M-ERA.NET Call 2023 Webinar

Information event on the occasion of the start of Call 2023

14 March 2023

11:00 a.m. to 01:00 p.m. (Brussels time)

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Agenda of the M-ERA.NET Call 2023 webinar

- General presentation of the Network - R. Brandenburg
- Presentation of the Call topics - J. Sotelo and R. Pacios
- General procedures
  - Participating countries + eligibility - R. Brandenburg
  - Schedule and workflow - F. Nikowitz
  - Call documents - S.-L. Lee Müller
- RRI and sustainability - C. A. Mathiesen
- Presentation of the submission platform - F. Nikowitz
- Questions and answers

M-ERA.NET 3:

ERA-NET for research and innovation on materials and battery technologies, supporting the European Green Deal

Roland Brandenburg
M-ERA.NET coordinator
Call 2023 webinar, 14 March 2023

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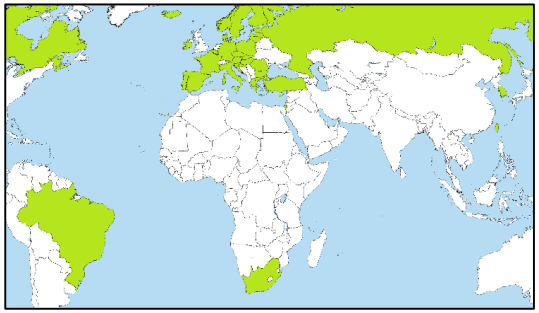
Network evolution

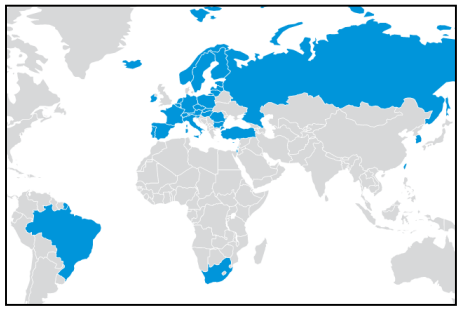
Horizon 2020

FP7



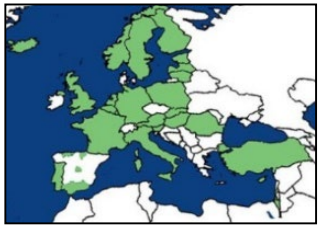
M-ERA.NET 3 (2021-2026):

- ERA-NET COFUND (**H2020**) for research and innovation on materials and battery technologies, supporting the European Green Deal
- 50 (49) nat./reg. public funding organisations from 36 (35) countries
- largest ERA-NET Cofund consortium



M-ERA.NET 2 (2016-2022):

- ERA-NET COFUND (**H2020**) for materials research & innovation
- 43 nat./reg. public funding organisations from 30 countries



M-ERA.NET (2012-2016):

- ERA-NET (**FP7**) for materials science and engineering, including international cooperation
- 37 nat./reg. public funding organisations from 25 European countries

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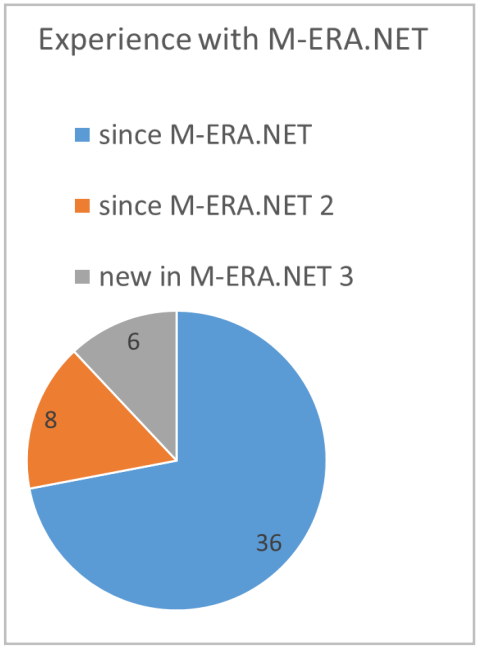
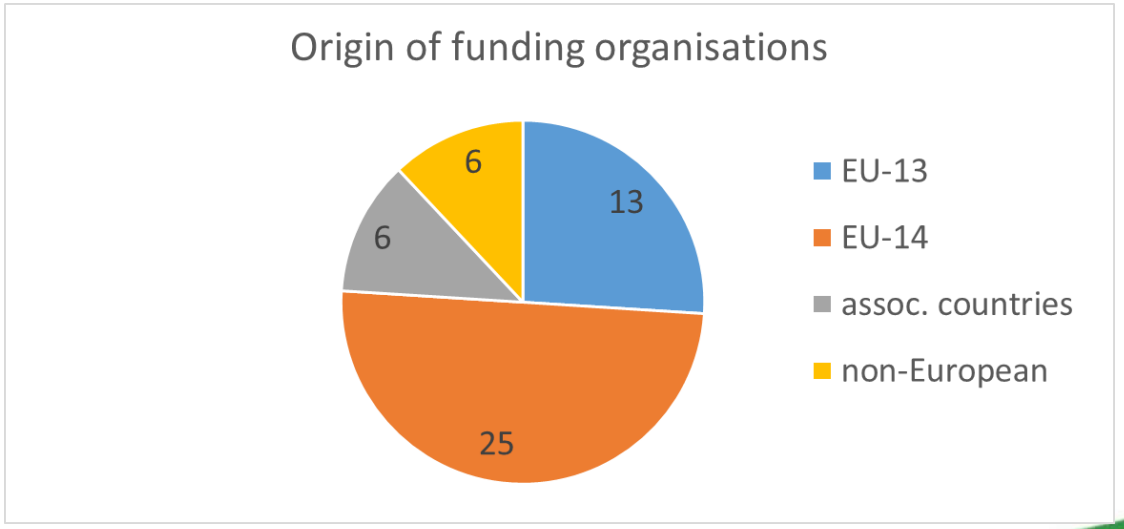
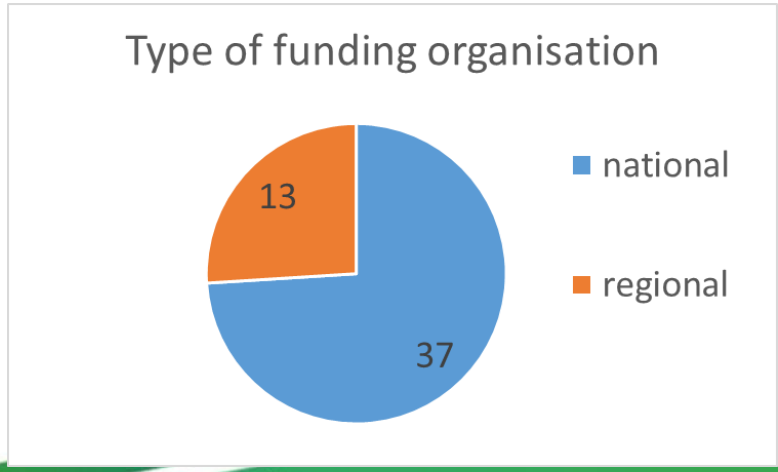
The M-ERA.NET 3 consortium

- successor of M-ERA.NET 2 (2016-2022) & M-ERA.NET (2012-20
- 50 (from 10/2022: 49) public funding organisations
- 36 (from 10/2022: 35) countries:
  - 25 EU member states (12 of EU-13 members)
    - 11 EU regions
  - 5 assoc. countries
  - 6 (from 10/2022: 5) non-European countries
  - additional observers (incl. regions)
- https://m-era.net/about/m-consortium







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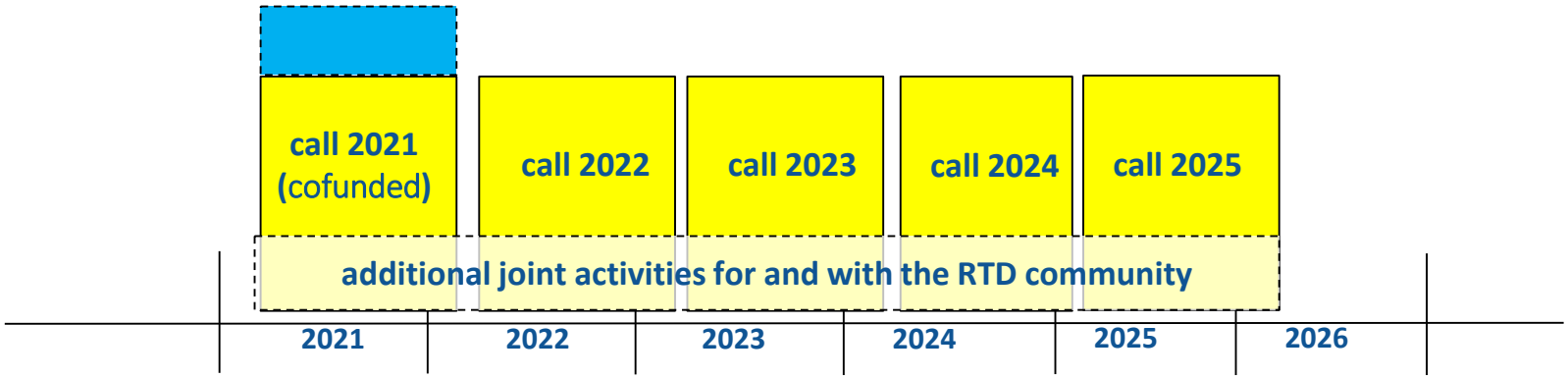
M-ERA.NET objectives 2021-2026

- highlight **research on materials supporting the circular economy** and relevant **Sustainable Development Goals**, in particular
  - **SDG 7 ("Affordable and clean energy")** supporting future battery technologies, and
  - **SDG 9 ("Industrial innovation and infrastructure")** by enhancing scientific research and **upgrading the technological capabilities of industrial sectors.**
- programmatic guidance by several European communications and roadmaps (e.g. **"European Green Deal", Circular Economy Action Plan, 2030 Agenda for Sustainable Development,** and others)
- establish a **dialogue with the European and international RTD community**
  - **to identify emerging trends and**
  - **to meet priorities and needs at European, national and regional levels**
- raise awareness among stakeholders on potential RRI (**Responsible Research and Innovation**) issues and develop RRI-guidelines for materials research

M-ERA.NET objectives 2021-2026



- ✓ **cofunded call** ("Call 2021") -total call budget approx. 70 mio € including EU top-up funding;
- **additional annual joint calls without EU cofunding**
- **total public national/regional call budget > 200 million €** with additional private investment of >50 million €;
- **monitoring system for funded RTD projects** emerging from the joint calls
- **impact assessment** of completed projects
- valorise the **results of funded projects** & promote the **take-up of the developed technologies**
- **dissemination** activities

Joint Calls 2012-2022 results: substantial interest – substantial funding

	Call	submitted proposals	funded projects	total funding volume	total project costs
M-ERA.NET	2012	124	23	16.4 M€	21.8 M€
	2013	166	26	22.9 M€	33.5 M€
	2014	173	22	15.8 M€	22.9 M€
	2015	156	22	16.5 M€	23.0 M€
M-ERA.NET 2	2016	233	46	32.2 M€ (incl. 10.2 M€ EU top-up)	42.2 M€
	2017	91	20	15.8 M€	21.7 M€
	2018	166	27	18.2 M€	25.5 M€
	2019	233	37	26.9 M€	33.7 M€
	2020	237	42	32.3 M€	41.8 M€
M-ERA.NET 3	**2021**	**493**	**70**	**69.9 M€ (incl. 11.0 M€ EU top-up)**	**82.1 M€**
	2022	**289**	**46**	**43.7 M€**	**52.5 M€**
	total	**2361**	**380**	**310.6 M€**	**400.7 M€**

detailed statistics: https://www.m-era.net/joint-calls

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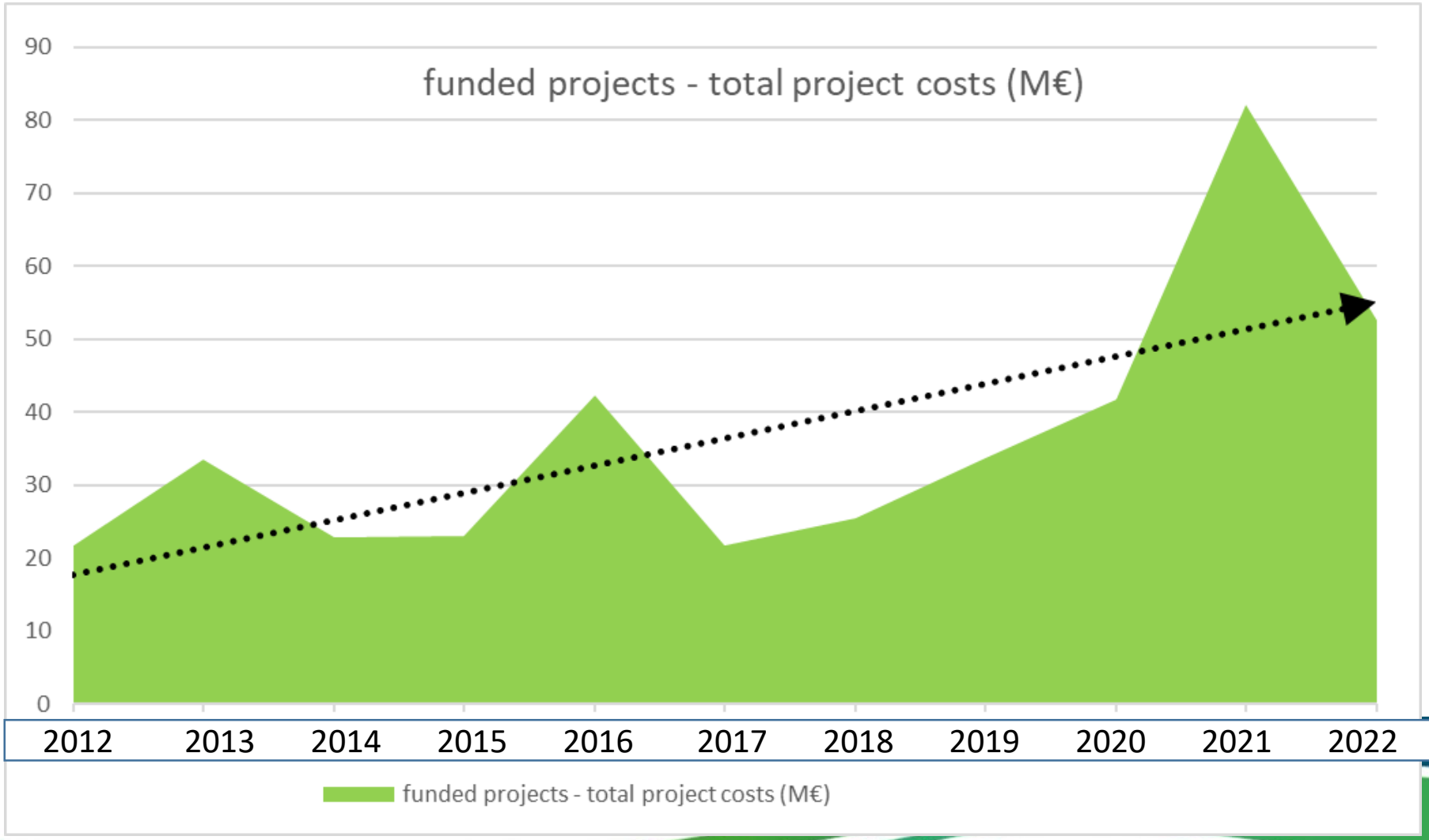
Joint Calls 2012-2022 outcome:
increased support for transnational RTD projects



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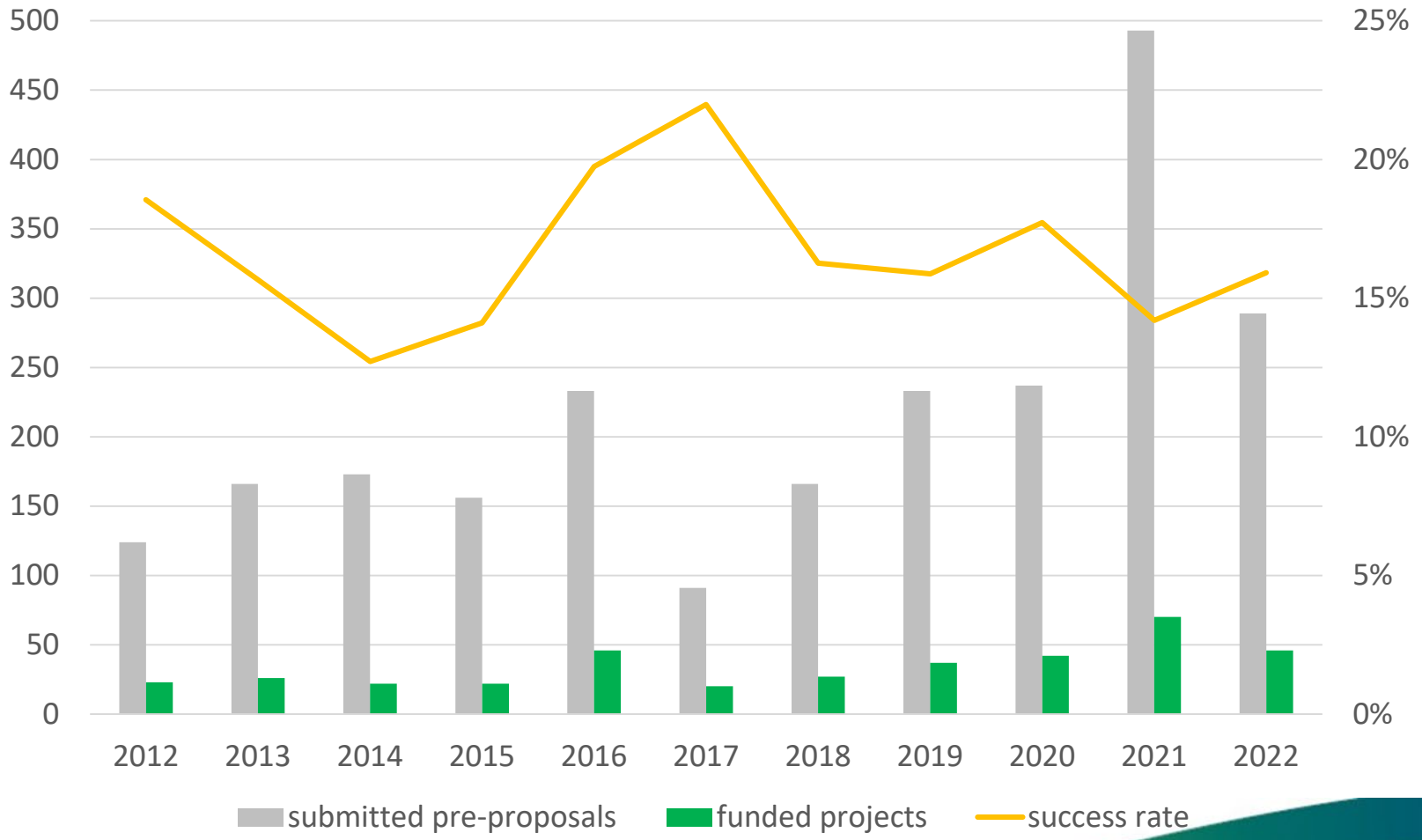
Joint Calls 2012-2022 results: response & success rate



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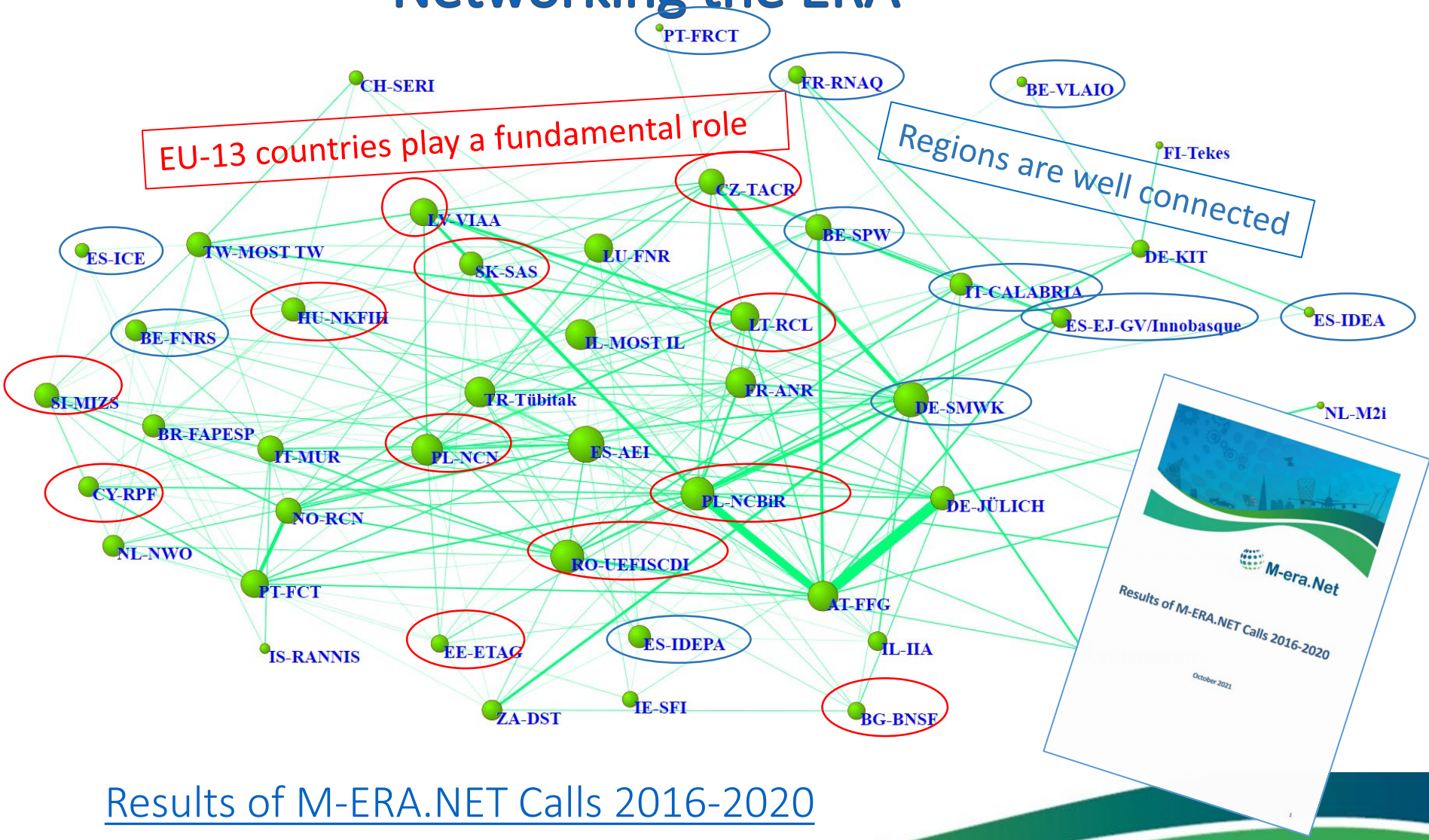
Networking the ERA



Results of M-ERA.NET Calls 2016-2020

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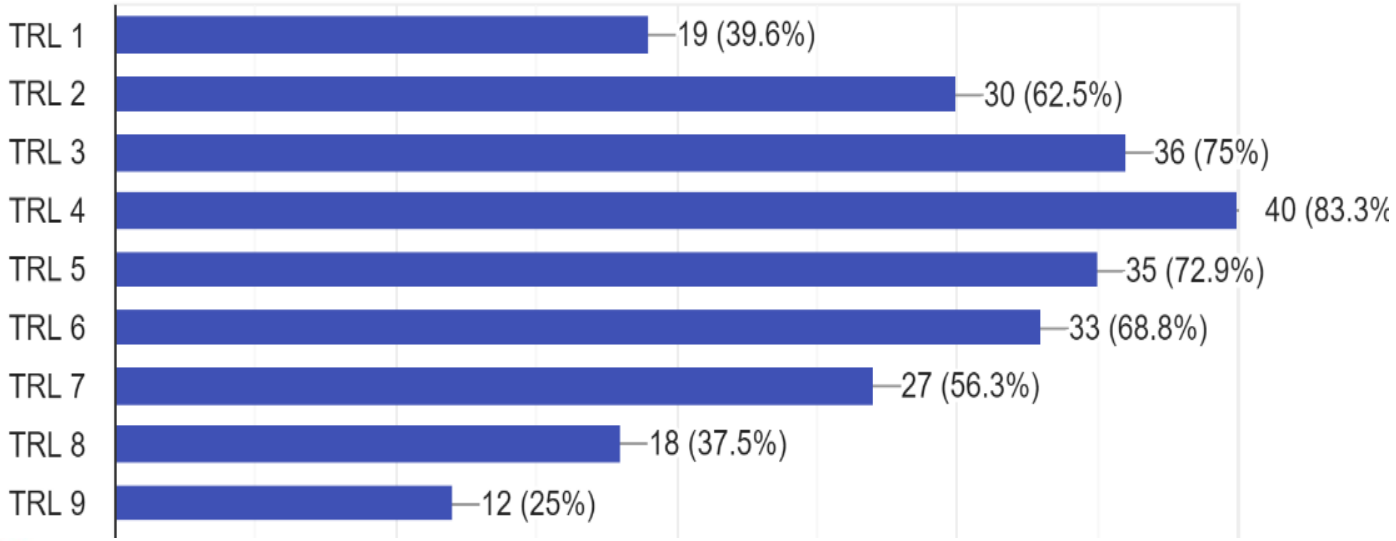
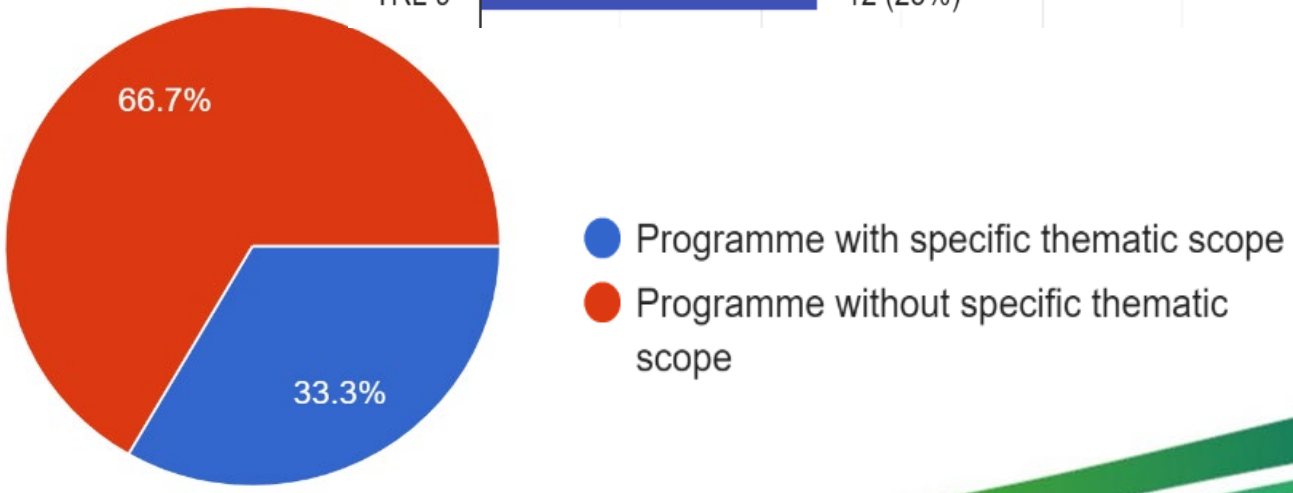
Involved national/regional funding schemes





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Joint Calls: annual cycle involving stakeholders

Call Implementation
Launch submission, evaluation and slection process

RTD community (industry!) heavily involved as evaluators

Call Preparation
Infrastructure set up and commitents from funidng organizations

M-ERA.NET Community input
Collect feedback from applicants and evaluators on process

Work Programme Preparation
Partners review and comment on work programme, follwed by endorsement 60 days before call launch

Baseline Establishment
Identify potential thematic gaps and opportunities

SEG Workshop
SEG define work programe basis and first draft by Task Force

RTD Community Consultation
Thematic consultation with RTD Networks and request for experts for SEG

SEG = Strategic Experts Group

SEG Workshop preparation
Agenda definition and invitation to experts shortlist

Network Consultation
Identify preliminary interest as well as suggestions for SEG workshop

- *identify research priorities & needs at European and national/ regional levels*
- *seek synergies, avoid overlaps & fragmentation*

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Thank you !

www.m-era.net

https://www.m-era.net/newsletter

https://twitter.com/M_ERA_NET

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Topics and Objectives (Call 2023)

Jorge Sotelo and Roberto Pacios, AEI/FECYT

M-ERA.NET webinar

14 March 2023

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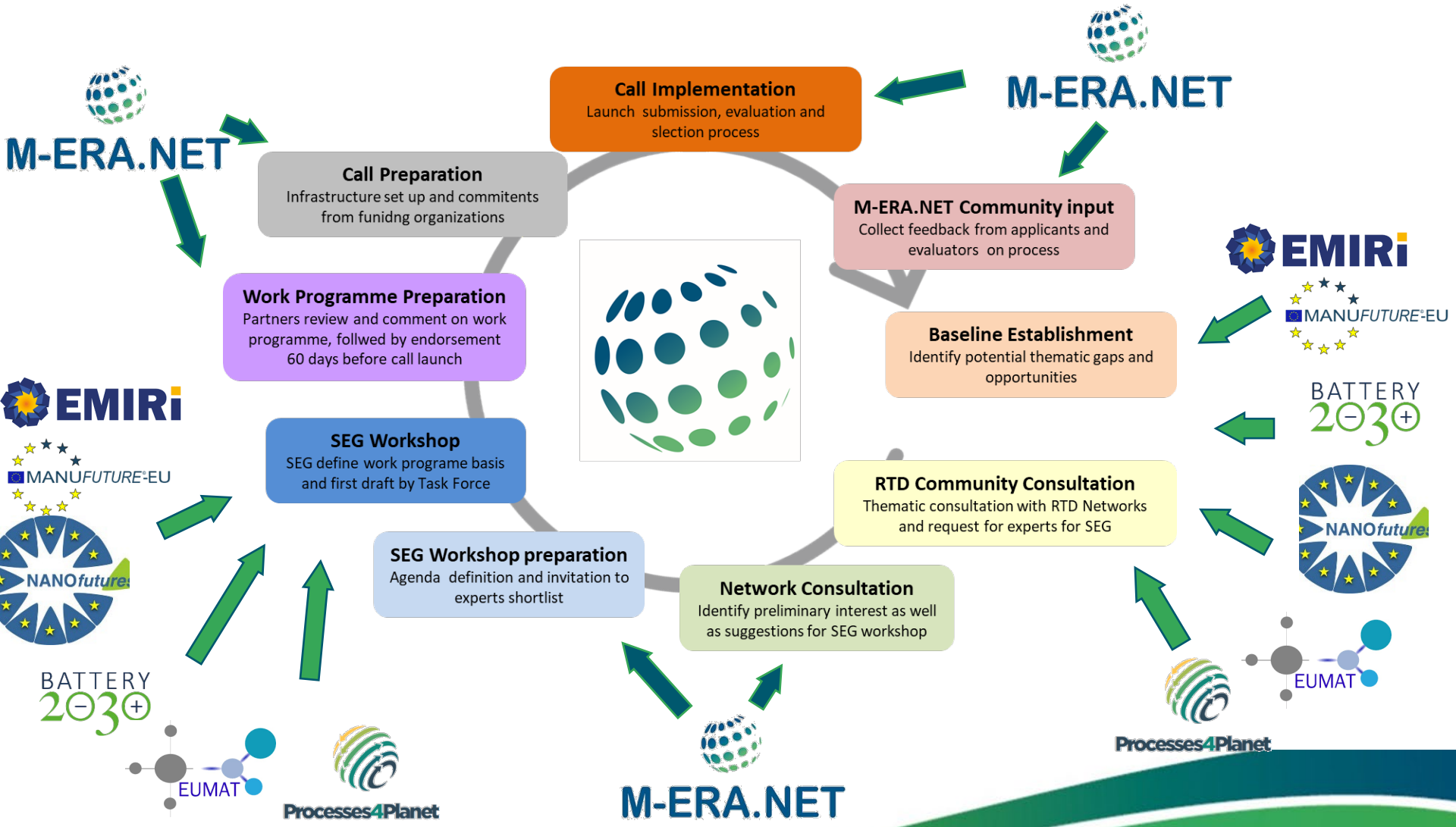
Joint Programming for establishment of thematic priorities



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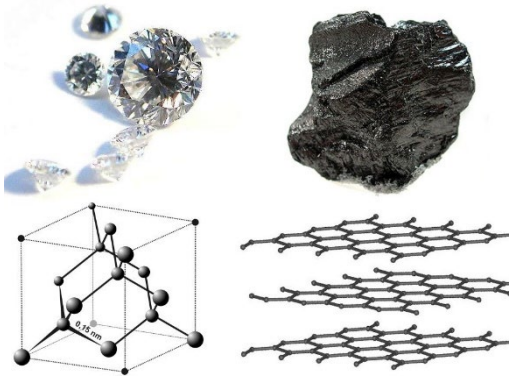
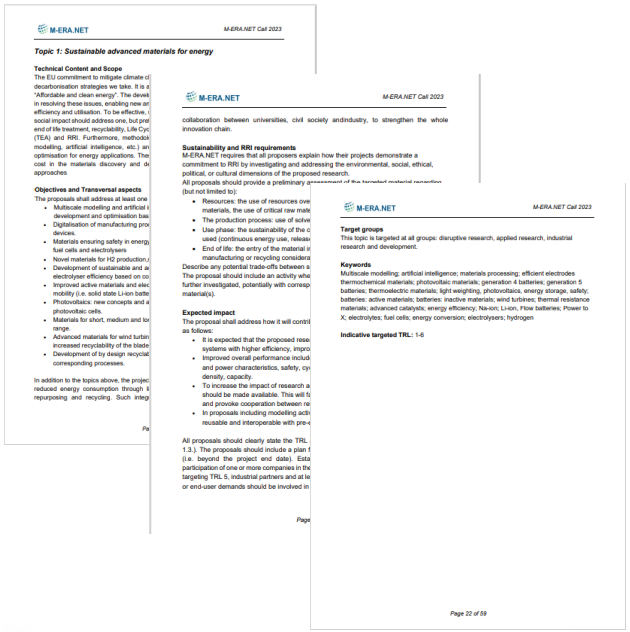
Objectives and Topic Structure



- Horizontal Objectives

[M-ERA.NET 3 Call 2023 Guide for proposers (m-era.net)](#) – Annex 1



- Thematic Priorities (Topics)
  - ❑ Technical Content and Scope
  - ❑ Objectives and Transversal Aspects
  - ❑ Sustainability and RRI requirements
  - ❑ Expected Impact
  - ❑ Target Groups
  - ❑ Keywords
  - ❑ Indicative TRL

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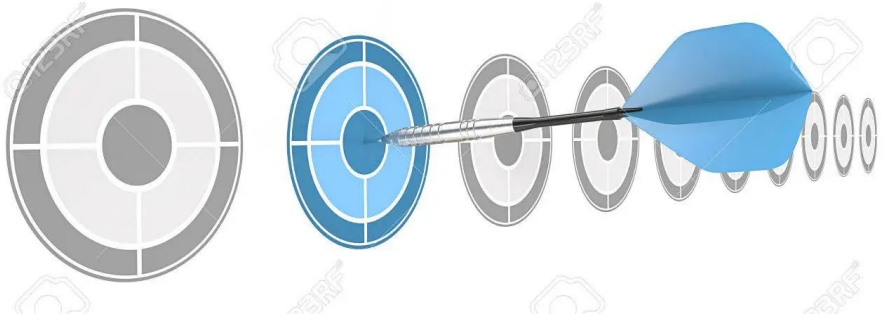
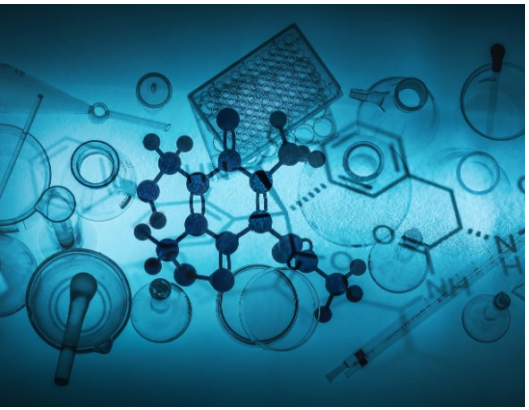
Horizontal objectives



[M-ERA.NET 3 Call 2023 Guide for proposers (m-era.net)](#) – p.6

- Support the European Green Deal by increasing attention to clean energy technologies and future batteries
- Support the achievement of the United Nations´Sustainable Development Goals (SDG)
- Socio-ecological benefits in the context of RRI
- Support for the Innovation chain
- Strengthen interdisciplinarity

Topics



[M-ERA.NET 3 Call 2023 Guide for proposers (m-era.net)](#) – Annex 1

1. **Sustainable advanced materials for energy**
2. **Innovative surfaces, coatings and interfaces**
3. **High performance composites**
4. **Functional materials**
5. **Advanced materials and technologies for health applications**
6. **Next generation materials for electronics**

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Thank you very much to all experts!!!

SEG Workshop in November 2022
Alcalá de Henares – Madrid -

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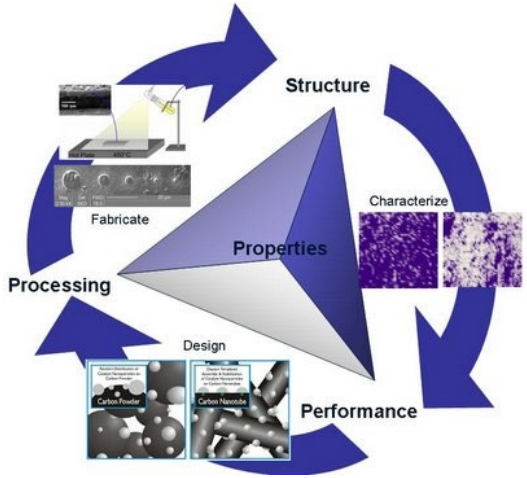
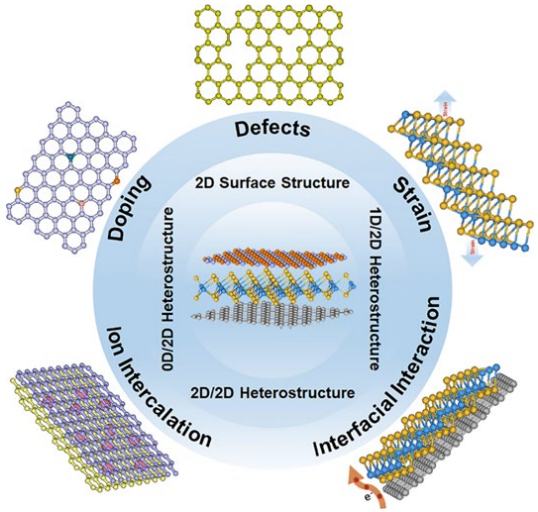
1. Sustainable advanced materials for energy

TECHNICAL CONTENT AND SCOPE

The objective of this topic is to **develop advanced materials** to enable new and cleaner **energy production, storage, conversion, efficiency and utilisation**.





Aspects addressed:

- CIRCULARITY
- END OF LIFE TREATMENT
- RECYCLABILITY,
- LIFE CICLE ASSESSMENT,
- RESPONSIBLE RESEARCH AN INNOVATION

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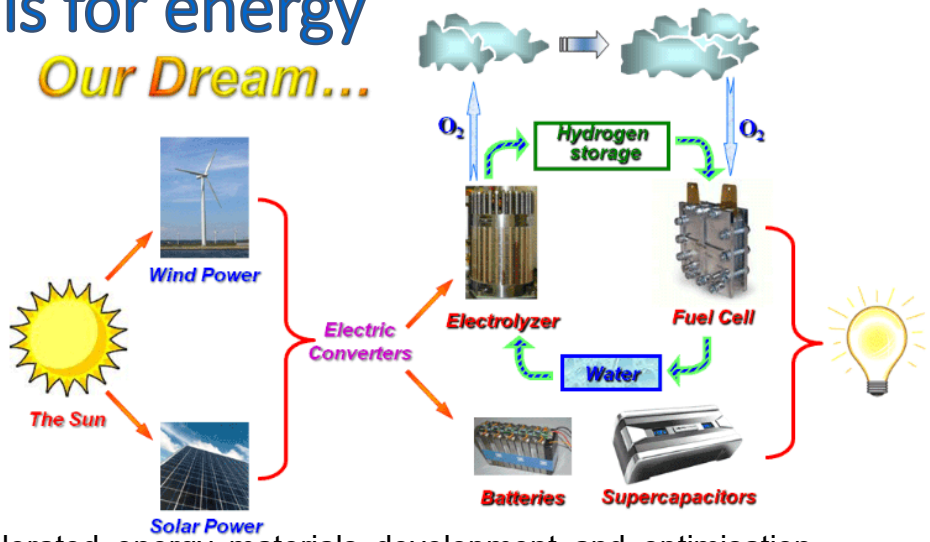
1. Sustainable advanced materials for energy

Our Dream…



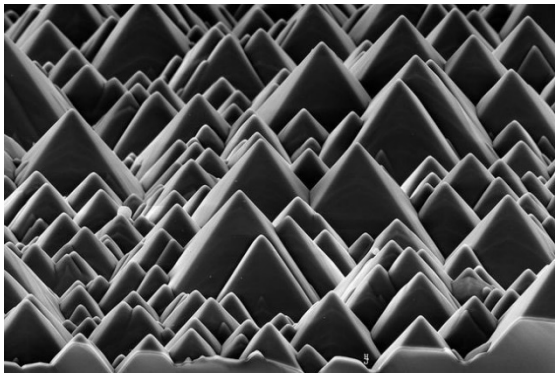
OBJECTIVES AND TRANSVERSAL ASPECTS

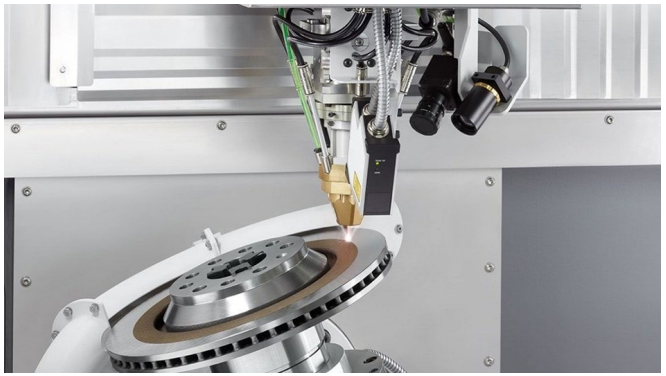
- **Multiscale modelling and artificial intelligence** for accelerated energy materials development and optimisation based on understanding **material behaviour**.
- **Digitalisation** of manufacturing **processes** of material components for energy devices.
- Materials ensuring **safety** in energy storage and conversion **devices**, e.g. batteries, fuel cells and electrolysers
- Novel materials for **H_2 production**, storage, combustion, conversion and power to X.
- Improved materials and electrolytes for stationary battery applications (e.g . Na-ion and flow batteries).
- Development of sustainable and advanced catalysts to improve **fuel cell and electrolyser** efficiency based on computation and experiments
- Improved active materials and electrolytes for Generation 4 and 5 batteries for mobility (i.e. solid state Li-ion batteries and beyond Li-ion batteries)
- **Photovoltaics**: new concepts and architectures for solar cell materials and efficient photovoltaic cells.
- Improved materials for **thermal energy storage and conversion**
- Materials for short, medium and long-term thermal storage over a wide temperature range.
- Advanced materials for wind turbines low in critical elements, low degradation and increased recyclability of the blades.
- Development of **by design recyclable advanced materials** for energy and the corresponding processes.

2. Innovative surfaces, coatings and interfaces

TECHNICAL CONTENT AND SCOPE

Development of innovative surfaces, thin films, coatings, interfaces and related process technologies





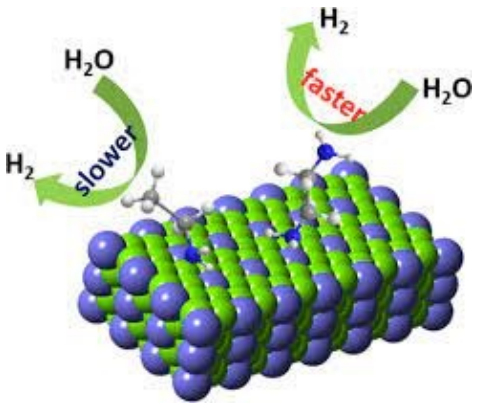
Aspects addressed:

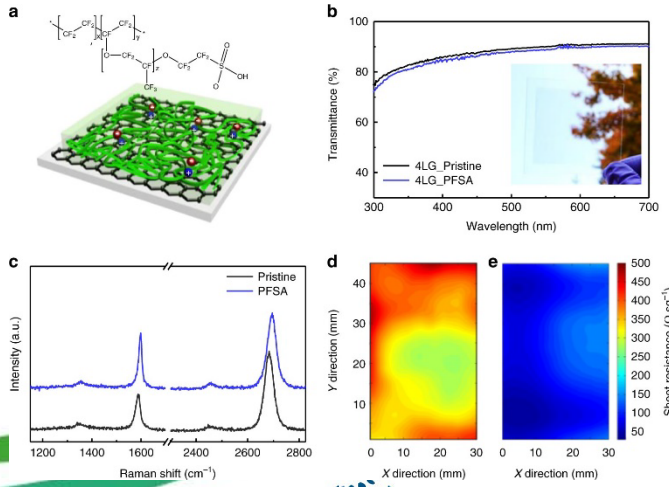
- ENERGY EFFICIENT DEVELOPMENT
- CIRCULAR ECONOMY
- SUSTAINABLE AND ENVIRONMENTALLY FRIENDLY
- CRITICAL RAW MATERIALS
- RESPONSIBLE RESEARCH AN INNOVATION

2. Innovative surfaces, coatings and interfaces

OBJECTIVES AND TRANSVERSAL ASPECTS

- Development of new materials and processing for **long-time stable antipathogen coatings**.
- Development of environmentally friendly **interfaces** in **battery cells** or innovative battery-or **electrolyser-** or fuel cell components, including post Li-ion battery.
- Development of **thin films and coatings** for sensing applications, including biosensing and gas sensing.
- **Multiscale modelling** and/or new characterisation techniques of of innovative surfaces, thin films, coatings and/or interfaces.
- **Engineered functional interfaces** between **electronics and biological systems**.
- Consider aspects such as **fundamental understanding** of the mechanisms, **experimental assessment** and where applicable prototyping, up-scaling, manufacturing and validation demonstrating prototype in an operational environment with a view to final customer applications.
- Address **complementary characterisation techniques** and/or where relevant modelling techniques and/or how to rationalise data for future use in modelling processes (data base)
- Address how coatings and/or thin films will impact the **recyclability of core material**
- Ensure relevance for different partners in the value chain by stating clear concepts for application(s) in targeted industrial sector(s).





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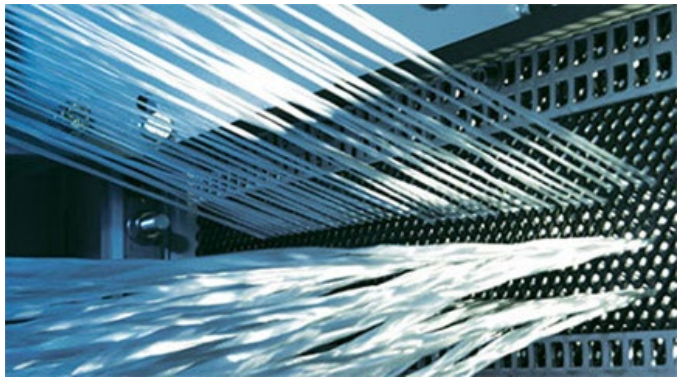
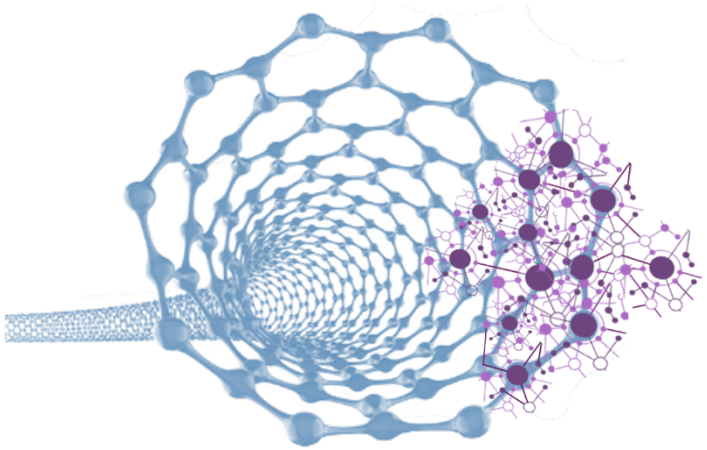
3. High performance composites

TECHNICAL CONTENT AND SCOPE

The objective of this topic is to **composites (≥ 2 constituents)** that meet requirements which cannot be fulfilled by a single material. With functional properties for engineering applications (transportation, construction, light-weighting, packaging). Energy, health and electronics can also be considered but should not be the focus (other topics).





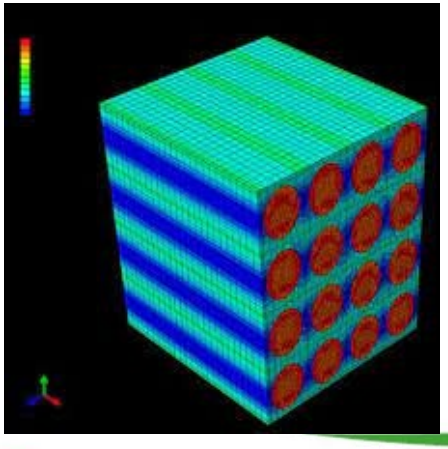
Aspects addressed:

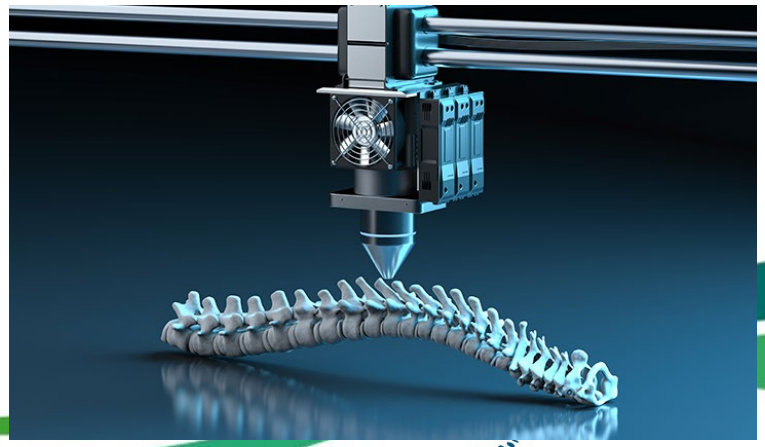
- SUSTAINABILITY BY DESIGN
- NON-TOXIC ELEMENTS
- RECYCLABILITY
- END OF LIFE ISSUES
- RENEWABLE, SELF-REPAIRING
- RESPONSIBLE RESEARCH AN INNOVATION

3. High performance composites

OBJECTIVES AND TRANSVERSAL ASPECTS

- **Modelling and simulation** including data driven approaches.
- **Molecular design**, functionalisation and characterisation for improved interfaces.
- Elimination of solvents, toxic elements, substances of concern, etc.
- New **bio-based (renewable) constituents**.
- Resource optimisation, incl. use of recycled/waste materials and lifetime extension.
- **Methods and tools for design optimisation** (e.g. for **additive manufacturing**).
- Determination of long-term properties (e.g. creep, fatigue, aging, etc.).
- **Understanding of failure and prediction of failure**.
- **Disassembly** / constituent separation / repair / reuse / recycling strategies (incl. design-for-repair, -recycling).
- New scalable, high throughput and **rapid manufacturing techniques**, e.g. fast curing, **low viscosity resins**, extrusion, thermoforming, and roll-to-roll processing.
- Automation, robotisation, cost-efficient and/or **sustainable manufacturing**.
- **Novel composite architectures** and **constituent designs** (e.g. thin tapes), and novel means of generating them (e.g. **additive manufacturing**).
- Joining, assembly and interface optimisation between dissimilar materials.

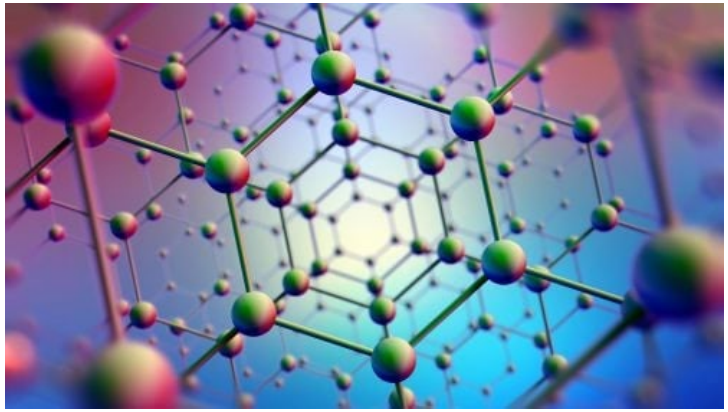


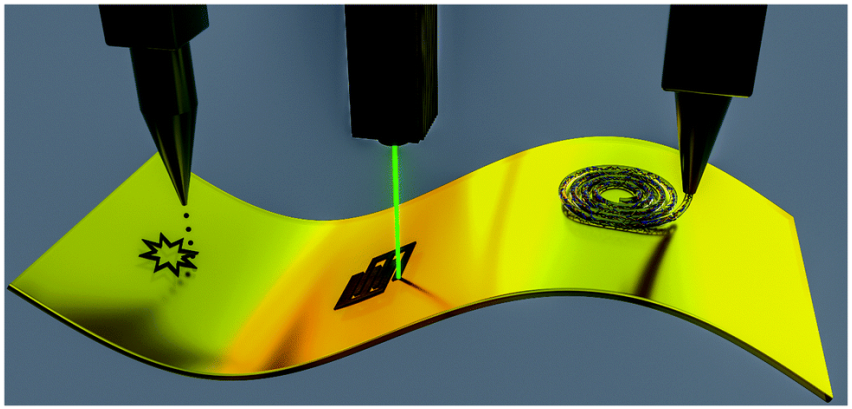


4. Functional Materials

TECHNICAL CONTENT AND SCOPE

The objective of this topic is the **design, simulation, synthesis and processing** of novel materials and microstructures with improved tailored properties and high performance in industrial applications.





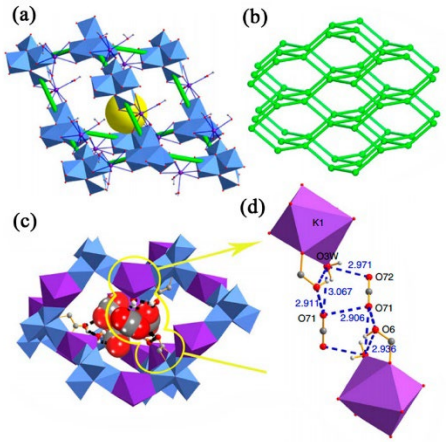
Aspects addressed:

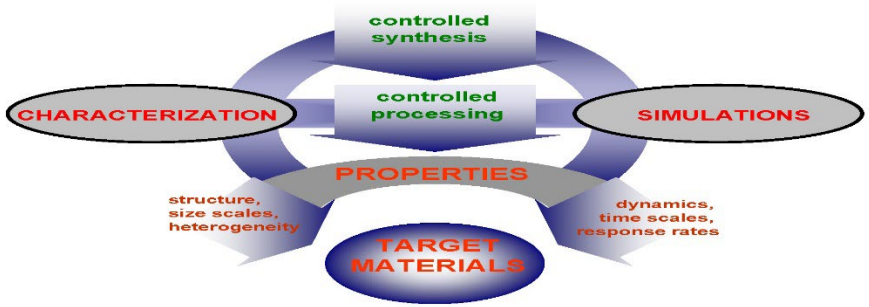
- SUSTAINABILITY, SUSTAINABLE BY DESIGN
- NON-TOXIC
- CRITICAL RAW MATERIALS
- RECYCLING, END OF LIFE ANALYSIS
- ARTIFICIAL INTELLIGENCE / MACHINE LEARNING
- RESPONSIBLE RESEARCH INNOVATION

4. Functional Materials

OBJECTIVES AND TRANSVERSAL ASPECTS

- Materials for **sensing and actuation** e.g. **smart materials**, **functional textiles**, **stretchable materials** and others.
- Functional structures, e.g. **metamaterials**, **2D-layers**, topological structures, self-healing materials and others.
- Materials for **emerging quantum technologies**
- Materials for **smart and zero-energy buildings**: thermal insulation systems and efficient heat radiation or cooling solutions involving rare earth and ecological materials
- Materials for **greenhouse gas capture/conversion**.
- Materials for **energy-efficient separation**, **liquid/gas purification** and process intensification.
- **Waste-energy harvesting materials**: new designs and architectures for increased energy efficiency and solutions
- Safe and sustainable **fabrication routes** for materials.
- Safe and sustainable by design and bio-based materials.
- **New strategies** to replace toxic or critical raw materials in commercial products





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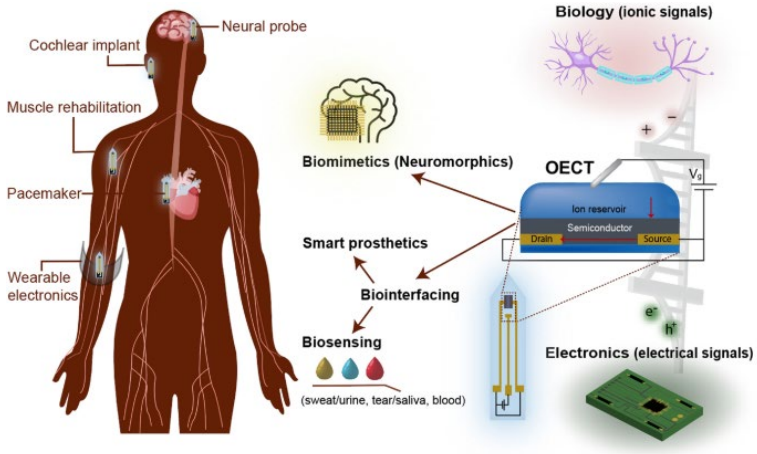
5. Advanced materials and technologies for health applications

TECHNICAL CONTENT AND SCOPE

The objective of this topic is to **build critical knowledge of advanced materials and technologies** towards applications in **health**: Engineered materials for implants, drug delivery systems, real-time monitoring in vivo biosensors and scaffolds, organ on chips.



Aspects addressed:

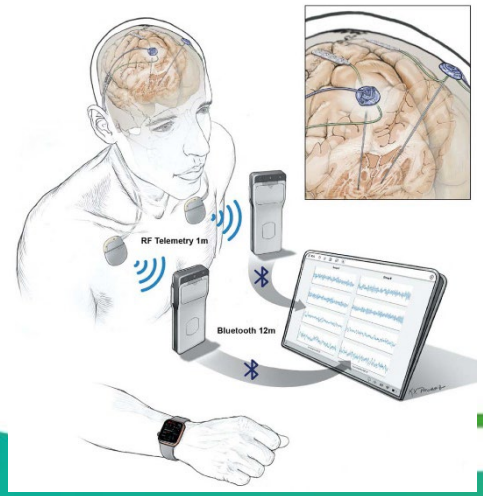
- ENVIRONMENTAL PROPERTIES OF MATERIALS
- CRITICAL RAW MATERIALS
- SOLVENTS, TOXIC ELEMENTS
- SUSTAINABILITY BURDENS AND BENEFITS
- BIOCOMPATIBILITY, BIODEGRADATION
- RESPONSIBLE RESEARCH AN INNOVATION

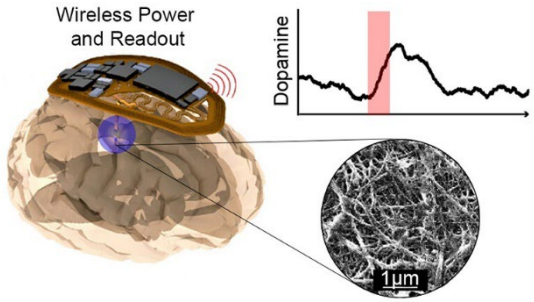
5. Advanced materials and technologies for health applications

OBJECTIVES AND TRANSVERSAL ASPECTS

Proposals submitted under this topic can address any of the following items:

- Developed solutions are aimed at **replacing**, **restoring**, and **regenerating physiological functions, tissues and organs**, as well as leading to new diagnostic and therapeutic interventions
- Such materials may include functionalised, **adaptable or stimuli-responsive elements**, **hierarchical structures** to modulate 3D cell growth and structural or topographic modifications to direct specific cell responses
- **Interactions** between the newly developed materials and the **biological environment/surrounding tissues**, such as biodegradation, biological performances, toxicity
- **Mechanical, physical, and chemical properties of the materials** relevant for the foreseen application.
- **The potential market and exploitation routes** including a robust risk and contingency plan and the overall scalability and sustainability
- Understanding the complexity of material/biology interfaces over time;
- Achievement of new or improved materials performance for at least one clinical target





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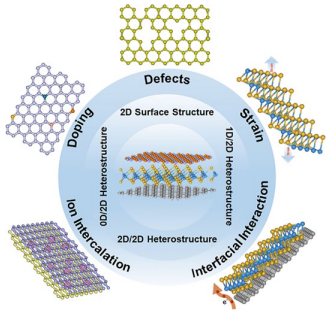
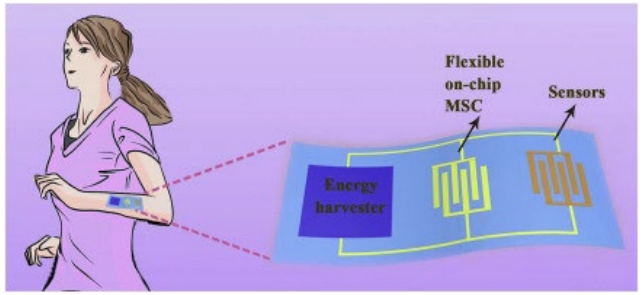
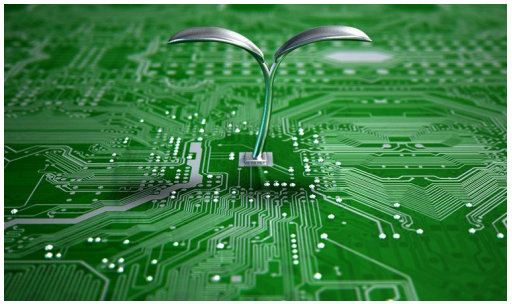
6. Next generation materials for advanced electronics

TECHNICAL CONTENT AND SCOPE

Proposals on **materials research and its application:** Multifunctional materials for sensing and electronics, chip-less integrated systems, ultra low-power electronic systems, flexible and/or printed integrated electronics







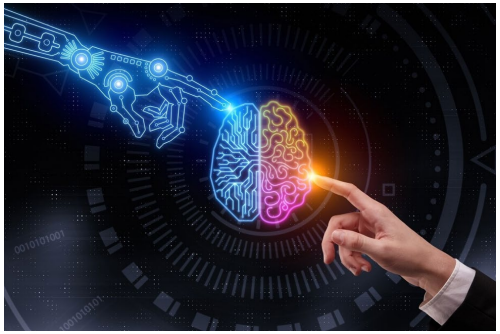
Aspects addressed:

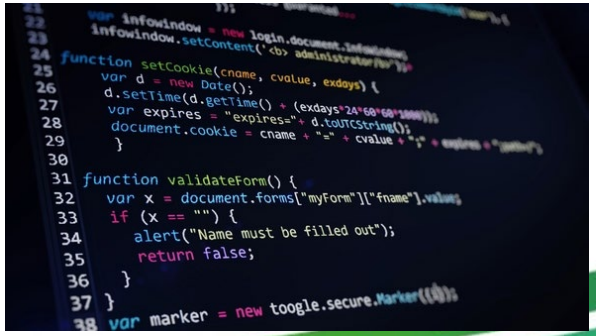
- GREEN AND SUSTAINABLE MATERIALS
- TOXIC AND HAZARDOUS MATERIALS
- SAFE & SUSTAINABLE BY DESIGN
- REDUCTION OF THE CARBON FOOTPRINT
- USE OF CRITICAL RAW MATERIALS
- END OF LIFE, RECYCLING, CIRCULARITY
- RESPONSIBLE RESEARCH AN INNOVATION

6. Next generation materials for advanced electronics

OBJECTIVES AND TRANSVERSAL ASPECTS

- **Physical properties** of electronic and magnetic materials: **Increasing efficiency** and **reduce the power consumption**
- **Materials design and architecture** for nano-electronics and chipless electronics
- **Device physics and engineering**: micro and nano (opto-) electro-mechanical systems. Hybrid integration.
- Thermal management in electronics. Coating, aggressive environments, Electromagnetic compatibility (EMC), self-cleaning, etc.
- **Wearable, flexible, stretchable low-cost materials** for green electronics.
- **Disposable materials** for electronics: ink materials, polymers, cellulose, etc.
- Materials for **chipless applications**, new strategies for materials beyond silicon.
- New high throughput **manufacturing approaches** for electronic components: Printing technologies, additive manufacturing techniques, patterned coatings.
- Next generation of materials for **integrated electronics** for **energy storage** and **harvesting**
- **Modelling** and **artificial intelligence**





Energy saving

Energy Efficiency

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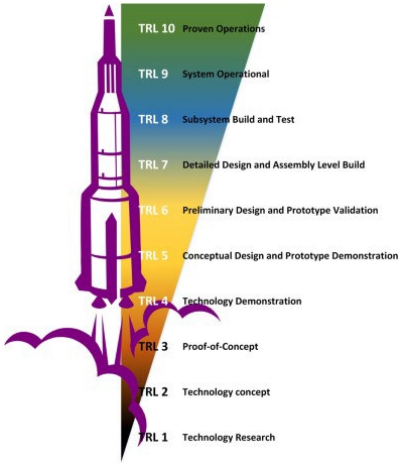
Thematic Priorities - TRLs



Topic	TRL 1	TRL 2	TRL 3	TRL 4	TRL 5	TRL 6	TRL 7	TRL 8	TRL 9
Topic 1: Sustainable advanced materials for energy									
Topic 2: Innovative surfaces, coatings and interfaces									
Topic 3: High performance composites									
Topic 4: Functional materials									
Topic 5: Advanced materials and technologies for health applications									
Topic 6: Next generation materials for advanced electronics									

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Call 2023:
participating countries

Roland Brandenburg
M-ERA.NET coordinator
Call 2023 webinar, 14 March 2023

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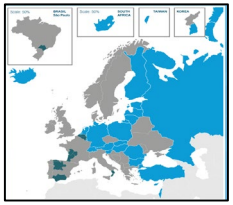
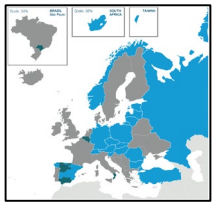
Annual joint calls: variable geometry

- **Openness**: participation in network activities (e.g. additional joint calls) is not limited to consortium members (under the Grant Agreement) -additional organisations are welcome

Call 2016:	*Call 2017:*	*Call 2018:*	*Call 2019:*	*Call 2020:*	*Call 2021:*	*Call 2022:*
35 funding orgs. *22 EU MS/AC + Brazil + Russia + South Africa + Taiwan*	*31 funding orgs.* *22 EU MS/AC + Brazil + Russia + South Africa + South Korea + Taiwan*	*33 funding orgs.* *20 EU MS/AC + Brazil + Russia + South Africa + Taiwan*	*35 funding orgs.* *21 EU MS/AC + Brazil + Canada + Russia + South Africa + Taiwan*	*28 funding orgs.* *16 EU MS/AC + Brazil + Canada + Russia + South Africa + Taiwan*	*45 funding orgs.* *26 EU MS/AC + Brazil + Canada + Russia + South Africa + South Korea + Taiwan*	*34 funding orgs.* *21 EU MS/AC + Brazil + Canada + South Africa + South Korea + Taiwan*
						
233 pre-prop. 89 full prop. 46 funded projects	*91 pre-prop. 48 full prop. 20 funded projects*	*166 pre-prop. 90 full prop. 27 funded projects*	*233 pre-prop. 123 full prop. 37 funded projects*	*237 pre-prop. 144 full prop. 42 funded projects*	*493 pre-prop. 171 full prop. 70 funded projects*	*289 pre-prop. 127 full prop. 46 funded projects*

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Participating countries

- more than 30 national/regional funding organisations participate in the M-ERA.NET Call 2023
- https://www.m-era.net/joint-call-2023/participating-countries-regions-call-2023
- matrix of countries/regions & supported topics
  - detailed information on national/regional programmes:
    - national/regional requirements
    - contacts (see also Guide for Proposers, Annex)

Call 2023: eligibility

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Eligibility

1. M-ERA.NET eligibility criteria

2. National/Regional eligibility criteria

M-ERA.NET eligibility criteria:

- ✓ minimum requirement for project consortia:
  - at least **3 partners** (all requesting funding from a funding organisation) from at least **3 different countries** (at least **2 EU member** states or Horizon Europe **associated countries**) **participating in the M-ERA.NET Call 2023**.
  - The consortia may involve as many partners as necessary.
- ✓ Note: applicants affiliated to Russian institutions are excluded from Call 2023
- ✓ Coordinator must request funding from a participating funding organisation
- ✓ TRLs must be appropriate for selected topics
- ✓ project duration max 36 months
- ✓ The total effort of one single partner cannot exceed 60% of the total project efforts (measured in person months) in the proposal;
- ✓ The total effort of partners from one country cannot exceed 70% of the total project efforts (measured in person months) in the proposal.
- ✓ Mandatory pre-proposal forms, written in English, submitted before deadline
- ✓ PIC (Participant Identification Code) for all partners –available via EC portal

➢ see FAQs, Guide for Proposers

National/Regional eligibility criteria

- defined by respective funding organisation –see country/region sub-pages
  - https://www.m-era.net/joint-call-2023/participating-countries-regions-call-2023
- examples/categories:
  - type of applicants (SMEs, large companies, academic research groups, universities, public research organisations or other research organisations)
  - financial status of applicants (especially industrial applicants);
  - selected call topics;
  - range of TRLs for the selected topic
  - specific national/regional application forms (if applicable)
  - limited number of Pre-Proposals per applicant
  - consortium composition
  - potential limitation of requested budgets per pre-proposal.

Call 2023 schedule & workflow

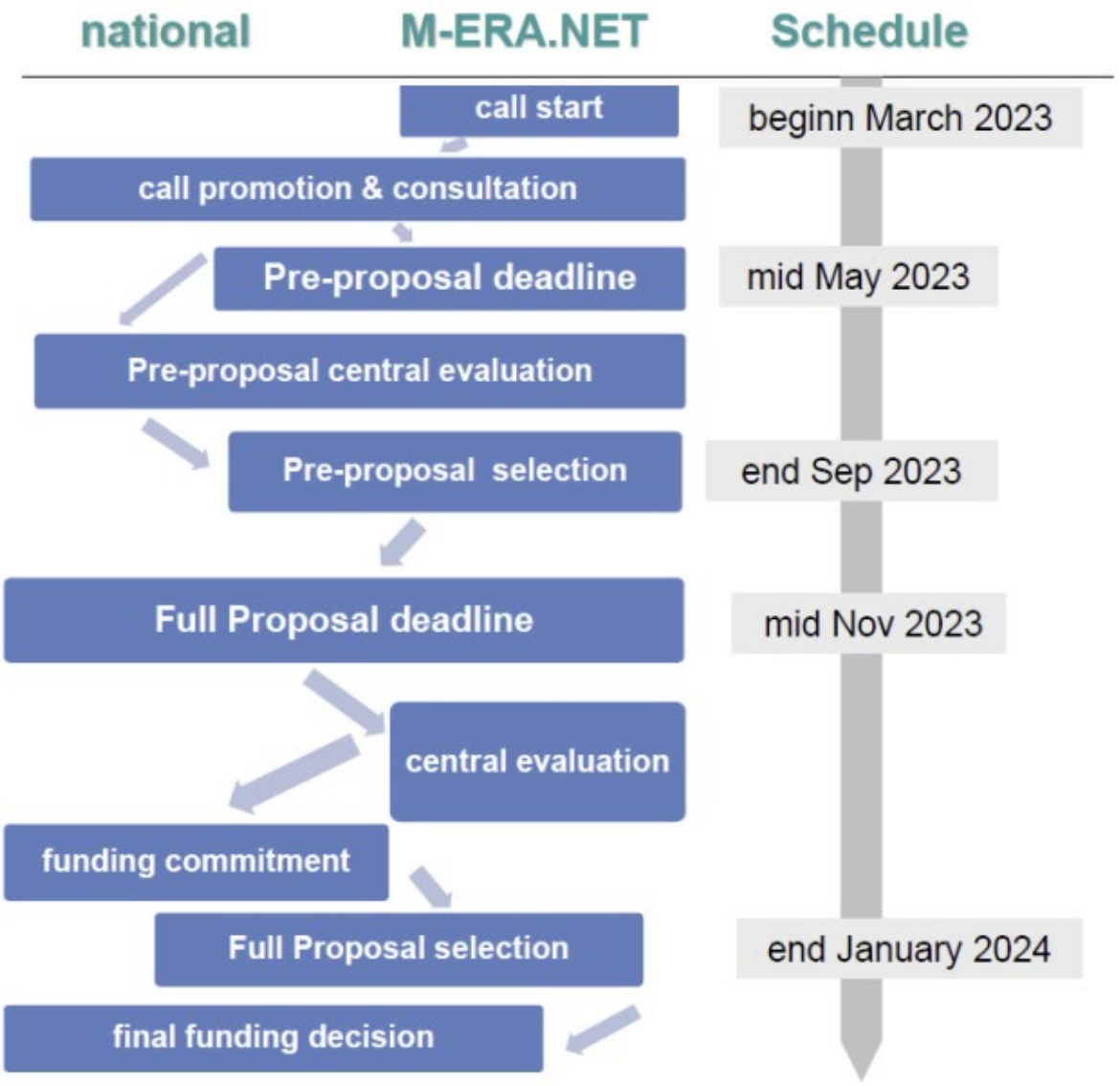
Fabienne Nikowitz, FFG
M-ERA.NET webinar
14 March 2023

M-ERA.NET

Call 2023 schedule

Date	Step
1 March 2023	**Launch of the Call 2023**
16 May 2023	**Deadline for submission of Pre-Proposals**
June – Sept. 2023	**central evaluation of Pre-Proposals**
September 2023	**Coordination Meeting** – selection of pre-proposals invited to full-proposal submission and feedback to applicants
21 November 2023	**Deadline for submission of Full-Proposals**
Nov 2023 – Jan 2024	**central evaluation of Full-Proposals**
end January 2024	**Selection Meeting** – selection of full-proposals recommended for funding and feedback to applicants
February 2024	Contract negotiations for selected proposals on national/regional level
Feb - May 2024	Start of funded projects
May 2027	End of all funded projects
July 2027	Deadline for final reporting

Call 2023 workflow



Step 1
Pre-Proposal

Step 2
Full-Proposal

Call 2023: changes from pre- to full-proposal

- **Project objectives stated in the pre-proposal cannot be changed** in order to allow the identification of evaluators based on the pre-proposal.
- **Changes in the consortium should be avoided.** Modifications of the consortium are restricted to partners from countries already part of the pre-proposal consortium. It is not accepted to introduce new countries into the existing consortium. Eligibility checks of new partners have to be done by the respective funding agency before full-proposal submission.
- **In general, changes from pre- to full-proposal should be avoided.** In any case, changes from pre- to full-proposal stage have to be coordinated by the consortium leader with all involved funding organisations.

  This means that major changes regarding content, project duration, costs, funding or consortium have to be communicated and approved by all involved funding agencies at least **2** weeks before the deadline for full proposals. The consortium leader is responsible to coordinate and ensure the acceptance of these changes by the involved funding agencies.

(*see M-ERA.NET Guide for Proposers, p.12*)

Call 2023 – M-ERA.NET central evaluation

- carried out **in both stage** (pre-proposals and full-proposals)
- implemented according to the EC rules for ERA-NET Cofund including the appropriate evaluation criteria
- organised online (via the **M-ERA.NET evaluation tool**) by the M-ERA.NET call secretariat
- proposals are remotely assessed by independent international evaluators
- each proposal is evaluated **by 3 evaluators** (one of the three evaluators is appointed as rapporteur (by the call secretariat))
- evaluators appointed on the basis of **keywords**

Call 2023 – step 1: evaluation criteria

Scoring & Threshold:

based on H2020 system

- max. score of each main criteria is 5.0
- max. total score is 15.0
- overall threshold (applying the sum of the main scores) is 10.0
- threshold for main criteria is 3.0
- no thresholds for sub-criteria

(*see M-ERA.NET Guide for Proposers, p.50*)

Main Criteria	*Sub Criteria*	*Score (points)*
Excellence	Clarity and pertinence of research objectives and hypotheses	*max. 1.5*
	Novelty, originality, position of concepts and approaches in relation to the state of the art (ambition, innovation potential, ground-breaking objectives)	*max. 2.0*
	Appropriateness of the methodology, credibility of the proposed approach and soundness of the concept, including approach to RRI	*max. 1.5*
Impact	Ability of the project to address the research issues covered by the chosen research theme: relevance to the topic addressed by the call	*max. 2.0*
	Contribution at the European or international level to the expected impacts listed in the Guide for Proposers under the relevant topic	*max. 2.0*
	Engagement of the proposed research with circularity, environmental as well as ethical, political, social and/or cultural dimensions	*max. 1.0*
Implementation	Competences, experience and complementarity of each of the consortium members and the consortium as a whole (including complementarity, balance, inter- or transdisciplinarity)	*max. 2.0*
	Quality of the collaboration (added value of the transnational cooperation)	
	Quality and effectiveness of the work plan (work packages and tasks distribution among partners)	*max. 2.0*
	Organisation and overall management of the project	
	Overall appropriateness of the budget and other resources to be committed	*max. 1.0*

Call 2023 – step 2: evaluation criteria

Scoring & Threshold:

based on H2020 system

- max. score of each main criteria is 5.0
- max. total score is 15.0
- overall threshold (applying the sum of the main scores) is 10.0
- threshold for main criteria is 3.0
- no thresholds for sub-criteria

(*see M-ERA.NET Guide for Proposers, p.51*)

Main Criteria	*Sub Criteria*	*Score (points)*
Excellence	Clarity and pertinence of research objectives and hypotheses	*max. 1.5*
	Credibility of the proposed approach and soundness of the concept. including approach to RRI	*max. 2.0*
	Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches)	*max. 1.5*
Impact	Contribution at the European or international level to the expected impacts listed in the Guide for Proposers under the relevant topic	*max. 1.5*
	Enhancing innovation capacity and integration of new knowledge	*max. 1.0*
	Strengthening the competitiveness and growth of companies by developing innovations meeting the needs and values of European and global markets; and, where relevant, by delivering such innovations to the markets	
	Engagement of the proposed research with circularity, environmental as well as ethical, political, social and/or cultural dimensions	*max. 1.0*
	Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, engage with stakeholders and user groups, and to manage research data where relevant	*max. 1.5*
Implementation	Quality and effectiveness of the work plan, assessment of risks, and appropriateness of the effort assigned to work packages, and the resources overall.	*max. 1.0*
	Appropriateness of the management structures and procedures	*max. 1.0*
	Quality and relevant experience of the individual participants	*max. 1.0*
	Quality of the consortium as a whole including complementarity, balance, inter- or transdiciplinarity	*max. 1.0*
	Appropriate of the allocation of tasks, ensuring that all participants have a valid role and allocation and justification of the resources to fulfil that role	*max. 1.0*

Call 2023 Documents

Show-Ling Lee-Müller, PtJ

M-ERA.NET webinar

14 March 2023

M-ERA.NET

Call web page: www.m-era.net/joint-call-2023

Joint Call 2023

List of participating countries and regions Call 2023

Announcement of the M-ERA.NET CALL 2023

The M-ERA.NET Call 2023 is launched on 1 March 2023. More than 30 funding agencies participate with an indicative budget of more than 30 million €.

Call Schedule:

- **The Pre-Proposal Deadline is 16 May 2023, 12:00 noon, Brussels time.**
- The Full-Proposal Deadline is 21 November 2023, 12:00 noon, Brussels time

The aim is to fund ambitious transnational RTD projects addressing materials research and innovation including materials for batteries and low carbon energy technologies.

The Call 2023 includes the following thematic areas:

- Sustainable advanced materials for energy
- Innovative surfaces, coatings and interfaces
- High performance composites
- Functional materials
- Advanced materials and technologies for health applications
- Next generation materials for advanced electronics

Proposal Submission

The Pre-Proposal stage is open. Deadline for the Pre-Propsal stage is 16 May 2023, 12:00 noon, Brussels time

The proposal submission link will soon be available.

Call documents for download:

- **Guide for proposers** - ⭳ **main document** and Annex A to guide for proposers (national / regional regulations; soon available)
- ⭳ **FAQ**
- ⭳ **Mandatory Pre-Proposal form**
- Mandatory Full-Proposal form and mandatory Annex 1 to Full-Proposal form (available in September 2023)
- Final reporting template (available March 2024)

Call Documents

- Guide for Proposers
  - main document
  - Annex A (national / regional regulations)
- Pre-Proposal Form **mandatory!!!**
- Full-Proposal Form (available 09/2023)
- Annex 1 to Full-Proposal Form (available 09/2023)
- FAQs

Guide for proposers: main document

1. Introduction to M-ERA.NET
2. Structure of the M-ERA.NET Call 2023
3. Call Announcement
4. Application process
5. Evaluation
6. Decision and funding procedure
7. Monitoring
8. Communication and dissemination
9. Support

Annex 1: Topics Call 2023
Annex 2: Technology Readiness Level
Annex 3: participating Funding organisations
Annex 4.1: Pre-Proposal evaluation criteria
Annex 4.2: Full-Proposal evaluation criteria
Annex 5: RRI Guidelines
Annex 6: Checklist for proposers

Pre-Proposal template

Colour code: blue text in the templates indicates information and can be deleted by the proposers

1. Summary
2. Consortium overview
3. Project description
   - 3.1 Excellence
   - 3.2 Impact
   - 3.3 Implementation
4. Ethical Issues
5. Checklist for proposers

To be completed by the Project Coordinator only.
The Pre-Proposal form has a technical limit of 22 pages.
Refer to Guide for Proposers when filling out this form.

The following formatting conditions apply:
The minimum font size should be 11 points. Standard character spacing and a minimum of single line spacing is to be used. Text elements other than the body text, such as headers, foot/end notes, captions, formulas, may deviate, but must be legible. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

Each partner is requested to contact the respective national/regional funding organisation before Pre-Proposal submission

Frequently Asked Questions (FAQ)

- Scope of the Call
- Eligibility
- **Application Process**
- Evaluation
- Costs & Funding
- Project implementation

Call 2023: links, support, news

Links

- M-ERA.NET Call website: https://www.m-era.net/joint-call-2023
- Partner Search Tool: https://www.m-era.net/joint-calls/partnersearch
- Submission Tool: soon available on the Call website

Additional (regional) call webinars

- Spanish infoday (webinar) on 24 march 2023, 10:00 – 11:30 a.m.
- Joint French-speaking webinar / matchmaking event in battery-related technologies on 29 March 2023, 15:00 - 17:00 (Brussels time)

News

- Follow us on Twitter: https://twitter.com/M_ERA_NET
- Subscribe to the Newsletter: https://www.m-era.net/newsletter

Agenda of the M-ERA.NET Call 2023 webinar

- General presentation of the Network - R. Brandenburg
- Presentation of the Call topics - J. Sotelo and R. Pacios
- General procedures
  - Participating countries + eligibility - R. Brandenburg
  - Schedule and workflow - F. Nikowitz
  - Call documents - S.-L. Lee Müller
- RRI and sustainability - C. A. Mathiesen
- Presentation of the submission platform - F. Nikowitz
- Questions and answers

Call 2023 webinar
Responsible Resarch and Innovation (RRI) and sustainability

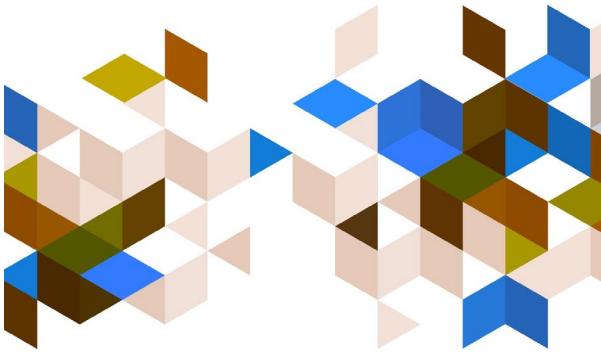
Cecilie A. Mathiesen
M-ERA.NET Call 2023 webinar
14.3.2023

M-ERA.NET

This presentation

- What is RRI?
- M-ERA.NET's approach to RRI
- RRI Guidelines version 1.1
- M-ERA.NET and sustainability
- Call text example
- How does M-ERA.NET support and evaluate RRI?
- Web resources for including RRI in your project

What is RRI?



- **Based on** that Research and innovation should
  - Address societal needs
  - Avoid undesirable side effects if possible
- **Responsibility integrated into research and innovation practices**
  - Responsibility cannot be outsourced
  - But transdisciplinary collaboration is good!
- **Responsibility related to**
  - **social, ethical, political, environmental or cultural dimensions**

RRI in M-ERA.NET

During 2021 M-ERA.NET developed its first Guidelines for RRI. It

1. introduce the idea of Responsible Research & Innovation (RRI)
2. explain how M-ERA.NET supports RRI
3. offer practical advice for operationalising RRI in projects and
4. provide sources of further information for applicants

M-ERA.NET's approach to RRI

Recognises that the materials resulting from the programme need to be

- designed for a sustainable society in the near to medium future rather than the one we have today.
- highlights the need to address **the social, environmental, political, cultural or ethical dimensions** of the proposed research and
- offers four dimensions that researchers, funders and technologists should engage with to maintain focus on the social context of their work

The four dimensions of RRI:

Anticipation

Anticipate the future known and unknown **risks** associated with a science or technology;

Inclusion

Include a broad range of **stakeholders** in the development of science and technologies;

Reflexivity

Reflect on the underlying **assumptions and values** driving a scientific research project;

Responsiveness

Respond to **these processes** by incorporating their outcomes into **the design** of research projects and funding programmes.

RRI is not «shaped» as in Horizon 2020….

Ethics, Gender and Open Science are separate important cross-cutting issues

These three points provide general principles from which to develop your approach to RRI:

1. M-ERA.NET's philosophy is to have **RRI as an integrated part of the project** involving all project participants.
2. Developing a **shared understanding of the project's RRI aspects** as early as possible is important.
   - having conversations about their importance and potential actions
   - will evolve in a learning process throughout the project
3. Considering RRI-related issues and acting upon them, must be done as a cross-cutting part of the project or a separate work package. RRI in the project needs to be **coordinated** and should have a **lead**

RRI Guidelines version 1.1

«Update 1.1 of the RRI Guidelines placed more emphasis on sustainability dimensions as an integral part of responsible research and innovation, based on recommendations of the 2022 Strategic Expert Group.«

M-ERA.NET RRI Guidelines v1.1

M-ERA.NET and sustainability

- M-ERA.NET has fundamental commitments to sustainability in line with frameworks such as
  - the UN Sustainable Development Goals, and
  - the European Green Deal.

- Methods analysing the current or future ecological impacts of materials and their supply chains are appropriate.

- In sum **RRI provides a framework to ask how research and innovation should be carried out** in order to ensure that we achieve the sustainability goals in an open and inclusive way

Sustainability and RRI in the M-ERA.NET calls

- **The specific requirements for each topic in the current call** are detailed in a section labelled ‘sustainability and RRI requirements’.
- Example on next slide

- **RRI is not a one-size-fits-all** approach but must be adapted to the actual social, environmental and ethical issues raised by the R&I activities funded in the programme.
  - Foundational, exploratory research/ applied, high-TRL research
  - Disruptive, pathbreaking research/ tentative, incremental research

Topic 1: Sustainable advanced materials for energy

Sustainability and RRI requirements

M-ERA.NET requires that all proposers **explain how** their projects demonstrate a commitment to RRI by investigating and addressing the environmental, social, ethical, political, or cultural dimensions of the proposed research. All proposals should provide a **preliminary assessment** of the targeted material regarding (but not limited to):

- **Resources:** the **use** of resources overall, the environmental properties of the materials, the use of critical raw materials, energy, water, etc.
- **The production process:** use of solvents, toxic elements, etc.
- **Use phase:** the sustainability of the conditions under which the material can be used (continuous energy use, releases to the environment, life span, etc.)
- **End of life:** the entry of the material into the circular economy, including re-use, remanufacturing or recycling considerations.

Describe any potential trade-offs between sustainability burdens and benefits. The proposal should include an activity where such aspects (relevant to the proposal) are further investigated, potentially with corresponding impacts on the design of the material(s)

How does M-ERA.NET support and evaluate RRI?

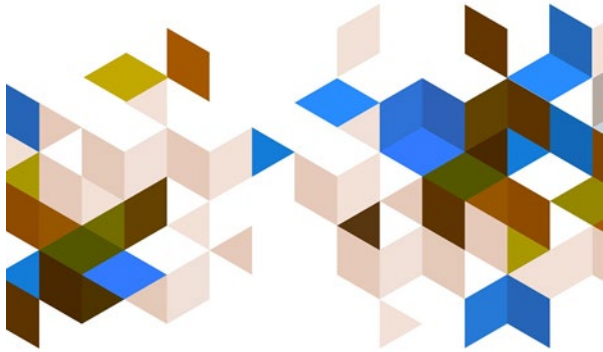
- **Responsibility must be shared,** RRI is a cross-cutting issue for M-ERA.NET

- M-ERA.NET requires that all proposers **explain how** their projects demonstrate a commitment to investigating and addressing the social, environmental, ethical, political or cultural dimensions of the proposed research.

- RRI components evaluated by experts as integral components within the scope of all evaluation criteria (Excellence, Impact, and Implementation).

Web resources for including RRI in your project:

- www.rri-tools.eu provide numerous resources for practical RRI.
- https://thinkingtool.eu/ The Societal Readiness Thinking Tool guides you through the steps of including RRI in a project.
- The Digital Life Centre has also compiled a range of resources that may help develop your approach.



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Thank you!