



POLITECNICO
MILANO 1863

TRANSFORMATIVE CAPABILITIES

Perché il PhD Industrial è la risposta

4 Giugno 2020

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COVID 19 | Accelerazione della consapevolezza

- **Covid 19.** Ha accelerato la consapevolezza: chi non interpreta e agisce il cambiamento non ce la farà
- **Incertezza.** Sempre più fonti e effetti sempre più interconnessi

Artificial
intelligence



Climate
Change



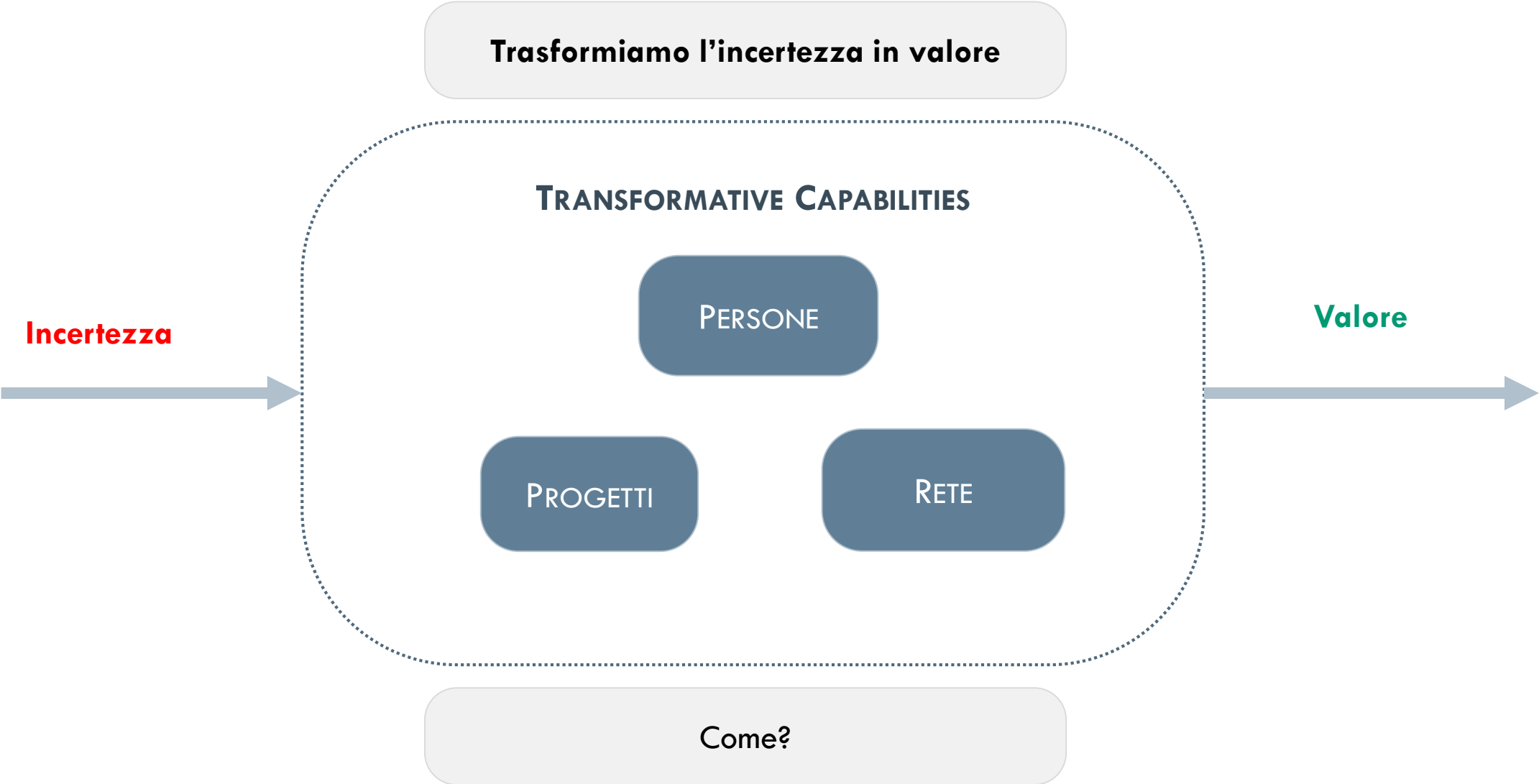
Geopolitical
risks



Block chain and
Fintech



Trasformative Capabilities | Tre Pilastrri



Trasformative Capabilities | Nuovo percorso PhD Industrial

La School of Management del Politecnico di Milano ha lanciato un nuovo percorso **CON** e **PER** le organizzazioni

Passato

- Persone
 - **Poca chiarezza** sui piani di sviluppo dei PhD
- Progetti
 - Legame **non definito** con **obiettivi** organizzativi
- Rete
 - Lasciata all'individuo e **non capitalizzata** internamente

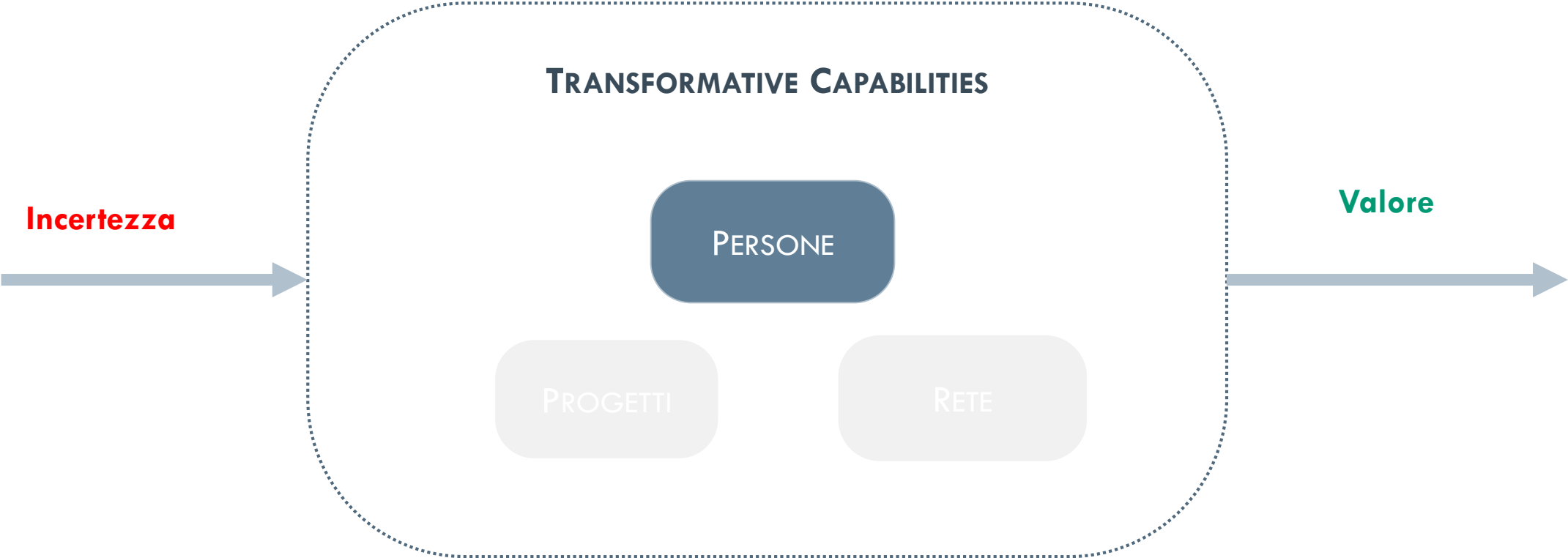
Ora

- **Definizione congiunta e strutturata** dei piani di formazione e sviluppo
- Temi e aree progettuali **definiti con l'organizzazione**
- **Capitalizzazione delle rete** come «**asset**» per l'organizzazione

VOI e POLIMI assieme in un percorso di lungo periodo

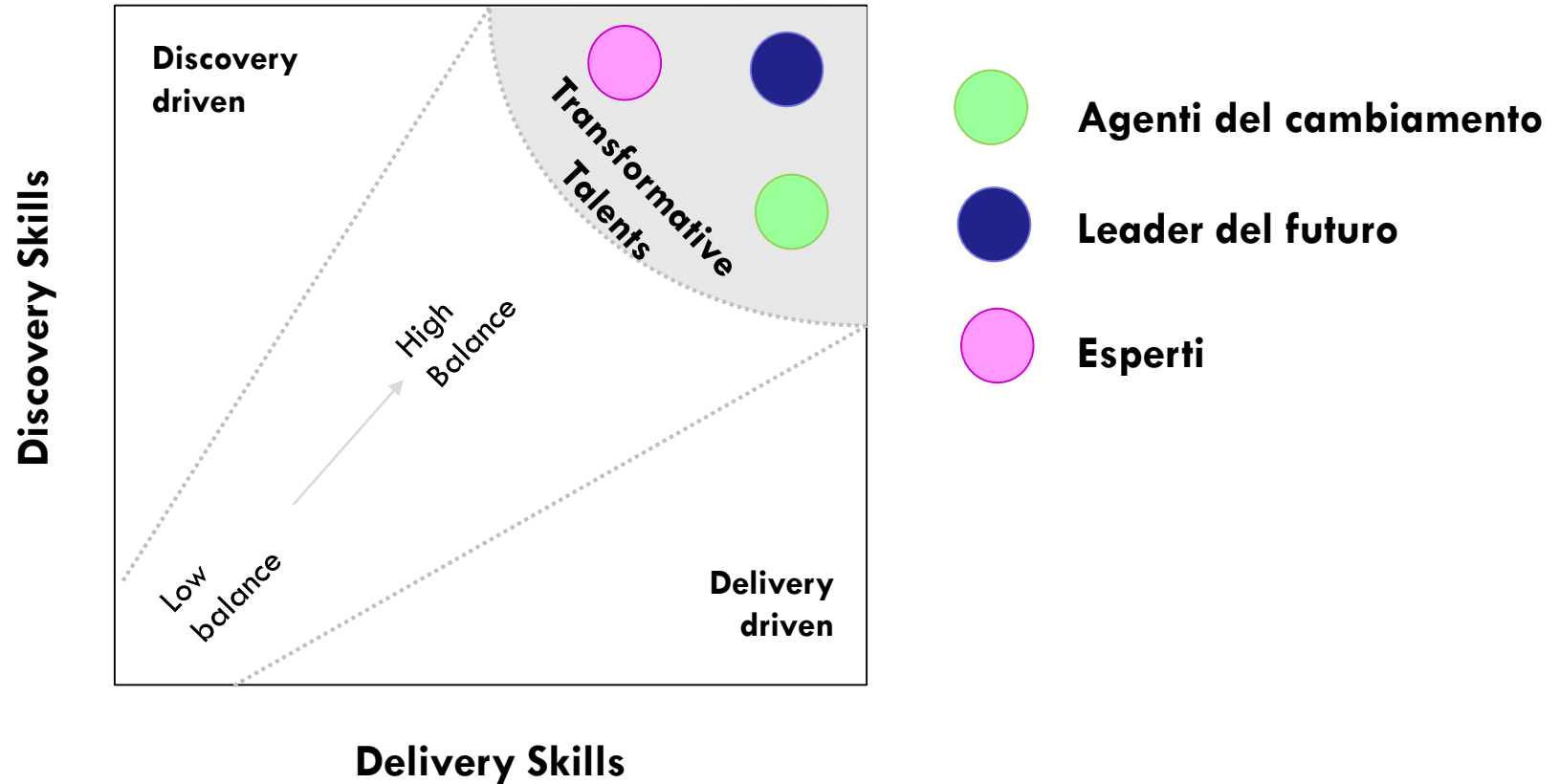


Trasformative Capabilities | Tre Pilastrri



Persone | Una squadra di Interpreti del Cambiamento

A chi è diretto il PhD Industrial? Tre tipologie di talenti trasformativi



Gli Interpreti del Cambiamento

Agenti del cambiamento

- **Neolaureati**
- Sviluppo capacità di **esplorazione** ed **esecuzione**
- Creazione di **output, sistemi e metodi** specifici

Full Time
(3 anni)

Leader del Futuro

- **3-4 anni** di esperienza in azienda
- Sviluppo capacità di **leadership** per il cambiamento
- Creazione di **modelli** e **rete** per il futuro

Part Time
(4 anni)

Esperti

- **Senior**
- **Canalizzare** passione, rete e esperienza per innovazione
- Capitalizzazione **conoscenza verticale** e rete personale



Persone | Formazione personalizzata

- Il percorso di formazione dei PhD viene definito in modo personalizzato con l'organizzazione:
 - Coerenza con i percorsi di sviluppo interni
 - Sinergia con la formazione corporate
 - Tempificazione coerente con i tre profili
 - Creazione di capacità esplorative e implementative per i progetti

Questioning

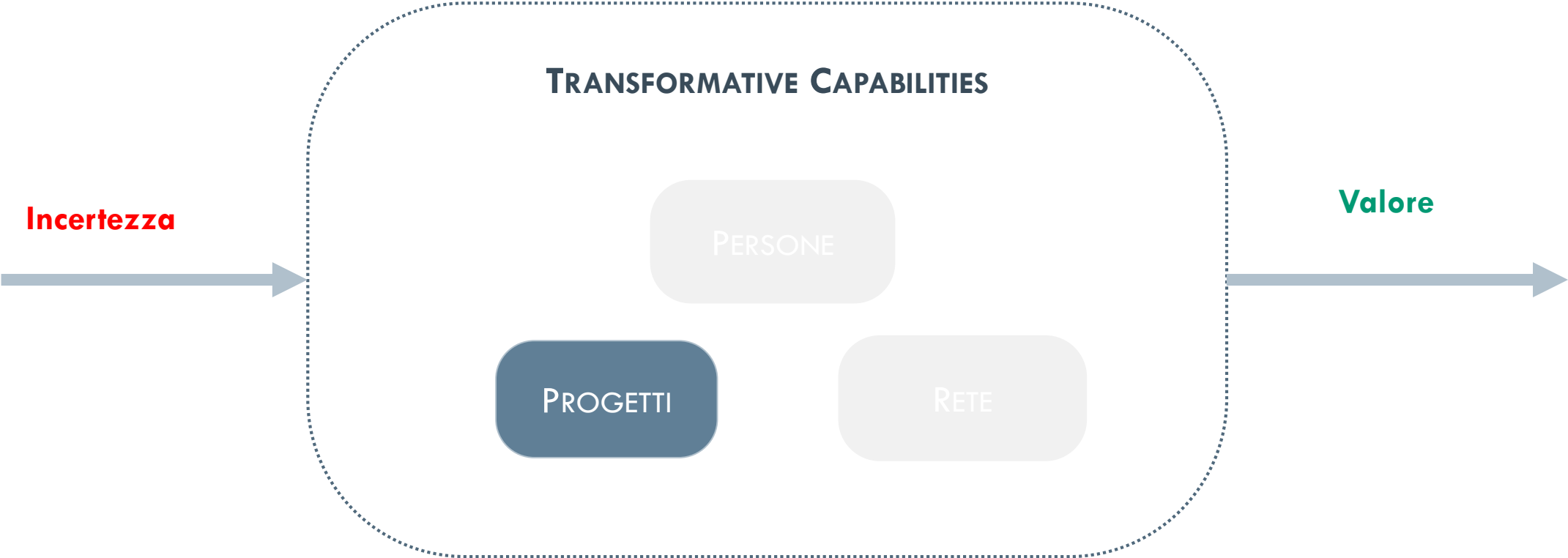
Observing and
experimenting

Knowledge
Consolidation

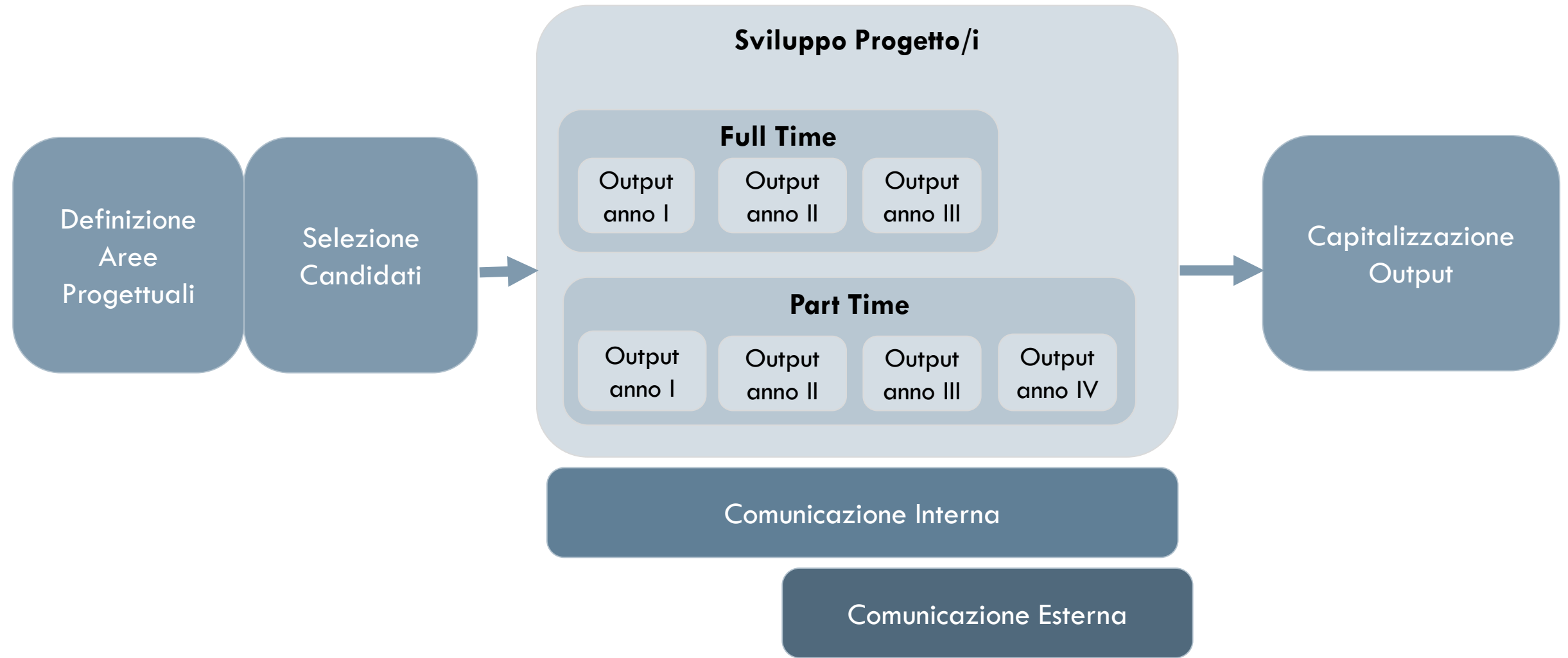
Communication
and Networking



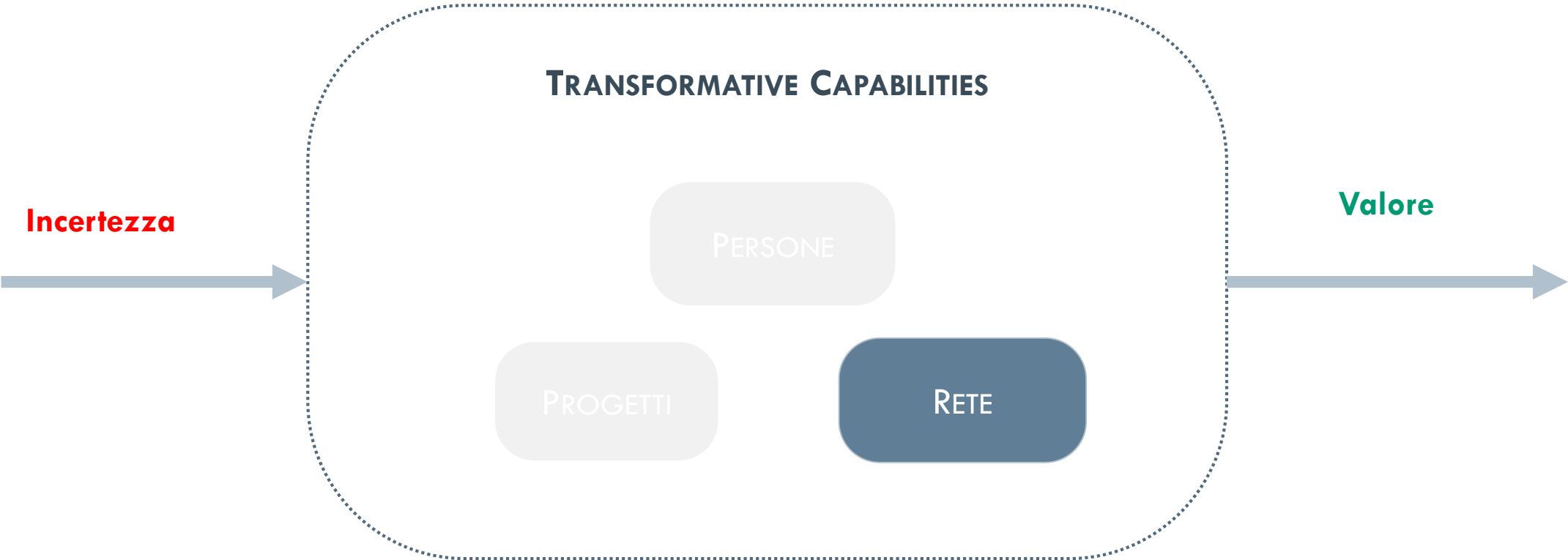
Trasformative Capabilities | Tre Pilastrri



Progetti | Un percorso congiunto e strutturato



Trasformative Capabilities | Tre Pilastrri



Rete | Dall'individuo all'organizzazione

- La partnership PhD Industrial offre l'accesso alla rete POLIMI

Docenti e Ricercatori	Asset Ricerca	Rete internazionale	Finanziamenti
<ul style="list-style-type: none">• Stimolo innovazioni• Input da parte vostra su sviluppi futuri	<ul style="list-style-type: none">• 50+ Laboratori• 40+ Osservatori• Database e risorse elettroniche	<ul style="list-style-type: none">• Università e centri• Periodo all'estero• Conferenze internazionali	<ul style="list-style-type: none">• Progetti UE• Progetti Nazionali• Partnership• Advocacy



Risorse necessarie | Un investimento ad alto ritorno

Attraverso borsa di studio Full time (3 anni)

- Target: junior non dipendenti (neolaureati)
- Costo organizzazione: 27.000€ /anno
 - **Deducibile fino al 50%**
- Valore borsa per candidato: 1.450€/mese
- Budget aggiuntivo per missioni e conferenze
- Investimento complessivo su 3 anni: 81.000€

Attraverso Fee Part time (4 anni)

- Target: dipendenti
- Costo organizzazione:
 - Fee anno 1 e 2: 8.000€/anno
 - Fee anno 3 e 4: 4.000€/anno
- 1.500€/anno tornano al candidato come budget di ricerca (missioni e conferenze)
- Investimento complessivo su 4 anni: 24.000€

https://www.dona.polimi.it/sites/default/files/img_banner_home/Circolare_POLIMI_Credito_imposta_liberalita_AGG_07032017.pdf



Contatti

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CHI SIAMO



Politenico di Milano | Alliance with an outstanding Technical University

Founded in 1863 Politecnico di Milano is the largest school of architecture, design and engineering in Italy.

It is ranked:

- 1st in Italy and 149th in the world
(*QS World University Rankings 2020*)
- 20th in the World, 7th in Europe and 1st in Italy
(*QS World University Rankings by Subject 2020 - Engineering and Technology*)
- Among the top 20 universities worldwide
(*QS World University Rankings by Subject 2020*):

6 DESIGN
7 ARCHITECTURE
20 ENGINEERING



School of Management (SoM) | Taking part in a responsible mission for innovation

Vision and Mission

Vision. We envision a world where responsible leaders are driven by the search for collective benefit empowered by technological enlightenment.

Mission. The mission of the School of Management (SoM) is to contribute to the collective good through a critical understanding of the opportunities offered by innovation.

People

200 + professors, researchers and analysts addressing key matters of digital innovation in companies and public authorities

4,900 students on degree programmes

1,500 scientific contribution in the last five years

Observatories in Digital Innovation

40+ Observatories in Digital Innovation to study and analyze the challenges and opportunities that digital innovation offers to companies



ESEMPI DI PROGETTI



Building a Total Cost of Ownership model to support asset lifecycle management

- **Challenge:** guiding investments decisions on complex industrial systems through lifecycle orientation
- **Goal:** developing an engineering methodology for building up a Total Cost of Ownership (TCO) model that can support asset-related decision making in a production company
- **Research design:** the project was based on modelling and simulation and action-research, in fact the PhD student actively participated to firm's projects on the topic.
- **Results:** an innovative methodology for building up a “performance-driven TCO model” tested in industrial plants in process and manufacturing industry.



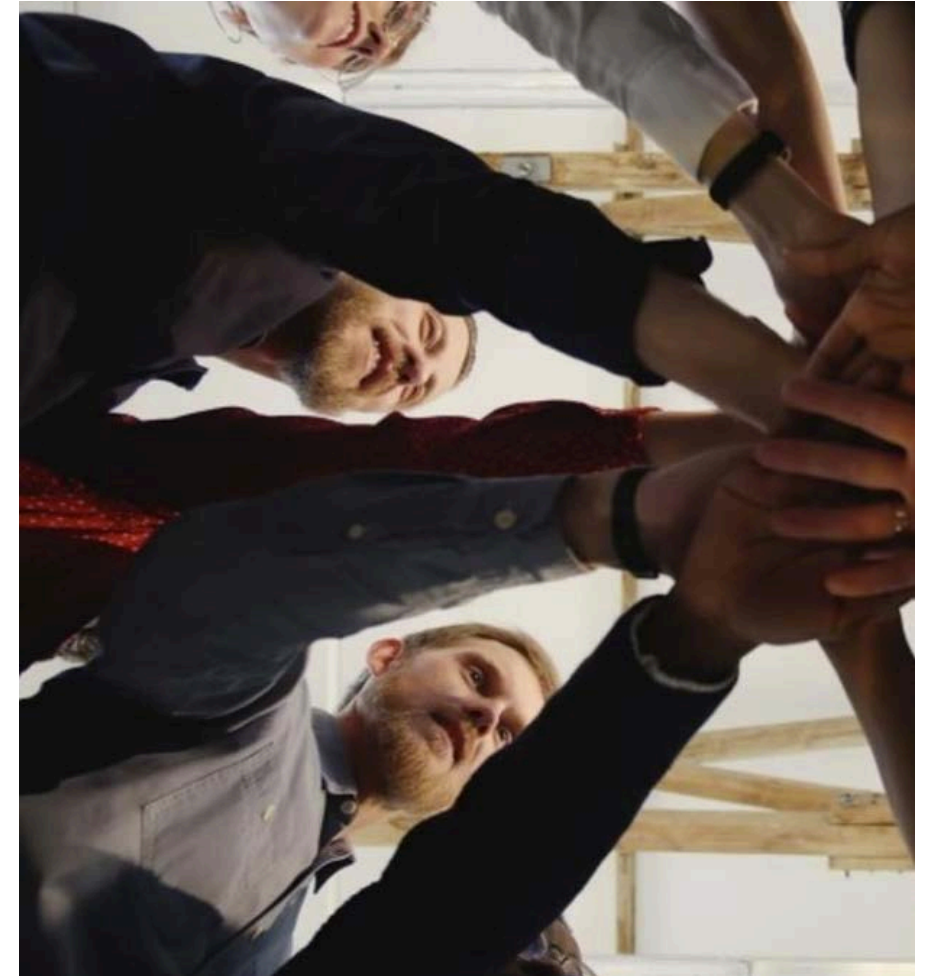
<https://www.pexels.com/photo/view-of-factory-against-blue-sky-257700/>

Contact Point: Irene Roda



Deep Analytics for Employee Engagement

- **Challenge:** In a context where 'change' and 'adaptation' have become new imperatives, organizations need to count on engaged employees Development and piloting; however only 16% of employees are fully engaged
- **Goal:** support organizations and HR managers in measuring and fostering the engagement of their employees, adopting an innovative approach that leverage on the potential provided by Big Data and Analytics
- **Research strategy:** action research in several big National firms with the support of a multidisciplinary team of management engineers, data scientists, psychologists and relying on several data points (wearables, logs of corporate information systems, tailored apps, social media footprints, etc.)
- **Output:** development of innovative methodologies for assessing and improving engagement

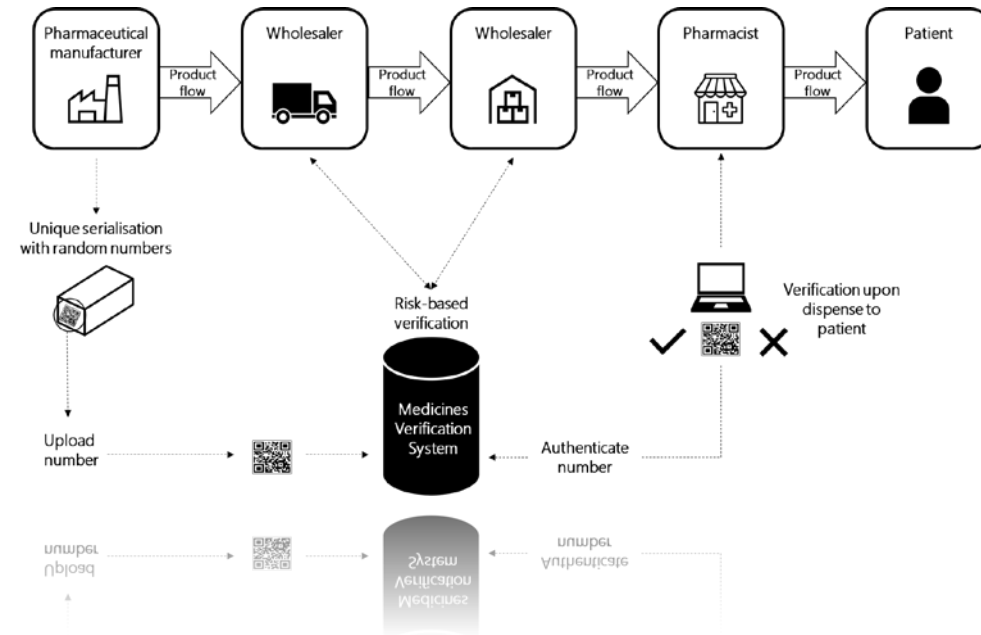


Contact Point: Luca Gastaldi



The Implementation of the EU Falsified Medicine Directive

- **Challenge:** Falsified medicines are a threat to the health of patients, so the EU has introduced a directive that requires the entire pharmaceutical industry (involving manufacturers, distributors, hospitals and pharmacies) to serialize and trace all drugs from production to dispensing, with a common system.
- **Goal:** the research aimed to investigate drivers, barriers, contingent factors, implementation practices, costs and benefits of the new directive, with a multi-stakeholder perspective.
- **Research design:** The research focused on three multi-stakeholder case studies, considering the pharmaceutical sector of Ireland, Sweden and Spain, and an Insider Action Research within the European Federation of Pharmaceutical Industries and Associations (EFPIA).
- **Results:** The research identified the critical activities required for the successful implementation of the directive, aligning the goals of the various stakeholders involved and overcoming the barriers.



Contact Point: Federico Caniato



Smart Work, Serendipity, and Corporate Entrepreneurship

- **Challenge:** The post Covid-19 era is going to spur remote smart working, while innovation discovery processes often rely on (casual) physical interactions and serendipitous dynamics.
- **Goal:** developing and testing new tools and modalities for findings new ways to enact and fuel serendipitous opportunities to collaborate among members of the company so to fuel corporate entrepreneurship performance.
- **Research strategy:** Literature review on the state of the art in the 3 different domains involved (smart work management, innovation processes, corporate entrepreneurship techniques), qualitative analysis (e.g. interviews and case studies) and quantitative analysis (e.g. experiments and randomized control trials within the firm).
- **Output:** New methods, policies and techniques to sustain innovation and corporate entrepreneurship performance of the company in a smart-working environment.



Contact Point: Luca Grilli



Valuing diversity in the Covid-19 emergency

- **Challenge:** The Covid-19 emergency is challenging organizations to find new ways to value diversity and inclusion. This holds particularly true for women, who have experienced a sudden increase in their family workload
- **Goal:** developing and testing new tools and modalities for finding new ways to value diversity so to increase employees' productivity and ultimately organizations' success.
- **Research strategy:** Literature review on the 2 main research domains (diversity and inclusion in the workplace and diversity management in emergency), qualitative analysis (e.g. interviews and case studies), and quantitative analysis (also through data analytics techniques for collecting secondary data).
- **Output:** New methods and policies to value diversity, promoting employees' performance, and ultimately firms' success.

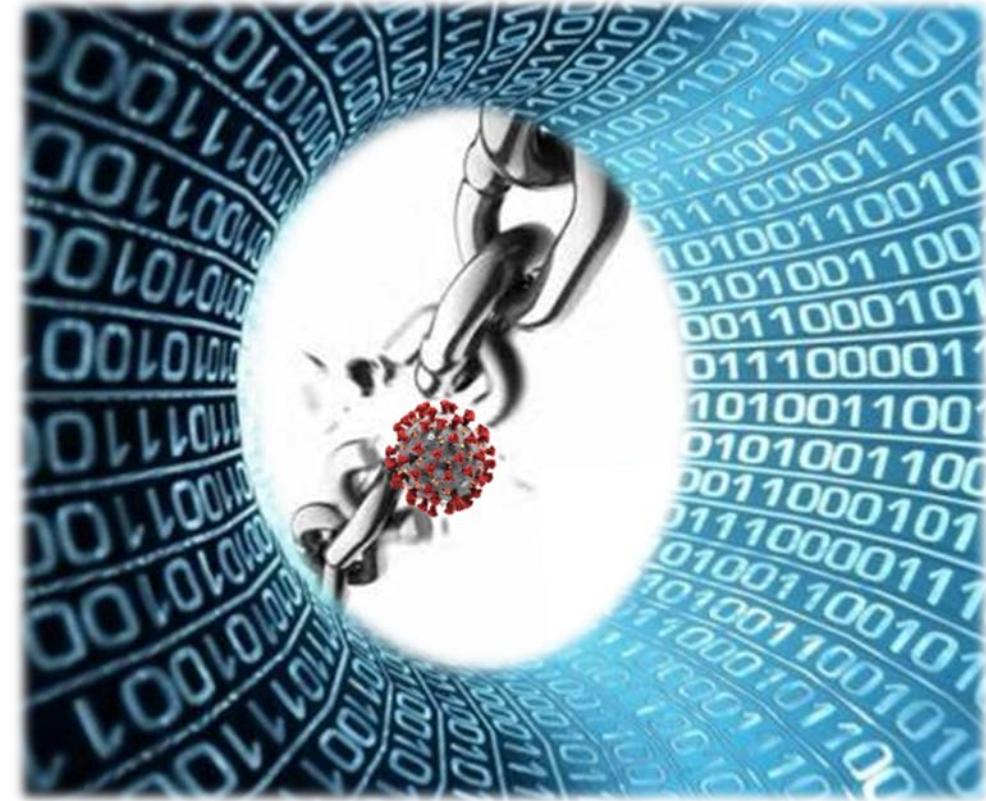


Contact Point: Cristina Rossi and Mara Tanelli



Leveraging Artificial Intelligence for building Supply Chain Resilience: surviving COVID-19 and beyond

- **Challenge:** Accelerating Supply Chain transformation to become more agile and flexible in processes, systems and people as a consequence of COVID-19 pandemic
- **Goal:** Developing Dynamic SC Risk Assessment (DSCRA) through AI, and integrate it into a coherent resilience strategy and framework
- **Research strategy:** Design-based research with a pilot in the 3-tiers supply chain of the partner company
- **Output:** Development and piloting of the new DSCRA tool and related resilience framework (processes, systems and people)

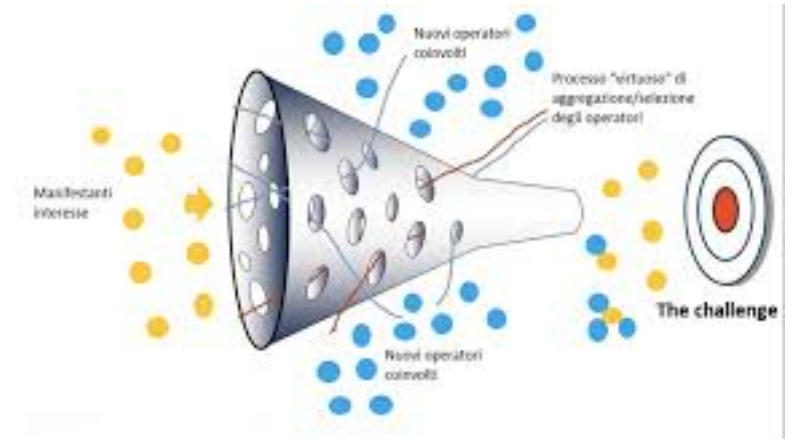


Contact Point: Paolo Trucco



Open innovation in the Covid-19 emergency

- **Challenge:** The Covid-19 emergency is challenging firms to innovate for regaining their competitive advantages. However, firms' internal resources fall short in enacting effective innovation processes. In such a framework, open innovation can play a crucial role. However, social distancing and remote working complicate open innovation processes.
- **Goal:** developing and testing new tools and modalities for helping firms to engage in open innovation during the current COVID-19 emergency.
- **Research strategy:** Literature review on the 2 main research domains (open innovation and collaborations in emergency settings), qualitative analysis (e.g. interviews and case studies), and quantitative analysis (also through data analytics techniques for collecting secondary data).
- **Output:** New methods and policies to value diversity, promoting employees' performance, and ultimately firms' success.



Contact Point: Cristina Rossi

