Digitization of the Construction Industry. Engineering Organizations in Support of European Initiatives, BIM Standardization and Accelerating BIM Adoption.

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Abstract: (250 to 500 words: for each heading use the bullet points or narrative - the submission including graphics should not exceed one page)

Construction 4.0 - "branch" of Industry 4.0. Digitization of construction industry. The European Commission has confirmed further support for a harmonized and aligned European approach to digitization in the construction sector:

- Digitizing European Industry initiative (DEI) - The European Platform of national initiatives as the core part of the overall coordination framework.
- European digital industrial platform for construction sector.
- European Construction Industry Manifesto for Digitalization in support of Europe-wide digital platform.
- CWA Smart CE marking for construction products.
- BIM - at the heart of Construction 4.0 but not the only element. What else is Construction 4.0?

International and European Standardization in support of Construction 4.0. Standardization challenges are partially responsible for the construction industry lagging behind in the digitalization trend. Standardization issues is perceived as the most important barrier for digitalization, including both the lack of standards, and the use of too many different standards.

- BIM Standardization Platform. International BIM standardization as a complex process involving ISO and CEN technical committees, buildingSMART, geospatial and industrial entities.
- The role of CEN Technical Committee 442 on BIM - fundamental to put together national efforts to define standards contributing to the creation of a common framework for the digitalisation of the construction sector.

The challenges:
- “Digitizing European Industry” Initiative requires ambitious collective effort involving public and private stakeholders across Europe at regional, national and EU level.
- Creating a unified approach to BIM implementation is hugely important - the role of EU BIM Task Group. The CEN technical committee 442 in charge of the standardization work regarding all information in the built environment.

The needs:
- Engineering organizations need to be proactive in the process of digital transformation of the construction industry – preparing Europeans engineers for the digital future.

The adoption of open BIM standards is an essential first step to industry digitalization providing a common interoperability. Governors of the World Economic Forum (WEF) Initiative on the ‘Future of Construction’ have prioritized BIM adoption as a critical step toward transforming the industry and recommended actions that companies, industry organizations and governments are advised to implement to accelerate BIM adoption - An Action Plan to Accelerate BIM Adoption. Engineering organizations in support of Accelerating BIM Adoption, providing greater communication and awareness raising. A strong network facilitating transfer of knowledge, expertise and capabilities needs to be put in place at the European level.

Engineering organizations will contribute for transferring lessons across national and regional boundaries and creating a more balanced understanding of digital transition across the construction sector in Europe.

There is a need to be changed behaviour and processes, not just technology. Engineering organizations need to work more collaboratively towards a new level of collaborative engineering knowledge management and to be committed to cooperate constructively towards achieving the engineering challenges of construction digitization and sustainable development, providing a continuous EU-wide dialogue.

Keywords: Construction 4.0, digital transformation, BIM standardization, BIM Adoption, Engineering organizations