Programme Cadre Horizon 2020
Appels à projets 2016-2017

Manifestation d'information
« aéronautique et transport aérien »
9 septembre 2016, CCIR, Blagnac

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Membre PCN Transport

1 Le programme cadre européen HORIZON 2020

Horizon 2020 – c'est …

… le principal programme-cadre de l'Union Européenne pour la Recherche et l'Innovation 2014-2020

- Un programme cadre sur 7 ans (2014 – 2020)
- Un budget total de ~78 Mrd €
- Un élément-clé de "Europe 2020", de l'Union pour l'Innovation et de l'Espace Européen de la Recherche:
  - Investir dans les emplois et la croissance de demain
  - Répondre aux préoccupations des individus sur leurs moyens d'existence, leur sécurité, l'environnement …
  - Renforcer la position de l'UE au niveau mondial en matière de recherche, d'innovation et de technologie

Architecture du programme – 3 priorités

Excellence scientifique

- ERC (13,1 Mrd€)
- Actions Marie Sklodowska-Curie (6,2 Mrd€)
- FET (2,7 Mrd€)
- Infrastructures (2,5 Mrd€)

24,4 Mrd€

Primauté industrielle

- TIC (7,6 Mrd€)
- NMP + Biotechs (4,3 Mrd€)
- Espace (1,7 Mrd€)
- Accès au financement à risque (2,8 Mrd€)
- Innovation PME (0,6 Mrd€)

17,0 Mrd€

7 défis sociétaux

- Santé, bien être et vieillissement (7,5 Mrd€)
- Sécurité alimentaire, bio-économie (3,9 Mrd€)
- Energies sûres, propres, efficaces (5,9 Mrd€)
- Transport intelligents, verts, intégrés (6,3 Mrd€)
- Climat, env., matières premières (3,1 Mrd€)
- Sociétés inclusives et novatrices (1,3 Mrd€)
- Sociétés sûres (1,7 Mrd€)

29,7 Mrd€

- Mobility for Growth
- Green Vehicles
- Small business and Fast Track

6,3 Mrd€ = 8.2 % du total de 77,028 Mrd€

Euratom 2,0 Mrd€

- Institut européen d'innovation et de technologie (EIT) 2,7 Mrd€
- Centre de recherche commun (JRC) 1,9 Mrd€
- Diffusion de l'excellence et élargissement / Science 0,5 Mrd€

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2

Le Programme de Recherche & Innovation *Transport – Appel à projets WP 2016-2017*

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Objectifs du défi Transport : compétitivité et durabilité

- Innover pour préserver & accroître les parts de marchés et les emplois (concurrence internationale)
- Economie d'énergie vs. changement climatique et dépendance du pétrole
- Diminuer les émissions polluantes, améliorer la qualité de l'air
- Capacité du réseau et du transfert modal vs. saturation et encombrement
- Solutions intelligentes pour la sûreté et la sécurité

MG - AAP en 2 étapes (1ère étape)

2016

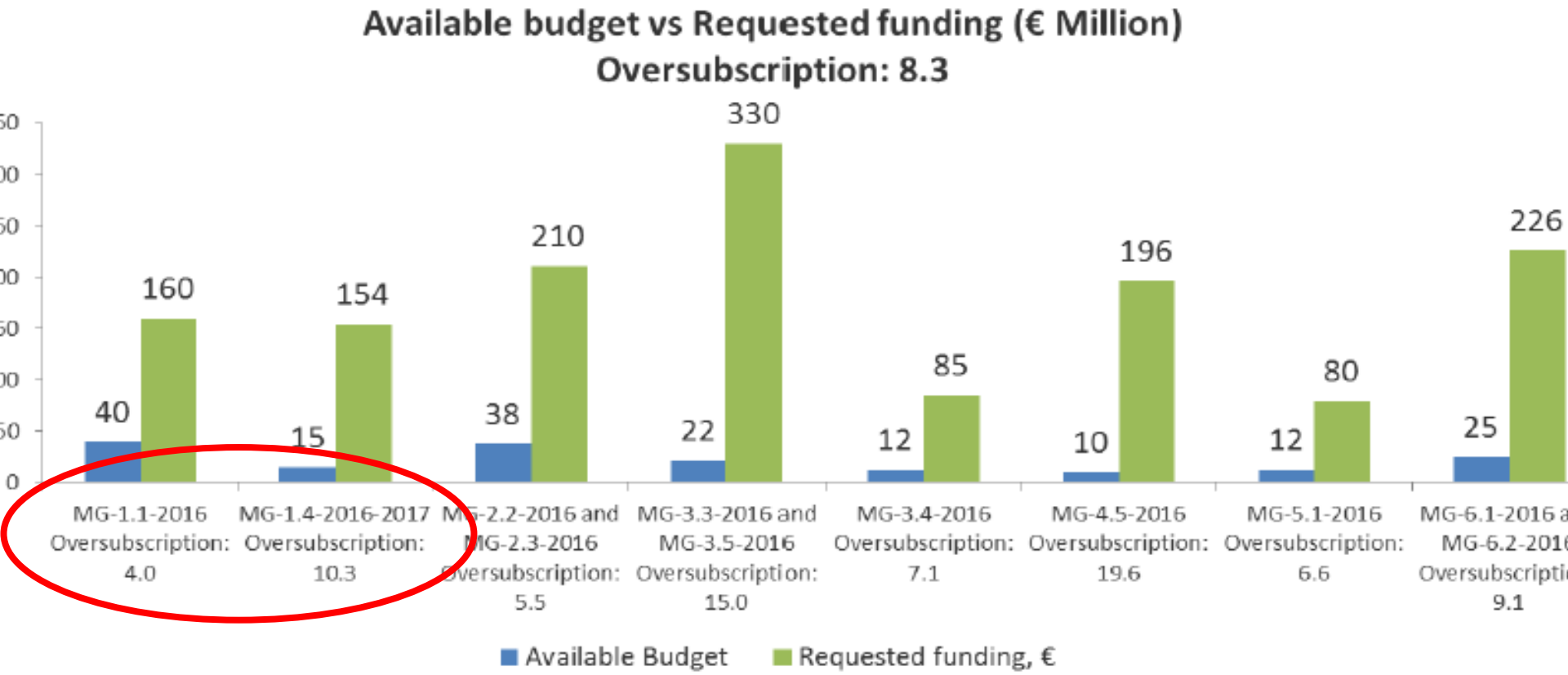
Topic	Activity	Proposals Submitted
MG-1.1-2016	Reducing energy consumption and environmental impact of aviation	25
MG-1.4-2016	Breakthrough innovation	47
MG-2.2-2016	Development, production and use of high performance and lightweight materials for vessels and equipment	12
MG-2.3-2016	New and improved transport concepts in waterborne transport	14

- Les résultats des évaluations des appels à l'issue des échéances des 20 et 26 janvier 2016 sont prévus au plus tard les 20 et 26 mai 2016.
- Les résultats pour les appels Croissance bleue seront disponibles en juin.

	neighbourhood-level and urban-district-level transport innovations	
MG-5.1-2016	Networked and efficient logistics clusters	15
MG-6.1-2016	Innovative concepts, systems and services towards 'mobility as a service'	40
MG-6.2-2016	Large-scale demonstration(s) of cooperative ITS	7
	Total	**293**

MG - AAP en 2 étapes (1ère étape)

2016



WP2016-2017 - Draft (publication de l'appel : 20 sept.)

Transports intelligents, verts et intégrés

N°	Titre	Année	Action	Type	Budget total (M€)	Aide max. par projet (M€)	Date limite de dépôt
Mobility for growth - Aviation							
MG.1.1	Reducing energy consumption and environmental impact of aviation	2016	RIA	2 étapes	40.0	5.0 – 8.0	
MG.1.2	Reducing aviation noise	2017	RIA	1 étape	20.0	5.0 – 9.0	1 février 2017
MG.1.3	Maintaining industrial leadership in aeronautics	2017	RIA	2 étapes	45.0	5.0 – 9.0	1ère étape: 26 janvier 2017
MG.1.4	Breakthrough innovation	2016 & 2017	RIA	2 étapes	15 (2016) 15 (2017)	2.0 – 4.0	2ème étape: 19 octobre 2017
MG.1.5	Identification of gaps, barriers and needs in the aviation research	2016 & 2017	CSA	1 étape	4.0 (2016) 7.0 (2017)	1.0 – 2.0	1 février 2017

https://ec.europa.eu/programmes/horizon2020/en/draft-work-programmes-2016-17

MG.1.2-2017 – Reducing aviation noise

- **RIA, one-stage, expected EU contribution per proposal: 5 to 9 M€**
- **Challenge:** High levels of perceived noise have an important impact on future extensions of airports which are reaching their capacity limits. Ensuring that airports will have the capability to respond to the growing traffic demand requires more systematic approaches to aviation noise management bringing together technological, operational and planning solutions. **To address these challenges, stronger coordination between national, international and EU research activities is necessary**.
- **Scope -** The actions should address one or several of the following areas:
  - Development of new aircraft/engine technologies for noise reduction at the source
  - Novel approaches for assessing and managing the impact of aviation noise
  - Integration of aviation-related environmental assessment approaches in land-use planning practices
  - Particular emphasis should be given to innovative approaches towards reducing noise at the source and for mitigating the noise impact of air traffic operations
- **Expected impact :**
  - Actions will lead to new and more holistic approaches for aviation noise reduction, coupling innovative airframe/engine technologies with operational aspects, airport infrastructure and connectivity, and land-use planning solutions

MG.1.3-2017 – Maintaining industrial leadership in aeronautics

- **RIA, two-stage, expected EU contribution per proposal: 5 to 9 M€**
- **Challenge:** While a number of technologies are already addressed under Clean Sky 2, there are other promising ones at **low maturity levels** that need to be further advanced. Primes, suppliers including SMEs, research laboratories and academia should collaborate in an efficient manner to bring these innovative technologies to higher maturity levels for these advanced and cost-efficient products and services.
- **Scope -** actions should address one or several of the following priority areas**:**
  - Condition-based **health management**, replacing scheduled inspections and thus decreasing maintenance costs and increasing safety and aircraft availability.
  - Advancements in **composite aero-structures** that have the potential to offer alternative competitive technologies and methodologies and are presently at low TRL.
  - **Internal and external Electromagnetic Environment technologies** addressing at large electromagnetic immunity problems stemming from the increasing complexity of on-board systems in a composite aero-structures and smart materials environment.
  - Development and validation of multi-disciplinary design tools that address key isolated industrial problems with low degree of confidence that need presently extensive experimental verification

Given the strong involvement of SMEs in the supply chain, this topic is particularly relevant for SME participation.

MG.1.4-2016-2017 - Breakthrough innovation

- **RIA, two-stage, expected EU contribution: 2 to 4 M€**
- **Challenge:** Very ambitious long-term goals are addressed by Europe's vision for aviation Flightpath 2050. As many evolutionary technologies are mature near to their maximum potential, new disruptive breakthrough technologies are needed to reach these ambitious goals.
- **Scope:** The actions should target technologies and concepts that are at **low TRL today (up to 3**) and can potentially achieve TRL 6 by 2030-2035. The actions should focus to airframe, propulsion and on-board systems & equipment, including their integration and may challenge established practices. The actions should address one or several of the following areas:
  - **Innovative aircraft configurations** and airframes (e.g. short take-off and landing, long wing span; personal vehicles).
  - **Propulsion systems** (e.g. partially or fully embedded within the airframe; distributed propulsion technologies and revolutionary engine cycles; high-speed propulsion).
  - Novel and integrated **multifunctional systems**.
  - Autonomous, intelligent and evolving systems (e.g. Remotely Piloted Aircraft Systems).
- **Expected impact :** Actions will propose new or develop further highly innovative and exploitable breakthrough technologies for the medium term ... They should demonstrate the proof of concept and consider integration issues without assuming fundamental changes at airport level.

MG.1.5-2016-2017 – Identification of gaps, barriers and needs in the aviation research

- **CSA, one-stage, expected EU contribution: 1 to 2 M€**
- **Challenge:** In order to leverage resources, mitigate risks and establish long term relationships, the European aeronautics sector should identify topics of common interest and mutual benefit with other regions of the world, in particular where these address societal challenges.
- **Scope:**

  In 2017, the actions should address one of the two following areas:

  1. Provide on an annual basis a review of the state of the art of research and innovation including international benchmarking, identify gaps in the research landscape, bottlenecks to innovation (regulation, financing) and formulate recommendations to address those.
  2. Set-up an open platform between EU and relevant third countries to reach out to research and innovation stakeholders (industry, research establishments) and aviation research and innovation funding authorities in order to facilitate and increase collaboration along common research and innovation roadmaps.
- **Expected impact:**

  The actions will support to reach the goals set by the aviation sector in a more efficient and optimal way thorough assessment of the progress towards Flightpath 2050 goals, identification of future needs, gaps and barriers, and make recommendations for further actions.

3

Dispositifs d'accompagnement

Le consortium du « PCN Transport »

Transport
PCN - Horizon2020

- Pilote : IFSTTAR
  - Agnès Jullien, DAEI
  - Marie-Françoise Sherratt-Roux, DAEI
- Copilotes : MESR, MEDDE, MRP
  - Philippe Toussaint, MESR
  - Michel Pasquier, MEDDE
  - Emmanuel Clause, MIEN
- Mov'eo représentant des 4 pôles de compétitivité automobile (Mov'eo, iD4CAR, Véhicule du Futur, LUTB) :
  - Mathilde Petit
- Aerospace Valley (aéronautique) :
  - Thilo Schönfeld
- GICAN (maritime et fluvial, logistique) :
  - Fabrice Theobald
- Mandatés par la CPU :
  - Ecole Centrale Lyon : Bénédicte Martin
  - Université Paris-Est Marne-la-Vallée : Bastien Pincanon

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Quelques sites officiels

- Site officiel français : www.horizon2020.gouv.fr
- www.ec.europa.eu/research/horizon2020
- www.ec.europa.eu/research/participants/portal
- www.transport-ncps.net/ (projet européen ETNA+)

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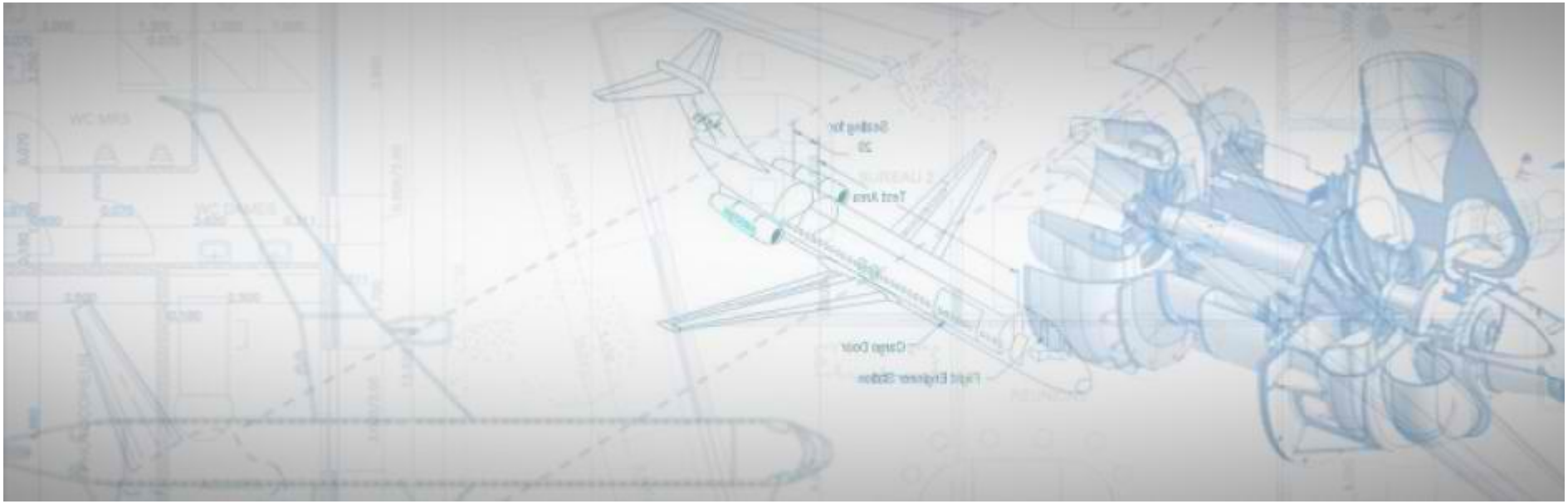
EC infoday & brokerage event
Transport Work Programme 2017 on
'Smart, green and integrated transport'

http://www.transport-research.info/web/events/index.cfm

28-29 septembre 2016

Bruxelles



Merci pour votre attention !

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