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# FEASIBILITY ANALYSIS OF INNOVATIVE PRACTICES IN VIRTUAL TESTING METHODS FOR AIRCRAFT CERTIFICATION

**Project: FAVIT** 

Grant Agreement no: 864475

# D5.4.IPR and Exploitation Plan

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This project has received funding from the Clean Sky 2 Joint Undertaking (JU) under grant agreement No 864475.

The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Clean Sky 2 JU members other than the Union.





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IPR and Exploitation Plan

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# **EXECUTIVE SUMMARY**

FAVIT main objective is to deliver a set of knowledge-based proposals for the improvement of aerospace standards and guidelines for the system suppliers and aircraft manufacturers. FAVIT will analyse the current aerospace standards and guidelines to identify how the design and verification processes can be enhanced to accelerate the processes using the state-of-the-art technologies based in virtual testing.

The purpose of this deliverable is to present the approach of the exploitation and IPR strategy of FAVIT project.

This deliverable will be updated, extended and change in accordance with the needs detected, through the lifecycle of FAVIT project



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# 1 INTRODUCTION

This deliverable is structured in three parts. The first part is focused on describing the main exploitation results. The second part is dedicated to introducing IPR issue.



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# 2 EXPLOITATION PLAN(EP)

The EP will describe the activities to be undertaken in order to ensure the exploitation beyond the project itself. The exploitation plan will reflect and will be built-up as a result of sound analysis of the market trends, stakeholders and cost implementation, among other important aspects.

The exploitation activities will be coordinated by the Secretariat in collaboration with the Project Manager.

A value chain and market analysis will be performed in order to find the needs of the customers and the competitive situation.

#### 2.1 PROJECT RESULTS

The project will generate different types of outputs. Depending on the expected results and new processes and guidelines to use virtual testing in certifiable developments for aeronautical systems and programs, there are different ways for exploitation:

- 1.) Reduction of cost for new certifiable Systems, SW and HW Developments using Virtual testing:
  - a. By reducing the time to market for Systems and Aircraft Manufacturers
  - b. Reducing the cost in Test Benches and Target HW investments
  - c. Reducing the number of PRs and changes during the whole System Development life Cycle anticipating issues in early developments phase and reusing and adapted previous MBE developments.
- 2.) Enhancing and adapting current Virtual Testing tools and platforms to be in line with recommended standards and processes which are the results of FAVIT.
  - Virtual Testing companies can adapt their different solutions to the recommended outcome of FAVIT. Hence, current and new customers will take benefit of those tools for their aeronautical systems developments, optimizing time and cost of their IV&V activities.
- 3.) Exploiting consultancy and training activities for using Virtual Testing in aeronautical sector and further extension to other safety critical industries.
- 4.) Contributing for a "democratization" of **the aerospace industry**, generating safety processes which are more accessible to SMEs, using MBSE and virtual testing. The reduction of needed investment for Non-Recurring-Cost, (test benches, reduced time to market, target HW costs,...) will allow SMEs and newcomers to offer their technologies in aerospace industries for certified Systems, SW and HW.



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# 3 PRINCIPLES OF INTELLECTUAL PROPERTY RIGHTS

With respect to the Intellectual Property Right (IPR) management, ORBITAL is committed to maximum exposure of the work carried out within this project, while ensuring intellectual property is protected and exploited.

ORBITAL, in accordance with the Topic Manager, will determine the results and knowledge arising from the project that will be made available to the public through public reports and/or journal publications and conferences.

The Commission and CS-JTI Recommendations on the management of intellectual property in knowledge transfer activities will be taken into account. The strategy for knowledge management and protection of project results will include measures to provide open access (free on-line access, such as the 'green' or 'gold' model) to peer-reviewed scientific publications which might result from FAVIT.

The assessment of FAVIT Intellectual Property Rights involves mapping the IPRs in view of the FAVIT deliverables In addition, novelty searches on the results will be performed and filing of patent applications will be made (if applicable) or any other necessary protection measure of the Results.

The general principles for handling Knowledge and Intellectual Property Rights within FAVIT are stated below. These principles are in line with H2020 IPR recommendations (H2020 rules for participation (Art. 41, 49) and the model grant agreement (Art. 23-31):

- **2.1 Background**: Background means any data, know-how or information whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights that:
  - is held by the beneficiaries before they acceded to the consortium agreement
  - is needed to implement the action or exploit the results.
- **2.2 Results**: Results means any (tangible or intangible) output of the action such as data, knowledge or information whatever its form or nature, whether it can be protected or not that is generated in the action, as well as any rights attached to it, including intellectual property rights.



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## 4 EXPLOITATION ACTIONS CARRIED OUT

ORBITAL has focused on FAVIT to expand the Orbital activities with new customers and to increase working in V&V projects with current costumers to apply virtual testing whenever possible. We have received positive feedback on these activities and experience.

#### 4.1 EXPLOITATION ACTIONS

ORBITAL has shared the status and results of the project in different meetings with customers or potential customers with the aim of having collaboration opportunities in new projects. In particular, we have shared results with:

- System Managers of the main European aerospace client (Teams in Spain and Germany)
- Current clients for whom we develop aerospace projects (for aircraft and space)
- Current clients for whom we develop V&V projects from other industrial sectors (Railway)

We have also participated in different events where we have described results of FAVIT as potential activities to develop in the next years. In both cases, not for a direct exploitation of results but to continue working with R&D+I projects to improve results to be able to apply it in future projects and to obtain new customers based in this experience of the company. These events have been:

ADM Aerospace & Defense meetings in Sevilla, Spain (June 2022). ADM is the
most important business event for the aerospace sector in southern Europe and the
reference event for the aerospace and defense sector in Spain. It was held from June
7 to 9 in Seville. Orbital entered into conversations with well-known companies in the
sector with which it has not yet worked. In them, we talked about the Virtual Testing
worked in FAVIT for its application in future projects.



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• Aerospace Meetings in Navarre: Orbital was called to participate in this new event in Navarra, Spain where Orbital is located. The aim of these meetings is to create a cluster or relationships between all the aerospace companies located in Navarra. These companies are Orbital CS, MTorres, EOSOL, Anteral, Aldakin, Microlan, Tedcas, Isati, Imeron and Loxin. First meeting was held on May 2022 with the aim of improve the relationships between the companies that work in Navarra to obtain collaborations in different projects or to create R&D+I together to promote the aerospace sector in Navarra. In addition to private companies, the area of economic development of the Government of Navarra, and the University participate. FAVIT is one of the projects that Orbital has presented to start collaboration with other companies. Next meeting will be in November 2022. Some of the meetings with potential customers (1 from Space and 2 aero) have been originated from this first meeting.

## 4.2 NEXT STEPS

Next step that has been identified after definition of guidelines for Virtual Testing processes, is to test it and apply the process to a real project. The project may continue with the definition of a VTE in Orbital to check it or provide new enhancements to this guideline.

In case of Aerospace meetings in Navarra, we are working with some of the companies to use these results as partners in R&D project that we expect to define at the end of this year to start development in 2023. The use of virtual testing will be applied to test the project in the region.