

ERMCO “BIM&concrete” WORKING GROUP – Minutes meeting 26.05.2020

BACKGROUND INFORMATION

Digitalization covers integrated design, information management and cooperation between the different stakeholders throughout the many life-cycle phases of a project. This is valid in general and even more for complex systems like the construction ones. During all phases, **product documentation** should be exchanged in a digital format only: Building Information Models (BIMs) and digital systems used by the suppliers' value chain and in the construction sites are tools which allow this exchange.

“KICK OFF” MEETING – MAY 26, 2020

The meeting was very well attended (27 pax – list of the attendees in the Annex A). After a round table presentation of participants, the ESD Chairman shortly reminded the “terms of reference” of the WG:

- a) to understand the “state of the art” of the digital (r)evolution, with specific attention to aspects directly or indirectly impacting our sector;
- b) to identify existing tools and running initiatives, if any, which could help rmc to become the preferred construction material.

The meeting continued with presentations from attendants.

Olivier Stephan informed all the attendees about the fact that in France, the Council of Ministers introduced on 2014 the Plan Transition Numérique dans le Bâtiment (PTNB), with the intention to incentivize actors to work in BIM environments, in the everyday life of buildings, and also to accompany the development of tools suitable for all sectors, with particular attention to BIM. Following PTNB, the **French Association** SNBPE is involved in the development of national BIM standards in order to have concrete data properly defined in models' data dictionaries. It was suggested that ERMCO should liaise with CEN TC442, whose task is to develop a structured set of standards, specifications and reports which specify methodologies to define, describe, exchange, monitor, record and handle asset data.

Jan Eldegard Hjelle, Secretary of the **Norwegian association** FABEKO, showed the power point presentation on the activities held by the Nordic Countries on BIM. He informed that a Nordic RMC experts' group “Digitalization of RMC ” has been set up to develop a Product Documentation Template (**PDT**) covering all information/documents, from standards to products specification and EPDs up to delivery notes. All information should be integrated into BIM systems. While the rmc sector is fast improving in order processing, logistics and delivery, it is not yet tackling the” early steps” when decisions are taken, and competitive sectors (steel, wood, precast) seem to be much more advanced.

Chris Clear informed that since last 5 years, the UK government is putting pressure for BIM adoption. In UK, the National Building Specification is owned by the Royal Institute of British Architects (RIBA), and the **UK Association** MPA has been working since 2016 with them to define 3d BIM objects. The level of information should be different for large construction and/or design companies, which ask for specific information about concrete, and small firms, more interested in what concrete can be used for and not in its specific characteristics.

A comparative table was presented, identifying concrete for selected uses and their CO₂ content evaluated on the basis of generic EPDs.

In April 2013, the Bundesministerium für Verkehr und digitale Infrastruktur (BMVI – Germany's Federal Ministry of Transport and Digital Infrastructure) founded a “ Reform Commission for building management”, with the purpose of developing concepts and federal politics to support the transition to BIM in its medium and small studios and companies. With the adoption of the plan in December 2015, the Federal Minister of Transport and Digital Infrastructure, officially announced that the use of BIM will be mandatory for all transportation and infrastructure projects by the end of 2020. At this purpose, the **German association** is working on integration into BIM systems of the electronic delivery notes. All relevant information for the correct use of the concrete delivered (spot life and transport time) should be digitally available to the customer.

According to the **Israeli association** BIM being expensive is mainly used by large companies. As concrete remains the material of choice in the country, the focus is on providing information about the concrete strength on site by inserting transponder chips in the structure at the time of casting. BIM would and should be used for initial cost analysis, to make evident to the customer the differences among alternative solutions. According the Norwegian association both direct and indirect (environmental) costs should be considered in any comparative analysis.

The Chairman summarized the results of the discussion as follows

- 1) Data templates are needed with different levels of information: specific for those who want to carefully select concrete, generic for those who want to be guided only to a proper choice for any given use.
- 2) Easy and simple cost comparison of different alternatives is mandatory.
- 3) As environmental issues are becoming more and more relevant, it is important to identify how concrete environmental data may be integrated into BIM models since the beginning, to be used at the very early stage of the decision process.
- 4) Digital objects of the structure to be built give precise information non only on concrete volumes but also on its expected use, allowing producers to propose alternatives.

- 5) Tracking of concrete on site (what concrete was placed where) could be of interest in case of doubt.

The main areas the WG should focus are therefore:

- 1) After a recognition of what is already available, develop a comprehensive Product Documentation Template covering concrete technical, environmental, and cost characteristics and a Guidance supporting the PDT.
- 2) Identify how BIM information about concrete can be transferred to the producer in order him to be able to propose alternatives for a specific use.
- 3) Collect information about the building examples used to test Level(s) to see if a comparative report among different construction materials can be prepared.

The date of next virtual meeting will be fixed by sending a doodle pool.

M. Borroni, G. Bertagnoli

Brussels 16 June 2020

Annex A – Attendance list

Participant	Association
Gil Lidgi Yossi Sikuler	IRMCA
Olivier Stephan Benoist Thomas	SNBPE
Gian Paolo Martin Michela Pola Marco Borroni	ATECAP
Thorsten Hahn Thomas Hoffmann Ingo Lothmann	InPunctoTransportbeton
Richard Kershaw Mat Saunders Christopher Clear	MPA
Nicolas Mayol Pablo Gomez Escribano	ANEFHOP
Yavuz Isik Selcuk Ucar Koray Sacliture	THBB
Joao Duarte	APEB
Jan Eldegard Hjelle	FABEKO
Celine Da Costa Coimbra	FSKB
Pekka Haapimaa	Betoniteollisuus ry
Paul Ewalds Leo Dekker	VOBN
Francesco Biasioli Grazia Bertagnoli Asli Ozbora	ERMCO