# A new year means a new version for AddUp Trajectory Generator

**AddUp is proud to release a new version of the AddUp Trajectory Generator, developed in partnership with Inria (Institut national de recherche en sciences et technologies du numérique).**

AddUp Trajectory Generator is a fast slice & toolpath generator. Since its unveiling at Formnext 2019, it has become the new standard for AddUp FormUp machine users.

With over 3500 researchers and engineers, Inria is the French national research institute for digital science and technology. It is a leading and reference institute in this field. AddUp partnered with the Inria computer graphics experts behind IceSL, a highly efficient hybrid CPU-GPU slicer. Together they developed and integrated advanced algorithms that bring unprecedented slicing & toolpathing performance into AddUp Trajectory Generator.

"The slicing & scanning trajectory computation speed is around 1000x the build speed of these trajectories. When you consider time spent by engineers, simply waiting for computing to be done, this is a real game changer." precises Damien ARTIGNAN, Assistant Head of Industrial Software Department, at AddUp.

These performances are achieved through innovative algorithms and efficient parallelization on multi-core CPUs. Computing on CPUs can seem antiquated when the hype is about GPU computing, but CPUs bring unique and crucial advantages.

"PBF toolpath generation produces a lot of data that must be sent to scanners or be saved to files. This leads to many I/O between RAM and VRAM that add a processing time to the pure GPU computing time, having a low net gain. In addition, maintainability and evolutivity are simpler on CPUs. Finally, the CPU approach does not require specific vendor hardware." says Guillaume PASCAL, AddUp Manager Product Owner.

Next page 2

AddUp
AddUp was born on April 2015, following the decision of the two industrial groups Fives and Michelin to create a major player in metal 3D printing. This joint venture aims to bring its unique experience and know-how to its customers by developing and marketing industrial machinery and production workshops using the technology of its customers, additive metal manufacturing, commonly known as 3D Metal printing. The AddUp offer incorporates Powder Bed Fusion Technology (PBF Powder Bed Fusion) and Directed Energy Deposition DED technology since the acquisition of BeAM in June 2018. AddUp also offers services, consulting and training to support its clients in the adoption of technology. Since 2018 Poly-Shape is an AddUp company.

www.addupsolutions.com

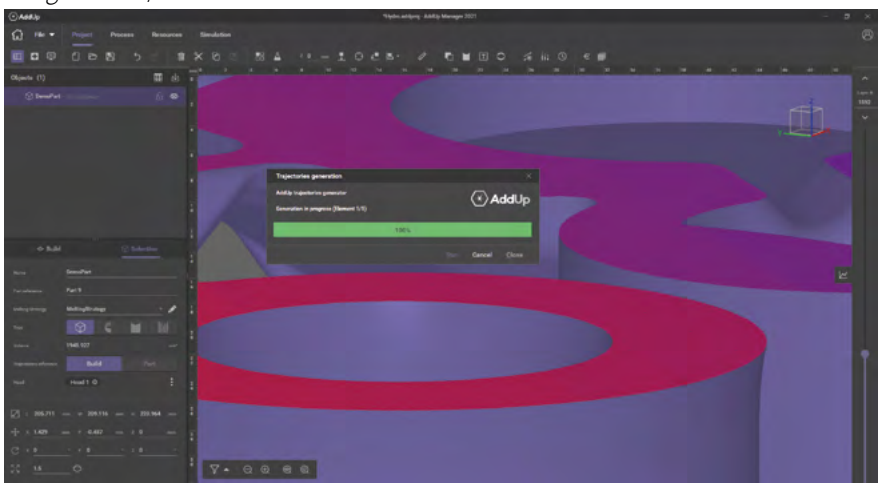
In addition, slicing performance scales naturally with the number of CPU cores: from home laptops to many-core desktop CPUs, the slicer makes the best use of the target platform capabilities.

The new version of AddUp Trajectory Generator now offers smooth upskins & downskins generation, to obtain an unprecedented part surface quality. This new feature strengthens the existing list of operators available for visual strategy trees, a unique approach for AM strategies creation.

"Thanks to the visual strategy tree definition, unlimited combinations of operators and parameters are given to our users, while no programming skills are needed. With such a rapid learning curve, our customers can be focused on production from day one." explains Mathieu ROCHE, Software Product Manager, at AddUp.

AddUp Trajectory Generator is included in AddUp Manager™ 2021, at no extra cost.

*Image: AddUp*




*About 22 millions vectors generated in 17.3 seconds (8 Cores CPU @2.80 GHz). AddUp Manager™ 2021, available soon.*

Contact AddUp:
Manon Delarbre (Communication)
manon.delarbre@addupsolutions.com
+33 (0)6 43 11 01 52

Inria
National Institute for Research in Digital Science and Technology

World-class research and technological innovation are its DNA. Inria's 3,500 researchers and engineers live their passion for digital technology in nearly 200 project teams, most of which share a common interest with our academic partners, notably the CNRS (French National Centre for Scientific Research) and major research universities. They explore new avenues, often in an interdisciplinary manner and in collaboration with industrial partners to meet ambitious challenges. As a technological institute, Inria supports the development of numerous software products, some of which have a global footprint through the open source dynamic. Because the technological startup is a powerful tool for achieving the impact of research, Inria also supports entrepreneurial risk and the creation of startups (Deeptech). Anchored in major university campuses and industrial ecosystems, Inria is at the heart of the digital dynamic.

www.inria.fr