



NANO2ALL

SOCIETAL ENGAGEMENT ON RESPONSIBLE NANOTECHNOLOGY

D4.4

E-MRS Working Group "Outreach Societal Promotion"



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Changes with respect to the DoA

N/A

Dissemination and uptake

The report is primarily aimed at the project partners and the EU project officer. It will be made publicly available, allowing other interested persons to read it as well.

Short Summary of results (<250 words)

This report includes an overview of the formation of E-MRS working group and the outreach societal promotion made in the frame of that task, covering a set of actions launched in 2018 and highlighting the ones foreseen in the 2019.

Evidence of accomplishment

The present report

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1. Establishment of E-MRS Societal Aspects Working Group (WG)

Purpose of the document

This deliverable, the E-MRS working group "outreach societal promotion", was developed as part of the NANO2ALL (Nanotechnology Mutual Learning Action Plan for Transparent and Responsible Understanding of Science and Technology) project, which has received funding from the European Union Horizon 2020 programme, under the Grant Agreement number 685931. The E-MRS working group "outreach societal promotion" represents Deliverable 4.4 of Work Package 4 (WP4) – NANO2ALL Roadmap. This WP aims to disseminate to a wider circle of EU nanotech policy arena inhabitants the Innovation Agendas and the Innovation Scenarios produced, so as to enhance the uptake of NANO2ALL's results, to develop and release a nanotechnology RRI roadmap for future actions implementation, and enable a systemic commitment of policy-makers and relevant communities at national and EU level (particularly from CSOs and NGOs) towards RRI in nano and create sustainable working groups as Joint Stakeholder Undertakings to continue to progress societal engagement in nanotechnology.

Deliverable 4.4 intends to report on the establishment of the E-MRS sustainable working group implemented in the frame of NANO2ALL, aimed the promotion of workshops with policymakers and stakeholders in Europe concerning the objectives, deliverables and milestones of the NANO2ALL Roadmap.

1. Establishment of E-MRS Societal Aspects Working Group (WG)

Overview of the E-MRS' Mission and Engagements

E-MRS, founded in Strasbourg in 1983 has more than 4000 members coming from industry, governmental institutions, academia and research laboratories, experts in the broad field of materials as a cross cutting multi-sectorial element, where critical raw materials are in the cross road of all developments.

E-MRS has become the largest conference organizer in Europe in the field of materials, through the Spring (Strasbourg) and Fall (Warsaw) Conferences, with a total number of papers exceeding 6.000, as well as workshops and educational activities. Besides that E-MRS' mission is to promote advocacy and outreach of the advanced materials science and technology towards industry and policy makers, to provide reports on education and research perspective on advanced materials, to assist or help national, European authorities and industries, encouraging brain storm discussions among researchers and worldwide key players of science and technology, to establish strong links with other scientific societies worldwide, made especially via the International Union of Materials Research Society (IUMRS). See for instance EMRS' involvement in promoting discussions at the European Parliament and within the European Commission in topics related to materials and Innovation in the last 3 years.

To promote the activities targeting the strategy of the future, E-MRS establishes working groups (WG) on scientific policy topics, whose mission is to bring together all main actors to discuss the actions to be taken. The conclusions of the activities are disseminated to the attendees of EMRS conferences and other stakeholders and policy makers. By the decision of the E-MRS Executive Committee, a new WG dealing with NANO2ALL's topics has been created in the structure of the European Materials Research Society (E-MRS) (cf. Minutes Ex.Com. 21/06/2018).

Working Group on Societal Aspects

This new E-MRS WG on "Societal Aspects" is operating closely with other E-MRS WGs (see Chapter 2, where are also the 10 present running WGs within the E-MRS and their promoted actions are listed) and it aims to promote workshops with policymakers and stakeholders in Europe concerning the objectives and recommendations of the Nano2All's Roadmap.

A WG chair and co-chair have been selected to coordinate the group. E-MRS, in charge of this process, has significant experience in such appointments. Apart from that, the WG will promote the roadmap as well as all the project results via the E-MRS's Student University Group, thus allowing the project to reach young scientists involved with nano research.

In addition, the WG, with the direct assistance of E-MRS, it is able to promote the Roadmap on international level via a number of events organised on yearly basis, as it is the case of the E-MRS spring and the fall meetings organized every year, which are attended by large audiences (above 4000). Internationally, E-MRS will exploit the connections with the International Union of Materials Research Societies, IUMRS (<https://www.iumrs.org/>) to promote it globally.

At a policy level, the WG will promote the Roadmap to the European Parliament and to the policy makers of the European Union, by taking the contributions received from symposia organized by E-MRS, (the spring and the fall meetings), where the challenges in visions concerning nanomaterials and nanotechnologies are clearly discussed and within them the societal impacts. This is part of the strategy documents (position paper) and public presentations that E-MRS alone and in association with existing European Materials related network, namely EUMAT (<http://www.eumat.eu/>), is promoting and will promote. This promotion for instance takes place at the EuroNanoForum meetings organized under the EU presidency of the different countries and that will be in Bucharest, Romania in 2019 (<https://www.euronanoforum2019.eu/>). Such activity will pursue after the end of the project and will have as mission the following critical issues:

1. Role of nanomaterials and nanotechnologies in the missions of the future, with ethics and responsibility;
2. To promote brain storm discussions concerning the present network dilemma between the promotion of thematic topics related with nano or its cross-cutting operation serving much broader scientific and technical communities;
3. Challenges to be overcome by missions and the key role that nano will have in designing the future of science and technology;
4. Potential challenges and objectives of nano as a tool and enabler for the future;
5. Conducting outreach activity concerning the inclusivity, interconnectivity, trans-synergies and trans-comprehensive horizontal model that fits the objectives of the missions of the future, involving the needs of the future concerning education, products and systems to be used for a better life of citizens.
6. Needs of the future concerning education, products and systems to be use for a better life of citizens.

1.1. Exploitation objectives and expected benefits for the community served by E-MRS

E-MRS by promoting the existence of a WG connected to the exploitation of the NANO2ALL outcomes aims to broaden its activities towards awareness-raising of actions connected to the so-called nanoworld. The E-MRS by-Law status (see Chapter 2) allows establishing a group that will interact with the already established E-MRS, promoting cross-cutting synergies and interconnectivities otherwise difficult to realize as far impact towards societal challenges is concerned. Moreover, through this WG structure, E-MRS will promote the organization of symposia addressing functional nanomaterials, their applications and tools need to validate and to characterize them, together with a better use and responsibility connected to these technologies and associated manufacturing processes.

Additionally, E-MRS will promote studies concerning the impact of nanotechnology and nanomaterials on the society, from which policy makers and stakeholders will take advantage of. Also, the members and adherent bodies of E-MRS will use this to establish consortia addressing these areas aiming to generate projects, at national or international levels from which all will benefit. Moreover, the links of E-MRS to IUMRS (<https://www.iumrs.org/>), will allow also E-MRS to have a quite competitive role in exploiting globally the present and future outcomes connected to the deliverables and milestones reached via NANO2ALL.

This will provide to E-MRS a leading role as a European association delivering studies and actions in the competitive edge of the present state of art.

The long-term effect (after 5 years) of the exploitation of the NANO2ALL outcomes is expected to be the increase of the activities of E-MRS in the global area of functional materials as enablers and a tool for the progress of science and technology in more than 10%, translated in conference attendees and symposia organizers. Besides that, E-MRS will have non-measurable gains associated to the establishment of the conditions to promote win-win projects and studies from which a broad range of members and attendees of E-MRS conferences will benefit.

1.2. Performed and planned exploitation

As Key performance indicators of E-MRS' exploitation achievements we can mention the set of actions already launched in 2018 and the ones already programmed for 2019. These concern the organization of a NANO2ALL science and technology related symposia, together with brain storms, as listed and discussed below.

1.2.1. E-MRS 2018 Spring Meeting

This event took place in June 18-22 – Congress Centre, Strasbourg (France), with a total number of attendees of: 2.780 participants, coming from 55 different countries. There, 6 symposia connected to the nanoworld on Nanomedicine & Nanomaterials were organised, as listed below:

1. Symposium E: Nanotechnology for targeted personalized medicines and theranostics. Attendance: 104 participants;

2. Symposium F: Advanced biomaterials: elaboration, nanostructure, interfaces with tissues. Attendance: 118 participants;
3. Symposium K: Defect-induced effects in nanomaterials. Attendance: 165 participants
4. Symposium L: Carbon- and/or nitrogen-containing thin films and nanomaterials. Attendance: 141 participants
5. Symposium M: Block-copolymer self-assembly: fundamentals and applications. Attendance: 71 participants
6. Symposium N: Nanostructures for photonic applications. Attendance: 46 participants

That is, we have had 527 attendees, representing about 19% of all conference attendees. During these symposia, during the closing address a brain storm is organized aiming to promote the discussion concerning the societal impacts of the same as well as the challenges to be addressed by the scientific community in the future. Those are data that will be later further used in the overall position paper of the society to be promoted and disseminated in the advocacy and outreach actions that E-MRS organizes or participates. For all of this the achievements and commitments achieved by Nano2All are relevant and fundamental.

1.2.2. Organization of workshops at E-MRS Spring meeting 2018

In the frame of the 2018 SPRING MEETING, E-MRS organized a half-day workshop entitled "EUROPE IN MOTION" on Wednesday June 20, attendees and within a key note given by Helene Chraye, Head of Unit of DGR Research and Innovation, involving 60 participants coming from 15 different countries. This half-day workshop had three major objectives:

- ✓ Show that Europe is present in key topics at scientific and technological levels through a number of initiatives such as NANO2ALL;
- ✓ Show that advanced materials are present in a number of projects in diverse areas;
- ✓ Show an overview of running activities and pitches for project ideas for EU project calls.

1.2.3. E-MRS Fall meeting 2018

This event took place in September 17-20 – Warsaw University of Technology (Poland), with a total number of attendees of 1.230 participants, coming from 50 different countries. Here we organized 4 symposia on Nanomaterials, as listed below:

1. Symposium K: Nanomaterials- electronics & -photonics. Attendance: 124 participants.
2. Symposium L: Advances in nanoparticles: synthesis, characterization, theoretical modelling, and applications. Attendance: 81 participants
3. Symposium M: Organized nanostructures and nano-objects: fabrication, characterization and applications. Attendance: 110 participants

4. Symposium N: New atomic layer deposition approaches towards functional materials and devices
Attendance: 62 participants.

That is, we have had 477 attendees, representing about 39% of all conference attendees. That is, as far as attendees is concerned E-MRS more than duplicate the number of attendees connected to the field of nanomaterials and nanotechnologies in one of the most relevant events that organizes. This clearly proves the impact and synergies generated by the NANO2ALL WG. As stated before, during the closing address of these events a brain storm is organized aiming to promote the discussion concerning the societal impacts of the same as well as the challenges to be addressed by the scientific community in the future. Those are data that will be further used to be included in the overall position paper of the society to be promoted and disseminated in the advocacy and outreach actions that E-MRS organizes or participates. For all of this the achievements and commitments achieved by Nano2All are relevant and fundamental.

1.3. Outcomes for the future and global networking

Aligned with the E-MRS initiatives, in 2019 the spring conference is organized together with IUMRS, where the impact will be by far global, concerning symposia organized and the workshop devoted to the impact of E-MRS initiatives in Europe and globally, as it is the case of the E-MRS IUMRS ICAM 2019 SPRING MEETING, to be held in May 27-31 – Acropolis Congress Centre, Nice (France). There E-MRS expects to have more than 3.000 attendees. There we will have 3 symposia devoted to Nano-functional Materials, for which we have already more than 661 participants registered, 134 more so far than the attendees we had in related symposia 2018. This represents a growth above 25%, which is highly relevant. The symposia to be held are:

1. Symposium N Nano-engineered coatings and thin films: from design to applications. Registered attendees: 286;
2. Symposium O: Synthesis, processing and characterization of nanoscale multi-functional oxide films. Registered attendees: 172 participants
3. Symposium P: Dielectric nanocomposites for energy, environment and health: from fundamental to devices. Registered attendees: 103 participants

As stated before, during the closing address of these events a brain storm is organized aiming to promote the discussion concerning the societal impacts of the same as well as the challenges to be addressed by the scientific community in the future. Those are data that will be further used to be included in the overall position paper of the society to be promoted and disseminated in the advocacy and outreach actions that E-MRS organizes or participates. For all of this the achievements and commitments achieved by Nano2All are relevant and fundamental.

Besides that, during this event, E-MRS will organize also the workshop Europe in Motion, to promote studies and to present the status of projects in which participate for a quite diversified audience. Besides that, E-MRS will also promote the Global Leadership and Service Award Ceremony, as well as the IUMRS-SOMIYA Award, events where Science VIP and policy makers worldwide will be present and where the NANO2ALL flyer explaining the key achievements will be displayed. Those will be unique moments for outreach actions with a strong impact on the science and technology policy makers, not only from Europe. This of course will also generate gains towards E-

MRS image and activities, turning it a reliable and key partner concerning dissemination, advocacy and outreach actions, particularly to all that have to do with materials as an enabler and a tool for all.

Apart from that, E-MRS will also have in 2019 the E-MRS 2019 Fall Meeting, to be held in September 16-19– Warsaw University of Technology (Poland), where attendees 1.500 participants will be expected and are proposing 5 symposia nanomaterials connected, as listed below:

1. Symposium D: Materials for nanoelectronics and nanophotonics
2. Symposium Q: Nanoparticles: advances in synthesis, characterization, theoretical modelling and applications
3. Symposium R Surface and Interfaces of Nanocarbons
4. Symposium T : Nanomaterial thermal transport properties and nanothermodynamics
5. Symposium V : Bioinspired and Biointegrated Materials as New Frontiers Nanomaterials

For all symposia we expect a growing audience, by far exceeding the number of 500, aligned with the expected growing relevance of this field for the years to come. And so the impact of the achievements of Nano2all and its follow up is guaranteed.

Besides that, we will also launch the seeds to be also taken by other players and authors in the field, as it is the case of IUMRS, where NANO2ALL is promoted (https://www.iumrs.org/index.php?option=com_content&view=article&id=249&Itemid=618) and that also will launch similar initiatives. This is the trans-European impact that E-MRS is able to generate and so far, we do not know any other association able to generate this global impact . The impact of this transcontinental initiative, from which all science will benefit, is highly positively especially what concerns the so called Science Open Access commitments as expected by the Commission and in particular by the present Commissionaire, Carlos Moedas.

2. E-MRS Working Group (WG) Rules

2. E-MRS Working Group (WG) Rules

The objective of this chapter is to outline Working Group (WG) rules that have to be strictly followed by their respective members. These rules describe the purpose of the WGs, their process of creation, operation and potential closing.

Besides, this chapter means to assist WGs to optimize productivity and effectiveness by providing a set of guidelines and other 'best practice' materials that they may consider and/or utilize, as appropriate the life cycle of the WGs.

2.1. Purpose of the Work Groups

The objective the WGs is to promote a scientific topic and/or a strategic aspect of E-MRS and solely serve the benefit and strategy of the Society. Such benefit shall be regularly assessed by the Executive Committee during votes for the creation, the maintenance or the closing of specific WGs.

2.2. Creation of a Work Group

The creation of a WG must follow the steps listed here below:

1. Creation of a core group of at least two persons, all members of the Society, and comprising at least one member of the Executive Committee. This group of persons should all genuinely share the same interest in the topic addressed by the WG.
2. This core group should write a WG Document describing i) the title and focus of the WG, ii) the relevance of the subject addressed by the WG for the benefit of the Society, iii) a tentative short / mid / long term roadmap, iv) a list of actions that will be conducted, and v) the name of the WG Leader, Vice Leader and Secretary.
3. This WG Document should be sent to the EMRS Headquarter (HQ) after completion. The EMRS HQ will distribute the document to all members of the Executive Committee before the immediate next Executive Committee meeting.
4. During this immediate next Executive Committee meeting, one member of the core group will present its WG project to the Executive committee members.
5. After this presentation, the members of the Executive Committee will vote for the creation (or not) of the new WGs. The project should gather 50%-plus-one-vote to be accepted.
6. If rejected, the core group may modify the project and resubmit it to vote during a later Executive Committee meeting.

2.3. Constitution of the members of a Work Group

After the decision has been taken to form a Working Group, it is important to circulate a "Call for Volunteers" between all members of the Executive Committee, the members of the Board of Delegates and the Society (call posted on the web-site) in order to ensure a broad representation and participation in the Working Group.

At any time, the WG should comprise of at least three active members that are:

- The WG Leader: This person is accountable for the fact that the WG does comply with all the WG rules set herein. Besides, he/she calls meetings, presides over working group deliberations, and manages the process so that all participants have the opportunity to contribute. The WG Leader should make clear that participation on WG is open to all and he/she should encourage representational balance to the degree possible. In all cases where the WG Leader believes that one set of interests or expertise is missing from a group, special efforts must be made to bring that interest or expertise into the group via invitation or other method;
- The WG Vice-Leader, whose duty is to facilitate the work of the WG Leader by ensuring continuity in case of absence, sharing of workload, and allowing the leader to become engaged in particular debates;
- The WG Secretary, who takes note during meetings, writes minutes of the said meeting and records the activities of the WG.

The Leader of a WG is nominated by the Executive Committee, upon vote gathering 50%-plus-one-vote. The members of a WG, as a group of persons, have the authority to name the WG Vice-Leader and WG secretary.

The members of a WG, as a whole, are expected to participate, contribute and drive the work of the group. Examples of member responsibilities include but are not limited to:

- Develop and draft working-group documents;
- Contribute ideas and knowledge to working group discussions;
- Actively and constructively participate in the consensus decision making process.

2.4. Meeting of a Work Group

Whenever a meeting or a phone conference needs to be organized between the members of a given WG, the WG Leader will coordinate with the EMRS HQ on the timing and proposed agenda for the said meeting or phone conference. Once a date and time has been identified, the HQ will send out the agenda to all the members of the WG. This invitation shall be sent as well to the current President and vice-Presidents: These latter may join the meeting or phone conference, yet only as observers.

2.5. Participation Meeting of a Work Group

Members of a WG are expected to be active participants in the WG meetings, phone conferences and initiative. The WG Leader is expected to make an assessment at the start of every meeting whether a sufficient number of WG members are present to proceed with the meeting and discussions. A sufficient number has not been defined in exact numbers in this context, but should be understood as having a representative number of WG members

present. An attendance record will be kept of every WG meeting. Besides, a minute of the meeting / conference call shall be written and communicated to all members of the Executive Committee by adequate means (via HQ).

2.6. Logistics

The WG Leader must work closely with E-MRS HQ to coordinate the logistics for the WG meetings, conference calls, and initiative. Besides, each WG should decide how often it shall meet (e.g., every two months, three months, six months, ...) and by what means (face-to-face meeting, conference call, ...). WGs may opt to organize face-to-face meetings during E-MRS meetings to take advantage of those members attending.

2.7. Transparency and communication

At the first meeting of a WG, the present document (WG Rules) should be reviewed in order to ensure all members have a common understanding of the WG's mission, goals and objectives.

Moreover, all WGs have the obligation to keep constantly informed both the EMRS HQ and the members of the Executive Committee of any major actions or decisions taken by the WGs. This can be done by any adequate means.

Besides, before each Executive Committee meeting, each WG has the obligation to produce a short Progress Report, detailing and explaining all the major actions, decision and proposals conducted and gathered since the immediate previous Executive Committee meeting. This document should be communicated to the EMRS HQ, who will distribute it to all members of the Executive Committee to the prior the meeting.

During the said meeting, the WG Leader or Vice Leader (in the absence of the former) must present within a few slides, all the major actions, decision and proposals conducted and gathered since the immediate previous Executive Committee meeting. The content of this presentation may then be discussed, within a reasonable time, by the members of the Executive Committee present in the meeting.

If the WG needs to propose an item for vote to the Executive Committee members, the WG Leader must communicate to both EMRS HQ and EMRS President (who will share the Executive Committee meeting), the exact question and phrasing on which he/she wants the Executive Committee members to vote.

2.8. Accountability

Leading a WG should be seen as a privilege to represent the Society within a specific scientific topic and / or strategic aspect for the Society. Therefore, it is associated to a several obligations described above set to advocate and defend the benefit of the Society.

Thus, if a WG Leader does fail to deliver a Progress Report of the WG he/she is in charge of for three (3) consecutive Executive Committee meetings (thus for a period of one year in total), he/she will be replaced by his/her WG Vice-Leader, who will then become WG Leader.

2.9. Misconduct

If the Executive Committee considers that a WG is not respecting the rules described herein, especially the "Purpose", it may bring the point in an Executive Committee Meeting to discuss the issue. If need, propositions and votes can be proposed to solve the issue.

2.10. Closing of a WG

If the scientific topic or the strategic point addressed by a WG is not considered important anymore, or as not serving the benefit of the Society anymore, such WG may be closed. However, this can only be done per Executive Committee vote.

2.11. Implementation of the WG Rules

The rules described herein shall be implemented by all new WG created after this document has been approved by the Executive Committee.

All WG created before this document has been approved by the Executive Committee (WG European Affairs, WG Conference Quality, WG Energy, WG Bilateral) must implement these rules within the next 12 months after approval of the said rules by the Executive Committee.

2.12. Approval of the WG Rules

The rules presented herein shall be submitted to the vote of the Executive Committee during the meeting to be held in February 2016. The text will be sent 2 months prior the meeting. All members of the Executive Committee will have 5 weeks to propose changes. The final text to be voted will be sent 1 week prior the said meeting.

Once accepted by the Executive Committee, the WG rules can only be modified upon vote and acceptance of the modification proposed by the Executive Committee.

2.13. E-MRS Existing Working Groups

| INTERNATIONAL / BILATERAL AFFAIRS WG | |
|--------------------------------------|---|
| Chairs | I. Boyd - Brunel University of London - U.K |
| Number of members | 2 |
| Rationale within NfA platform | <p>This WG is aimed at promoting E-MRS among others societies. It links E-MRS in order to discuss new scientific subjects and promote them into conference level.</p> <p>It also bounds partnership with other societies or other entities to make common event or exchange ideas and partnerships.</p> |
| Expected impacts | <ul style="list-style-type: none"> - Made contacts and partnerships with Materials Society in USA, Brazil, China, Japan and Korea. - With some of those entities, special agreements have been done in order to promote both Societies: <ul style="list-style-type: none"> o A common symposium will be held in 2019 with Korea o A bilateral event has been held in 2018 in Greece o With the USA, an agreement has been made to give the opportunity for winners of the EU-40 and the MRS mid-career award to make plenary presentations in conferences organised by each society |

| EUROPEAN AFFAIRS WG | |
|-------------------------------|---|
| Chairs | R. Martins - Uninova - Caparica - Portugal |
| Number of members | 4 |
| Rationale within NfA platform | <p>This WG is aimed at finding new European projects in which EMRS could be involved. It also is vigilant to any change in the European legislation that could have an impact on EMRS activities or European projects. It constantly looking for news ways to take advantage of European funding and financial possibilities. Members of this WG are the main interlocutors to build relationship with European civil servants and workers of the European administration. Finally, this WG is the referee to inform the Executive Committee on latest developments of European projects in which EMRS is involved.</p> |
| Expected impacts | <ul style="list-style-type: none"> - Create an EMRS influence in Brussels, on the future of scientific programmes, and scientific policies - Get informed on future European projects in which EMRS could be involved, and obtain a participation in those projects - Get information on European actuality and potential matter of importance for the scientific community |

| CONFERENCE QUALITY WG | |
|-------------------------------|--|
| Chairs | M. Guilloux-Viry, University of Rennes - FR |
| Number of members | 6 |
| Rationale within NfA platform | <p>This WG is aimed at focusing on conference needs to raise the quality of scientific contents.</p> <p>Members gather multiple times a year to give their opinion about every aspects of conferences aspects, like the price, the location of the conference, the future needs in terms of logistics, the scientific program and scientific contents. It gives to the EMRS Executive Committee advices on future subjects that should be addressed on future conferences.</p> |
| Expected impacts | <ul style="list-style-type: none"> - Raise of quality of the biannual EMRS conferences (Spring and Fall meetings), in terms of program, numbers of attendance, quality of scientific interest, quality of the plenary session, ... - Creation of relation with other conferences to produce common event or mutual participation to different conferences. |

| ENERGY WG | |
|-------------------------------|---|
| Chairs | J. Amouroux - ENSCP - Paris - France |
| Number of members | 7 |
| Rationale within NfA platform | <p>This WG is aimed at focusing on latest developments in the energy sectors and new technologies.</p> <p>It informs the Executive Committee on new subjects that could be of importance for the biannual EMRS Spring and Fall Meetings, in order to put those new subjects in the frame of a symposium.</p> <p>It's also linked with Industries working in the energy field.</p> |
| Expected impacts | <ul style="list-style-type: none"> - Monographs on energy fields have been published. Those monographs target scientists and political decision makers to inform them on the developments of several energy-related subjects. |

| INDUSTRY WG | |
|-------------------------------|---|
| Chairs | G. Dennler - IMRA Europe - Sophia Antipolis - France |
| Number of members | 5 |
| Rationale within NfA platform | <p>This WG is aimed at linking industrials and companies with E-MRS, so that the EMRS Executive Committee is fully aware of the ongoing activities of main industries.</p> <p>It also takes part on the World Business Council for Sustainable development.</p> <p>It also participates in the thematic configuration of the Spring and Fall Meetings, by taking into account the industrial aspects and demands.</p> |
| Expected impacts | <ul style="list-style-type: none"> - An agreement between E-MRS and EpE exists and a joint event took place at the 2018 Spring Meeting - The working group currently works on developing industrial links through the European Materials Modelling Council |

| FORESIGHT STUDIES WG | |
|-------------------------------|---|
| Chairs | G.G. Bentini - IMM CNR Bologna - Italy |
| Number of members | 2 |
| Rationale within NfA platform | <p>This WG is aimed at working on the future on materials science, including what could be the next hot topics to be covered at the EMRS Spring and Fall Meetings.</p> |
| Expected impacts | <ul style="list-style-type: none"> - Identification of future hot topics - Proposition to adapt EMRS to the future of materials science conferences |

| CULTURAL HERITAGE WG | |
|-------------------------------|--|
| Chairs | G. Padeletti - CNR - Roma - Italy |
| Number of members | 1 |
| Rationale within NfA platform | <p>This WG is aimed at promoting the thematic of preservation of cultural heritage into EMRS agenda.</p> <p>It suggests having symposia, workshops, or European projects with this thematic, and inform the Executive Committee on latest development on this subject.</p> |
| Expected impacts | <ul style="list-style-type: none"> - Raise the attention of conference attendees on new techniques and new subjects concerning cultural heritage preservation. - Make EMRS participating in European projects with subject on cultural heritage. |

| EDUCATION WG | |
|-------------------------------|--|
| Chairs | P. Wellmann - Uni Erlangen - Germany |
| Number of members | 4 |
| Rationale within NfA platform | This WG is aimed at accompanying EMRS into any educational initiatives. It gives feedbacks on educational matters into the biannual conferences, and prospects regarding the management of Chair in partnership with Universities or Schools. |
| Expected impacts | <ul style="list-style-type: none"> - The WG wants to develop the approach to take students at a Summit, and tutorial sessions with some form of certificate of attendance will be organized in the frame of EMRS-sponsored events. - The WG also targets to let education be regarded in a much broader sense than simply the curriculum. In that matter, and in the attempt of developing links between the sciences and social sciences, the WG backed up the merger of ICSU and the Social Sciences Council who was another step in this direction. |

| MICROELECTROMECHANICAL SYSTEMS WG | |
|-----------------------------------|---|
| Chairs | D. Barbier, INSA Lyon, France |
| Number of members | 3 |
| Rationale within NfA platform | This WG is aimed at encouraging the organization of symposiums on MEMS in future EMRS meetings, fostering the co-organisation of joint sessions and/or symposiums on MEMS with partners societies or conferences, and producing a position paper for the DG RTD to advocate for the support of research on materials for MEMS in the future H2025 programs. |
| Expected impacts | <ul style="list-style-type: none"> - Contribution on Materials Research Issues for the most important MEMS/NEMS families such as inertial sensors, chemical sensors, medical devices for diagnostic and therapy, vision and display systems, MEMRS for energy harvesting, MOEMS - Agreements with other Societies to have regular contact and common events (symposia, conference, sessions, ...) |

2.14. Creation of a new E-MRS Working Group (WG)

By the decision of the E-MRS Executive Committee, a new Working group (WG) dealing with NANO2ALL's topics has been created in the structure of the European Materials Research Society (E-MRS) (cf. Minutes Ex.Com. 21/06/2018).

| | |
|-------|---|
| 3.9 | Working Group Societal Aspects |
| 3.9.1 | In accordance with the rules and directives of NANO2ALL's, a new WG has been set up. The WG will be chaired by the current E-MRS President, Prof. George Kiriakidis, FORTH, Greece. |
| 3.9.2 | Members of the Board of Delegates were invited to submit their name to the WG leader and become working members of the group and Executive Committee members not already involved in a group or groups were urged to do so. |

This new E-MRS Working group aims to promote workshops with policymakers and stakeholders in Europe concerning the objectives and recommendations of the Nano2All Roadmap.

The WG have as mission to promote the Roadmap on international level via a number of events organised on a yearly basis. At policy level, the WG will promote the Roadmap to be present to the European Parliament and to the European Commission as the outcomes of the main venues organized by E-MRS, during the Spring and the Fall meetings, which are attended by large audiences (above 4000). Here, the topics related to societal impacts, ethics and responsibility of the emerging fields as the one connected to the nanoworld are of primordial relevancy, whose future grounds are the ones gained with the present project.

| SOCIETAL ASPECTS WG | |
|-------------------------------|---|
| Chairs | G. Kiriakidis, Forth Heraklion, Greece |
| Number of members | 3 |
| Rationale within NfA platform | This WG is aimed at improving the societal opinion on nanotechnologies and all nano-subjects. It will push on symposia, workshops, and programs on nanomaterials and nanotechnologies during EMRS conferences, and co-organized events. |
| Expected impacts | <ul style="list-style-type: none"> - Increase the number of symposia related to nanotechnologies in the frame of conferences and events organised by EMRS, - Publication of articles and brochures on nanotechnologies, with a large targeted audience (general public) - Dissemination of survey regarding nanotechnologies and their perception by the society |



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