

# Postdoctoral Position in Digital Traceability

## Development of a Digital Product Passport for Advanced Traceability in the Aerospace Industry



### Key Dates

- \* **Interviews:** Conducted on a rolling basis
- \* **Start of the Postdoctoral Position:** As soon as possible (1<sup>st</sup> semester 2026)



### Localisation

The position will be based at ESTIA Research, in Bidart (64), France



### Contract :

12/18 month fixed-term contract



### Keywords

- Digital traceability
- Digital Product Passport
- Flow modeling
- Aerospace supply chain

## Context

The DIGITS project (DIGItal Transformation for better Solutions) is led by Satys, a company specializing in surface protection services, including painting for new and used aircraft, as well as surface treatment and painting of individual parts and aeronautical subassemblies. In response to the challenges and opportunities arising from growth and technological advancements in the aerospace sector, the DIGITS project, funded by the French Civil Aviation Authority (DGAC), is an ambitious initiative aimed at digitalizing Satys' business processes.

Within this framework, the development of a Digital Product Passport (DPP) is a key driver to address challenges related to traceability, operational and sustainable performance, and data standardization across the entire value chain, in line with client and regulatory requirements (e.g., environmental impact assessment).

## Missions and activities

This postdoctoral research project aims to design and test an interoperable Digital Product Passport (DPP), tailored to the specific context of Satys and its industrial partners. The work will involve modeling internal information flows, structuring critical data, ensuring interoperability with client systems, and validating the solution through a pilot case. The main scientific and methodological areas of focus include:

- **Modeling of Flows and Data Structuring:** Analyze product and service flows at Satys (painting, surface treatment) and identify critical data. Develop a business ontology incorporating HSE (Health, Safety, Environment) and quality constraints.
- **Interoperability and Digital Continuity:** Analyze clients' Digital Passports, identify areas of alignment, and define an interoperable data architecture for the supply chain.
- **Engineering and Validation of the DPP:** Develop use-case scenarios, simulate integration within Satys workshops, and carry out a pilot experiment (e.g., painting lines in Toulouse).
- **Dissemination and Knowledge Transfer:** Produce a scientific publication and provide recommendations for industrial deployment of the DPP.

The postdoctoral researcher will work in close collaboration with Satys teams and will be supervised by researchers from the "Technological and Human Systems" division at ESTIA Research.

Depending on ESTIA's needs, the selected candidate may also be assigned teaching responsibilities across the various training programs offered at ESTIA. The position is a fixed-term contract (CDD) for 18 months and includes teaching duties.



### Scientific Advisors

Dimitri MASSON

Laura LAGUNA SALVADO

### Eligibility

Recruitment may be conditional upon obtaining a favorable opinion from the Security and Defence Officer.

### Useful links

website :

<http://www.estia.fr/>

## Desired Profile

The ideal candidate must hold a Ph.D. in Industrial Engineering, Information Systems, Data Science, or Complex Systems Engineering. They should demonstrate solid expertise in process modeling, system interoperability, digital traceability, and human-system integration.

A strong interest in collaborative work within an interdisciplinary environment—combining industrial partners and academic researchers (ESTIA Research)—is essential. Prior experience in research valorization, including scientific publications, solution prototyping, or industrial technology transfer, will be considered a valuable asset.

Additionally, the candidate must be able to effectively communicate (in both French and English) about their project as well as the knowledge and skills developed during their academic journey.

## About ESTIA Research

ESTIA-Recherche is an Independent Research Unit affiliated with the University of Bordeaux (UPR RNSR 201420655V). It is a multidisciplinary research team. Within the “Technological and Human Systems” research axis—dedicated to proposing models and tools for the analysis, simulation, and transformation of complex systems—ESTIA-Recherche conducts work on Human-System Integration. These efforts are primarily applied in product and industrial process design, with the goal of creating software environments that support human actors in their operational tasks, particularly through the development of the Digital Product Passport concept as a lever for circularity.

## Why Join This Project?

Joining this research project offers the opportunity to:

- Contribute to an applied research initiative at the heart of current industrial challenges: digital traceability and digital continuity.
- Work in an interdisciplinary environment bridging academic research and industrial innovation.
- Gain valuable experience in collaborative project management, process modeling, and digital systems integration.
- Disseminate your work through scientific publications, functional prototypes, and operational recommendations.
- Strengthen your professional profile for a career in academic research, industrial R&D, consulting, or technology transfer.

## Candidature

The application package must include a CV and a letter of recommendation or the name of a professional reference.

Applications should be sent via email to Isabelle ERREÇARRET, [i.errecarret@estia.fr](mailto:i.errecarret@estia.fr), +33 559.43.84.14.

Shortlisted candidates will be invited to meet with the project supervisors on a rolling basis.