Newsletter #10

Interreg 2Seas 3D&FPP

The 3D&FPP project researches the integration of post-processing and 3D metal printing, especially for high precision parts. In 2016 this project was granted funding from the Interreg 2 Seas programme 2014-2020 co-funded by the European Regional Development Fund. 3D&FPP aims to result in a reduction of production time of 50% and a reduction of production cost of 30% by developing a flexible and affordable post processing solution.

Demo Day!

In the afternoon of September 19th, 2019, the 3D&FPP partnership proudly presented the results of their research into integrating 3D metal printing and flexible post-processing. In the course of the research the state of art was assessed, and the requirements defined resulting in a possible concept for a flexible post processing solution. This solution was then further developed.

After presentations on the project and the research performed, a live demonstration was given on the post processing solution and the advantages and benefits of the solution. In the Q&A sessions, the audience mainly addressed the size of objects on which the FPP is applicable, possible clamping designs and limits of scanning disorientated objects.

Watch our video (in Dutch) about the Demo Day
Read an article (in Dutch) about the Demo Day in 3D Print Magazine

Flexible Post Processing solution

Integrating 3D printing and post processing is not an easy task. All information concerning position and orientation of the object for post processing purposes is lost, as soon as the object leaves the 3D printer. The partnership therefor developed an algorithm with a cloud-based compiler. This algorithm is able to align all available data from various sources, and automatically create an adjusted machine code, the NC-code, to post process the object on a milling machine according to specs.


The process is as follows: the scanned data from a clamped printed object is compared with its CAD information, and in this way it is possible to determine the scanned orientation with respect to the clamp, as well as the optimal fit to mill the net shape object with the required tolerance. The CAM NC-code is adjusted accordingly, resulting in the specific NC-code which enables the clamped object to be machined into its net shape.

Watch a video of the FPP solution

Infographic

An overview of the 3D&FPP project and the Flexible Post Processing solution is given in this infographic (click here for a larger version):
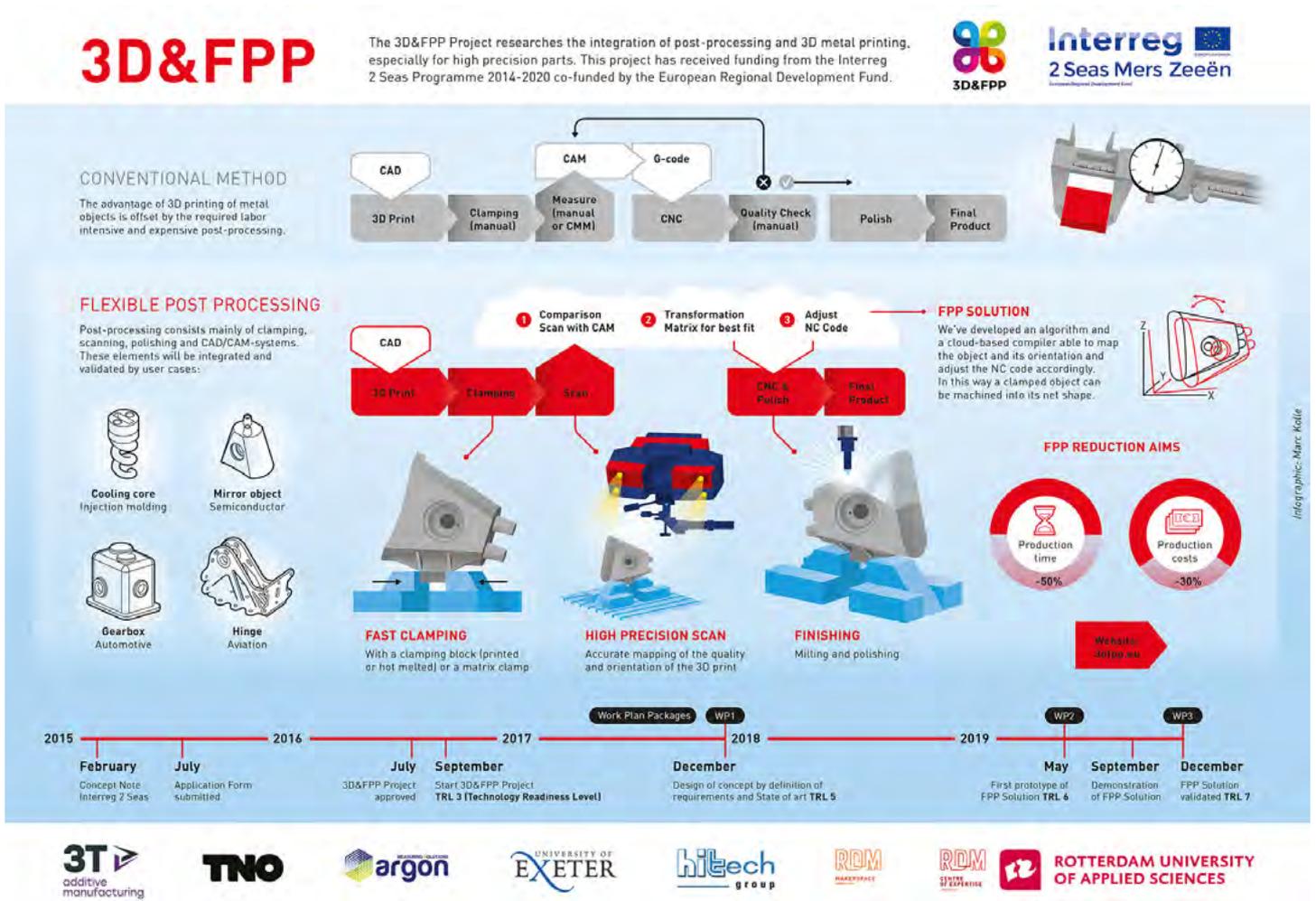
Closure of 3D&FPP project

In the coming months, the algorithm will be further tuned and validated. The validation of the solution will provide a view on the achieved reduction in production time and costs. This validation is the last stage of the project and the 3D&FPP projects consequently ends.

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