

DESCRIPTION OF THE PURCHASE SUBJECT

RESEARCH OF CO2 CALCULATION METHODOLOGY

Identification number No.GP/001/06/2025

Riga, June13, 2025

1. General information about the support applicant:

1.1.	Support applicant:	SIA "AM Craft"
1.2.	Taxpayer number:	LV53603080861
1.3.	Customer's legal address:	Braslas Street 22D, Riga, LV-1035
1.4.	Delivery location:	Braslas Street 22D, Riga, LV-1035
1.5.	Order fulfillment period:	1.07.2025-30.09.2025
1.6.	Offer validity period:	30.09.2025

2. Description of procurement items:

The subject of this procurement is the development of a carbon emission calculation methodology for 3D printed parts across their entire lifecycle, to be carried out within the framework of project No. 1.2.1.2.i.2/1/24/A/CFLA/004 "Addressing aviation sustainability challenges and developing optimized designs and lighter components using 3D printing technology."

The objective of this activity is to establish a tailored methodology that accounts for the specific material, design, and operational characteristics of 3D printed components used in aviation. The methodology must align with the requirements specified in Section 3 of the procurement documentation.

This activity includes the following core objectives:

- Research of current carbon footprint calculation models used by airlines and MRO (Maintenance, Repair, and Overhaul) organizations;
- Analysis and adaptation of these models to account for the specificities of 3D printed parts;
- Validation of the developed methodology using 5 representative 3D printed part designs provided by AM Craft
- Identification of relevant lifetime performance tests (e.g., UV resistance, durability, etc.) to support accurate lifecycle emissions estimation.

3. Technical specification of the procurement subject

No. pc.	Description of the order item	Requirements
1.	Requirements for activity No. 1. Industry Benchmarking and Research	
1.1	Collect and analyze existing carbon footprint calculation methodologies from at least 3 airlines and/or MRO organizations.	At least 3 customer interviews

1.2	Summarize findings in a comparative matrix identifying strengths, limitations, and applicability to additive manufacturing (AM).	Must be provided
2.	Requirements for activity No. 2 Methodology Development	
2.1	Propose a conceptual framework for carbon emissions calculation tailored to polymer-based 3D printed parts used in aircraft interiors.	Must be provided
2.2	Identify parameters specific to FDM printed parts that influence carbon emissions (e.g., infill density, design complexity, material type).	Must be provided
2.3	Adapt standard models to incorporate these variables and ensure the methodology reflects the actual environmental impact of AM-produced parts.	Must be provided
3.	Requirements for activity No. 3 Validation of Methodology	
3.1	Apply the developed carbon footprint calculation method to a selection of 5 specific 3D printed part designs supplied by AM Craft.	Must be provided
3.2	Present a comparative assessment between conventional manufacturing and AM-based emissions for these parts (where applicable).	Must be provided
4.	Requirements for activity No. 4 Identification of Lifetime Testing Requirements	
4.1	Review and propose relevant lifetime performance tests (e.g., UV stability, temperature cycling, vibration) based on existing data and industry practices that influence lifetime emissions assumptions.	Must be provided
4.2	Provide a comparative analysis of similar testing that has been conducted on original (traditionally manufactured) parts versus 3D printed parts.	Must be provided
5.	Reporting and other requirements	
5.1	Qualification requirements for the applicant	The Applicant must have experience in the implementation of research and development (R&D) projects in the aviation sector. The minimum requirement is the execution of at least one R&D service contract in the aviation sector within the past five years, in which the Applicant acted as the main executor or a cooperation partner.
5.2	Prepare a draft methodology report for review, including all data sources, assumptions, calculation models, and validation results.	Must be provided
5.3	Submit a final carbon footprint calculation methodology with supporting documentation and guidance on its future use and extension.	Must be provided
5.4	Payment terms	Up to 100% advance payment
5.5	Price	The offer must indicate the price for whole research, including all costs related to the provision of the service

		(administration, preparation of documentation, etc.).
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4. Requirements for preparing the tender offer

- 4.1. Tender offer is prepared in Latvian or English language,
- 4.2. Information about the supplier (company details) provided,
- 4.3. Requirements of the procurement subject must be indicated in accordance with Section 3,
- 4.4. The offer is valid until 30.09.2025.,
- 4.5. Price of the tender offer in EUR without VAT,
- 4.6. Date of the tender offer, preparer's name, surname, position, and signature provided.

The offer must be submitted by 5:00 p.m. on July 3, 2025, electronically to the following email address: elina@am-craft.com

Board member
Didzis Dejus

