



Board of Funders

Brussels, 16th November 2018

Graphene Flagship

State of play

Wide Hogenhout

Flagship Unit

DG Connect, European Commission

Outcome review 2018

"The project has achieved its objectives and milestones for the period, with relatively minor deviations."

- *50 research agreements between academia and industry*
- *over 900 scientific publications*
- *more than 1600 talks at conferences.*
- *database of material samples.*
- *industrial participation of the initiative has increased (20% > around 36%)*

Specific exploitable highlights include

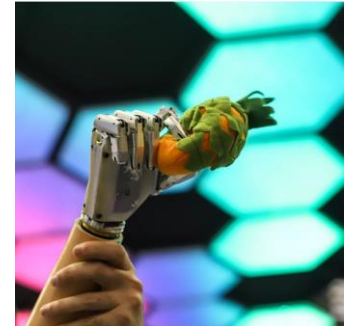
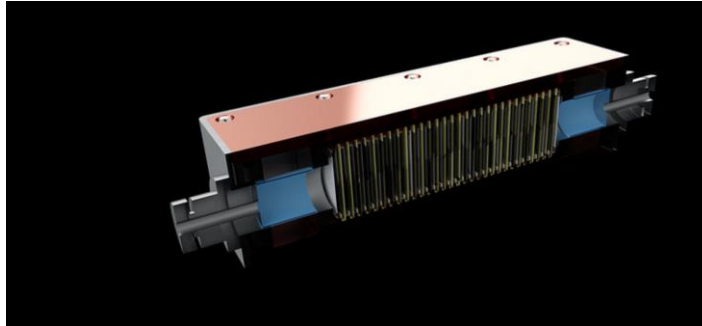
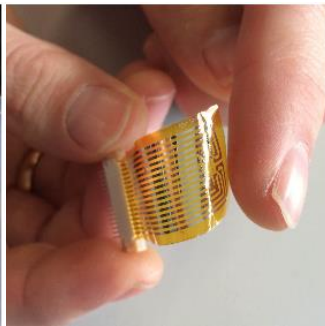
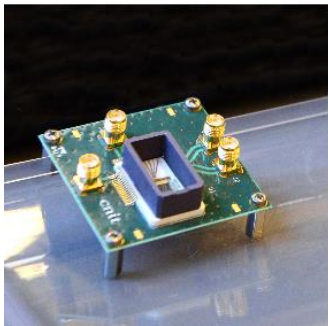
- *Resistance standard based on the quantum Hall effect in graphene*
- *Novel composite materials based on graphene*
- *25Gbps data transceiver*
- *Power detectors that work in GHz and THz ranges*
- *Novel tool for spray decomposition of supercapacitors*

significant S&T achievements:

- *Single photon emitters*
- *Biosensing of key proteins (that for example signal heart problems) and detecting dengue fever from saliva (in opposed to blood)*
- *Extremely long spin lifetimes at room temperature, showing promise for a new type of solid state device based on the spin of electrons*

Outcome review 2018 - recommendations

- The Flagship should further enhance efforts to be in contact with industry to set research directions
- Health and environment: build on the fundamental knowledge already gathered, and engage in building a series of regulatory-informed, integrated testing systems to support the safety assessment of commercially relevant products
- Project should further enhance and promote adequate protection of intellectual property
- In specific cases, the collaboration between work packages should be enhanced
- In some cases key performance indicators don't have the right level of ambition when arriving at the end of a project cycle



Graphene Week 2018

The annual gathering and Europe's leading graphene conference for international experts on graphene and two-dimensional materials.

- Over **600** delegates from **53** countries
- **27%** Female delegates
- **150** Media & press attendees
- **208** Invited talks
- **616** Abstracts submitted



Graphene Week 2018 – side events

- ESA workshop
- partnering projects
- Flagera
- Women in Graphene
- SCOPE meeting



Market Place Leonardo

Milan, 17 October 2018

Marketplace Leonardo - part of Graphene Flagship's industrial event series, Graphene Marketplace

Goal:

- promote internally among Leonardo's researchers and engineers the many applications of graphene
- explore the use of graphene to sustain Leonardo's competitiveness
- showcase the achievements of the Flagship.



- 260 public attendees
- 60 private attendees
- 25 GF demos showcased, 8 speakers
- Great engagement from and collaboration with Leonardo management
- Next step: roadmapping workshop

Museo Nazionale Scienza e Tecnologia Leonardo da Vinci: public keynote speech from Nobel Laureate Konstantin Novoselov in the morning + exhibition.



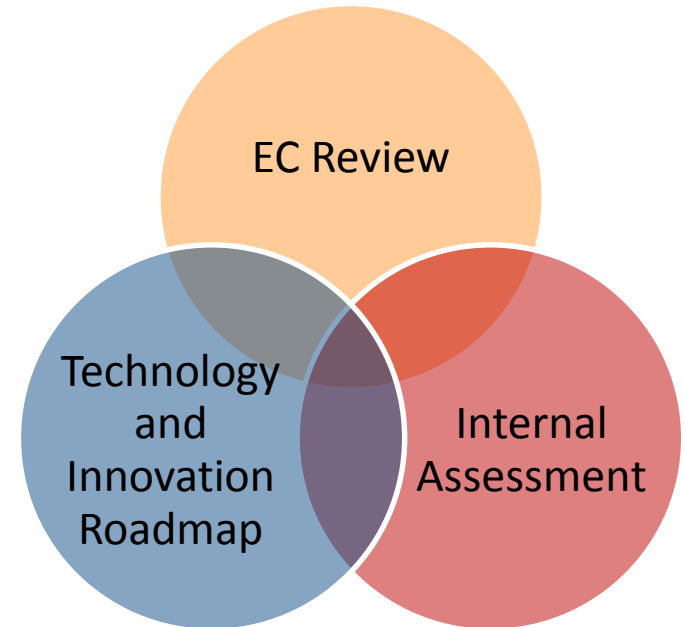
Private conference for Leonardo employees.

Working towards Core3

April 2020 – March 2023

In January the consortium sets main research lines and budgets on the basis of the EC Review, Technology and Innovation Roadmap and Internal Assessment. In the months after they will draft the proposal.

Specific push for innovation:
Invitation to submit proposals for ***spearhead projects***



Year	Partners	Academic	Industrial	Other	Budget/yr
2013	75	48	17	10	18 M€
2014	142	76	41	25	24 M€
2016	156	76	54	26	45 M€
2018	145	61	52	32	45 M€
2020	?	?	?	?	50 M€

Deadline for Core3:
~June 2019

Evaluation:
~July 2019

Budget:
150M€

Call for Spearhead Projects (to become part of core3)

A spearhead project (SHP) is an ambitious, well-defined application-oriented subproject of the Graphene Flagship

Each SHP must involve at least one GF Core 2 partner, and be led by an industrial company. This often means bringing new expertise to the consortium.

Proposals are evaluated/ranked by a committee of experts in the area of innovation / industrialisation



Opening date: 2 October 2018

Deadline: 19 Nov. 2018 at 08:00

Duration: 36 months from 1 April 2020

Overall indicative budget: up to 43.6 M€

10-15 projects are expected to be funded

**Around 50
proposals
expected**

Mobile World Congress

25-28 February 2019


Mobile World Congress is the world's largest gathering for the mobile industry, organised by the GSMA and held in Barcelona, Spain, in late February every year, with over 100K physical visitors.

MWC 2019 will be the Graphene Flagship's fourth year organising an exhibit, curated by its partner ICFO, with prototypes and products showcasing the progress of graphene research and innovation.



The Graphene Flagship invited organisations working on graphene related technologies to submit a prototype proposal by 26 Oct. to join the exhibition at the Mobile World Congress 2019, 25 - 28 February at Fira Barcelona.

Calendar of Events



19-21 Nov '18	November EU-Japan workshop
04 – 06 Dec '18	ICT conference, Vienna
03-08 Feb '19	Graphene Study 2019
11-12 Feb '19	Women in Graphene, NGI Manchester
25-28 Feb '19	Mobile World Congress 2019, Barcelona
03 – 04 Apr '19	General Assembly, Strasbourg
Mid May '19	EU-US workshop
10-14 June '19	EC Review
~July '19	EC Evaluation of Core3
01 - 06 Jul '19	Lindau Nobel Laureates Meeting, Lindau
23 – 27 Sep '19	Graphene Week 2019, Helsinki (& EU-Australia Workshop)