

## Press release

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# Saint-Gobain and Roctool combine their unique technologies to boost the composite and thermoplastic 3D textile preform parts manufacturing

The Bordeaux site of Saint-Gobain Aerospace and Roctool joined efforts to offer fast composite or thermoplastic 3D textile preform parts manufacturing for a variety of applications and diversify in many sectors such as mobility, energy, medical, military, communications, aerospace and marine....

The Saint-Gobain 3D automated lay-up technology acquired in March 2018 allows for the design of components with the optimization of performance and weight. The manufacturing aspects of the knitted preform technology optimizes material usage, while cutting time and lay-up. This unique automated breakthrough technology replaces time-consuming hand lay-up by a fast reproducible 3D net shape manufacturing. The final composite or thermoplastic part obtained with this preforms is then consolidated during the curing with the infiltration of liquid thermoset resins or with the incorporation of thermoplastic fibers during the knitting.

Until now, the conventional curing cycle duration (5-10h) limited the production cadence of the 3D preform technology. Therefore, to truly leverage the Saint-Gobain productive lay-up systems, a fast curing solution was also required. This has been achieved with the combination of the Saint-Gobain and Roctool technologies which increased the production capacity of a single mold by a factor x 50.

Roctool, a specialist in mold heating and cooling technologies for plastics and composites, developed a highly innovative molding system increasing dramatically the efficiency of the curing step (15 to 30 mn) for the polymerization of composite materials or the thermo compression of thermoplastic parts. The patented Heat & Cool layout provides:

- ✖ a fast and homogeneous heating on the mold surface through flexible inductors run through by a high frequency current;
- ✖ efficient cooling by standard cooling channels with fully turbulent water flow rate.

*"The combination of these two technologies offers some of the highest manufacturing speed of today's high performance industries and definitely a new window of applications"*

to our customers who need composite or thermoplastic parts. In the same time, both technologies improve dramatically the environmental footprint:

- the knitting technology does not produce any waste (30% materials savings in average) and does not need any freezer to store the raw material (like in the conventional composite industry with prepregs stored during 1 year at -18°C)
- the fast induction system saves up to 50% Kwh compared with a conventional oven cycle which would correspond to 50 tons CO2 per production line" states Scott Huth, General Manager for Saint-Gobain Aerospace.

**Mathieu Boulanger**, CEO Roctool underlines: "We strongly believe that OEM and manufacturers need turn key solutions to quickly respond to the market demands. Our exclusive collaboration with Saint-Gobain for specific market segments focus the efforts on one of the key players and is another good example of the importance of combining material technologies and processing methods."

Thanks to this fruitful association, Saint-Gobain's facility at Saint Jean d'Ilac (near Bordeaux, France), which manufacture composite parts for the aeronautical industry will boost the business opportunities while developing new growth markets outside the aeronautical sector, all over the world.

### **About Saint-Gobain Mobility**

Saint-Gobain Mobility is the world's leading systems supplier for the mobility market, and serves virtually every major industry across the globe, with 62 manufacturing facilities and 19300 employees in 31 countries throughout the world. The business is part of Saint-Gobain, the world's largest building materials company, which has more than 166,000 employees and operations in 75 countries, and global sales of € 44,2 billion in 2021.

### **Saint-Gobain Mobility Aerospace**

US: Ravenna, OH USA

France: Sully-Sur-Loire

France: Saint Jean d'Ilac

Website: [www.saint-gobain-aerospace.com](http://www.saint-gobain-aerospace.com)

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**About Roctool:** [www.roctool.com](http://www.roctool.com)

Founded in 2000, Roctool is a technology and manufacturing solutions provider offering engineering services and systems. The Roctool induction process, perfectly adapted to plastic injection and compression molding, is available in many configurations to meet industrial requirements. Roctool's research and development team is constantly adapting its technologies to new materials, particularly metals. Roctool is the leader in heat and cool technologies, and today offers HDPlastics™ to plastic molders, Light Induction Tooling technology - LIT™ to suppliers of composite parts and Induction Dual Heating technology - IDH™ for complete molding solutions. The processes developed by Roctool are used in production by leading brands in innovative sectors such as automotive, aerospace, consumer products and electronics. They offer many advantages, including reduced cycle times, excellent surface quality, weight and performance savings, which allows manufacturers to reduce the overall cost of the parts produced. Roctool is listed on the Euronext Growth market in Paris. Its headquarters and R&D center are located at Le Bourget du Lac (France). Roctool also has offices and platforms in North America, China, Japan, Taiwan and Germany.

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