

Materials Chain

- Strategy 2025 -

Members' Assembly, 15.11.16, TU Dortmund

Aims of the key program

1. Empowerment and profile formation of the research
2. Training and -promotion of young academics
3. National and international visibility as a leading "material-location"
4. Transfer and use of locational advantage "Ruhrgebiet"

1. Empowerment and profile formation of the research

- Visions and future scenarios in materials science, building on the existing strength, expertise and facilities
- Identification of innovative research paths for MC outside the everyday-science
- Identification of future needs and requirements (equipment, staff)
- Scientific differentiation and profile formation
- Sustainability of research and development in materials science: products for the future society

1. Empowerment and profile formation of the research: Joint Research Agenda

- MC research agenda is required!
 - This must be supported by the MC members (including all stakeholders)
 - This has to include (concrete) research objectives
- 2-stage process
 - Development of (across locations) core issues and HUBs by the Scientific Board
 - Implementation of 5-6 workshops (in different formats) in 2017 and 2018 at these core issues and HUBs
- Aim of the process
 - Identification and "evaluation" of the parent (scientific) objectives and main topics
 - Detection of necessary „actions“
 - Formulation or way to research agenda (what needs to be researched)

1. Empowerment and profile formation of the research: Competence Centers (HUBs)

**Merge of thematic / methodological activity areas with
the following aims:**

- Localization of (existing) competences
- Profile sharpening / public image
- Increasing the visibility
- HUBs are strategic components of the MC
("where can we score internationally")

1. Empowerment and profile formation of the research: Competence Centers (HUBs)

Characteristics of HUBs

- Inter-site and national / international leading "research strands"
- Building on existing focuses and centers
- Illustration of the key issues and subgroups of MC
- For the external representation five HUBs should be sought initially
- Initially not a strategic order (more medium-dated)
- The Scientific Board decides on the establishment (and closing)
- Initially project character and established only on time (e.g. five years)
- As part of the workshops (see Research Agenda) projects to strengthen HUBs shall be developed
- Initially virtual centers without independent management structure

1. Stärkung und Profilbildung der Forschung:

Matrix: HUBs / Core Issues

<div>Core issues</div> <div>HUBs</div>	Adaptive / smart materials	Energy conversion and storage	(Fundamental Aspects of) Interfaces	Materials for comm. Techn, IT, quantum computing...	High performance materials for harsh environments
Functional and structural characterisation					
Modelling and simulation of materials					
Production engineering					
Processing and synthesis of materials					

1. Empowerment and profile formation of the research:

Common appointment strategy

For further, long-term profile raising and -reinforcing, a common coordinated appointment policy along the site-specific strengths and expertise of MC is required, which promotes the formation of key program formation and increases the international visibility

"Normal" appointment in the faculties

- "Synchronization" of the faculty and MC strategy
- Members of the PSP or a HUB in an appointment committee

UA Ruhr professorships (MERCUR)

- Establishment of inter-site Chairs (with little "local binding")

Wanka professorships

- In particular, for the next round of calls major decisions should be prepared

Leuchttürme/Humboldt professorships

2. Training and -promotion of young academics

Aims

- targeted and best possible training of young scientists
- Increasing the attractiveness of the location
- ...

2. Training and -promotion of young academics

Status Quo

- **Bachelor's and Master's programs**
- **Doctoral training**
 - RUB Research School
 - Werkstatt Wissenschaftskarriere (UDE)
 - Science Career Net Ruhr (UA Ruhr)
 - Global Young Faculty (UA Ruhr)
 - IMPRS SurMat
 - IMPRS Recharge
 - Annual Materials Day (RUB – MRD)
 - ...
- **PostDocs**
 - Young Researcher Network (CENIDE)
 - ...

2. Training and -promotion of young academics

Bachelor's and Master's programs

- Increase of the “permeability”
- Inter-site exam authorization
- Mutual recognition of examinations
- Expansion Engineering Unit Ruhr and Civil Engineering Unit Ruhr
- Common support for Master Students
- New, joint master's degree program in the field of materials science across all sites, each with block lectures (medium-dated aim)
- Adapting the study regulations → Master Study Regulations (medium-dated aim)
- Expansion of English study options and international programs in the relevant fields
- Flyer/brochure for international courses with material reference
- Establishment of a "job exchange" on the MC website with the latest offers for Master Thesis

2. Training and -promotion of young academics

Doctoral training

- **Common Research School**
under the roof of the Research Center Ruhr; Material chain could form a "sub" School and offer customized offers for the young MC
- **UA Ruhr research training groups**
- **Summerschool**
- **Career Days „Careers in Materials“ Day**
- **Pool of mentors**

2. Training and -promotion of young academics

PostDocs/Junior professorships

MaterialsChain Next Generation : Young Academics Camp

- **2 days Networking Camp (Akademie Klausenhof, Hamminkeln)**
- **Vision:** Establish new & foster existing collaboration between the young generation of researchers from the MaterialsChain
- **Participants:** Post-Docs, Group Leaders and Junior Professors from MC groups
- **Goals of the workshop:**
 - ➔ Kick-start networking between the UA Ruhr's junior scientists on a personal level
 - ➔ Enable scientific exchange, to initiate common project ideas, and to open possibilities for scientific collaboration
 - ➔ Foster knowledge about and shared use of resources across faculties and locations
- **Registration**
 - ➔ 100 spots available (first come, first serve)
 - ➔ Participation is free of charge and includes overnight stay (single rooms)
 - ➔ Free bus transfer from the three universities and back
 - ➔ Evening drinks at the bar have to be paid individually.
 - ➔ Other travel expenses are not refunded by MC



➔ **annually**

3. National and international visibility

International conferences

1. MCIC Conference 2016

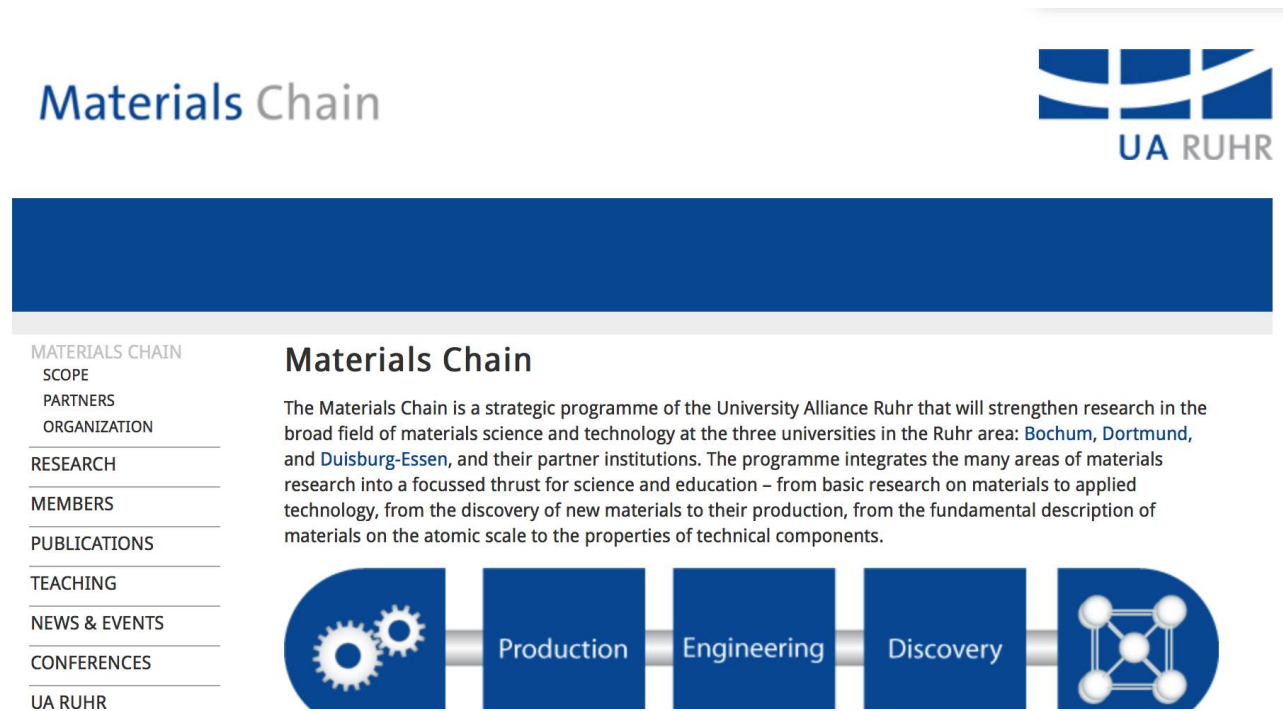


→ 2018

3. National and international visibility

Public relations activities and PR

➤ Website



➤ Movies (Image and Detail)

3. National and international visibility

Public relations activities and PR



07/2016

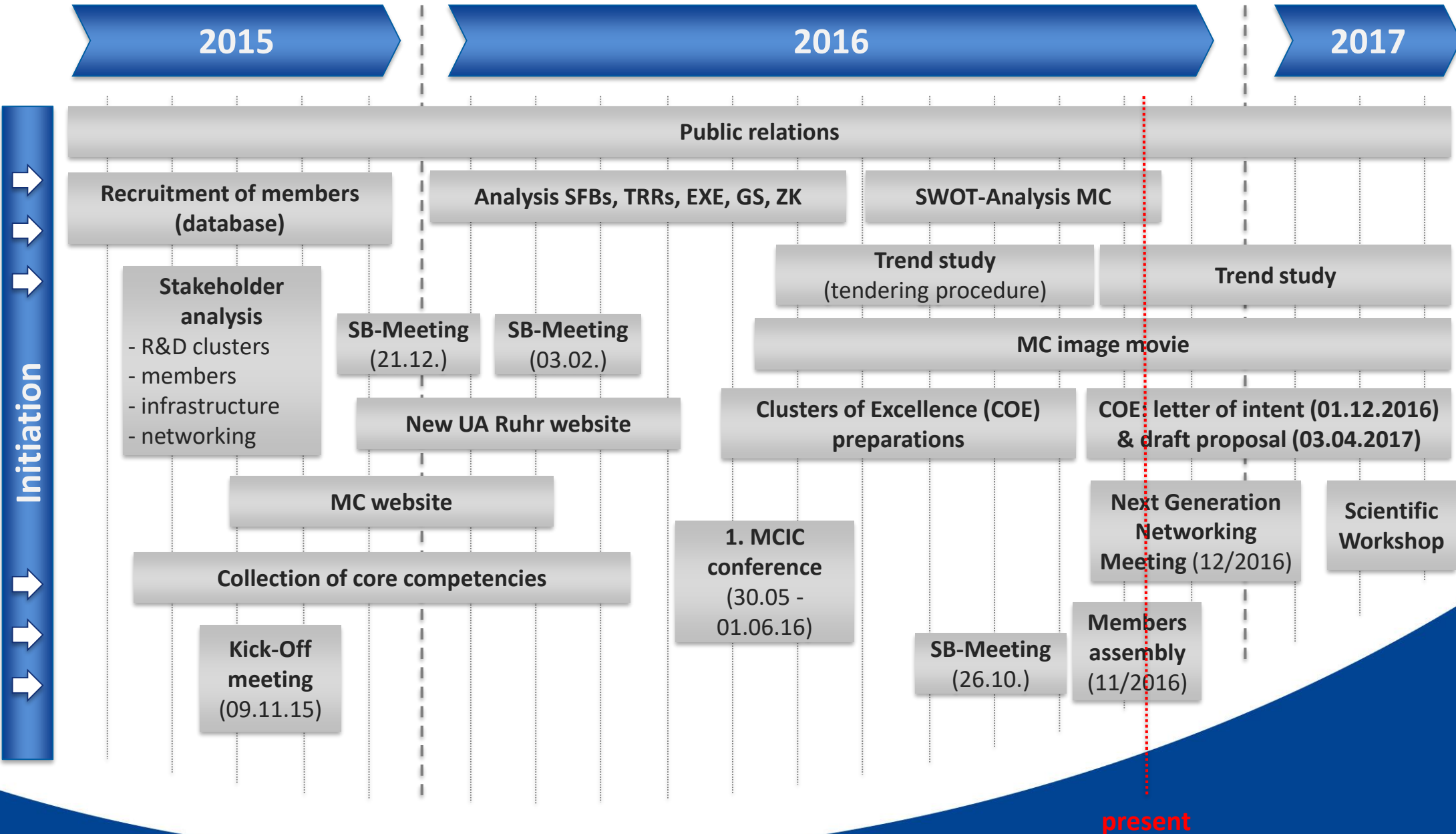


11/2016



x/2017

Schedule and further actions



Schedule and further actions

2017

2018

Joint research proposals

Clusters of Excellence (COE) - full proposal

SB-Meeting

SB-Meeting

Members assembly
(11/2017)

SB-Meeting

2. MCIC
conference

Members
assembly

SB-Meeting

Next Generation
Networking
Camp

Scientific
Workshop

Scientific
Workshop

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Next Generation
Networking
Camp

Measures 2017 – 2018: resources needed

Issue		Sum (2017 - 2018)
Coordination PSP	1 coordinator per site	390.000 €
	Travel expenses of coordinators	6.000 €
12 workshops (6 per year)	Location, treat, etc.	60.000 €
2 young scientist workshops	Accommodation, moderation, bus	50.000 €
MCIC 2018	Location, treat, material, personal resources, travel expenses, ...	cost-neutral ?
Public relations activities	MC brochure	15.000 €
	Domain fees	500 €
Promotion (young) scientists		
2 general meetings		10.000 €
Support ExCluster	Personal, layout, text,	