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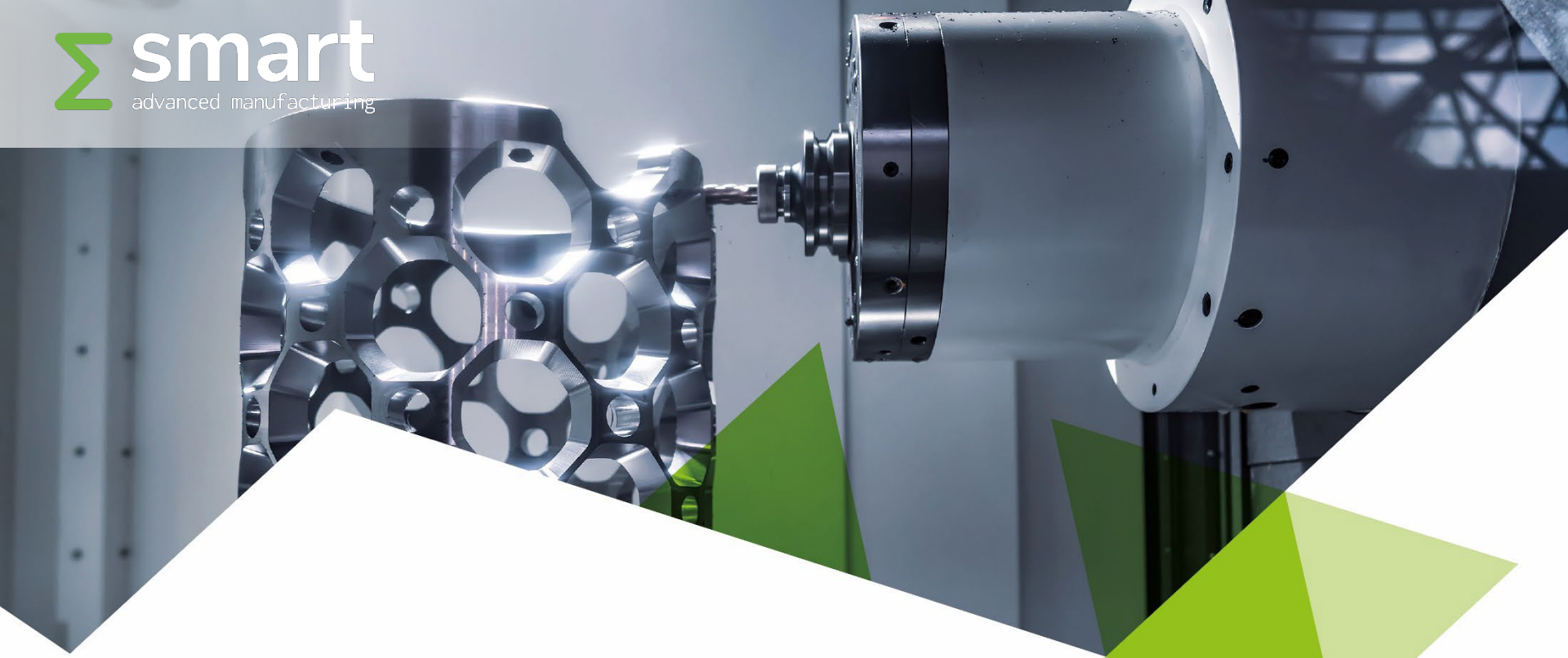

Twin Transition

of the production process towards a sustainable aviation eco-system


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ORGANISATION PROFILE

Insert brief description of the leading organisation: Name, Personnel, Size, Products/Services/Technical areas and R&D project expertise.

Name: Agoria-FLAG

Size companies: large enterprises, open for SME's in the consortium
Research organisations: Sirris, KULeuven

Products:
The companies build parts for applications in aerospace sector.

Technical areas and R&D expertise:
- Design and production of (critical) aerospace parts
- Technical areas: aerospace
- R&D expertise: profound expertise (KULeuven and Sirris more theoretical; the skills that the companies will use in the project and will be more pragmatic)

PROPOSAL INTRODUCTION (I)

Vision: main project goal
This project aims to realize a manufacturing process which makes maximum use of renewable energy, consumes the least amount of energy, generates the least amount of waste, makes optimal use of circular economy opportunities and has a zero carbon footprint. The general objective can only be met when taking into account all facets of the manufacturing setting and process. Therefore, within an all-encompassing approach sustainable alternatives and solutions will be researched, analysed and evaluated at different levels from factory environment till manufacturing technology. Focus is on solutions starting at TRL5-6 that are attainable for an aerospace subcontractor without authority to alter product design and confronted with limitations on changing production processes or technologies.

Motivation: After mapping the full process at each level with a dedicated data collection and analysis phase, a specific Life Cycle Assessment (LCA) will be created on the end-to-end manufacturing aspect . In addition, digital twins are defined for analysing scenarios and potential improvements to minimize the production downtime (first time right). Specific proof-of-concept activities will be setup on existing production lines.

Content: digital twin for energy consumption and material usage, LCA, creation of dedicated digital twins, setup by universities/research centers (mainly focusing on the energy and waste) to guide the companies towards the 'best' improvements in line with the LCA----------

PROPOSAL INTRODUCTION (II)

Expected outcome: descriptions of the results to be obtained in the project
Next to the step change in the aircraft design and propulsion methods towards zero-emission flight, also the aviation manufacturing process itself should be transformed into a sustainable eco-system. In order to achieve the sustainability objectives, this transformation requires in parallel a digital transformation of the manufacturing environment.

Impacts: what will be the expected market impact of the project
The current proposal is seen as an important contributor towards sustainable production processes and the overall digitalisation aspect.

Schedule: start and end dates for the project. Duration: 2 or 3 years

PARTNERS

Current Consortium: Belgian consortium

Partner search: type of partner searched and countries of origin (if necessary).
Small countries and regions do not have important domestic OEMs on their territory so the need to be a strong and unique supplier is essential to be selected as a partner.

CONTACT INFO

Contact info: of the person coordinating the project proposal

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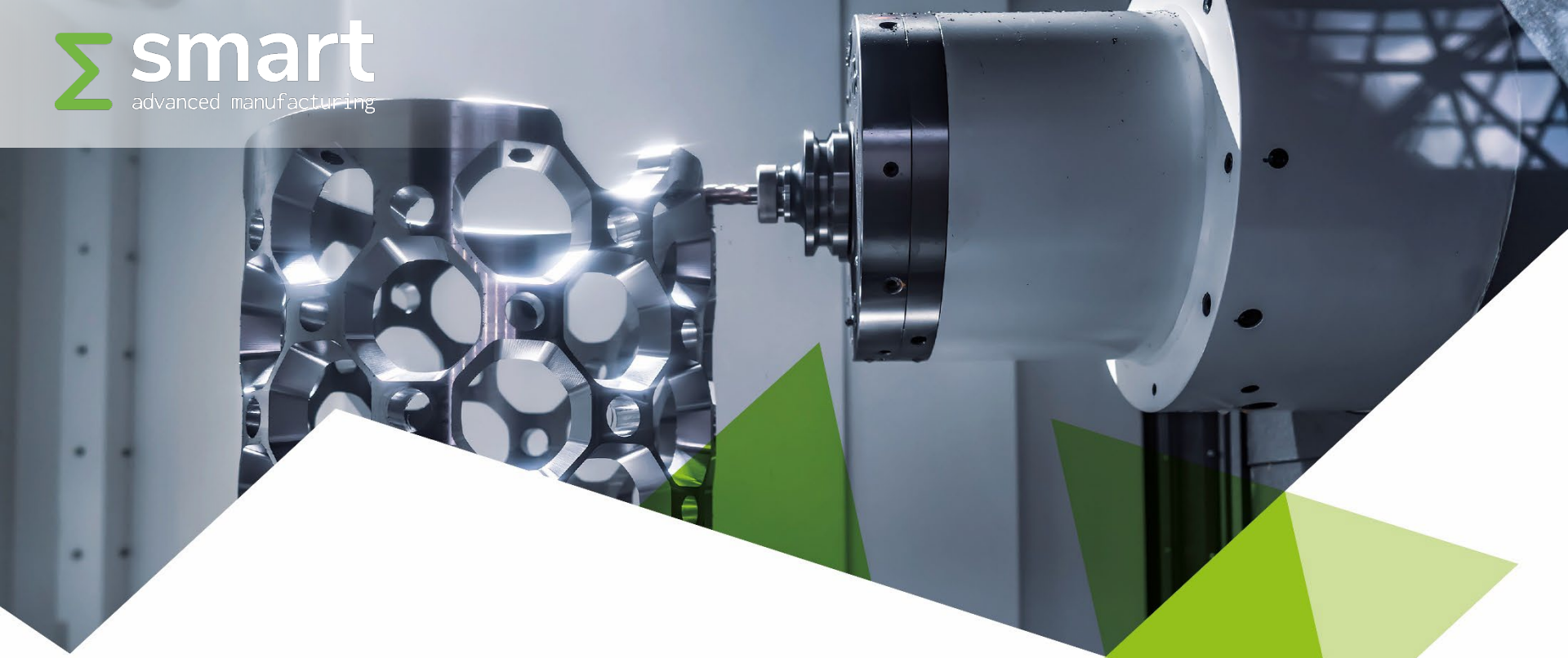

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