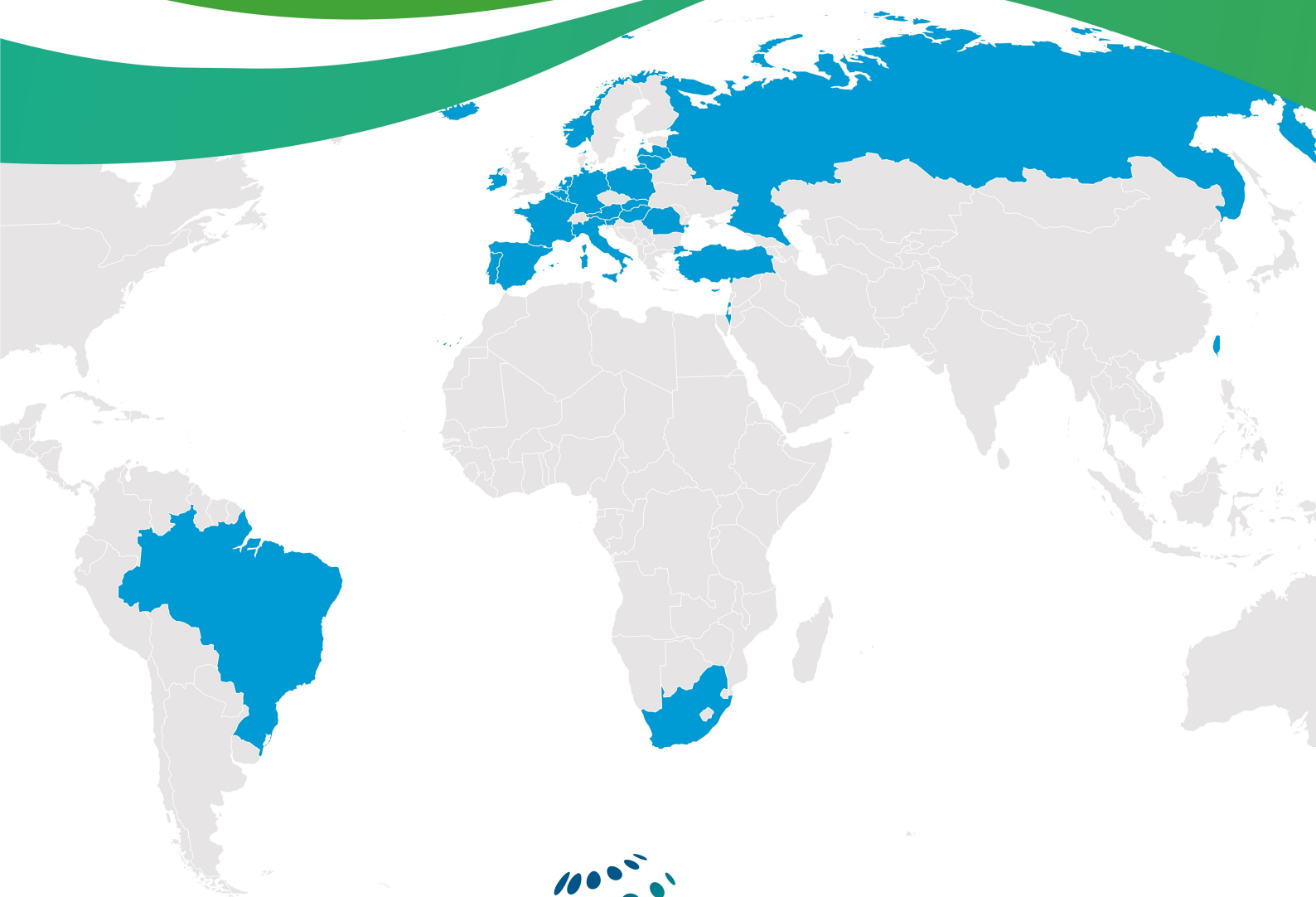
Report on the assessment of transnational projects funded under the M-ERA.NET Call 2016



M-ERA.NET

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Executive summary

This report covers the results of the assessment of the projects funded from the M-ERA.NET co-funded Call 2016. 46 full proposals were selected for funding, corresponding to requested funding of 30.5 Mio EUR. All 46 projects started in 2017/2018.

These projects are allocated to the call topics as follows:

- Integrated computational materials engineering (ICME): 2 funded projects
- Innovative surfaces, coatings and interfaces: 14 funded projects
- High performance synthetic and biobased composites: 4 funded projects
- Functional materials: 11 funded projects
- Interfaces between materials and biological hosts for health applications: 7 funded projects
- Materials for additive manufacturing: 8 funded projects

The funded projects were assessed through an online questionnaire, covering assessment of project implementation, innovation results, economic effects, transnational effect, and contribution to the material research for low carbon energy technologies. The survey addressed 220 projects partners in 46 projects.

The analysis shows that most projects started the same year as recommended for funding, indicating efficient implementation of the projects. The projects usually started at TRL levels between 1 to 4 and ended at TRL levels 4 to 6. The tentative time frame for commercialisation of the results (year to market) was most usually between 3 and 5 years. Access to new international partners and/or access to new know-how were reported as the most common economic effect for the beneficiaries. The main added value of M-ERA.NET compared to other transnational funding included simpler rules and procedures. 84% of respondents reported that the project would not have been realised without M-ERA.NET and in almost all cases the cooperation in the consortium will continue. 44% of the beneficiaries confirmed that the project results contributed to Low Carbon Energy Technologies development. 54% reported that project was completed according to plan with no or minor changes related to consortium, budget and timeframe, while 46% reported changes. In most cases this is related to project period extension due to COVID-19 pandemic situation. The report concludes that the assessed projects are found to have a high impact at scientific and innovation levels as well as positive economic and transnational effects for the involved beneficiaries.

1. Objectives

In order to follow up on the success of these investments M-ERA.NET has established a systematic approach to monitoring and assessing the impact of its joint transnational calls on an annual basis. This joint analysis complements the routine efforts carried out by the national and regional funding organisations at national and regional level.

This report covers the results of the assessment of the 46 projects funded from the M-ERA.NET co-funded Call 2016. M-ERA.NET selected 46 full proposals for funding, corresponding to requested funding of 30.5 Mio EUR.

2. Process and Methods

The projects funded under the M-ERA.NET Call 2016 were assessed through an online questionnaire. The questionnaire was provided to all parties in the funded project consortia in June 2021. The questionnaire covered the following areas:

- Project implementation
- Innovation oriented results
- Economic effects
- Transnational effects
- Contribution of project to research on materials for low carbon energy technologies

The survey addressed 220 projects partners in 46 funded projects. In total, 114 responses were received, including 34 from coordinators. These responses covered 45 projects. The response rates were 98 % for projects and 52% for individual beneficiaries. 49 % of the responses came from universities, 32% from research organisations, and 19 % from industry. The profile of organisations for the whole Call 2016 is shown in figure1 on the left side. The questionnaire did not distinguish between SME and Large industry, thus both categories are covered by the category "company".

Note: all statistics and graphs presented in this report are related to individual answers from individual beneficiaries not to projects as a whole.

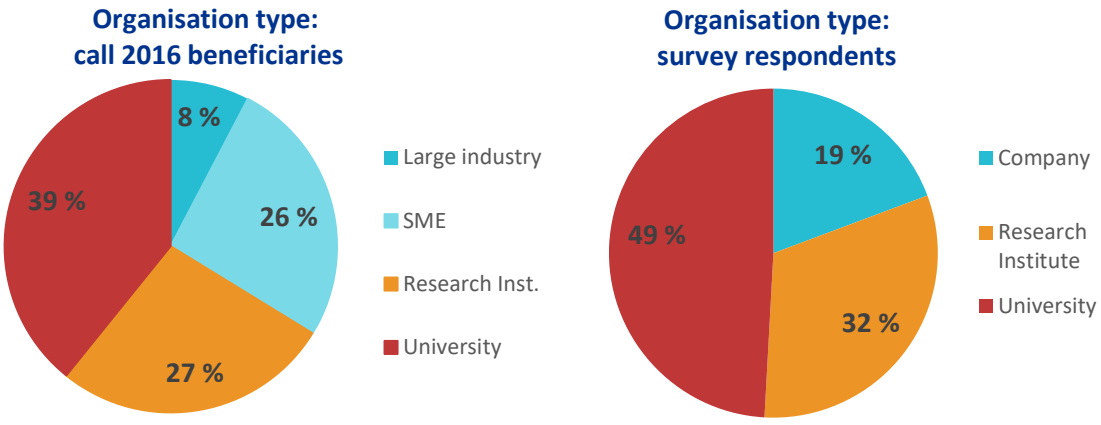
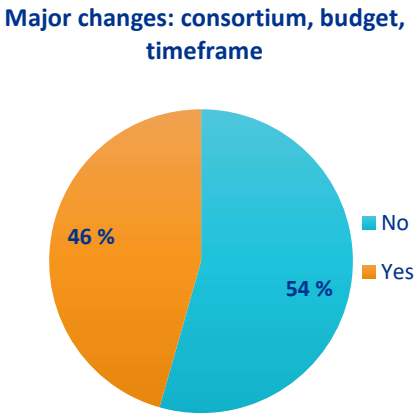


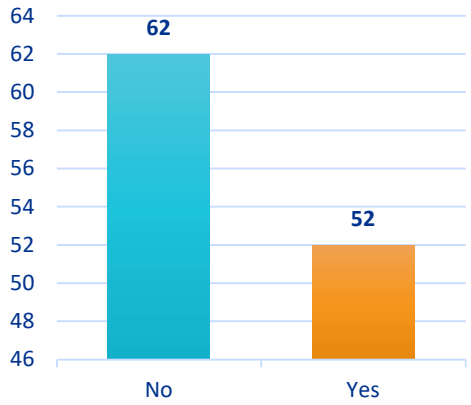
Figure1: a) beneficiaries of the Call 2016 per organisation type; b) respondents per organisation type.

3. Statistics and results

3.1 General – project implementation

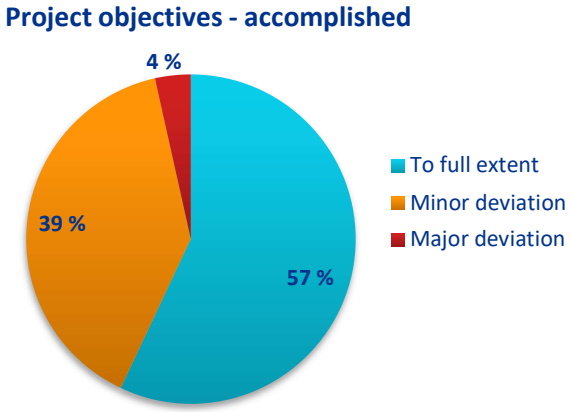
Q1. Have there been major changes since the project started (consortium, budget, timeframe etc.)?





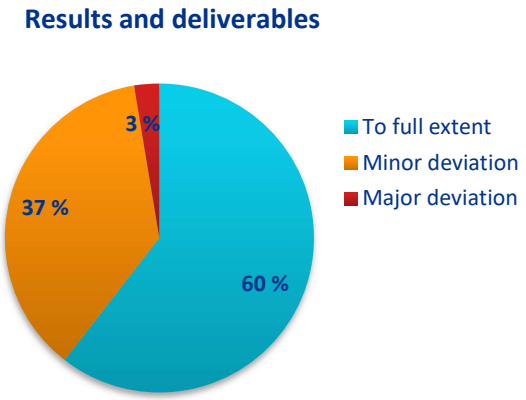
54% of the beneficiaries reported no changes with respect to consortium, budget and/or timeframe whereas 46% of the beneficiaries (52 respondents) reported that there have been major changes since the project started. This is an increase by almost 20% in answer "yes" compared the assessment of projects funded in the Call 2012, Call 2013, Call 2014 and Call 2015. The major changes in projects from Call 2016 are mostly connected to the extension of the project period and project changes related to *the COVID-19* pandemic situation.

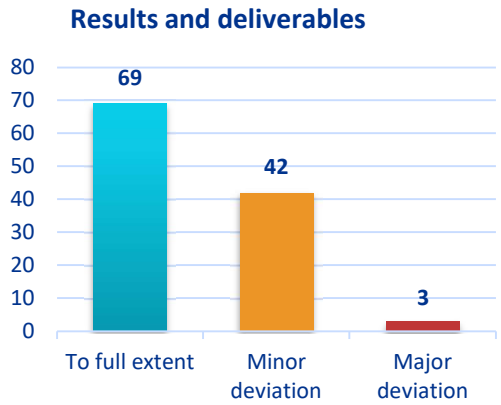
Q2. To which extent have the project objectives been accomplished?



57% of the beneficiaries reported that the project objectives have been accomplished to full extent whereas 39% of the beneficiaries reported minor changes. 4 participants reported major changes in the project objectives. This is a decrease by 20% in answer "to full extent" compared to the assessment of projects funded in the Call 2012, Call 2013, Call 2014 and Call 2015. The changes in projects from Call 2016 are mostly related to the *COVID-19* pandemic situation.

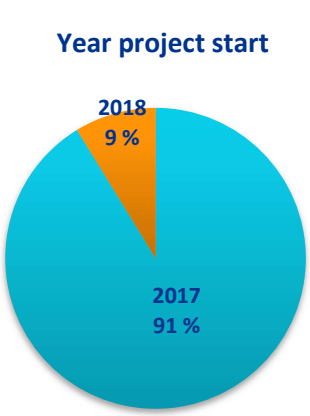
Q3. To which extent have the expected results and planned deliverables been accomplished?

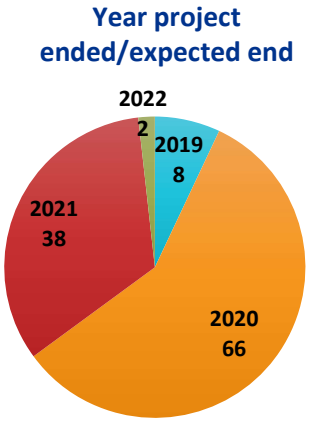


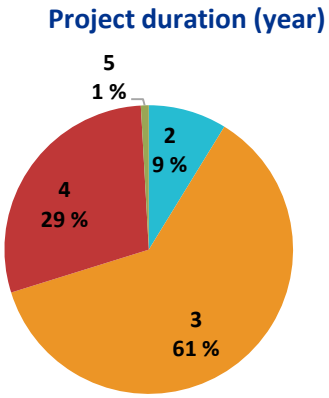


A similar profile is received for the question related to accomplishing of the expected results and deliverables. 60% of respondents reported that the results and deliverables have been fully accomplished, whereas 37 % reported minor and 3% (2 partners) reported major changes. The changes in projects from Call 2016 are mostly related to the *COVID-19* pandemic situation.

Q4. What is the project timeline?

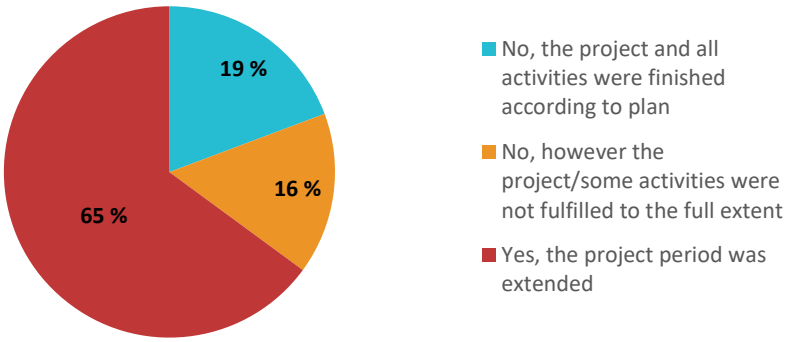






91% of the respondents started their projects in 2017 and the rest in 2018 (9%). This means that is a most of the projects started the same year as recommended for funding (2017). This is a significant increase compared to earlier calls. Most of the projects ended between 2019 and 2021. 2 respondents expect the project will end during 2022. In the most cases, the project period was 3-4 years (90%). This is an increase in average project period as compared to projects funded in Calls 2012, 2013, 2014 and 2015. This is explained by the *COVID-19* pandemic situation causing an extension of the project period.

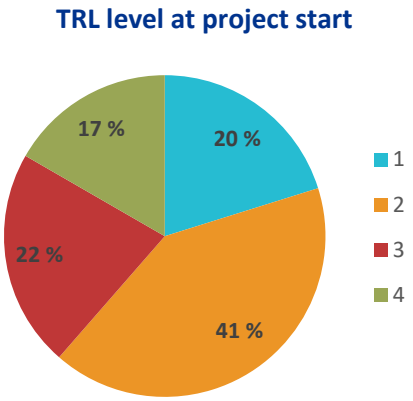
Q5. Was the project period influenced by the Covid19 pandemic situation?

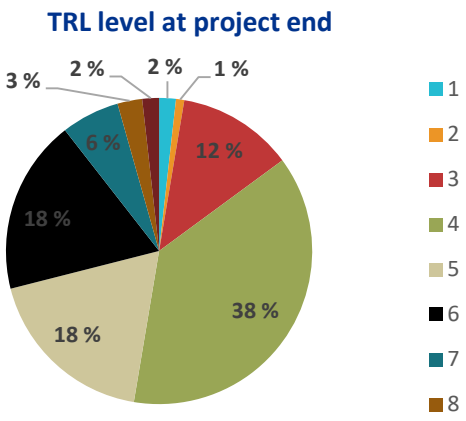


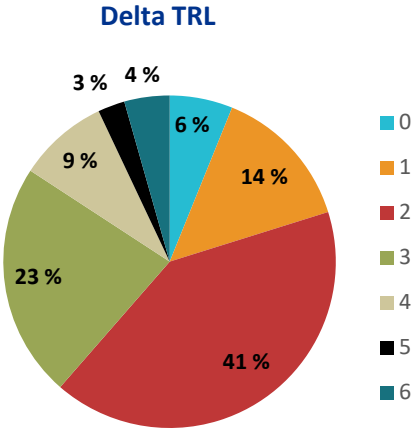
For 19% respondents there was no influence of the Covid19 pandemic situation. Most of these projects finished in 2019 or yearly 2020. For 16%, the project was finished as planned, however some activities were not fulfilled to full extend. In most cases 65%, the project period was extended.

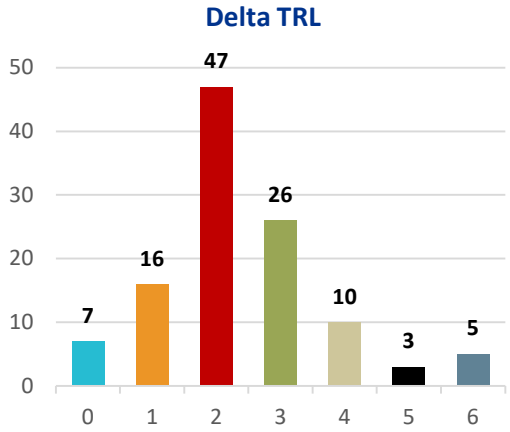
3.2 Innovation oriented results

Q6. Please indicate the technology readiness level-(TRL) when the project started and ended?



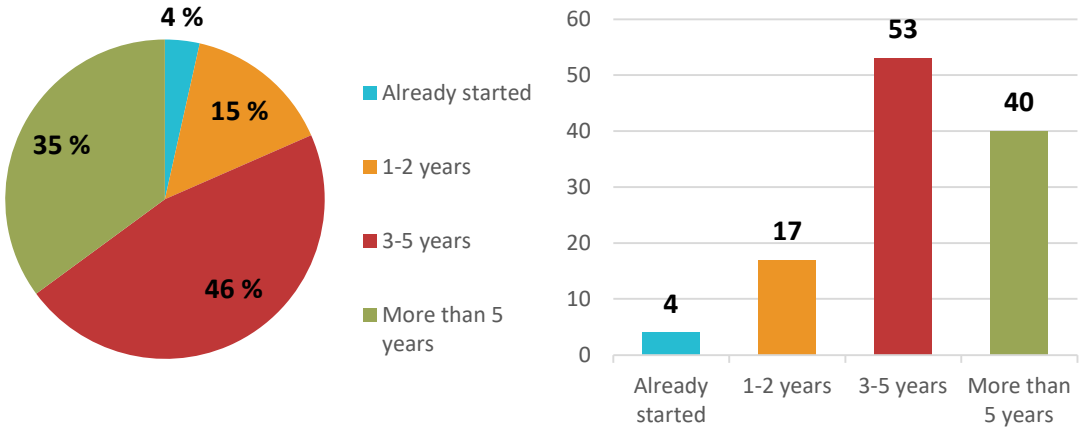






All projects started at TRL 1-4, where most at TRL2. The project ended at TRL level 1-8, mostly at TRL4. The delta TRL (difference between TRL at the project start and TRL at the project end) was usually in the range of 1-3. Similar results were reported for the projects funded in the call 2012-2015.

Q7. What is the tentative time frame for commercialisation of the results from this project (year to market), where 0 is the end date of the project?

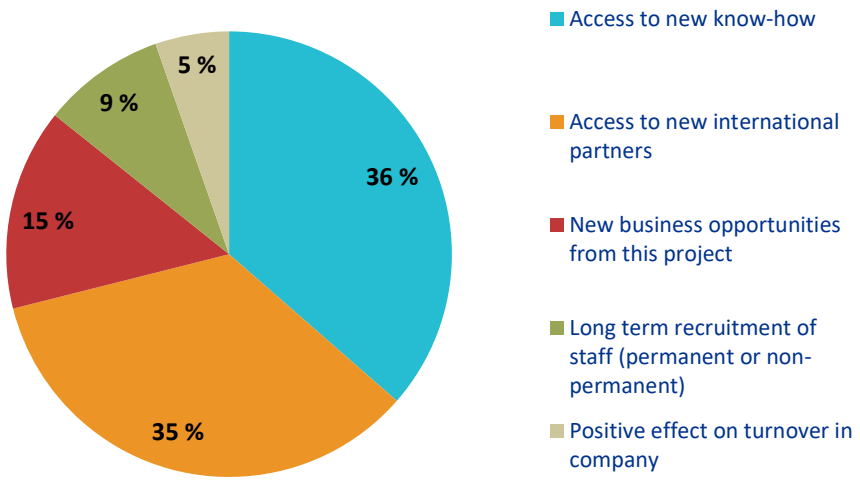


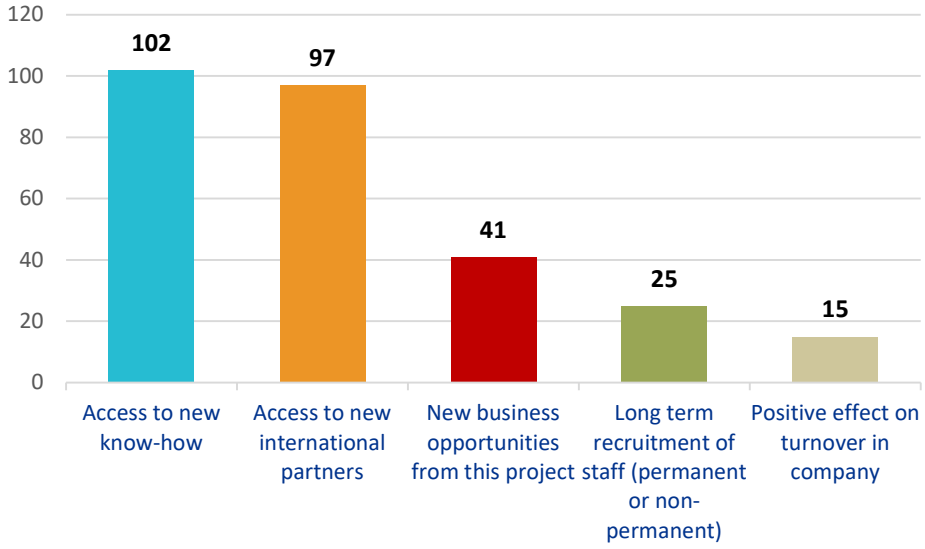
The tentative timeframe for commercialisation of the results (year to market) is most likely 3-5 years (46%) and more than 5 years (35%). Four partners reported that commercialisation of the results already started and 15% expect commercialisation to start within 1-2 years. The timeframe for commercialisation was similar as reported for projects in Call 2015.

The timeframe from the call announcement to a commercialisation of the results is typically at least 7 years (consisting of: 1.5 - 2 years between the call announcement and the project start; 3-4 years project lifetime; 3-5 years to market).

3.3 Economic effect

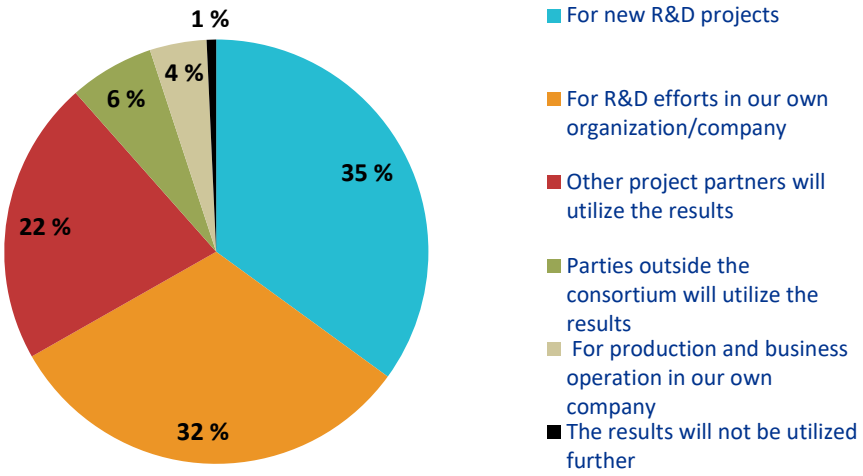
Q8. Please indicate the effect(s) on your institution/company originating from this project (multiple answers possible)

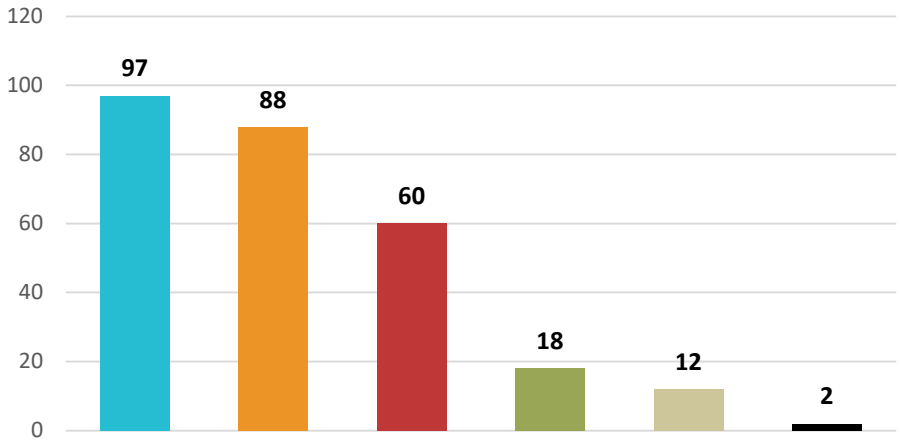




For 36% of respondents the effect was *access to new know-how* and for 35% *access to new international partners*. 15% answered a *new business opportunity*. Multiple answers were possible, and the most common combination was "*access to new international partners" and "access to new know-how*". Similar results were observed for the Calls 2012, 2013, 2014 and 2015.

Q9. How will the results of the project be used (multiple answers possible)?

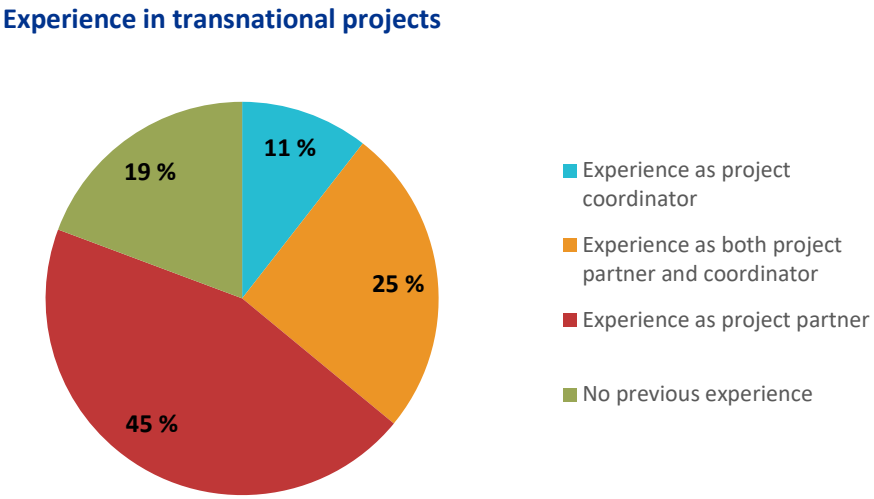


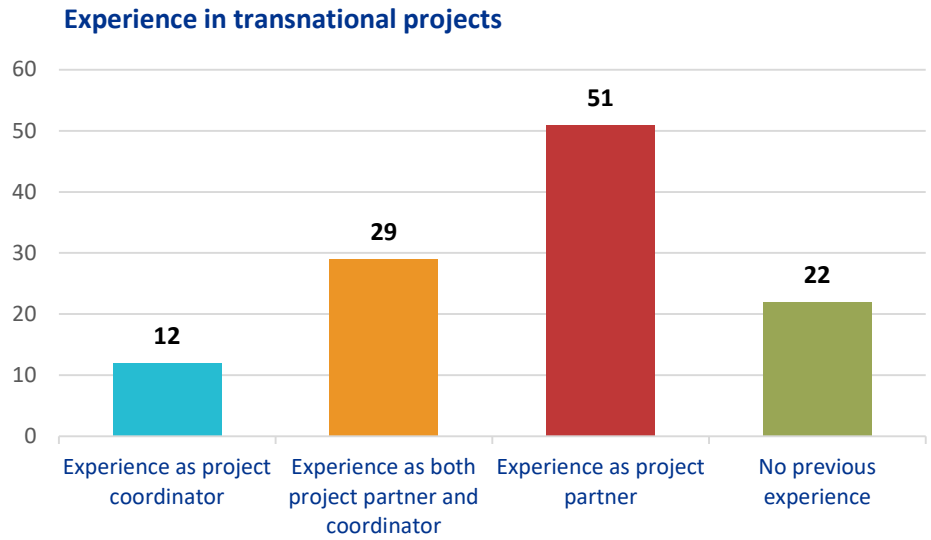


Typically, the research results will be used for new R&D projects (35%) and R&D efforts in the same organisation or company (32%). 22% answered that other project partners will utilise the results and 6% that parties outside the consortium will utilize the results. Similar results were observed in analysis of projects funded in calls 2012-2015.

3.4 Transnational effect

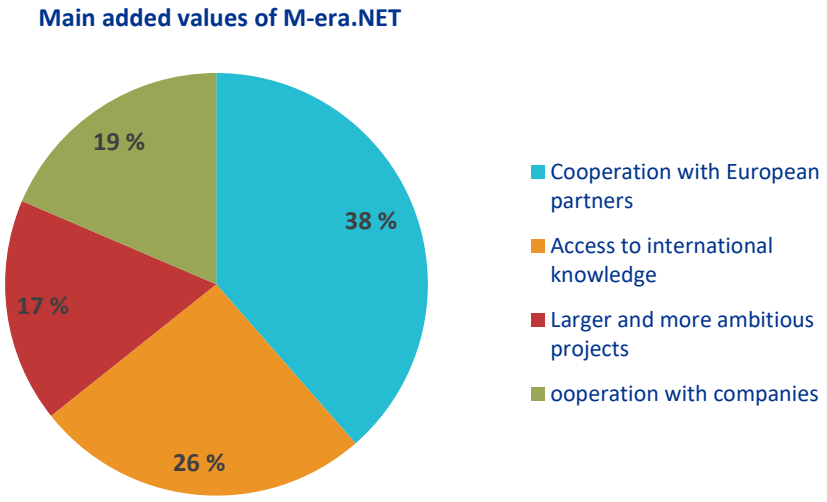
Q10. Please indicate previous experiences in transnational project? (multiple answers possible)

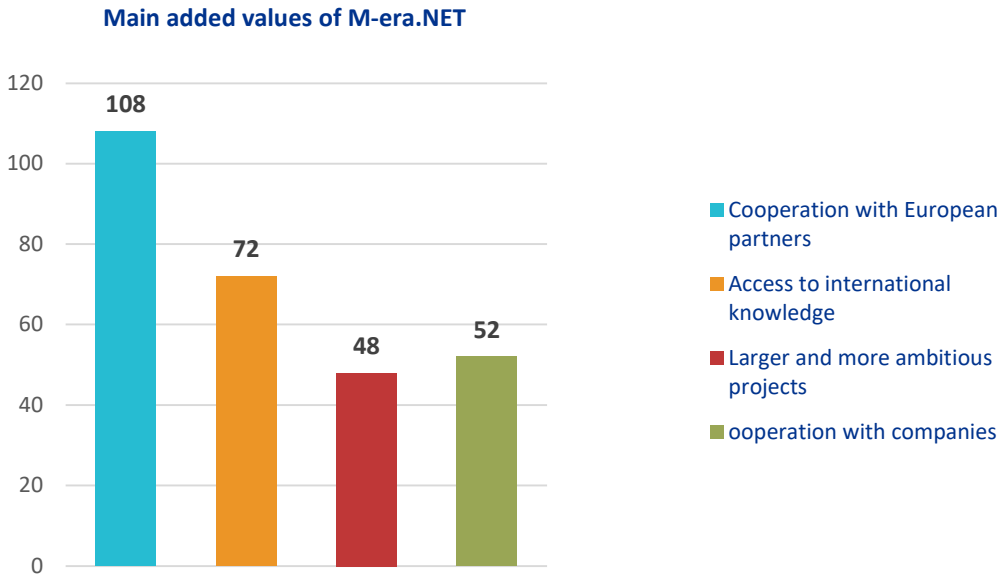




81% of the respondents had previous experiences in transnational projects, where 11% as project coordinator, 45% as project partner and 25% as both coordinator and partner.
19% are newcomers to transnational cooperation. The similar profile was observed for call2015, but in Call 2016 more partners had experience as both project partner and project coordinator.

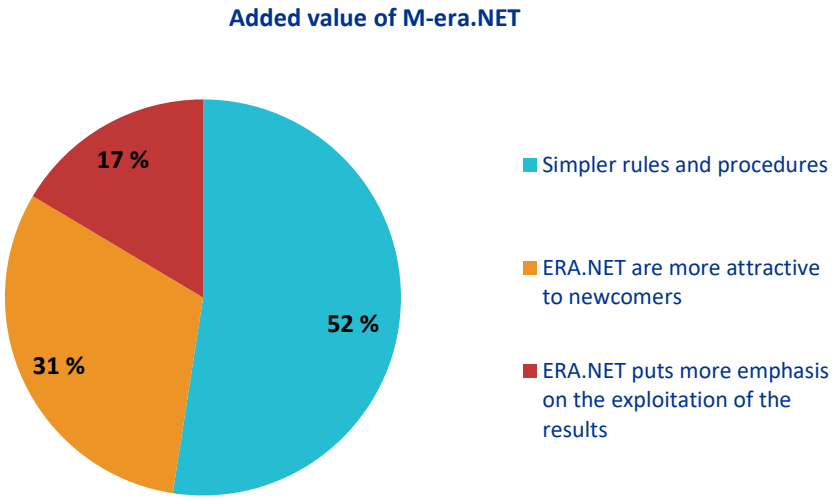
Q11. What is the main added value of M-ERA.NET compared to national funding? (multiple answers possible)

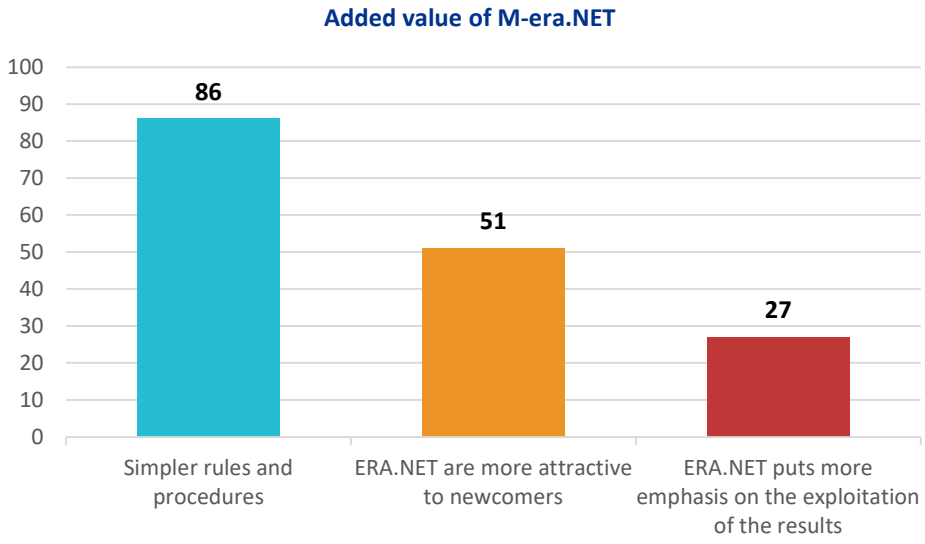




The main added value of M-ERA.NET compared to national funding is the *Cooperation with European partners (38%).* The combination of answers *Cooperation with European partners* and *Access to international knowledge* is the most common multiple answer.

Q12. What is the added value of M-era.Net compared to other transnational funding e.g. EU framework program (multiple answer possible)?

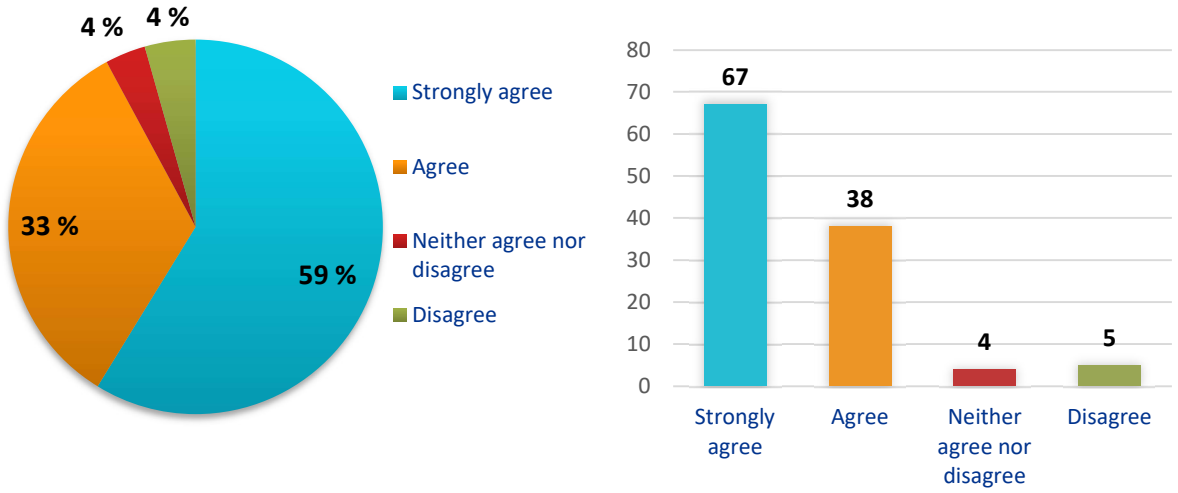




The main benefits of M-ERA.NET compared to other transnational funding are a *simpler rules and procedures* (52%) and *more attractive features for newcomers* (31%). A similar profile was observed in the evaluation of projects funded in Call 2012, Call 2013, Call 2014 and Call 2015.

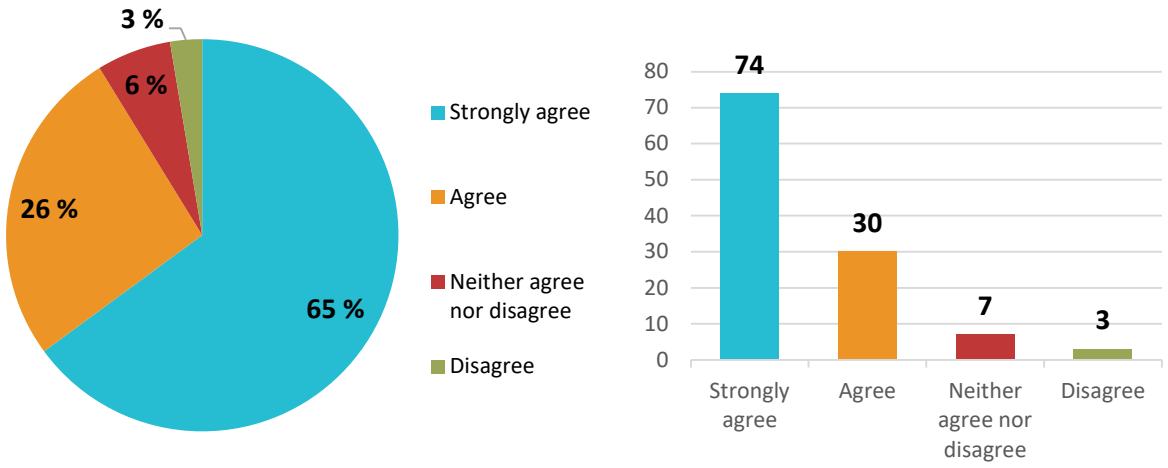
Q13. Experiences regarding implementation of the project

a) Were all project partners committed to the project?



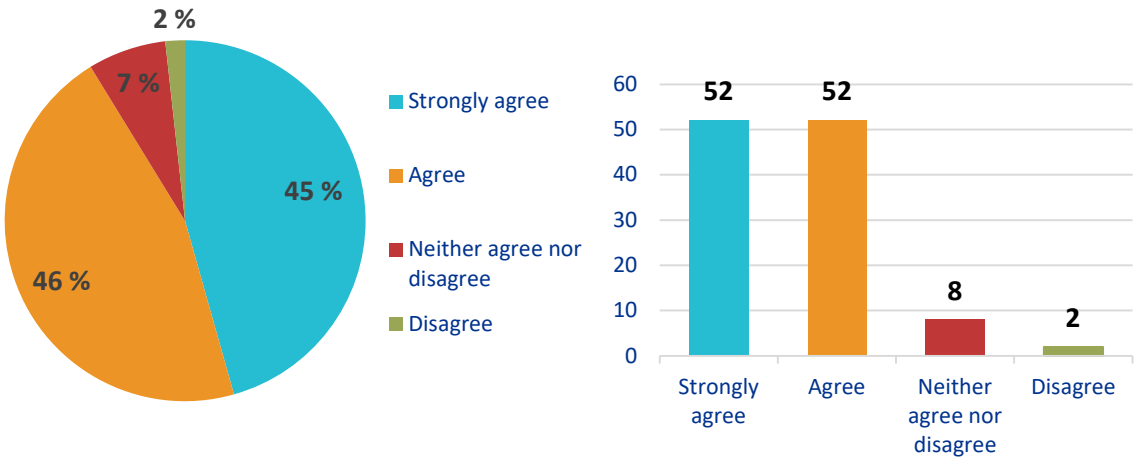
92% of the respondents answered fully agree (59%) and agree (33%). 8 partners (8%) answered "neither agree or disagree" (4%) or "disagree" (4%) on the question if all project partners were committed to the project. None of the partners answered strongly disagree.

b) Was the consortium stable during the project implementation?



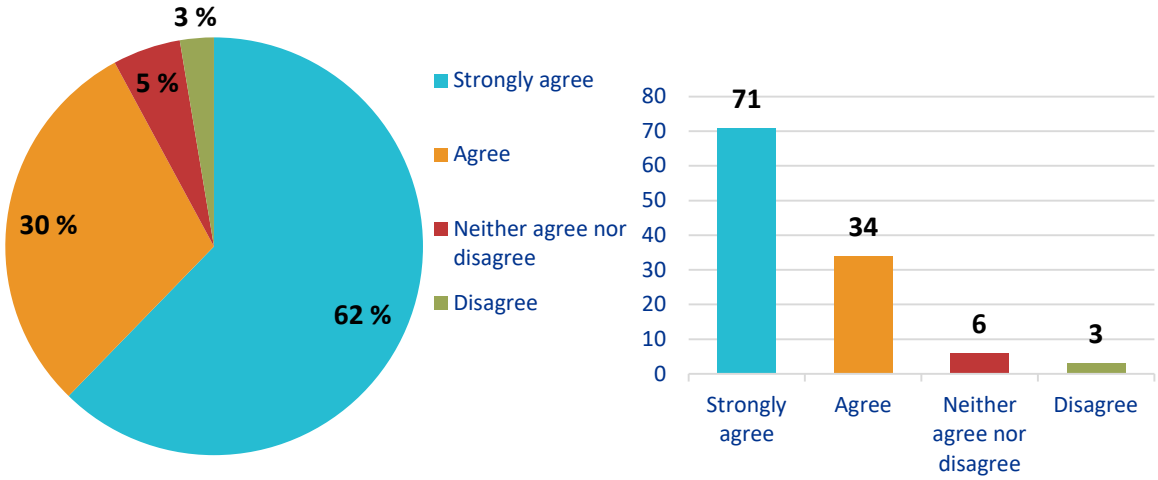
91 % reported that the consortium was stable during the project implementation (mostly "strongly agree" in 65%). Seven partners answered "neither agree nor disagree". None of the partners answered “strongly disagree”.

c) Were the project objectives realistic (i.e. budget, effort, time)?



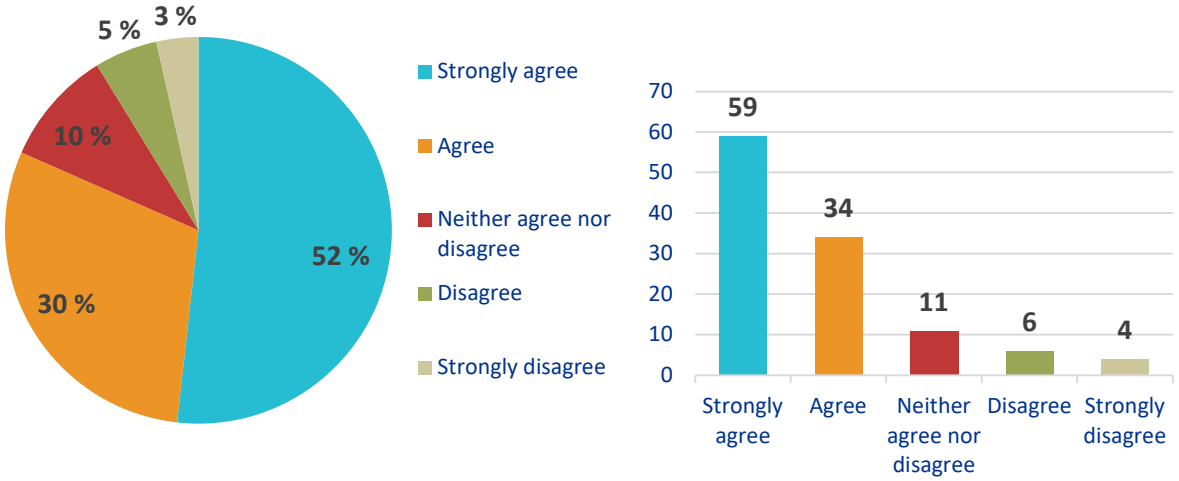
91% answered strongly agree or agree that the project objectives (i.e. budget, effort, time) were realistic. 7% (8 partners) answered "neither agree nor disagree" on this question. Only 2 partners answered "disagree".

d) Was the project management effective?



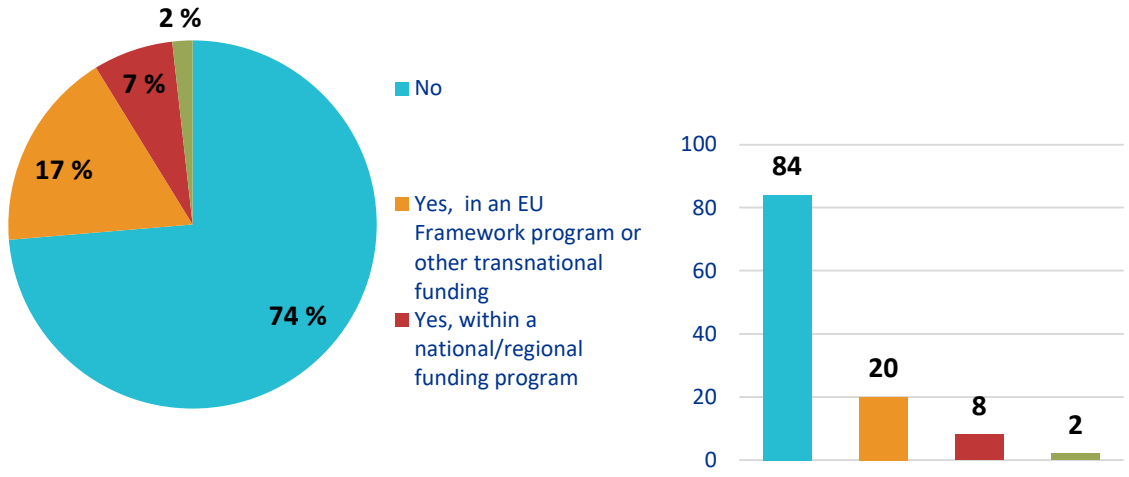
The project management was effective in 92%. Only 9 respondents answered: "neither agree nor disagree" and "disagree". None of the respondents answered: "strongly disagree".

e) **Was the interaction with the national/regional funding agency supportive during the project implementation?**



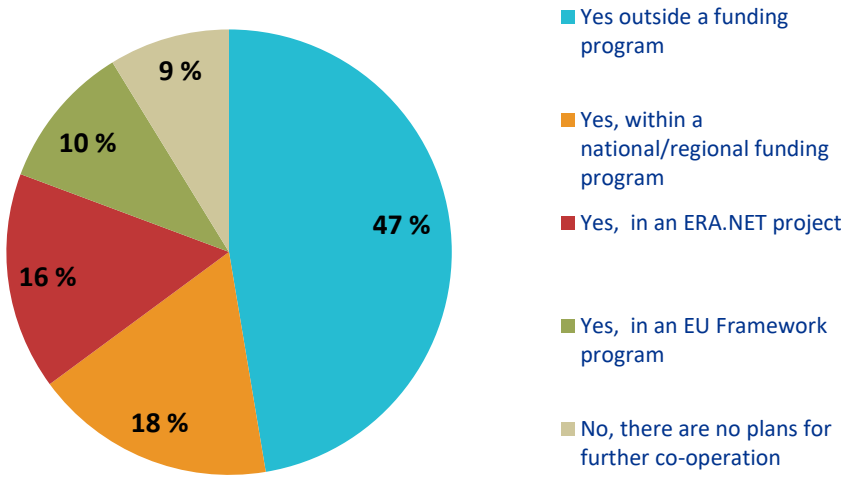
The national/regional agencies were supportive during the project implementation for 82% of the respondents. 11 respondents answered "neither agree nor disagree" on this question. 10 respondents (8%) did not find the national/regional funding agency very supportive. 8 of 10 non-satisfied respondents refer to the same funding agency.

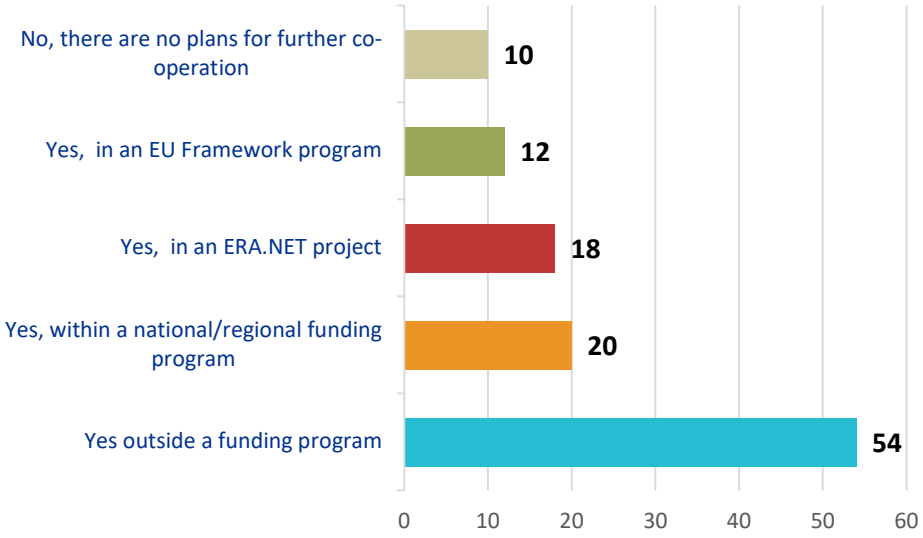
Q14. Would the project have been realised without M-ERA.NET?



For 74% respondents the project would not have been realised without M-ERA.NET. 26% answered that the project would have been realised either within a EU framework or other transnational funding (17%), within a national/regional funding (7%), in a or outside a funding program (2%).

Q15. Will the co-operation in the consortium continue?

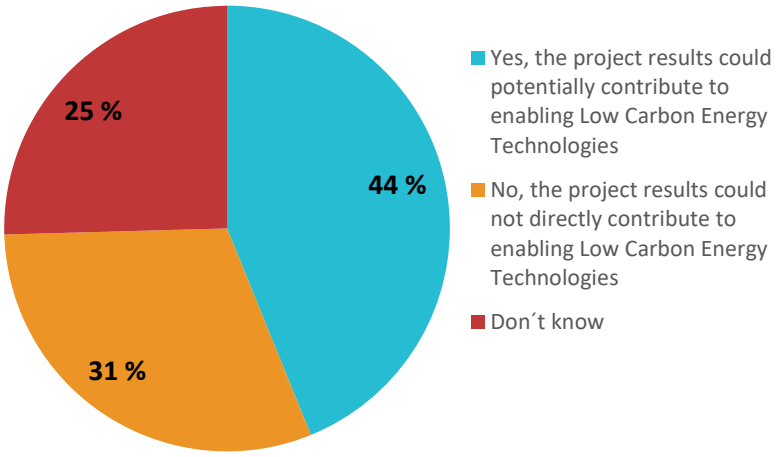


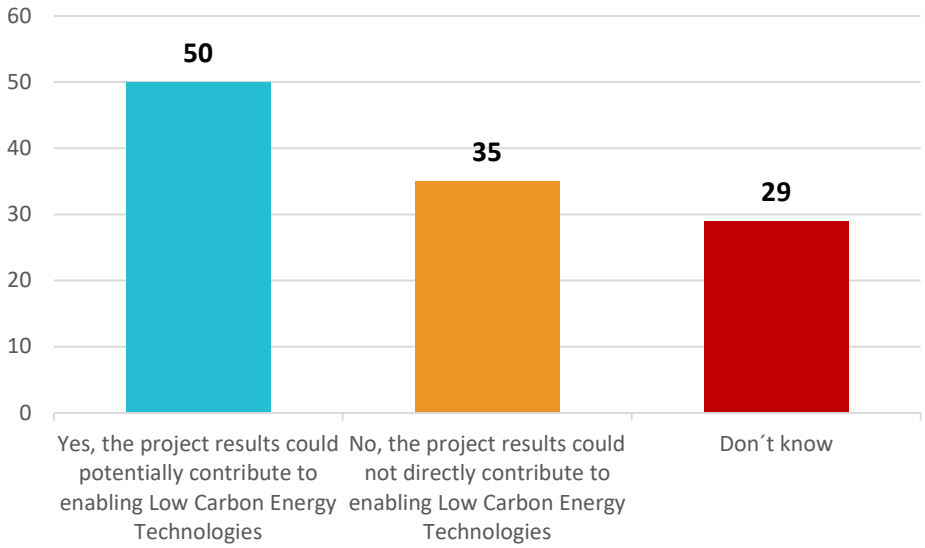


In 91% of the co-operation in the consortium will continue. The cooperation will continue outside a funding programme (47%), within a national/regional funding program (18%), in ERA-Net project (16%) and in an EU Framework program (10%). Only 10 respondents answered that there are no plans for further cooperation.

3.5 Contribution to Low Carbon Energy Technologies

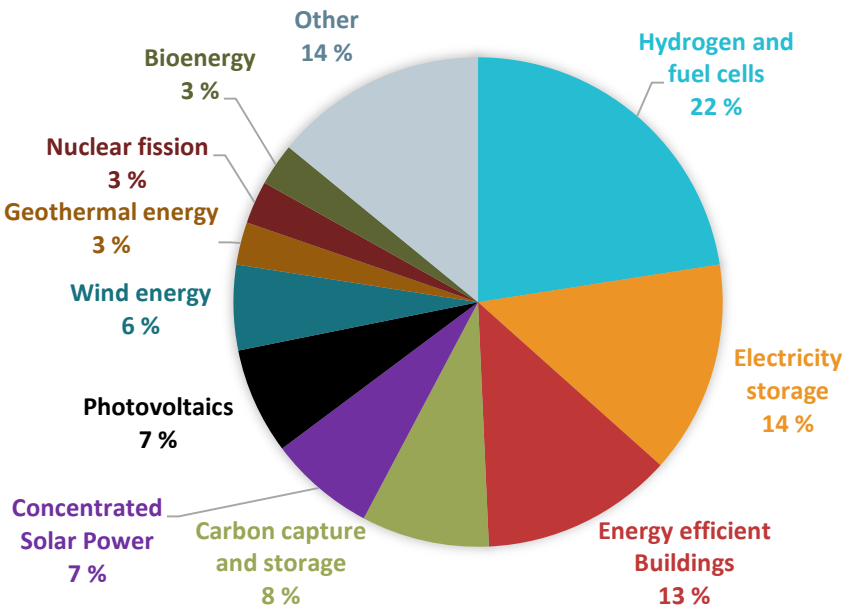
Q 16. Please indicate whether your project results could potentially be relevant for contributions to Low Carbon Energy Technologies.





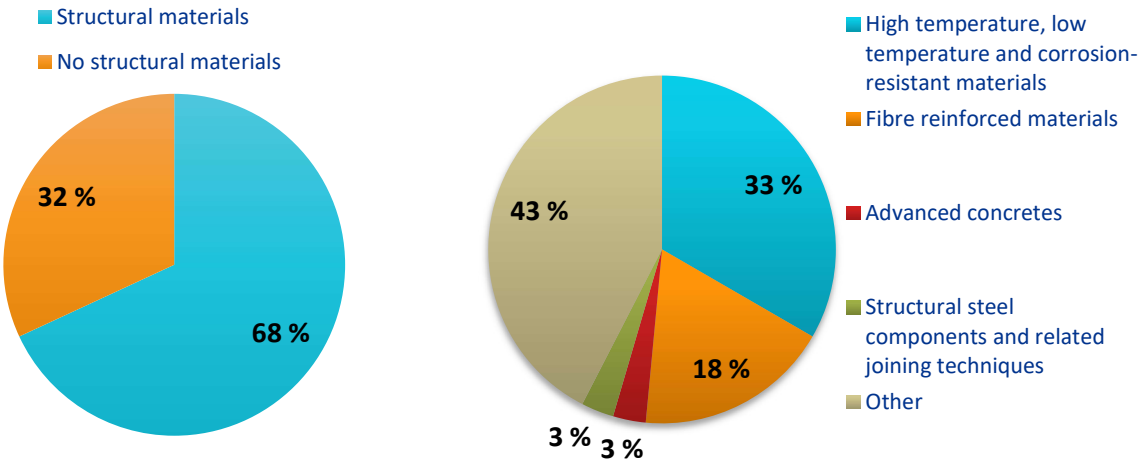
Coordinating the efforts in materials research and innovation, including materials for low carbon energy technologies and related production technologies was among the M-ERA.NET 2 objectives. Low carbon power generation sources include wind power, solar power, nuclear power and hydropower. 44% of beneficiaries answered positive whether the project results could potentially be relevant for contributions to Low Carbon Energy Technologies, while 35% answered "no" and 25% don't know.

Q 17. If yes (on Q16), please indicate the field of your research



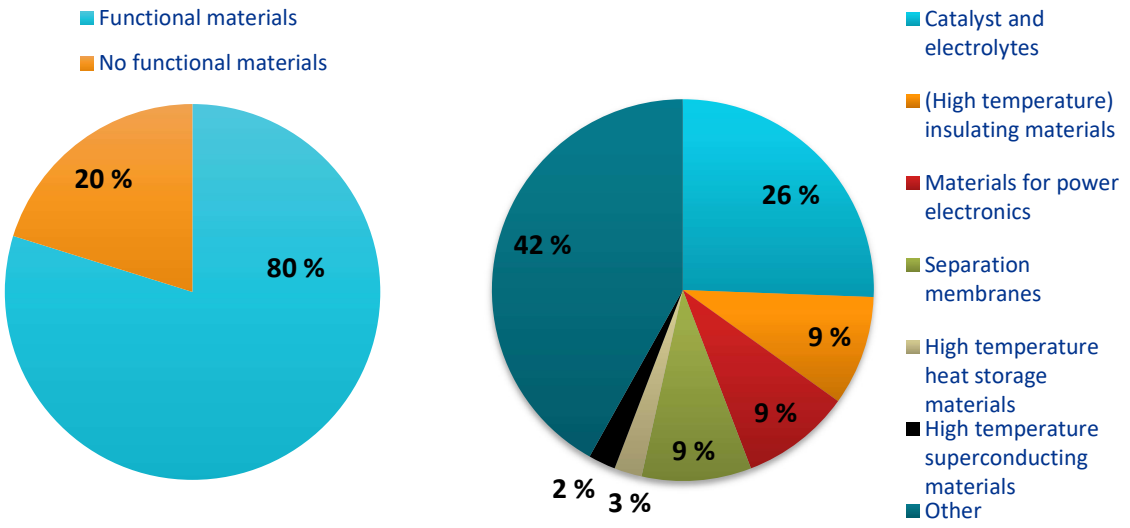
The contribution to Low Carbon Energy Technologies was related to the research within following technologies: Hydrogen and fuel cells (22%), Electricity storage (14%), Energy efficient Buildings (13%), Carbon capture and storage (8%), Concentrated Solar Power (7%), Photovoltaics (6%), Wind energy (6%), and Geothermal energy (3%), Bioenergy (3%), and Nuclear fission (3%). In 14% the research was within another field than the pre-defined categories.

Q 18. Did your project include research on structural materials?



68% of the beneficiaries answered that the project research was within structural materials. From the pre-defined structural materials, *the high temperature, low temperature and corrosion- resistant materials* is the most common answer (33%), followed by *fibre reinforced materials* (18%). In 43% the research was in another type of functional materials than predefined categories.

Q 19. Did your project include research on functional materials?



80% of the beneficiaries answered that the project research was within functional materials**.** From the pre-defined functional materials, the *catalyst and electrodes* is most common answer (26%), followed by *High temperature insulating materials* (9%), *materials for power electronics* (9%) *and separation membranes* (9%). In 42% cases the research was in another type of functional material than pre-defined categories.

4. Conclusions

General

- The responses to the questionnaire cover **45** of **46** projects funded in Call 2016, giving a good background for assessing the impact of the Call 2016.
- There is increase in reported changes in consortium, budget and/or timeframe compared to assessment of earlier calls (2012-2015). The reported **changes** are as expected in most cases related to the COVID-19 pandemic situation.

Innovation results

- The projects usually started at **TRL level 1-4** and ended at TRL level **4-6**. The delta TRL was mostly in the range 2-3.
- The tentative time frame for **commercialisation** of the results (year to market) is usually **3-5 years.**

Economic effect

- The effects on the institution/company originating from the project is usually **access to new international partners** and/or **access to new know-how**
- Typically, the research results will be used for **R&D efforts** in the same organisation or company, for **new R&D projects.**

Transnational effects

- **81%** of the respondents had previous **experience** in transnational projects, where most had an experience as a project partner. Only 19% were newcomer to transnational projects.
- The main added value of M-ERA.NET compared to other transnational funding schemes are **simpler rules and procedures.**
- **74%** respondents report that the project would **not have been realised without M-ERA.NET**.
- **The majority** (more than 90%) of the respondents **fully agree/agree** on a **good implementation** of the project**, a stable consortium, good commitment of project partners and** good support from the national/regional funding agencies.
- In **90%** the **co-operation** in the consortium will **continue**. Most usually the cooperation will continue outside a funding program and within national/regional funding program.

Contribution to Low Carbon Energy Technologies

- **44%** of the beneficiaries answered **positive** that the project results contribute to **Low Carbon Energy Technologies**. The relevant research was in **80%** within **functional materials** and **68%** of within **structural materials**. The research was mostly within Hydrogen and fuel cells (22%), electricity storage (14%), energy efficient buildings (13%) and carbon capture and storage (8%).

5. Attachments

Annex 1: questionnaire

Assessment of funded projects from the joint calls by the previous M-ERA.NET (2012-2016) and from additional joint calls by M-ERA.NET 2.

General Information

- Project acronym
- Name of organisation
- Category organisation
  - University
  - Research Institute
  - Company
  - Other
- Category project partner
  - Coordinator
  - Partner
- Country
- Financing agency
- Year project start/Year project end (expected end)

1. General – project implementation

- Q1. Have there been major changes since the project started (consortium, budget, timeframe etc.)?
  - Y/N
  - if Y please explain

- Q2. To which extent have the project objectives been accomplished?
  - To full extent
  - Minor deviation – please explain
  - Major deviation - please explain

- Q3. To which extent have the expected results and deliverables been accomplished?
  - Minor deviation – please explain
  - Major deviation – please explain

- Q4. What is the project timeline?

- Q5. Was the project period influenced by the covid19 pandemic situation?
  - No, the project and all activities were finished according to plan
  - No, however project/some activities were not fulfilled to full extend
  - Yes, the project was extended

2. Innovation results

- Q6. readiness level (TRL) at project start and project end?
    - TRL level project start (1-9)
    - TRL level project end (1-9)

Technology Readiness Level – definition:

- TRL 1. basic principles observed
- TRL 2. technology concept formulated
- TRL 3. experimental proof of concept
- TRL 4. technology validated in lab
- TRL 5. technology validated in relevant environment
- TRL 6. technology demonstrated in relevant environment
- TRL 7. system prototype demonstration in operational environment
- TRL 8. system complete and qualified
- TRL 9. actual system proven in operational environment

- Q7. What is the tentative time frame for commercialisation of the results from this project (year to market), where 0 is the end date of the project?
    - Already started
    - 1-2 years
    - 3-5 years
    - More than 5 years

3. Economic effects

- Q8. Please indicate the effect(s) on your institution/company originating from this project (multiple answers possible)
    - Positive effect on turnover in company
    - New business opportunities
    - Long term recruitment of staff (permanent or non-permanent)
    - Access to new know-how
    - Access to new international partners

- Q9. How will the results of the project be used (multiple answers possible)?
    - For R&D efforts in our own organisation/company
    - For production and business operation in our own company
    - Other project partners will utilise the results
    - Parties outside the consortium will utilise the results
    - For new R&D projects
    - The results will not be utilised further – please explain
    - Other, please explain

4. Transnational effects

- Q10. Please indicate your previous experience in transnational projects (multiple answers possible)
    - No previous experience
    - Experience as project coordinator

- Experience as project partner

- Q11. What is the main added value of M-ERA.NET compared to national funding? (multiple answers possible)
  - Larger and more ambitious projects
  - Cooperation with European partners
  - Access to international knowledge
  - Cooperation with companies
  - Other , please specify

- Q12. What is the added value of M-ERA.NET compared to other transnational funding e.g. EU framework programme?
  - Simpler rules and procedures
  - M-ERA.NET is more attractive to newcomers
  - M-ERA.NET puts more emphasis on the exploitation of the results

- Q13. Experiences regarding implementation of the project
  Scale: "strongly agree- agree- neither agree nor disagree- disagree- strongly disagree"
  a) All project partners are committed to the project
  b) The consortium is stable during the project implementation
  c) The project`s objectives are realistic (i.e. budget, effort, time)
  d) Project management is effective
  e) Interaction with the national/regional funding agency is supportive during the project implementation

- Q14. Would the project have been realised without M-ERA.NET?
  - No
  - Yes – outside a funding program
  - Yes, within a national/regional funding program
  - Yes, in an EU Framework program or other transnational funding

- Q15. Will the co-operation in the consortium continue?
  - Yes – outside a funding program
  - Yes, within a national/regional funding program
  - Yes, in an M-ERA.NET project
  - Yes, in an EU Framework program
  - No, there are no plans for further co-operation

5. Contribution of project to materials R&D for low carbon energy development

Coordinating the efforts in materials research and innovation, including materials for low carbon energy technologies and related production technologies are among the M-era.net objectives. The M-ERA.NET Call 2016 aimed to strengthen the contribution of materials R&D for energy-related applications where applicable with a view to implementing relevant parts of the Materials Roadmap Enabling Low Carbon Energy Technologies (SEC(2011)1609), and relevant objectives of the SET-Plan

(COM (2009)519). This part of the questionnaire deals with this implementation. See for more details: https://setis.ec.europa.eu/index_en#ecl-inpage-58.

Q 16. Please indicate whether your project results could potentially be relevant for contributions to Low Carbon Energy Technologies.

- Yes, the project results could potentially contribute to enabling Low Carbon Energy Technologies
- No, the project results could not directly contribute to enabling Low Carbon Energy Technologies
- Don't know

Q 17. If yes, please indicate if your project results could be related to:

- Wind energy
- Photovoltaic
- Concentrated Solar Power
- Geothermal energy
- Electricity storage
- Electricity grids
- Bioenergy
- Carbon capture and storage
- Hydrogen and fuel cells
- Nuclear fission
- Energy efficient Buildings
- Other

Q 18. Did your project include research on following structural materials?

- Fibre reinforced materials
- High temperature, low temperature and corrosion- resistant materials
- Structural steel components and related joining techniques
- Advanced concretes
- Other
- No structural materials

Q 19. Did your project include research on functional materials for?

- Separation membranes
- Catalyst and electrolytes
- Solid catalyst, sorbents and O2 carriers
- High temperature superconducting materials
- High temperature heat storage materials
- (High temperature) insulating materials
- Materials for power electronics
- Heat transfer fluids
- Other
- No functional materials

Annex 2 : Call 2016 -list of funded projects

M-ERA.NET Call 2016: Funded projects

Call topic	Acronym	Full Title	# Part-ner	Funding organisations
Integrated computational materials engineering (ICME)	HEAMODELL	High entropy alloys with predictable mechanical properties by computational modelling	4	NWO (Netherlands), UEFISCDI (Romania), MIZS (Slovenia)
Integrated computational materials engineering (ICME)	MuMo4PEC	Multiscale Modeling and Design of Photo-Electrochemical Interfaces	4	NOW (Netherlands), MINECO (Spain), NCN (Poland)
Innovative surfaces, coatings and interfaces	ALD4MAX	Atomic Layer Deposition For tailored bottom-top growth of MAX and MXene films	5	FCT (Portugal), EJ-GV/Innobasque (Spain), MINECO (Spain), NWO (Netherlands), NCN (Poland),
Innovative surfaces, coatings and interfaces	CellColor	Fabricating cellulose nanocomposites for structural coloration	7	RCN (Norway), FCT (Portugal)
Innovative surfaces, coatings and interfaces	CLEARPV	Transparent Perovskite Solar Cell	4	MOST TW (Taiwan), NKFIH/OTKA (Hungary), NWO (Netherlands)
Innovative surfaces, coatings and interfaces	GRAFOOD	Active GRAphene based FOOD packaging systems for a modern society	6	UEFISCDI (Romania), MIUR (Italy), MIZS (Slovenia), MINECO (Spain)
Innovative surfaces, coatings and interfaces	GreenCOAT	Green high-performance and low-friction interfaces tailored by the reactivity of novel DLC coatings and ionic liquids	3	MIZS (Slovenia), FCT (Portugal), RCN (Norway)
Innovative surfaces, coatings and interfaces	HEI-Coat	Hard Eco Innovative Coatings	5	CALABRIA (Italy), Region ALPC (France), DGo6 (Belgium)
Innovative surfaces, coatings and interfaces	INSURFCAST	Innovative Surfaces for Superalloys Casting Processes	4	MIUR (Italy), NCBiR (Poland),
Innovative surfaces, coatings and interfaces	MaSNEC	Material Synthesis in Non-Equilibrium Conditions	4	FNRS (Belgium), NKFIH/OTKA (Hungary), MINECO (Spain)
Innovative surfaces, coatings and interfaces	NESSIE	New Structured Substrates for Downstream Processing of Complex Biopharmaceuticals	5	RCN (Norway), FCT (Portugal), FFG BP (Austria)

Innovative surfaces, coatings and interfaces	NICRRE	Innovative Ni-Cr-Re coatings with enhanced corrosion and erosion resistance for high temperature applications in power generation industry	5	NCBiR (Poland), SAS (Slovakia)
Innovative surfaces, coatings and interfaces	SIOX	Engineering of silicon-oxide interface using the pulsed-laser deposition technique	3	MIZS (Slovenia), NWO (Netherlands), FNRS (Belgium)
Innovative surfaces, coatings and interfaces	TANDEM	Bactericidal hybrid surfaces against Gram-negative and Gram-positive pathogenic bacteria: Smart Tools for Wastewater Purification	3	UEFISCDI (Romania), RCN (Norway)
Innovative surfaces, coatings and interfaces	UltraGraf	Harnessing third-harmonic generation in graphene-coated optics - new devices for ultrafast pulse measurement and frequency upconversion	4	FCT (Portugal), MINECO (Spain)
Innovative surfaces, coatings and interfaces	WABASELCOAT	WAter BAsed SELective COATings for intelligent facade collectors	4	MIZS (Slovenia), RCN (Norway), RPF (Cyprus)
High performance synthetic and biobased composites	BIOFOODPACK	Biocomposite Packaging for Active Preservation of Food	7	FCT (Portugal), NCBiR (Poland), RPF (Cyprus), No Funding (Portugal)
High performance synthetic and biobased composites	COMPIO	Eco-friendly nanoclay, nanocellulose and MIP composites for microbial formulations	5	FFG TP (Austria), Tübitak (Turkey), UEFISCDI (Romania), MATIMOP (Israel)
High performance synthetic and biobased composites	HyBiCo	High performance short-fibre biobased hybrid composites for injection moulding	6	NCBiR (Poland), VIAA (Latvia), RCL (Lithuania),
High performance synthetic and biobased composites	POLYMAGIC	Biodegradable PLA composites reinforced with micro and nano Mg particles: optimisation of processing and design, and scale-up of temporary implants	5	MINECO (Spain), MIUR (Italy), FNRS (Belgium)

Functional materials	CCSRender	Energy efficient nano-modified renders with CO2-storage potential	3	RPF (Cyprus), NKFIH/OTKA (Hungary)
Functional materials	CTB Basics	CleanTechBlock - Sustainable Multi-functional Building Block Basics	3	MIZS (Slovenia), FNR (Luxembourg), ADE (Spain), FCT (Portugal)
Functional materials	GoPHy MiCO	Governing Principles in Hydration of Mixed Conducting Oxides	4	RCN (Norway), MINECO (Spain), NCN (Poland)
Functional materials	HyMatSiRen	Hybrid materials for Si surface passivation and battery applications	3	RCN (Norway), MINECO (Spain), Tübitak (Turkey)
Functional materials	MOCO3	Novel molten carbonate/ceramic composite materials for sustainable energy technologies with CO2 capture and utilization	5	RCN (Norway), NCBiR (Poland), FCT (Portugal)
Functional materials	NanoElMem	Designing new renewable nano-structured electrode and membrane materials for direct alkaline ethanol fuel cell	5	MIZS (Slovenia), RCN (Norway), MOST TW (Taiwan)
Functional materials	NEILLSBAT	Nanostructured Electrodes and Ionic Liquid Electrolytes for Ultra High Energy Density Lithium Sulfur Batteries	4	SFI (Ireland), JÜLICH (Germany), No Funding (Netherlands)
Functional materials	PLARASBAT	Planar architecture all solid state batteries	4	MINECO (Spain), RCL (Lithuania), MOST TW (Taiwan)
Functional materials	PNANO4BONE	Nanovectors engineered for plasma enhanced theranostics in regenerative medicine	6	FNR (Luxembourg), FNRS (Belgium), MINECO (Spain), NCN (Poland), No Funding (Luxembourg)
Functional materials	RATOCAT	Rational design of highly effective photocatalysts with atomic-level control	4	SFI (Ireland), NWO (Netherlands), MINECO (Spain)
Functional materials	THERMOSS	Sustainable Thermoelectric Modules based on Non-toxic Silicides and Sulphides for Recovery of Waste Heat to Power Generation	4	RPF (Cyprus), FCT (Portugal)

Interfaces between materials and biological hosts for health applications	BIOMB	Advanced biodegradable materials based on MgB2 resistant to microbial colonization	4	UEFISCDI (Romania), MIUR (Italy)
Interfaces between materials and biological hosts for health applications	BIOMEMBRANE	Bioengineered in vitro model of retinal pigmented epithelium of human eye	5	MIUR (Italy), FCT (Portugal), DST (South Africa), NCN (Poland), No Funding (Spain)
Interfaces between materials and biological hosts for health applications	INCIPIT	INtegrated Conductive and biomimetic polymeric Interfaces able to serve as micro-nanostructured Patches for myocardIal regeneraTion	4	MIUR (Italy), FCT (Portugal), FAPESP (Brazil)
Interfaces between materials and biological hosts for health applications	MagicCELLGene	Localized MAGnetIC hyperthermia CELL-based GENE therapy for immune modulation	3	MINECO (Spain), FCT (Portugal)
Interfaces between materials and biological hosts for health applications	NAT4MORE	NATural molecules on the surface of bioactive materials FOR MOdulating the host REsponse to implants	5	MIUR (Italy), RANNIS (Iceland), FAPESP (Brazil)
Interfaces between materials and biological hosts for health applications	Pelargodont	Engineering and functionalization of delivery system with Pelargonium sidoides biologically active substance on periodontal inflamed surface area	7	RCL (Lithuania), VIAA (Latvia), NCN (Poland), MIUR (Italy)
Interfaces between materials and biological hosts for health applications	SmartHyCAR	Smart multifunctional Hyaluronic Acid-Carnosine based bandages for wound care and regenerative therapy.	4	MIUR (Italy), DGo6 (Belgium)
Materials for additive manufacturing	3D-CFRP	Additive Manufacturing of Continuous Fibers Reinforced Polymer Composite Materials for High Performance Structural Applications	8	FFG TP (Austria), FASIE (Russian Federation), RCL (Lithuania),

Materials for additive manufacturing	AddiZwerk	Additive Manufacturing of Cutting Tools	8	FFG TP (Austria), JÜLICH (Germany),
Materials for additive manufacturing	BauProAddi	New construction materials and product design for additive manufacturing processes in the construction industry	7	JÜLICH (Germany), FFG TP (Austria)
Materials for additive manufacturing	BiogenInk	Biogenic Inks combining marine collagen and ionic-doped calcium phosphates for bone tissue engineering	4	FCT (Portugal), UEFISCDI (Romania), NWO (Netherlands), MINECO (Spain)
Materials for additive manufacturing	Dressing4scars	New 4D printing dressing to treat skin scars	3	FCT (Portugal), SFI (Ireland), IDEPA (Spain)
Materials for additive manufacturing	ELAM	Ultrafine eutectics by laser additive manufacturing	7	JÜLICH (Germany), MINECO (Spain), NKFIH/OTKA (Hungary)
Materials for additive manufacturing	HiPA²I	High Performance Additive manufacturing of Aluminium alloys	5	FFG TP (Austria), FCT (Portugal)
Materials for additive manufacturing	jawIMPLANT	Patient-specific bioactive, antimicrobial PLA-PGA/titanium implants for large jawbone defects after tumour resection	8	FFG TP (Austria), NCBiR (Poland),

Note: information on the results of the Call 2016 and the funded projects is also available here: https://m-era.net/joint-calls/joint-call-2016