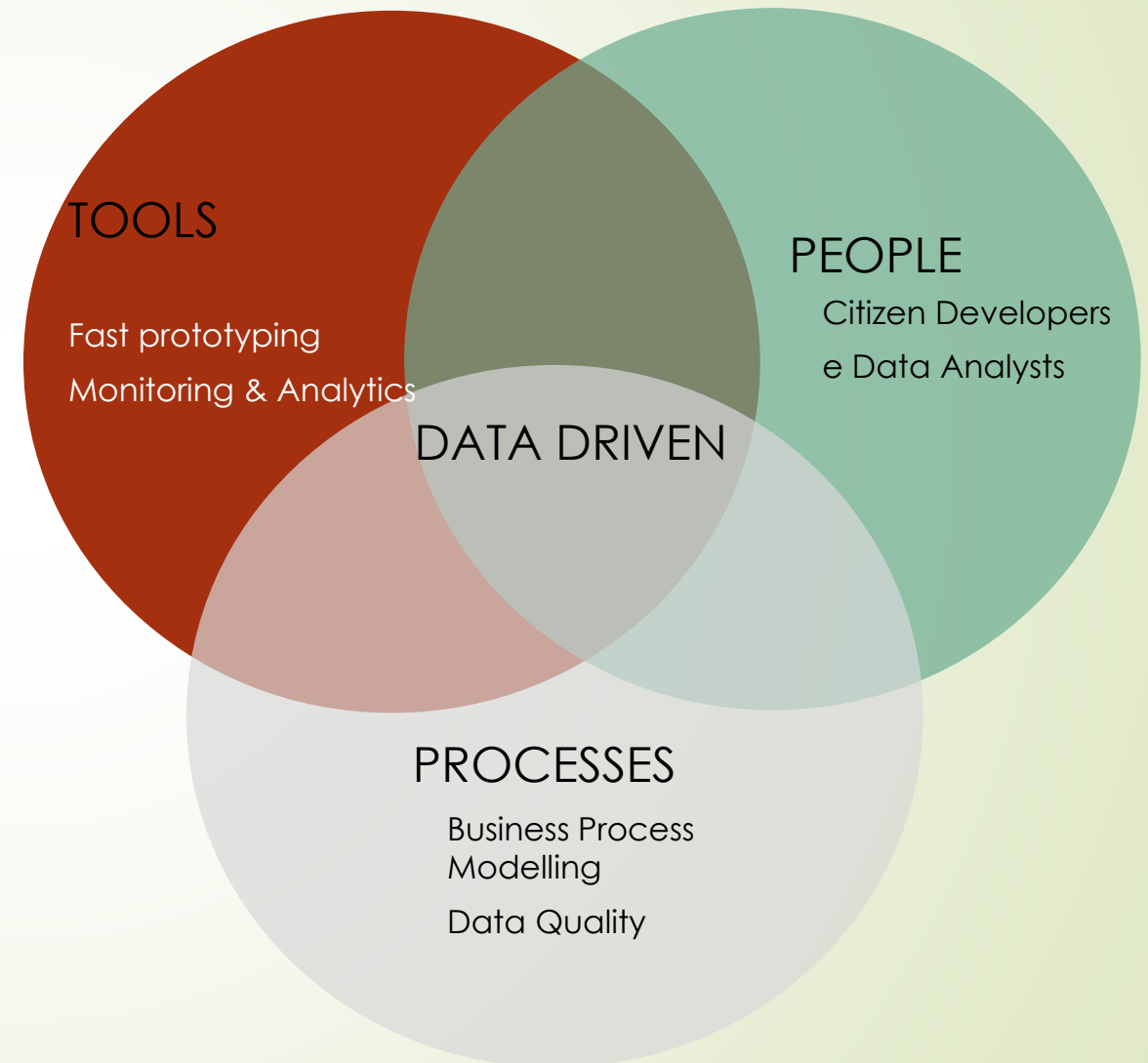
# DATA-DRIVEN APPROACH

**MedTech** believes that

➤ **the smart-world will change our way of living**

and that

➤ **the data-driven approach will be the best strategy to develop innovation through digital transformation**



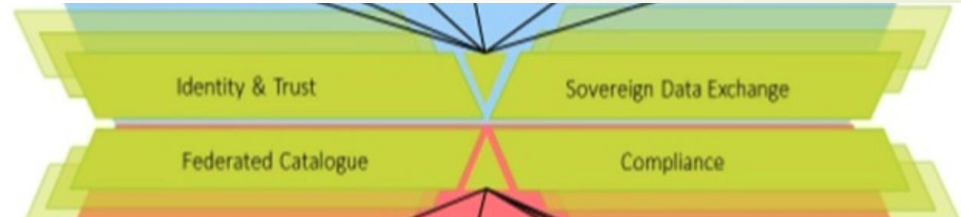
# MediTech is Associate Partner of the DSSC Strategic Committee, Golden Member of the FIWARE Community, Member of the Italian HUB of GAIA-X Federation Services.



**MediTech Associate Partner  
DSSC Strategic Committee**

**MediTech Member  
HUB Italiano**

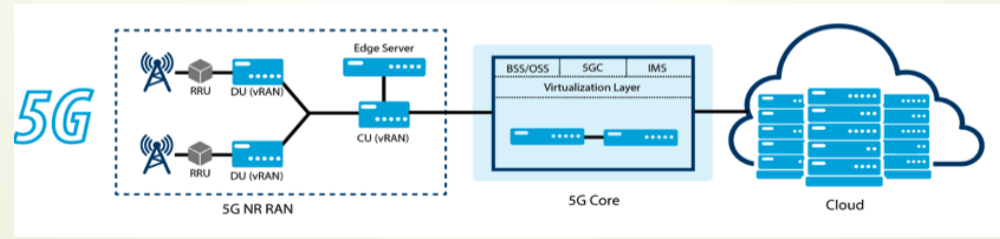
- GAIA-X Federation services**
- Authentication & Authorization (SSO)
  - Data Connector: Policies & Attributes
  - Identity validation
  - Access Rights, Usage Controls
  - Semantic Interoperability



**MediTech Gold Member**



**MediTech Membership in progress**







**THANK YOU**