

AddUp announces the FormUp® 350 Evolution for printing parts up to 1 meter tall

The ability to print large metal parts is in high demand in the aeronautics, space, defense, and energy sectors. AddUp responds to this need with the announcement of a new FormUp® 350 Evolution machine, which will allow for parts up to 1 meter tall to be printed with very high levels of productivity.

AddUp, the metal additive manufacturing solutions provider created by French groups Michelin and Fives, is expanding its machine portfolio with the announcement of the FormUp 350 Evolution. Based on the architecture of the FormUp 350 New Generation machine, this new printer offers an increased manufacturing volume, as well as an architecture focused on reducing non-productive time.

With a print volume of 350 x 350 x 1000 mm, the FormUp 350 Evolution will be able to print parts up to one meter high. This feature will allow many manufacturers to expand the spectrum of applications for L-PBF technology. The smaller build volume compared to other metal processes has historically been one of the main limitations of laser melting machines on powder bed.

With the FormUp 350 Evolution and its 185% larger volume, it becomes possible to print parts as large as combustion chamber, aircraft structural elements, missile bodies, or even large-capacity heat exchangers in a single operation.

The new Evolution machine includes an extension of the Z axis and a manufacturing enclosure that is nearly identical to the existing FormUp 350 New Generation machine. This allows for total compatibility of recipes and parameters to create production-scale parts with the desired properties. For industrialists already equipped with New Generation machines, the prospect of launching production on an Evolution machine without any development effort is inviting.



The FormUp 350 Evolution

To learn more about
the new machine:
[https://addupsolutions.com/
formup-350-evolution/](https://addupsolutions.com/formup-350-evolution/)

No wait between builds

While the manufacturing enclosure is inspired by the FormUp 350 machine, the Evolution machine features an architecture entirely focused on productivity. As printing tall parts traditionally involves long manufacturing times, AddUp engineers have worked to eliminate all non-productive time in the 3D printing process. The new machine is equipped with an extractible build chamber, which allows for the manufactured part and its build chamber to be removed from the machine immediately after build completion. This preserves the inert environment to guarantee part quality and powder reuse. This system will be able to evacuate the manufactured part and bring a new platform, allowing to restart the next production as soon as possible, while preserving the conditions of inerting the powder. The cooling of the previous build, as well as the vacuuming of the loose powder, can be carried out as a background task rather than taking up machine time, which can save several hours between productions.

Fully integrated into the FormUp 350 range

A "stretched" version of the FormUp 350 New Generation, the Evolution machine inherits all the characteristics that have made the FormUp range so successful, notably in the aeronautics, defense, and medical sectors. Just as with the FormUp 350 New Generation, this new machine offers flexibility with the choice of a roller or scraper recoating device and number of lasers, up to 4,500W each. The quality of parts is second-to-none with the help of the 3D scanner capable of high precision reach to every point on the build plate.

In addition, all laser and chamber parameters are completely open, allowing manufacturers to optimize the mechanical characteristics of parts and their surface finish. The FormUp includes the highest level of safety on the market with the inclusion of an autonomous powder module and a fume filtration module that prevents the exposure of toxic or explosive substances to operators, even when using reactive powders. This also allows the powder properties to be maintained over the course of many productions, ensuring that the powder is never exposed to ambient air.

By introducing a L-PBF machine with an extended height of one meter, AddUp strived to meet the real need of production level manufacturing - to produce large parts with a high level of complexity and precision. The FormUp 350 Evolution responds to the need to make such applications profitable, pushing forward the industry of Metal 3D Printing.

About AddUp:

AddUp, a joint venture created by Michelin and Fives, is a global metal additive manufacturing OEM offering multi-technology production systems, including the FormUp® range of robust and open-architecture Powder Bed Fusion (PBF) machines, as well as the BeAM Modulo and Magic lines of industrial Directed Energy Deposition (DED) machines.

The combination of these processes allows AddUp customers the flexibility to choose the technology best suited for their specific application while also offering a unique ability to meet technical challenges, such as manufacturing parts combining these complementary technologies. AddUp's FormUp 350 PBF range is modular and scalable to provide the highest productivity while ensuring user safety. The DED machines are designed for industrial production and equipped with in-house designed and developed nozzles to provide maximum precision and very high productivity. To provide customers with a true Industry 4.0 solution, AddUp also provides a complete monitoring solution providing quality assurances after each and every build.

AddUp is headquartered in Cébazat, France, with its North American subsidiary based out of Cincinnati, Ohio. In addition to the machine design and manufacturing, the AddUp group also offers part production, POC production, metal AM consulting services, AM training, and design for AM, making AddUp your one-stop for metal AM.

To learn more visit:

www.addupsolutions.com

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