

7th Call for Proposals



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Senior Policy Officer, Clean Sky 2 JU

Athens, 21 November 2017

Innovation Takes Off

www.cleansky.eu



Clean Sky 2 Programme Set-up

EU Funding Decision 1.755bn€
1.716bn€ “net” (after running costs)

Vehicle
IADPs

**Fast
Rotorcraft**

Leonardo
Helicopters
Airbus
Helicopters

**Large
Passenger
Aircraft**
Airbus

**Regional
Aircraft**

Leonardo
Aircraft

Large
Systems
ITDs

Eco-Design
Fraunhofer Gesellschaft

Airframe ITD

Dassault – Airbus D&S – Saab

Engines ITD

Safran – Rolls-Royce – MTU

Systems ITD

Thales – Liebherr

Small Air Transport
Evекtor – Piaggio

Technology Evaluator (TE)
German Aerospace Center (DLR)

Addressing H2020 Transport Challenge Areas

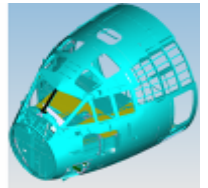
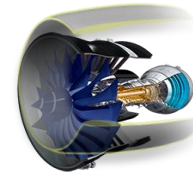
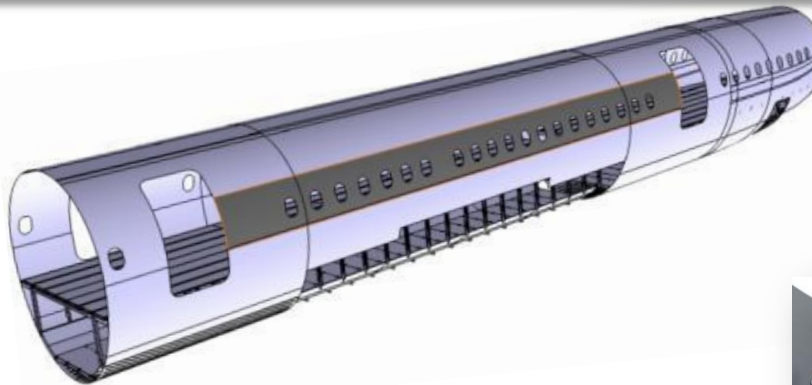
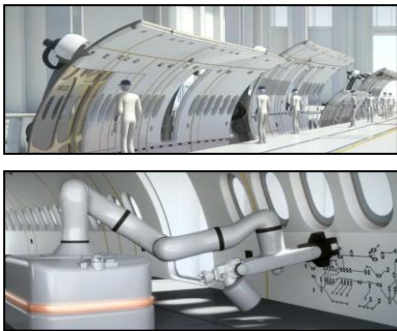
Energy Efficiency & Environment



Enabling Safe & Seamless Mobility



Building industrial leadership in Europe



Large Passenger A/c IADP

“Mature and validate disruptive technologies for next generation Large Passenger Aircraft through large scale integrated demonstration”



Platform 1
Advanced Engine and
Aircraft Configuration



Platform 2
Innovative Physical
Integration Cabin-
System-Structure



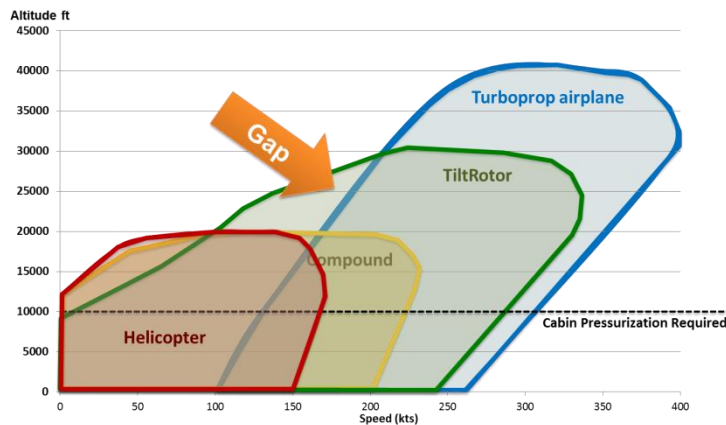
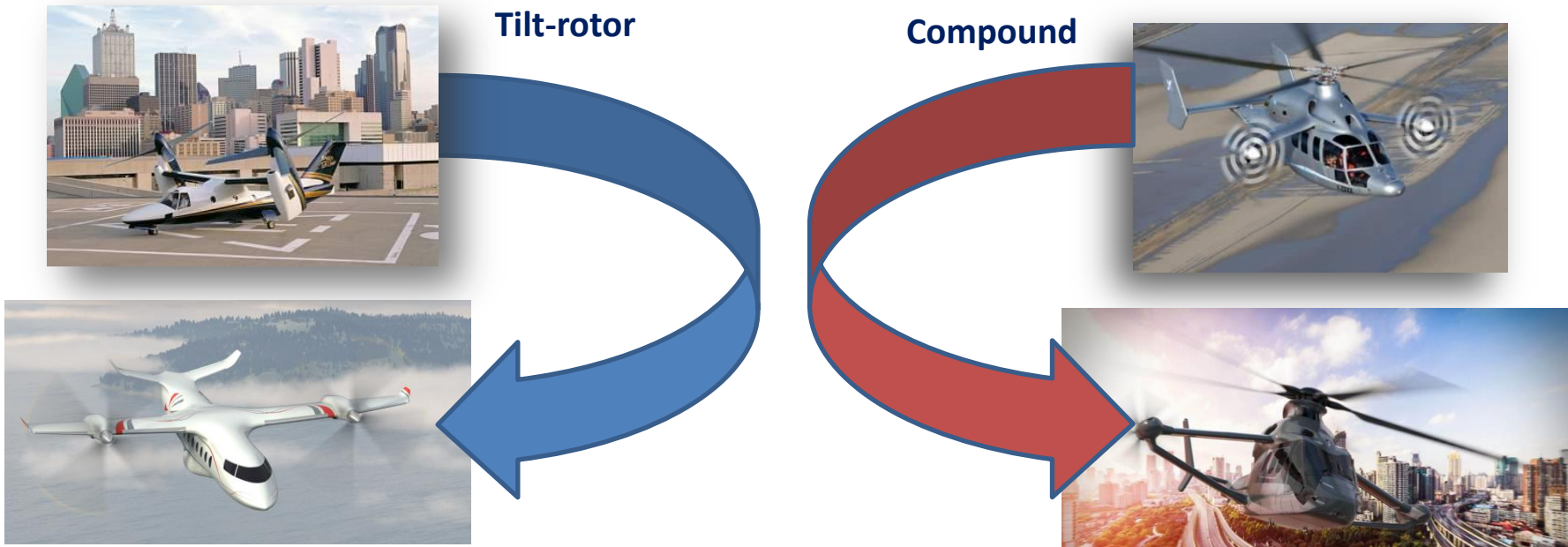
Platform 3
Next Gen. A/C Systems,
Cockpit Systems &
Avionics



not legally binding

Fast RotorCraft IADP

Future *Fast Rotorcraft* and Mobility Solutions



not legally binding

Market Requesting more *speed, range, capacity, productivity, efficiency and sustainability...*

REGional a/c IADP

From *Clean Sky* towards *Clean Sky 2*

High Integration of Technologies at Aircraft Level

C
S
2

Full Scale
Flying and
Ground
Demonstrations

G
R
A

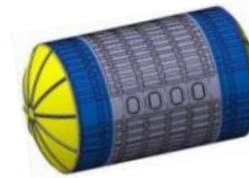
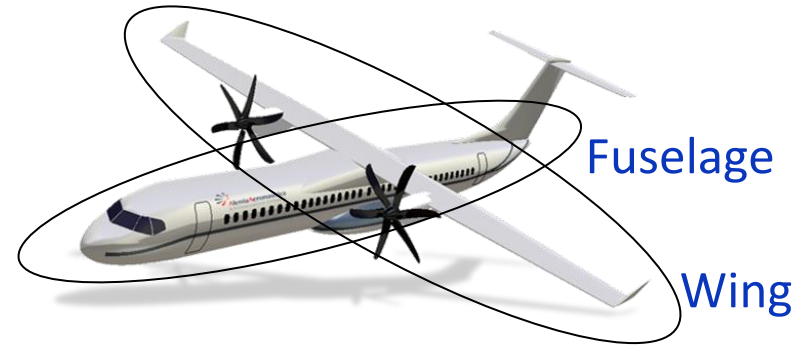
Component Flying
Demonstrator

(Structural Panel,
Electrical Energy
Management, E-ECS)

Ground Validation tests

Scope : Component, Single Discipline

(E.g. Struct. Component Tests, W/TT, Test Rigs)



not legally binding

AIRframe ITD



- Greener Airframe Technologies
- More Electrical a/c architectures



- More efficient wing
- Novel Propulsion Integration Strategy
- Optimized control surfaces



- Integrated Structures
- Smart high lift devices

Re-think
the wing



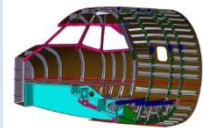
Re-think the a/c
architecture



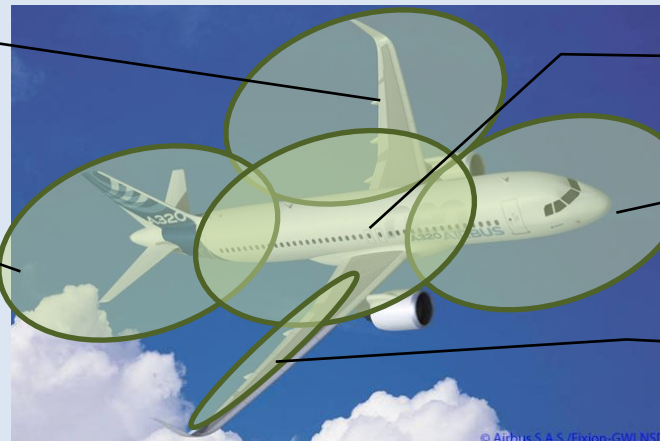
Re-think
the cabin



Re-think
the fuselage



Re-think
the control



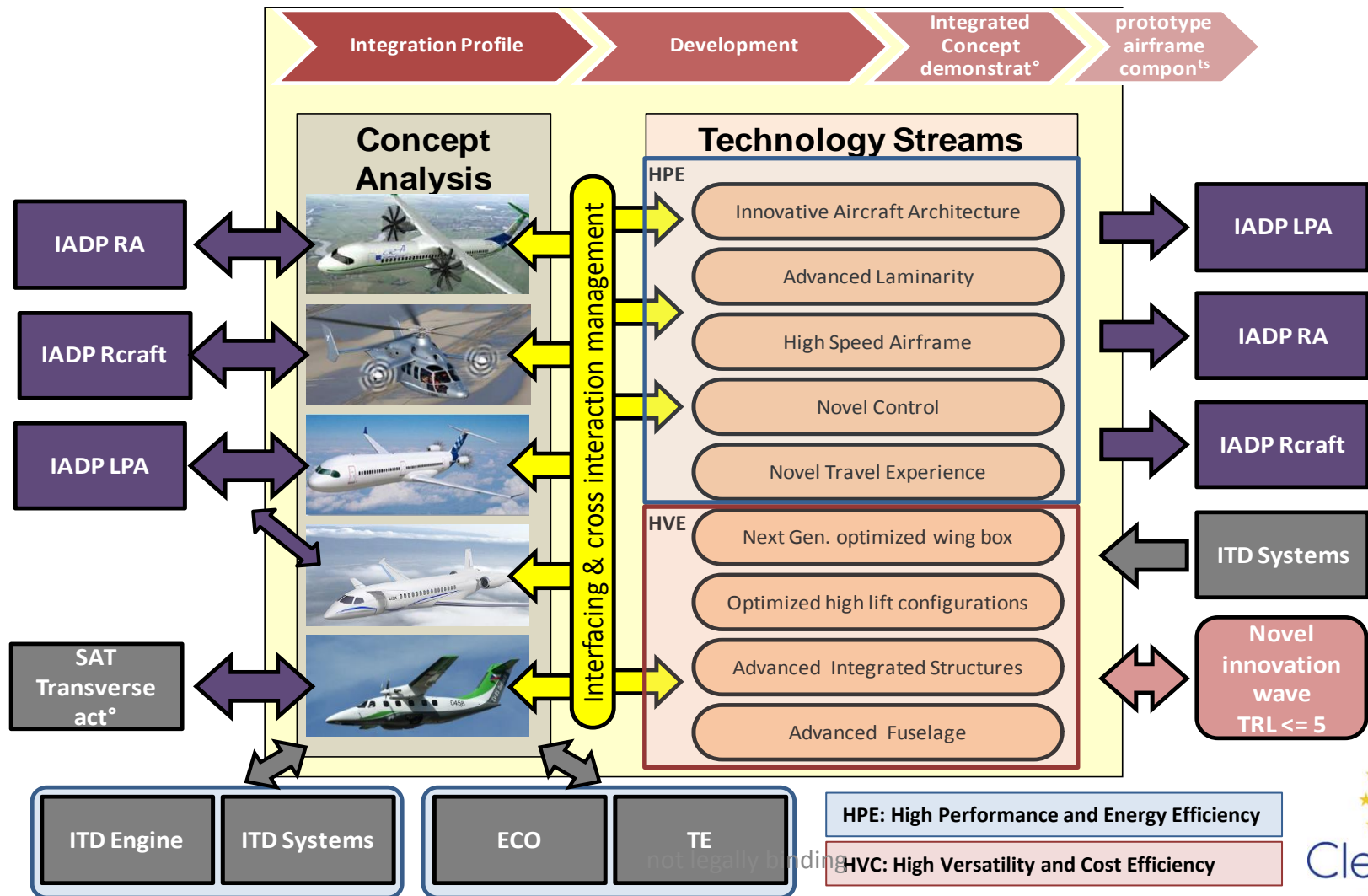
Step changes in the "efficiency" of all airframe elements by the means of a systematic "re-thinking"

not legally binding

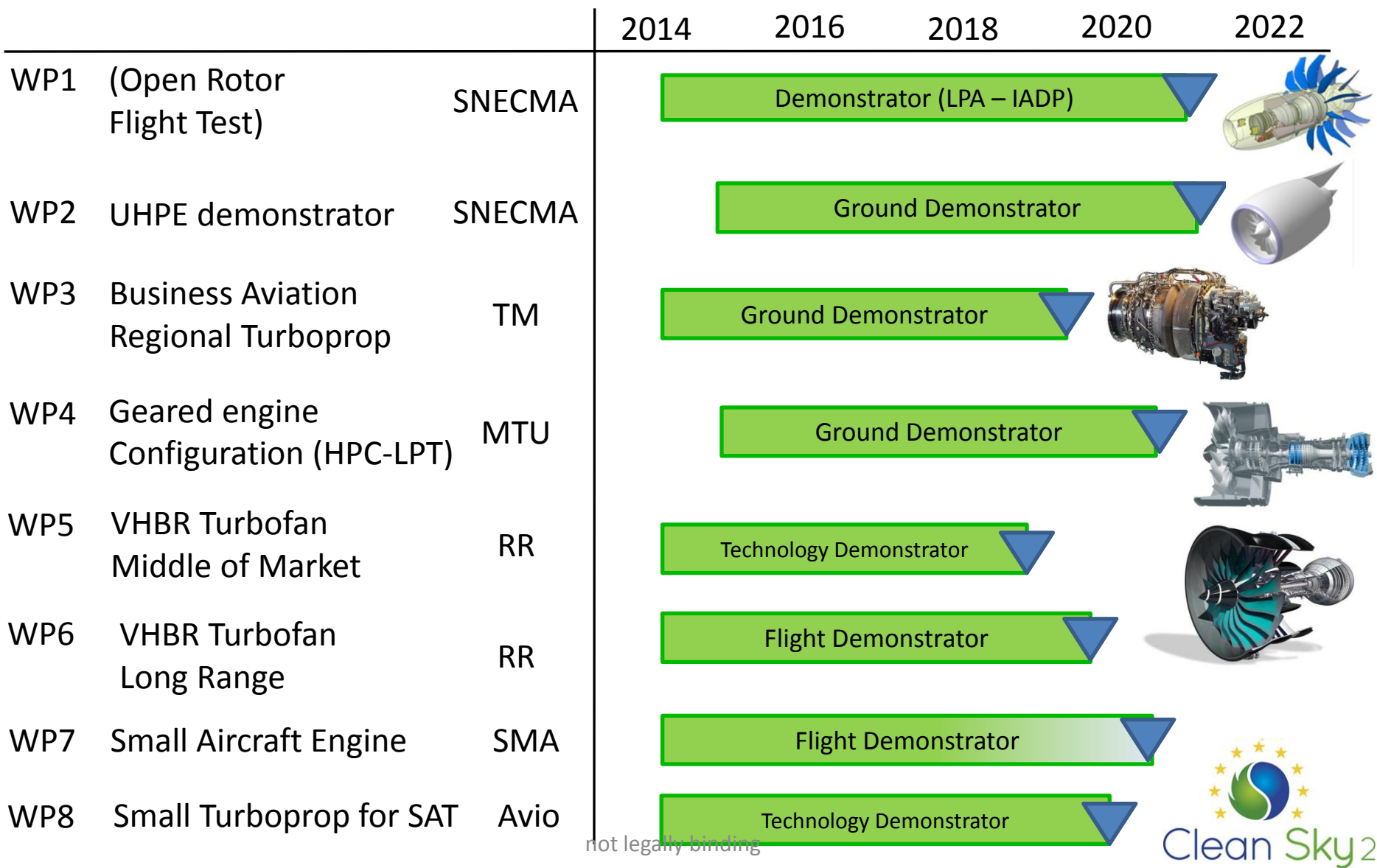
AIRframe ITD

Specifications & Requirements

Technology Development & Demonstration



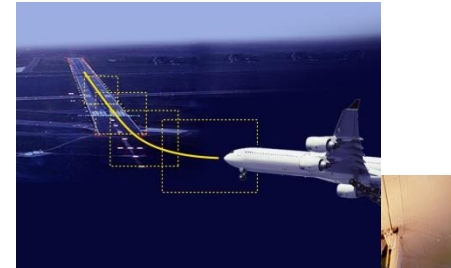
ENGines ITD



SYStems ITD

Systems ITD follows and expands Clean Sky SGO activities

- Management of Trajectory and mission will be included in wider, more integrated cockpit & mission demonstrations (and in landing gear WP for SGO)



- Management of Aircraft Energy will carry on in WPs dedicated to innovative wing, electrical chain, major loads, etc.

New activities will address other issues in aircraft power management. Demonstrators and test rigs used in Clean Sky will be continued in Clean Sky 2 and completed with new integration environments.

- Systems ITD will focus on demonstration and tight integration with IADPs.



Systems ITD

IADPs

TRL up to 5

not legally binding

5/6



CS2 Participation

- **Up to 40% of EU funding available for CS2 Leaders**
- **At least 60% of EU funding open to competition:**
 - Up to 30% for Core Partners (becoming Members once selected)
 - At least 30% for CfP (i.e. *Partners* as in CS) plus CfTs
- **Meaning >1bn€ of EU funding in play, via open Calls**



Industry, SMEs, Academia, and Research Organizations eligible both for participation as Core Partners or Partners.
Participation may also take place via suitable Clusters / Consortia.



800 - 1000 Participants expected across all tiers of the industrial supply chain and “R&I Chain”, with large investment leverage effect

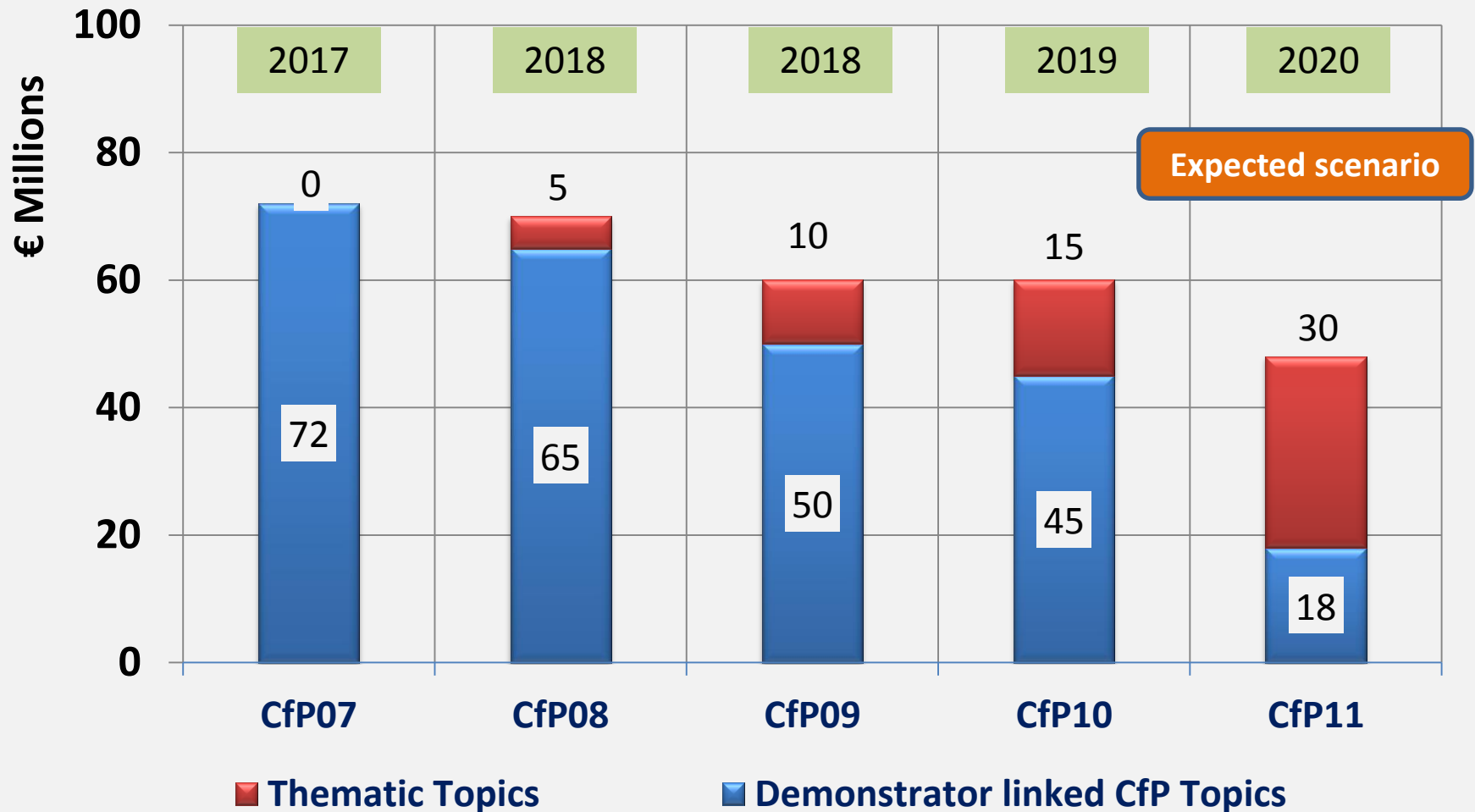
Call for Partners >2017 with Thematic Topics

CS2DP: 549m€ in total for Partners

CfP01-06: 279m€ launched, 243m€ granted

CfP07-11: 306m€ available (246m€ for industrial/demonstration (demonstrator linked) topics, 60m€ for Thematic Topics)

Call for Partners indicative budgets





Clean Sky Peculiarities

- ☐ Topics prepared by the Topic managers of the IADP/ITDs, proposed by IADP/ITD Steering Committees and approved for CfP launch by the CSJU
- ☐ A single entity can present proposals, with no need for a consortium to be created
- ☐ There is ONE winner per topic, however high success rate
- ☐ IPR agreed with the Topic Manager before the start of the project (Consortium Agreement/Implementation Agreement)
- ☐ Day-to-day work with the Topic Manager
- ☐ Contract managed by the CS Project Officer: reporting, costs claims, amendment requests, ...
- ☐ Time to contract: < 8 months after the call deadline (H2020)



7th Call for Proposal at a glance

| | |
|---|------------------|
| ▪ Call Launch | 8 November 2017 |
| ▪ Opening of the submission system for applicants | 14 November 2017 |
| ▪ Q&A last publication* | 26 January 2018 |
| ▪ Call Closure | 27 February 2018 |
| ▪ Evaluation Phase | Mid-April 2018 |
| ▪ Technical sessions & Grant preparation | ~Q2-Q3 2018 |
| ▪ Indicative Start date of activities | ~Q3 2018 [TBC] |

**Questions received up until 15 January 2018, 17:00 (Brussels Time) will be answered after analysis and published in Q&A when appropriate. In total, three publications of Q/As are foreseen: 15/11/2017, 15/12/2017 and 26/01/2018 (estimated dates).*

For questions: Info-Call-CFP-2017-02@cleansky.eu

Find out more:

- Clean Sky 2 via www.cleansky.eu
- Call and background information via the [EC Participant Portal](#)

CFP07 Call @ Launch - Overview

| SPD Area | No. of topics proposed per | Ind. topic Funding (M€) |
|--|----------------------------|-------------------------|
| IADP Large Passenger Aircraft | 14 | 15.07 |
| IADP Regional Aircraft | 6 | 7.55 |
| IADP Fast Rotorcraft | 2 | 4.25 |
| ITD Airframe | 16 | 14.40 |
| ITD Engines | 15 | 16.30 |
| ITD Systems | 18 | 15.00 |
| Small Air Transport (SAT) related topics* | [3] | [2.90] |
| ECO Design related topics** | [7] | [4.47] |
| Technology Evaluator | 1 | 0.20 |
| TOTAL | 72 | 72.77 |

* SAT related topics are embedded in the concerned SPDs as follows:

AIR: 1 SAT topic, 0.90 M€,
SYS: 2 SAT topics, 2.00 M€

** Subject to ECO design funding upon positive evaluation against ECO High Level Objectives. ECO related topics are embedded in the concerned SPDs as follows:

LPA: 2 ECO topics, 1.40 M€
REG: 1 ECO topic, 0.57 M€
AIR: 4 ECO topics, 2.50 M€



Partner Topic Description

The **Topic descriptions**:

- Part of the Work Plan approved by the board of the CSJU (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 (example)

| | | | |
|--|---|-------------------------|--------------|
| Type of action (RIA or IA) | IA | | |
| Programme Area | LPA | | |
| Joint Technical Programme (JTP) Ref. | WP1.1.3 – Open Rotor Demo Engine (CROR) | | |
| Indicative Funding Topic Value (in k€) | 2000 k€ | | |
| Duration of the action (in Months) | 72 months | Start Date ¹ | 09-2015 (T0) |

| Identification | Title |
|--|-----------------------------------|
| JTI-CS2-2014-CFP01-LPA-01-01 | Open Rotor Engine Mounting System |
| Short description (3 lines) | |
| Design, manufacture, assembly and instrumentation of an Engine Mounting System for CROR Flight Test Demo Engine; EMS Set for characterization and validation through Partial tests: manufacture, assembly and instrumentation, mechanical tests. | |

3. Major Deliverables / Milestones and schedule (estimate)

| Deliverables | | | |
|--------------|---|----------|--------------|
| Ref. No. | Title - Description | Type(*) | Due Date |
| D1 | <u>Mount systems development plan</u> Including detailed risk analysis and mitigation proposal and a preliminary test pyramid | R | T0 + 1 month |
| D2 | <u>Mount system preliminary design substantiation document for Preliminary design review</u> To check the feasibility and to freeze the architecture and interfaces, to identify the validation plan | R and RM | T0+10 months |

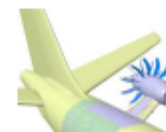
Milestones (when appropriate)

| Ref. No. | Title - Description | Type | Due Date |
|----------|---|------|----------------|
| MS 1 | <u>Mount systems development plan review</u> | RM | T0 + 4 months |
| MS 2 | <u>FTD demo Mounts System : Preliminary Design Review</u> | RM | T0 + 10 months |
| MS 3 | <u>FTD demo Mounts System :Critical Design Review</u> | RM | T0 + 18 months |

1. Background

Originating in mid to late 1970's NASA concept studies, the Open Rotor engine has been shown to offer significant fuel savings over traditional ducted engines. Compared to these engines, the Open Rotor should save up to 40% of fuel burn. The Clean Sky 2 Open Rotor Demonstration Project aims at designing, manufacturing & testing such engine which will be installed on a pylon located on the flight tests aircraft (A340-FTD).

The scope of the project is targeting the engine mounting system, which will attach the engine on one side by the means of links and bearings and integrate into the pylon structure on the other. Depending on the final concept chosen, it may also include some form of cradle between the pylon and engine.



2. Scope of work

The scope of work of this CFP is covering the perimeter of the Engine Mounts System for the Flight Test Demo engine (FTD) and the applicant's tasks are mainly located in WP 1.1.3.2. In the first phase, the applicant is required for checking the feasibility, freezing the architecture and interfaces, and for identifying the validation plan in order to comply with the EMS specifications that will be provided by the Engine Manufacturer and the Airframer in WP 1.1.3.1.

In the second phase, the applicant will perform preliminary design, detailed design, manufacture of three sets of EMS:

- Pass-off test demonstrator EMS
- CROR FTD demonstrator EMS
- Component Test EMS

As well as:

- instrumentation and partial tests of Component Test EMS
- instrumentation and support for pass-off test of CROR FTD demonstrator EMS
- instrumentation and support for flight test of CROR FTD demonstrator EMS

Tasks associated with the activities "Instrumentation and support for pass-off and flight test of CROR FTD demonstrator EMS" will be located in WP 1.1.3.3.

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

- Experience in design, manufacturing, testing and certification of aircraft engine mounts is mandatory
- Experience in elastomeric dampers is mandatory
- Experience in dynamic and vibration engine complex environment analysis is mandatory
- Experience in test bench design and modification is mandatory
- Experience in endurance tests or other relevant tests contributing to risks abatement is mandatory
- Availability of test benches to support test campaign is mandatory
- English language is mandatory

CfP07 Call text

- Call documents via the **EC Participant Portal [PP]**

Open access to research data

The Open Research Data Pilot has been extended to cover all Horizon 2020 topics for which the submission is opened on 26 July 2016 or later. Projects funded under this topic will therefore by default provide open access to the research data they generate, except if they decide to opt-out under the conditions described in [Annex L](#) of the H2020 Work Programme. Projects can opt-out at any stage, that is both before and after the grant signature.

Note that the evaluation phase proposals will not be evaluated more favourably because they plan to open or share their data, and will not be penalised for opting out.

Open research data sharing applies to the data needed to validate the results presented in scientific publications. Additionally, projects can choose to make other data available open access and need to describe their approach in a Data Management Plan.

Projects need to create a Data Management Plan (DMP), except if they opt-out of making their research data open access. A first version of the DMP must be provided as an early deliverable within six months of the project and should be updated during the project as appropriate. The Commission already provides guidance documents, including a template for DMPs. See the [Online Manual](#).

Eligibility of costs: costs related to data management and data sharing are eligible for reimbursement during the project duration.

The legal requirements for projects participating in this pilot are in the article 29.3 of the [Model Grant Agreement](#).

8. Additional documents:

[Clean Sky 2 Joint Technical Programme](#)
[Clean Sky 2 JU Financial Rules](#)
[Clean Sky 2 JU Regulation of Establishment](#)
[H2020 Regulation of Establishment](#)
[H2020 Rules for Participation](#)
[H2020 Specific Programme](#)

Additional documents

[Download all documents](#)
(if only, incl. the additional docs.)

Full and Formal Description of Topics (Annex of Work Plan) [en](#)

Template for Part B.I of Proposal [en](#)

Template for Part B.II of Proposal [en](#)

Template for Part C of Proposal (Optional) [en](#)

Template for Part D of Proposal [en](#)

Guidance for optional Part C of proposals - European Structural and Investment Funds [en](#)

A template for Part A is not provided here because Part A consists of on-line forms in the submission system.

Mono-Beneficiary Model Grant Agreement for Partners [en](#)

Multi-Beneficiary Model Grant Agreement for Partners [en](#)

Horizon 2020 Annotated Model Grant Agreement - Link to document [en](#)

Model Implementation Agreement (2017) [en](#)

ITD / IADP Model Consortium Agreement [en](#)

The Templates for drafting proposals will also be available in the submission system (SEP).

CS2 Joint Technical Programme (for size reasons this very large doc can be downloaded separately in section 8 under the topic conditions and documents tab)



Clean Sky 2 Joint Undertaking

7th Call for Proposals (CFP07): List and full description of Topics

Call Text

Important: For a valid application, only the Call documents published on the Participant Portal will be considered.



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 EVALUATION Criteria** and technical and financial content linked to DoA]*
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 *[OPTIONAL, ESIF Complementary Activities]***
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 (in pdf format) will be made available to potential applicants on the Participant Portal 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 Supported Action (CSA)
Call for Proposals**

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

PART B. I

- March 2016 -

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. PART B.II

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**

1. Excellence

1.1 Objectives

1.2 Relation to the 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 DoA— 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



Ethics Evaluation in Horizon 2020

- ☐ In H2020, all proposals considered for funding will be submitted to an Ethics Review.
- ☐ The CSJU 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.



Dual Use

In the aeronautics sector practically every technology, item, etc. has dual use potential, but this does not raise automatically an ethical issue.

Just consider the following guidance notes:

- **Research focusing exclusively on civil applications**

http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-civil-apps_en.pdf

(e.g. clearly state in part B if research activity is exclusively on civil applications)

- **Research involving dual use items**

http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-dual-use_en.pdf

(only applicable in terms of export)

- **Potential misuse of research results**

http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/guide_research-misuse_en.pdf

(provide a risk assessment in part B and explain how you will prevent misuse)



A reminder on funding rates

- ✓ **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

Admin & Financial Aspects

Pre-financing, Payments

One Pre-financing

Time-to-Pay

30 days

From

From: entry into force **or**
from 10 days before the
starting date, **whichever is
the latest**

- **No standard amount** (or percentage) for the pre-financing payment. In principle, up to **60%** of the average JU funding per period for actions with at least two reporting periods (e.g. **80%** PF for a 2 periods GA)
- Retention 5 % of maximum grant for the **Guarantee Fund**
- **In general:** one **or two RP**=> **80%**; 3 RP => **53%**; 4 RP => **40%**; 5 RP => **32%** ...
This may be revised by the JU.

 The pre-financing remains the property of the JU until the payment of the balance.

Interim Payments

90 days

From reception of periodic
report

Payment of the Balance

90 days

From reception of final
reports



Prior to your application submission

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

- **Eligibility, admissibility and special conditions** [see General Annexes of CSJU Work Plan and TE topic specific conditions]
Note: **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: [here](#)
- **Evaluation criteria, scoring and threshold** [see General Annexes of the CSJU Work Plan]
- **Full evaluation procedure** [see Rules for submission, evaluation, selection, award and review procedures for Calls for Proposals]

→ **Call background documentation available** via the Participant Portal of the European Commission



Reference documents

- **Call Background documents** [Call text, Work Plan, JTP, Model Implementation Agreement, H2020 Annotated Grant Agreement, etc.]:

Website: [Participant Portal of the European Commission](#)

- **CSJU GAP Model (mono-beneficiary):**

Website: <http://www.cleansky.eu/key-documents>

- **CSJU GAP Model (multi-beneficiary) :**

Website: <http://www.cleansky.eu/key-documents>

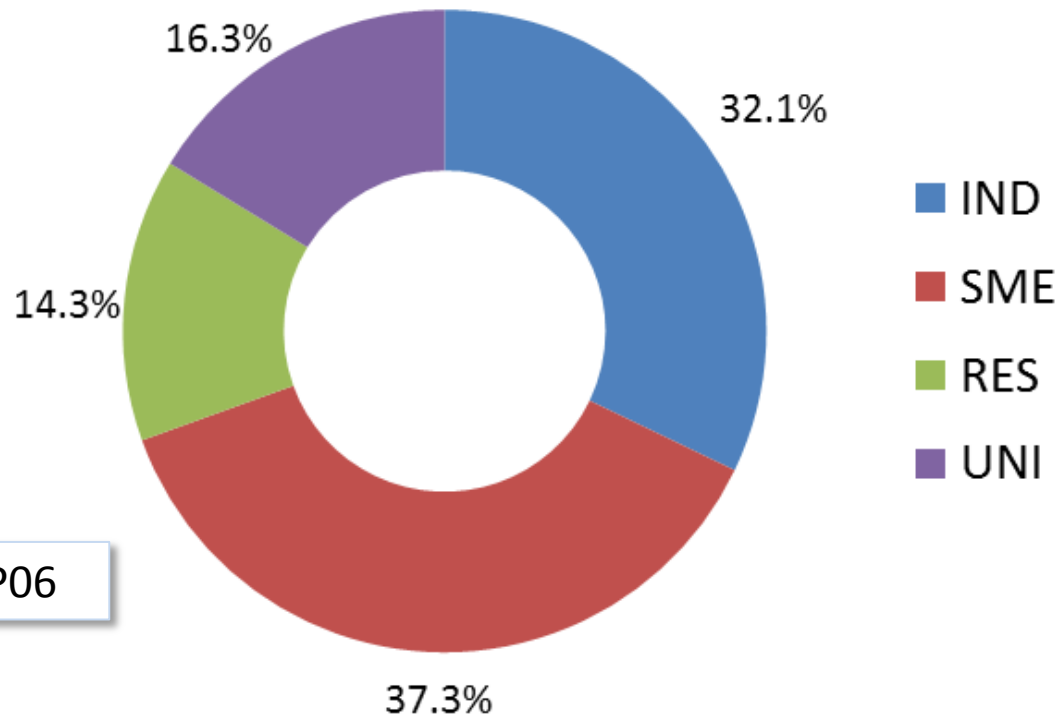
Overall Participation to Date

Participations in winning proposals [CPW01-04 and CfP01-06]*

| Type of Organisation | LPA | REG | FRC | AIR | ENG | SYS | TE | TOTAL |
|----------------------|-----|-----|-----|-----|-----|-----|----|-------|
| IND | 59 | 18 | 28 | 58 | 41 | 49 | 0 | 253 |
| SME | 47 | 18 | 27 | 85 | 30 | 47 | 7 | 261 |
| RES | 57 | 14 | 24 | 69 | 22 | 40 | 8 | 234 |
| UNI | 46 | 20 | 13 | 49 | 37 | 20 | 2 | 187 |
| Total | 209 | 70 | 92 | 261 | 130 | 156 | 17 | 935 |

Total number of
single entities: **498**
from **27** countries

* Subject to GB adoption of CfP06





Current CfP Opportunity: CfP07

Find out more:

Via Clean Sky: www.cleansky.eu

Via the EC Participant Portal:

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-cs2-cfp07-2017-02.html#c,topics=callIdentifier/t/H2020-CS2-CFP07-2017-02/1/1/1/default-group&callStatus/t/Forthcoming/1/1/0/default-group&callStatus/t/Open/1/1/0/default-group&callStatus/t/Closed/1/1/0/default-group&+identifier/desc>

Important notice on Q&As

Contact the JU using the **dedicated Call functional mailbox**: Info-Call-CFP-2017-02@cleansky.eu Note that questions received up **until 15/01/2018, 17:00 (Brussels Time)** will be answered after analysis and published in Q&A when appropriate. In total, three publications of Q/As are foreseen:

15/11/2017, 15/12/2017 and 29/01/2018 (estimated dates).

The Q/As will be made available via the Participant Portal of the European Commission.

Info-Day: CSJU CfP07 Info-Day planned the 30th November in Brussels

not legally binding

Any questions?

Info-Call-CFP-2017-02@cleansky.eu

Last deadline to submit your questions:
15th January 2018

Innovation Takes Off

www.cleansky.eu



Thank You

