

GRAPHEN 

EUREKA cluster



“Graphene and 2D Materials”

**EUREKA Cluster: Fostering
European Competitiveness**



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EUREKA

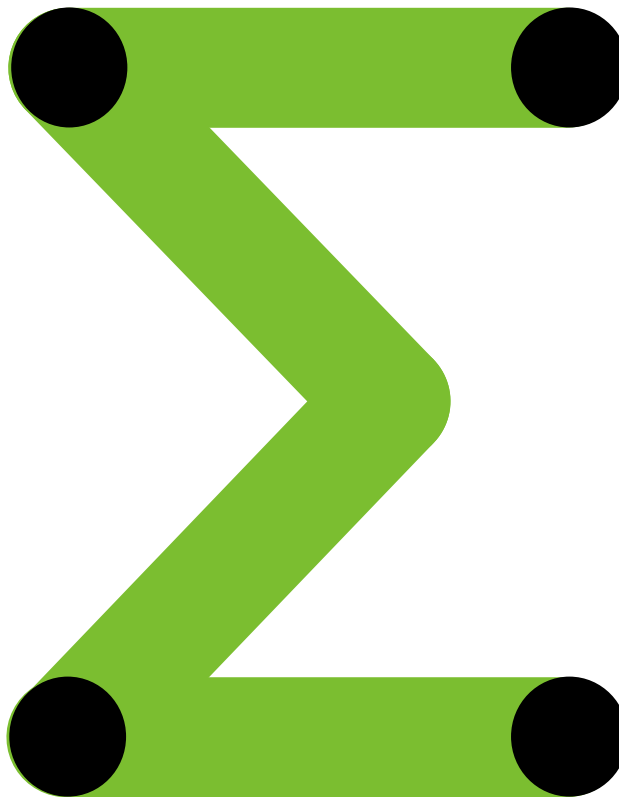
innovation across borders

Leading **platform**
for international
cooperation

Intergovernmental
network

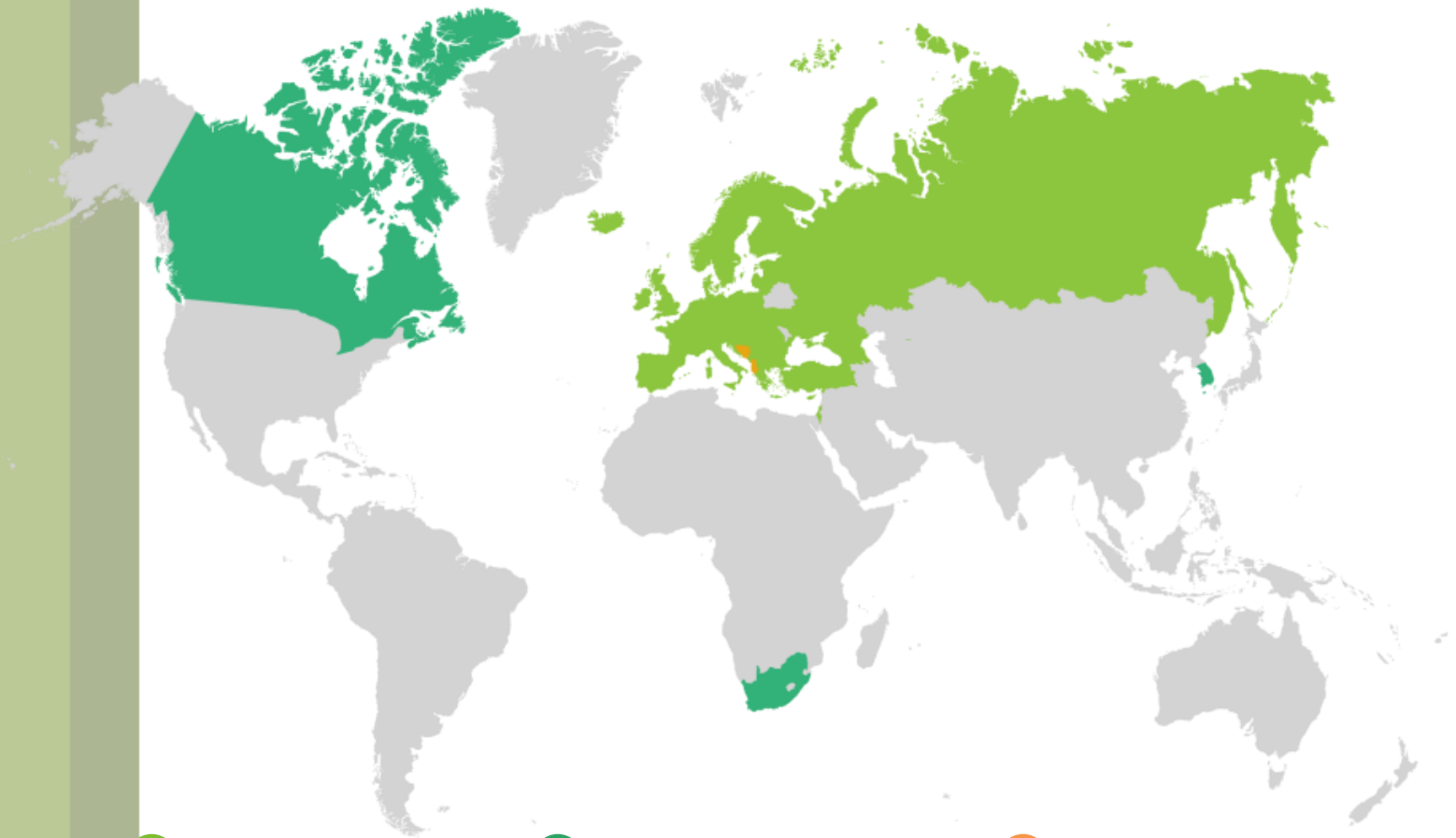
Supporting
market-oriented R&D
projects

Facilitating
access to finance



Source:





● Member countries

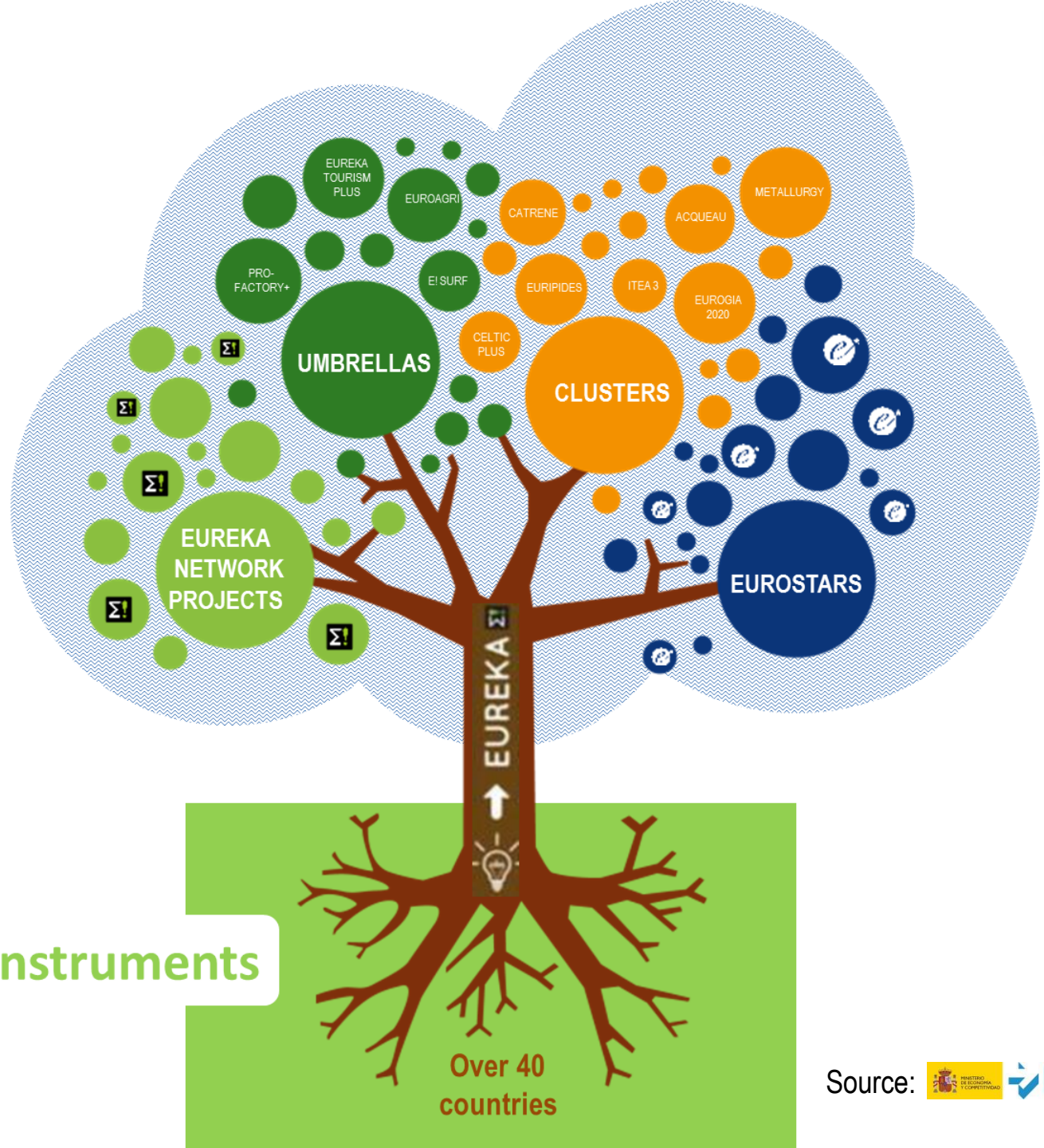
● Associated Countries

● National Information Points

Canada
South Africa
South Korea

Albania
Bosnia and Herzegovina

China?



Instruments

Over 40 countries

Source:

Information technology



Communication



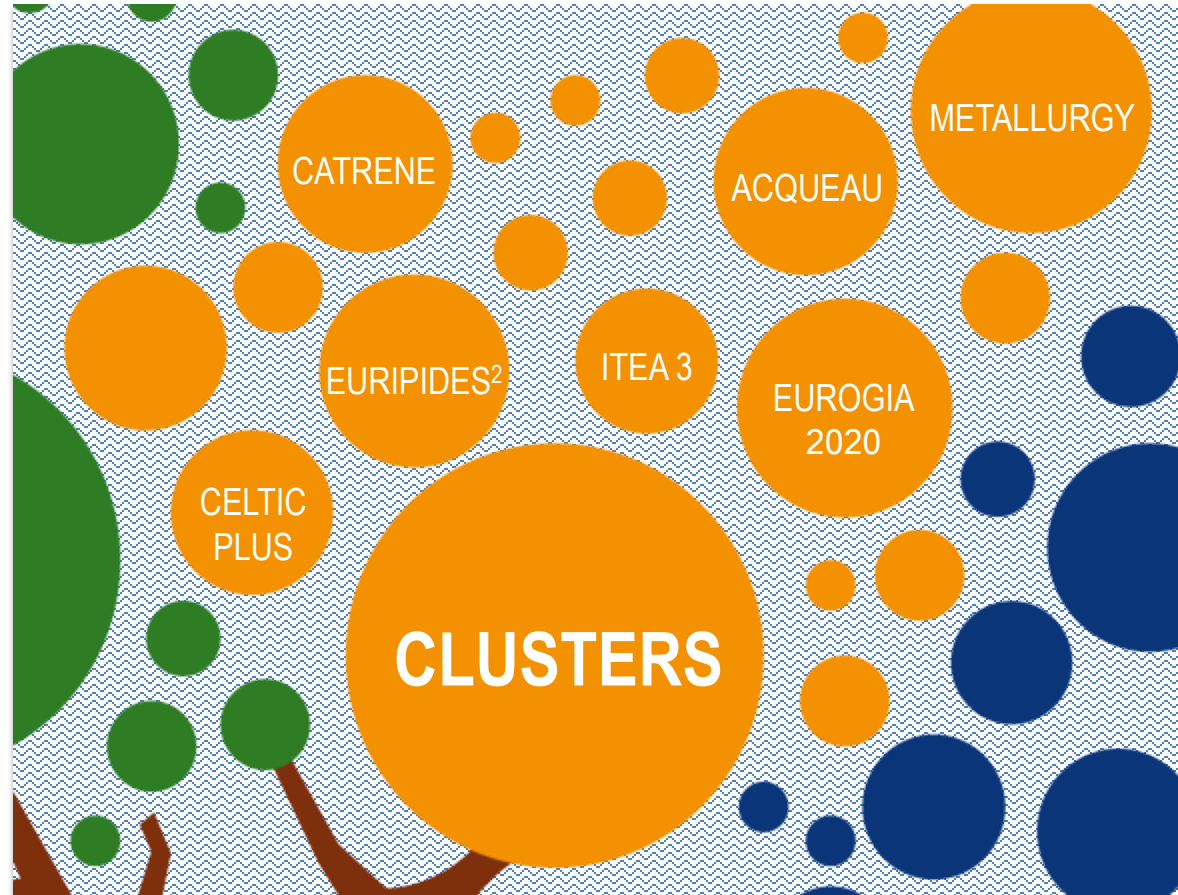
Energy



Water technologies



Manufacturing



EUREKA Clusters are strategic initiatives proposed and led by industry, developing generic technologies of key importance for European competitiveness. **Clusters facilitate R&D and innovation projects** on the basis of a **broad industrial participation** spanning large industry and SMEs **as well as research institutions** and other public or private organisations.

Research institutions can join Eureka clusters, participating in the proposals/projects as **subcontracted** member.

Eureka clusters



Industry led initiatives

- Medium term
- Strategically significant
- Coordination with National Funding bodies



Large number of participants

- Major European industries.
- Sector's main actors.
- Large SME participation (30–50% of partners).
- Research organisations and academia.



Fostering European competitiveness

- Develop generic technologies and standards
- Address economic and societal challenges.
- The whole value chain.



Procedures Eureka

- The cluster itself carries out the technical evaluation.
- Decentralised funding (each country).

Cluster Management



Application



5 countries minimum

Strategic and operative document

Support of the National Funding Bodies

Requirements

Legal Entity

Industrial leadership

Financial commitment of the countries

Strategic vision and defined calls



Cluster advantages



- The cluster itself **decides the strategic agenda** in the international scope of a certain sector.
- It gives to its members a **technological boosting** position in their field.
- It provides **national funding** to the projects.
- It takes advantage of **sinergies between clusters** and other programs.
- It offers a **cooperative ecosystem** to encourage project and business generation.
- It provides an access to technology and markets **beyond Europe**.

Spanish Eureka Chairmanship 16-17



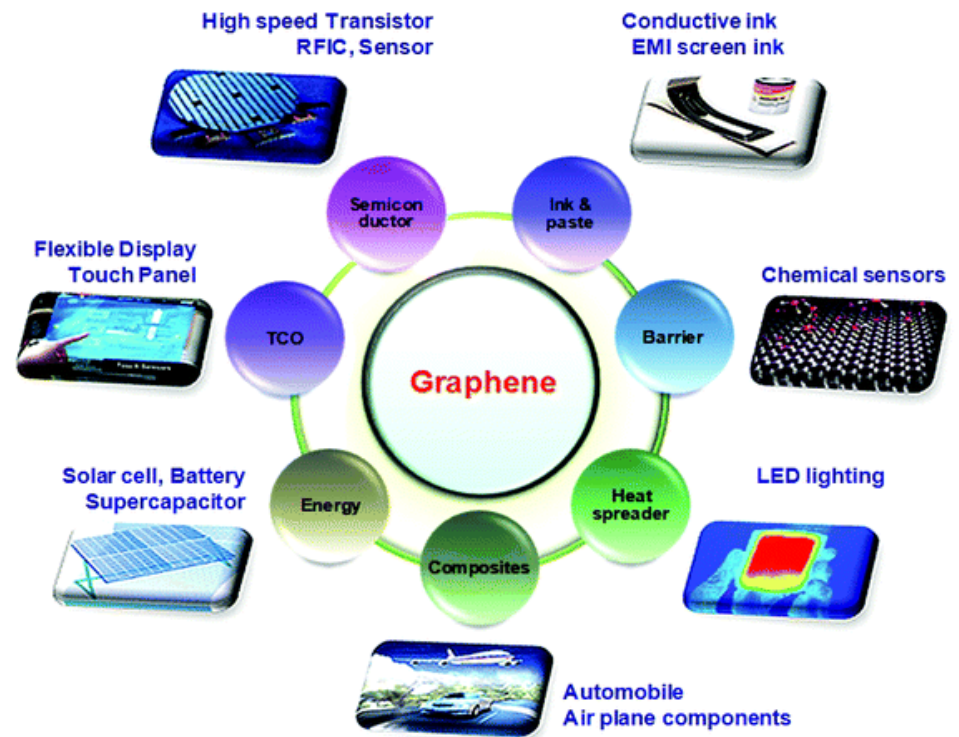
- To turn Eureka into **the preferred platform for R+D+I** international cooperation:
 - For the industry.
 - For the regional/ national/ European administration.
- Priorities
 - **Open Eureka**: internationalization strategy.
 - **Upgrade Eureka**: management and instruments (Clusters)
 - **Check Eureka**: Intermedium impact and monitoring.
- To increase the commitment of the countries.
- Eureka Ministerial Conference

Current scenario I

Graphene: current and potential applications

GRAPHENE AND OTHER RELATED 2D MATERIALS EXTRAORDINARY PROPERTIES

Electrical and thermal conductivity;
strength; biocompatibility; chemical
stability; etc.



Current scenario II

INDUSTRIAL & TECHNOLOGICAL CHALLENGES

Mass production of high quality graphene

- i. Scaling up
- ii. Industrial applications

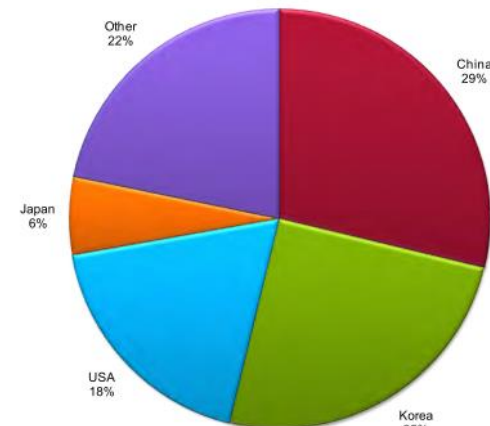
IP SCENARIO

- i. Patenting in graphene has risen rapidly in recent years. Leading of South Korea entities.
- ii. Chinese influence since 2013 has continued to grow

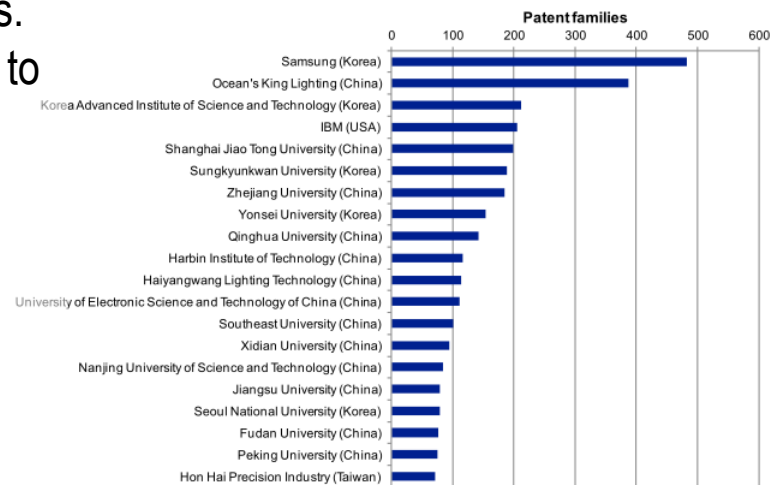
RESEARCH IN THE EU



GRAPHENE FLAGSHIP



Applicant country distribution



Top applicants

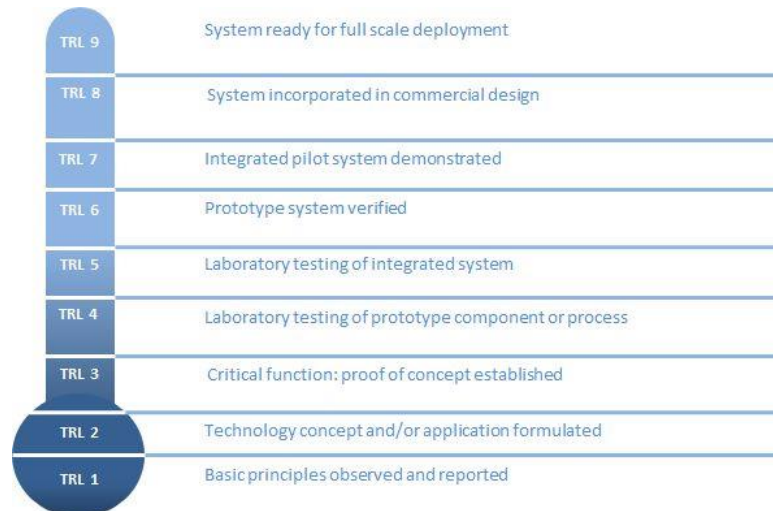
Source:



Why?

- ✓ To fill the gap between academic research and market.
- ✓ To develop new industrial applications and to boost the existing.
- ✓ To standardize the «big family» of graphene and related materials.

Technology Readiness Level



The new Eureka cluster:

- ✓ Will be an industry-driven strategic instrument that will also integrate the research agents.
- ✓ Will be inclusive and open to all the actors of the value chain.
- ✓ Will have a scope beyond Europe.
- ✓ Will set its own technological priorities (Technological Roadmap).
- ✓ Will set its own objectives, status and procedures (White Book)
- ✓ Will have close relationship with the National Funding Bodies.

The Eureka cluster structure:

- ✓ The Eureka cluster on Graphene and 2D materials will become a non-profit international association with an industrial board, responsible for its governance, supported by a technical management office/secretary. The board will be responsible for the strategy and coherence of the whole cluster programme, nominating experts of the evaluation committees and validating the call for proposals.
- ✓ Members of the cluster will be required to pay an annual membership fee to ensure the overall functioning of the cluster technical office and of the open call processes.
- ✓ Membership fee will be fixed by the cluster board (fees will be set up for medium and large enterprises and for small enterprise, research centres and universities).

Membership will allow to:

- ✓ Join the graphene cluster network
- ✓ Benefit from the know-how
- ✓ Get visibility in the European graphene sector
- ✓ Take part in the annual cluster meeting
- ✓ Etc.



Eureka cluster on Graphene and 2D-materials

MAIN R&D TOPICS // MAIN R&D RESEARCH AREAS

- i. Standardization.
- ii. Production (Scaling up)
- iii. Applications:
 - i. Electronic devices.
 - ii. Biomedical applications.
 - iii. Energy (storage).
 - iv. Composites
 - i. Production and Manufacturing of composites.



SCIENTIFIC & TECHNOLOGICAL IMPACT

- i. **“Technological push & pull approach”**: taking advantage from existing knowledge and also inspiring future scientific research.
- ii. Elaboration of a **value chain** in chosen industrial sectors with market and commercial capability.



Eureka cluster actions:

FUTURE ACTIONS

- A critical mass of companies and countries is required.
5 countries to support the initiative
- To define the Executive board group
- To elaborate:
TECHNOLOGICAL ROADMAP
WHITE BOOK
- To set the Technical Office



APPLICATION SUBMISSION EUREKA SECRETARIAT

- VIABILITY PHASE OF THE NEW CLUSTER
LEGAL ENTITY establishment



Timeline - Phase 1

Initially (March –September 2016) / Updated: (March – December 2016)

Task 1

EUREKA Graphene Cluster presentations

nanoSpain2016 Logroño (National level) March 2016
Graphene2016 Genova (European level) April 2016
Stockholm (Innovation week) June 2016
Graphene Week Warsaw (European level) June 2016
Eureka NPC/HLG3 Meeting Stockholm, June 2016
Madrid (Formal Launch) September 2016

—————> **October 2016**

Task 2

Internal meetings

Task 3

European Companies landscape (EUREKA framework)
Initial contact (Expression of interest)
Reminder + database maintenance 

Task 4

Preparing Roadmap + Whitebook

Task 5

Web site: design + maintenance

Task 6

Marketing: press-releases, etc.

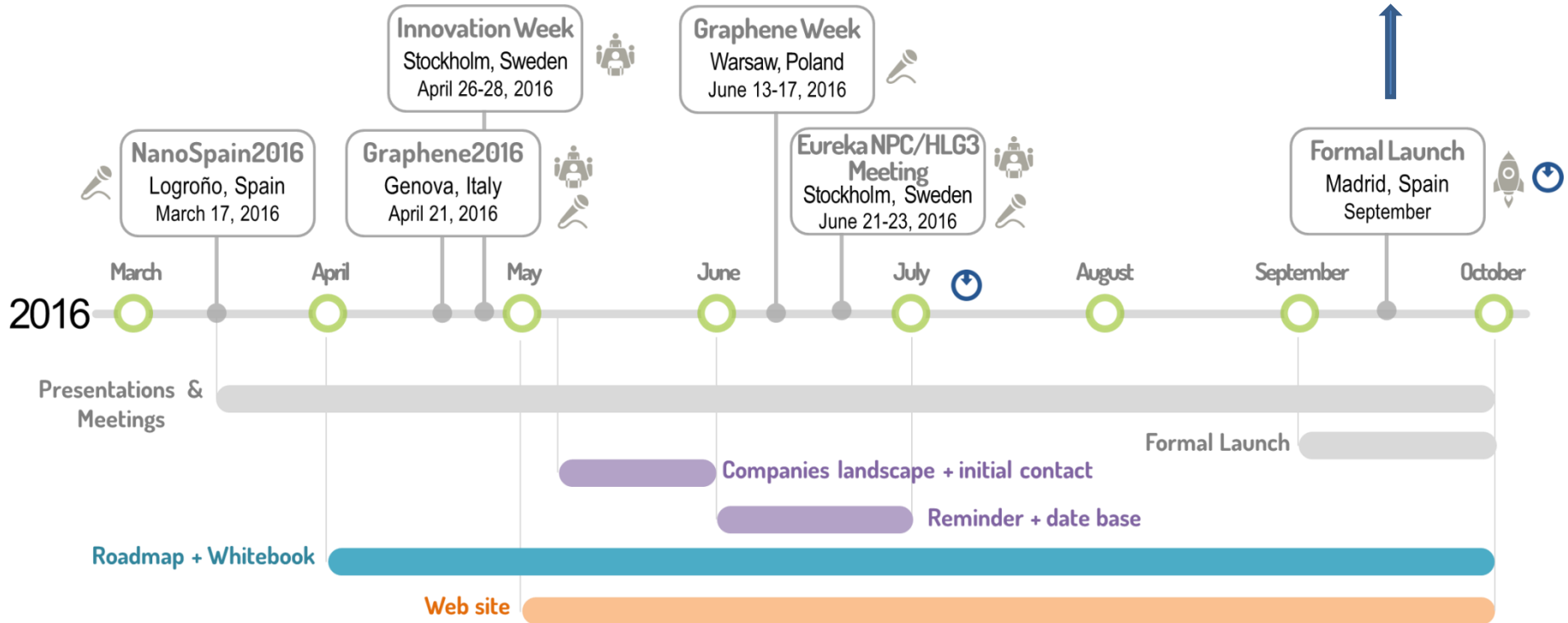
Task 7

Management

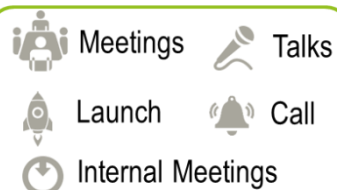
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**October 2016
Madrid (Spain)**

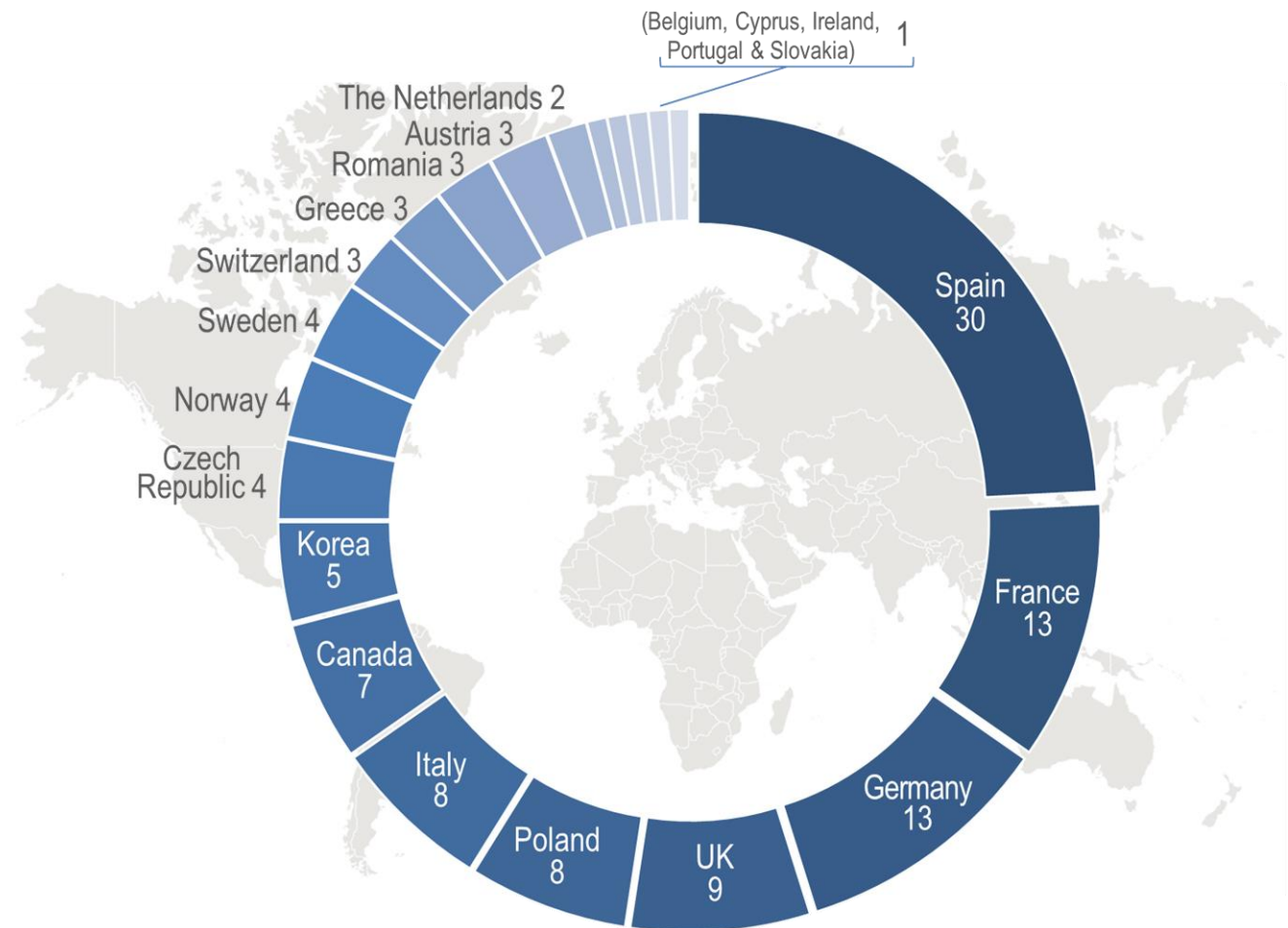


ICONS



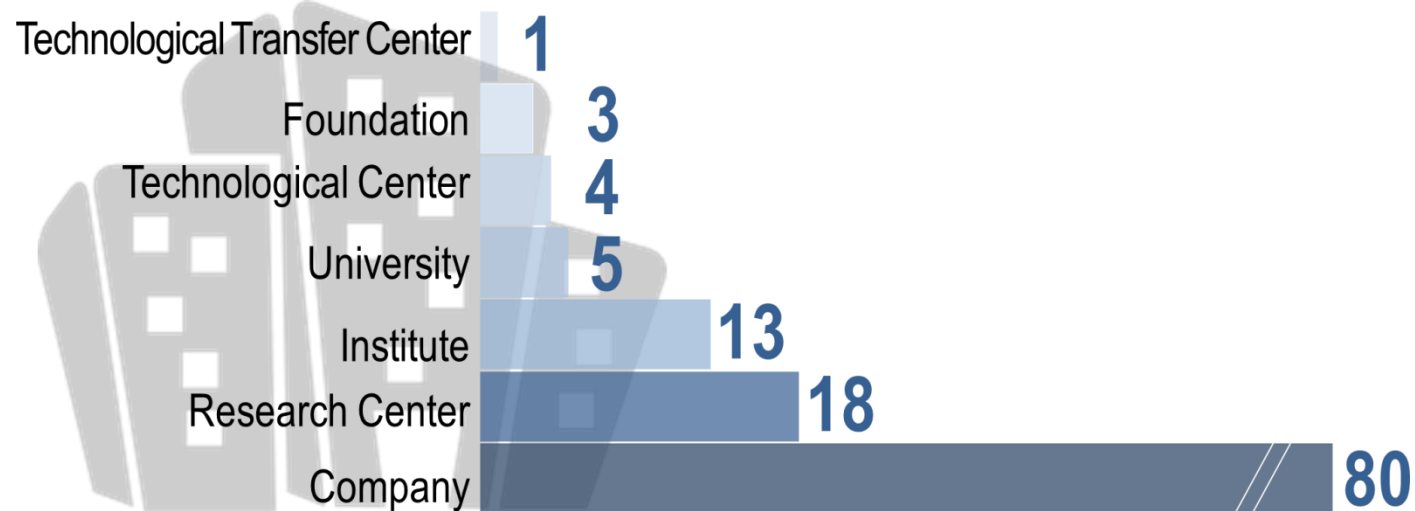
*Internal meetings dates are tentative

124 expressions of interest received



Expressions of interest

124 expressions of interest received



Expressions of interest

 80 companies











Expressions of interest

44 public Institutions



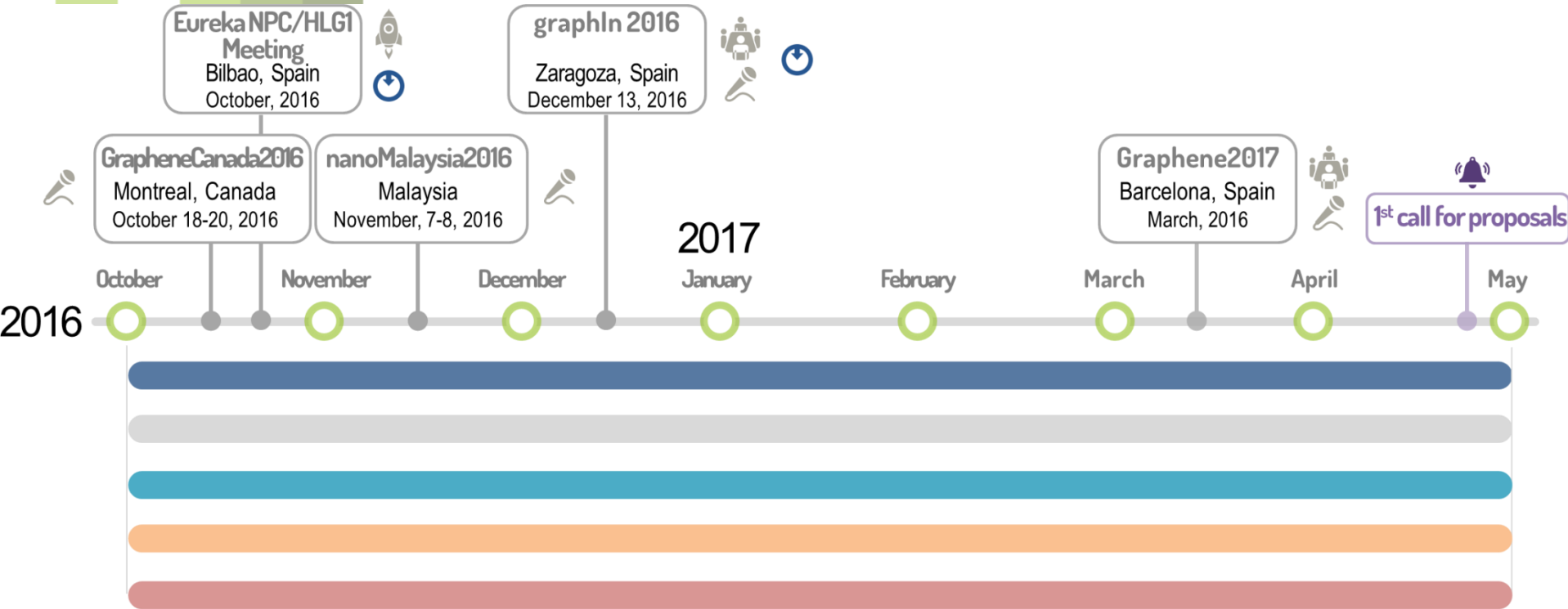
Timeline - Phase 2

Initially (October 2016 – May 2017) / Updated (January – December 2017)

Task 1	Creation of the Legal Entity 
Task 2	EUREKA Graphene Cluster presentations  Eureka NPC/HLG1 Meeting (Launching) October 2016 Graphene Canada 2016 (Associate country) October 2016 nanoMalaysia2016 November 2016 graphIn2016 December 2016 Graphene2017 March 2017 Innovation Week 2017 Other events to be defined
Task 3	Internal meetings 
Task 4	First call for proposals 
Task 5	Roadmap + Whitebook update 
Task 6	Web site maintenance 
Task 7	EUREKA Graphene Cluster members database 
Task 8	Participatin exhibition Graphene events  Graphene2017 (March 2017)/ Graphene Canada 2016 (October 2016) Graphene week (June 2017) / grapChina 2017 (September 2017) Others (to be defined)
Task 9	Marketing: press-releases, etc. 
Task 10	Management 

Timeline - Phase 2

Initially (October 2016 – May 2017) / Updated (January – December 2017)



*Internal meetings dates are tentative

ICONS

	Meetings		Talks
	Launch		Call
	Internal Meetings		

**Interested in joining or receiving more
information, please contact:**

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Thanks for your interest