School of Engineering – Department of Mechanical Engineering and Aeronautics

Machine Design Lab – MDL
Intelligent Design and Sustainable Engineering Group (IDEAS)

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Three (3) Open Positions for **Researcher Engineers** and **Project Manager** on **Intelligent Design** & **Sustainability Engineering** on the **aviation** and **maritime** sectors

Role Description
Full-time, on-site positions for MSc, or PhD Researchers, starting in January 2026 and limited until December 31, 2027, with possibility of extension. Compensation is competitive and aligned with the private-sector rates in Greece. In parallel with these positions, the possibility is provided to pursue a PhD qualification at the University of Patras.

Job description
We are seeking:

- **one project manager** on the **maritime** sector IDEAS_001348
- **one research engineer** on the **aviation** sector IDEAS_002412
- **one research engineer** on the **maritime** sector IDEAS_001357

in European Horizon projects focused on Intelligent Design and Sustainability Assessment. Please refer to your application using the respective IDEAS_00XZYC number.

1. **Technical Project Manager** on maritime-sector related EU-programmes on sustainability assessment of Sustainable Alternative Fuels (SAFs) and Energy Efficiency Technologies (EETs) for future ship configurations on **SAFeCRAFT** project. https://safecraft.eu/

SAFeCRAFT's overall goal is to develop and demonstrate the safety, viability and accelerate the adoption of Sustainable Alternative Fuels (SAFs) in waterborne energy transport. It demonstrates four technologies, acting as SAF enablers for different types of oceangoing and short sea shipping vessels, both newly built and retrofitted. Your tasks in SAFeCRAFT are:

- Technical project management of EU-funded projects.
- Project planning, timelines, deliverables, and reporting.
- Coordination of multidisciplinary teams and stakeholders across countries.
- Organization and participation in technical meetings, workshops, and dissemination activities.
- Project acquisition and proposal development for future EU funding opportunities.

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2. **Research Engineer** on design and sustainability assessment of conceptual future aircraft configurations as part of the EU-funded EXAELIA project. https://exaelia.eu/

Goal of EXAELIA is to address the need for more radical changes in long-range aircraft configurations and propulsion concepts to drastically cut the climate impact of long-range flights and to accelerate the potential entry-into-service of such aircraft to before 2050. Your tasks in **EXAELIA** are:

- Calculation of sustainability metrics, which incorporate the pillars of performance, environment, costs, circularity, and social impact, using Python & MATLAB.
- Development of an aviation-specific decision support tool for sustainability assessment, using Python & MATLAB.
- Sustainability assessment and design of conceptual future aircraft subsystem configurations.
- Communication of research outcomes at international conferences and publication at international peer-reviewed journals.

3. **Research Engineer** on design of systems and sustainability assessment of Energy Efficiency Technologies (EETs) for future ship configurations as part of the EU-funded **FleetFor55** project. https://fleetfor55.eu/

Goal of FLEETfor55 is to develop a holistic roadmap that identifies the most cost effective and sustainable implementation of Energy Efficiency Technologies (EETs) onboard vessels to align European waterborne transport with the Fit 55 environmental EU goals by 2030. Your tasks in FLEETfor55 are:

- Requirement identification, analysis & data collection from EETs and ship types.
- Modelling and simulation of multidomain physical systems of EETs, using Simulink or Amesim software.
- Development of multi-criteria decision-support systems for the holistic sustainability assessment of EETs & trade-off analysis (cradle to cradle), using Python & MATLAB.
- Communication of research outcomes at international conferences and publication at international peer-reviewed journals.

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Group Description

Intelligent Design and Sustainable Engineering (IDEAS) group is located at the Machine Design Lab of the Department of Mechanical and Aeronautical Engineering at University of Patras, Greece. IDEAS research areas focus on Intelligent Multi-Material Design, Engineering for Sustainability, Systems Digitalization, and Innovation in Education. We strive towards a more sustainable future through inventive research and collaborative solutions. For more information on the ongoing and upcoming research projects, please refer to our internet website www.ideas.upatras.gr.

Qualifications Skills and Expertise

- Diploma, BSc, MSc or PhD in Mechanical, Aeronautical, Maritime Engineering, or related field.
- Academic or industrial experience in relevant fields is considered advantageous.
- Publications record in relevant fields is considered advantageous.
- Excellent written and verbal communication skills in English.

What We Offer:

- An interdisciplinary work environment of young scientists in a startup-like open atmosphere.
- An international work environment in collaboration with world-class institutions.
- Early involvement in innovative projects with significant responsibilities.
- A stimulating scientific and academic atmosphere.
- A high degree of responsibility and independence.

Location:

The primary work location is the Machine Design Laboratory (MDL) within the Department of Mechanical Engineering & Aeronautics at the University of Patras, Greece. Occasional travel may be required for meetings or events at partner facilities and locations within Europe and Asia.

Application Documents:

Applicants are required to submit a comprehensive application in English at ideasmdl@upatras.gr, including:

- A detailed curriculum vitae, including list of publications, if available, and a point of contact for reference.
- A cover letter briefly addressing the outlined criteria you fulfil, and your motivation for the role.

For questions and applications, please address Prof. Dr.-Ing. Angelos Filippatos at the email ideasmdl@upatras.gr .

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