

KNOWLEDGE PLATFORMS
AND RESEARCH LABS

**RESEARCH
REPORT 2023**



THE FUTURE MUST ALWAYS BE IMAGINED AND SOUGHT



The research activity and its continuous dissemination are the destiny and duty of a School of Management. It may seem like a strong statement but this phrase expresses in the most appropriate way the sense of the challenges and times we are experiencing and that allows us to guide to the future with the strength and passion that distinguishes SDA Bocconi.

Higher-education, applied research and the growth of people are closely linked and forward-looking. There is no growth in people's lives if the gaze is not turned to the future and when the gaze is no longer able to grasp the future, growth stops, it no longer affects and it no longer has an impact on the surrounding society. Growth is not a solitary act but a path, which becomes more exciting if done with good travel companions. In this sense, growth, training, applied research, relationships and sharing are closely linked. We must therefore have the desire and ambition to talk about the future every day. This is the ambition of every School of Management, this is definitely the hallmark of our School of Management, SDA Bocconi School of Management.

To understand what it means to speak and plan the future every day, we need to reflect on the two simple words - so simple to seem obvious - that are found immediately after SDA Bocconi, that is "School" and "Management".

The concept of "School" is a concept of community and continuous construction. In a world where research, knowledge and education are seen as an act of consumption, which materializes - and is likely to run out - in the very short moment of a download, the concept of "School" is exactly the opposite in that it is not confused with the learning tool - physical or digital, synchronous or asynchronous - but is clearly above the available tools and offers a meditated synthesis, at the service of the community, and built with the support of diverse interlocutors who interact with each other, from faculty, staff, students, alumni, companies and institutions that meet every day on our campus. The quality and intensity of relations become the quality of the School and the energy to continue on its way.

The concept of "Management" is at its root a concept of responsibility. Management means guiding men and women, resources and organizations. It's an act of responsibility by definition. It is devoid of sectorial affiliation, as it crosses institutions and organizations with profoundly different characteristics: from listed companies to private ones, from small to large, from public to non-profit sector. If responsibility is the deepest nature of management, its attitude today must be that of transversality. Knowledge and therefore management can no longer be placed in predefined areas, in vertical silos that define their own rules and aspire to perfection, which becomes self-referentiality and closure. The marketing silos, the finance silos, the technology silos and so on. Vertical perfection becomes complacency and then only leads to dryness and inability to think about the future every day.

The task of a School of Management is to ensure the highest level of vertical understanding, knowing well that "teaching" or "doing" management actually means destroying vertical silos with the force of creativity, with the courage to always get out of your comfort zone, with the will to always advance those vertical knowledge that are then questioned. But it also means identifying and welcoming new vertical silos, new disciplinary areas that were not even imaginable: from artificial intelligence, to cybersecurity, to the space economy and to what is to come, that today we cannot imagine but that we are certain that it will come. SDA Bocconi in management has always seen the transversality that passes from companies, to public administrations and financial intermediaries. This transversality today is leading the SDA to have a broader spectrum ranging from geopolitics themes to data sciences and AI, because businesses, institutions and financial intermediaries demand this to understand the world and face their challenges.

The knowledge platforms that the School has created go exactly in this direction and are the inexhaustible force that continuously links the drive for innovation, the drive for vertical understanding within the disciplinary field, the push to transversality that is the necessary condition in order to understand the complexity of the scenarios that every business decision-maker must observe. But above all, without research the ability to affect with the activity of higher-education dries up and becomes a ritual. The nature of being a School is to continually strengthen the bridge between the needs of companies and institutions and the ability to always look to the future.

The challenges of the School become the collective challenges, the knowledge that is produced through research is a collective and community act, which then brings initiative, enthusiasm and benefit to individuals but remains a strongly collective act. This is why our School has the task of helping individuals and organizations to think about the future every day. Not to deny the present but to live it more intensely and with greater responsibility. This is the responsibility of the manager and is the hallmark of the leaders, who are formed in our classrooms. It is the perfect link between the School and its community, between the programs that we develop every day with passion and the participants, between the content of our training and the task of the manager. This is why the School does not offer a solution but builds the possible solutions through the extraordinary experience of many colleagues who direct our programs and live every day with those who have or have the ambition to have the responsibility of guiding men and women, resources and organizations.

The space to build the future is vast, and the School is always there whenever there is courage and a desire to design innovative solutions. That's where we have to start if we want to give answers to the people and organizations that choose the SDA. History therefore continues and always evolves, with determination and impact.

STEFANO CASELLI
Dean SDA Bocconi School of Management
Milan, 30 October 2023



NEW VALUE KNOWLEDGE PLATFORM

The New Value Knowledge Platform conducts interdisciplinary research, focusing on the measurement and assessment of value creation. Our research spans various sectors, encompassing listed and unlisted companies, industrial firms to financial institutions, and small to medium-sized organizations to more structured ones.

Through extensive collaboration with industries and co-designed projects involving academics and research users, we address scientific research questions originating from real-world problems. We provide present and future leaders with inspiring frameworks to positively impact the economy, environment, and society, fostering value creation in the short, medium, and long term.

Innovative value creation, particularly driven by sustainability and digitalization, is reshaping business paradigms across various sectors. Companies are redefining their relationships with customers, business partners, the financial market, and communities at large, drawing inspiration from sustainability and digitalization concepts.

Embracing sustainable practices, such as eco-friendly production processes and responsible sourcing, not only fosters environmental stewardship but also appeals to increasingly conscientious investors and consumers. Digitalization, on the other hand, has revolutionized value chains, market outreach, and stakeholder engagement. Importantly, how companies relate to their stakeholders is becoming more critical than what they sell.

This wave of innovation necessitates a reevaluation of traditional metrics of value. While financial indicators remain important, there is a growing recognition of the significance of non-financial and ESG metrics, driven by new reporting regulations. Companies are increasingly evaluating their performance using a triple bottom line approach, considering not only economic gains but also social and environmental impacts.

The New Value Platform of SDA Bocconi aims to advance knowledge and influence business practices through cutting-edge, rigorous, and high-impact research at both national and international levels. This research focuses on:

- How companies embrace more comprehensive management and measurement principles, supporting ESG (environmental, social, and governance) and SDG (sustainable development goals) impact standards, to meet evolving regulatory requirements and satisfy the diverse value expectations of a broad range of stakeholders.
- Understanding responsible, long-term-oriented, sustainable finance and reimagining its role to unlock the value of sustainability and address societal problems.
- Exploring how financial institutions, including private equity investors, can create value and act as catalysts for the development of a sustainable and inclusive economy.
- Investigating how businesses innovate and adapt their commercial strategies to create new value for customers, staying ahead in the competitive market by improving the effectiveness and efficiency of their sales network.
- Analyzing how performance measurement, reporting, and risk management systems change in response to regulatory and socioeconomic shifts, the availability of new data and technologies, and the need for companies to overcome the limitations of accounting and control systems that prioritize only financial outcomes.



Ariela Caglio

Scientific Director of the New Value Knowledge Platform.

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PREM Lab

Public Real Estate Management

PREM Lab emerged as an effort to bridge the training curriculum of GePROPI (Management of Public Works and Infrastructure Processes) with the imperative to facilitate the intricate and fragmented assembly of public works and urban infrastructures, both nationally and internationally.

1. Interdisciplinary Tools
2. Public Procurement and PPP
3. Public Works and Urban Infrastructures
4. Assembly and Management
5. Innovative Management (IM/PM) for the effective assembly of urban infrastructures

1. PREM: The assembly of public real estate and infrastructure

PREM Lab focuses on real estate and infrastructural assets that are not solely private. Especially at the urban level, removing everything exclusively private reveals a significant amount of public real estate, comprising not only buildings but also various types of infrastructure. These elements, more extensive than visible, become integral to the operations of corporate organizations, including individuals, families, and businesses.

Public real estate and infrastructures no longer belong solely to public operators, predominantly in terms of public space and organization. Instead, they often exist within a mixed-variable perimeter, where private elements are increasingly intertwined with public ones. This integration is facilitated through Public-Private Partnerships (PPPs). Assembly processes are becoming more complex and strategic, impacting the economy, system efficiency, and collective well-being.

1.1

PREM Lab in figures

Urban infrastructure signifies the evolution of interventions in public works, a focal point of GePROPI's formation primarily in the last century. The establishment of PREM Lab marked a pivotal shift in the complexity of Public Real Estate Management. Numerous research projects and works by PREM Lab have delved into this evolution, with a particular emphasis on the theme of public and private partnerships in various forms. This reflects profound complexity and ongoing evolution.

45

● Institutions that commissioned research

38

● Case studies

26

● In-house presentations

61

● Reports

56

● Research initiatives

39

● Courses connected with PREM Lab (GePROPI)

5

● Annual Events

198

● Training days related to the PREM Lab

9

● Books published

1000+

● Executive training linked to PREM Lab contents (GePROPI)

2. Membership model

PREM Lab maintains a robust connection with GePROPI training courses, serving as a valuable complement, especially in the strategically complex realm of public works and infrastructure. The assembly of such projects is inherently adhoc and resistant to standardization, with evolving subjects, procedures, regulations, and management techniques.

Within this interdisciplinary environment, where applied management plays a crucial role in viewing infrastructure from diverse perspectives, training can be deemed incomplete without active research support and, in some cases, coaching. PREM Lab fulfills this crucial function.



Membership services can be grouped into three main areas:

1. CONTENTS
2. CUSTOM SERVICES
3. GENERAL RESEARCH

GePROPI courses attract executives and professionals handling significant projects. Over time, entities that have benefited from transmitting content through GePROPI have become PREM Lab members (utilizing Contents and Custom Services). Conversely, some professionals and companies first engage with PREM Lab to gain the knowledge, languages, and tools necessary to enhance their authority in project assembly.

Numerous organizations and companies continue to leverage PREM Lab for evolving complexity within ongoing or new projects, employing various formulas and procedures, including diverse PPP models. Given the extended life cycle of urban infrastructure projects and the rapid pace of environmental changes, PREM Lab's contributions remain instrumental.

Processed data reveal that those choosing PREM Lab witness a significant qualitative enhancement in governance and the ability to assemble complex public works and urban infrastructure projects. Moreover, internal knowledge generated through participation proves valuable for future project management.

Enrolling or participating in PREM Lab entitles individuals to a 20% discount on enrollment in the 'GePROPI' training course.

Category	Benefits	Description
CONTENTS	Coaching and case studies	On the basis of existing projects, the scope of knowledge transmission and operation management on individual assets is completed. Knowledge is often transmitted with dedicated focuses and micro reports or reference prototype documents.
	Research reports and results	They are presented to individual applicants (public authority, institution, company) in different phases within a governance process. Often it involves the application of custom tools and prototypes.
	Library of case studies	Each intervention ends with a case study, and together these make up the PREM Lab Library, there is a use of the contents of these cases also within GePROPI.
CUSTOM SERVICES	Vertical research projects	Upon request, customized vertical research projects are often activated at specific times individually or between two or more companies, this happens above all for the various phases of PPP management in the initial phase or in an O & M (operational & maintenance) verification.
	For homogeneous companies and with comparable maturities (e.g. PNRR)	PREM Lab has favored multi-day meetings for companies that are homogeneous by function and that can use the same loans to create a single project and synergistic growth between different but homogeneous company perimeters.
GENERAL RESEARCH	international	For two decades there has been a constant focus of international research on public works, urban infrastructures and complex urban interventions that has resulted in several publications (Reports and books). European and and international PPPs and financialization were analyzed and modeled.
	National	PREM Lab has always been characterized by research and processing of analyzes, reports, publications and books regarding public works, infrastructures, companies and processes, procedures that operate in the assembly of public contracts and public-private partnerships (PPP). For the PPP the reference was the Long Term Contract.



3. PREM Lab activities: research, meetings and dissemination, annual events

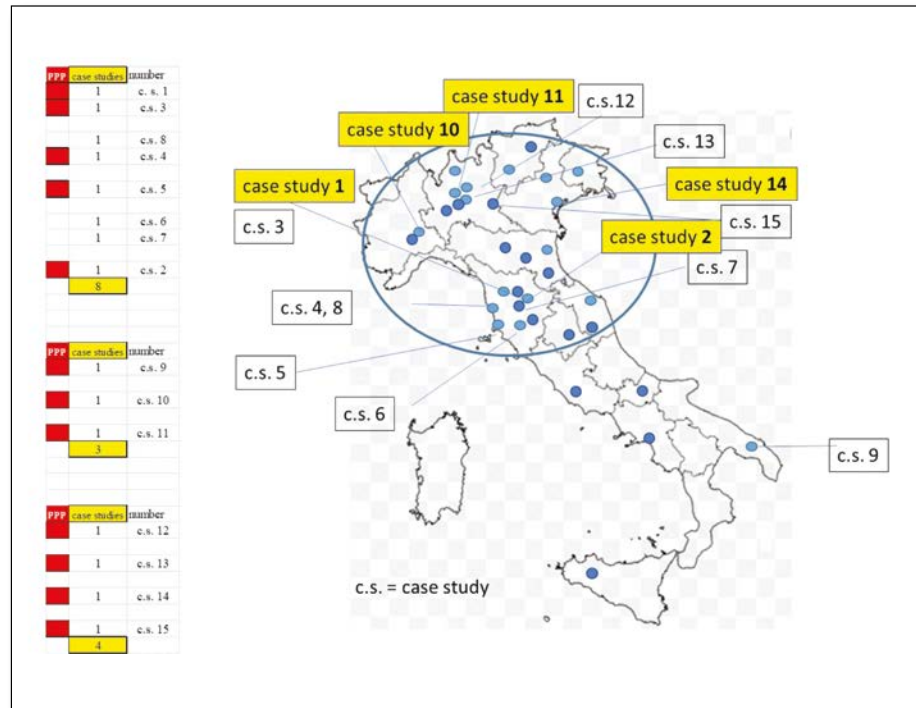
3.1 Application and Assembly

A central focus defining PREM Lab is its role in supporting the assembly of public works and infrastructures in Italy. The introduction of innovative concepts, such as the life cycle of a public work and infrastructure, first through GePROPI and then via PREM Lab, has been instrumental. The application of innovative management tools, crafted and adapted for management and project management, is particularly evident in the assembly of various public works and infrastructures.

This approach pays specific attention to the evolving needs and transformations of public actors and contracting stations, addressing different types of public works and infrastructures. These encompass a wide spectrum, ranging from hospitals, community houses, roads, viaducts, and tunnels to airports, universities, student accommodation, schools, and nurseries. It extends to civil structures, management centers for public clients or those with public majority ownership, recovery and enhancement of areas (including their sale), public lighting, energy efficiency initiatives, and complex urban interventions involving public assets, among other crucial works and infrastructures.

General Assembly

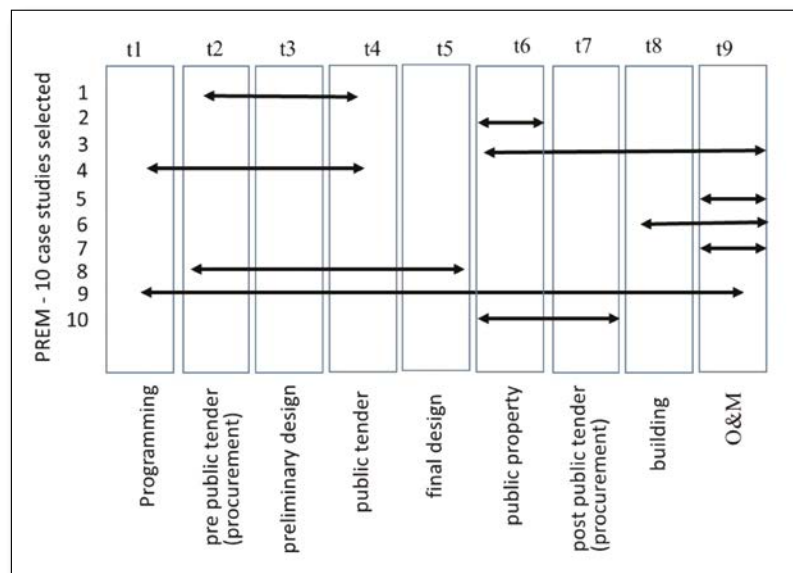
Within the assembly process (Design + Construction + Operation + Maintenance), various combinations and tools have been organized and managed, primarily by PREM Lab. This knowledge is often transmitted to public and economic operators and encompasses tender tools and procedures, management



coordination documents, operating and information systems, and diverse relationships with the project.

The activities of PREM Lab include research, meetings, dissemination, and annual events covering

aspects like finance and leasing advanced maintenance plans, and sophisticated procedures. In general, these management tools are designed to support the Design (D), Construction (C),

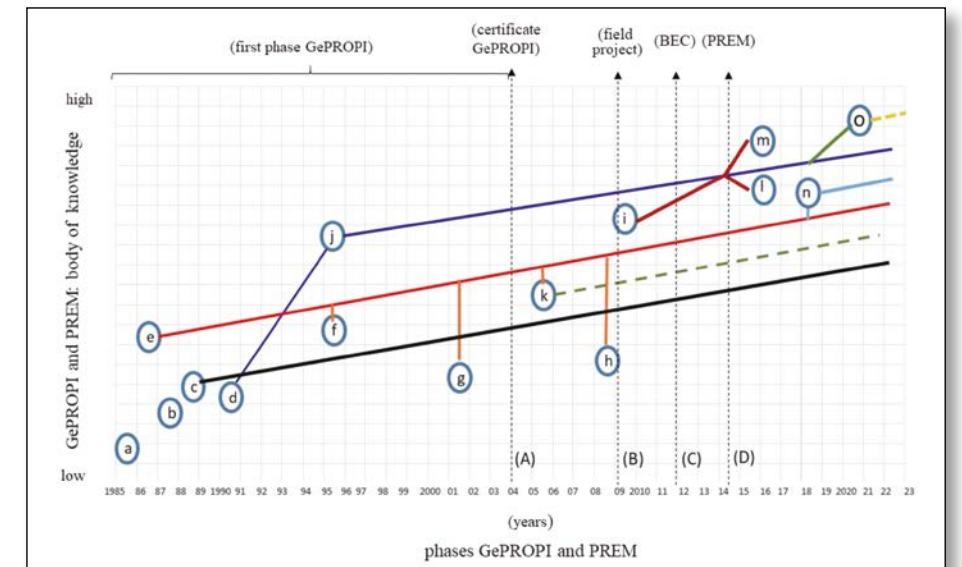


Operation (O), and Maintenance (M) phases. This includes reference to tender procedures, such as tender documents or offers; relationships with finance concerning PP and project finance; control systems for the different stages of the assembly; negotiation procedures; and competitive dialogue, among other aspects.

3.2 Sub-Assembly

The last decade coincided with a period of great change in the transition from public works to urban infrastructure and in the assembly of the same urban infrastructure. PREM Lab was involved in new topics of high complexity infrastructure assemblies.

An Observatory such as PREM Lab must be able to modify its research and in-depth fields according to the 'environmental' change without however losing its original motivations. It was about reading the change and anticipating the innovative aspects and becoming a strength and force for change.



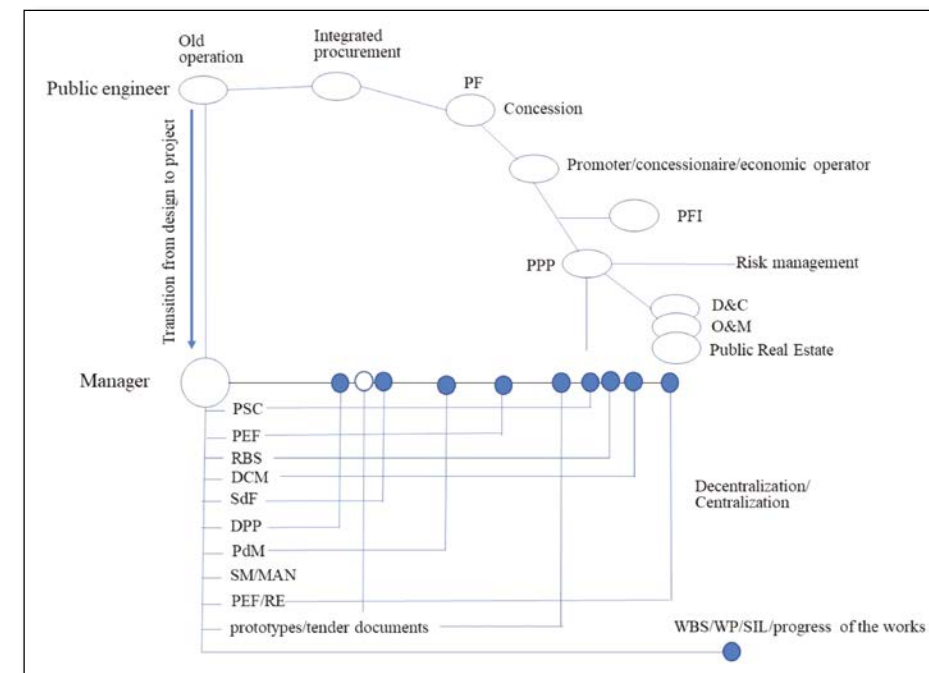
Assembly and PPP

For PREM Lab, this great change coincided with interventions using operational research and support to institutions for the creation of mixed public and private companies (PPPI), or for the verification of the removal of some traditional functions from the public perimeter and the creation of 'in house providing', some foundations or simply SPV. PREM Lab has also experimented with

new public and private partnership formulas, not only DBFOM, but also the creation of ESCo in terms of energy efficiency, or through the application of competitive dialogue or the correct project financing procedure (pursuant to Article 183 paragraph 15) An article of law, the latter, reconfirmed in the Contract code.

Assembly and PNRR (Next Generation EU)

Over the last year, PREM Lab has focused significantly on the Next Generation EU fund and PNRR. Inside the PNRR there are more missions. We intervened on some of these missions and the principle of project assembly was created as opposed to the design assembly of the pre Next Generation EU period, with various operational implications yet to be defined whether temporary or structural. In part this is linked to the possibility of making the Next Generation EU continuous by reproposing it for example. at the end of the cycle at the Next Generation EU Energy Transition. PREM Lab's support involved Universities, Regions and various companies, from the conception phase to the first assembly phases with a specific reference to management and applied project management.



4. Research report, papers, business cases

4.1 Research

PREM Lab has embarked on various project lines in recent years, primarily focusing on the following thematic areas:

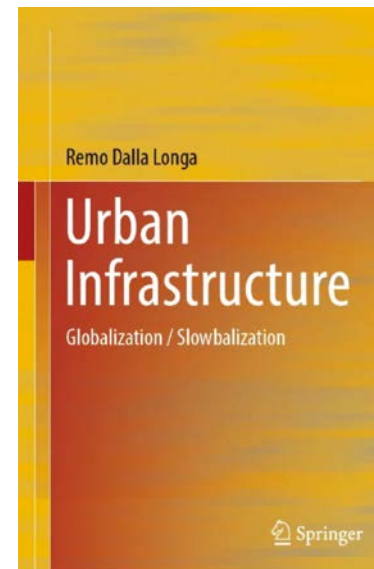
- The integration of different components within the life cycle of public works and infrastructures (addressing management, operational tools, and interdisciplinarity).
- Management of public real estate assets.
- Infrastructures and the development of multiple Public and Private Partnership formulas (off-balance, convenience, risks, new application tools, and governance).
- The applied National Recovery and Resilience Plan (PNRR) and different types of infrastructures and public works: transitioning from design assembly to project assembly.

Each research line has resulted in reports, publications, and books. Notably, there is a significant difference in the complexity when intervening in contract assembly versus Public-Private Partnership.

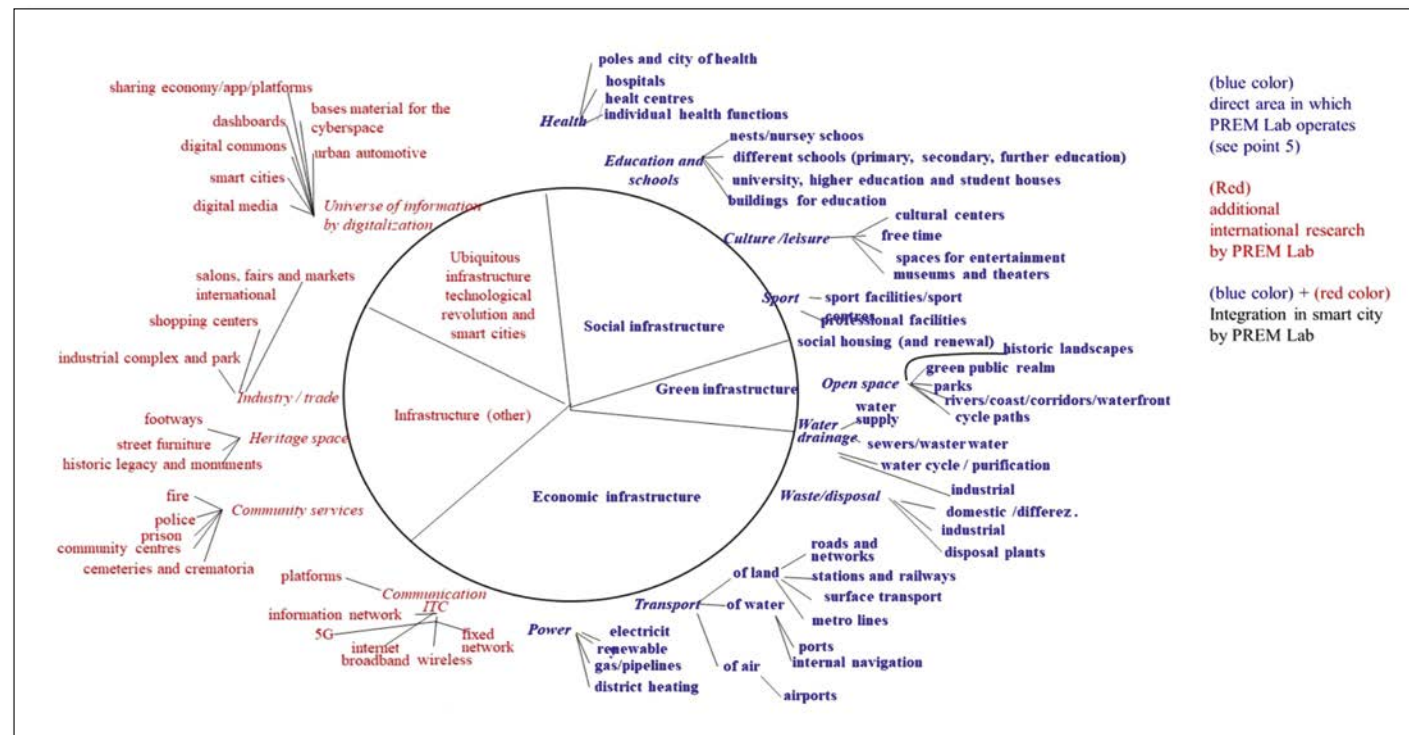
Notably, there is a significant difference in the complexity when intervening in contract assembly versus Public-Private Partnership.

On an international level, the research has covered: a) the evolution of the concept of public work toward a broader vision of urban infrastructure; b) the impact of globalization on the growth of urban infrastructure models, including the financialization integrated into new PPP forms; c) the definition of smart city models.

In 2023, PREM Lab's international research made a notable impact with the publication of the book "Urban Infrastructure: Globalization/Slowbalization,"



delving into slowbalization as the gateway to the current geopolitical phase. This work offers an interpretative and dynamic perspective on urban infrastructure within the context of globalization."



5. Vertical custom initiatives

PNRR

Mission 6 - In three Regions (Tuscany, Emilia, Molise) and Mission 5 - in support of nine Universities PREM Lab intervened to set up projects for obtaining PNRR funds in a coherent and homogeneous way (Mission...200 million out of 1 billion) and to set up the procedure for organizing and engaging in the design and construction of 'Community Homes', 'Intermediate Hospital', 'Safe Hospital' for more than one hundred million euros.

Review of PPP contracts

University Hospital of Florence. The reference is to a trigenic production plant in which the public operator and the economic operator were involved and a large portion of the contract was revised with a new transmission of risks and new control and verification systems - Veneto Municipality Swimming facility, gym and wellness center.

PPP and energy efficiency and creation of ESCo

Municipality of Sondrio. The reference is to public lighting; to 10 hospitals in the Tuscany Region where the EPC is applied. To the public lighting of 6 municipalities and the schools of 15 municipalities in the Puglia Region through partial financing from the EIB (European Investment Bank).

Other forms of PPP and different assembly stages

Milan, city of health. The reference is the recovery of a PPP capable of absorbing a significant quantity of resources and preparing them to unblock them; The four Tuscan hospitals (Prato, Pistoia, Massa, Lucca) the verification of evident critical aspects of the PPP and proposal of corrective measures. ASL Livorno and setting up the creation of a new hospital in PPP. Venice (Veritas Group) leasing creation of the corporate headquarters.

Alternative forms of PPP

Florence (University Hospital of Florence) activation of a PPP focused on the prevalence of supplies over works and services with the presence of all three components.

Some interventions on the construction of infrastructures (social and economic)

Parma (airport) modernization of the airport; Pisa new hospital in Pisa and disposal and reuse of the old hospital in real estate. Models of assembly and reuse, through innovative forms of PPP, of resources deriving from the decommissioning of the old hospital and reuse of this for the new one through innovative procurement and PPP procedures.

Enhancement of real estate assets

Brescia infrastructures alternative models for the enhancement of the entity's assets - Autonomous Province of Bolzano (Laimburg) new institutional arrangements and enhancement of real estate and production assets through PPP formulas. Florence (enhancement of the real estate assets of Florentine museums and forms of concession of services relating to the Uffizi museum in Florence).



Network

The foundations have been laid for the creation of a permanent network on the assembly of infrastructures, qualification of contracting authorities, training in which PREM Lab acquires a fundamental step for applied research



Cutting edge scientific partners.

