

**Digitizing European initiative  
Working Group2:  
Strengthening Leadership  
in digital technologies and in digital  
industrial platforms  
across Value Chains  
in all sectors of the Economy**

**The role of the Construction chain**



Federcostruzioni, (<http://www.federcostruzioniweb.it/>) is the Italian federation, member of the Confindustria network, that represents and promotes the interests of the building production chain's companies, in close co-ordination with our sector member associations.

Federcostruzioni is articulated in 5 production sectors:

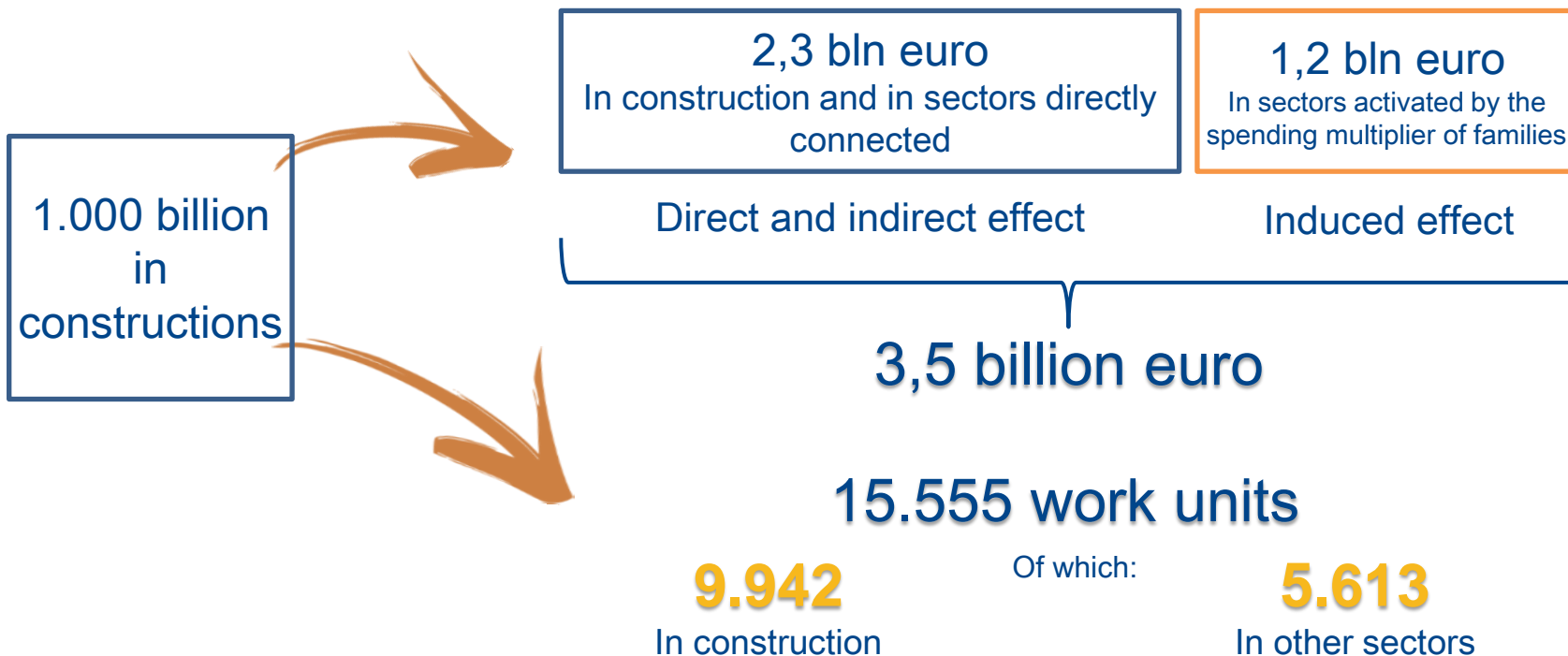
- **Construction of buildings and infrastructures;**
- **Technologies, plants building and installation, machines;**
- **Construction materials;**
- **Engineering and design;**
- **Innovative and digital services.**

Overall our federation represents: **80 Sector associations, 30.000 companies, a turnover of 400 billion, with 2.6 millions employed, 12% of the Italian working population.**



## A multiplier for the economy and jobs

An increase in demand of 1 billion euro in the construction sector generate an overall impact on the entire economic system of more than 3,5 billion and 15.555 work units



Elaboration ANCE on Istat data

In Italy the construction sector  
buys goods and services from  
**from 88% of economic  
sectors**

## The investments performance of the sector in EU (FIEC data)

**+1,7% in 2014**

**+2,4% in 2015 -1.241B€ - 8%GDP**

**+2,1% in 2016 (forecast)**



Globally, based on the data of the recent report of the McKinsey Global Institute, Reinventing Construction, *"the sector is one of the largest in the world economy with about **10 trillion spent on construction related goods and services every year.**"*

***The sector employs 7 percent of the world's working population and has fundamental role for society as it builds the constructions where we work, live and the infrastructures necessary for global trade and travel.***

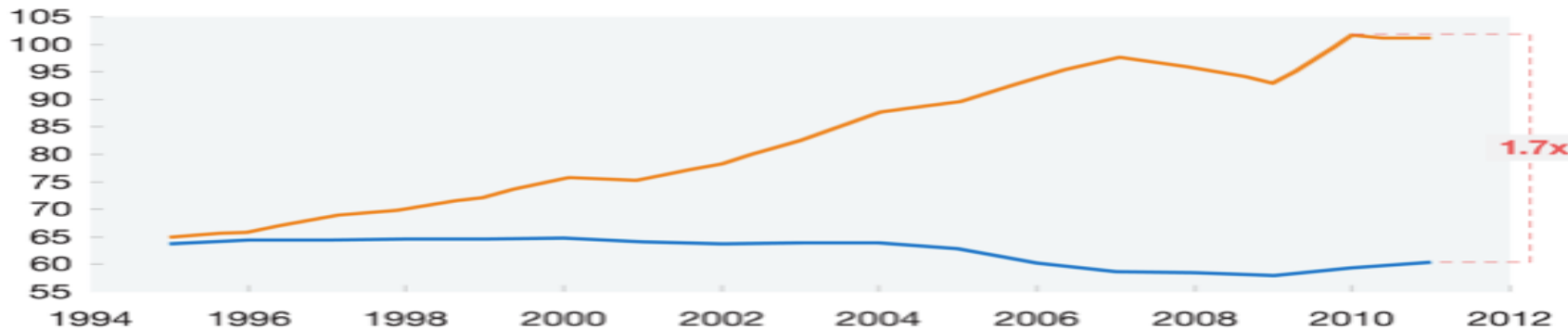
***However "the industry productivity has trailed behind that of other sectors for decades , and there is a 1.6 trillion dollars/yr opportunity to close the gap".***



## Overview of productivity improvement over time

Productivity (value added per worker), real, \$ 2005

\$ thousand per worker



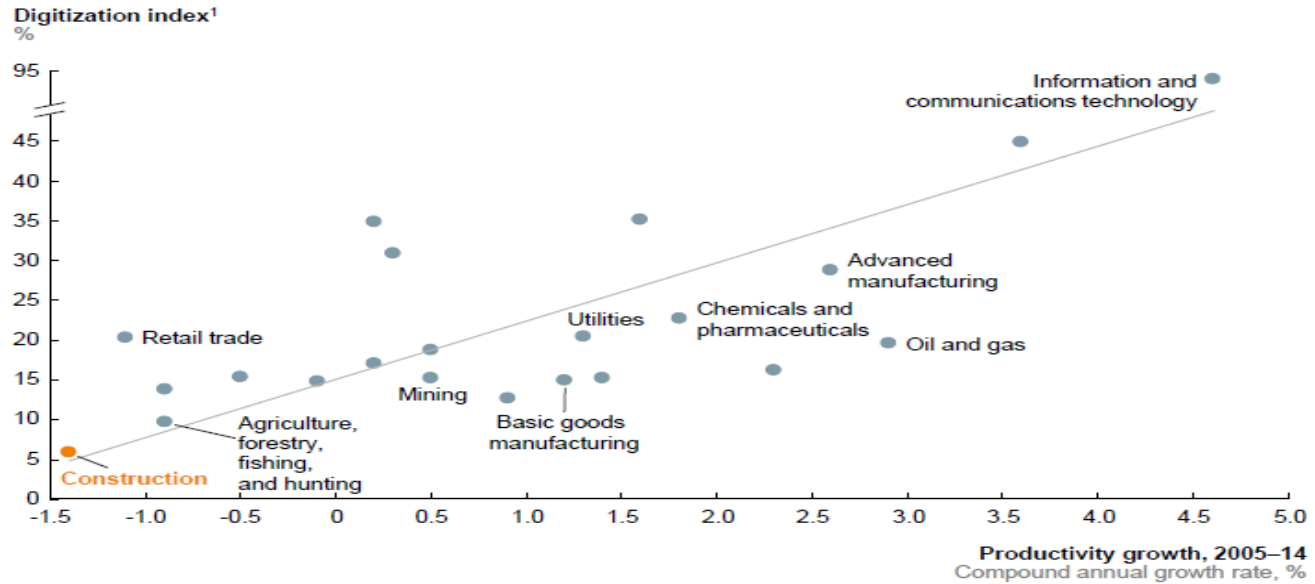
Source: Expert interviews; IHS Global Insight (Belgium, France, Germany, Italy, Spain, United Kingdom, United States); World Input-Output Database

McKinsey&Company

The Report shows that the **labour-productivity growth** has been **3.6 times more in manufacturing** and **2.8 times more in the total world economy** and if the construction productivity were to catch up with the total economy, **the industry value added could rise by 1.6 trillion dollars /year** and an increase of global GDP of 2%.



## Digitization in constructions



Knowledge about what could be done better and differently has been available to the industry but, also as a consequence of the crisis of the last couple of years, the industry has not been moving forward as it should. **Also the potential opportunities of productivity gains from digitization could be largely missed because construction is among the least digitized sectors in the world,** according to [MGI's digitization index](#)

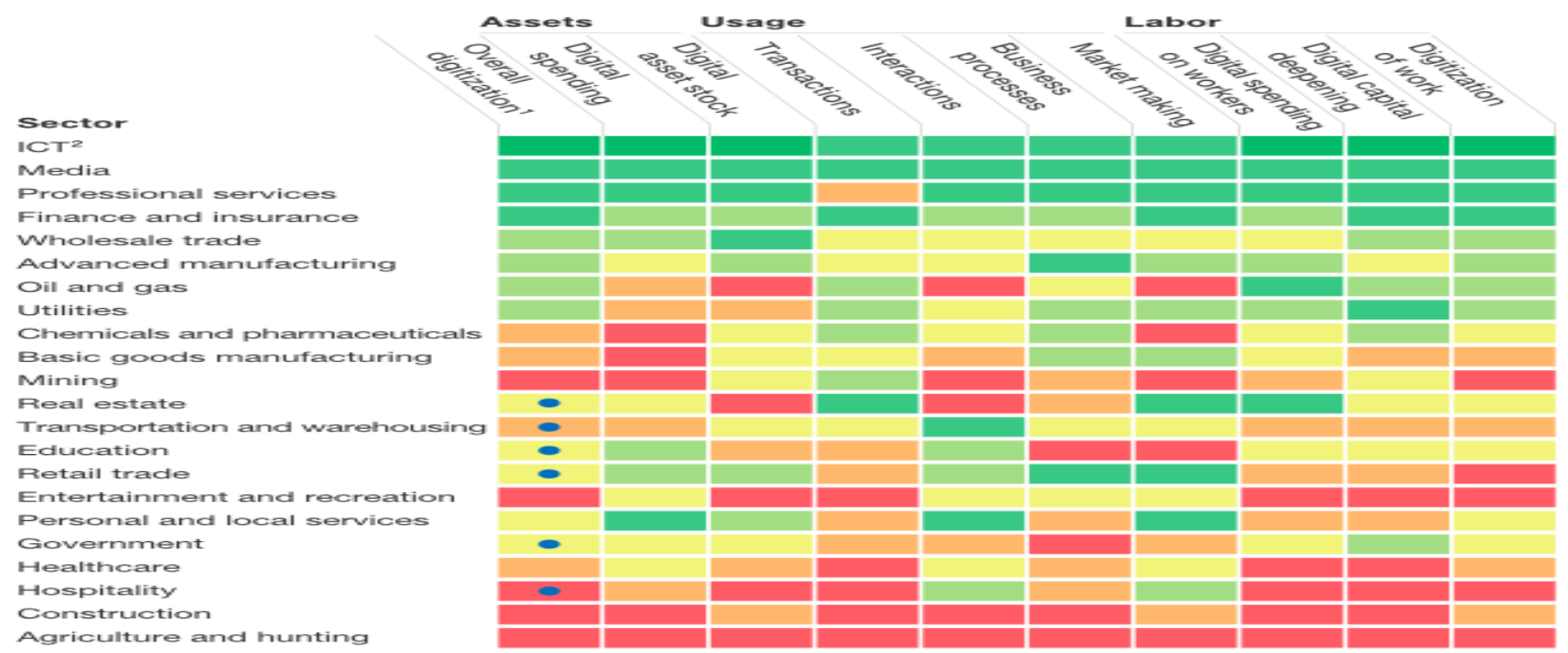




# MGI Industry Digitization Index 2015 or latest available data

McKinsey Global Institute industry digitization index; 2015 or latest available data

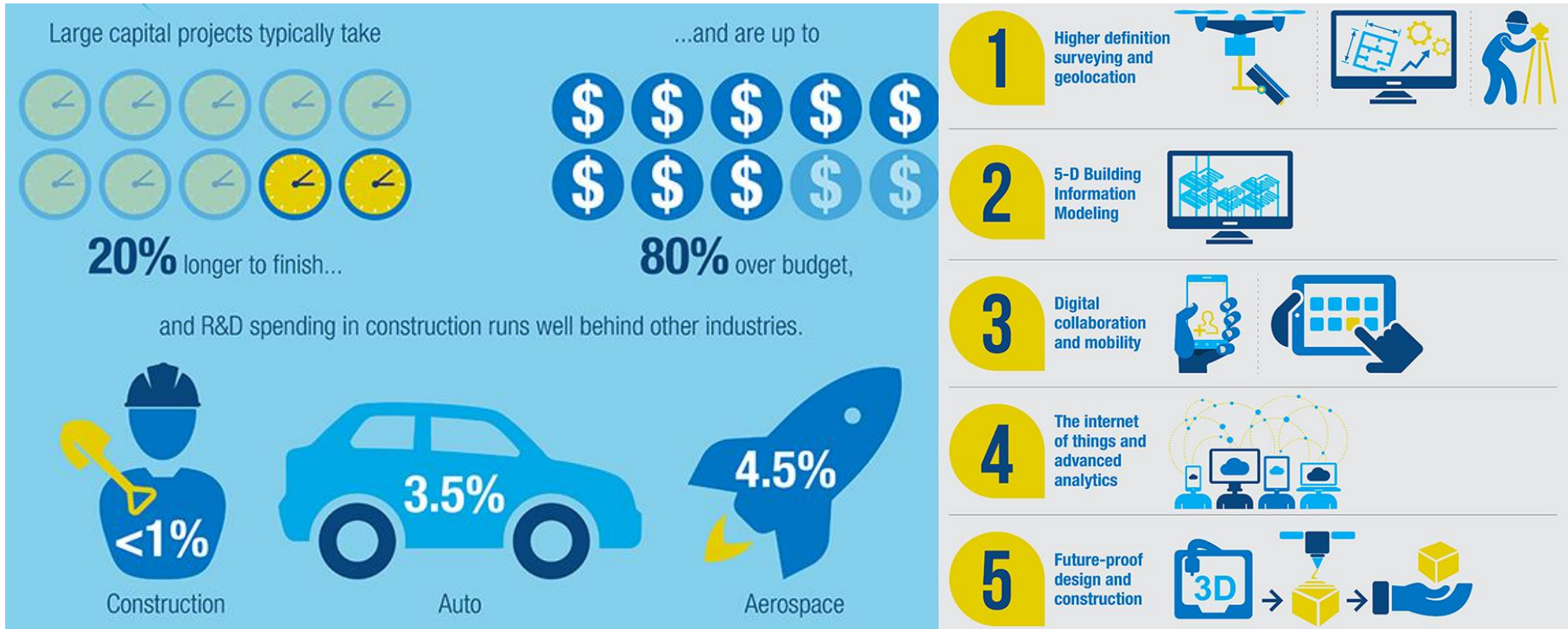
Relatively low digitization Relatively high digitization  
 ● Digital leaders within relatively undigitized sectors



In the United States, construction comes second to last only better of agriculture, and in Europe it is the last of the index after agriculture. The highly non-linear and complex nature of construction projects has made impossible for the sector to move to more manufacturing style, lean and digitized project systems.



## innovation in constructions



Imagining construction's digital future – McKinsey & Company



Of the MGI seven areas of action identified for the construction sector to catch up with its productivity gap, **5 are heavily impacted by digitization:**

- *rethink design and engineering processes;*
- *improve procurement and supply-chain management;*
- *improve on-site execution;*
- *infuse digital technology, new materials, and advanced automation;*
- *re-skill the workforce.*

The other two, *reshape regulation and raise transparency and rewire the contractual framework*, are both affected by digitization on issues like transparency and regulation making simplification, control and **performance evaluation**, all tasks made easier to be effectively performed in a digitized and transparent environment



## Constructions included in DEI WG2

As stated in detail in our contribution to the WG2 Report (uploaded in Futurium at the following link <https://ec.europa.eu/futurium/en/content/contribution-federcostruzioni-dei-wg2> ) we believe that the construction chain should be included in the vertical perspective with the five selected others: **Connected Smart Factories, Smart Agriculture, Digital Transformation in Health and Care and Industrial data Platforms, Connected Cars.** This view is also shared by **the Italian Ministry of Economic Development (MISE); FIEC (European Construction Industry Federation); the European Construction, built environment and energy efficient building Technology Platform (ECTP); and by the Dutch organization FME.**

As for these four sectors, **digital platforms in construction could be fundamental in increasing productivity by making digitization more accessible to all companies of the value chain including SMEs, and by improving efficiency and reduce costs for public and private projects alike.**

It would also well integrate to other EU Commission initiatives on construction digitization like the ones carried on by the EU BIM Task Group or the initiatives on digitization that will stem from Annex 1 of COM(2016) 860 final "Accelerating Clean Energy in Building" chapter 2 Construction and the specific topics elaborated by ECTP for FP9 on the importance of data and digitization in buildings and construction



## Italian example: INNOVance Digital Platform

The INNOVance research project, as an interoperable platform for exchanging information in the building industry, is aimed at enabling the structured information exchange through the whole process in favour of all the actors.

For this reason, the scope of the research project is threefold:

- the development of an unambiguous classification system for every object in the construction field,
- the collection of informative attributes through datasheets,
- and the creation of an unique database to smartly store and share information by a user-friendly website.

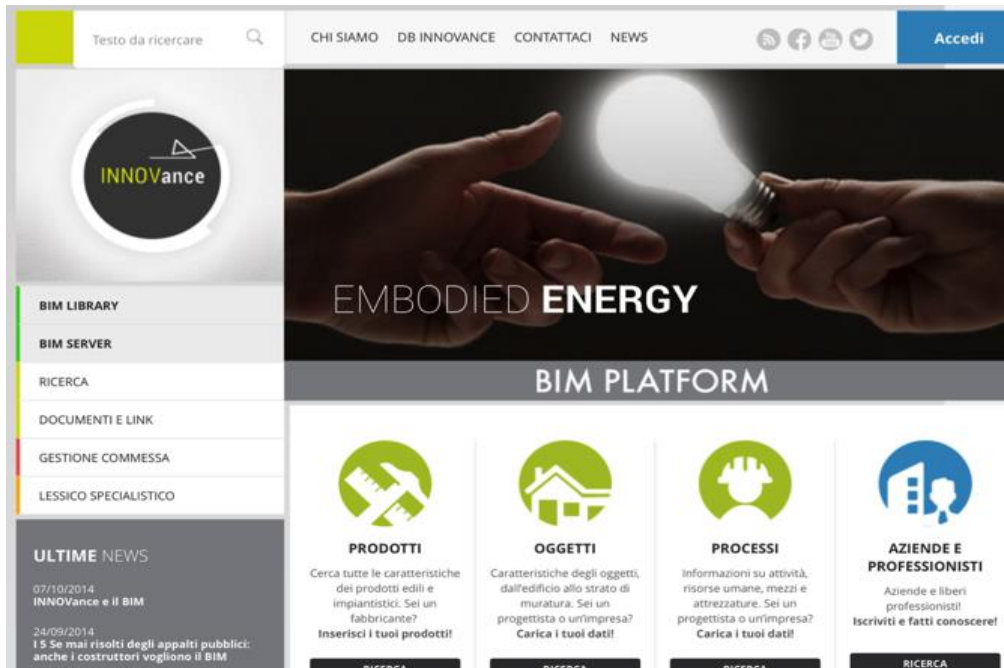
Unambiguous language and standardized information increase building process efficiency. If we then consider that data exchange is possible through the exploitation of a user-friendly web portal and some interoperable web services, efficiency and economic savings in the entire construction chain could be extremely relevant.



# INNOVance Digital Platform

INNOVance Digital Platform:

Made in Italy/EU



Testo da ricercare 🔍

CHI SIAMO DB INNOVANCE CONTATTI NEWS

Accedi

**EMBODIED ENERGY**

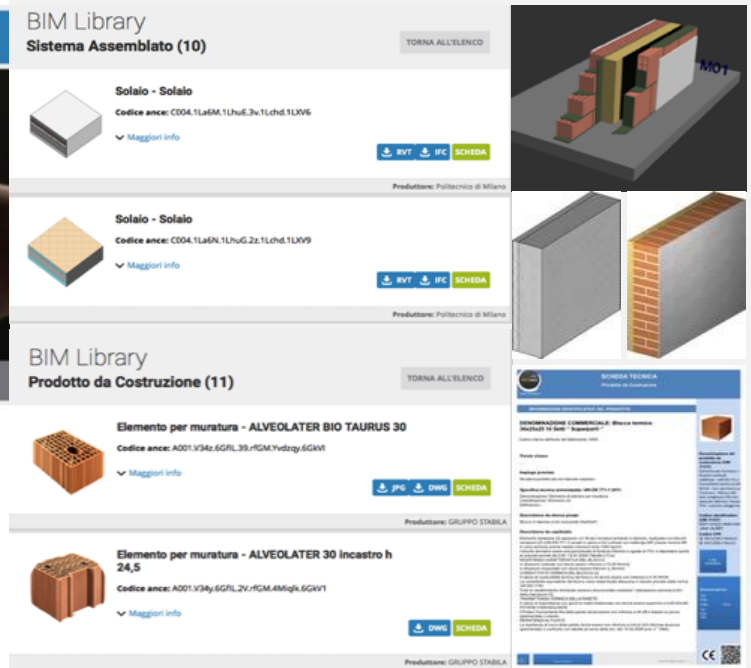
**BIM PLATFORM**

**PRODOTTI**  
Cerca tutte le caratteristiche dei prodotti edili e impiantistici. Sei un fabbricante?  
**Inserisci i tuoi prodotti!**

**OGGETTI**  
Caratteristiche degli oggetti, dall'edificio allo strato di muratura. Sei un progettista o un'impresa?  
**Carica i tuoi dati!**

**PROCESSI**  
Informazioni su attività, risorse umane, mezzi e attrezzature. Sei un progettista o un'impresa?  
**Carica i tuoi dati!**

**AZIENDE E PROFESSIONISTI**  
Aziende e liberi professionisti!  
**Iscriviti e fatti conoscere!**



**BIM Library**

**Sistema Assemblato (10)**

**Solalo - Solalo**  
Codice anco: C004.1L46M.1LHuE.3v.1Lhd.1LUV6  
Maggiori info

**Solalo - Solalo**  
Codice anco: C004.1L46N.1LHuG.2z.1Lhd.1LUV9  
Maggiori info

**BIM Library**

**Prodotto da Costruzione (11)**

**Elemento per muratura - ALVEOLATER BIO TAURUS 30**  
Codice anco: A001.V34z.6GRl.35.FGM.Vvdzgy.6GWI  
Maggiori info

**Elemento per muratura - ALVEOLATER 30 incastro h 24,5**  
Codice anco: A001.V34y.6GRl.2V.FGM.AMqik.6GV1  
Maggiori info



## European Construction going Digital

Besides INNOVance **good examples of construction digitization initiatives can be found in several Member States** like in **France** with the programme "Industrie du futur" but also the « **Plan de transition numérique du Bâtiment** » targeted to TPE/PME with the development of digital BIM models; the **UK** with **Digital Built Britain** with the Level 2 BIM strategy with obtained savings in 2015 of 840m Pounds and moving forward to Level 3 BIM strategy and continue in the development of the NBS BIM Library and NBS BIM Toolkit.

Other member states are also active like **Germany (Germany Builds)** and **Holland** where **FME** is undertaking several initiatives in this domain, one of which is a **Fieldlab on industrial building of houses**, where digital standards are essential, the other is **the expansion and collaboration of the standards IFC and ETIM MC and the connection to a uniform object library (UOL)** that is currently being developed based on these standards. **Standards have a fundamental role to play and we believe that a joint effort at European level should be undertaken to accelerate the process of creation of viable, effective and interoperable open platforms for the construction sector.**



## Impact of Construction going Digital

### Effects of BIM introduction – UK (2025)





**Innovation actions:** We believe that the economic case for including the construction industry within the vertical focus areas of WG2 is a strong one. From this will result a more intense cooperation at European level that should lead to an acceleration of digitization uptake from the industry and the relevant demand both public and private through state of the art digital platform development. The challenge is to take stock of ongoing initiatives, promote mutual learning and coordination, and identify knowledge and intervention gaps through Platform creation, large scale piloting and ecosystem building initiatives.

**Platform Creation:** Various initiatives and platforms are at different stages of development at national level but to create a sufficient capacity of involvement of the all construction chain, it is necessary to bring the various initiatives together including pilot testing, experimental and concrete applications and best practices developed by the different initiatives with a focus on interoperable solution suitable for SMEs.

Bring together of industrial digital platforms like INNOVance could create accelerate platform creation and improved mastering of the digital value chain in construction with the result of facilitating the inclusion of digital innovation in products, processes, services and new business models in the construction chain providing opportunities for companies to operate in an EU wide digital market for construction product and services .



**Large scale piloting:** Pilots should use existing platforms and populate them with innovative applications testing and validating them in concrete cases as well as in controlled lab environment. They should focus on specific applications that target specific needs of the industry testing their effectiveness in addressing these needs opening the way for large scale applications and testing in cooperation with other large scale pilots. **Its fundamental that all solutions developed are interoperable, provide ease of use for business and all users, are adapted to be implemented in a strongly regulated environment.** They should also be tested not only by SMEs but also by micro companies/professionals that have a large presence in the construction chain.

**Ecosystem building:** the activities on the development of Construction Digital Platform will certainly enhance the involvement of stakeholders, including SMEs, both as market players and as interested parties in the standard building process. **The take-up of digital platforms is fostered by increasing the ecosystem of players involved both on the demand and supply side, and by standardisation activities with the involvement, at European level, of national standardization bodies in line with the DSM strategy.**



**Construction matters to growth, employment and society.** An **enhanced European cooperation in Construction could lead to a faster increase in digitization, productivity and quality for all European companies**

**Large scale federating at EU level between existing platforms would improve interoperability, cooperation between companies and diffusion of all available digital technologies and tools within the industry, particularly with SME's with a positive impact on intra community trade and increase of global competitiveness by leveraging on European strengths** and reducing the impact of weakening factor like company size.

**Digital Innovation Hubs could play a role in helping raise the awareness, train companies and workforce, and disseminate opportunities and best practices of digital transformation in construction.** Furthermore, a **reinforced EU cooperation in construction would allow a much better coordination of national and regional initiatives across Europe, an improvement of the regulatory framework and standardization with an improved consensus of stakeholders,** a better focus on digital training needs of the workforce of about 18 million



# Thank you

[perissich@federcostruzioni.it](mailto:perissich@federcostruzioni.it) - @luigiperissich

