M-ERA.NET
Call 2022 Information webinar

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Call 2022 webinar, 4 April 2022

Call 2022 - Webinar Agenda

- General M-ERA.NET presentation – R. Brandenburg
- Topics and objectives – J. Sotelo
- Participating countries + eligibility – R. Brandenburg
- Schedule and workflow – F. Nikowitz
- Call documents – S.-L. Lee Müller
- Live presentation of the submission tool – F. Nikowitz
- Q&A

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 2022 webinar, 4 April 2022

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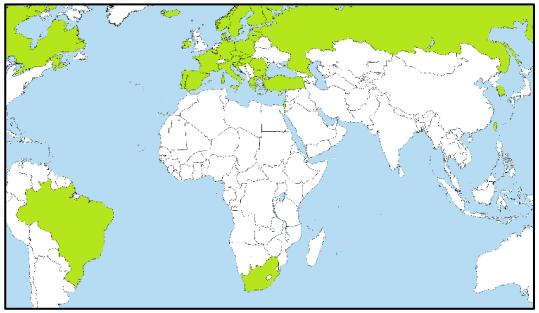
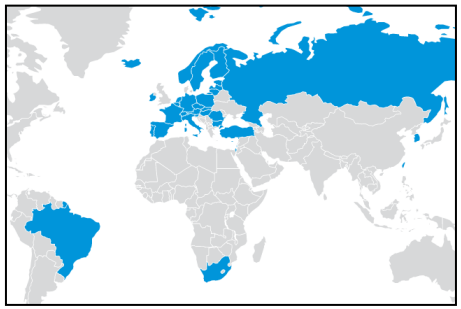
Network evolution



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

- research and innovation on materials and battery technologies, supporting the European Green Deal
- 50 nat./reg. funding organisations from 36 countries
- largest ERA-NET Cofund consortium
- 5 calls (planned)



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

- materials research & innovation
- 43 nat./reg. funding organisations from 30 countries
- 5 calls: 172 funded projects, 125 mio € funding

M-ERA.NET (2012-2016):

- materials science and engineering
- 37 nat./reg. funding organisations from 25 European countries
- 4 calls, 93 funded projects, 71 mio € national/regional funding

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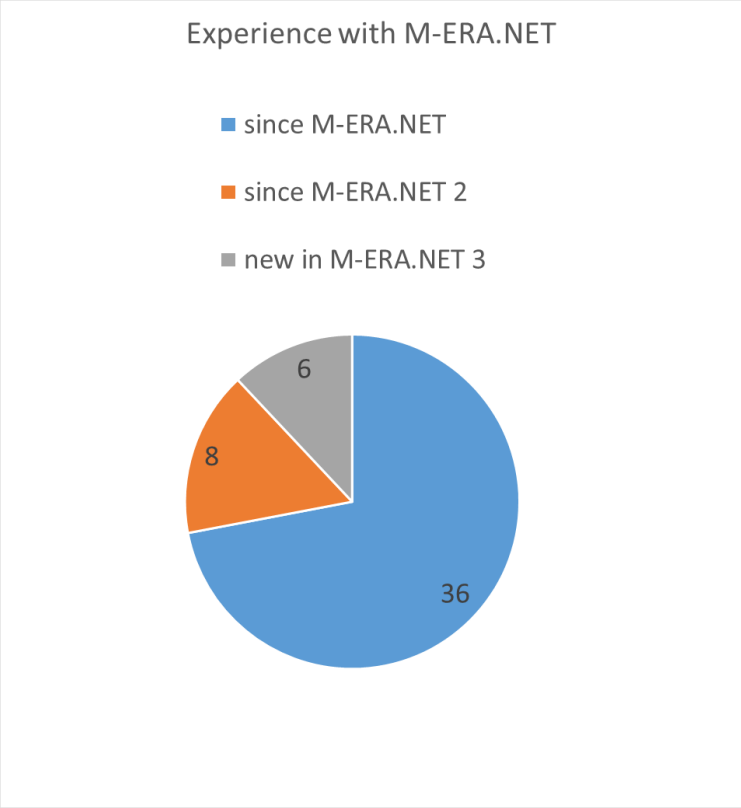
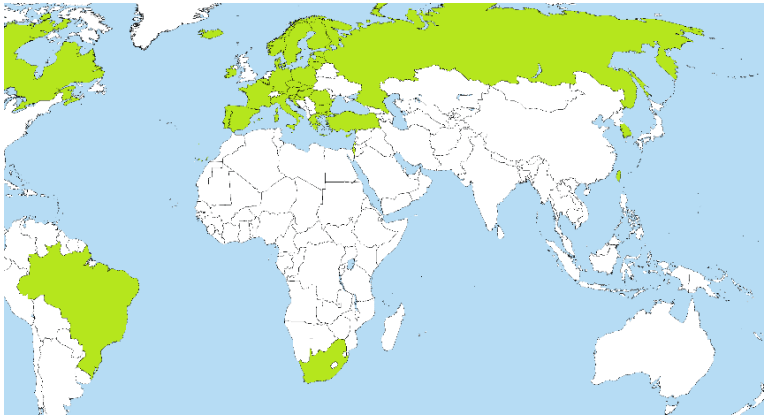
A diverse, expanding and experienced partnership

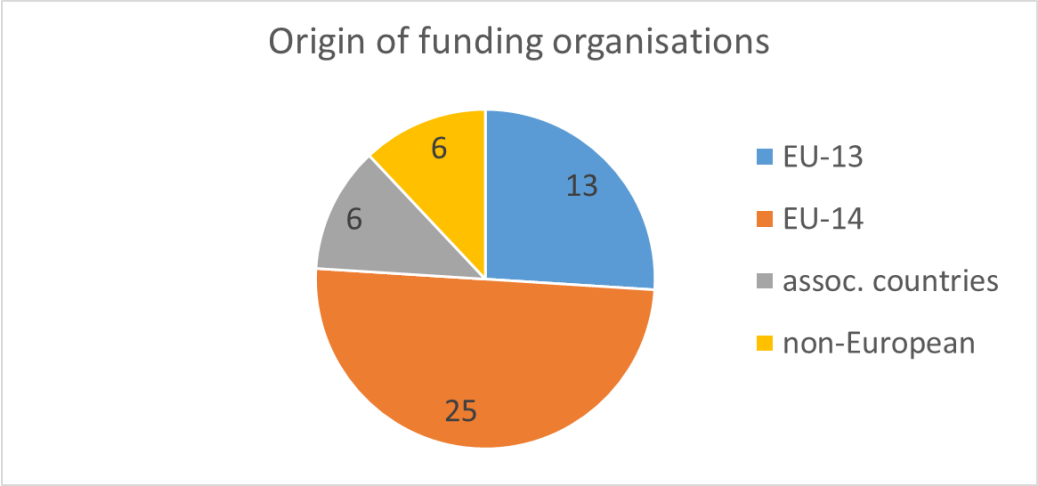
		M-ERA.NET				M-ERA.NET 2					M-ERA.NET 3				
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AT	FFG														
BE	FWO														
BE	VLAIO														
BE	FNRS														
BE	SPW														
BG	BNSF														
BR	FAPESP														
CA	PRIMA														
CH	DETEC														
CY	RIF														
CZ	TACR														
DE	BMBF														
DE	JÜLICH														
DE	SMWK														
DK	IFD														
EE	ETAG														
ES	AEI														
ES	CDTI														
ES	IDEA														
ES	IDEPA														
ES	EJ-GV														
ES	Innobasque														
FI	AKA														
FI	BF														
FR	ANR														
FR	RNAQ														
GR	GSRT														
HR	MZO														
HU	NKFIH														
IE	SFI														
IL	IIA														
IL	MOST-IL														
IS	RANNIS														
IT	CaR														
KR	KIAT														
LT	LMT														
LU	FNR														
LV	VIAA														
NO	RCN														
PL	NCBR														
PL	NCN														
PT	FCT														
RO	UEFISCDI														
RU	FASIE														
SE	VINNOVA														
SI	MIZS														
SK	SAS														
TR	TÜBITAK														
TW	MoST-TW														
ZA	DSI														

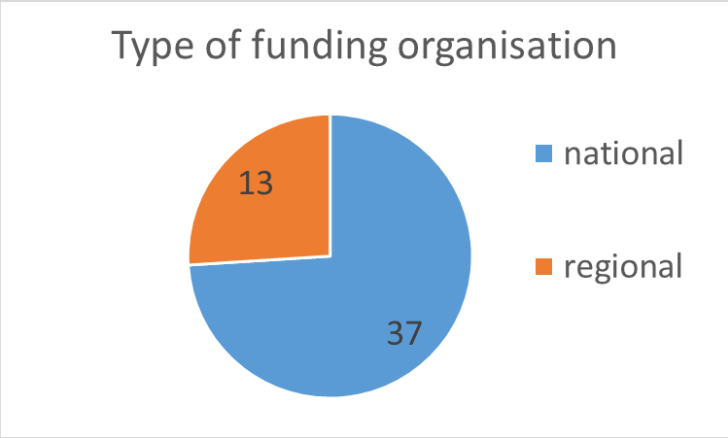




The M-ERA.NET 3 consortium

- 50 public funding organisations
- 36 countries:
  - 25 EU member states
  - 5 assoc. countries
  - 6 non-European countries
- https://m-era.net/about/m-consortium



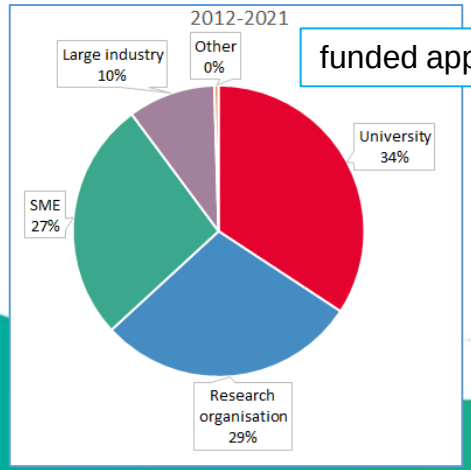


M-ERA.NET

M-ERA.NET achievements: joint calls -substantial national and regional funding for transnational RTD cooperation

	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€
	total	**2072**	**334**	**266.9 M€**	**348.2 M€**

full documentation: ***https://www.m-era.net/joint-calls***



funded applicants (average)

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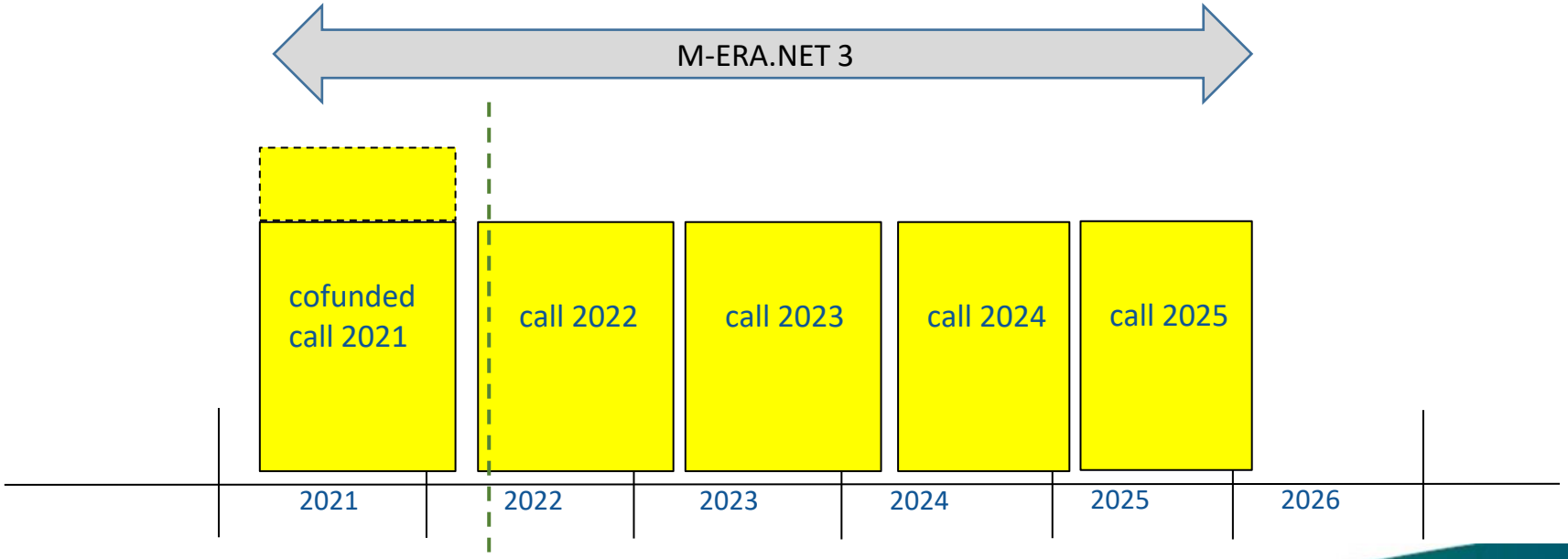
M-ERA.NET objectives 2021-2026

- ✓ **cofunded call** ("Call 2021") -total call budget approx. 70 mio € including EU top-up funding;
- ➢ **additional annual joint calls without EU cofunding**
- ➢ **total public call budget > 150 million €** with additional private investment of 50 million €;
- ➢ 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 **"European Green Deal", Circular Economy Action Plan,** the **2030 Agenda for Sustainable Development,** the EC communication **"A clean planet for all"**
- ➢ establish a dialogue with the European and international RTD community
- ➢ raise awareness among stakeholders on potential RRI (**Responsible Research and Innovation**) issues and develop RRI-guidelines for materials research
- ➢ **monitor the funded RTD projects** emerging from the joint calls
- ➢ valorise the **results of funded projects** and promote the **take-up of the developed technologies**

M-ERA.NET schedule 2021-2026

- duration M-ERA.NET 3: 3/2021-2/2026
- 5 calls: **annual joint calls for proposals**
- **additional joint activities for and with the RTD community**



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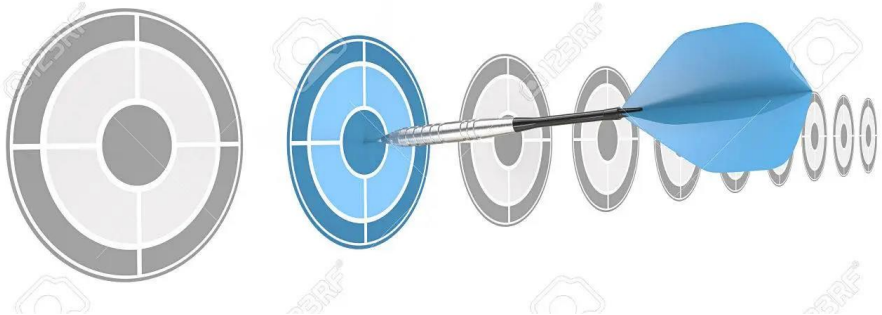
Topics and Objectives (Call 2022)

Jorge Sotelo, AEI/FECYT
M-ERA.NET webinar
4 April 2022

M-ERA.NET

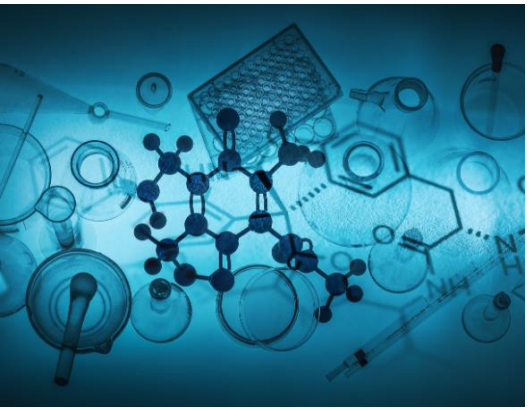
Horizontal objectives



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

M-ERA.NET 3 Call 2022 Guide for proposers (m-era.net) – p.6

Topics



2 new topics have been introduced with respect to Call 2021

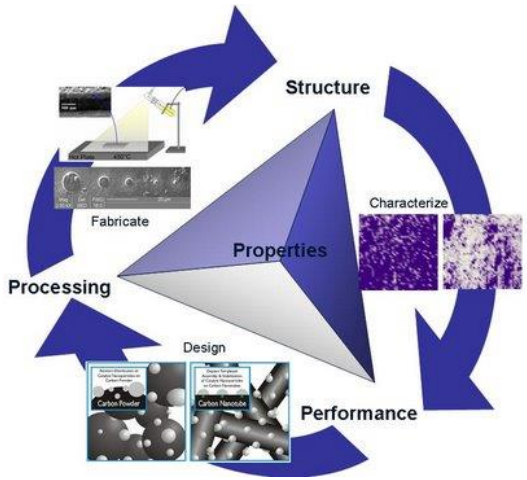
1. **Materials for energy - NEW**
2. **Innovative surfaces, coatings and interfaces**
3. **High performance composites**
4. **Functional materials**
5. **New strategies for advanced material-based technologies in health applications**
6. **Materials for electronics – NEW**

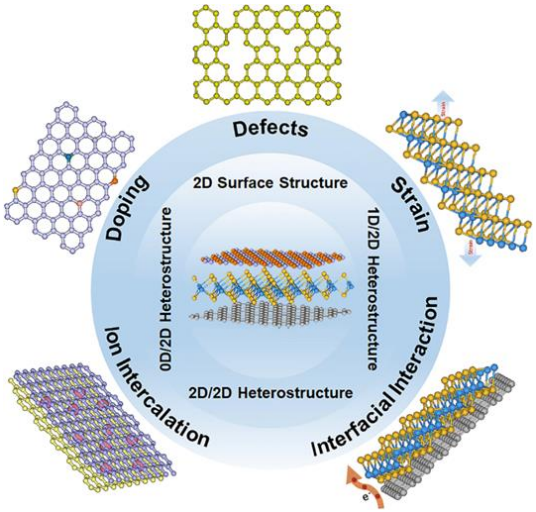
M-ERA.NET 3 Call 2022 Guide for proposers (m-era.net) – Annex 1

1. Materials for energy - NEW

OBJECTIVES AND TRANSVERSAL ASPECTS

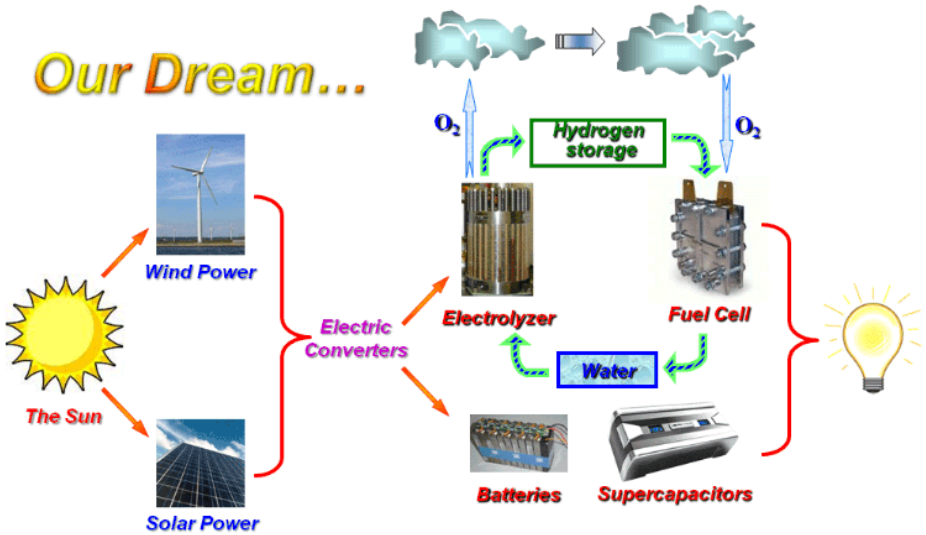
The objective of this topic is to **develop materials** to enable new and cleaner **energy production, storage, conversion and utilisation**. Proposals submitted under this topic can address any of the following items:





In addition to the topics above, the project proposal may also include **materials processing**, reduced energy consumption through light-weight materials, and/or flexible design for **repurposing and recycling**. Such integration could be further enhanced by fostering collaboration between universities and industry, to strengthen the whole innovation chain.

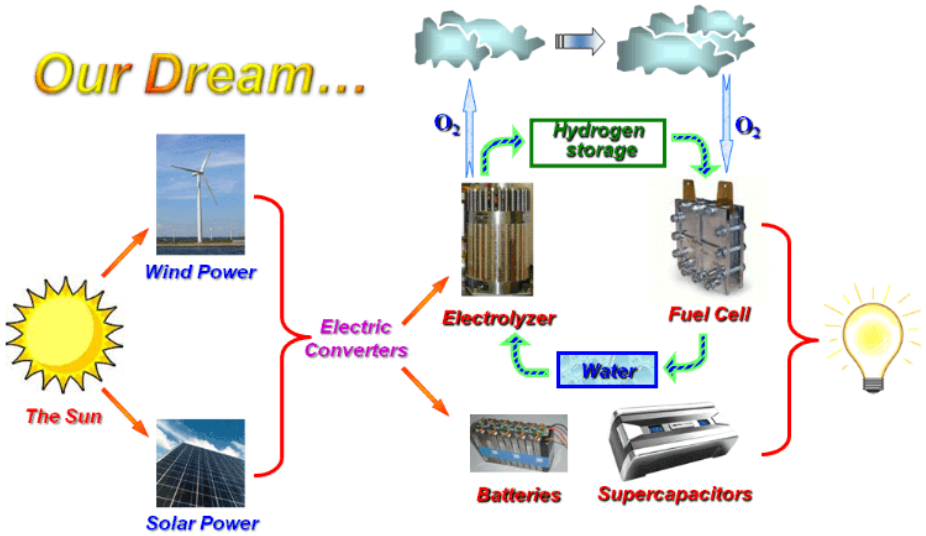
1. Materials for energy - NEW



OBJECTIVES AND TRANSVERSAL ASPECTS

- **Additive manufacturing** for 3D structured energy storage and conversion devices, e.g. batteries.
- **Multiscale modelling** and artificial intelligence for accelerated energy materials optimisation.
- Integrative workflows encompassing multiscale modelling and **artificial intelligence** for improved prediction of materials behaviour in energy conversion or storage devices.
- **Digitalisation** of manufacturing processes of composite materials for energy applications.
- Novel materials for *H_2 production* and storage.
- Improved active materials and electrolytes for next generation batteries for mobility (i.e. solid state Li-ion batteries and beyond Li-ion batteries) and for stationary applications (i.e. flow batteries).
- Materials ensuring **fire safety** in energy storage and conversion devices, i.e. *batteries, fuel cells and electrolysers*.
- Development of new catalysts to improve *fuel cell and electrolyser* efficiency based on computation and experiments.
- *Photovoltaics*: new concepts and architectures for solar cell materials and efficient photovoltaic cells.
- Materials operating at high temperatures in heat-to-power processes.
- Materials for short, medium and long-term thermal storage over a wide temperature range**.**
- Energy harvesting materials for *piezoelectric and triboelectric applications*.

1. Materials for energy - NEW

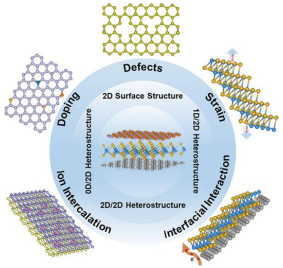


OBJECTIVES AND TRANSVERSAL ASPECTS

- **Additive manufacturing**
- **Multiscale modelling**
- **artificial intelligence** for
- **Digitalisation**.
- *H_2 production* and *storage*.
- *active materials* and *electrolytes* *batteries*
- **fire safety** *batteries, fuel cells and electrolysers*.
- *fuel cell and electrolyser* .
- *Photovoltaics*:
-
- *piezoelectric and triboelectric applications*.

6. Materials for Electronics - NEW

OBJECTIVES AND TRANSVERSAL ASPECTS

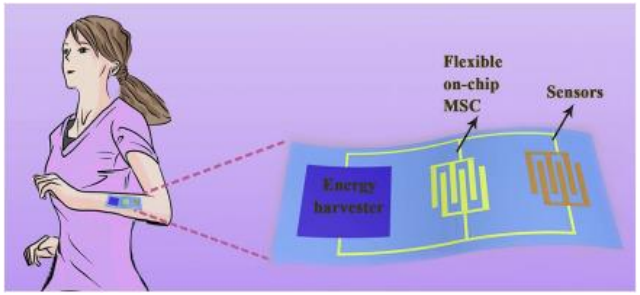


Proposals within the scope of this topic should target the **development of new or improved materials** for electronics with a particular emphasis on at least one of the following:

Proposals including and considering **modelling and artificial intelligence** approaches are welcome. **Green and sustainable materials** should be prioritized. **Increasing the efficiency** of the devices and **reduce the power consumption** and new improvements for **circular economy** are also encouraged.

6. Materials for Electronics - NEW

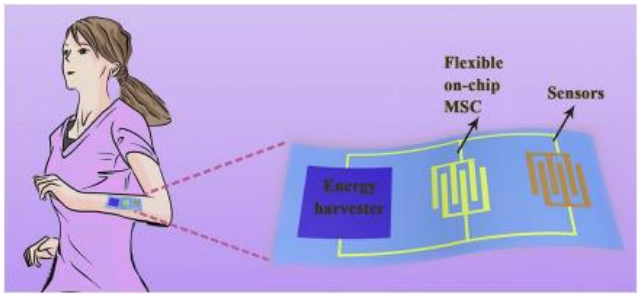
OBJECTIVES AND TRANSVERSAL ASPECTS



- Advanced materials in *sensor electronics*. Materials for ultralow power sensors, transductors, power electronics, *thermoelectrics*.
- *Smart advanced packaging* and materials for *cooling and thermal distribution management in electronics*. Coating, aggressive environments, Electromagnetic compatibility (EMC), self-cleaning, etc.
- *Wearable, flexible and stretchable* materials for green electronics. Substrates, 3D printed components and devices. Reliability, self-healing, hybrid integration, assembly and bonding/soldering of heterogeneous components**.**
- Advanced materials for *optoelectronic applications*: *Light Emitting Diodes (LEDs), optical communications*, other materials.
- Materials for *chipless applications*, transparent, flexible and printable electronics, new strategies for materials beyond silicon.
- **New high throughput manufacturing approaches** for electronic components: Printing technologies, additive manufacturing techniques, patterned coatings.
- **Low cost and disposable materials** for electronics: ink materials, polymers, cellulose, etc.
- Next generation of electronic materials for supercapacitors and other green technologies.
- 2D materials for advances in transistor technology and quantum computing.
- Magnetic materials for *spintronics and quantum technology*.
- Materials with multifunctionality: devices with radically different assembled materials.
- *Moulded interconnect devices* (MID): Plastic substrates with electrical infrastructure. The possibility of miniaturization of three-dimensional components with electrical conductivity is especially attractive for automotive and the medical sector, but it has the potential to also impact on other industrial fields.

6. Materials for Electronics - NEW

OBJECTIVES AND TRANSVERSAL ASPECTS



- *sensor electronics*. ,
  thermoelectrics.
- *Smart advanced packaging* *cooling and thermal distribution management in electronics*.
- *Wearable, flexible and stretchable* **green electronics**.

- *optoelectronic applications*: *Light Emitting Diodes (LEDs), optical communications*,
- *chipless applications*, .
- **New high throughput manufacturing approaches**

- **Low cost and disposable materials**.

- *spintronics and quantum technology*.

- **with multifunctionality**:
- *Moulded interconnect devices* (MID):

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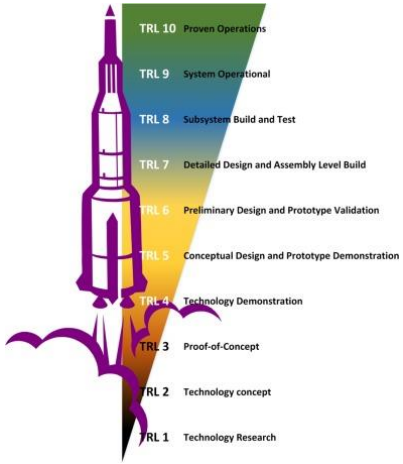
Thematic Priorities - TRLs



Topic	TRL 1	TRL 2	TRL 3	TRL 4	TRL 5	TRL 6	TRL 7	TRL 8	TRL 9
Topic 1: Materials for energy									
Topic 2: Innovative surfaces, coatings and interfaces									
Topic 3: High performance composites									
Topic 4: Functional materials									
Topic 5: New strategies for advanced material-based technologies in health applications									
Topic 6: Materials for electronics									

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Call 2022:
Participating Countries

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Participating Countries

- 34 national/regional funding organisations participate in the M-ERA.NET Call 2022
- https://m-era.net/joint-calls/joint-call-2022/participating-countries-regions-call-2022
  - matrix of countries/regions & supported topics
  - detailed information on national/regional programmes:
    - national/regional requirements
    - contacts (see also Guide for Proposers, Annex 3)

Call 2022:
Eligibility

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Call 2022: 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 H2020 **associated countries**) **participating in the M-ERA.NET Call 2022**.
  - The consortia may involve as many partners as necessary.
- ✓ Note that applicants affiliated to Russian institutions are excluded from Call 2022
- ✓ 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

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National/Regional eligibility criteria

- defined by respective funding organisation –see country/region sub-pages
  - https://m-era.net/joint-calls/joint-call-2022/participating-countries-regions-call-2022
- 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 2022 schedule & workflow

Fabienne Nikowitz, FFG
M-ERA.NET webinar
4 April 2022

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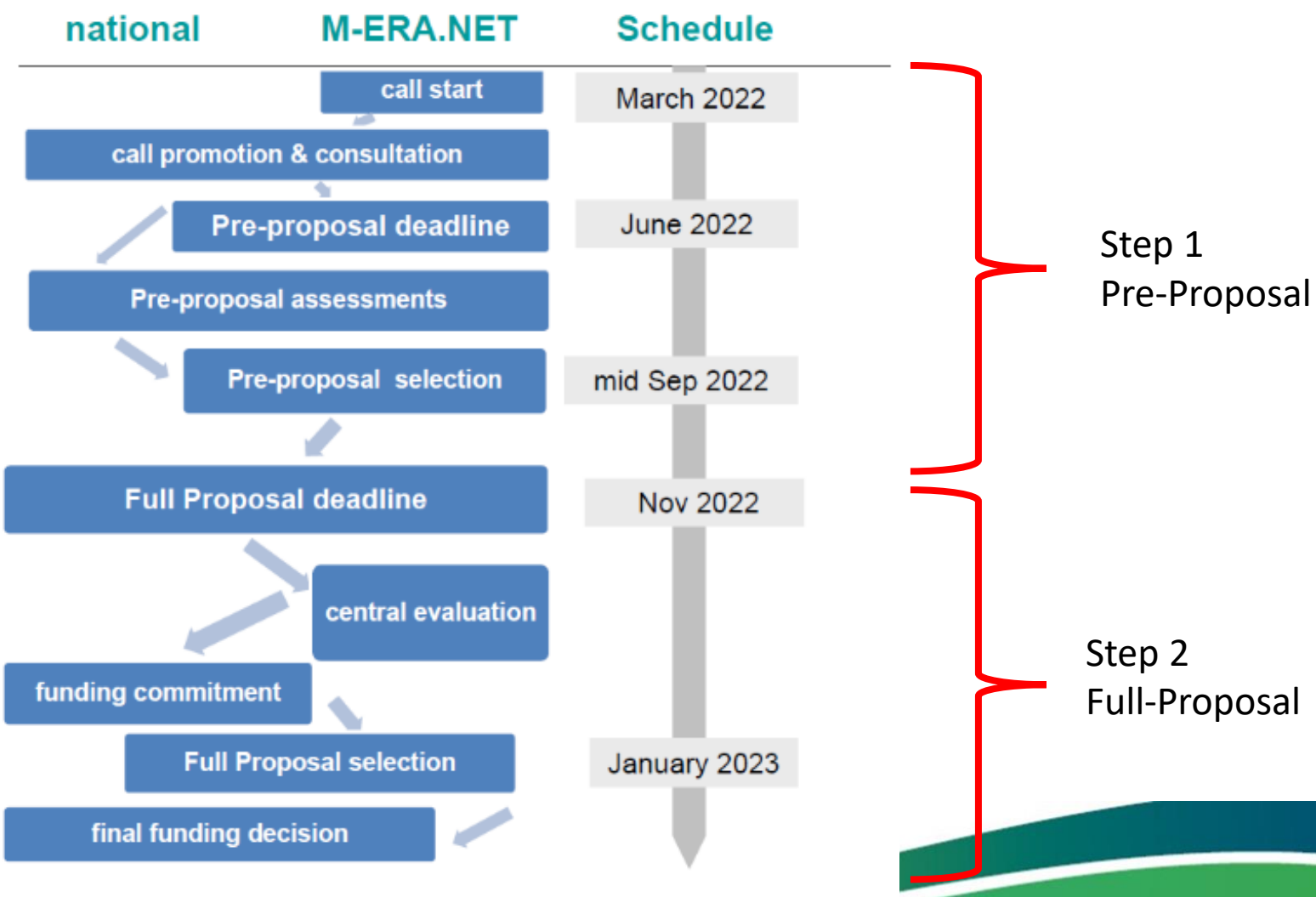
Call 2022 schedule

Date	Step
15 March 2022	**Launch of the Call 2022**
15 June 2022	**Deadline for submission of Pre-Proposals**
end September 2022	**Coordination Meeting** – selection of pre-proposals invited to full-proposal submission and feedback to applicants
17 November 2022	**Deadline for submission of Full-Proposals**
Nov 2022 – Jan 2023	**central evaluation of Full-Proposals**
end January 2023	**Selection Meeting** – selection of full-proposals recommended for funding and feedback to applicants
February 2023	Contract negotiations for selected proposals on national/regional level
Feb - May 2023	Start of funded projects
May 2026	End of all funded projects
July 2026	Deadline for final reporting

Call 2022 workflow



Call 2022: 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 2022 – stage 2: M-ERA.NET central evaluation

- 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
- full-proposals are remotely assessed by independent international evaluators
- each full-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 2022 – step 2: M-ERA.NET central evaluation

Evaluation criteria:

3 main criteria defined by EC

Scoring & Threshold:

based on H2020 system

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

(*see M-ERA.NET Guide for Proposers, p.43*)

Main Criteria	*Sub Criteria*	*Score (points)*
Excellence	*Clarity and pertinence of the objectives;*	*max. 1.5*
	Credibility of the proposed approach and soundness of the concept. including engagement with the social, ethical, political, environmental or cultural dimensions of the proposed research	*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 work programme under the relevant topic*	*max. 2.5*
	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	
	Any other environmentally and socially important impacts (not already covered above)	
	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*
Quality and efficiency of the implementation	*Quality and effectiveness of the work plan, including extent to which the resources assigned to work packages are in line with their objectives and deliverables*	*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 2022 Documents

Show-Ling Lee-Müller, PtJ
M-ERA.NET webinar
4 April 2022

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Call web page: www.m-era.net/joint-call-2022

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- Joint Call 2020
- Joint Call 2019
- Joint Call 2018
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JOINT CALL 2022

ANNOUNCEMENT OF THE M-ERA.NET CALL 2022

The M-ERA.NET Call 2022 was launched on 15 March 2022. More than 30 funding agencies participate with a total budget of approximately 25 million €.

Call Schedule:

- **The Pre-Proposal Deadline is 15 June 2022, 12:00 noon, Brussels time.**
- The Full-Proposal Deadline is 17 November 2022, 12:00 noon, Brussels time

The aim is to fund ambitious transnational RTD projects addressing materials research and innovation including materials for energy generating and storing elements. M-ERA.NET aims to strengthen the contribution of materials R&D to energy-related applications where applicable.

The Call 2022 includes the following thematic areas:

- Materials for energy
- Innovative surfaces, coatings and interfaces
- High performance composites
- Functional materials
- New strategies for advanced material-based technologies for health applications
- Materials for electronics

List of participating countries and regions Call 2022

PROPOSAL SUBMISSION

Link to the submission Tool (coming soon)

Tutorials on how to register for and to handling of the submission tool are provided on the submission platform.

CALL DOCUMENTS FOR DOWNLOAD

- Guide for proposers
- FAQ
- Mandatory Pre-Proposal form
- Mandatory Full-Proposal form and mandatory Annex 1 to Full-Proposal form (available September 2022)
- Final reporting template (available March 2023)

CALL INFORMATION MATERIAL

Call Documents

- Guide for Proposers
- Pre-Proposal Form **mandatory!!!**
- Full-Proposal Form (available 09/2022)
- Annex 1 to Full-Proposal Form (available 09/2022)
- FAQs

Guide for proposers: general structure

1. Introduction to M-ERA.NET
2. Structure of the M-ERA.NET Call 2022
3. Call Announcement
4. Application process
5. Evaluation
6. Decision
7. Monitoring
8. Dissemination
9. Support

Annex 1: Topics Call 2022
Annex 2: TRL
Annex 3: participating Funding organisations
Annex 4: 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

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Frequently Asked Questions (FAQ)

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

Call 2022: Links, info materials, news

- M-ERA.NET Call website https://www.m-era.net/joint-call-2022
- Partner Search Tool: https://www.nmp-partnersearch.eu/
- Submission Tool https://m-era.net/submission/submission/call-2022

- Call Flyer 2022
- Call Poster 2022

- News
- Follow us on Twitter: https://twitter.com/M_ERA_NET
- Subscribe to the Newsletter

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Call 2022 Submission tool

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Call 2022 webinar, 4 April 2022

Questions and Answers

Thank you very much for your attention!!!

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