



Press release - Paris, April 7, 2021

## Fives contributes to the Solar Impulse Foundation's #1000solutions challenge with AMELIOS Suite and Virtuo™ OptiScale

Two solutions developed by Fives have been recognized by the “Solar Impulse Efficient Solution Label”, following an assessment by independent experts. AMELIOS Suite and Virtuo™ OptiScale join the panel of #1000solutions, a Solar Impulse Foundation initiative to promote solutions meeting high standards in terms of profitability and sustainability.

### Industry: an important part of climate action

The industrial sector currently generates 39% of CO<sub>2</sub> emitted worldwide (*International Energy Agency, 2018*). Industrial solution and equipment designers like Fives have an important role to play to develop technologies allowing customers to improve their environmental performance.

For this purpose, Fives devises innovative technologies creating value for industry in numerous sectors, where the carbon footprint is sometimes very significant (specifically aluminum, glass, cement, steel).

The Solar Impulse Foundation shares this vision of an industry fully committed to identifying solutions to tackle climate change. Fives approached the Foundation to propose some of its technologies as part of its “#1000solutions” project.

### Two Fives solutions recognized by the “Solar Impulse Efficient Solution Label”

Two products developed by Fives have been awarded the “Solar Impulse Efficient Solution Label”:

- **AMELIOS Suite:** a complete digital suite, based on data from advanced sensors to control the entire anode manufacturing process, and thus optimize carbon consumption associated with primary aluminum production. This solution ensures a high-quality anode, and potentially reduces the amount of CO<sub>2</sub> emitted per ton of aluminum produced by 35 to 70 kg, whilst also reducing anode production costs by 2.5%. These gains lead to a return on investment of between two and four years.
- **Virtuo™ OptiScale:** an advanced digital solution combining smart sensors and models. It is used to adjust the steel furnace production parameters in real time to control and reduce scale loss, which is a problem in terms of product quality, manufacturing line productivity (and therefore cost) and the environment (extra consumption of raw material and processing of the byproduct). Virtuo™ OptiScale scans the steel slab as it travels to the rolling mill using lasers and thermal cameras, and automatically adjusts furnace parameters. A smart system, the software uses machine learning to continually develop its models with the latest information from the furnace. Thanks to this technology, scale loss can be reduced by 30% in existing furnaces.



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To receive the “Solar Impulse Efficient Solution Label”, the solutions were thoroughly assessed by a pool of independent experts according to 5 criteria covering the three main topics of Feasibility, Environmental and Profitability. All labelled solutions are part of the #1000solutions portfolio that will be presented to decision-makers in business and government by Bertrand Piccard, Chairman of the Solar Impulse Foundation. The aim of this initiative is to encourage the adoption of more ambitious environmental targets and fast-track the implementation of these solutions on a large scale.

Other Fives technologies are being assessed to obtain the label.

### **Fives, committed to make industry more virtuous**

AMELIOS Suite and Virtuo™ OptiScale are two examples of the numerous solutions developed by Fives contributing to industry’s environmental performance. In this regard, R&D teams are also working to tackle challenges to limit human and environmental harm (climate change, reducing polluting emissions and particles), protect natural resources, and guarantee equipment sustainability or the transition to new energies (electrification, hydrogen, etc.).

*“This constant innovation to reduce the impact of industry and transform it into something positive is one of Fives’ core Corporate Social Responsibility commitments,”* confirms Ingrid Jaugey-Ndiaye, Group CSR Director. *“It reflects our mission statement “Faire aimer l’industrie” and the Group’s desire to create long-term value for all its stakeholders.”*

### About the Solar Impulse Foundation

The Solar Impulse Foundation is dedicated to accelerating the implementation of clean and profitable solutions. Moreover, the Foundation is helping decision-makers in businesses and governments to achieve their environmental targets and adopt more ambitious energy policies, which are necessary to pull these solutions to market. A way to carry the success of the first solar-powered flight around the world further.

### About Fives

As an industrial engineering Group with a heritage of over 200 years, Fives designs and supplies machines, process equipment and production lines for the world's largest industrial players in various sectors such as steel, aerospace and special machining, aluminium, automotive and manufacturing industries, cement, energy, logistics and glass.

The effectiveness of its R&D programs enables Fives to design forward-thinking solutions that anticipate industrials' needs in terms of profitability, performance, quality, safety and respect for the environment.

In 2019, Fives achieved a turnover of €1.99 billion and employed more than 8,400 people in about thirty countries.

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