

Digital Transformation Journey

July 3rd 2023

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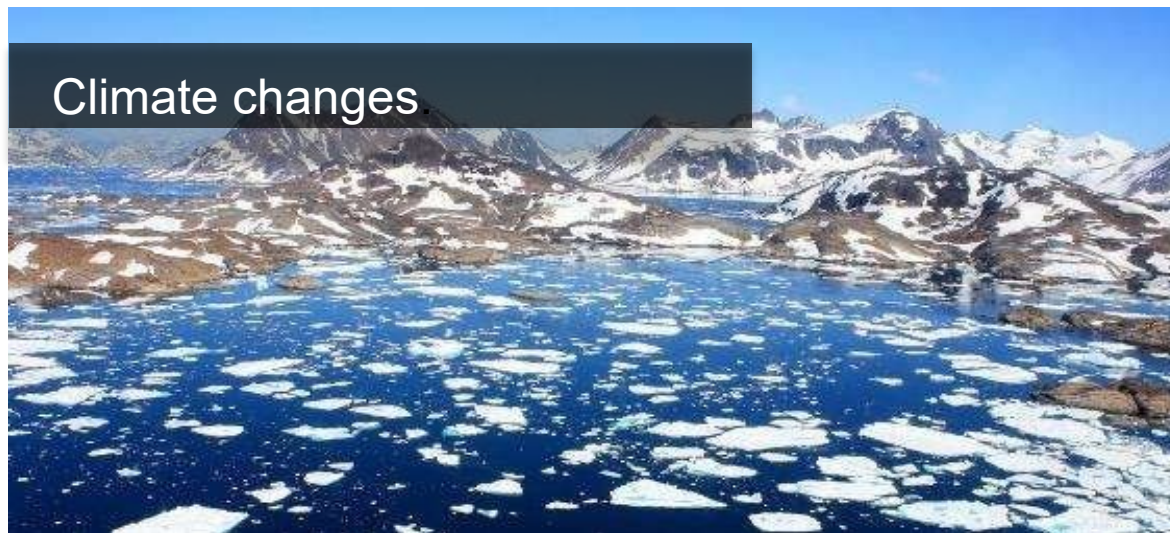
POLO TECNOLOGICO ALTO ADRIATICO



Agenda

- 1. Introduction to Industry 4.0**
- 2. How to guide a Digital Transformation Project**
- 3. Digital Transformation Projects: evidences from the FVG firms**

Social and Environmental Megatrends

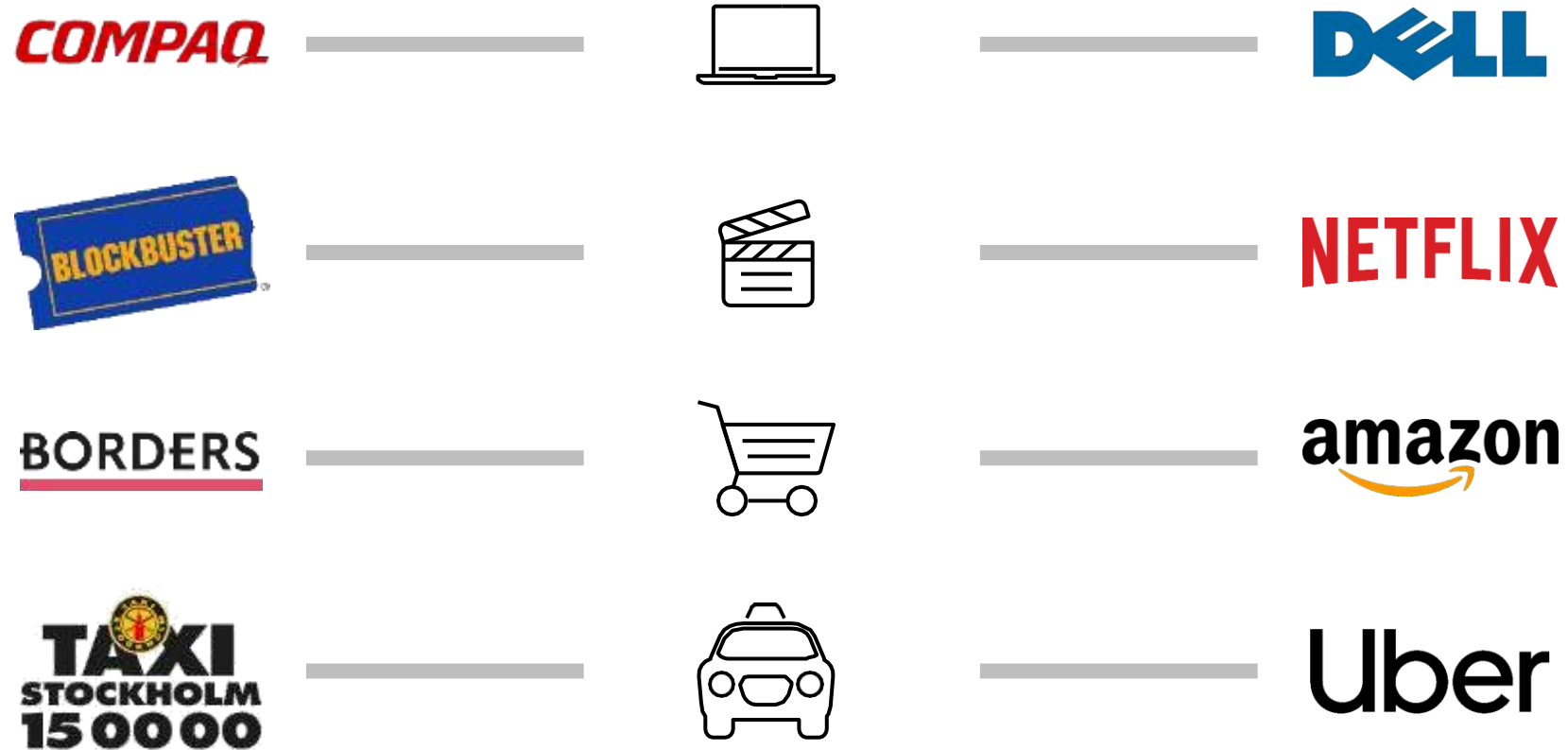


Why can't we do without digital?

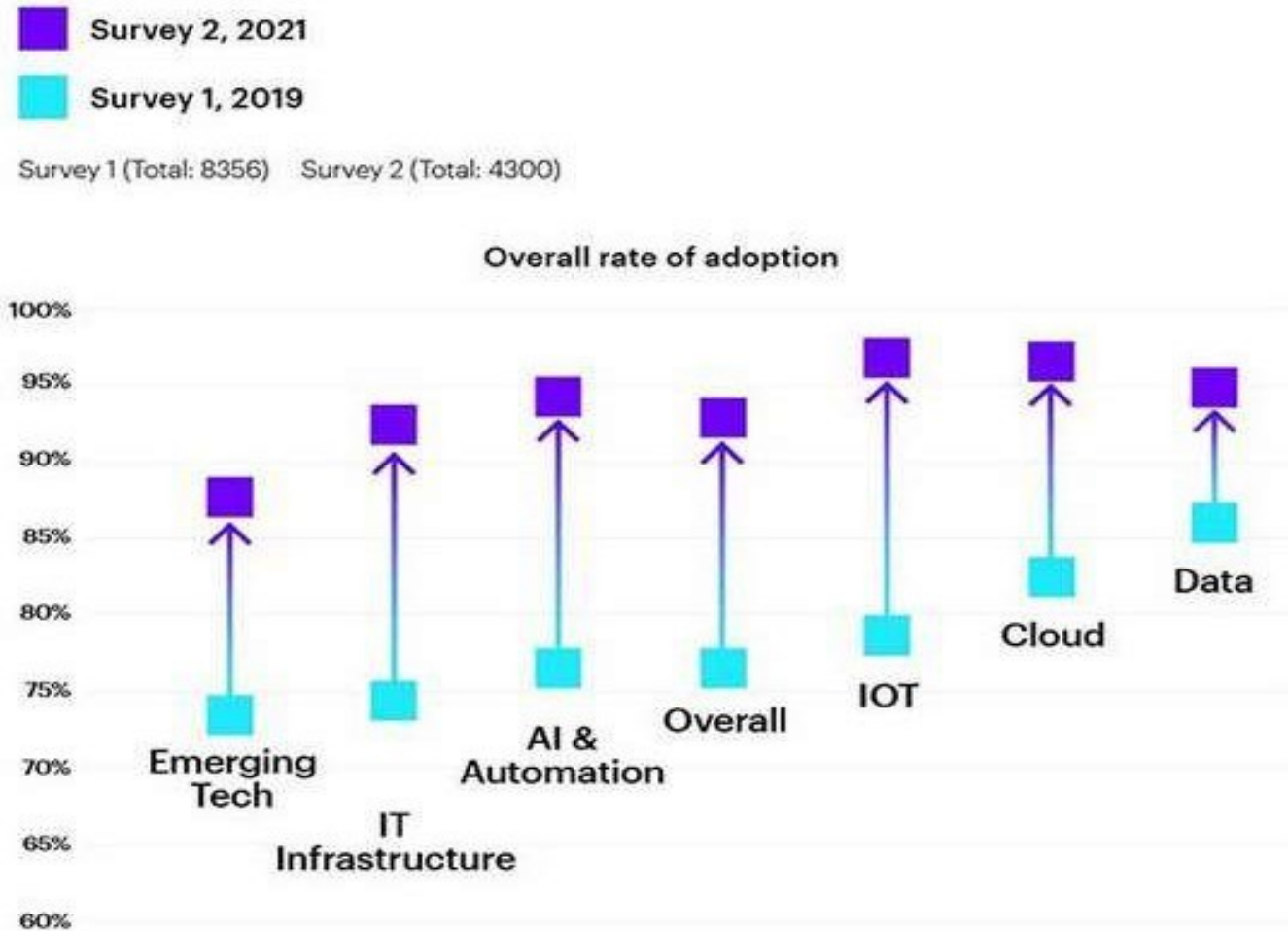
- Because it allows to enhance business competitiveness
- Because it allows innovation (creating new business models)
- These tools have the potential to enable more smart and more sustainable **use of resources.**



Digital is changing the world...

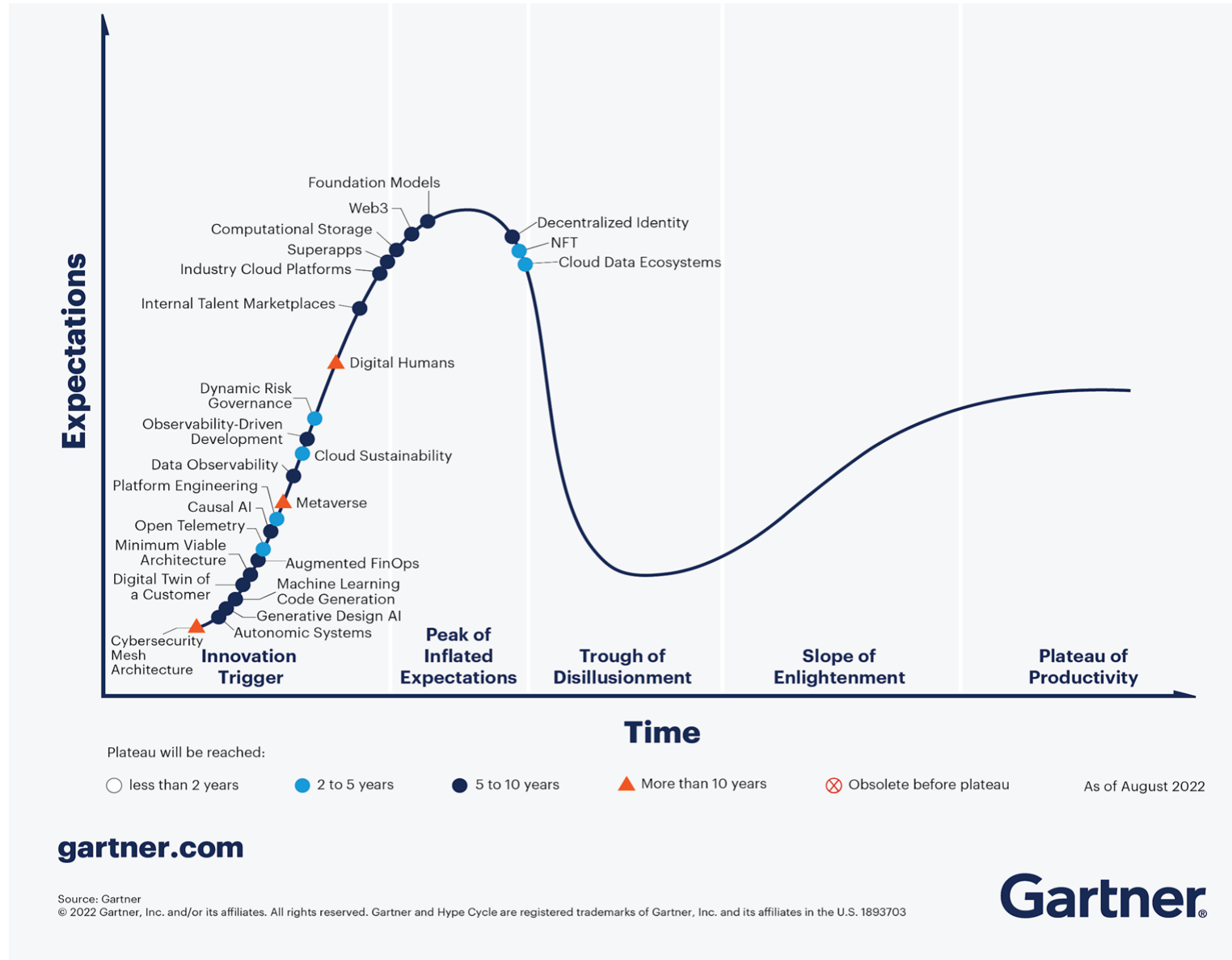


Which are the trends?

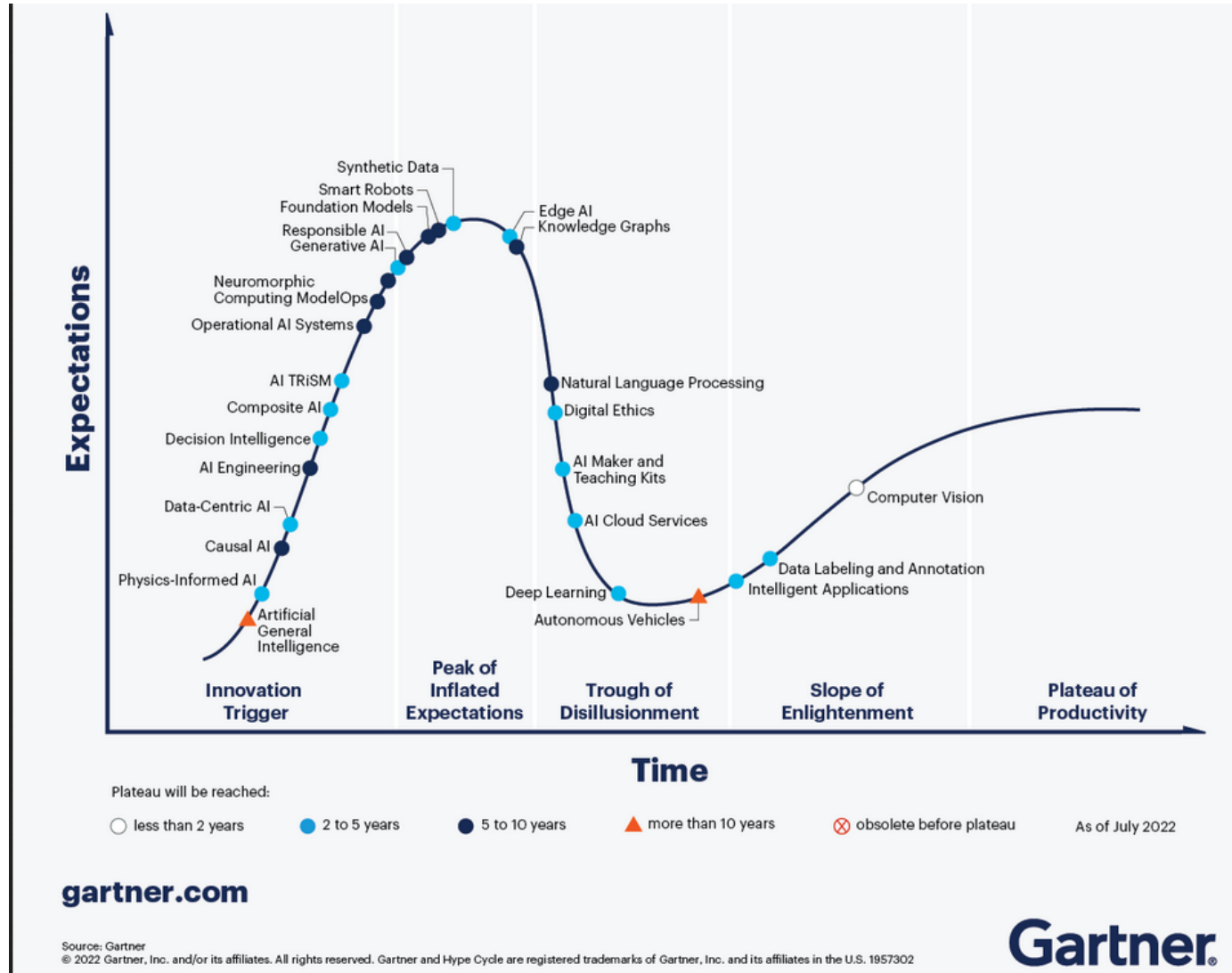


Source: Accenture Research

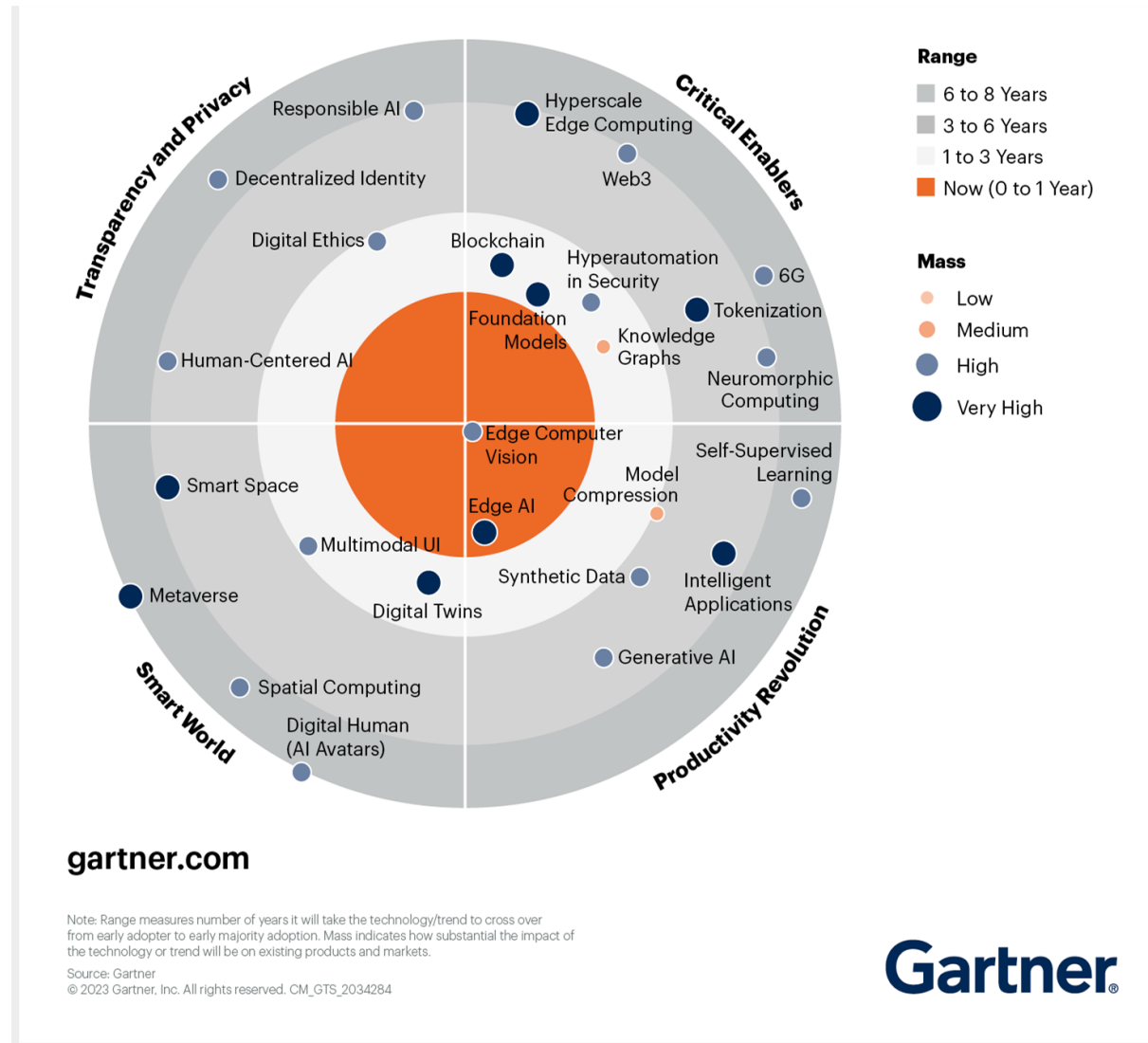
Hype Cycle for Emerging Tech












Hype Cycle for AI Technologies in Business













Gartner Emerging Technologies and Trends Impact Radar



From enabling technologies to SW Tools

Text	 ChatGPT OpenAI ChatGPT is fine-tuned from GPT-3.5, a language model trained to produce text. Free	 GPT-4 OpenAI GPT-4 is OpenAI's most advanced system, producing safer and more useful responses. Free	 Notion AI Notion A connected assistant which produces text responses based on user's questions and the current page context. Free
	 Stable Diffusion Stability.ai A deep learning, text-to-image model, used to generate detailed images conditioned on text descriptions. Free	 Image Creator Microsoft Bing Image Creator generates AI images based on your text. Free	 Midjourney Midjourney Midjourney is an AI program which generates images from natural language descriptions (prompts). Free
	 Runway Runway A multi-modal AI system that can generate novel videos with text, images, or video clips. Free	 Fliki Fliki Fliki is a text to video and text to speech creator powered by generative AI. Free	 Wonder... Wonder Studio An AI tool that automatically animates, lights and composes CG characters into a live-action scene. Free

Audio	 JukeBox OpenAI A neural net that generates music, including rudimentary singing, as raw audio in a variety of genres and artist... Free	 MusicLM Google Research MusicLM is an AI model that can generate high-fidelity music from text. Free	 Text to Speech Microsoft Azure AI voice generators to speak naturally using synthesized speech from input text. Free
	 Point-E OpenAI A system for generating 3D point clouds from complex prompts. Free	 Magic3D NVIDIA Magic3D is a new text-to-3D content creation tool that creates 3D mesh models with unprecedented quality. Free	 Imagine 3D Luma AI An early experiment to prototype and create 3D with text. Free
	 Copilot X Github An AI pair programmer with an early adoption of OpenAI's GPT-4. Free	 Codex OpenAI An AI AI system that translates natural language to code. Free	 CodeWhisperer Amazon CodeWhisperer can generate code suggestions ranging from snippets to full functions based on your comments and... Free

Generative AI 

<https://www.artbreeder.com/create/mixer>

Digital revolution in industrial sectors

What happens when **2 BILIONS OF PEOPLE**

Are connected to each other?

Digitalization of entertainment
Dynamic communications
Social collaboration platforms as mainstream
Emergence of Social marketing
Cloud IT infrastructure and exploding App market
Ecosystems dominated by a few emerging top players



What happens when **50 BILIONS OF MACHINES**

Are connected to each other?

Dynamic maintenance and monitoring
Machines that adapt and self-correct automatically
Shared and dynamic problem-solving and continuous improvement
Predictive analytics
Cloud-based IT infrastructure
Booming market for industrial apps
Ecosystem building currently underway.



Survey

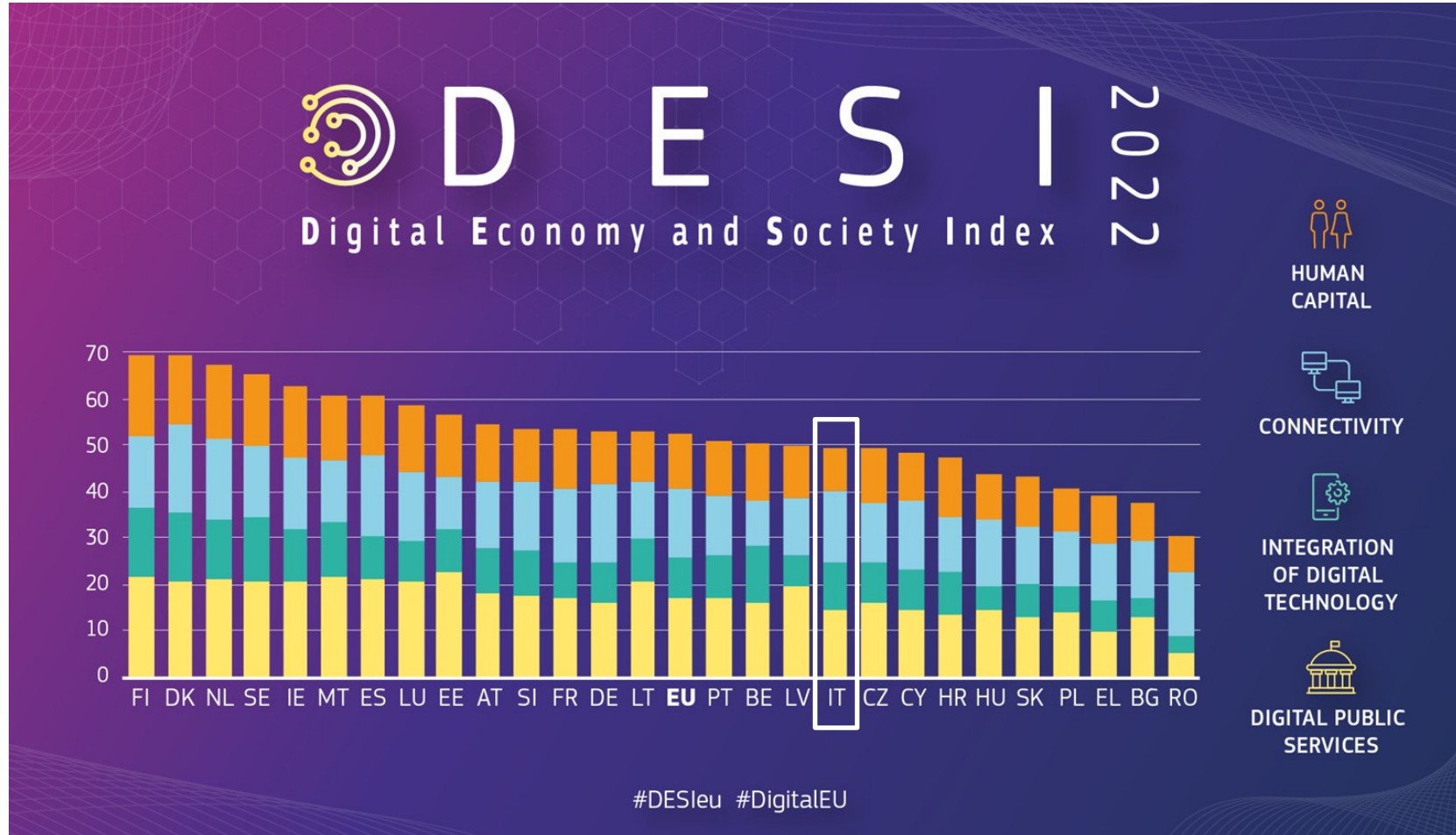
1. How many personal devices do you have interconnected (pc, phone, smart watch etc)?

2. How many devices are connected at your home (B2C)?



Desi Index (for our international summer school)

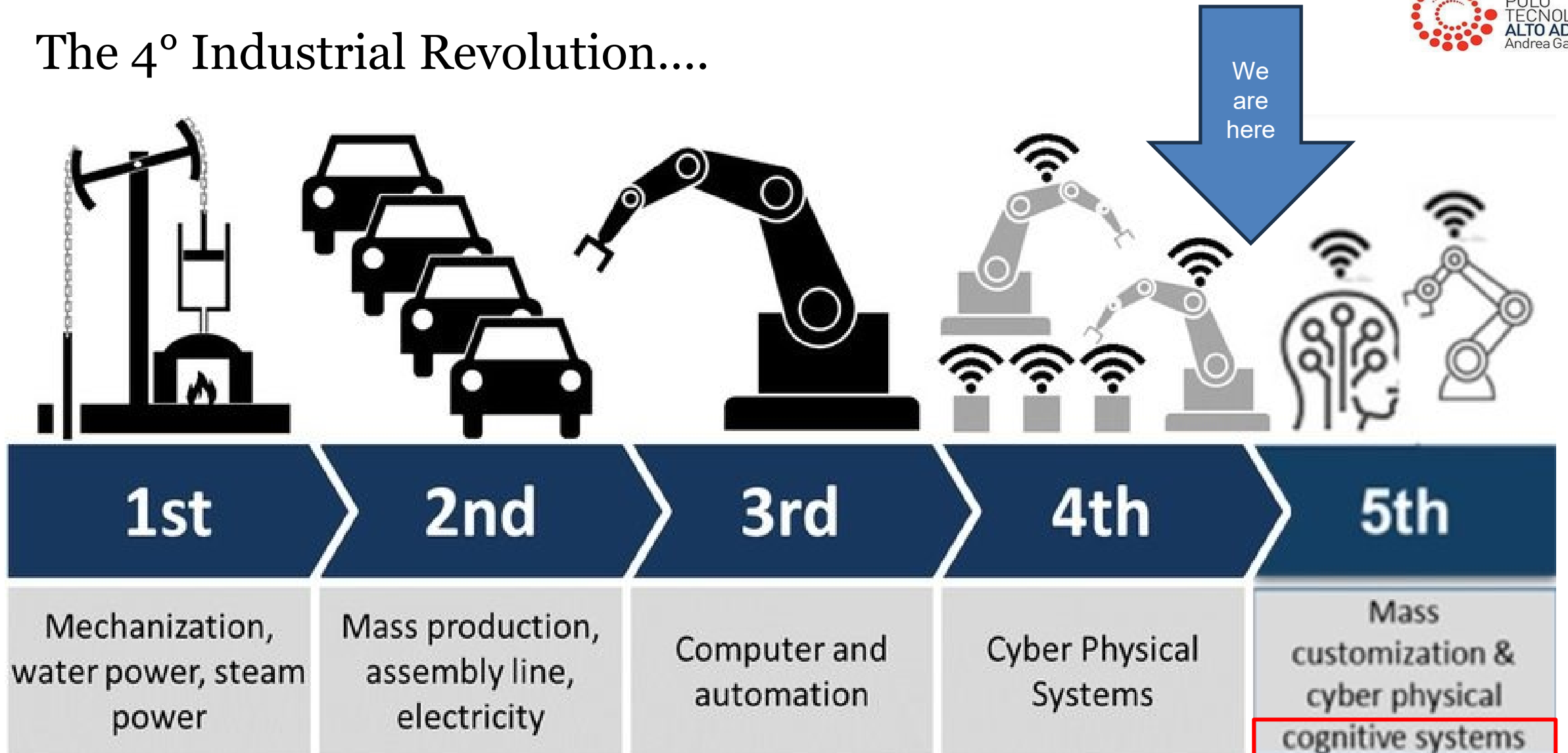
Source 1.5: DESI index – Digital Economy and Society Index 2022

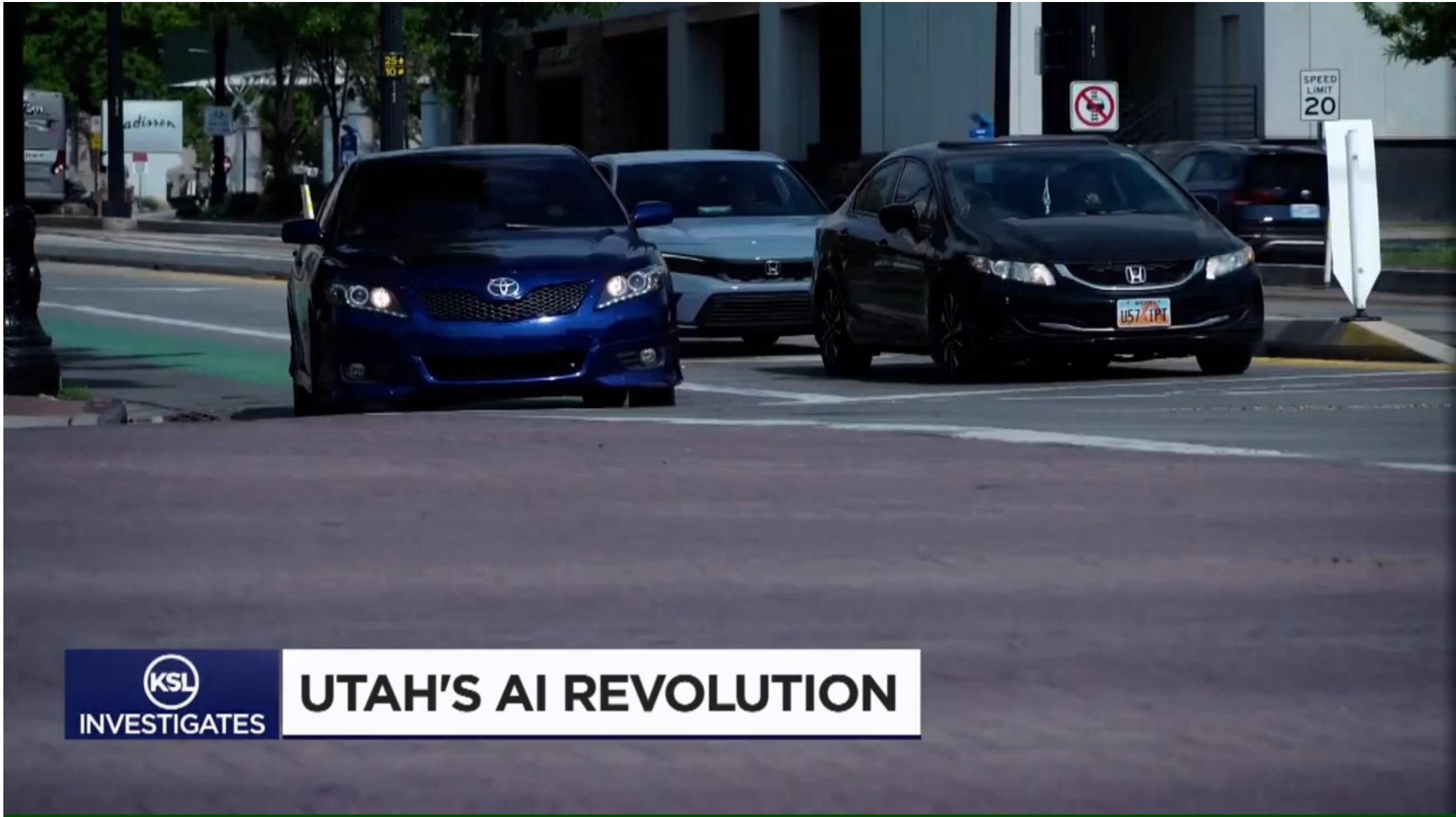


Source: Eurostat

(1). The data used for the compilation of DESI 2022 refers to 2021

The 4^o Industrial Revolution....





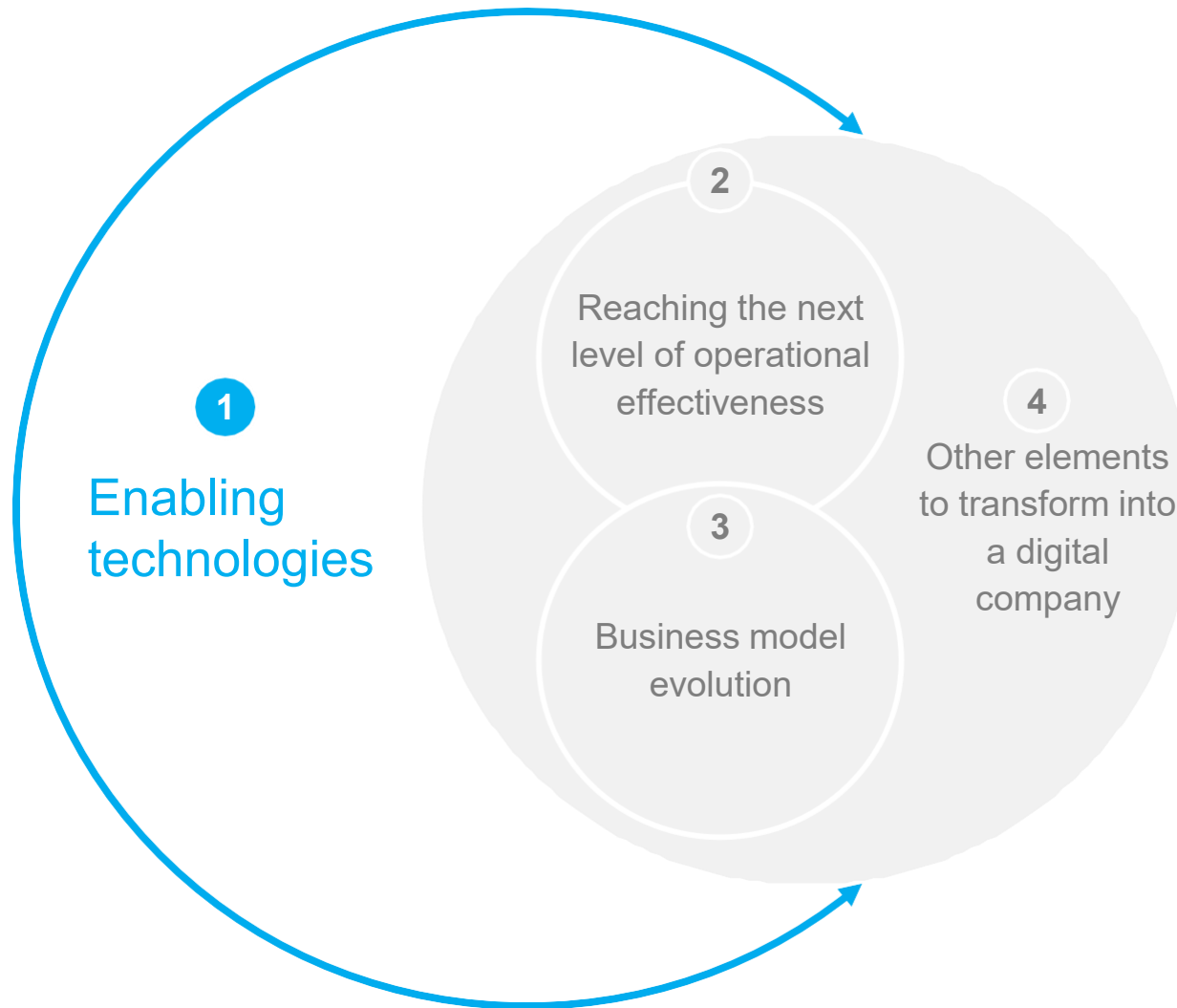
Agenda

1. Introduction to Industry 4.0

2. How to guide a Digital Transformation Project

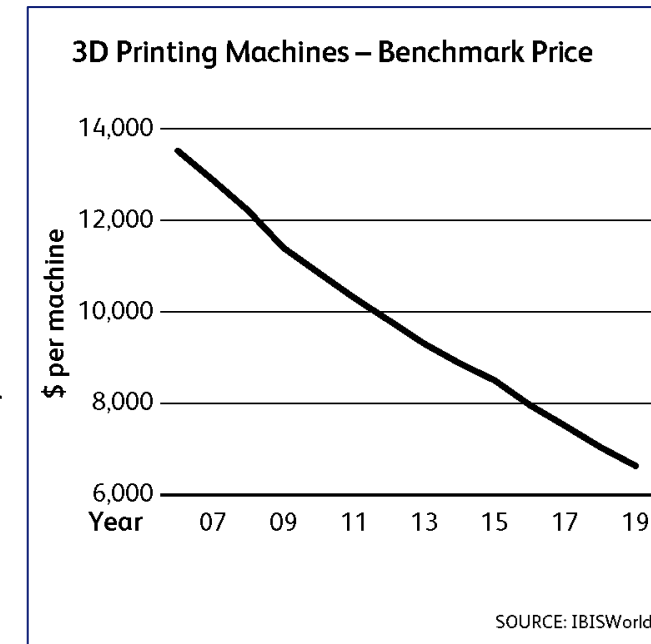
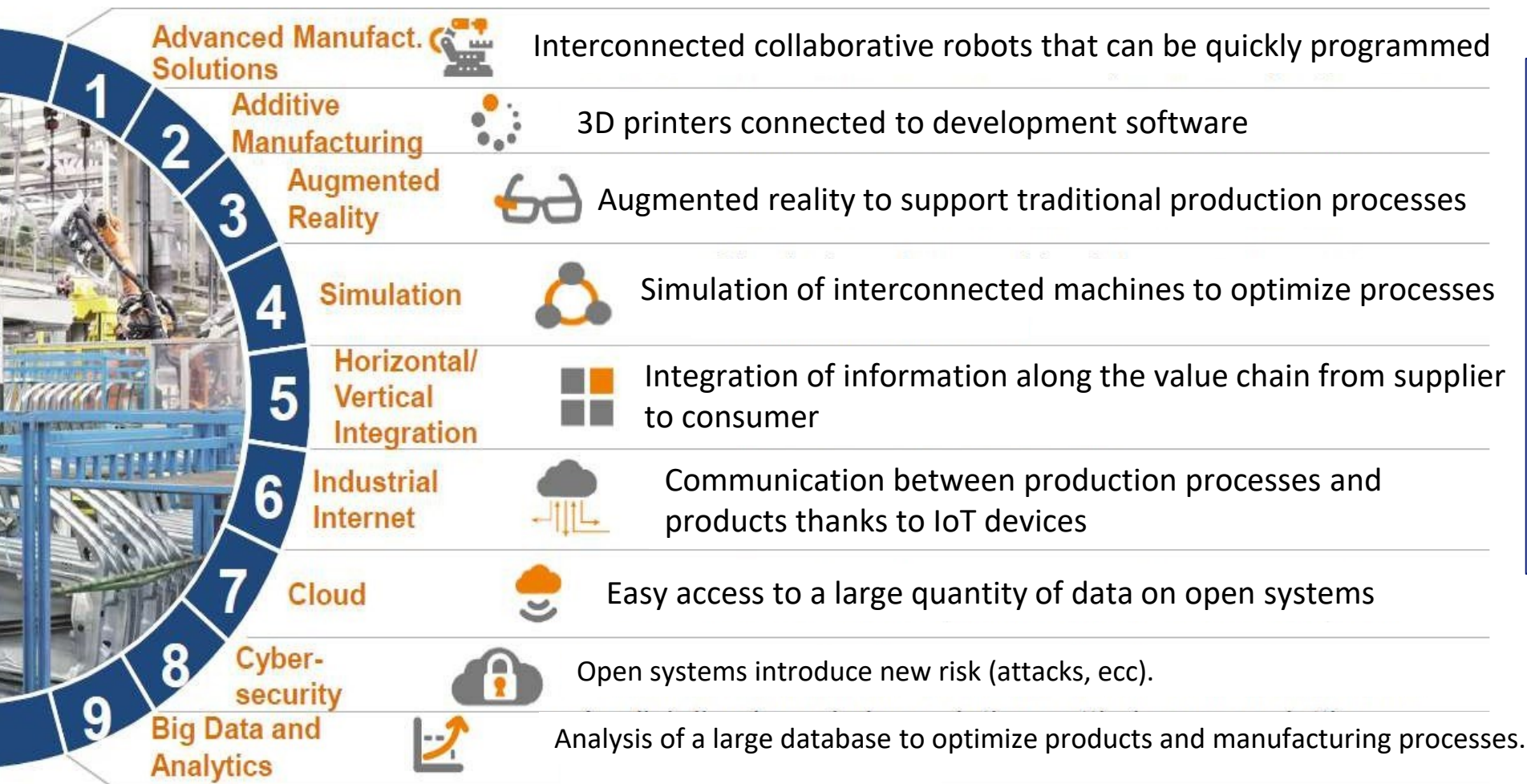
3. Digital Transformation Projects: evidences from the FVG firms

A reference model for digital transformation



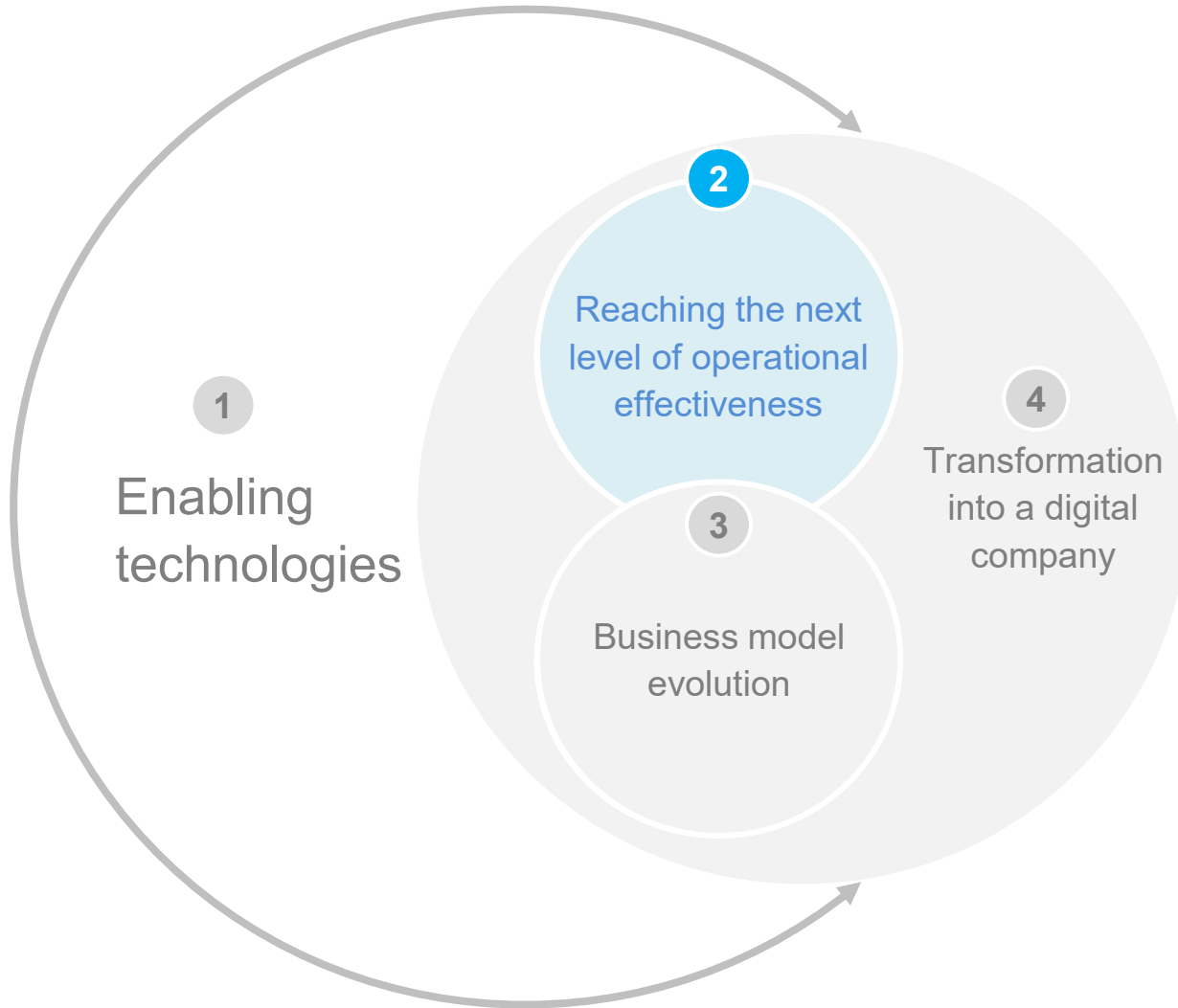
- **Change** is **evolutionary** rather than revolutionary and will occur at a slow pace
- Experts predict that **machinery replacement** will be around **40-50%** compared to the installed machinery fleet within the next 10 years.

1. Enabling technologies



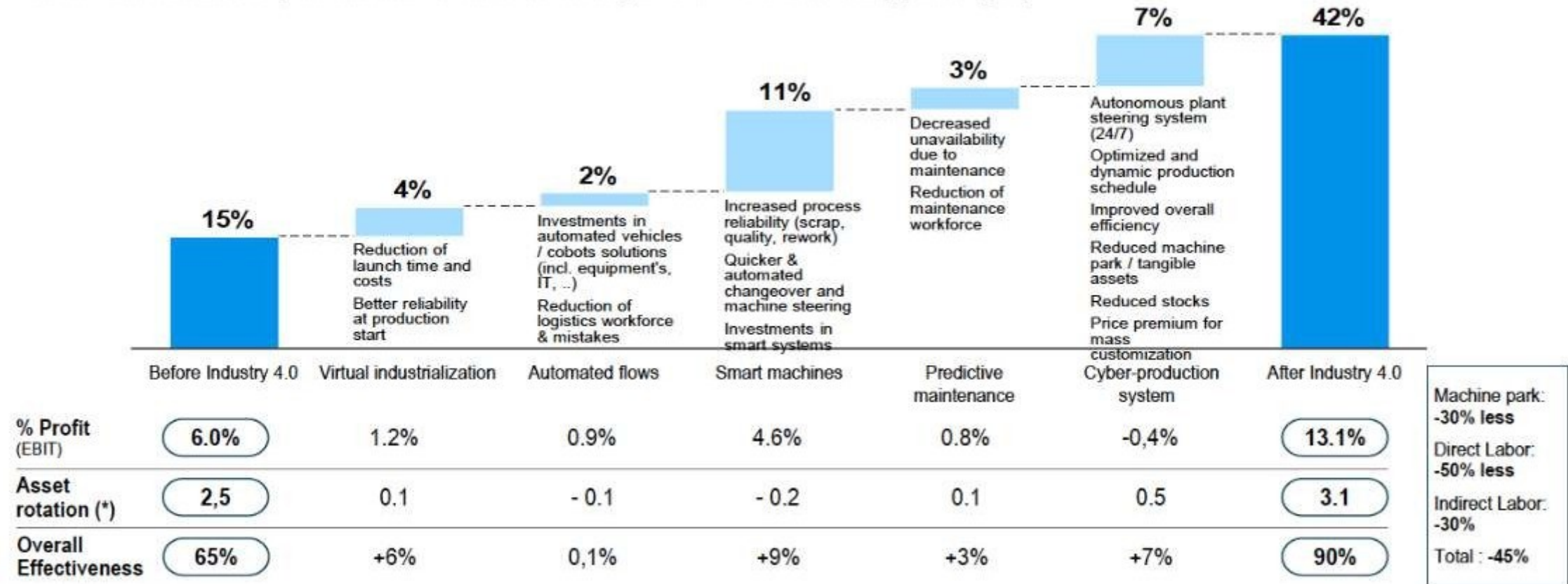
Professional 3D printers:
from 14.000 \$ to 6.000 \$ in a decade

Industry 4.0 challenges companies to rethink their business approach



2. How digitalization is changing ROCE

ROCE evolution per lever for an average Tier-1 Auto supplier [%]



Roland Berger

ROCE: Return of capital employed

2. Focus on the 8 digital levers to increase operational efficiency

Digitalization and automation



Automation and/or support of manual labor

e.g., cobots, exoskeletons, human-machine collaboration, automatic guided vehicles (AGVs)



Digital Workflow

e.g., barcode, radio frequency identifier tags (RFID), tracking locations



M2M/P2M¹ Communications

e.g., Communication of parameters from the product to the machines, in-line quality control.



Information for operators and managers

e.g., pick-to-light, smart glasses (AR/VR²), digital SOP³ on tablets, digital performance management/dashboards

¹ Machine to machine, product to machine reality

² Augmented reality / virtual reality

³ Standard operating procedures

Data & Analytics



Sensors and automated data collection

e.g., machine tracking, cycle time collection, field-collected quality data



Big data / advanced analytics to understand correlations

e.g. condition-based maintenance, improved root-cause problem solving.



Automated process variations

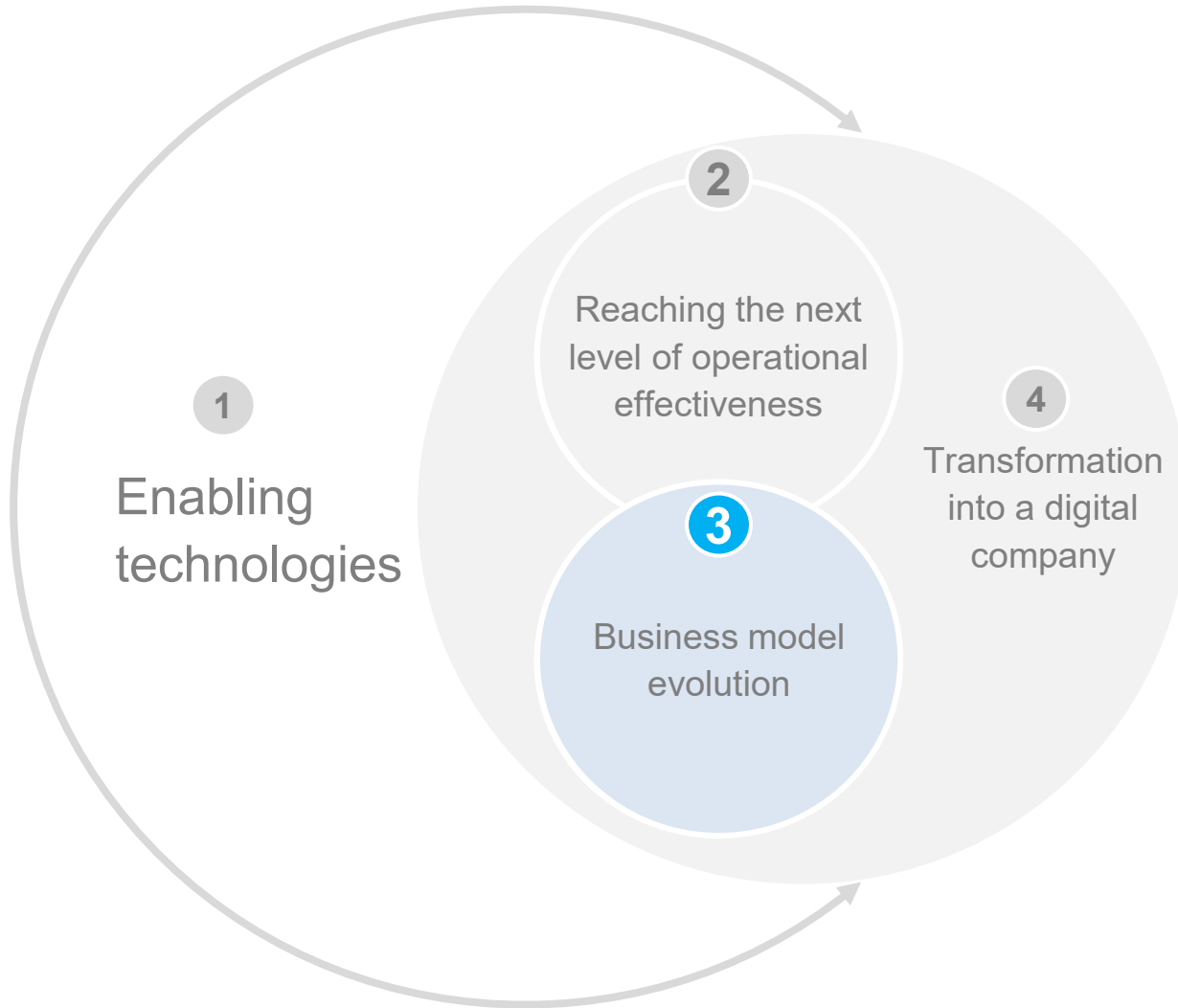
e.g., optimized production planning, predictive maintenance, and machine self-calibration

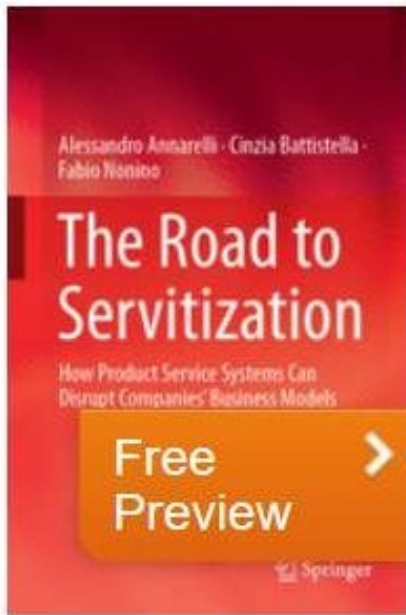


Integrated IT infrastructure

e.g., data security, end-to-end IT integration

Industry 4.0 challenges companies to rethink their business approach





© 2019

The Road to Servitization

How Product Service Systems Can Disrupt Companies' Business Models

Authors: **Annarelli**, Alessandro, **Battistella**, Cinzia, **Nonino**, Fabio



Servitization. From product to service.
For a sustainable future without limits to growth.

di **Roberto Siagri** (Autore)
Guerini e Associati, 2021

★★★★★ (0) ✎

LIBRO disp. immediata 190 punti Effe

18,52 € ~~19,50 €~~

1 Aggiungi al carrello 👤

Venditore: **IBS** Altri 3 venditori (da 19,50 €)

2 Promozioni attive Trova in negozio Verifica disponibilità

The marginal cost in the digital world is negligible.

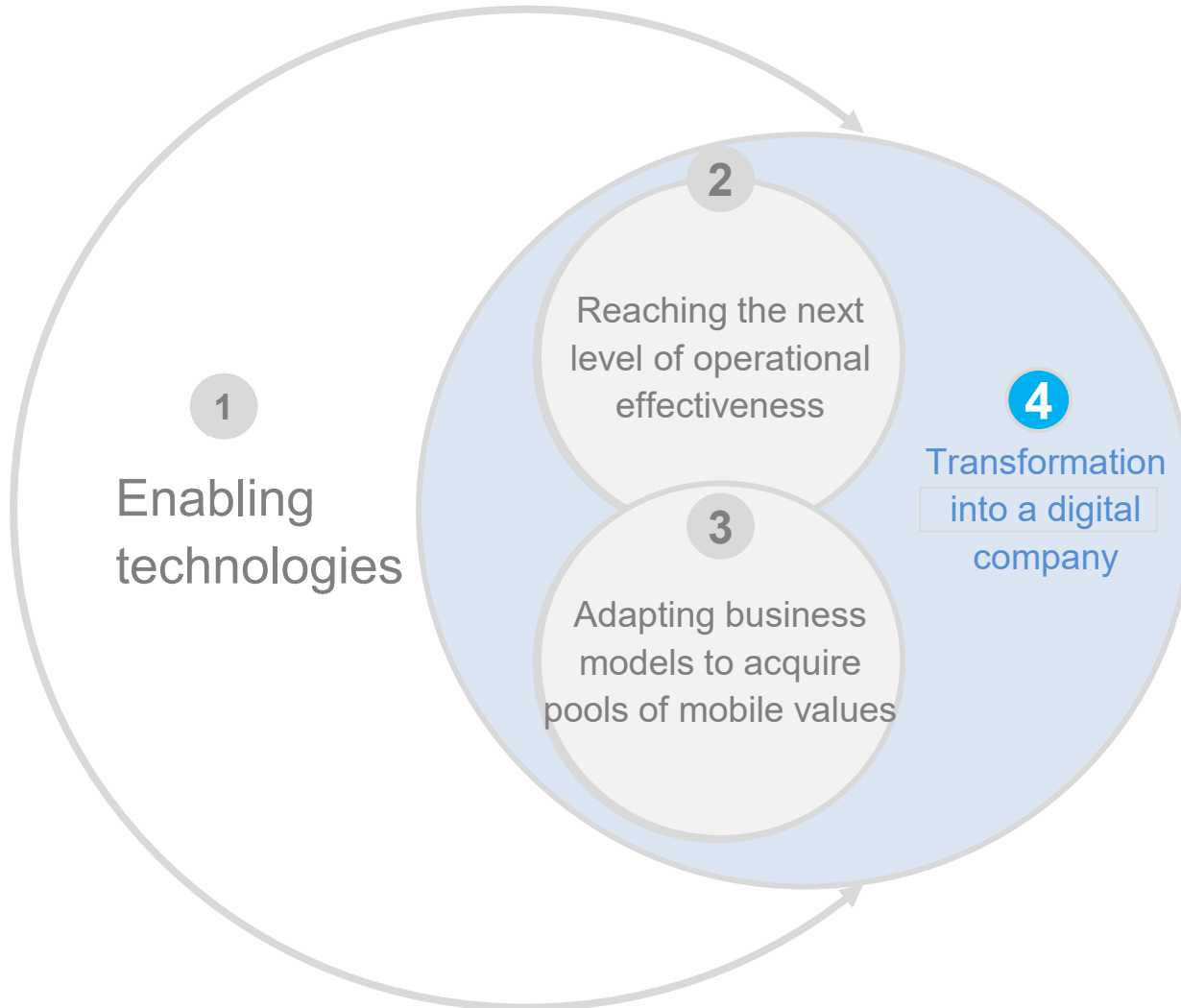
For servitization, there is the need to control the product. Real-time data is essential. If you have a digital copy, you can make changes to the future.

The issue of ownership transfer implies the change in the product's responsibility and effectiveness. Data is crucial for the transition towards servitization.

[Siagri Interview \(Italian language\):](https://youtu.be/91gGUqluEq8)

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Industry 4.0 challenges companies to rethink their business approach



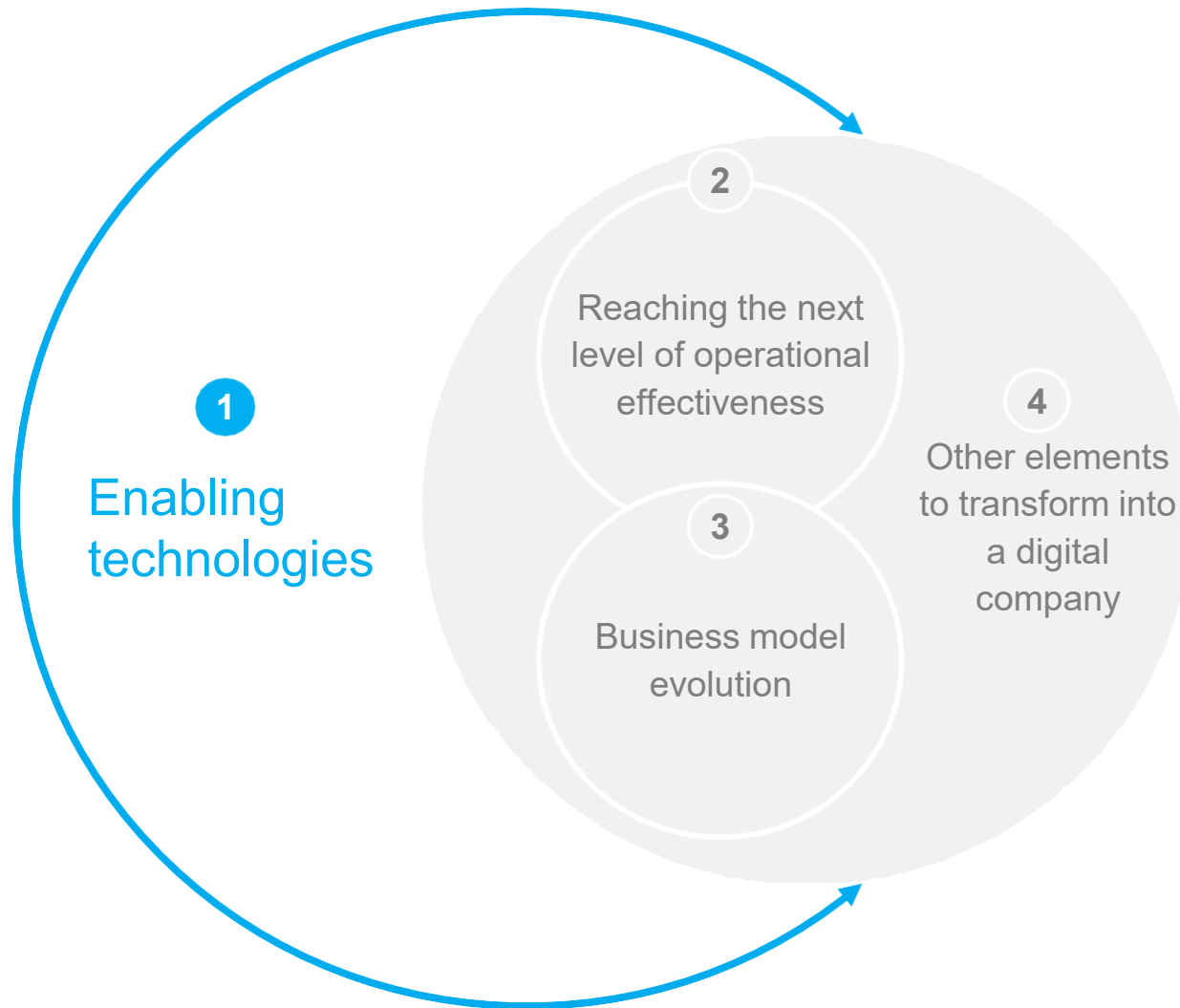
Digital Transformation

- For a successful transformation, companies must establish 4 digital foundations:
 - Building **digital skills**
 - Enable **necessary collaborations** in the ecosystem
 - **Manage data** as an added value resource
 - Manage **cybersecurity**
- Digital transformation should be initiated considering short, medium, and long-term initiatives.

4. Upskilling and life long learning



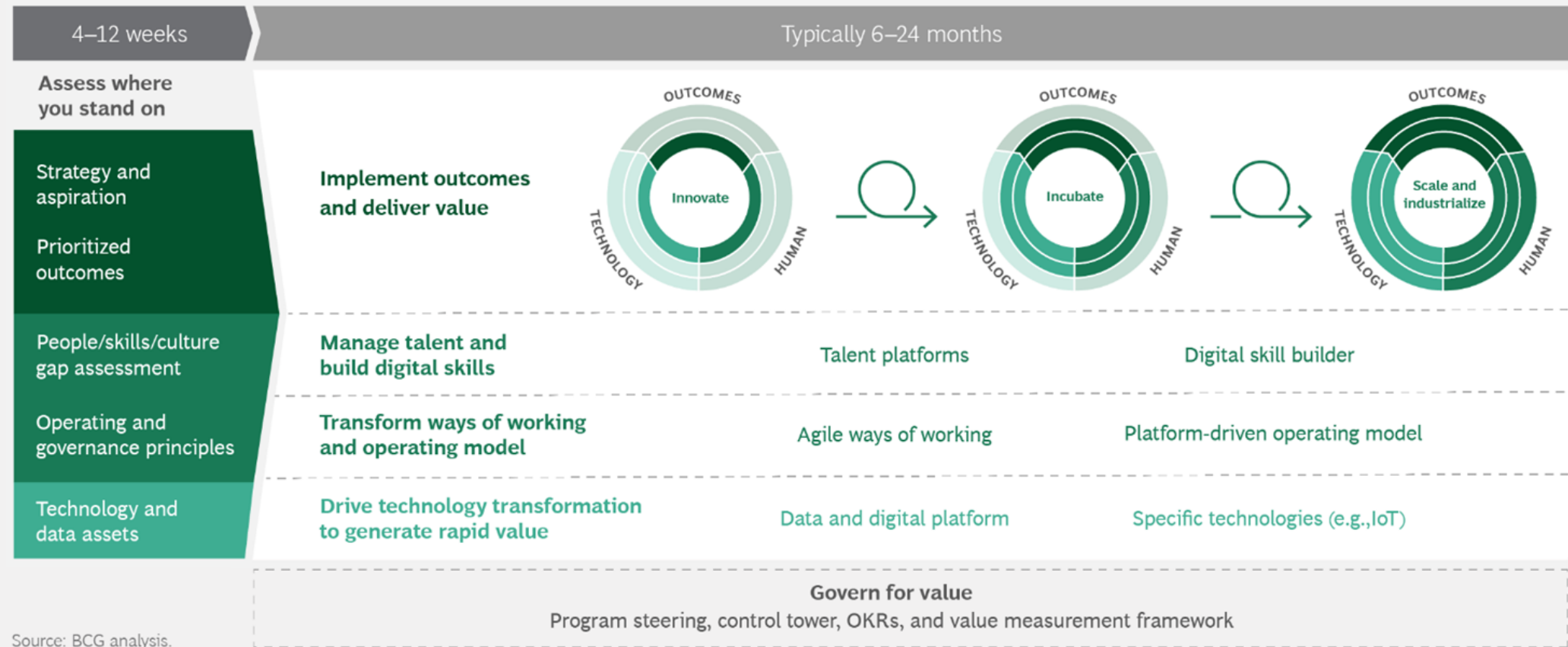
A reference model for digital transformation



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- Experts predict that **machinery replacement** will be around **40-50%** compared to the installed machinery fleet within the next 10 years.

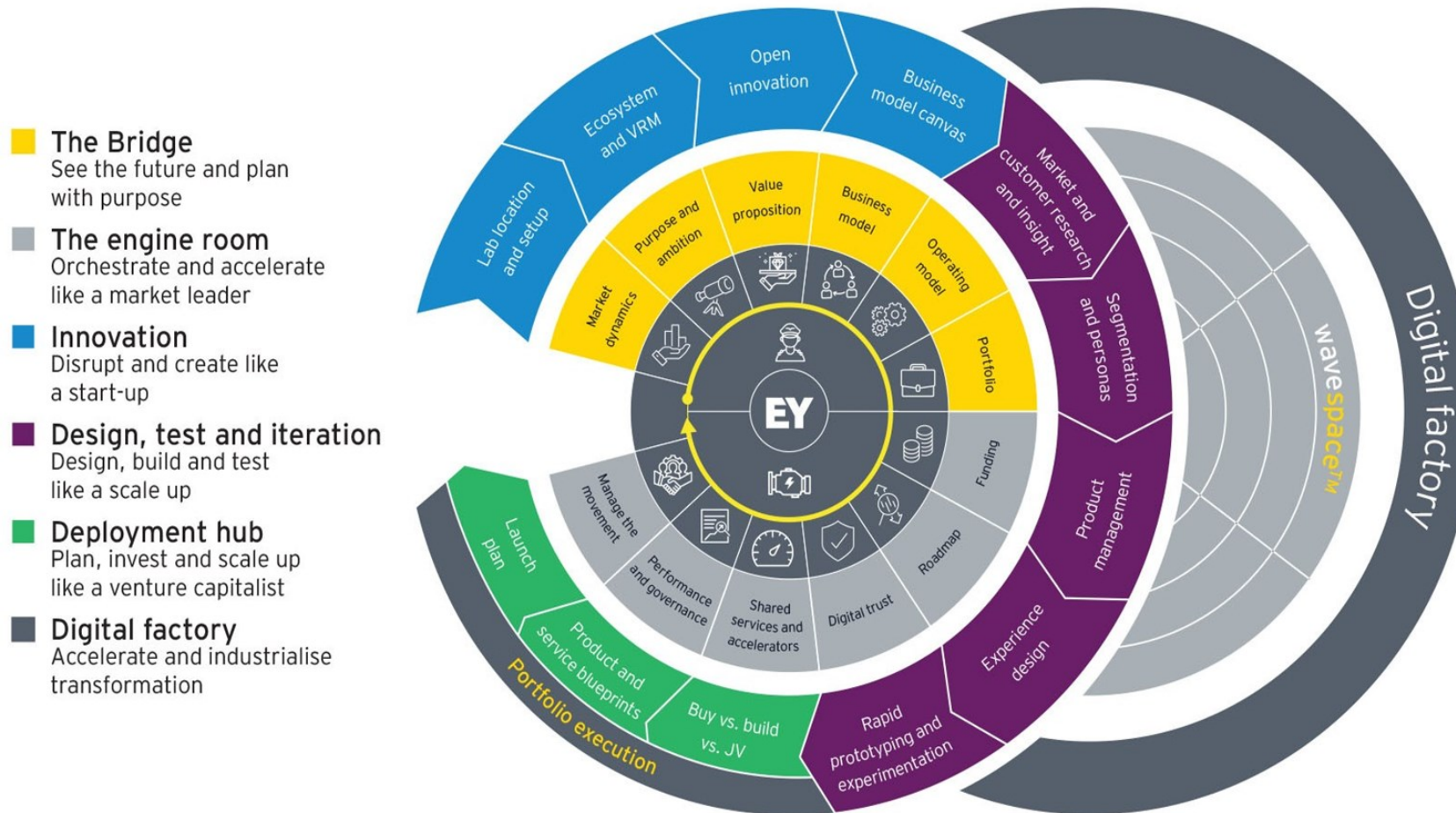
Other models to implement a digital transformation (1-2)

BCG Enables and Empowers Clients to Deliver Digital Transformation at Scale



Source: BCG analysis.

Other models to implement a digital transformation (2-2)



How do we support
enterprises to speed up
their digitalization process?

Assessment – Model introduction

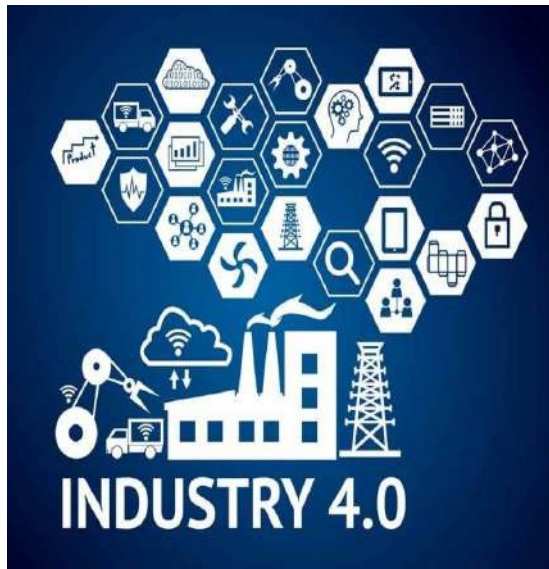
Digital assessment provides an initial indication of the digital maturity of a company, with the intention of capturing its position in relation to the opportunities offered by Industry 4.0 and suggesting possible solutions to improve competitiveness.

The maturity of the company is measured respect to each of the **8 process areas** that make up the value chain:

- Design and Engineering;
- Production;
- Quality;
- Maintenance;
- Logistics;
- Supply Chain;
- Smart Product;
- Human Resources.

In addition, **4 dimensions** of analysis are considered:

- Execution;
- Monitoring and Control;
- Technologies;
- Organization.



Methodology – main principles

Every process is evaluated in terms of digital maturity through the analysis of different elements (items) with a scale from 1 to 6. In particular, the following criteria are applied:

1-3 Non-digital

The activity is still based on traditional methods. Company experience is not encoded with digital tools.

4 – 'Digital ready'

The activity is based on the digital definition of the data that qualify it and is therefore managed entirely digitally.

5 – 'Digital connected'

The digitalized data of the activity are made transparent in the organization, involving the functions interested in the activity, which cooperate in the management of the activity using digital tools.

6 – 'Digital intelligent'

There are artificial intelligence tools operating on the digitalized data of the activity and contributing to the decision-making process related to the activity itself.

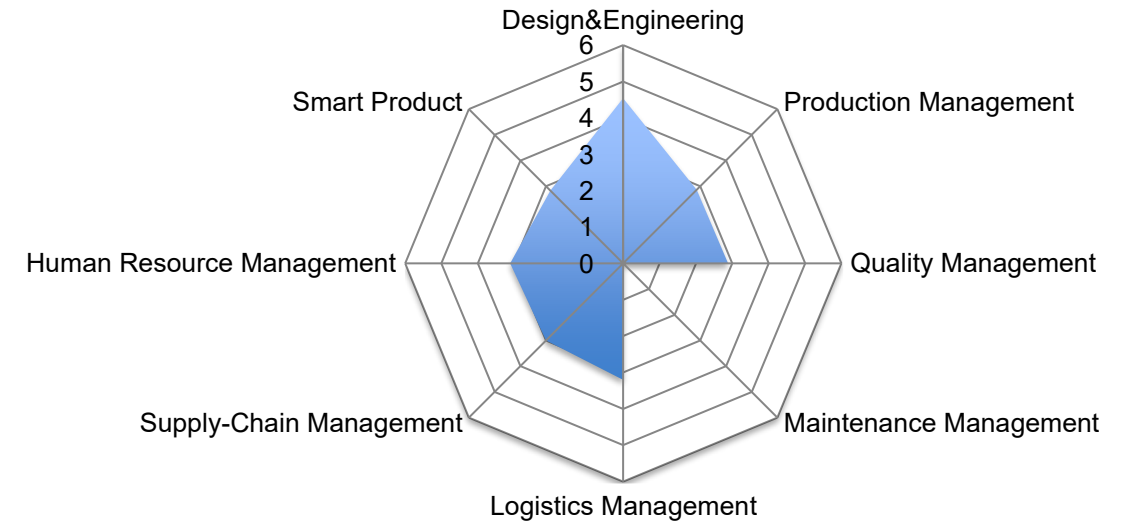
Assessment Report

DIGITAL ASSESSMENT - Digital Readiness



 Investigated areas

Processes

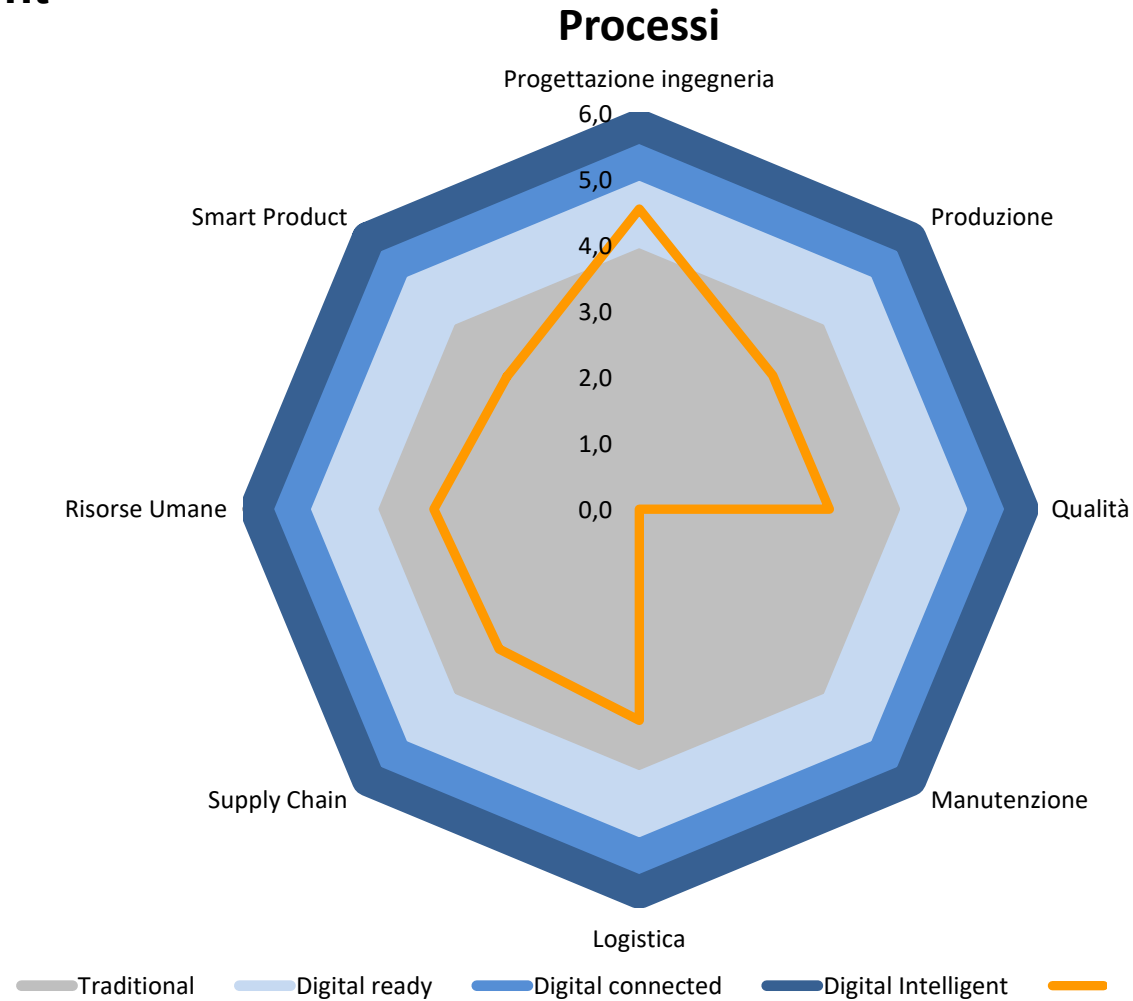


PROCESSI							
Progettazione Ingegneria	Produzione	Qualità	Manutenzione	Logistica	Supply Chain	Risorse Umane	Smart Product
4,5	2,9	2,9	-	3,2	3,0	3,1	2,8

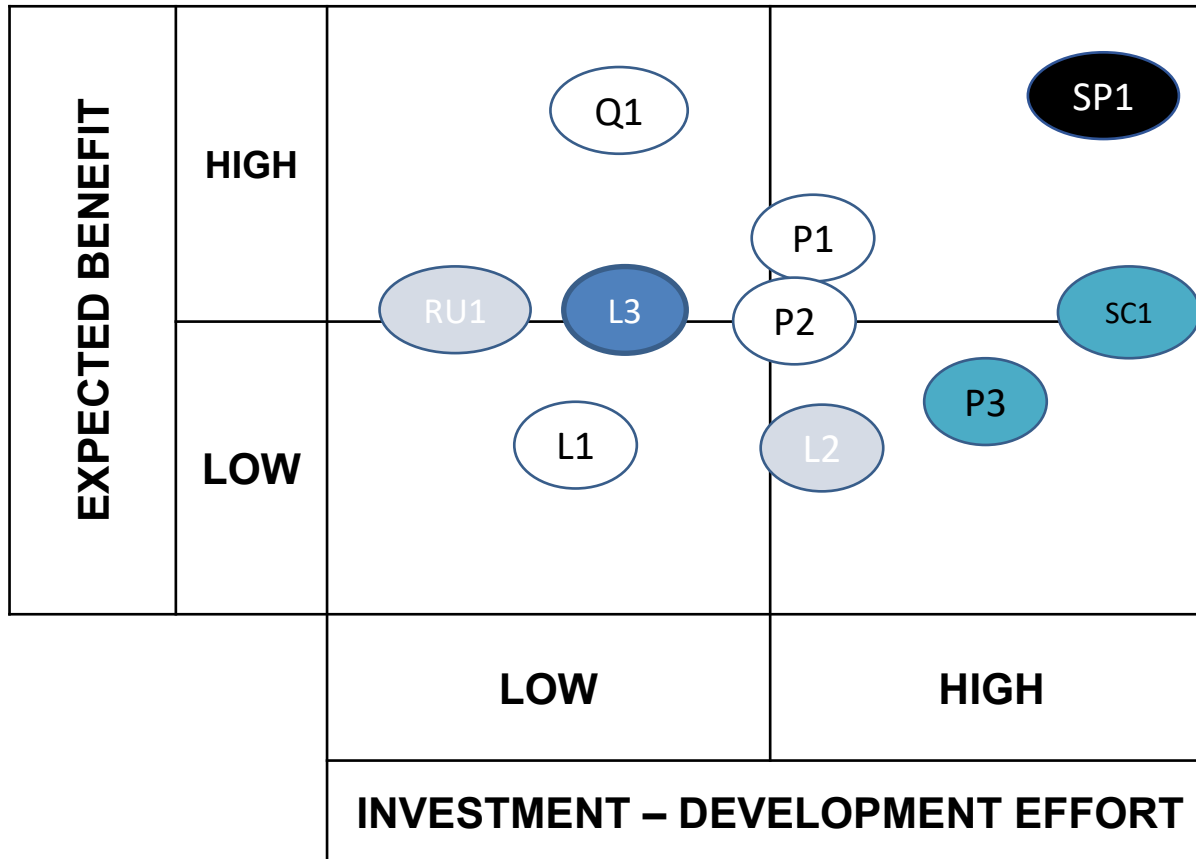
Average
3,00

Assessment for Macroprocesses and digitalization level

DIGITAL ASSESSMENT - Digital Ready, Connected & Intelligent



Recommendations



Production

P1 - QUANTITATIVE assessment and start of first efficiency work sites (including production of electronic boards)

P2 - Operations dashboard (Performance Operations Measurement System)

P3 - Introduction of MES (Manufacturing Execution System)

Logistic management

L1 - (Re) Introduction of acceptance department - coding system (possible initial analysis)

L2 - Improving warehouse management

Quality management

Q1 – Reduce scraps and warehousing dimensions

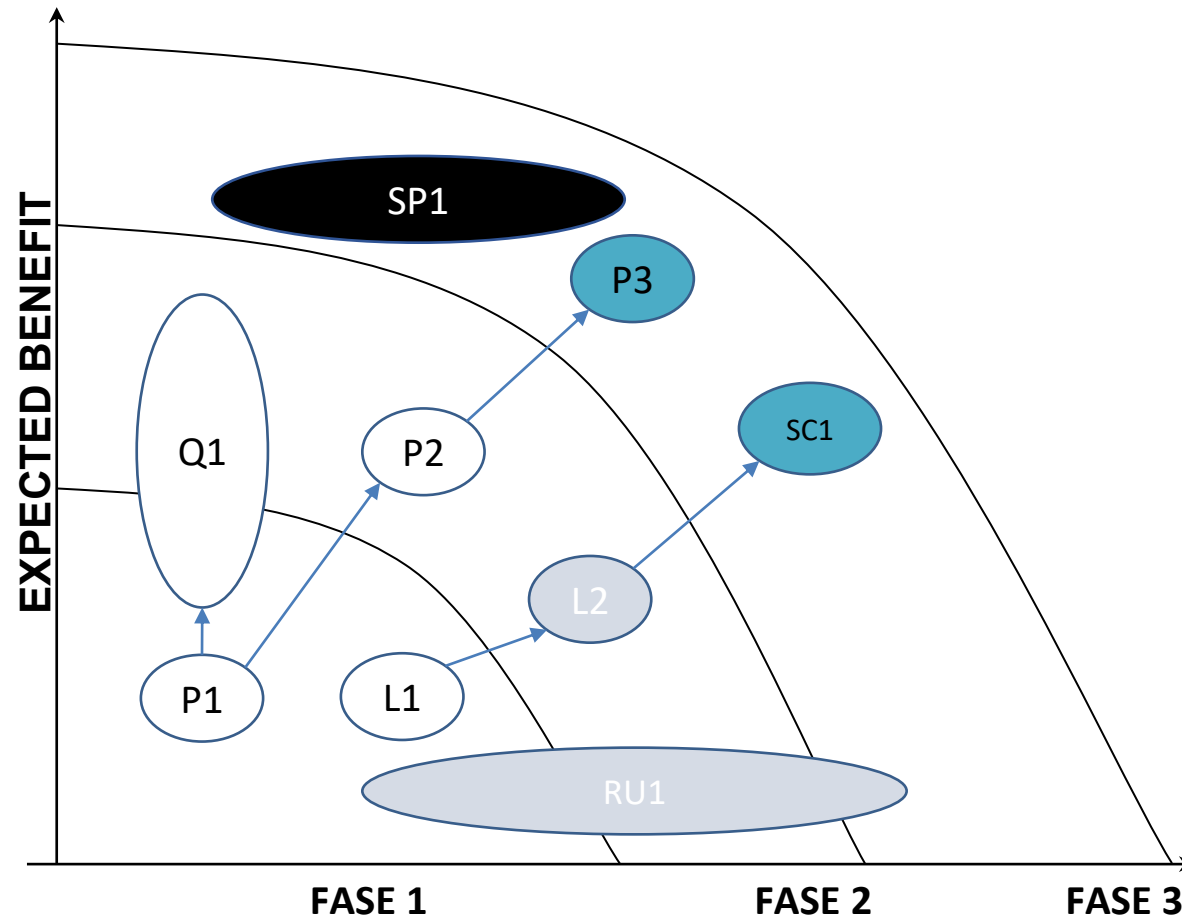
Supply Chain

SC1 - Adopt e-supply chain solutions for managing different production sites (such as electronic Kanban)

Smart Product

SP1 - Support for business model evolution (from product to service, including post-sales)

Recommendations



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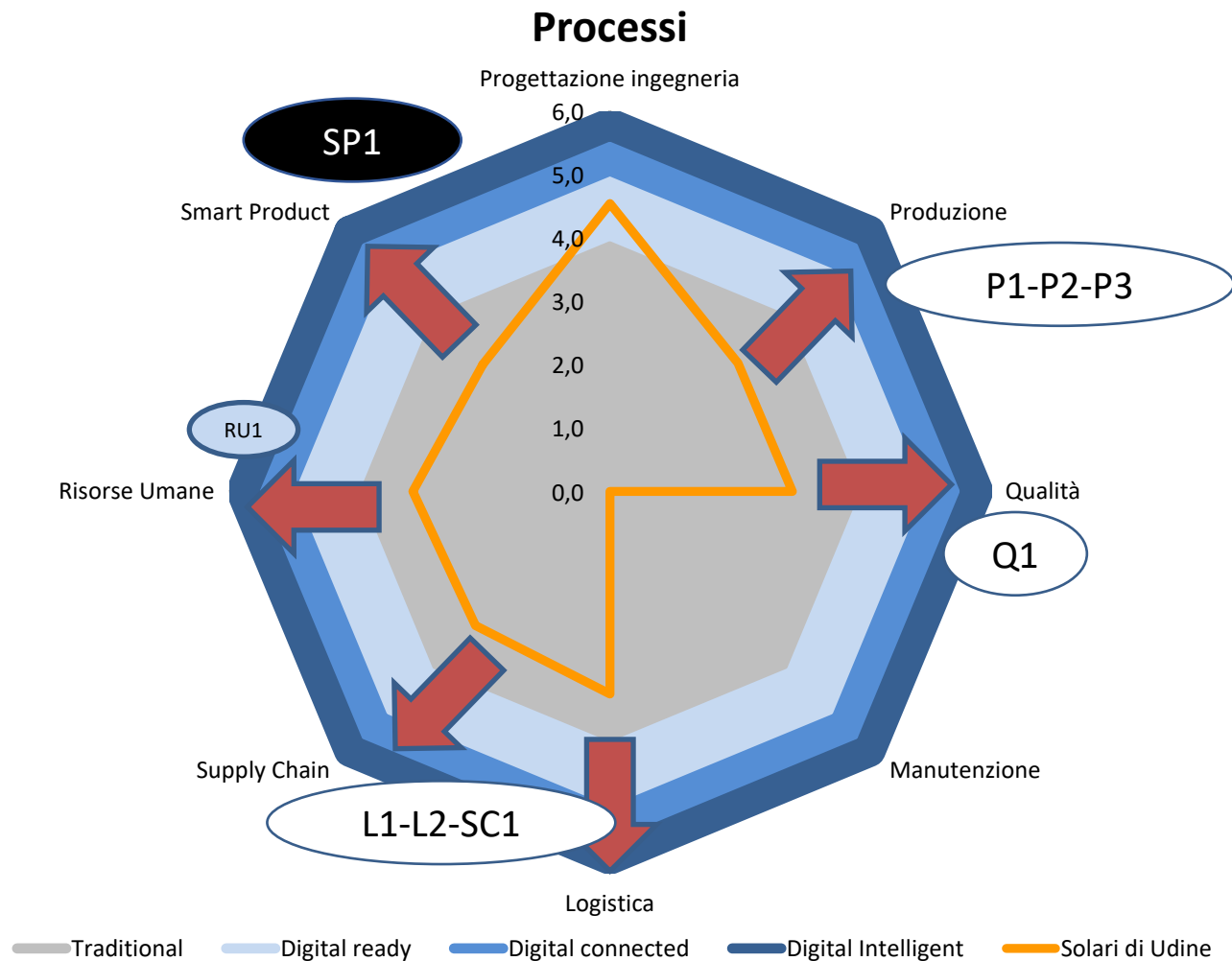
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Impact of digital projects (draft-first evaluation)

DIGITAL ASSESSMENT - Digital Ready, Connected & Intelligent



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How to start a transformation... (1/2)

Assesement 2022

Mese	ATECO	Azienda	Classe Dip Analisti	Analista 1	Analista 2	Fonte	Data Assess	Status Report				
1	Gennaio	C	26.13.11	Fabbricazione di ut	Archman	0-25	Fornasier	Fornasier		CAA	14/01/2022	Consegnato
2		H	52.29.22	Servizi logistici relati	Apm Components	25-50	Fornasier - Marin	Fornasier	Marin	CAA	25/01/2022	Consegnato
3		F	43.21.01	Installazione di impi	Presotto Ennio	25-50	Marin - Fornasier	Marin	Fornasier	POLO	25/01/2022	Consegnato
4	Febbraio	Q	88.10.00	ASSISTENZA SOCIA	Cooperativa Nuovi Vicini	0-25	Iuliano - Marin	Iuliano	Marin	POLO	17/02/2022	Consegnato
5		C	25.62	Lavori di meccanica	Sultan	25-50	Fornasier - Bertetti	Fornasier	Bertetti	POLO	15/02/2022	Consegnato
6		C	29.2	Fabbricazione di car	xDea	0-25	Fornasier - Marin	Fornasier	Marin	CAA	21/02/2022	Consegnato
7	Marzo	C	26.11.09	FABBRICAZIONE DI	ATEX	25-50	Bertetti-Fornasier	Bertetti	Fornasier	LEF	22/02/2022	Consegnato
8		C	22.2	Fabbricazione di art	EPS	100-250	Biotto-Fornasier	Biotto	Fornasier	POLO	28/02/2022	Consegnato
9		C	24.33.02	PROFILATURA MEC	Buttignol Diego Srl	0-25	Fornasier - Marin	Fornasier	Marin	POLO	18/03/2022	Consegnato
10	Aprile	C	27.52	FABBRICAZIONE DI	Palazzetti Lelio SpA	250-500	Fornasier	Fornasier		Polo	25/03/2022	Consegnato
11		C	25.5	FUCINATURA, IMBU	Tesolin	25-50	Biotto-Fornasier	Biotto	Fornasier	Polo	20/04/2022	Consegnato
12		F	43.22.01	INSTALLAZIONE DI	Idrotermica Buttrio	25-50	Fornasier	Fornasier		Hidra	12/04/2022	Consegnato
13	Maggio	A	01.63	Attività successive a	Friulfruct SCA	25-50	Fornasier - Miotti	Fornasier	Miotti	Polo	13/04/2022	Consegnato
14		C	32.2	FABBRICAZIONE DI	Fazioli	100-250	Fornasier - Vezil	Fornasier	Vezil	Polo	?	Consegnato
15		C	31.01.10	FABBRICAZIONE DI	Concepts	0-25	Fornasier	Fornasier		Hidra	03/05/2022	Consegnato
16	Giugno	C	33.12.59	RIPARAZIONE E MA	Maschietto	0-25	Marin - Fornasier	Marin	Fornasier	Polo	17/05/2022	Consegnato
17		C	28.30.90	FABBRICAZIONE DI	AgricolMeccanica	25-50	Fornasier-Miotti	Fornasier	Miotti	Polo	22/04/2022	Consegnato
18		C	27.90.09	Produzione e vendit	Startec	0-25	Bertetti-Fornasier	Bertetti	Fornasier	Polo	23/05/2022	Consegnato
19	Luglio	H	49.41	TRASPORTO DI ME	Assisped	0-25	Bertetti-Fornasier	Bertetti	Fornasier	Hidra	16-05-2022	Consegnato
20		G	46.73.2	Commercio all'ingros	MEC Store	0-25	Marin - Fornasier	Marin	Fornasier	Polo	24-05-2022	Consegnato
21		Q	88.10.00	Assistenza sociale n	Futura (approfondimento 2021)	0-25	Iuliano-Marin	Iuliano	Marin	Polo	09-05-2022	Consegnato
22	Agosto	E	39.09.00	Altre attività d	Geostream	50-100	Fornasier - Bertetti	Fornasier	Bertetti	Hidra	10/06/2022	Consegnato
23		0,5	29.33.00	FABBRICAZI	Tuper	0-25	Fanizza-Fornasier	Fanizza	Fornasier	CAA	13/06/2022	Consegnato
24		C	26.02.00	Lavori di mec	Piccolo Principe (approfondimento 20	50-100	Iuliano-Marin	Iuliano	Marin	Polo		Consegnato
25	Settembre	C	23.70.3	FRANTUMAZ	Alfamicon	0-25	Marin-Miotti	Marin	Miotti	Polo	6/7/2022	Consegnato
26		0,5	25.61	Trattamento e	Bravin		Fornasier-Lupi	Fornasier	Lupi	CAA	19/7/2022	Consegnato
27		0,5	25.73.20	FABBRICAZI	BBT	0-25	Fanizza-Fornasier	Fanizza	Fornasier	CAA	18/7/2022	Consegnato
28	Ottobre	0,5	31.09.03	Fabbricazione	Felis		Fornasier	Fornasier		CAA	19/07/2022	Consegnato
29		C	25.5	Fucinatura, im	Color Print SpA		Fornasier-Miotti	Fornasier	Miotti	Polo	07/10/2022	Consegnato
30		C	25.11	Fabbricazione	Officine GSP	25-50	Fornasier - Bertetti	Fornasier	Bertetti	LEF	03/10/2022	Consegnato
31	Novembre	C	23.70.2	Lavorazione a	FriulMosaic		Marin-Bertetti	Marin	Bertetti	ConfAPI	6/9/2022	Consegnato
32		C	26.30.29	Fabbricazione	Solari	100-250	Fornasier - Bertetti	Fornasier	Bertetti	ConfAPI	26/9/2022	Consegnato
33		0,5	28.49.09	Fabbricazione	Boss Technology	0-25	Fornasier-Lupi	Fornasier	Lupi	ConfAPI	11/10/2022	Consegnato
34	Dicembre	C	25.62	Lavori di mec	Sti Luaidi	25-50	Fornasier - Bertetti	Fornasier	Bertetti	CAA	24/10/2022	Consegnato
35		A	01.21	Coltivazione d	Vistora	0-25	Bertetti - Fornasier	Bertetti	Fornasier	Hidra	03/10/2022	Consegnato

How to start a transformation... (2/2)

Assesement 2023

Mese	Azienda	Sede	Cognome	Nome	e-mail	sse Dip (20	Analista 1	Analista 2	Fonte	Data Asses	Status Report	
1	Gennaio	Domus Line Srl	Porcia	Venier	Alberto		53	Fornasier	Marin	Hidra	20/01/2023	Consegnato
2		Jecko Racing Seats Snc Di	Fiume Veneto	Pizzato	Andrea		0-10	Marin	Fornasier	PoloAA	24/01/2023	Consegnato
3		Quattrin Srl	Zoppola	Quattrin	Massimo		20-49	Fornasier	Marin	PoloAA	26/01/2023	Consegnato
4	Fabbraio	Idealservice		Picco	Laura			Fornasier	Marin	PoloAA	02/02/2023	Consegnato
5		FCF Fontanafredda	Fontanafredda	Rigato	Zeno			Bertetti	Fornasier	PoloAA	08/02/2023	Consegnato
6		Gielle Plast		Lucchetta	Marco			Fornasier	Bertetti	CAA	14/02/2023	Consegnato
7	Marzo	Perin						Biotto	Bertetti	PoloAA	24/02/2023	Consegnato
8		Nuert	Cusano di Zoppola	Quattrin	Matteo			Marin	Fornasier	PoloAA	01/03/2023	Consegnato
9		EPS						Iuliano	Lo sardo	PoloAA	03/03/2023	Consegnato
10	Aprile	Omnia Energy		Moretti	Nicolas			Fornasier	Marin	PoloAA	23/02/2023	Consegnato
11		Topazzini		D'Andrea	Gianluca			Marin	Fornasier	LEF	29/03/2023	Incontro prog
12		Numafa		Biscontin	Igor			Fornasier	Bertetti	CAA	21/03/2023	Da consegna
13	Maggio	Videomobile	Azzano Decimo	De re	Francesco			Biotto	Bertetti	PoloAA	07/03/2023	Consegnato
14		SIOM		Sist	Alessandro			Fornasier	-	Hidra	21/03/2023	In elaborazioi
15		UGS						Fornasier	-	CAA	04/04/2023	Consegnato
16	Giugno	Serimark		Anna				Marin	Fornasier	PoloAA	26/04/2023	Da consegna
17		Flex						Efficienta	-	PoloAA		Incontro prog
18		Savio		D'Agnolo	Fabio			Amaduzzi	-	PoloAA	04/05/2023	Incontro prog
19	Luglio	ZIPR	CER					Efficienta	-	PoloAA		
20		VMI						Biotto	Fornasier	PoloAA	24/04/2023	Consegnato
21		Sovipre						Fornasier	Marin	LEF	09/05/2023	Consegnato
22	Agosto	Assilab (cybersec)						Giacomini	Fornasier	PoloAA	18/05/2023	Consegnato

Summary

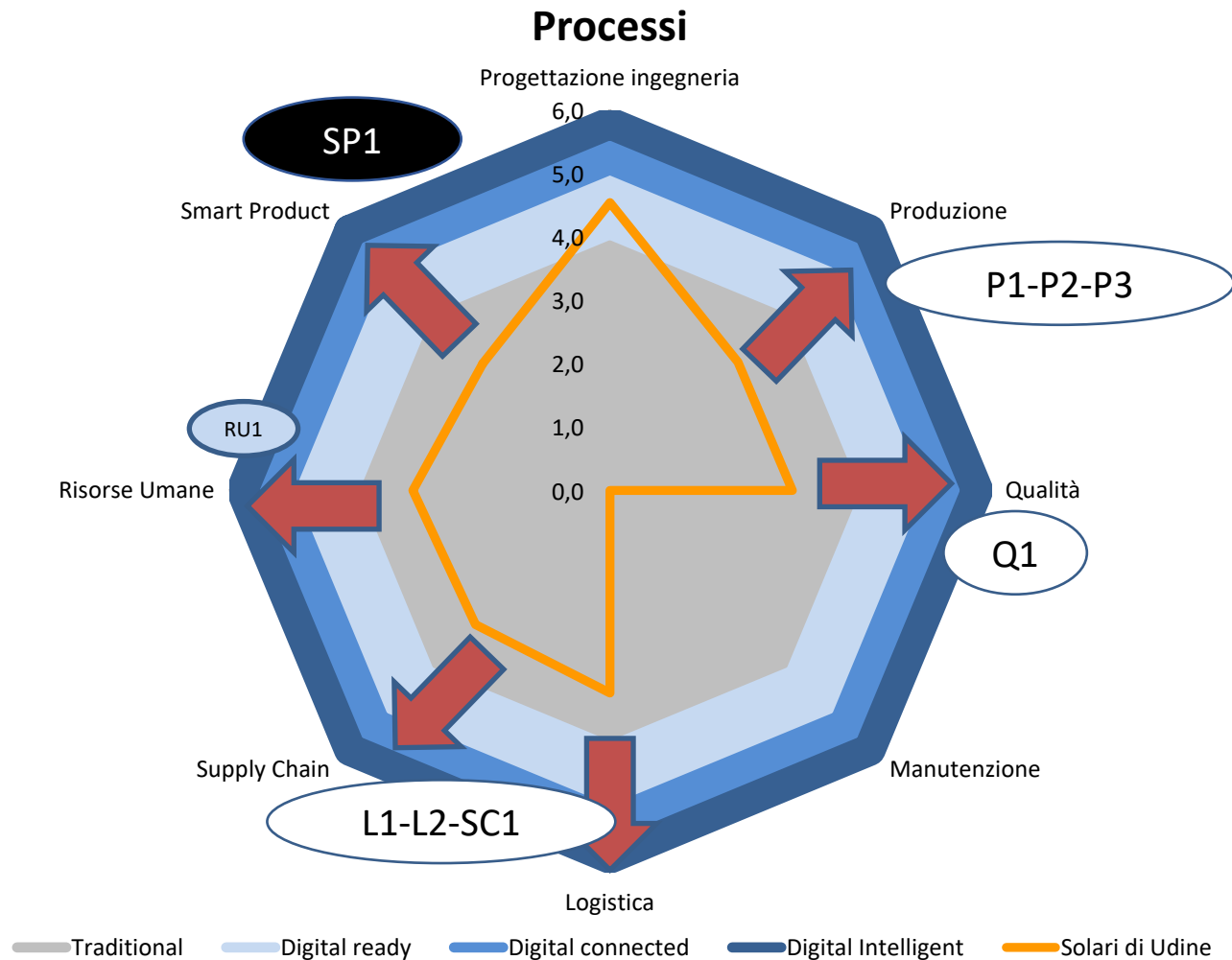
A. Introduction to Industry 4.0

A. How to guide a Digital Transformation Project

**A. Digital Transformation Project: evidences from
the FVG firms Assessment and Projects**

Impact of digital projects (draft-first evaluation)

DIGITAL ASSESSMENT - Digital Ready, Connected & Intelligent



Production

P1 - QUANTITATIVE assessment and start of first efficiency work sites (including production of electronic boards)

P2 - Operations dashboard (Performance Operations Measurement System)

P3 - Introduction of MES (Manufacturing Execution System)

Logistic management

L1 - (Re) Introduction of acceptance department - coding system (possible initial analysis)

L2 - Improving warehouse management

Quality management

Q1 – Reduce scraps and warehousing dimensions

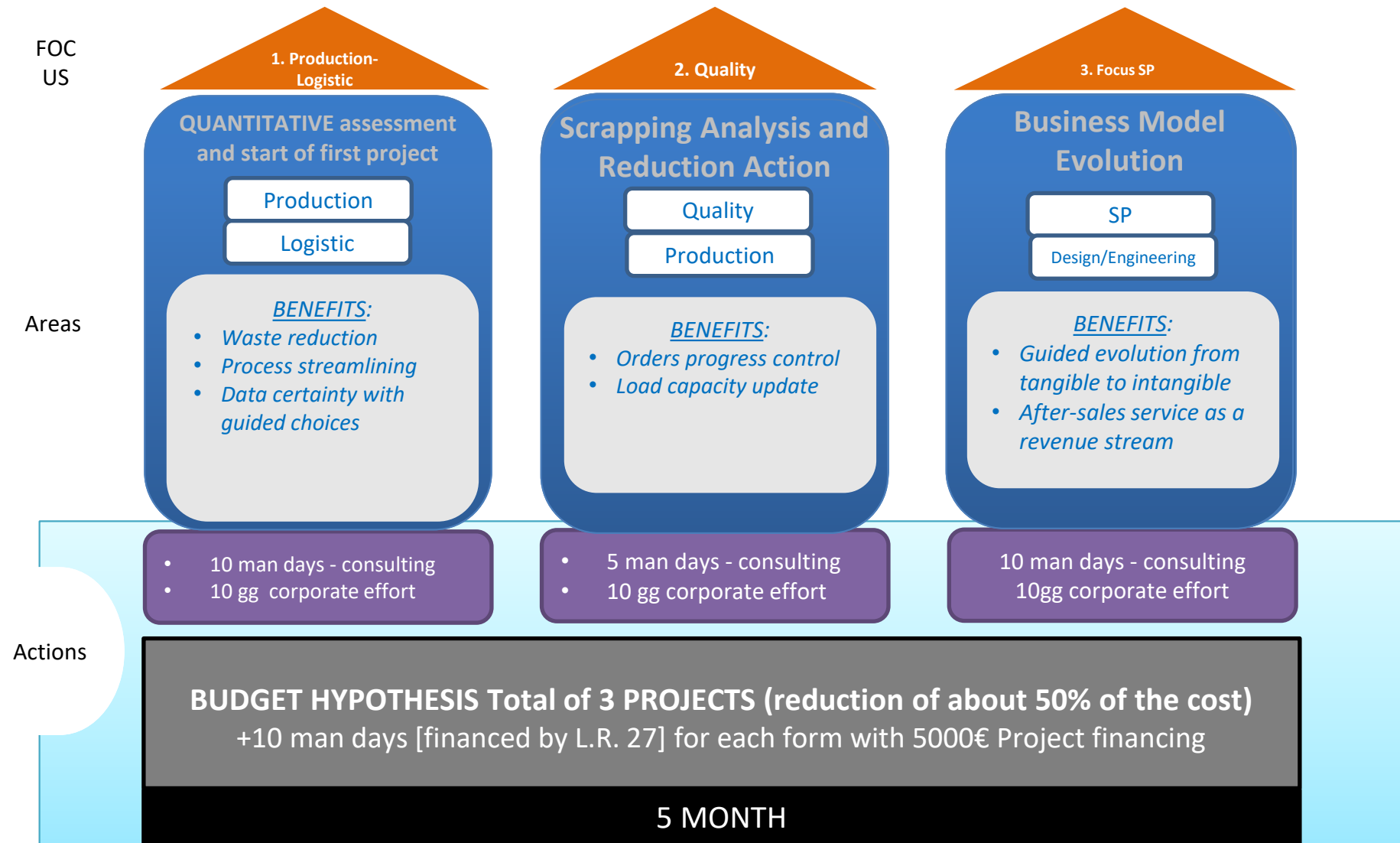
Supply Chain

SC1 - Adopt e-supply chain solutions for managing different production sites (such as electronic Kanban)

Smart Product

SP1 - Support for business model evolution (from product to service, including post-sales)

Main (Digital) Project focus on Areas



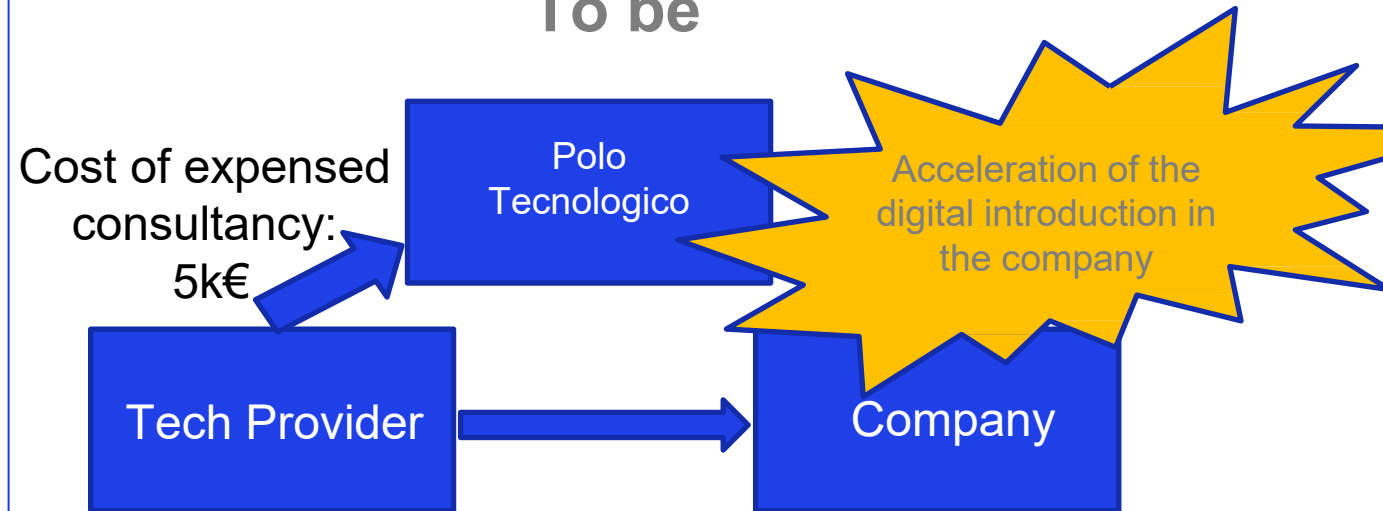
Meaning of Digital Project (Cantiere)

As is



Cost of consulting for the company:
8 k €

To be

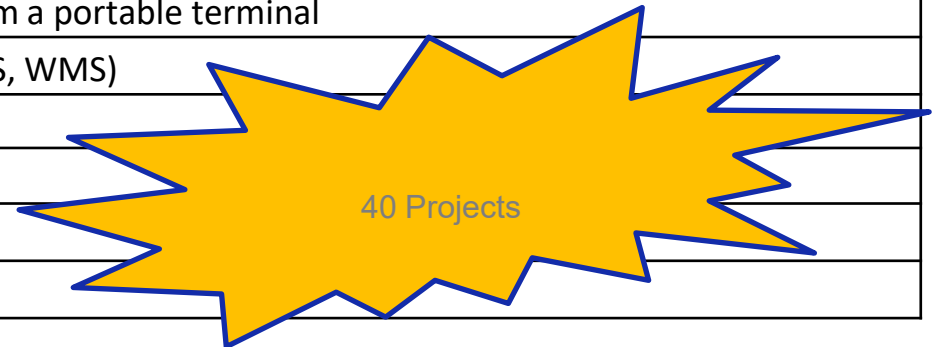


Cost of the consulting for the company:
3 k €

- Operational Contract between Polo Tecnologico and Company, with identification of project phases
- Covering approximately 50%-70% of the consulting fees of the contract

Most relevant Digital Projects completed (2022)

Id	Description
22c01	Software selection for the new production process advancement management system
22c02	Data collection of machines and monitoring of plant performance
22c03	MES Introduction
22c04	WMS implementation
22c05	Accompanying adoption of quality control system along the supply chain
22c06	Digital Dashboard Design
22c07	Improving office processes through Lean&Digital adoption (introduction to automation tools, RPA, etc.)
22c08	Designing Introduction to Vehicle Fleet Monitoring Solution
22c09	Evaluation of wearable solutions for remote maintenance support
22c10	Warehouse encoding in order to improve/automate site reporting
22c11	Lean construction site for quality control improvement in order to introduce automation control solutions
22c12	Introduction to a solution to improve visibility of orders to clients and improve job account tracking
22c13	Introduction to the solution for WMS and sales document management from a portable terminal
22c14	Software selection support for integration of information systems (ERP, MES, WMS)
22c15	Monitoring of plants with IoT sensorization
22c16	Implementation of Maintenance 4.0
22c17	Design of an automated production island
.....



Ongoing Projects (2023)

Id	Description
23cc01	Pre-feasibility analysis for Big Data Analytics Adoption
23cc02	Quality Maintenance
23cc03	Digital Industrial Plan
23cc04	Preliminary analysis for a new Human Machine Interface (HMI) for vending machines
23cc05	Adoption Building Information Modeling
23cc06	Robotic Process Automation
23cc07	Introduction of Digital Marketing
23cc08	Software selection for ERP introduction
23cc09	Data Exploitation
23cc10	Product Configurator
23cc11	Market analysis and evolution of the digital business model
23cc12	Creation of a new digitalization service
23cc13	Redesign the information flow thanks to Industry 4.0 (data)
23cc14	Implementation and integration (process)
23cc15	Cybersecurity implementation support

23cc16
23cc17	
23cc18	
23cc19	
23cc20	
23cc21	
23cc22	
23cc23	
23cc24	
23cc25	
23cc26	
23cc27	
23cc28	
23cc29	
23cc30	

Digital Project: the model for accelerating digital transformation

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Condividi questo articolo



Best practices in digital transformation: the experience of the projects at the Alto Adriatico Technology Park.

Pubblicato il 08 Set 2022

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<https://www.industry4business.it/esperti-e-analisti/cantiere-digitale-il-modello-per-accelerare-i-progetti-digital-transformation/>

Proposed solutions Map and zooming on some proposals

Number of solutions proposed for each macroprocess.	Design & Engineering	Production	Quality	Logistic	Maintenance	Marketing & Sales	Smart Product	Supply Chain	Human Resources
	10	46	17	41	14	10	18	13	23



Columns: Classification of practices and tools for macroprocesses.



Rows: List of practices and tools for digital introduction.

Solutions

Estensione delle funzionalità del CAD 3D e sfruttare	Tecnologia
Digitalizzazione delle comunicazioni	Tecnologia
Coinvolgimento del personale e cantieri di	Metodologia-Formazione
Comprensione dell'attuale stato di software, supporto	Tecnologia
Introduzione/sviluppo MES	Introduzione/sviluppo MES
Interconnessione di tutte le macchine al fine di	Introduzione/sviluppo MES
Aggiornamento JMES	Introduzione/sviluppo MES

Clustering

- Total solutions: **182**
- Average number of proposed solutions per company: **8**

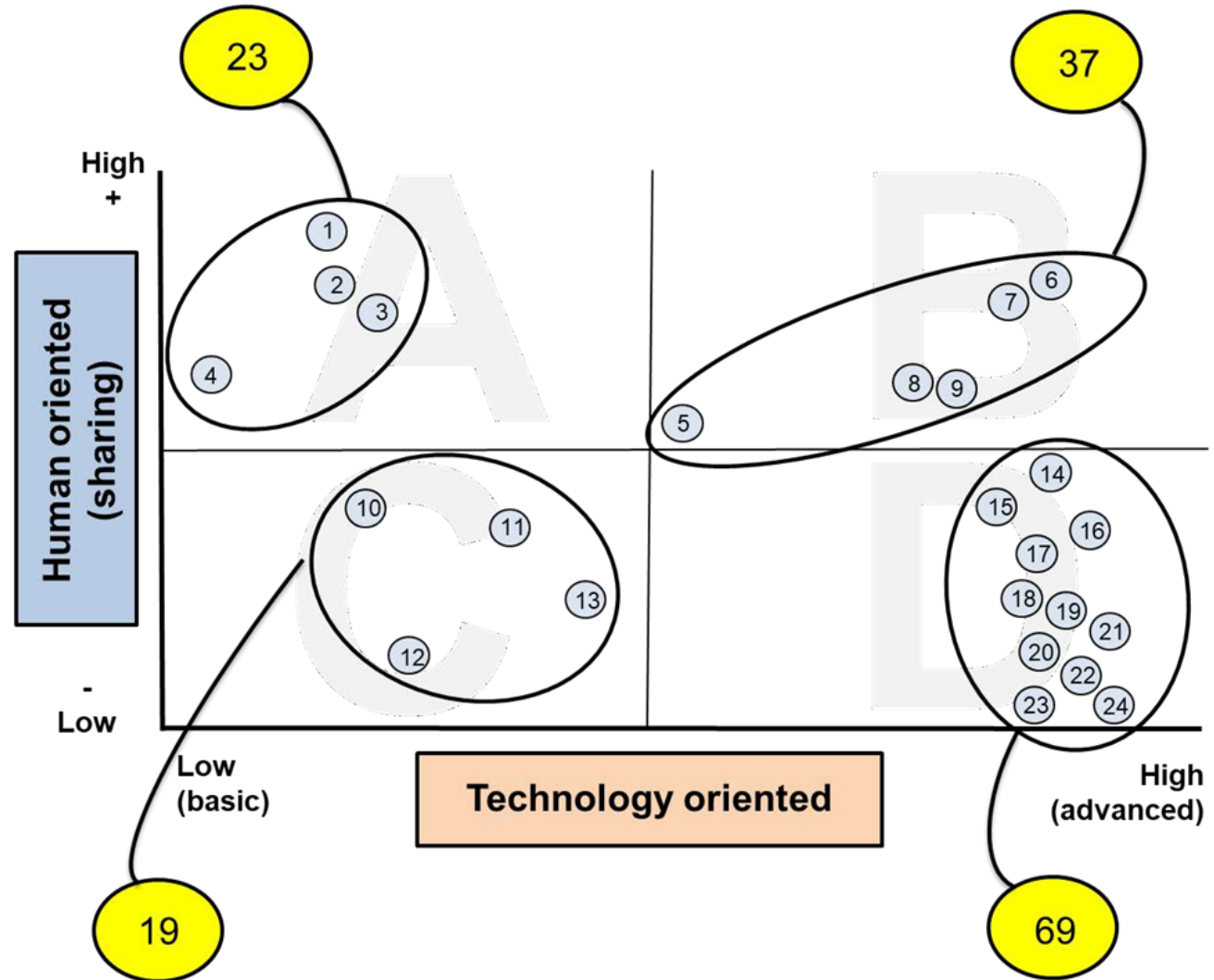
Mapping of proposed solutions and zooming in on some proposals

Id.	Cluster	Number of proposals
14	Introduction/Development of Manufacturing Execution System (MES)	17
5	Dashboard Key Performance Indicators	14
1	Creation of a lean and digital-based corporate culture	12
18	Warehouse Management System (WMS) + Tracking	10
24	Smart Product/Other	8
16	Technology	8
10	Encoding articles and labeling	7
19	e-Supply Chain Collaboration (eSCC)	7
9	Improving planning/scheduling, also through software	7
8	Digital Standard Operating Procedures (SOP)	6
15	Introduction/evolution CRM	6
6	Office Automation	6
23	Data Analytics	5
4	Lean tools	5
12	Analysis of production process mapping and optimization.	4

7	Document management software	4
13	Introduction to digital solutions for improving project management contracts	4
3	Programming	4
11	Reporting industrial accounting	4
22	Business Intelligence (BI)	2
17	Digital Fleet Management	2
21	Digital Twin	2
20	e-kanban	2
2	Methodology - Training	2
Not reported in the matrix	Office process mapping analysis	1
	Production analytics	1
	APP	1
	Cyber security	1
	Bill of Materials (BOM)	1
	PDM/PLM	1
	Customer portal	1
	Other	27
	Total	182

Positioning matrix of proposed solutions

- A**
1. Creation of a lean and digital-based corporate culture
 2. Methodology - Training
 3. Programming
 4. Lean
- B**
5. Dashboard Key Performance Indicators
 6. Office Automation
 7. Document management software
 8. Digital SOP
 9. Improving planning/scheduling, also through software
- C**
10. Encoding articles and labeling
 11. Reporting industrial accounting
 12. Analysis of production process mapping and optimization
 13. Introduction to digital solutions for improving project management contracts
- D**
14. Introduction/Development of Manufacturing Execution System (MES)
 15. Introduction/evolution CRM
 16. Technology
 17. Digital fleet management
 18. WMS + tracking
 19. eSCC
 20. e-kanban
 21. Digital twin
 22. Business Intelligence
 23. Data Analytics
 24. Smart Product



xx = Number of proposed solutions

Some photos and video – Automation in a washing machine production plant



3° industrial revolution

Some photos and video – Final quality control



3° - 4° industrial
revolution

Some photos and video – «Kindle» in the production plant



4° industrial revolution

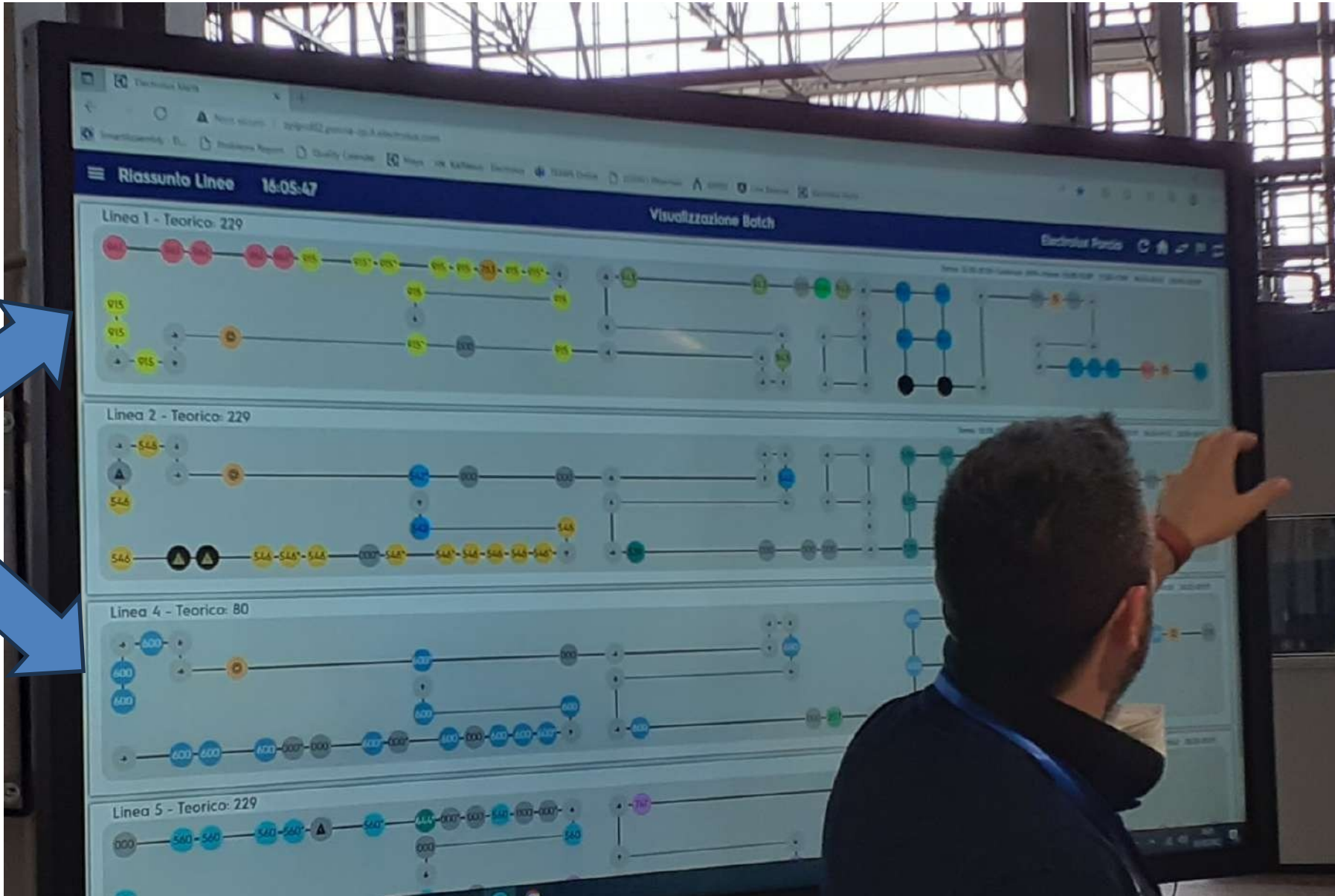


Some photos and video – Integration in the production line



3° - 4° industrial revolution

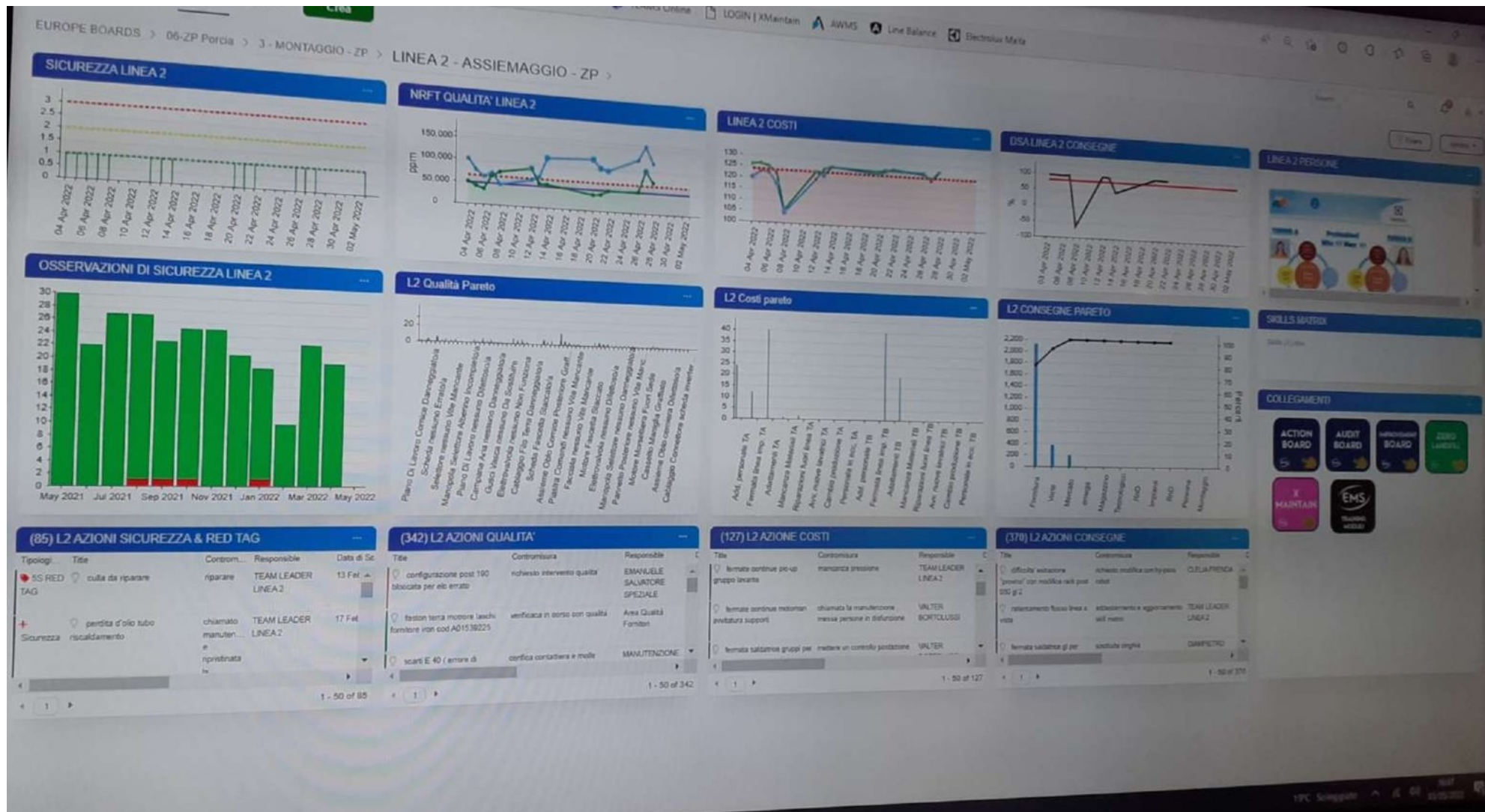
Some photos and video– Performance Board



Lines – status
of each phase

4° industrial
Revolution
(advanced)

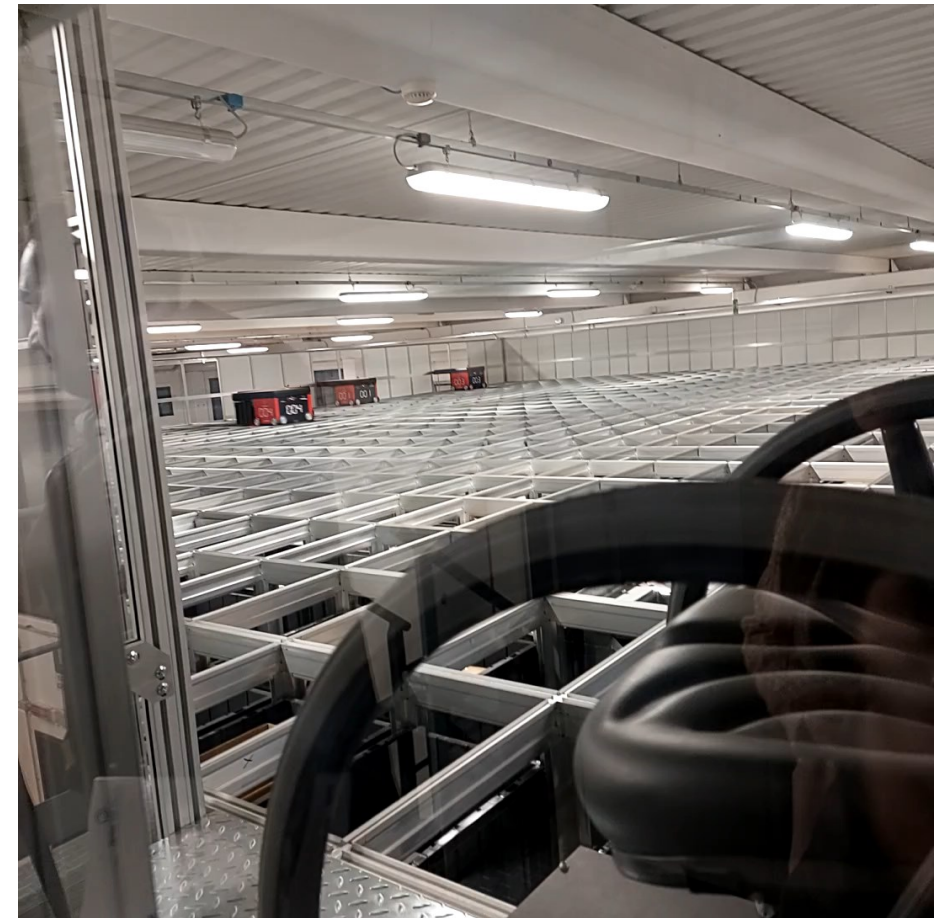
Some photos and video– Performance Board/data analytics



4° industrial
Revolution
(advanced)

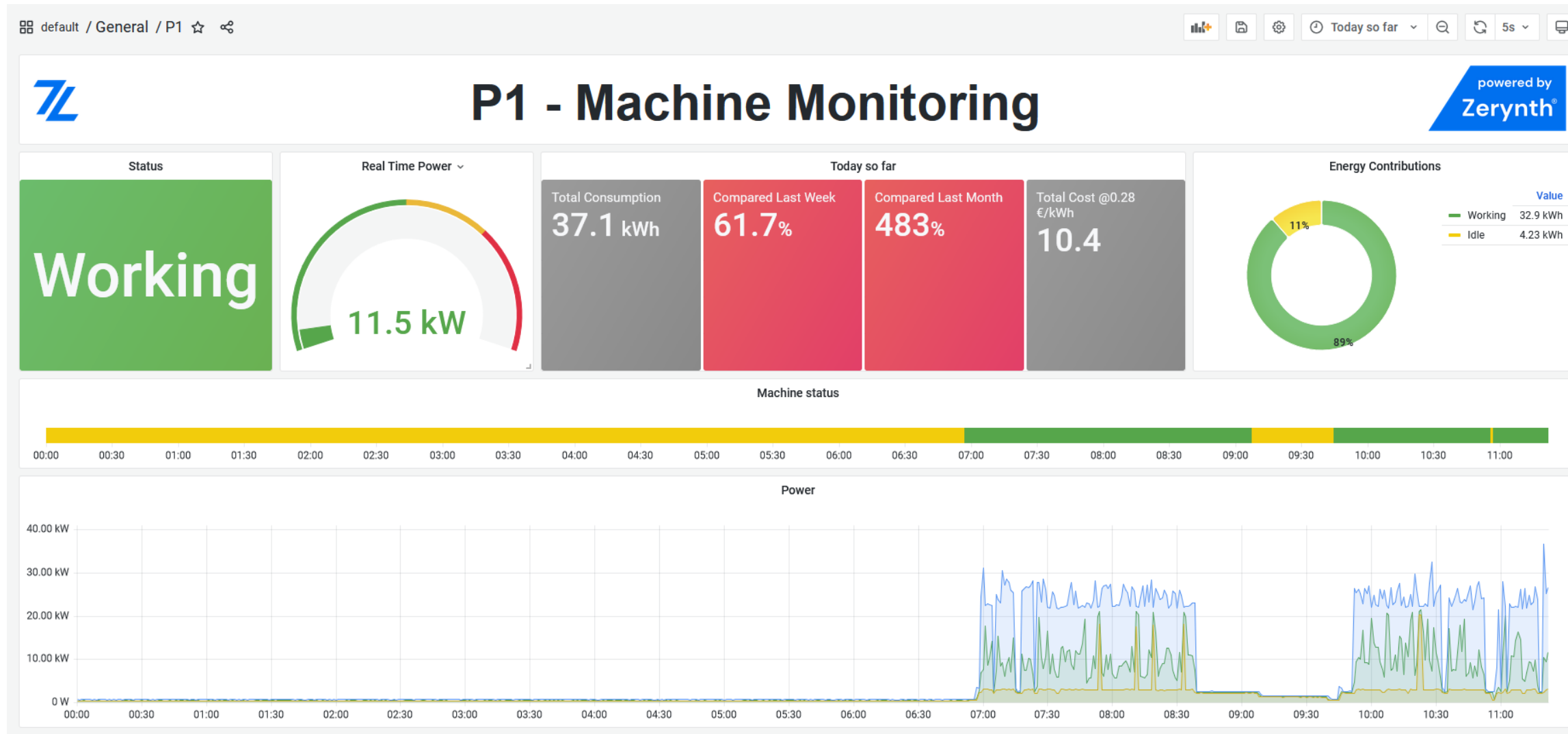
Some photos and video– AGV in the warehouse (like Amazon)

4° industrial revolution



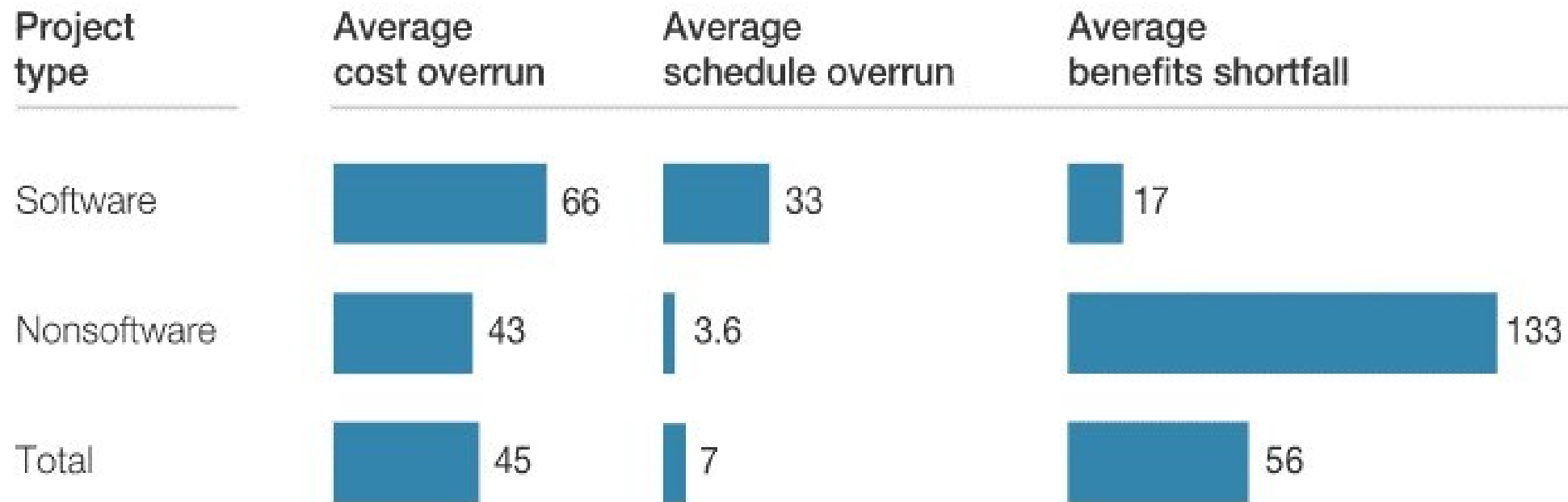
Machine monitoring – digital shadow

4° industrial revolution



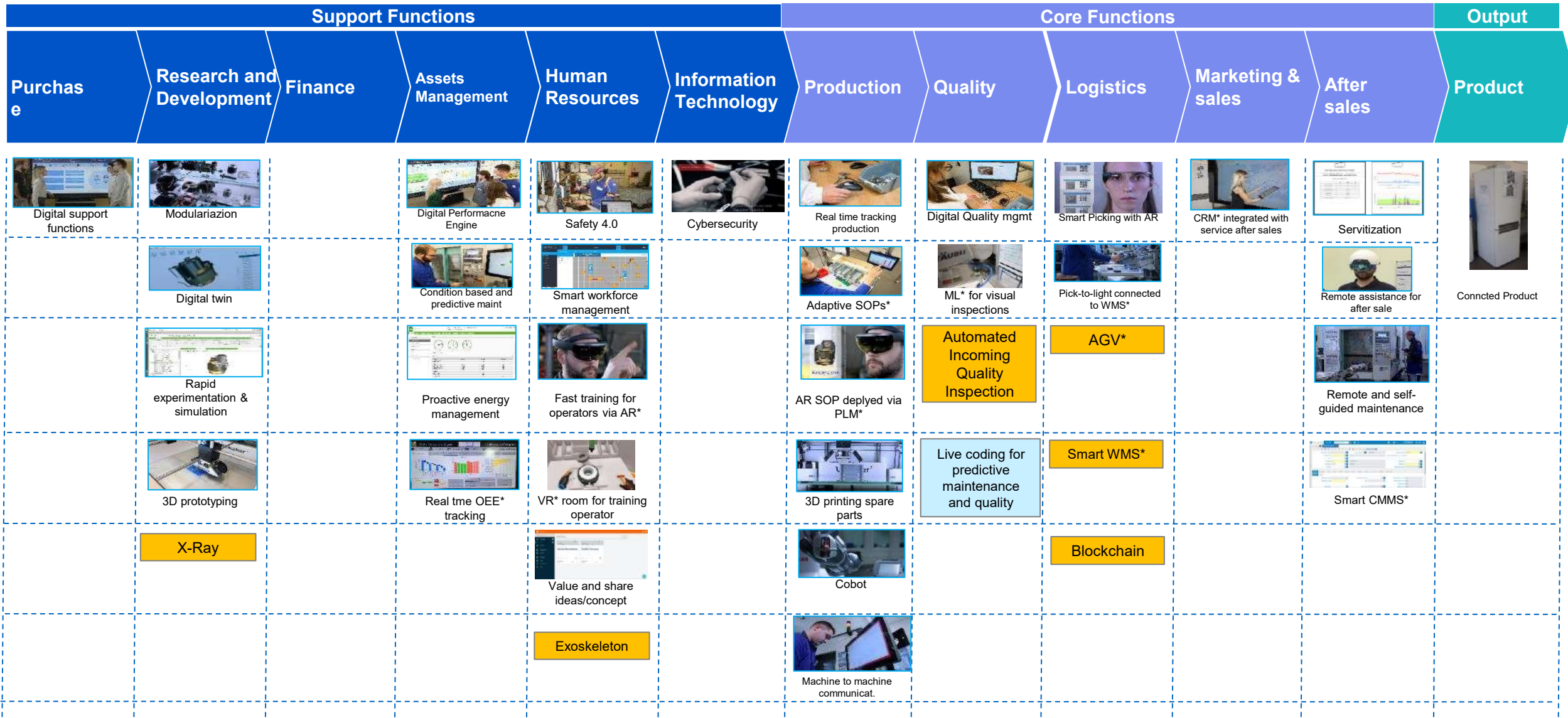
Performances of big IT projects

% of IT projects with given issue (for those with budgets >\$15 million in 2010 dollars)



Source: McKinsey–Oxford study on reference-class forecasting for IT projects

Digital Use Cases map for implementation



OEE: Overall Equipment Effectiveness è la misura di efficacia totale di un impianto
 AR: Augmented-Reality è la realtà aumentata ovvero l'arricchimento della percezione sensoriale umana mediante informazioni
 VR: Virtual-Reality è la realtà virtuale o simulata
 SOP: Standard operating procedure, procedure standard operative, insieme di istruzioni dettagliate
 PLM: Product Lifecycle Management è l'insieme delle soluzioni di business per la gestione dell'intero ciclo di vita di un prodotto

ML: Machine learning, branca dell'intelligenza artificiale che si occupa di apprendimento automatico
 WMS Warehouse Management System è un sistema software che supporta la gestione operativa dei flussi fisici dei magazzino
 AGV: Automated/Automatic Guided Vehicle sono veicoli utilizzati per la movimentazione di prodotti all'interno di uno stabilimento
 CRM: Customer Relationship Management è una strategia per la gestione di tutti i rapporti e interazioni con i clienti potenziali ed esistenti
 CMMS: Computerized Maintenance Management System è un software che supporta il sistema informativo per la gestione della manutenzione

Summary

1. Introduction: Why Digital?
2. Assessment and Projects
3. Conclusions

Conclusions

- Digitization is an opportunity to increase the competitive advantage of businesses.
- An important ecosystem to support digitization has been developed (especially in FVG), and companies are continuously seeking professional figures in this field.
- There is a latent need for technology implementation that must be rapidly transferred from universities and tech providers to businesses, and the Technology Hub is an accelerator of this transfer!

Digital Bibliography Fornasier – Industry4business.it

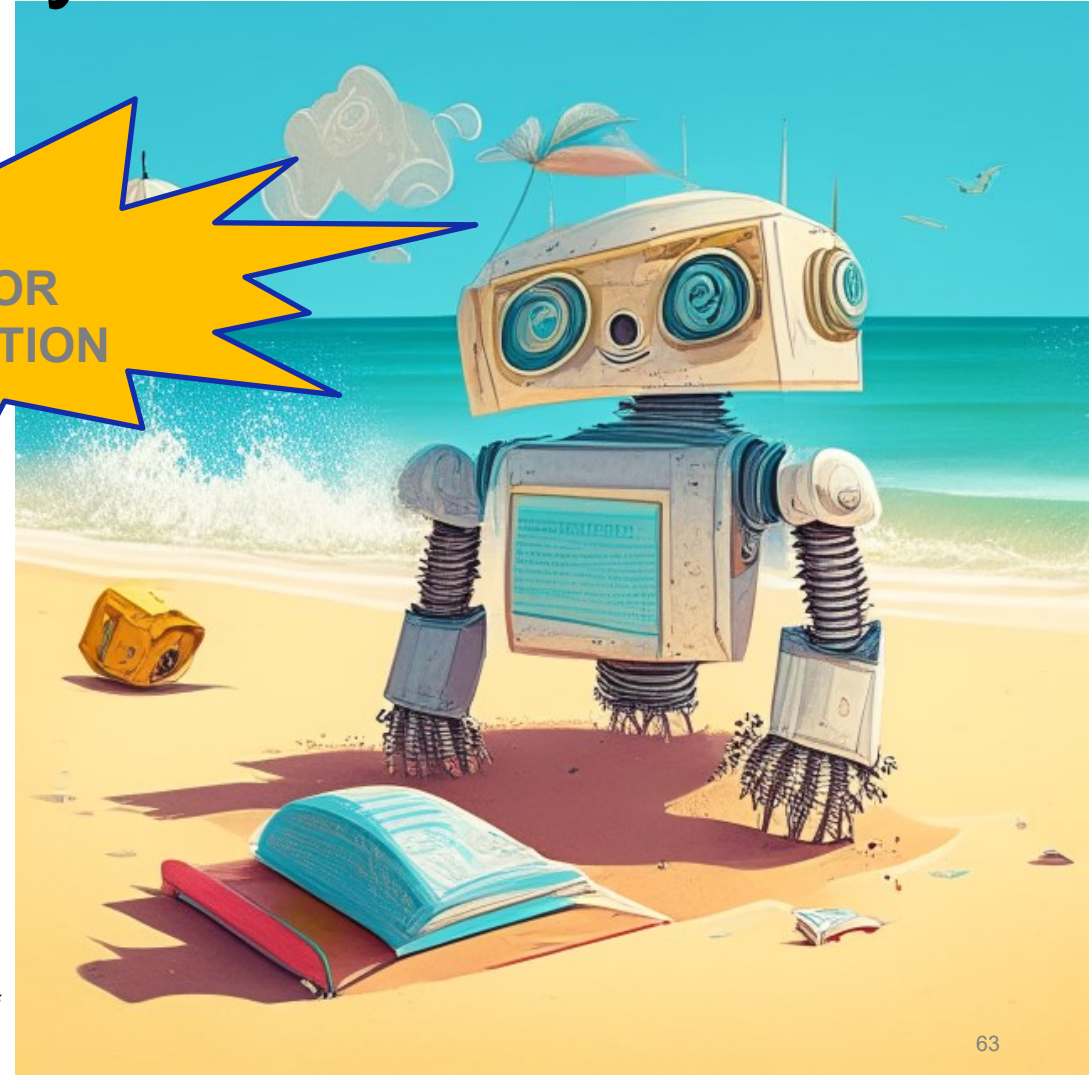
Focus Articoli	Link riferimento
Digital Projects	https://www.industry4business.it/esperti-e-analisti/cantiere-digitale-il-modello-per-accelerare-i-progetti-di-digital-transformation/
Lean and Digital	https://www.industry4business.it/industria-4-0/lean-e-digital-motori-dellefficienza-operativa-aziendale/
Fari Manifatturieri FVG	https://www.industry4business.it/industria-4-0/le-imprese-del-friuli-venezia-giulia-alla-sfida-della-digitalizzazione/
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Digital Transformation Journey – Q&A

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QR Code LinkedIn
profile



*"Computers are incredibly fast, accurate, and stupid.
Men are incredibly slow, inaccurate, and intelligent.
The combination of the two constitutes an incomprehensible
force."*

Albert Einstein