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Thematic Topics

“Where the Bottom-Up
meets
the Top-Down” ...

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Thematic Topics - Background

- **Thematic topics as new instrument to bring in new ideas contributing to CS2 HLO/complementing CS2 programme**
- **Features of thematic topics:**
 - Problem-oriented statements allowing research / technology routes to be selected and proposed by applicants
 - Allow for **retention of multiple projects against a topic**, where justified
 - Down-selecting on basis of clear contribution to CS2 HLO
 - Avoid duplication with H2020 calls in terms of both topic scope [narrower] and descriptions [more focused yet broader than CfP topics to date]



CfP- typology of topics

Complementary Topics

- CS2JU specificity
- Topics launched **inside** the complementary framework of one IADP/ITD/TA
- Directly linked to the action implemented by the Clean Sky 2 Members under grant agreements for members
- Contribute to the achievement of the results of specific ITD/IADP/TA.

Thematic Topics

- Topics launched **outside** the complementary framework of one IADP/ITD/TA
- Not directly linked to the action implemented by the Clean Sky 2 Members under specific ITD/IADP/TA
- Contribute to the achievement of the High Level Objectives (HLGs) of the Clean Sky 2 Regulation
- Different special conditions of admissibility apply to the thematic topics.



Applicant's Proposal Submission System

Templates for submitting a valid proposal:

1. Part A *[Administrative Section (Coordinator ID, Legal LEAR etc.)]*
2. Part B.I *[Technical Section: 3 EVAL Criteria and technical and financial content linked to DoA]*

NOTE: 30-page limitation for thematic topics in Part B.I

3. Part B.II *[Admin Section: members of consortium (participants, operational capacity, etc.), (potential) ethics and security issues identified by the applicant]*
4. Part C *[ESIF Complementary Activities – OPTIONAL]*
5. Part D *[Declaration on the Participation of any Affiliated Entities to Private Members of CS2JU in this Proposal and Declaration(s) of Interests]*

These templates (as published with this call) will be available via the H2020 Funding & Tenders Opportunities Portal and in the Submission System.



CfP11 Overview – Thematic Topics

List of Topics for Calls for Proposals (CFP11) – Part B

Identification Code	Title	Type of Action	Value (Funding in M€)
JTI-CS2-2020-CFP11-THT-11	High power density/multifunctional electrical energy storage solutions for aeronautic applications	RIA	1.20
JTI-CS2-2020-CFP11-THT-12	Advanced High Power Electrical Systems for High Altitude Operation	RIA	1.00
JTI-CS2-2020-CFP11-THT-13	Sustainability of Hybrid-Electric Aircraft System Architectures	RIA	1.60
JTI-CS2-2020-CFP11-THT-14	Scalability and limitations of Hybrid Electric concepts up to large commercial aircraft	RIA	0.80



JTI-CS2-2020-CFP11-THT-11: High Power Density / Multi-Functional Electrical Energy Storage

Type of action (RIA/IA/CSA):		RIA	
Programme Area:		N/A	
(CS2 JTP 2015) WP Ref.:		N/A	
Indicative Funding Topic Value (in k€):		1200	
Topic Leader:	N/A	Type of Agreement:	N/A
Duration of the action (in Months):	30*	Indicative Start Date (at the earliest)⁷⁸:	> Q4 2020

**The JU considers that proposals requesting a contribution of 1200k€ over a period of 30 months would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts and/or proposing different activity durations.*

Topic Identification Code	Title
JTI-CS2-2020-CFP11-THT-11	High power density/multifunctional electrical energy storage solutions for aeronautic applications
Short description	
<p>Clean alternatives are demanded for aviation, and combustion engines will be progressively combined or even substituted by electrical motors. This is one of the several reasons that make more electric aircraft and all electric aircraft the clear trend for aerospace. These concepts imply a considerable increase of electrical power demand on board, and in order to satisfy it with no use of fuel, the improvement in electrical energy storage need to be addressed. This project will address solutions to increase the power density of batteries (i.e. by investigating new battery chemistries) and solutions for better integration at aircraft level (i.e. by integrating the batteries in the aircraft structure, with the aim of rise the overall power density performance of the storage system saving weight and volume).</p>	

JTI-CS2-2020-CFP11-THT-12: Advanced High Power Electrical Systems For High Altitude Operation

Type of action (RIA/IA/CSA):		RIA	
Programme Area:		N/A	
(CS2 JTP 2015) WP Ref.:		N/A	
Indicative Funding Topic Value (in k€):		1000	
Topic Leader:	N/A	Type of Agreement:	N/A
Duration of the action (in Months):	30*	Indicative Start Date (at the earliest)⁸¹:	> Q4 2020

**The JU considers that proposals requesting a contribution of 1000k€ over a period of 30 months would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts and/or proposing different activity durations.*

Topic Identification Code	Title
JTI-CS2-2020-CFP11-THT-12	Advanced High Power Electrical Systems for High Altitude Operation
Short description	
<p>The topic will address the issue of managing high voltage / high power electrical systems at high altitude. It is well known that the requirements in aeronautics are putting strong constraints on the system architecture in terms of reliability and safety. This topic is aiming at providing solutions for components of the electrical system which provide high power density performance while complying with the reliability and safety requirements. This covers components relevant for power electronics (converters, inverters, etc.), distribution, circuit breakers, motors and generators. This topic aims to support advances in any of those fields to enable operation at high altitude of suitable electrical system architectures for aeronautic applications. Arcing/arc tracking is one of the major issues to be solved within this context. Applicants may choose to address one or several of the aspects of the call. Demonstration and validation at lab scale level is experimentally expected.</p>	



JTI-CS2-2020-CFP11-THT-13: Sustainability of Hybrid-Electric Aircraft System Architectures

Type of action (RIA/IA/CSA):		RIA	
Programme Area:		N/A	
(CS2 JTP 2015) WP Ref.:		N/A	
Indicative Funding Topic Value (in k€):		1600	
Topic Leader:	N/A	Type of Agreement:	N/A
Duration of the action (in Months):	30*	Indicative Start Date (at the earliest)⁸⁴:	> Q4 2020

**The JU considers that proposals requesting a contribution of 1600k€ over a period of 30 months would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts and/or proposing different activity durations.*

Topic Identification Code	Title
JTI-CS2-2020-CFP11-THT-13	Sustainability of Hybrid-Electric Aircraft System Architectures

Short description

Electric and hybrid-electric aircraft are expected to disruptively change aviation in the next decades. Potential benefits in terms of noise, emissions and flexibility drive a huge amount of ambitious R&D activities to overcome technological challenges on energy storage, supply and transmission. However, the full life cycle impact of future electric/hybrid aircraft technologies has not yet been addressed sufficiently. Sustainability of materials, processes and resources, efficiency of manufacture and production, lifetime services, as well as the end of life challenge need to be analyzed to evaluate competitive value and environmental impact of electric/hybrid aircraft from a full lifetime perspective. This topic intends provide particular Life Cycle Inventory Data for hybrid/electric aircraft technologies for the European aviation industry as reference related to future electric/hybrid aircraft according to eco-DESIGN Standards. A 50 pax regional class A/C shall be used as target application for harmonization of the system requirements and will set focal nodes on short- mid- and long-term developments for relevant system technologies.



JTI-CS2-2020-CFP11-THT-14: Scalability and limitations of Hybrid Electric concepts up to large aircraft

Type of action (RIA/IA/CSA):		RIA	
Programme Area:		N/A	
(CS2 JTP 2015) WP Ref.:		N/A	
Indicative Funding Topic Value (in k€):		800	
Topic Leader:	N/A	Type of Agreement:	N/A
Duration of the action (in Months):	30*	Indicative Start Date (at the earliest)⁸⁷:	> Q4 2020

**The JU considers that proposals requesting a contribution of 800k€ over a period of 30 months would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts and/or proposing different activity durations.*

Topic Identification Code	Title
JTI-CS2-2020-CFP11-THT-14	Scalability and limitations of Hybrid Electric concepts up to large commercial aircraft
Short description	
<p>Radical aircraft concepts with green enabled propulsion systems are being developed for several vehicles classes (small, regional and large aircraft). Certain switch points are existing were technologies are better suited to one or another class, also in the frame of different regulatory frameworks. These switching points substantially influence the requirements with respect to the main features of the aircraft architecture, with substantial effects on economic figures for the entire industrial lifecycle, also achievable reliability and safety levels. In the frame of this studies there need for different approaches or the opportunity for common approaches should be defined.</p>	

Any questions?

Info-Call-CFP-2020-01@cleansky.eu

Last deadline to submit your questions:
13th March 2020, 17:00 (Brussels time)

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