

# Project idea: 3D rollforming for Aerospace applications

## Call area: Novel materials, Smart (Additive) manufacturing

### Contact

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### Project Description

Civil aviation is growing worldwide – the A320 and B737 product families are in particularly high demand. Both have a very high Al-content in their structural parts. The production processes of such parts need to be improved regarding sustainability („Buy-to-Fly-ratio“) and efficiency. In this project new production methods like 3D-Rollforming, that meet these requirements, are developed and adapted for the demanding needs of the aerospace industry.

### Project Objectives

- Production of demonstrator-parts for 3D rollformed structural Aerospace components
- Process development of 3D rollforming plus bending operations in-line / off-line
- Process development for additional operations like calibration, joggling, attachment of stiffeners

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### Problem, State of the Art, and Envisioned Solution

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In currently used production processes for structural parts of the fuselage milling is a key manufacturing process, which meets the high requirements regarding geometric tolerances. But on the other hand requirements regarding sustainability (reduction of waste), efficiency and increased production rates are not met sufficiently. The Aerospace industry therefore looks for new manufacturing processes, that are derived from experience in the highly efficient automotive industry.

In previous projects such manufacturing processes have been explored and their suitability in principle was demonstrated. Nevertheless questions are still open regarding achievable geometric tolerances, methods for stiffening the profiles, joining and bending technologies. In this project these subjects will be investigated by suggesting optimum design solutions, improving the production processes and manufacturing of demonstrators.

The produced demonstrators will be investigated according to all relevant aerospace requirements.

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### Our Partners, Our Know-How...

- voestalpine SadeF (Belgium)
- Ortic AB (Sweden)

### We are looking for...

- A project partner providing AI expertise and prematerial supply
- Research partners (institutes) from Belgium, Sweden
- Project coordinator