



FUTURE 4.0



FUTURE 4.0 Final Public Event
GoToWebinar - December 17, 2020



**Industry 4.0 & Knowledge
Transfer for Innovation**



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Strategical & Theoretical Approach for the Model



- According to **“2019 World Manufacturing Forum Report: Skills for the Future of Manufacturing”** is crucial to **reinforce the need for industries to evolve in light of new technologies** brought upon by rapid digitalisation in manufacturing
- **The Fourth Industrial Revolution is moving manufacturing forward through technologies** such as Advanced Manufacturing Solutions, Additive Manufacturing, Cloud, Cyber Security, Augmented Reality, Big Data & Analytics
- The disruption caused by new technology calls for **new, innovative solutions** that result in a **change of the skills and competencies**
- The **skills necessary are** rapidly **switching from manual to cognitive based skill** sets to manage intelligence systems such as robotics, AI, and advanced manufacturing
- To adapt to these changing trends, **companies need** to have a **new mindset** for building the future workforce and **collaborating with educational institutions, industry associations and universities as knowledge providers**

The “Knowledge Transfer Approach”: Process - Action



- According to “**Lab-Fab-App report – Investing in the future we want**” is crucial to invest in **research**, to **produce new knowledge** and to turn the acquired knowledge into **innovation**
- **2019 OECD report** “University-Industry Collaboration: New evidence”: higher education institutions and public research institutes should engage in the “**knowledge co-creation**” with Industry
- **UIIN (University Industry Innovation Network)**: the technological transfer needs to be integrated within the wider logic of **knowledge transfer**.

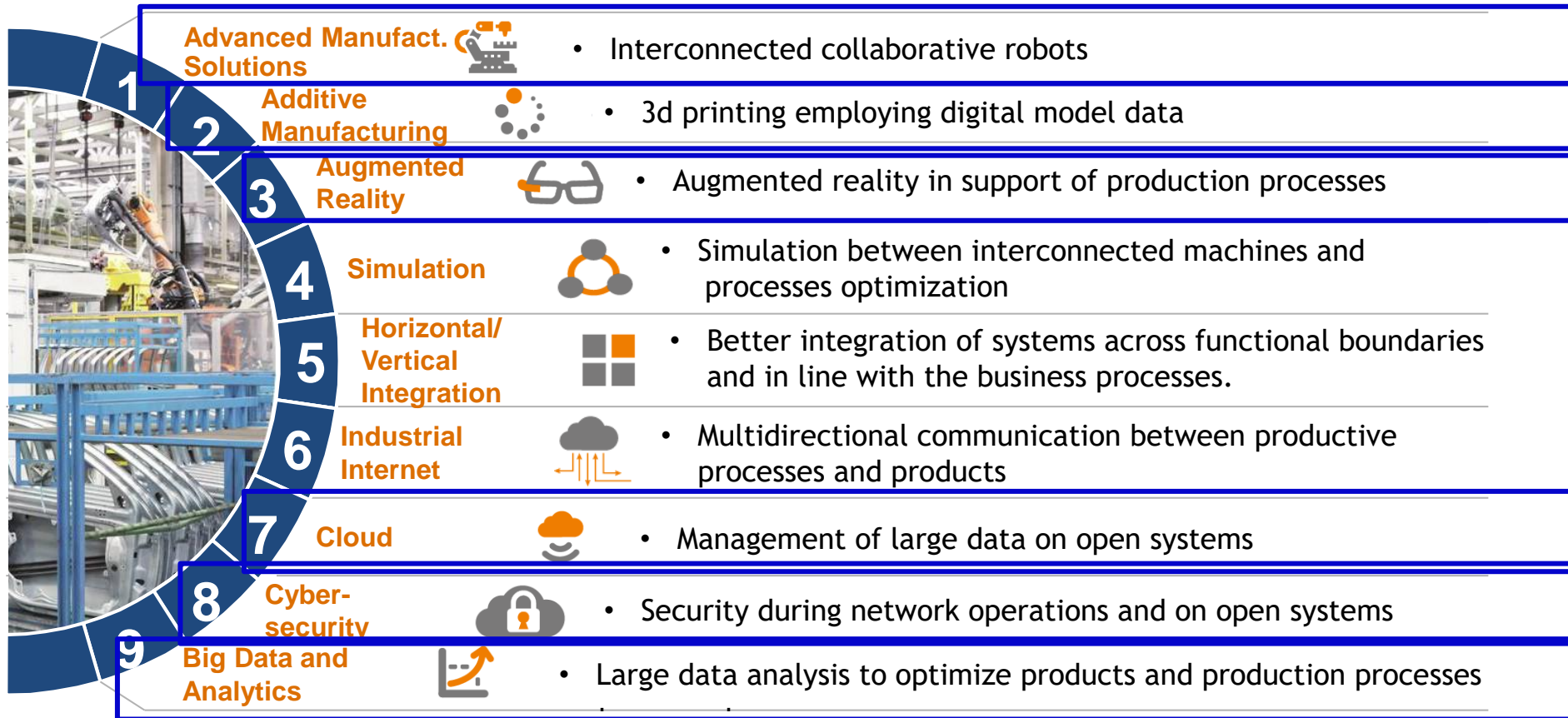


The **KNOWLEDGE TRANSFER** is a wide concept and includes **TECHNOLOGICAL TRANSFER**, as well as **CHANGE** and **LEARNING PROCESSES**

Industry 4.0 (or Digital Maturity)



New **significant transformation of manufacturing industry** of the **shipyard and nautical logistic supply chain**, the fourth industrial revolution and new digital age called **INDUSTRY 4.0**





Industria 4.0
Veneto
I 100 luoghi di Industria 4.0

PROGETTO

MAPPA

PARTECIPA

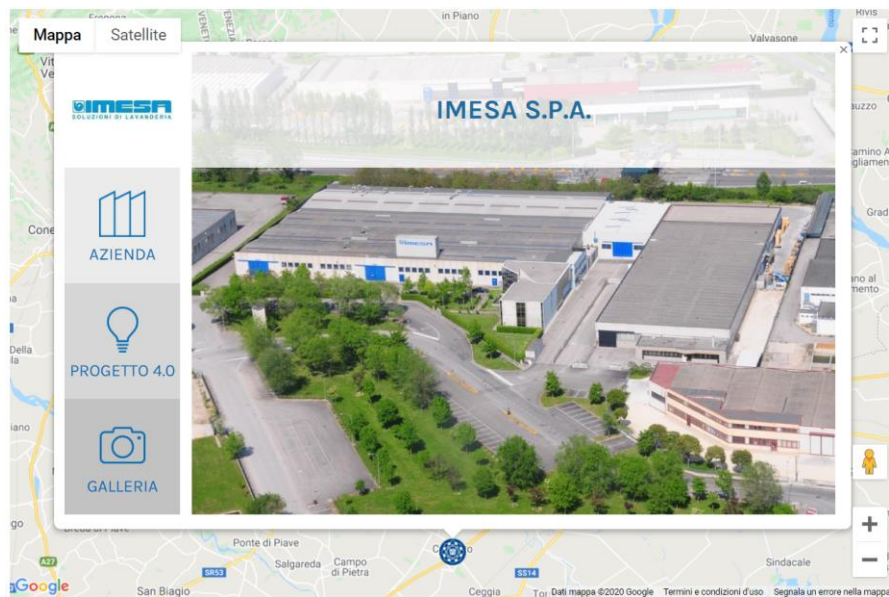
EVENTI

I 100 LUOGHI DI INDUSTRIA 4.0
>> Guarda il video

IL PROGETTO

Le Associazioni Industriali del Veneto, coordinate da Confindustria Veneto, hanno affrontato con grande impegno la sfida di Industria 4.0, promuovendo un piano strutturato che - in modo complementare e coordinato rispetto al disegno governativo e alle misure nazionali di sostegno - possa individuare una via veneta al 4.0.

L'obiettivo è quello di rendere il Veneto un "laboratorio per lo sviluppo del Paese", puntando a creare sul territorio un ecosistema favorevole all'insediamento, alla crescita e allo sviluppo di imprese e start-up attive nel campo della manifattura digitale e industria/artigianato 4.0.



I 100 LUOGHI DI INDUSTRIA 4.0

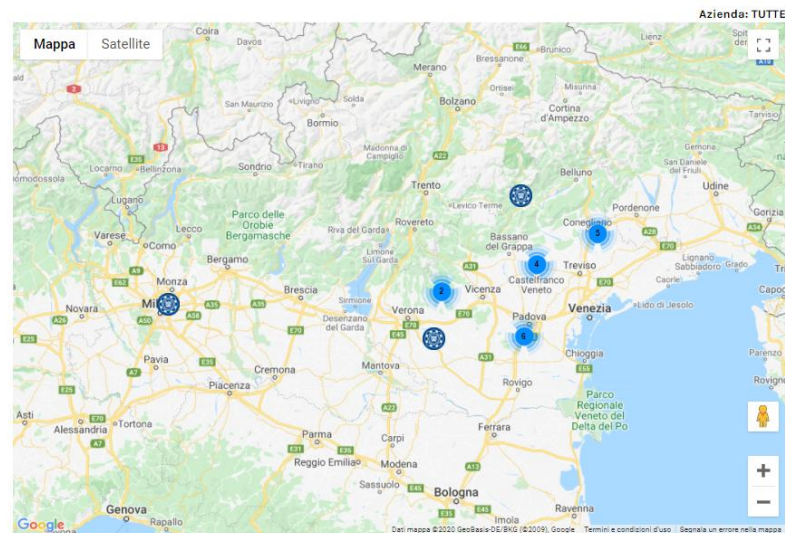


LA MAPPA

AZIENDA

TECNOLOGIA

SETTORE



<http://100luoghi.industria40veneto.it>

The main hypothesis: SMEs in search of knowledge



Seeking outside for new knowledge: TRENDS for competitiveness

- The rate of technological advancement and the degree of novelty, make it **inadequate to acquire knowledge by experience** through a path dependence learning model;
- The development of new transversal technologies made necessary by the **increase of the technological bundle** in the products;
- More regulations on **energy saving and sustainability**, as a primary innovation factor;
- The rate of technological advancement and the degree of novelty, make it **inadequate to acquire knowledge by experience** through a path dependence learning model;

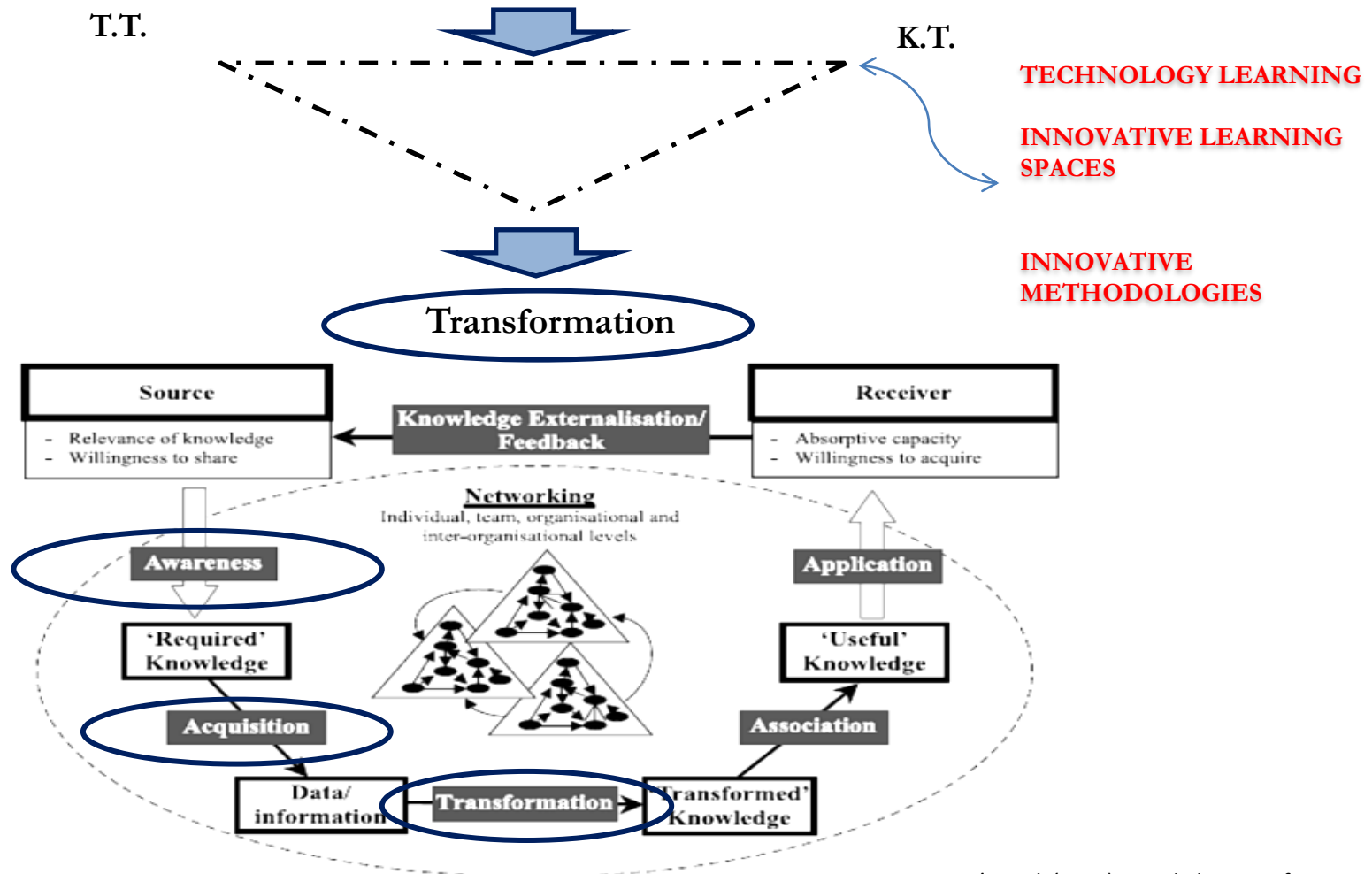


From TRANSFER of Knowledge to CAPACITY TO TRANSFORM Knowledge into Innovation

The Smart Learning Model & “Knowledge Transfer Approach”



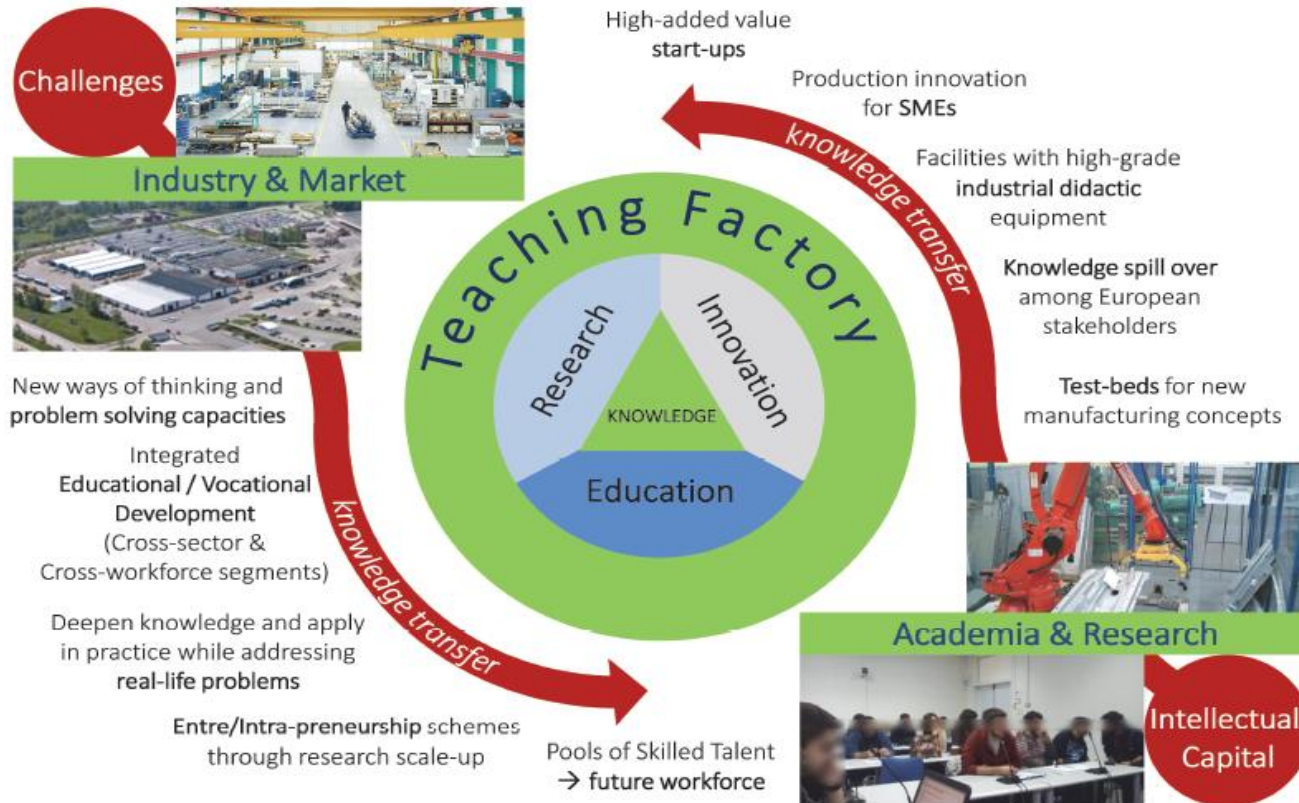
KNOWLEDGE TRANSFORMATION FOR EFFECTIVE INNOVATION



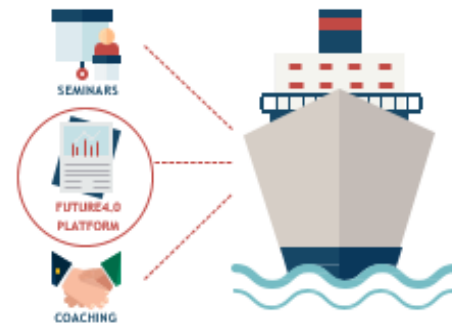
Source: Liyanage's et al. (2009) Knowledge Transfer Process Model

The Smart Learning Model & “The Teaching Factory Paradigm”

An educational theme for knowledge-intensive manufacturing in Europe



Source: Lab. for Manufacturing Systems and Automation,
 Director Prof. G. Chryssolouris University of Patras – Greece



FUTURE 4.0 PROJECT

Technologies 4.0 and applied knowledge for the nautical sector and the supply chain

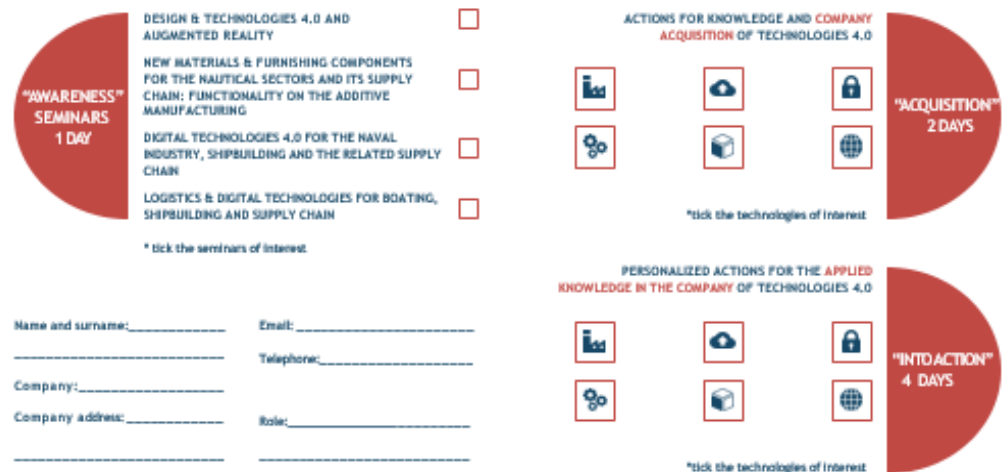


*I.e. Veneto region Local Pilot Action:
Main Structure*

New and wide promotion to reach the 39 companies involved, belonging to the Naval Industry, the Shipbuilding and the related Supply Chain



Opportunities and moments of sharing and comparison: TRANSFER OF KNOWLEDGE FOR INNOVATION



The Smart Learning Model applied in the companies' actions



1. *Seminar – Workshop – Webinar for AWARENSS Level*
2. *In-company and intercompany actions for ACQUISITION & TRANSFORMATION Levels*



Blended Learning

Card Game Analysis
E-learning - Future 4.0 Platform
Action Learning
Coaching

Knowledge transfer for Innovation

Companies
Universities
Knowledge providers

Action Learning

Small group inside company



Easy adaptation according
to the pandemic emergency

The Smart Learning Model

experimented within five Local Pilot Actions



Number of *companies reached* in the LPAs:

	DISSEMINATION level	AWARENESS level	ACQUISITION level	TRANSFORMATION level
VENETO	7	31	4	4
APULIA	5	23	4	4
CROATIA	20 in total (10 attending all the four levels)			
ALBANIA	20 in total (18 attending all the four levels)			
IN TOTAL	132 companies – mostly SMES - belonging to Naval Industry, the Shipbuilding and the related supply chain			

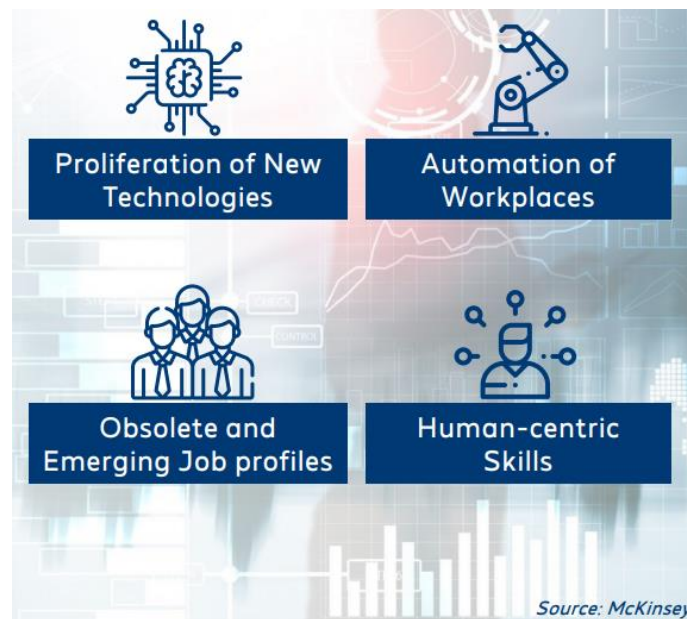


At least **250 companies' human resources** involved
in FUTURE 4.0 experimental actions

New Skills for the future of Naval Industry



**The Skills Gap in
Manufacturing is
Growing rapidly**



Transversal Revision in FUTURE 4.0 Local Pilot Actions of **four** relevant
PROFESSIONAL PROFILES
for the Naval Industry, the Shipbuilding and the Supply Chain



Thanks for the attention!



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