

Innovation Takes Off







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Partners: Definition and Role

- Selected via Calls for Proposals (2 to 3 launched per years)
- Short/medium-term commitment;
- Level and quality of resources adequate for the Topic concerned;
- Competences / capabilities necessary to carry out the activities aiming at developing new knowledge, new technologies and solutions contributing to the action;
- The scope and perimeter of activities is defined from the beginning and might be of various type (study, design, simulation, development, manufacturing, integration etc.);
- The activities are limited in time and closely related to the needs as proposed by IADP/ITD Steering Committees and approved for CfP launch by the CS2JU;
- The activity is defined and will be technically lead by the Topic Manager following the technical roadmap/goals of the ITD/IADP

Partner Topic Description <u>within</u> the complementary framework of an ITD/ IADP/TA

The **Topic descriptions**:

- Part of the Work Plan approved by the board of the CS2JU (provides the detailed technical description of each topics)
- Describe the tasks as defined by the Topic Manager (representing a Member of the ITD/ IADP/TA) based on the objectives of the ITD/IADP/TA
- Aligned with the CS2 Joint Technical Programme in support of HLOs of each ITD/IADP/TA (JTP: the strategic vision of the programme)
- Define the nature of the action: RIA (Research and Innovation), IA (Innovation) or CSA (Coordination and Support)

They contain the following:

- Activities & outputs as required within the IADP/ITD/TA
- Indicative topic values (funding in M€)
- Capabilities and technology areas concerned
- Timeline
- Deliverables & Milestones



Partner Topic Description within the complementary framework of an ITD/ IADP/TA - example

JTI-CS2-2019-CfP10-LPA-01-72: Development of a distributed CFD platform for collaborative design

+					
	Type of action (RIA/IA/CSA)		IA		
	Programme Area:		LPA		
	(CS2 JTP 2015) WP Ref.:		WP 1.1		
	Indicative Funding Topic Value (in k€):		600		
	Topic Leader:	oic Leader: Airbus Typ		Implementation Agreement	
	Duration of the action (in	36	Indicative Start Date (at	> Q1 2020	
	Months):		the earliest) ⁶ :		

Topic Identification Code Title				
JTI-CS2-2019-CfP10-LPA-01-72	019-CfP10-LPA-01-72 Development of a distributed CFD platform for collaborative design			
Short description				
Development of an open-source CFD simulation platform and methodology to enable co-design				
between an airframe manufacturer and an engine manufacturer, while maintaining IP and IT security.				
This includes code-to-code coupling, communication between different simulation platforms, post				
processing of the simulation, and demonstration on industrial configuration.				

Links to the Clean Sky 2 Programme High-level Objectives ⁷					
This topic is located in the demonstration area:			Advanced Engine/Airframe Architectures		
The outcome of the project will mainly contribute			Advanced Long-range		
to the following conceptual aircraft/air transport			Ultra-advanced Long-range		
type as presented in the scene setter:		Advanced Short/Medium-range			
			Ultra-adv	anced Short/Medium	n-range
With expected impacts related to the Programme high-level objectives:					
Reducing CO ₂	Reducing NO _x	Reduci	ing Noise	Improving EU	Improving
emissions	emissions	emi	ssions	Competitiveness	Mobility

1. Background

High Performance Electrical Components for Bleed Control studies present significant opportunities of weight reduction and optimized maintenance through the suppression of the need for pressurized fluid for actuation.

With the development of full electrical architectures in order to support the needs of More Electric Aircraft and future Non propulsive Energy Generation system, it is necessary to consider enhanced electrical bleed control valve and inlet guide vane actuators, in terms of reliability (targeted MTBF: 50 000 h), with weight, volume and costs competitive with hydraulic / pneumatic technologies.

The introduction of EMA technology on previous Power On Demand Systems has enabled the demonstration of the feasability of an electrical actuated bleedflow control, offering electrification of the bleed control function.

2. Scope of work

Tasks				
Ref. No.	Title - Description	Due Date		
T2.1	Initial Requirements Capture – define requirements and interfaces through discussion with stakeholders	T0+1		
T2.2	Component selection – perform initial performance analyses to enable baseline selection of components to meet the main performance requirements.	T0+3		
T2.3	Components architecture definition	T0+6		
T2.4	Functional modelling and failure mode analysis (FMEA)	T0+9		
T2.5	Module Functional definition	T0+9		
T2.6	Supply chain identification and industrialization assessment	T0+10		

3. Major Deliverables/ Milestones and schedule (estimate)

*Type: R=Report, D=Data, HW=Hardware

Deliverables					
Ref. No.	Title - Description	Type*	Due Date		
D2.1	Preliminary Requirements Specification	R	T0+3		
D2.2	Module Architecture Report	R	T0+6		
D2.3	Industrialisation Assessment Report	R	T0+12		
D2.6	Test report	R	T0+27		
D2.7	Two components shipsets for integration	HW	T0+27		
D2.8	Final report (incl. reliability prediction)	R	T0+30		
Mileston	es (when appropriate)				
Ref. No.	Title - Description	Type*	Due Date		
D2.4	Preliminary Design Review	D	T0+12		

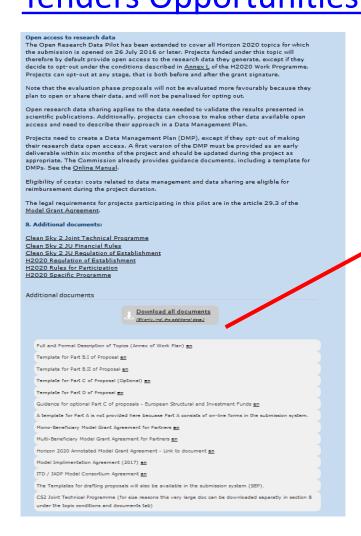
4. Special skills, Capabilities, Certification expected from the Applicant(s)

- Specialist in pneumatics systems & control systems
- Links with, or internal, design & industrial capacity in power electronics
- Mechanical design of actuators
- Knowledge of aeronautical constraints (environments)
- Test & analysis capability to support detailed behavioural characterisation of power components



CfP11 Call text

 Final and Valid Call documents via the <u>H2020 Funding &</u> Tenders Opportunities Portal





Clean Sky 2 Joint Undertaking

11th Call for Proposals (CfP11): List and full description of Topics

Call Text

Important: For a valid application, only the Call documents published on the H2020 Funding & Tenders Opportunities Portal will be considered.

Note: Q&A Release nr. 1 available via the H2020 Funding & Tenders Opportunities Portal since 14 January!

Applicant's Proposal Submission System (1/2)

- Opening of the Submission System via the <u>H2020 Funding</u>
 <u>& Tenders Opportunities Portal</u> on (or soon after) Call Launch date
- Main Requirements to access to the submission system and submit your proposal:
 - ECAS ID account
 - European Commission Authentication System
 - Unique Identifier is your e-mail address so be consistent in using it
 - PIC Participant Identity Code
 - Unique per Legal Entity Avoid duplicates
 - Temporary versus validated PIC
- Please note:
 - On-line Submission of Proposals only [no other method i.e. e-mail, etc.]
 - Deadline is absolute (Brussels Time)



Applicant's Proposal Submission System (2/2)

Templates for submitting a valid proposal:

- Part A [Administrative Section (Coordinator ID, Legal LEAR etc.)]
- Part B.I [Technical Section: 3 EVAL Criteria and technical and financial content linked to DoA]
- **NOTE:** 70-page limitation for non-thematic topics, 30-page limitation for thematic topics
- Part B.II [Admin Section: members of consortium (participants, operational capacity, etc.), (potential) ethics and security issues identified by the applicant)
- Part C [ESIF Complementary Activities OPTIONAL]
- 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 (in pdf format) are available to potential applicants on the <u>H2020 Funding & Tenders Opportunities Portal</u> prior the official opening of the Submission System.



Part B.I [Technical Section: EVAL Criteria and technical and financial content linked to DoA]



Research and Innovation Actions (RIA)
Innovation Actions (IA)
Coordination and Support Actions (CSA)

Call for Proposals

Partner(s) Application/Proposal Template (Technical Section)

PART B. I

- November 2018 -

PART B SUBMISSION

Your document submitted will be composed of 2 parts:

1. PART B.I

This part introduces the 3 first points which relate to an evaluation criterion for a full proposal. The applicant should complete all these points in order to validate his/her application.

⚠ This part is subject to a 70-page limitation, including the table templates as presented under the technical section of the present document.

2 PARTRII

This part introduces the 2 last points which relate to the members of consortium (participants, operational capacity, etc.), (potential) ethics and security issues identified by the applicant.

This part is complementary to PART B.I. The applicant should complete all these points in order to validate his/her application.

This part is not subject to any page limitation.

Please do not merge PART B.I and PART B.II as these documents should be submitted separately in the submission system.

- 1. Excellence
- 2. Impact
- 3. Implementation

<u>Important</u>: Calls for proposals will be managed in compliance with the CS2 Work Plan and the General Annexes of the Horizon 2020 Work Programme



Part B.I [Tech Section: EVAL Criteria for RIA, IA and CSA]

1. Excellence

- 1.1 Objectives
- 1.2 Relation to the CS2JU Work Plan
- 1.3 Concept and approach
- 1.4 Ambition

2. Impact

- 2.1 Expected Impact
- 2.2 Measures to maximise impact
 - 2.2.1 Dissemination and exploitation of results
 - 2.2.2 Communication activities

3. Implementation

- 3.1 Description of work Work packages, deliverables and milestones
- **3.2 Management Structure and Procedures**
 - 3.2.1 Capabilities
 - 3.2.2 Structure and procedures
 - **3.2.3** Risks
- 3.3 Consortium/ Clusters as a whole (where applicable)
- 3.4 Resources to be committed





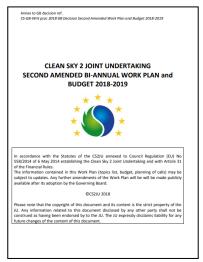
CS2 Call Background documentation The 3 Levels of CS2 Objectives

CS2 High Level Objectives

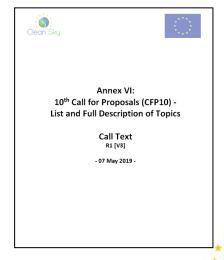




Objectives in the Bi-Annual Work Plan



Objectives in each topic description







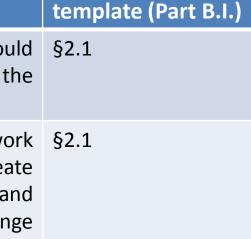
The Three Criteria – Elaborated 1. EXCELLENCE

Type of Actions	Aspects for Evaluation	Corresponding Ref. in the proposal template (Part B.I.)
Research	Clarity and pertinence of the objectives	§1.1
and Innovation Actions;	Soundness of the concept, and credibility of the proposed methodology;	§1.3
Innovation Actions	Appropriate consideration of interdisciplinary approaches and, where relevant, use of stakeholder knowledge and gender dimension in research and innovation content	§1.3
	Extent that the proposed work is beyond the state of the art, and demonstrates innovation potential	§1.4

NOTE: For Thematic Topics to determine the ranking, the score for the criterion 'excellence' will be given a weight of 1.5.

The Three Criteria – Flaborated

2. IMPACT Type of Aspects for Evaluation	
Actions	
Research and contribute to each of the expected impacts mentioned in the work programme under the relevant topic;	
Actions; Innovation Actions Any substantial impacts not mentioned in the weather programme, that would enhance innovation capacity, creations Actions Actions Actions Any substantial impacts not mentioned in the weather programme, that would enhance innovation capacity, creations are market opportunities, strengthen competitiveness are growth of companies, address issues related to climate characteristics or the environment, or bring other important benefits society;	eate and nge



Corresponding Ref.

in the proposal

Quality of the proposed measures to: • Exploit and disseminate the project results (incl. management §2.2.1 of IPR), and to manage research data where relevant. •Communicate the project activities to different target §2.2.2 **Audiences** The section on exploitation shall demonstrate a clear §2.2.1 commitment to support exploitation of the results brought by their participation in the programme and contribute to European EU competitiveness.

IMPACT criterion: basic assumptions

- Assume that the proposal is 100% successful
- It is not necessary that impact is immediate but the proposal should be evaluated on the *likelihood* and *significance* of the impact[s] described assuming the project's success.
 - Are these impacts qualified and/or quantified?
- A proposal does not need to demonstrate impact in all areas (but the merit of the proposal and score should reflect the breadth and scope of impacts expected).

NOTE:

- This criterion may play a « tie-breaker » role. Emphasis should be given to the innovation / demonstration orientation of the CS2 programme.
- For Innovation actions to determine the ranking, the score for the criterion 'impact' will be given a weight of 1.5.

How should Innovation orientation be evaluated?

Experts should check that the proposed activities are in line with the type of action implemented by the topic [RIA/IA/CSA].

Under the 'Impact' criterion:

- All aspects should receive attention, see previous slide.
- The proposers' description of any barriers/obstacles, and any framework conditions (such as regulation and standards), that may determine whether and to what extent the expected impacts will be achieved should also be checked and assessed;
- The extent to which risks have been identified as well as potential mitigation of these can be helpful in assessing the merit of the proposal's impact[s].

The Three Criteria – Elaborated (5/6): 3. IMPLEMENTATION				
Type of Actions	Aspects for Evaluation	Corresponding Ref. in the proposal template (Part B.I.)		
Research and Innovation	Quality and effectiveness of the work plan, including extent to which the resources assigned to work packages are in line with their objectives and deliverables;	§3.1 / §3.4		
Actions; Innovation Actions	Appropriateness of the management structures and procedures, including risk and innovation management;	§3.2		
Actions	Match of technical capabilities and skills with the Topic Area and congruent with the programme objectives embodied in the topic;	§3.2		
	Ability to work effectively within a supply chain and into an equal or higher tier industrial organization;	§3.2.1		
	Complementarity of the participants and extent to which	§3.3		

the consortium as whole brings together the necessary

Appropriateness of the allocation of tasks, ensuring that all

participants have a valid role and adequate resources in the

§3.3 / / §3.4

expertise;

project to fulfil that role.

Efficient and well justified application of resources [1]

Requested funding, total eligible costs vs. the indicative topic value:

- ✓ The indicative topic funding value provided in the Call is an <u>estimate</u>
- ✓ Applicants must address the scope of the topic in full and submit with their proposal both requested funding and the total eligible costs
- ✓ Applicants' resource requirements for the proposed activity, should be detailed with due justifications and explanations (see Part B.I. -Work Package Effort)
- ✓ The applicant's **total eligible costs** of their proposal should be considered for the evaluation of the *Adequacy & Efficiency of the allocation of resources*
- ✓ The requested funding amount should not be considered as this may depend on the nature of the applicant in accordance with H2020

How to score the Adequacy & Efficiency of the allocation of resources:

- ✓ Should be based on the total eligible costs of their proposal
- ✓ No ceiling as such shall apply
- ✓ The proposal must contain due justification of any exceedance of the topic's "Gross Budget", which should be calculated as below
- ✓ Scores for the Implementation criterion **must** take the level of exceedance *or* potential savings [if any] vs. this Gross Budget and the justification into consideration.

For RIAs and CSAs:

- Merit of the proposal wrt resource requirements stated for the technical content, in light of topic
- Total Eligible Cost to be compared to [100/100 x indicative funding of the topic] as "Topic Gross Budget"

For IAs

- Merit of the proposal wrt resource requirements stated for the technical content, in light of topic
- Total Eligible Cost to be compared to [100/70 x indicative funding of the topic] as "Topic Gross Budget"

A reminder on funding rates [info only]

- ✓ Actions launched as CfP Topics and defined in the Work Plan are labelled "Research & Innovation Actions" and "Coordination and Support Actions"
- ✓ For Research & Innovation Actions and Coordination and Support Actions: all participants will be reimbursed 100% of Total Eligible Costs

Funding = YY% x (Direct Costs (1) x 125%+ Subcontracting costs)

 Research & Innovation Actions and Coordination and Support Actions: YY = 100% for all participants

(1) Direct Costs include direct personnel costs + other direct costs



Ethics Evaluation in Horizon 2020

- In H2020, all proposals considered for funding will be submitted to an Ethics Review.
- The CS2JU will check, as appropriate, with the help of independent ethics experts - if the proposal complies with ethical principles and relevant legislation.
- All proposals must describe ethical issues raised & how they will be addressed so as to conform to national, European and international regulations.



Ethical Issues raised in Calls for Partners in Clean Sky

Typical examples from previous Calls where applicants raised an ethical issue:

- Importing/exporting for non-EU countries
- Involvement of non-EU countries
- Dual use / Exclusive focus on civil application
- Use of humans in testing (infrequent in Clean Sky)
- Personal data (data protection, Art 39.2 of the GA)
- Misuse



How to get your proposal "ethics-ready" for funding

Each applicant is responsible for:

- identifying any potential ethics issues
- handling ethical aspects of their proposal
- detailing how they plan to address them in sufficient detail already at the proposal stage

Which part of the proposal must be checked by the ethics screener?

- Part A (ethics issues table)
- Part B: <u>Information can be anywhere</u>,
 but special attention to the "<u>Ethics section</u>" in part B.II*, where the applicant must provide the ethics self-assessment, a description of the ethics issues identified and the related arrangements.

Ethics Issues Table in Part A

1. <u>Human embryos/foetuses</u> i		Page
Does your research involve Human Embryonic Stem Cells (hESCs)?	○ Yes No	
Does your research involve the use of human embryos?	○Yes No	
Does your research involve the use of human foetal tissues / cells?	○Yes No	
2. HUMANS		Page
Does your research involve human participants?	○Yes No	
Does your research involve physical interventions on the study participants?	○Yes No	
Does it involve invasive techniques?	OYes ● No	
3. HUMAN CELLS / TISSUES		Page
Does your research involve human cells or tissues? If your research involves human embryos/foetuses, please also complete the section "Human Embryos/Foetuses" [Box 1].	CYes ● No	
4. PROTECTION OF PERSONAL DATA ii		Page
Does your research involve personal data collection and/or processing?	○Yes No	
Does your research involve further processing of previously collected personal data (secondary use)?	○Yes No	
5. <u>ANIMALS</u> iii		Page
Does your research involve animals?	○Yes No	

Indicates pages in Part B of the proposal

6. NON-EU COUNTRIES			Page
Does your research involve non-EU countries?	Yes	No	
Do you plan to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)?		No No No	
Do you plan to import any material - including personal data - from non-EU countries into the EU? If you consider importing data, please also complete the section "Protection of Personal Data" [Box 4].	○ Yes	No No	
Do you plan to export any material - including personal data -from the EU to non-EU countries? If you consider exporting data, please also complete the section "Protection of Personal Data" [Box 4].	○ Yes	No No	
If your research involves <u>low and/or lower middle income countries</u> , are benefits-sharing measures foreseen?	○ Yes	No	
Could the situation in the country put the individuals taking part in the research at risk?	Yes	No	
7. ENVIRONMENT PROTECTION vi Directive 2001/18/EC - vii Directive 2008/15/EC - viii Regulation EC No 1948/2003 - ix Directive 2008/56/EC x Council Directive 92/43/EEC - xi Council Directive 79/409/EEC - xii Council Regulation EC No 338/97			Page
Does your research involve the use of elements that may cause harm to the environment, to animals or plants?	Yes	○ No	36
Does your research deal with endangered fauna and/or flora and/or protected areas?	Yes	No	
Does your research involve the use of elements that may cause harm to humans, including research staff?	Yes	○ No	37
8. <u>DUAL USE</u> xiii			Page
Does your research have the potential for military applications?	Yes	No	
9. MISUSE			Page
Does your research have the potential for malevolent/criminal/terrorist abuse?	Yes	No	
10 OTHER ETHICS ISSUES			Page
Are there any other ethics issues that should be taken into consideration? Please specify	Yes	No	





Ethics section in Part B.II

5.1 Ethics

A guide regarding the ethic aspects is available via the EC Participant Portal4 and allows the participant to conduct a self-assessment, if necessary.

Are there any ethics issues that should be taken into consideration? If yes, please specify.

(YES/NO)

Note that if you have entered any ethics issues in the ethical issue table in the administrative proposal forms, you must:

- submit an ethics self-assessment, which:
 - o describes how the proposal meets the European, national legal and ethical requirements of the country or countries where the tasks raising ethical issues are to be carried out;
 - explains in detail how you intend to address the issues in the ethical issues table, in particular as regard:.
 - research objectives (e.g. study of vulnerable populations, dual use, etc.)
 - research methodology (e.g. protection of any data collected, etc.)
 - o the potential impact of the research and the measure and safeguards which will be taken to prevent, monitor and mitigate any ethical issue (e.g. dual use issues, environmental damage, stigmatisation of particular social groups, political or financial retaliation, benefit-sharing, malevolent use, etc.).

⁴ Applicant(s) is (are) invited to conduct an ethic self-assessment of his/her proposal. For this purposed, a guide is available via the following link of the H2020 Funding & Tenders Opportunities Portal: http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cuttingissues/ethics en.htm



Further information

Ethics in H2020

http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/ethics en.htm

Ethics self-assessment

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/ethics/h2020_hi ethics-self-assess_en.pdf

- Research focusing exclusively on civil applications
 http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-civil-apps_en.pdf
- Research involving dual use items
 http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide research-dual-use en.pdf
- Potential misuse of research results
 http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-misuse_en.pdf



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Prior to your application submission

Prior any submission of proposal, applicants should check the following elements:

- Eligibility, admissibility and topic specific conditions [see the CSJU Work Plan, General Annexes of H2020 Work Programme, Topic descriptions] <u>Important Note</u>: Existing Core Partner interested in Call for Proposals are invited to check their admissibility via the list of Private Members available via the JU website. → Direct link: <u>here</u>
- Evaluation criteria, scoring and threshold [see the CSJU Work Plan]
- Full evaluation procedure [see Rules for submission, evaluation, selection, award and review procedures for Calls for Proposals]
 - → All Call background documentation available via the H2020 Funding & Tenders Opportunities Portal

Submission System: Remember

- All Call Documents on <u>H2020 Funding & Tenders Opportunities</u> <u>Portal</u>
- All information can be downloaded including static versions (i.e. PDF version) of on-line forms for preparatory information gathering
- Online forms and uploaded documents
- Respect size and page limits as indicated. Do not use tiny fonts or links to unofficial annexes
- Validate formats as you progress not at the last minute!
- Can save / submit and revise many times

Any questions?

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

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

Innovation Takes Off



