

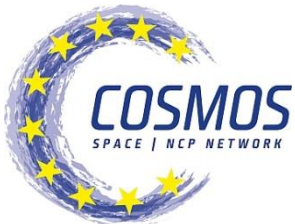
COSMOS

SPACE | NCP NETWORK

COSMOS2020 Meeting with
Portuguese Space Actors
Lisbon, 21 May 2019

COSMOS2020 in a nutshell

- 23 Space NCPs from 22 countries are partners with...
 - ... some 15 more Space NCPs associated
 - Coordinator: DLR (DE), runtime: 1 Jan. 2015 - 31 May 2019
 - Services:
 - Website with up-to-date information on relevant space topics, Space relevant calls, etc. => www.ncp-space.net
 - Newsletter service with recent news on Space and Horizon 2020
 - Events for matchmaking and information on Space calls
- COSMOS2020plus will follow in June 2019



Space beyond 2020 in a nutshell

- Still a lot of fortune telling
- Space Programme (regulation) will comprise Copernicus, EGNSS, SSA, Govsatcom [€ 16 billion]
- GSA will be changed to the European Union Space Programme Agency (EUSPA)
- “Trilogue” found an agreement based on “Partial General Approaches” within EU Council and Parliament (excluding some parts like budget)
- Horizon Europe (regulation) will feature „Space“ in a cluster „Digital, Industry and Space“ [€ 15 billion]
- No dedicated budget for any of the 10 topics of the cluster
- Some 40% of the budget reserved for partnership instruments
- 11 Partnerships were suggested comprising one for Space
- COM suggested all topics of the Strategic Research and Innovation Agenda (SRIA) for Space within one co-programmed Public Private Partnership (cPPP)
- The SRIA comprises (all) Space technology topics
- Furthermore, there’s a trend towards a bigger role of dual-use
- There are plans for a new DG for Aerospace and Defence
- European Defence Fund [€ 13 billion]

Topics of the upcoming Space call

- Please consider – it's still in draft

Earth observation

DT-SPACE-01-EO-2018-2020: Copernicus market uptake

- Foster the development of innovative commercial applications based on Copernicus
- Budget 9 M€, IA (1-3 M€ per project)

LC-SPACE-18-EO-2020: Copernicus evolution

- Research activities in support of the evolution of the Copernicus services
 - Copernicus Emergency Monitoring Service
 - Copernicus Monitoring Atmospheric Service
 - Copernicus Climate Change Service
 - Copernicus Marine Environmental Monitoring Service
 - Copernicus Land Monitoring Service
 - Security
- Budget 10 M€, RIA (1-1,5 M€ per project)

Topics of the upcoming Space call

LC-SPACE-19-EO-2020: Copernicus evolution

- New concept for an innovative and holistic solution for Sentinels' calibration & validation
- Define a strategy for cal/val activities for all existing and planned Sentinels
- Budget 3 M€, CSA (3 M€ per project)

LC-SPACE-24-EO-2020: Copernicus evolution –Mission exploitation concept for WATER

- Monitor inland waters (mapping and hydrodynamic water processes, hydrological cycle, connection with ocean processes, impact of sea extreme events on shorelines)
- Analyse current and planned EO space capacities and techniques and propose an integrated approach for an inland water monitoring system
- Budget 3 M€, CSA (3 M€ per project)
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Topics of the upcoming Space call

Artificial Intelligence and Space

DT-SPACE-25-EO-2020: Big data technologies and Artificial Intelligence for Copernicus

- Foster the development of data manipulation tools, compatible with the Copernicus DIAS, to facilitate the use of big data from space
- Develop operational solution to improve capabilities and performance across the Copernicus value chain
- Budget 10 M€, RIA (2-4 M€ per project)

Space business, entrepreneurship, outreach and education

DT SPACE 26 BIZ 2020: Space hubs (support to start ups):

- Organise effective initiatives at European level for:
 - support start ups, scale ups and entrepreneurs in the areas of applications, notably with regard to EGNOS/Galileo and Copernicus;
 - spinning in/ out and solutions in support of the commercialisation of space.

Topics of the upcoming Space call

Space technologies, science and exploration

DT SPACE 10 TEC 2018 2020: Technologies for European non dependence a competitiveness

- Group C (2020):
 - JTF-2018/20-5 – Very high performance microprocessors [U20]
 - JTF-2018/20-9 – Design and prototype of ultra-reprogrammable SoCs [N50]
 - JTF-2018/20-14 – Fiber optic or photonic integrated technology gyro-based inertial measurement unit (IMU) [U6]
 - JTF-2018/20-16 – Active discrete power components [U14]
 - JTF-2018/20-17 – Power amplification: travelling wave tube materials [U7]
 - JTF-2018/20-23 – SW tool: automatic generation of code [N64]
 - JTF-2018/20-33 – Advanced materials and material technology for combustion chambers [U4]
- Budget 10 M€, RIA (1-3 M€ per project)

Topics of the upcoming Space call

SPACE 28 TEC 2020: SRC In space electrical propulsion and station keeping

- **Input from EPIC (based on EPIC roadmap):** Incremental advances in Electric Propulsion Systems based on mature technologies
 1. Hall Effect Thrusters (HET)
 2. Gridded Ion Engines (GIE)
 3. High Efficiency Multistage Plasma Thrusters (HEMPT)
- Proposals should address one of the sub topics
 - a) Low power 200W 700W for constellations and LEO applications
 - b) Medium power dual mode >3kW for station keeping ; >5kW for electric orbit raising
 - c) High power for exploration and space transportation 20kW

Budget 24 M€, [A a) 4 M€, b) 4,5 M€, c) 3 M€ per project]

Topics of the upcoming Space call

SPACE-29-TEC-2020: Satellite communication technologies

- Maintain Europe's technological leading edge and maintain its global competitiveness in satellite communications in rapidly changing conditions and markets;
- Similar to 2018 topic but subtopics addressed by 2018 projects removed
- Budget 9 M€, RIA (2-3 M€ per project)

SPACE-30-SCI-2020: Scientific data exploitation

- Support the data exploitation of European missions and instruments, in conjunction, when relevant, with international missions and international partners;
- Strong request from MS for keeping an open scope
- Budget 9 M€, RIA (1-2 M€ per project)

Topics of the upcoming Space call

Artificial Intelligence and Space

SPACE 27 TEC 2020 : SRC Space robotics technologies

- Input from PERASPERA (based on PERASPERA roadmap):
- Preparations for demonstration activities , building on results from previous projects :
 - Common building blocks - 5 projects from 2016 call
 - Applications - 5 projects from 2018 call
- a) Orbital mission study targeting IOD in Horizon Europe (2 grants)
- b) Planetary robotics exploration demonstrator (1 grant)
- Budget 9 M€, RIA (3 M€ per project)

Topics of the upcoming Space call

Secure and safe space environment

SU-SPACE-21-SEC-2020: Roadmapping for space traffic management

- Assessing available and needed technologies and capabilities, best practices, standards and guidelines to implement the STM;
- Evaluating the market development for the STM implementation;
- Identifying and evaluating the legal, regulatory and financial framework, organisation and operations for space traffic management;
- Delivering a development roadmap for the European STM implementation
- Budget 1,5 M€, CSA (1,5 M€ per project)

Topics of the upcoming Space call

EGNSS

- **Call - EGNSS market uptake 2019-2020**
- **LC-SPACE-EGNSS-1-2019-2020: EGNSS applications fostering green, safe and smart mobility**
 - Budget 10 M€ (1-3 M€ per project)
- **DT-SPACE-EGNSS-2-2019-2020: EGNSS applications fostering digitisation**
 - Budget 4 M€ (1-3 M€ per project)
- **SU-SPACE-EGNSS-3-2019-2020: EGNSS applications fostering societal resilience and protecting the environment**
 - Budget 4 M€ (1-3 M€ per project)
- **SPACE-EGNSS-5-2020: EGNSS applications for public authorities' pilot**
 - Introduction of the Pre-commercial procurement (PCP) pilot
 - Budget 3 M€ for 1-3 projects, thematically open (1-3 M€ per project)

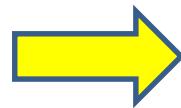
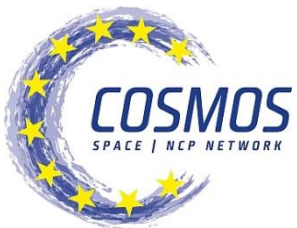
Topics of the upcoming Space call

Other actions

- IOD/IOV [contract with ESA was signed]
- SST
- Galileo Evolution, Mission and Service related R&D activities
- EGNOS, Mission and Service related R&D activities
- GNSS evolution, infrastructure-related R&D activities
- Copernicus evolution – Research activities in support of a European operational monitoring support capacity for fossil CO2 emissions
- Awareness raising activities on Space funding opportunities

International Space Infodays 2019

- ✓ Meet motivated project partners
 - ✓ Get first hand information
 - ✓ Hints and tips on proposal writing
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- 12 June Vilnius, Lithuania
 - 12/13 Sep Prague, Czech Republic (GSA)
 - 9-11 Oct Rome, Italy (Space Week)
 - Nov Warsaw, Poland
 - 3-5 Dec Helsinki, Finland (EU Space Week)



www.space-ncp.net

Thank you for your attention...

... and what about you?

