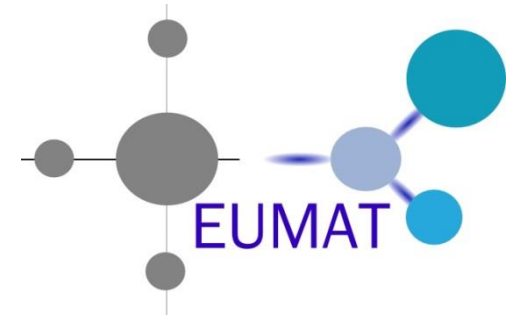
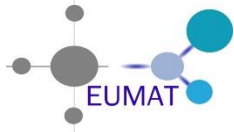


Clustering the European Material Community within H2020 – the A4M challenge

Marco Falzetti

NanoInnovation 2016
Rome, 20th September 2016



Established 2004; official launch event 26 June 2006

Status 2014: ~ 900 registered members

23% from industry

SRA: 2006, 2012, (2016)

EuMaT – Steering Committee members

The steering committee members of EuMaT include:

- ALSTOM
- Cranfield UNIVERSITY
- APRE Agency for the Promotion of European Research
- AIRBUS
- umicore materials for a better life
- CSM Centro Sviluppo Materiali
- CRF CENTRO RICERCHE FIAT
- KMM.VIN
- BASF The Chemical Company
- iSQ
- IK4 TEKNIKER Research Alliance
- BOSCH Invented for life
- SGL GROUP THE CARBON COMPANY
- HYDRO
- INO
- ASD
- life.augmented
- JÜLICH FORSCHUNGSZENTRUM
- GE Oil & Gas
- MEGGITT smart engineering for extreme environments
- ENEA Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile
- Whirlpool
- stw
- CCAN Collaborative Centre for Applied Nanotechnology
- metso
- vito vision on technology
- Knowledge Transfer Network
- SORIN GROUP AT THE HEART OF MEDICAL TECHNOLOGY
- INL INTERNATIONAL ENGINEERING NANOTECHNOLOGY LABORATORY
- F3K FONDAZIONE BRUNO KESSLER
- SANDVIK
- A4M Alliance for Materials

Strategic Research Agenda in the area of advanced engineering materials and related materials technologies

R&D priorities for the EU Workprogrammes

Building the future – A4M

Networking of other ETPs / EMRS / FEMS dealing with Materials along the **value chain** to achieve the most effective use of the community resources

- Value chain driven action
- Cross-KETs
- Cross Platforms building



Materials research topics for the 1st Work Programme of Horizon 2020

A joint proposal by EuMaT, ETD, EMRS and FEMS
July 2017

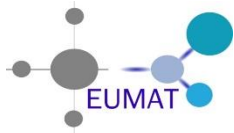
In what follows a number of research topics are proposed for a possible inclusion in the work programme of the 1st call of the Horizon 2020. These topics have been selected not as a comprehensive review for the three Organisations, and represent some selected research priorities as requested by the stakeholders from the academia and industry.

The topics are arranged in several thematic groups such as: Modelling and Multiscale, Energy Materials, Nanomaterials and Nanocomposites, Knowledge based Characterisation and Multifunctional Materials, Life cycle, Transport and Safety, Materials for ICT, and Composites.

A certain level of synergistically effort exists between the proposed topic calls, due to the parallel development that can be carried for the different topic working groups.

Further improvement could be easily implemented on those topics considered of immediate interest to the Commission. The proposals are open to any further work on the call level(s) preparation, if requested by the Commission, and offer the support of the corresponding working groups for a final talking and/or discussion on the proposed topics.





What is Alliance for Materials



To the courtesy attention of

Madam
 Máire Geoghegan-Quinn
 European Commissioner for Research
 Innovation and Science
 European Commission

Mister
 Antonio Tajani
 Vice-President European Commission
 European Commissioner for Enterprise and
 Industry
 European Commission

The enabling role of materials for industrial innovation and wealth creation under next FP8 and CIP

Dear Madam, dear Sir

...The global community is facing Grand Challenges. The European Knowledge Society must tackle these through the best analysis, powerful actions and increased resources. Challenges must turn into sustainable solutions in areas such as global warming, tightening supplies of energy, water and food, ageing societies, public health, pandemics and security. It must tackle the overarching challenge of turning Europe into an eco-efficient economy... [From the Lund Declaration]

With the Lund Declaration, clear lines have been defined for identifying future European R&D needs for the next 20 years. Starting from these lines, the European Commission has shaped a strategy as stated in the Agenda 2020, the Innovation Union Communication and other initiatives related to Materials R&D (Raw Material Initiatives, KET ...). All these documents contribute towards setting the scene for achieving the technological progress necessary to meet the threat of the major Societal Grand Challenges (SGC).

The optimum solutions for the main issues posed by the SGCs require a global approach where political, economical, ethical and technological aspects are taken jointly into account to develop solutions able to ensure world-scale, long term sustainable growth. Among these elements, the technological dimension is a front line problem.

Relevant technological initiatives are underway and further will appear to face the identified challenges. In almost any of these, the proposed innovative solutions have demanding requirements in terms of Materials needs. Many of these solutions will fail or will not be fully implemented if suitable and proper Materials are not available on time.

With its FP7 NMP programme, and previous FP and CIP actions, the European Commission has obtained relevant results to assure a strong European dimension to Materials R&D and to promote a collaborative attitude among the European materials science community and the various European industries who produce and transform advanced materials into innovative solutions and products.

Therefore, we strongly support and encourage the Commission to maintain Materials R&D among the core enabling elements of the future R&D and Innovation programmes in order to strengthen Europe's leadership position in Materials Research, and to avoid becoming dependent on others. We propose that the materials research programme should be continued with enhanced momentum, faster delivery and with increased efficiency through improved planning and implementing instruments.

The results achieved so far in materials science-industry collaborations have to be further accelerated and improved in view of the key role of materials in providing cost effective options for the future technological requirements posed by the SGCs.

In order for the new programme to prove effective, it should be devised and implemented taking into consideration the following fundamental elements and requirements that we would like to bring to your attention:

- Reinforcing Science-Industry synergy**
Materials R&D provides an outstanding opportunity to reinforce the science-industry dialogue, offering an attractive scenario where new models of collaboration and synergies between the two worlds can be tested. The new programme should include this aspect by continuing the leading role of industry in cooperative R&D projects.
- Linking Research and Innovation**
The generation of new advanced materials, the radical improvement in the characteristics of widely used conventional materials, the substitution of traditional materials with most eco-efficient ones, the replacement of rare and/or scarce materials with alternative solutions, and the development of material solutions for energy sources of future, are key elements in creating immediate innovation in many industrial sectors. The benefits of these initiatives include the improved performance and sustainable eco-characteristics of many industrial and consumer goods, or even totally new products. In this framework, robust and credible innovation cannot be achieved without attention to raw materials and their availability, as key elements of a long-term materials resourcing strategy able to encompass technological, economical and geopolitical aspects. In addition, recycling and developments of materials that enable improved recycling, should be fostered to close the materials loop and reduce dependency on sources outside Europe. Connecting materials with design will ensure we achieve sustainable growth from R&D and accelerate innovation within the value chain. Europe has world class positions in both materials and product design and should capitalise on this. The new programme should further boost integration with other important Commission initiatives, such as the Competitiveness and Innovation Programme (CIP) or any other similar future programme, with the aim of bridging between scientific/technological developments and the market valorisation of the new knowledge.
- The key role of the European Technology Platforms (ETPs)**
Materials R&D is by definition a crosscutting and enabling technology area which affects almost every industrial sector. The achievement of effective coordination between different sectors, while maintaining the relative autonomy, interests and strategies of each, is an essential condition to achieve the best and most effective use of community resources in Materials R&D targeted to make effective contributions to the SGCs. The ETPs should continue to play a specific and dedicated role in the new programme, as the natural providers, able to bridge the different industrial sectors' interests in materials. They take a view that embraces the whole value chain of materials production,

including raw material extraction, the process industries producing and transforming materials, and the downstream industries producing industrial and consumer goods from these materials.

Through an alliance of a number of ETPs, each with a fundamental and significant materials component in their strategies, we will provide in the near future a proposal for concrete initiatives on how to align the value chain consisting of the supply of materials, their processing and the manufacturing needed to address the key societal challenges defined within the EU 2020 policy objectives. These initiatives can also be applied in the ongoing work of the High Level Group of Key Enabling Technologies.

Yours sincerely

For the European Technology Platforms



Marco Falzetti
Steering Committee Chairman
EUMAT - Advanced Engineering
Materials and Technologies
m.falzetti@am.it



Paul-Joel Derian
Chairman of Board
SUSCHEM - Sustainable Chemistry
paul-joel.derian@ev.rhodia.com



Henryk Karas
Chairman of High Level Group
SMR - Sustainable Mineral Resources
h.karas@ghm.pl



Heinrich Fliegel
Chairman of High Level Group
MANUFACTURE - Future
Manufacturing Technologies
heinrich.fliegel@sttinter.com

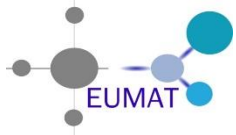


Dick Hendriks
Chairman of the Governing Council
TEXTILE - Future of Textiles and
Clothing
info@suratex.eu



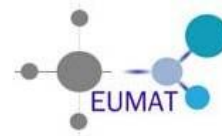
Bertrand de Lambertier
Secretary General
ESTEP - European Steel Technology
Platform
bertrand.de_lambertier@steelresearch-
step.eu

Brussels, 30th November 2010



What is Alliance for Materials

The original initiators of A4M initiative are six European Technology Platforms with a strong material agenda in their respective strategies. These are: EuMaT, Suschem, Manufuture, FTC (textile), ESTEP, SMR (sustainable resources), integrated by the two main European materials associations: E-MRS and FEMS

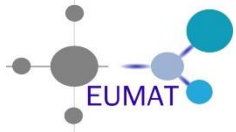


The way to

integrate the diversity of ideas in Materials developments across ETPs and other main stakeholders to create synergy and an integrated Materials R&D programme for Europe

ensure that the Industrial Value Chain acts as main driver for a credible integration of resources and players for speeding up exploitation and valorisation of materials research





What is Alliance for Materials

The original initiators of A4M initiative are

six European
strong
strategic
Manufacturing
(sustainable)
two
associations

- integrate the diversity of ideas in Materials developments
- Integrate main stakeholders
- to create synergy and an integrated Materials R&D vision and strategy
- To centralise the industrial Value Chain acts as main driver for a credible
- To speeding up exploitation and valorisation of materials research

resources and players for speeding up exploitation and valorisation of materials research

PLATFORM
L RESOURCES

als
ain
an
for

as
of



Value chain driven action



Knowledge & innovation



production

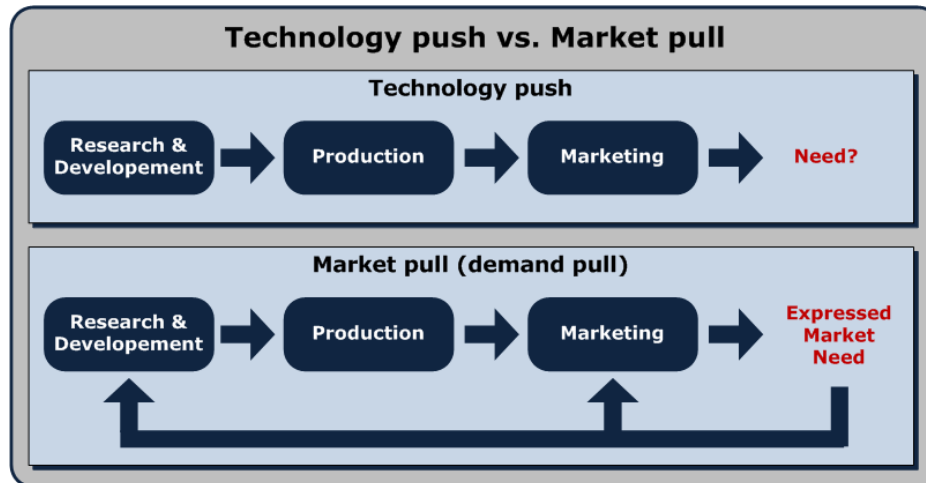
Products sectors

Semi products



Innovation for Materials or Materials for innovations?

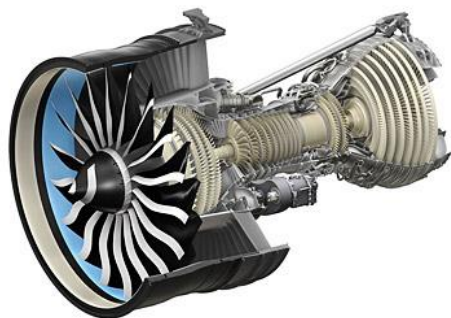
...is a Value chain driven action justifying for a pure Market PULL Materials R&D strategy?

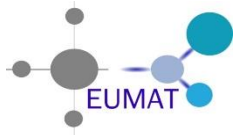


Certainly not!

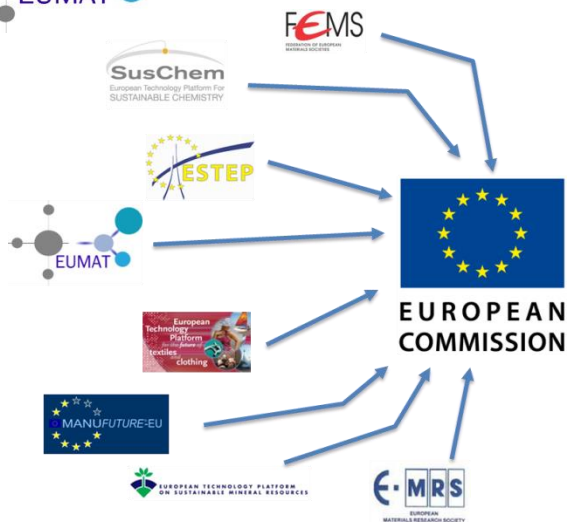
A4M intends to concretely contribute to identify the best of market PULL - technology PUSH optimal balance

Materials... a difficult element to valorise.





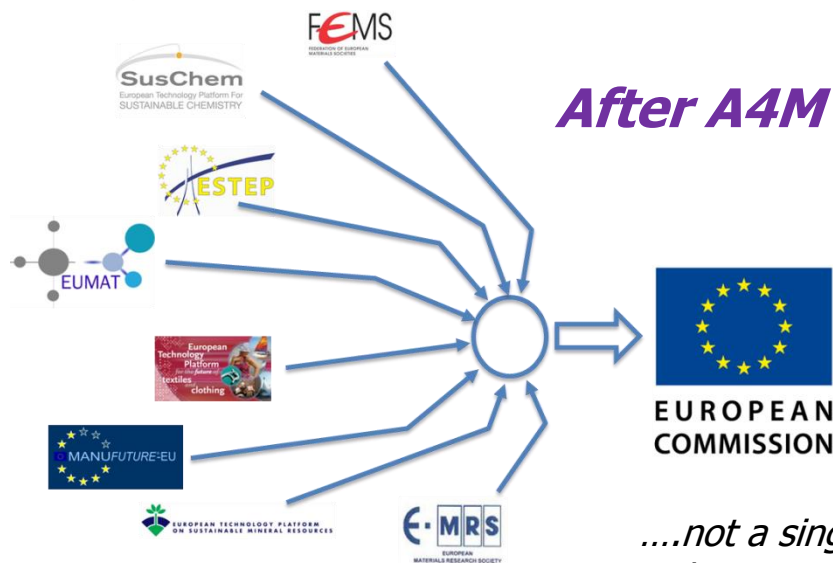
Why Alliance for Materials



Before A4M



...on Materials R&D



After A4M



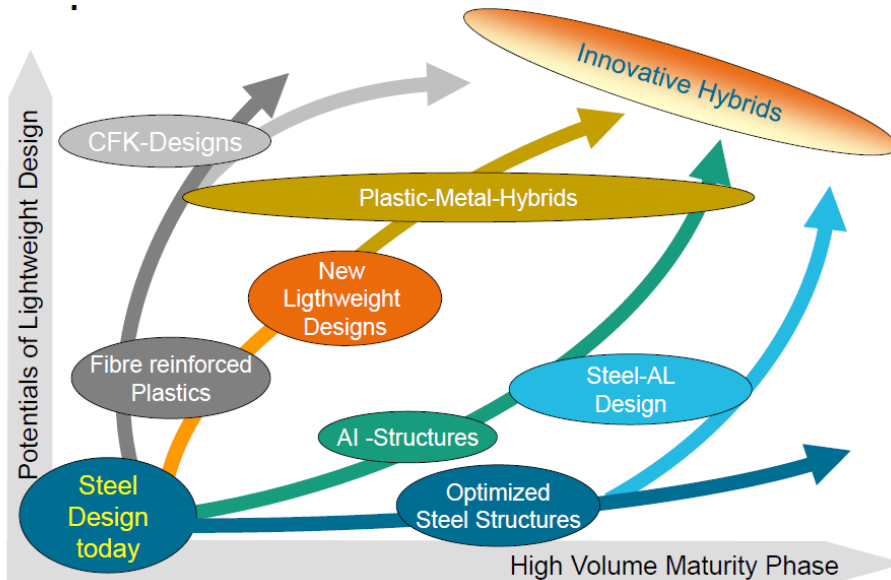
*....not a single voice
....but a sounding polyphony*



Why Alliance for Materials

Even if the related industries belonging to A4M will have competitive activities the A4M group regards the complementary aspects of higher importance: the collaboration impact is stronger than the sum of the individual contributions

...not any more an option but a technological evidence with a competitive advantage



...on Materials R&D

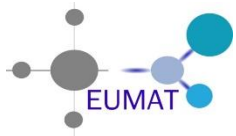


Competing approach



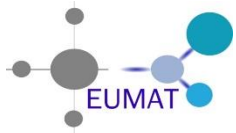
Collaborative approach





Who take advantages from Alliance for Materials

- Industrybecause they can be on the front of the Materials R&D strategy definition for the coming years (market PULL)
- Academia and Researchbecause they can bring their visions and ideas to the attention of industry for possible future commercial valorisation (technology PUSH)
- Industry and Researchbecause together they can design a coherent picture of the future Materials R&D need and strategies (balanced innovation)
- Industry and Researchbecause the current complexity of the technological scenario, ask to deal with:
 - Cross sectorial and cross disciplines approaches
 - Scale integration (nano, meso, macro)
 - Production integration (Materials and Manufacturing)
 - Time to market (certification and standards)



Preparation



The initiative

A4M self sustainable model

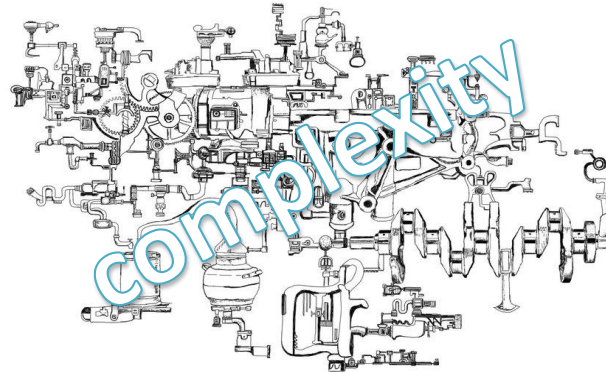


The supporting CSA



Conclusion

Does it work?

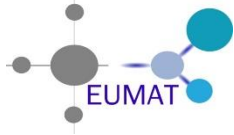


The European Materials
landscape is much more than
.....crowded



FromTo





Thank you for your attention



Marco Falzetti

Director

APRE – Agenzia per la Promozione della Ricerca Europea

Chairman of the Management Board of
Alliance for Materials - **A4M**

Chairman of the Steering Committee
EuMaT - The European Technology Platform
on Advanced Engineering Materials and Technologies

e-mail: falzetti@apre.it

