Collaborative project writing and networking in the context of Horizon Europe – 4th November 2022

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Formazione Sapienza sulle soft skills per Giovani Ricercatori

Project HORIZON-HLTH-2021 "GOLIAT":

5G expOsure, causaL effects, and rIsk perception through citizen engAgemenT

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GOLIAT
5G EXPOSURE, CAUSAL EFFECTS, AND RISK PERCEPTION THROUGH CITIZEN ENGAGEMENT

Funded by the European Union

ISGlobal Barcelona Institute for Global Health

HORIZON EUROPE

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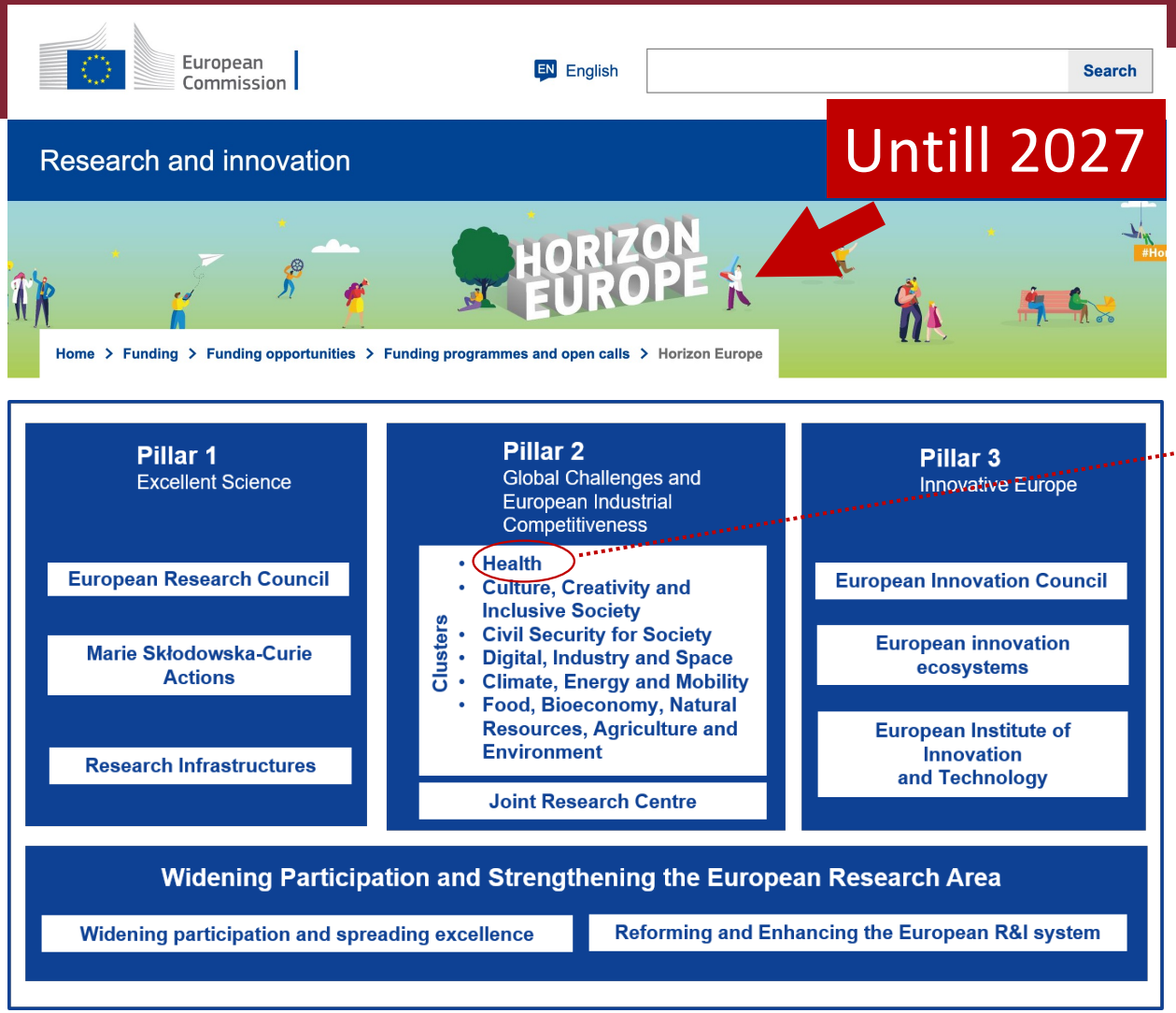
Horizon Europe is the EU's key funding programme for research and innovation with a budget of €95.5 billion.

It is the largest transnational research and innovation program in the world.



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HORIZON EUROPE – Cluster HEALTH

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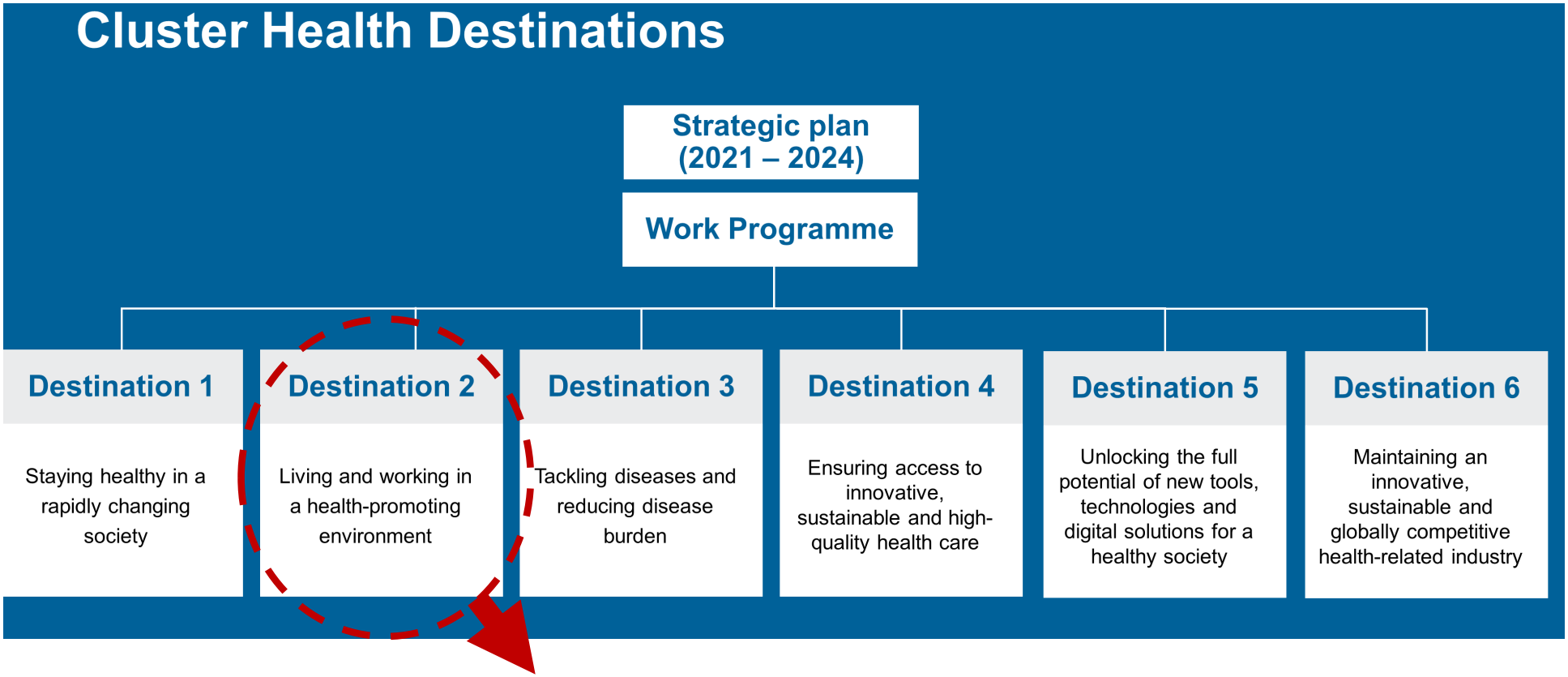

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aims to promote sustainable and health-friendly living and working environments through a better understanding of environmental, occupational, social and economic risk factors.

Cluster HEALTH – Destination 2 – The call

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(HORIZON-HLTH-2021-ENVHLTH-02-01) (RIA), with a budget of 30M€
EU was attending about 4 projects financed with 8M € each

European Commission

Exposure to electromagnetic fields (EMF) and health

HORIZON-HLTH-2021-ENVHLTH-02-01

Call for proposal | Grant

Programme	Horizon Europe (HORIZON)	**Status**	Closed
Type of action	HORIZON Research and Innovation Actions	**Deadline model**	single-stage
Opening date	22 June 2021	**Deadline date**	21 September 2021 17:00:00 Brussels time

Type of action: **HORIZON-RIA HORIZON Research and Innovation Actions**

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 30.00 million.
Type of Action	Research and Innovation Actions

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All projects funded under this topic are strongly encouraged to participate in networking and joint activities, as appropriate. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities

Objectives of the GOLIAT project

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- Goliat will ensure that objectives are **measurable**, **verifiable**, **achievable**, and **highly relevant** for policy through:
  - Focusing on most vulnerable (i.e. young people) and most exposed (i.e. workers) population
  - Implementing novel and robut methodologies
  - Placing a strong emphasis on translation of knowledge and citizen engagement
  - Developing a FAIR data infrastructure for use during and beyond the project

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Concepts of GOLIAT

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The overarching concept of GOLIAT is:

- To develop and implement ground-breaking methods for
  - exposure assessment
  - epidemiological studies
  - biological experiments
  - risk communication
  - citizen engagement

- To use an integrative and multidisciplinary pan-European research

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The project at a glance

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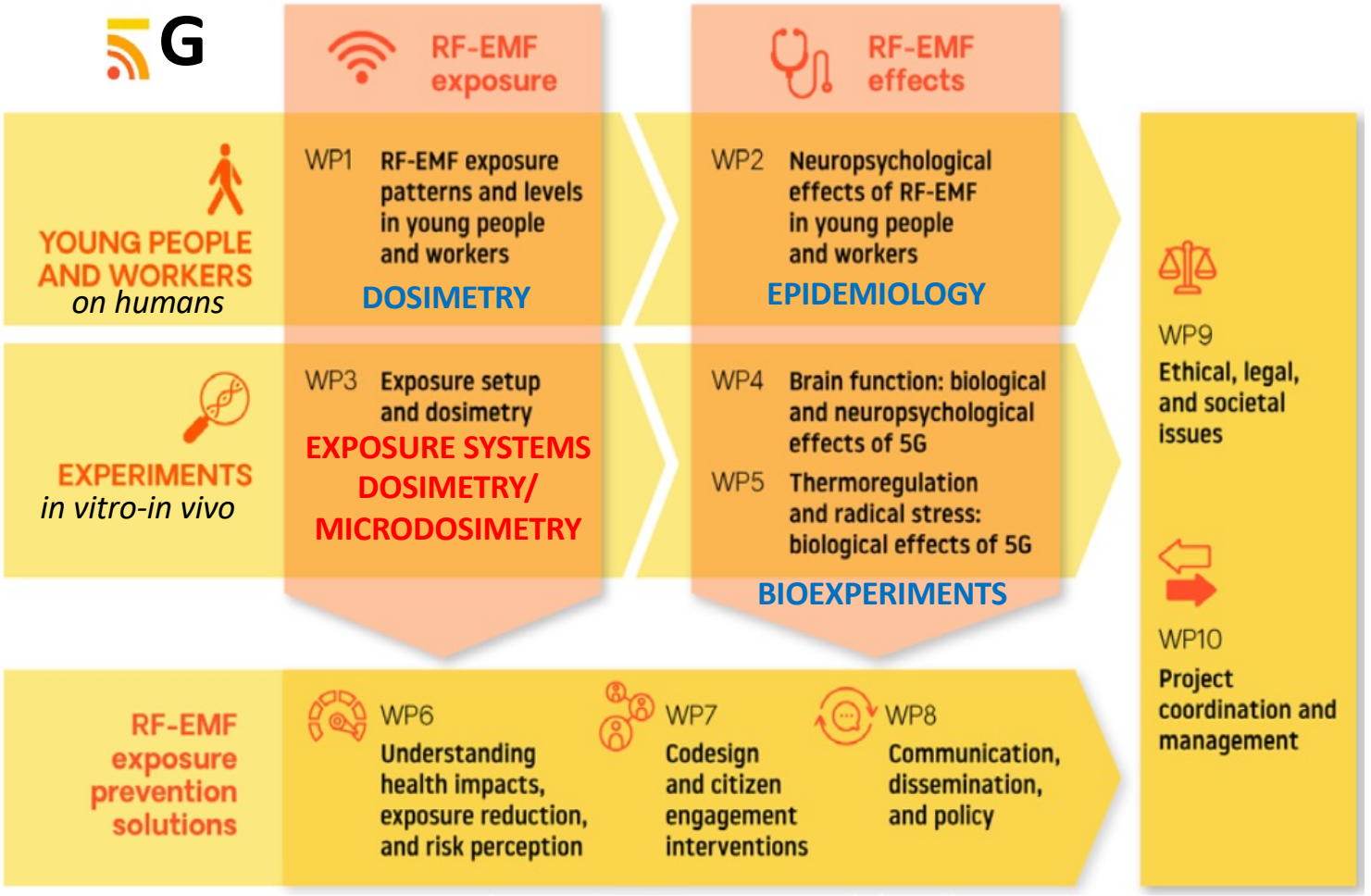
- 9.2 million euro
- 7.0 million euro (EU)
- 5 years
- 1.347 PM



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First trick: start in great advance

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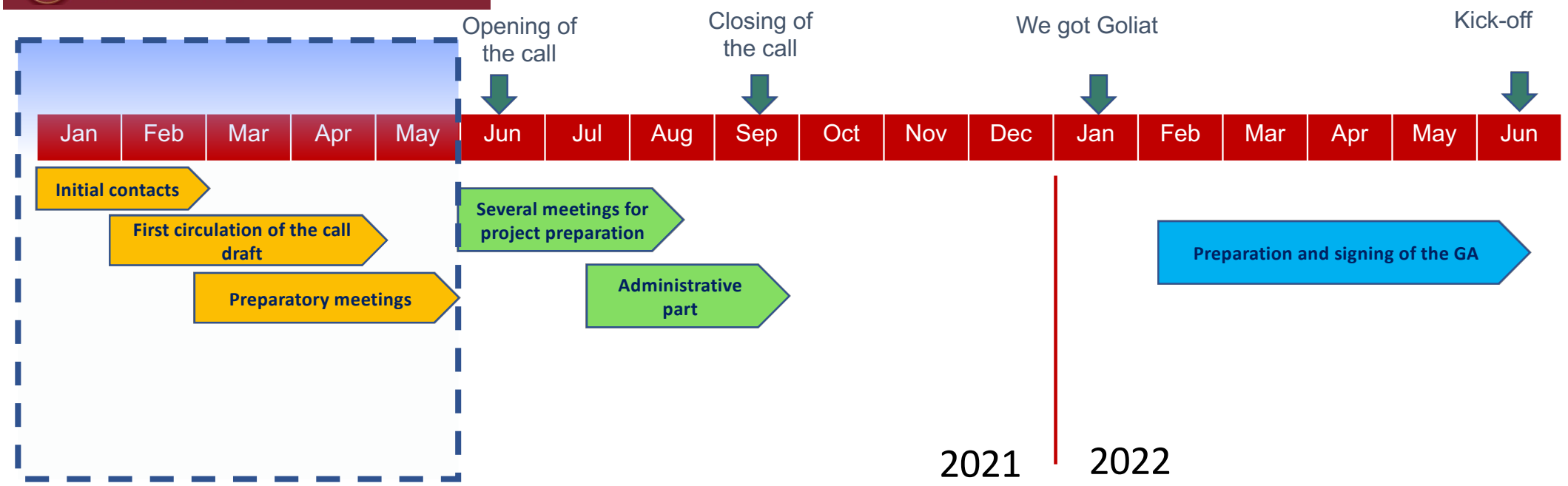
Timeline



around 6 months before the opening of the call!

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Second trick: choose the consortium

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Partners/coordinator requirements

PARTNERS

- To be part of a solid network with acknowledged expertise in the topic
- Very specific competences and skills well inserted in the broad scenario
- Well recognized competence on the topic
- Solid group

COORDINATOR

- Recognized experience from the network
- Strong leadership capacities
- Frequent meetings with subgroups
- Scheduled meetings with all partners
- Inflexible with budget issues

GOLIAT - Consortium

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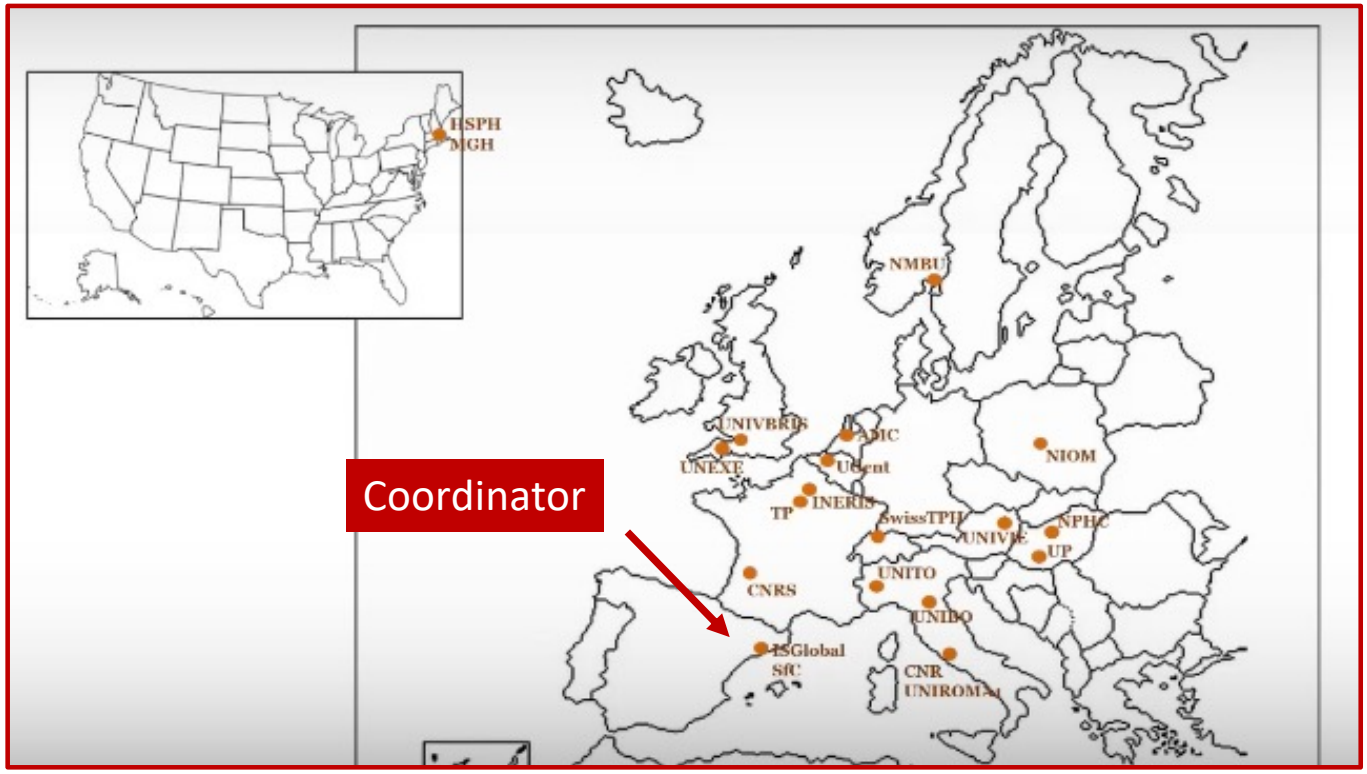

21 partners from 11 countries

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Third trick: deep study of the call

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Requirements

Monitoring **of exposures** of the general population and specific groups at risk such as **children and workers** using innovative technologies

Establishment of **potentially new exposure patterns** and comparison with existing patterns: changing over time of the exposures to EMF due to the introduction of new technologies, **including 5G**

Investigating **evidence of local and systemic biological effects** and health impacts across the lifecycle using **in vitro and in vivo approaches,** respecting the 3Rs principle

Delivering **FAIR data on the causal links** between level and duration of exposures and potential health (biological) effects, **including potential mechanisms**, **for workers and children**

Proposing and testing efficient **communication methods** and tools for **engaging citizens** in preventive actions and addressing their concerns

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Third trick: deep study of the call

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Expected outcomes

1. Scientific evidence supporting public authorities and regulators to implement the Recommendation on the limitation of exposure
2. Access to data and robust evidence on the exposure to EMF in order to improve risk assessment, management and communication for public authorities and regulators
3. Public authorities and the scientific community will take advantage of novel and robust methodologies, including models, for the assessment of health impact of exposures
4. Stakeholders consistently use quality criteria and standards (CEN/ISO 35) for the analytical methodologies in the assessment of exposure to EMF, including 5G, and their impact on human health and on the environment;
5. Public authorities, employers and citizens rely on practical guidelines for exposure prevention and reduction;
6. Citizens are effectively engaged and informed about the health impact of EMF exposures and risk-preventing behaviours.

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Fourth trick: optimize the work before the deadline

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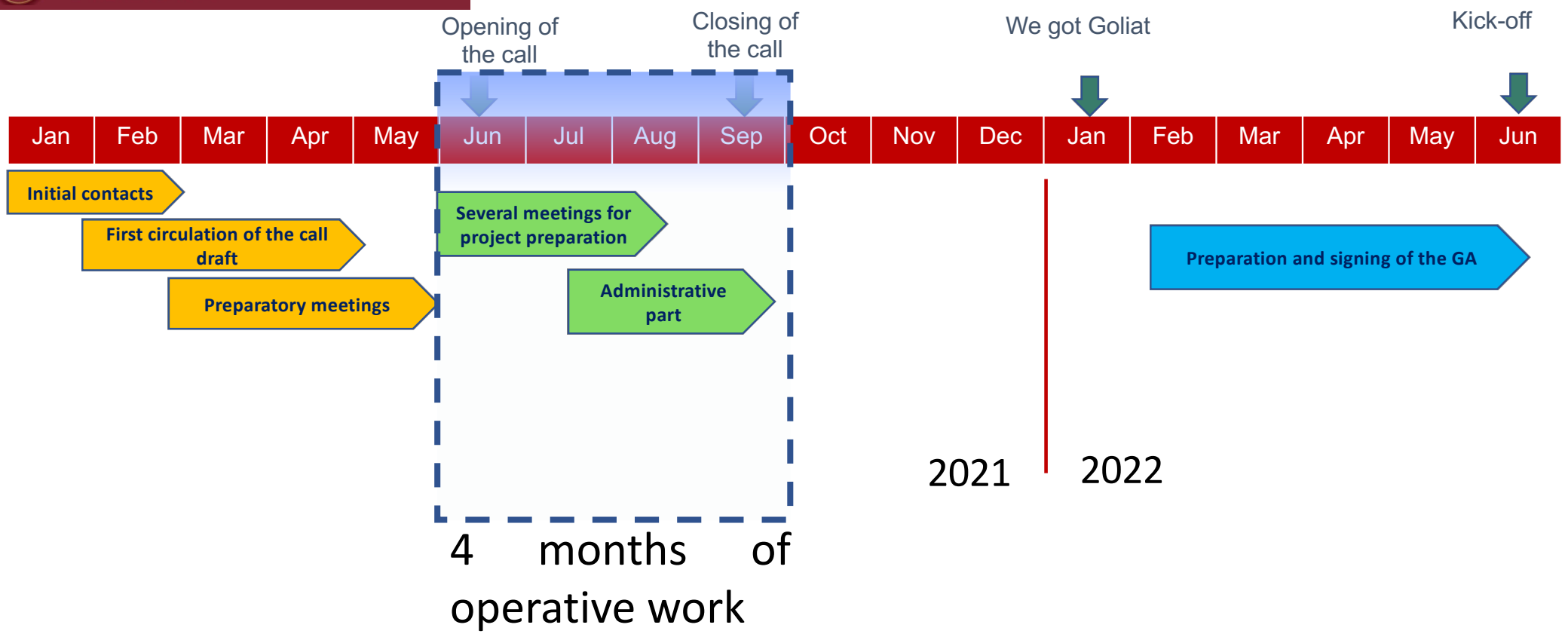
Timeline



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An example of working scheme: summary of key impacts

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SPECIFIC NEEDS

What are the specific needs that triggered this project?

Although 5G will soon become a widely used technology, knowledge about its possible health and biological effects is still scarce.

Evidence is particularly needed regarding health risk to the most vulnerable (i.e. young people) and the most exposed (i.e. workers) populations.

5G development has not been accompanied by appropriate tools/ methodologies to assess associated exposure and effects.

Little is known about the evolution of RF-EMF levels and exposure patterns with the introduction of 5G and the expected widespread use of IoT in both young people and workers.

Little research work has been done to estimate the potential health impacts of RF-EMF exposures related to these new technologies.

Scan evidence is available on effective risk communication strategies regarding RF-EMF exposures and related health risks.

Previous projects on RF-EMF have failed to address a number of ethical issues, especially with respect to citizen engagement and risk communication and perception.

EXPECTED RESULTS

What do you expect to generate by the project?

Next-generation methods to measure exposure to 5G.

Detailed data on RF-EMF measurements in occupational settings.

Interactive dose RF-EMF model for estimation of aggregated RF-EMF dose for the public and experts.

State-of-the-art 5G exposure setups for experimental research.

Large database with longitudinal data on RF-EMF exposure and neuropsychological outcomes in young people.

Guidelines and experimentally validated scenarios for prevention and reduction of exposure.

Materials for engagement of young people and workers.

Communication messages and formats for engaging citizens.

Policy briefs and infographics on RF-EMF exposure and potential health effects.

Postdoctoral scientists and PhD students in partner institutions trained in bioelectromagnetics/dosimetry, exposure assessment, epidemiology and causal inference, biology, toxicology, biophysics, psychology, behavioural and social sciences, risk assessment and communication, citizen science, and ethics.

D & E & C MEASURES

What dissemination, exploitation, and communication measures will you apply?

Dissemination: scientific papers with the results of the project; set of messages and formats to improve public understanding of RF-EMF.

Exploitation: 2 informative online workshops open to public authorities and decision makers from different EU countries; final project conference at EU level with open sessions for associations, entities, scientific community, citizens, and stakeholders.

Communication:
Society: co-created infographic with key messages and results; media press releases with key findings. All shared with print and electronic media and via social media.
Policy makers and authorities: policy briefs with final findings and recommendations.

TARGET GROUPS

Who will use the results of the project?

Research/Academia

Study participants

Journalists

General public

Government/Policy regulators

Policy Think Tanks

Telecommunications industry

OUTCOMES

What change do you expect to see after successful dissemination and exploitation of project results of the target groups?

Next-generation activity-based 5G exposure methods used by researchers, governments, telecommunications industry, and standardization organizations CENELEC and IEC.

Dose RF-EMF model tool used by researchers and general public to optimize future networks from exposure and performance.

5G exposure setups routinely implemented in experimental studies

Epidemiological and experimental results provide causal evidence for better understanding of RF-EMF exposure health effects.

Appropriate messages and formats for communication of RF-EMF widely used.

IMPACTS

What are the expected wider scientific, economic, and societal effects of the project contributing to the expected impacts?

Scientific: new high-quality knowledge on RF-EMF exposure and its potential effects; novel and robust methodologies including next-generation 5G exposure methods and exposure setup at 26 GHz; methods for citizen engagement in socio-environmental challenges; support open science through FAIR data infrastructure; platform and data available for new PhD students and postdoctoral researchers.

Economical: further development of new communication technologies; adoption of *in silico* tools application in industrial and regulatory sectors.

Societal: good public understanding of RF-EMF exposure, its potential neuropsychological and biological effects, and how exposure can be reduced; protection of citizens' health and well-being.

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Joint activities among projects funded - CLUSTER

European Commission
Horizon 2020
European Union funding
for Research & Innovation

"Exposure to EMF and health"
(HORIZON-HLTH-2021-ENVHLTH-02-01)
Funds: more than 30 MEuros

figure from www.servier.com.

NextGEM

Next Generation Integrated Sensing and Analytical System for Monitoring and Assessing Radiofrequency Electromagnetic Field Exposure and Health
Kick-off Meeting: Heraklion, 19–21 July 2022
Consortium: 20 partners, 10 different countries

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5G expOsure, causaL effects, and rIsk perception through citizen engagement
Kick-off Meeting: Barcelona, 6-7 July 2022
Consortium: 22 partners, 12 different countries

ETAIN

Exposure To electromAgnetic fIelds and plaNetary health
Kick-off Meeting: 4-5 July 2022
Consortium: 12 partners, 6 different countries

SEAWave

Scientific-based Exposure and risk Assessment of radiofrequency and mm-Wave systems from children to elderly (5G and Beyond)
Kick-off Meeting: 12 July 2022
Consortium: 15 partners, 6 different countries

ALL CONSORTIUMS

Cluster on EMF and Health (CLUE-H)

Kick-off meeting
Thessaloniki,
22 September 2022

Wikipedia