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Press release
June 9, 2022

Lithosys: the new Vicat brand for concrete 3D printing

French cement manufacturer Vicat is expanding the boundaries of concrete design and construction with the launch of Lithosys, its new brand devoted to concrete 3D printing. This comprehensive, customizable offering again demonstrates the family-run group's capacity for innovation.

3D printing for the construction industry

The Vicat group has applied its extensive **technical and scientific know-how** to develop the Lithosys offering in order not just to meet **today's extensive requirements** but also to carry the use of concrete into uncharted territory. Its expertise covers **the entire value chain of concrete 3D printing.**

Lithosys provides support consistent with every project:

- **design of objects for 3D printing:** the desired shapes are broken down into successive layers of controlled width and thickness, taking full account of the limits of this manufacturing process;
- **design of customized concrete inks:** Lithosys 3D inks are specially designed to meet the requirements of additive manufacturing while ensuring the requisite performance of the material itself;
- **creation and installation of concrete 3D printing systems in workshops or on construction sites;**
- **manufacture of printed concrete products:** special precast double-wall panels, manhole covers, street furniture, external decoration, systems for fostering biodiversity, etc.

lithosys
Print it concrete

Advantages of 3D printing:

- smaller volume of concrete used
- reduced carbon footprint
- shorter construction times and less arduous work
- economical method for small production runs;
- higher level of operator skills and greater appeal for jobs in construction
- better safety and ergonomics on construction sites
- consistent with digitalization of jobs
- unfettered creative freedom.

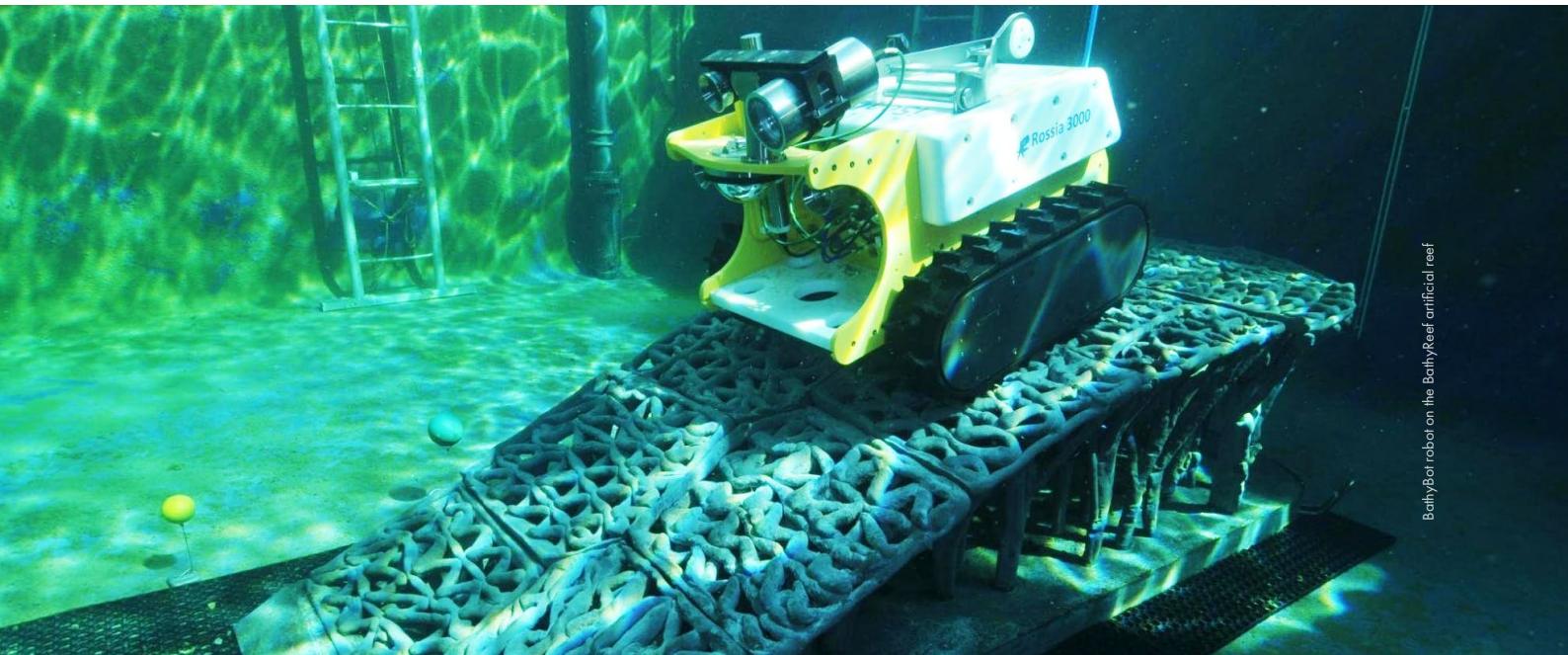
« **Concrete 3D printing is a technology at the crossroads of digital transformation and ecological transition,** fields in which rapid progress is opening up new horizons. Today's computer-aided design tools mean the right concrete is placed in the right spot. Thanks to our expertise throughout the concrete 3D printing value chain, with Lithosys we can propose customized assistance that will turn your most daring projects into concrete reality! »

says an enthusiastic **Olivier Martinage**, Concrete 3D Printing Manager.

Concrete 3D printing serving biodiversity

The geometrical freedom associated with concrete 3D printing means elements made for fostering marine and terrestrial biodiversity can adopt biomimetic design reproducing the sorts of nooks and crannies that are found in nature.

As a result of this possibility, together with the Mediterranean Institute of Oceanography, architectural consultancy Rougerie + Tangram, and the French Institute for Research into Use of the Sea (IFREMER), Vicat became a partner in the **Bathyreef artificial reef project.**
This project involves sinking a concrete colonization support to a depth of 2,400 meters offshore from Toulon, on France's Mediterranean coast, to serve as a habitat fostering biodiversity and as a runway for the BathyBot robot that takes underwater photos for studying marine flora and fauna, bioluminescence, and the biogeochemical processes occurring on the seabed.
Concrete was eminently suitable for the BathyReef artificial reef because it is an inert mineral material. And 3D printing meant it could take on complex shapes that by mimicking the fine, distinctively branched structure of sea sponges provide a large surface area for colonization. Vicat's Smart-Up—a fiber-reinforced ultra-high-performance concrete that, because of its level of performance, substantially reduces the amount of material required—was used to print over a dozen modules that were assembled on a concrete slab.



BathyBot robot on the BathyReef artificial reef

Unique production unit 100% devoted to concrete 3D printing

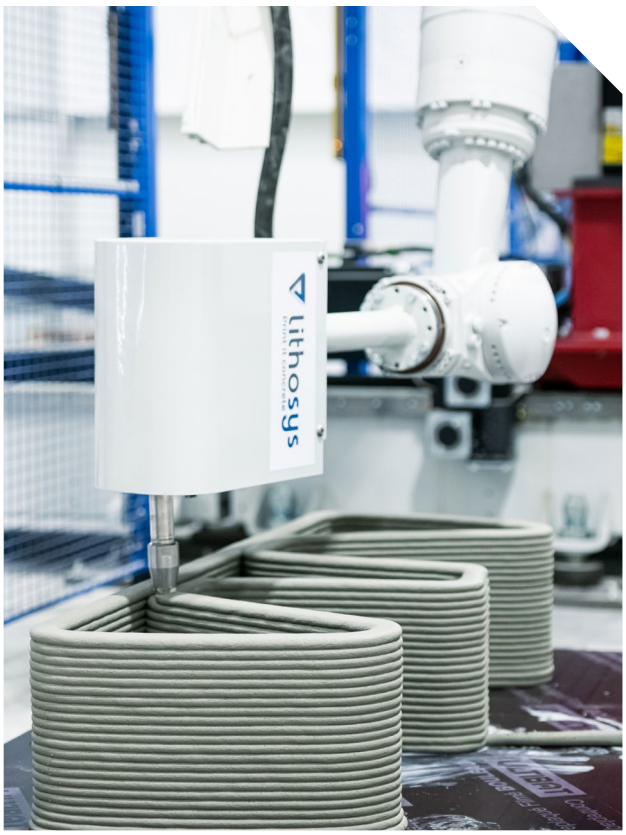
With Lithosys, Vicat is expanding its research and development work into 3D printing adapted to the specific requirements of every application of concrete. **In 2021 the Group invested 2 million euros in a production and R&D unit devoted to 3D printing in Chambéry (French Alps).**

Vicat gives every encouragement to innovative techniques such as this that **reinvent traditional construction methods** through new skills, and particularly through digital technology. Concrete 3D printing is also a means of reducing both the amount of waste generated by production of concrete elements and the associated costs.

With this new brand, the Vicat group aspires to become a **driving force in concrete 3D printing both in France and internationally.** With this in mind, the Lithosys offering will continue to expand, and will include the creation of a **full range of concrete inks**, including low-carbon and bio-based mix designs.

Innovation in the blood

Innovation has been in Vicat's DNA right from the start. Today, the successors of Louis Vicat, the man who demystified the manufacture of artificial cement in 1817, work in the Louis Vicat Technical Center, near Lyons, whose research focuses on environmental issues, recyclability of materials (aimed at preserving natural resources), and the development of construction processes involving optimized quantities and bio-based raw materials. The Center's 90 scientists, engineers, and technicians also work on the development of new cements whose manufacture emits less CO2 yet have the same mechanical properties. This issue is fundamental for the future of the industry, and falls under the Group's goal of taking part in a collective effort in favor of the environment.



Bâtir le vivre ensemble

About Vicat :

The Vicat Group has close to 9,500 employees working in three core divisions, Cement, Concrete & Aggregates and Other Products & Services, which generated consolidated sales of €3.123 billion in 2021. The Group operates in twelve countries: France, Switzerland, Italy, the United States, Turkey, Egypt, Senegal, Mali, Mauritania, Kazakhstan, India and Brazil. Vicat, a family-owned group, is the heir to an industrial tradition dating back to 1817, when Louis Vicat invented artificial cement. Founded in 1853, the Vicat Group now operates three core lines of business: Cement, Ready-Mixed Concrete and Aggregates, as well as related activities.

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