



Concrete moves...



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## **FROM CONCRETE SPECIFICATION TO DELIVERY: COLCRETE, A BIM BASED PLATFORM**

**Cattaneo, A.<sup>(1)</sup>, Rostagno, S.<sup>(1)</sup>**

(1) Brains Digital, Torino, Italy

### **Abstract**

Building Information Modelling (BIM) systems can be used not only in the design phase, but also to follow up the whole lifecycle of a construction product. A BIM based approach can improve the product quality eliminating potential inefficiencies and/or errors in the different stages - product selection, order, delivery and QC. This is also valid for fresh concrete, from its specification to delivery on site. The BIM based platform COLCRETE (COLlaborative conCRETE) – uses the neutral IFC version of the BIM model of a concrete structure. No specific software is required to access the Internet based platform, which is cloud resident and may be seen by any device – computers, tablets and smartphones. On the basis of the geometries of the structural BIM model, volumes of all concrete elements (foundations, columns, slabs, etc.) are identified. Project specifications are then linked to each element and verified in order to identify any missing/misused information. For each type of concrete prescribed for the different elements the concrete supplier may propose alternative solutions. Once the order is achieved, a 4D model is prepared on the basis of the planned casting times of each element. Planning of production and delivery to site may be done by visual selection of elements in the BIM model. Once approved, the production, delivery and placing information and sequence are automatically generated and sent to the concrete plant. Last minute changes/difficulties may be visually handled in real time using the BIM model. All concrete-related information and the whole history may be summarized in a QR Code, to guarantee the traceability and the unique identification of the concrete supplied.

**Keywords:** Concrete, BIM, Colcrete.