Press Release

Zurich, September 20, 2016

LafargeHolcim

LafargeHolcim innovates with 3D concrete printing

LafargeHolcim is innovating and is seizing opportunities in the 3D printing market by developing specific construction solutions. The Group has entered into a partnership with the French start-up XtreeE, which specializes in the development of large-scale 3D printing systems. This alliance has made it possible, for the first time in Europe, to market a concrete structural element created using a 3D printer.

Bringing the digital revolution to the construction industry, 3D printing allows complex geometric structures to be created at a reasonable cost and with shorter production times compared to traditional techniques. LafargeHolcim has identified three potential markets: high value-added architecture, the individual construction of affordable homes, and the robotic construction of prefabricated building elements.

In its R&D center in L'Isle d'Abeau near Lyon, LafargeHolcim teams have leveraged their scientific and technological expertise to design a range of experimental concrete mixes suitable for 3D printing.

LafargeHolcim has developed and provided materials designed specifically for the creation of two different 3D printed structures:

- A load-bearing post printed by XtreeE and assembled by Fehr Architectural, with a height of 4 meters (about 13 feet), being used to support the playground roof of a middle school in Aix-en-Provence in France. This is the first 3D printed structural element to be marketed in Europe
- A pavilion created on behalf of the Ile-de-France regional authority using a revolutionary design, the fruit of a collaborative project bringing together XtreeE, Dassault Systèmes, ABB and LafargeHolcim

*Load-bearing post, the first of its kind to be marketed in Europe**

*Pavilion created for the Ile-de-France regional authority**

These advances underscore LafargeHolcim's commitment to delivering innovative solutions that create value for its customers. LafargeHolcim's R&D center is the world's largest within the construction materials sector, with a portfolio of 1,750 patents, and employs more than 200 researchers.

"Innovation is part of our DNA in order to respond to the trends in tomorrow's construction market," explains Gérard Kuperfarb, Group Head of Growth & Innovation at LafargeHolcim. *"We are therefore proud to be positioned as a pioneer in 3D printing, a revolutionary technique that brings greater accuracy while considerably reducing construction times."*

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About LafargeHolcim

With a well-balanced presence in 90 countries and a focus on cement, aggregates and concrete, LafargeHolcim (SIX Swiss Exchange, Euronext Paris: LHN) is the world leader in the building materials industry. The Group has 100,000 employees around the world and combined net sales of CHF 29.5 billion in 2015. LafargeHolcim is the industry benchmark in R&D and serves from the individual homebuilder to the largest and most complex project with the widest range of value-adding products, innovative services and comprehensive building solutions. With a commitment to drive sustainable solutions for better building and infrastructure and to contribute to a higher quality of life, the Group is best positioned to meet the challenges of increasing urbanization.

More information is available on www.lafargeholcim.com

*Credits:
Structural Pilar 'Krypton', Aix-en-Provence (France), 2016
Overall Project Architect: MDSA
Design: EZCT Architecture & Design Research + XtreeE
Machine Files & Manufacturing of the Molds: XtreeE
Casting and Implementation: Fehr Architectural
Structural Consultant: Artelia
Concrete: LafargeHolcim

"Le Pavillon", Vélizy (France), 2016
Design: XtreeE & 3DExperience Lab (DASSAULT SYSTEMES)
Manufacturing: XtreeE
Concrete: LafargeHolcim

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