

PROJECT "House of Emerging Technologies - Municipality of Bologna" (CUP F39I22001840004)

COBO OPEN INNOVATION - Call 4 Tech & Solution - Second Edition

Annex 1 - CTE COBO Verticals

CTE COBO intends to focus its activities on three areas of intervention:

- 1. Industry 4.0** - by which we mean innovative solutions for the enhancement of data and its lifecycle within business processes, from manufacturing to services, from cyber-physical products to IT-OT connection and along the corporate supply chain, along the entire product/service lifecycle, to improve effectiveness and efficiency but also in terms of supplier and customer relationships.
- 2. Cultural and Creative Industries** - by which we mean the application of emerging technologies both in traditional arts venues (visual arts, performing arts, literature, music) and in design, fashion, crafts, cultural heritage, tourism and urban reactivation, publishing, communication, and new media.
- 3. Innovative urban services** - intended as innovative solutions for managing related urban services in different spheres of public administration, including public transport and mobility, energy management and distribution, public lighting, urban security, port logistics; etc., with particular reference to ecological transition, and climate neutrality.

The choice of vertical areas of intervention followed a needs analysis of the area, which deemed the areas strategic for the following reasons.



Why Industry 4.0?

Especially in a production and manufacturing context such as that of Emilia Romagna, and in particular of Bologna and Imola, supporting SMEs in the transition to a digitised industry (with process and product innovations) is a prerequisite for maintaining competitiveness and allowing the territory to grow economically, as well as a compulsory path to be able to correspond to the needs of environmental sustainability. In particular, maintaining competitiveness is a central aspect for an area that prides itself on exports: 17.5 billion export quota in 2021 (+15.9% over 2020) in the metropolitan area with increased trade balances (+13%). As part of the collaboration, the Ravenna system will focus on the use of these technologies to improve the quality of work and, in particular, to enhance safety at work by being able to access the more mature

innovation system such as that of Bologna, which is capable of accompanying a complex system such as the port towards the implementation of new technologies. On this issue, the Bologna - Ravenna axis has several contact points. These include the presence of a strong industry linked to logistics, as well as the strategic nature of the Bologna-Ravenna axis (involving the Imola area) as a key node for national mobility and access to international markets.

In relation to **Industry 4.0**, the National Competence Centre on Big Data and Industry 4.0 BI-REX is active in the Bologna area. This partner aims to accelerate the digital transformation process of companies in the Emilia-Romagna region, particularly focusing on SMEs. It is an innovation hub comprising 48 companies, the five universities of the region and seven public/private research organisations, where the most cutting-edge technology solutions enabled by 5G are deployed and where professionals in the digital transformation of the industrial sector work and are trained. The provision of training activities in line with the emerging technologies that CTE will deal with and the innovation opportunities of Industry 4.0 (such as Cybersecurity, Data Science, Advanced Manufacturing, Robotics, AR/VR, Machine Learning, edge-cloud computing, 5G Industrial, etc.), as well as the partner's willingness to grant prototyping and experimentation space, facilitates the digital transition of CTE COBO reference enterprises.

Finally, port cities such as Ravenna generally suffer from traffic congestion and high rates of greenhouse gas emissions, and municipal governments, together with port authorities, must find solutions to reduce the negative impacts on quality of life, the health of citizens and workers, the climate, and ultimately the local economy. Ravenna aims to attract and develop new technologies given the implementation of the Port's Digital Twin, a project already initiated by AdSP and known as the Open Digital Twin Port. In addition, the issue of workplace accidents is also included in the idea of Digital Twin: to achieve the desired European goal of "zero deaths in the workplace," it is necessary to disseminate emerging technologies, and thus Skills for Enterprises 4.0 that ensure safety in the workplace, through sensor technology to enterprises.



Why the Creative and Cultural Industry?

The solid cultural vocation of the Bologna area has led to the birth and growth of an entrepreneurial network of small and medium-sized enterprises belonging to the Cultural and Creative Industry (CCI). The political institutions of the territory have recognised the growth potential of a sector becoming one of the most critical and expanding areas of the economy, a cornerstone of Italian-made products worldwide. On this issue, the Municipality of Bologna has been pursuing support activities in the sector for some time, particularly focusing on the more technological sectors such as gaming and enjoyment. In this sense, there are two strategic projects, such as [IncrediBOL!](#) - Creative Innovation in Bologna, the project supporting the development of professions and so-called Cultural and Creative Enterprises (CCI) in the region. [Game Farm](#) is also a project coordinated by Incredibol and ARTER for game development experimentation. In addition, Bologna will be home to the Co-Location Center South (CLC South) of the newly formed [EIT KIC Cultural and Creative Sector and Industries](#) (CCSI).

Bologna also boasts one of the few innovation centres focusing on creativity, the Creative Hub Bologna, and has already set up incubation and acceleration courses such as Battiti Creativi. In addition, it collaborates with Art-ER networks, particularly IN-Er, the Network of Incubators of the Emilia Romagna Region, with the opportunity to participate in various investor days. It is also developing the Digital CorNeR research project in collaboration with CNR, Mister Smargiassò Innovation, Proambiente and the Luciano Pavarotti Foundation, which aims to encourage and enhance research, development and experimentation of innovative communication and entertainment solutions through the use of emerging technologies, coupled with 5G, also as part of the event - Buskers Concert (street musicians) to be held in Bologna in several symbolic open-air locations of Bologna, the Unesco City of Music. UniBo is among the members of ClustER Create, which aggregates companies, research centres and training institutions to strengthen the regional production system by focusing on integrating technology, creativity and culture, including through synergies and alliances with networks at the national and European levels. In PNNR mission 2 component 4, under the CHANGES Cultural Heritage Active Innovation for Next Gen Sustainable Society project, UniBo is responsible for the Spoke dedicated to Virtual Technologies for Museums and Art Collections. These initiatives create a prominent national and international scope of the innovation ecosystem.



Why innovative urban services?

The goal is to make technologies available to the city to speed up and support the climate neutrality strategy by 2030. Indeed, Bologna is one of nine Italian cities among the 100 European cities with zero climate impact by 2030, an important and particularly challenging goal that involves the city's entire economic fabric and requires significant efforts in innovation and technology to which CTE COBO can give a major boost. The mission of the 100 cities includes signing Climate City Contracts with the European Commission with three components: strategic commitments, actions and investments to accompany and guide the 100 selected cities towards climate neutrality. Strategic commitments will arise from a collaborative process with local, regional and national actors to define a strategy to achieve climate neutrality as quickly as possible. The action plan identifies strengths and shortcomings in existing strategies, policies and plans and uses all levers of change to create a coordinated portfolio of interventions to meet the 2030 target. The investment plan provides a cost and impact assessment in order to strategically harness public funding and attract private capital to finance the city's pathways to climate neutrality.

As mentioned, Bologna is also implementing the City of Knowledge project, which views knowledge as the key to sustainable development and growth. This City will be created through a physical infrastructure, the Via della Conoscenza (Knowledge Street), which will link places considered to be spaces of knowledge creation and transfer (Golinelli, Ravone and former OGR, Lazzaretto, Navile, Giuriolo, Manifattura Tabacchi, etc.) that will be physical stations, but above all stations through which to access, mainly through digital technologies, content and knowledge paths. In this sense, the municipality is interested in proposing the experimentation of enabling technologies for urban services, from using sensors for mobility or atmospheric component detection, from smart lighting to digitally interconnected PA services, for creating an actual smart city.