

HoloBuilder Integrates with Autodesk's BIM 360 Construction Management Platform

HoloBuilder Inc. partnered with Autodesk to allow users to seamlessly move between Autodesk's BIM 360 construction management platform and HoloBuilder's Construction Solution. This allows for 360-reality capturing and virtual walkthroughs as well as document and issue management. Users can add issues to the BIM 360 platform from within their HoloBuilder project. Created issues are also linked to their position within HoloBuilder's documentation so that users can find the affected area and understand the context. Users can add documents, such as sheets and floor plans, from BIM 360 to the HoloBuilder environment, ensuring that documents used within HoloBuilder are up-to-date. The cross-platform integration is implemented using Autodesk Forge technology.

LafargeHolcim and Heliatek Photovoltaic Concrete Façade

LafargeHolcim and Heliatek developed a photovoltaic concrete façade product that combines Ductal and HeliaFilm®, Heliatek's flexible and ultra-light solar film. A pilot project is planned in 2018—prefabricated Ductal panels will be delivered with an integrated solar energy-generation system. For retrofit applications, HeliaFilm is available in lengths ranging from 0.3 to 2.0 m (1.0 to 6.6 ft), and it can be connected with various designs of junction boxes on both front and back. The transparent version of HeliaFilm can be applied to almost any glass façade, and the glass will maintain its aesthetic appeal.

HawkeyePedershaab Concrete Technologies Merges with BFS

HawkeyePedershaab Concrete Technologies Inc. merged with BFS Betonfertigteilesysteme GmbH. Through this partnership with BFS, HawkeyePedershaab will expand its presence in the concrete pipe and manhole machinery segment. Headquartered in Blaubeuren, Germany, BFS is co-led by Daniel Bühler and Klaus Müller, who will continue with the business. BW Forsyth Partners acquired HawkeyePedershaab in September 2016, with the goal of providing equipment and solutions for the precast concrete industry through organic growth and acquisitions.

Roof Technology for Concrete Ceiling System Without Steel Reinforcement

ST Bungalow LLC and Molinelli Architects announced a patent application published by the USPTO for a method of making a roof or ceiling for various kinds of buildings, including the "ST Bungalow," a newly designed and patented,

solar-powered home. The patent application publication, "Concrete Floor and Ceiling System without Steel Reinforcing" (pub. no. US 20170268242) describes a system that replaces reinforcing bars with polymer forms. A patent for a similar roof technology but using fiberglass was granted to ST Bungalow LLC and Molinelli Architects in 2015 (U.S. Pat. No. 8,991,137). Michael Molinelli, Molinelli Architects, invented both these technologies. The roof inventions are intended to provide key components in low-cost, affordable, solar-powered, and eco-friendly housing being developed jointly between ST Bungalow LLC and Molinelli Architects. The polymer or fiberglass forms used in the roof technology are shaped to efficiently stack. The technology provides an arched ceiling and a flat roof or floor surface.

Changes to Advisory Board and Group Management of the PERI Group

The shareholders and the Advisory Board of the PERI Group have changed the management organization of the family-owned company to include a Chief Executive Officer (CEO) in addition to the three managing directors. Rudolf Huber, Chairman of the Advisory Board, assumed the position as CEO. He has been a member of the PERI Advisory Board since 2009 and has been its Chairman since 2011. His successor as Chairman of the PERI Advisory Board will be Christian Schwörer. As a member of the shareholder family, he was Managing Director of PERI Group for Finance and Organization until 2014 and then joined the Advisory Board.

2017 ITA Tunnelling Awards

The International Tunnelling and Underground Space Association (ITA) Awards recognize international innovation and outstanding projects in tunneling and underground space usage. The 2017 winners included:

Major Project of the Year (over €500M), Doha Metro, Qatar

The Doha Metro is an underground, elevated, and at-grade rail network that will be built in two phases. The first phase, with an 85 km (53 mile) network length, consists of three lines with 37 stations built from July 2014 to September 2016. It is planned to be operational in 2020 and will be served by 75 trains. Its construction required 470,497 concrete segments to produce 70,071 tunnel rings for the 111.5 km (69.3 mile) of tunnels;

Tunneling Project of the Year (€50 to €500M), MTR Shatin to Central Link (SCL), Hong Kong, China

This high-risk tunneling project included a 4 km (2.5 mile) tunnel (part of a 17 km [10.6 mile] strategic railway line), underneath Hong Kong's highly built-up urban areas. In a

complex geological situation, different tunneling methods were used, including cut-and-cover and drill-and-blast at only 6 m (20 ft) above a live water supply tunnel. At two points, the tunnel boring machine also crossed only 6 m below an operating railway line;

Project of the Year – up to €50M, Fjærland Hydropower Plants (HPP), Norway

The Fjærland HPP consists of six HPP in rural surroundings along the Fjærland Fjord. Two of these HPP include tunnels that were developed without road access and within strict environmental requirements. Innovative solutions were developed for the project and small interventions were implemented in the surrounding nature. The finished result will be an environmentally friendly generation facility and an aesthetically pleasing feature on the shoreline along Fjærlandsfjorden;

Technical Project Innovation of the Year, Construction of Bifurcation Section of Underground Expressway Underneath Residential Area in Yokohama, Japan

New technologies were developed and introduced to construct the large bifurcation section of 20 m (66 ft) width and 200 m (656 ft) length from the main tunnel by a trenchless construction method, directly under a residential area. An enlargement shield tunneling machine and large diameter pipe roof were used for widening of the tunnel from a segmentally lined tunnel. Use of advanced technologies contributed to the completion of the bifurcation works without any adverse impact to the residential area and the successful opening of Yokohama North Line (8.8 km [5.5 mile]) expressway;

Technical Product/Equipment Innovation of the Year, Strength Monitoring Using Thermal Imaging (SMUTI), United Kingdom

SMUTI is a novel method of monitoring sprayed concrete strength gain. SMUTI allows the strength of the whole shotcrete lining to be monitored continuously in real time from a secure position, enhancing benefits such as safety, quality control, and productivity. Data obtained using SMUTI is accessible, auditable, and traceable;

Sustainability Initiative of the Year, Anacostia River Tunnel Project (ART), United States

The ART is a major component of the DC Water Combined Sewer Overflow remediation program. When completed, the entire project will reduce sewer overflows to the Anacostia River by 98%. The ART is a 3.8 km (2.4 mile) long tunnel with an internal diameter of 7 m (23 ft). Existing overflow sewers are connected to the tunnel using 30 m (98 ft) deep

shafts with a specially designed configuration to control inflow into the tunnel while reducing wear. The tunnel has a 100-year minimum design life. The tunnel was excavated in an urban setting with minimum impact to the environment and the surrounding community;

Safety Initiative of the Year, Telemach Cutterhead Disc Robotic Changing System, Hong Kong, China

Telemach is a semi-automatic multi-purpose robotic arm installed inside the front shield of the tunnel boring machine (TBM) to safely replace used cutter discs while the operator remains inside the TBM control room. During the stoppage for TBM maintenance, the arm can maneuver into the cutterhead chamber and perform cleaning and replacement of worn discs. The 10-year development project is part of a demonstration that the robotics industry can contribute to a safer tunneling environment for workers; and

Innovative Underground Space Concept of the Year, Cavern Master Plan, Hong Kong, China

China is facing urban housing issues as its cities are overcrowded and there is lack of available space. The project was conceptualized by noting that rock caverns may serve as a sustainable source of long-term land supply in Hong Kong and may represent a new solution to relocate some functions and release some space. Hong Kong formulated its first Cavern Master Plan (CMP) to guide and facilitate territory-wide application of rock caverns for supporting continuous social and economic development of the city. The potential uses of these caverns include food/wine storage, archives and data storage, research laboratories, and vehicle parking. With the launch of the CMP, numerous cavern projects are being implemented in the various 48 Strategic Cavern Areas delineated in the plan.



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