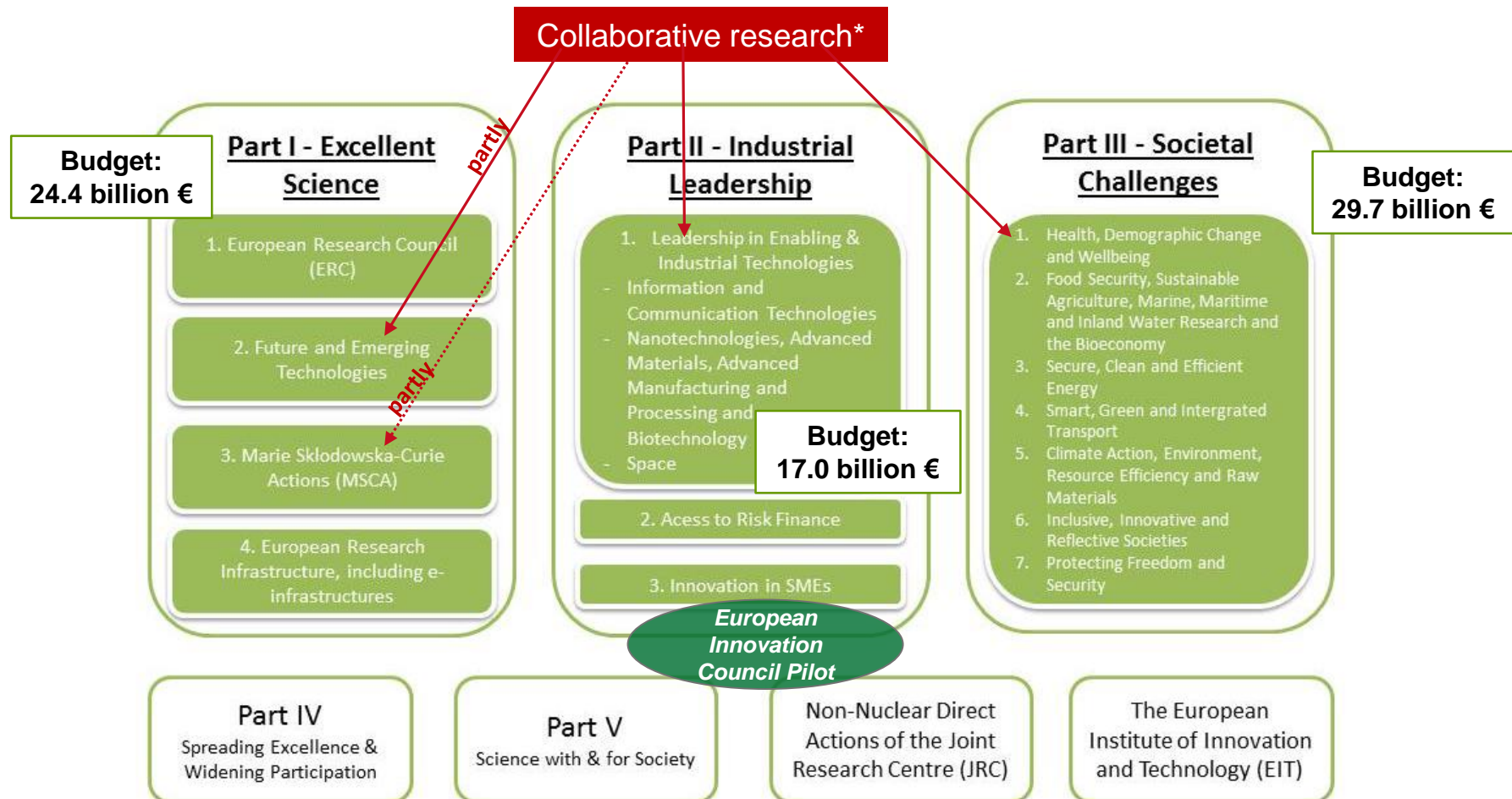# Horizon 2020's Innovation Actions – Cooperation between Science and Industry

Sabine Hutfilter + Johanna Emmerich – TU Berlin I MCAA Event Researchers meet Innovators I July 11, 2019

Horizon 2020 – the framework programme for research & innovation

Collaborative research*

Budget: 24.4 billion €

Budget: 29.7 billion €

Budget: 17.0 billion €

partly

partly

Part I - Excellent Science

1. European Research Council (ERC)
2. Future and Emerging Technologies
3. Marie Skłodowska-Curie Actions (MSCA)
4. European Research Infrastructure, including e-infrastructures

Part II - Industrial Leadership

1. Leadership in Enabling & Industrial Technologies
   - Information and Communication Technologies
   - Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing and Biotechnology
   - Space
2. Acess to Risk Finance
3. Innovation in SMEs

European Innovation Council Pilot

Part III - Societal Challenges

1. Health, Demographic Change and Wellbeing
2. Food Security, Sustainable Agriculture, Marine, Maritime and Inland Water Research and the Bioeconomy
3. Secure, Clean and Efficient Energy
4. Smart, Green and Intergrated Transport
5. Climate Action, Environment, Resource Efficiency and Raw Materials
6. Inclusive, Innovative and Reflective Societies
7. Protecting Freedom and Security

Part IV
Spreading Excellence & Widening Participation

Part V
Science with & for Society

Non-Nuclear Direct Actions of the Joint Research Centre (JRC)

The European Institute of Innovation and Technology (EIT)

Horizon 2020's Innovation Action – Cooperation between Science and Industry

* Consortia of min. 3 different partners from min.3 different EU MS/AC

Horizon 2020 – Innovation Actions

H2020'S *TYPE OF ACTIVITIES*

- RIA – Research and Innovation Actions
- **IA - INNOVATION ACTIONS**
- CSA – Coordination and Support Action

SCOPE, FUNDING AND EVALUATION FOCUS

INNOVATION ACTIONS – are attractive for collaboration with industry

- **Scope** of **activities:**
  - ➢ Stronger focus on closer-to-the-market activities
  - ➢ Producing plans or designs for new or improved products or services (prototyping, testing, demonstrating, piloting, scaling-up etc.
  - ➢ Limited research and development
- **Reimbursement rate:** <u>100%</u>: universities etc. (non-profit), industry etc.: <u>70%</u>
- **Evaluation: Impact** (chapter) score will be given a **weight of 1.5**

H2020 WP „Connecting economic & environmental gains - Cross Cutting Activities"

Call: Industry 2020 in the Circular Economy

Topic : Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects - design for circular value and supply chains (IA)

> Which problem exists?

Specific Challenge: […] **replacing current linear economic models with circular models of production and consumption** […]. […] **adopting a systemic approach to eco-innovation that encompasses value and supply chains in their entirety** […]

> What has to be done?

Scope: […] **large scale demonstration projects**, […] **to test and showcase circular economy solutions based on re-design of value and supply chains** […]. **include an outline business plan** […]

> What has to be achieved?

Expected Impact (sel.): […]

- ✓ […] significant **reduction** of adverse **environmental impacts**, **optimisation of production**
- ✓ […] substantially **reducing** the **generation of residual waste**
- ✓ […] creating **new business opportunities**

*For the technological innovation components, TRL 5-7 are to be aimed for**

* 5: "technology validated in relevant environment;
7: "system prototype demonstration in operational environment"

H2020 WP „Connecting economic & environmental gains - Cross Cutting Activities"

Topic: **Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects - design for circular value and supply chains (IA)**

Johanna Emmerich, M.Sc.
Experiences from the project

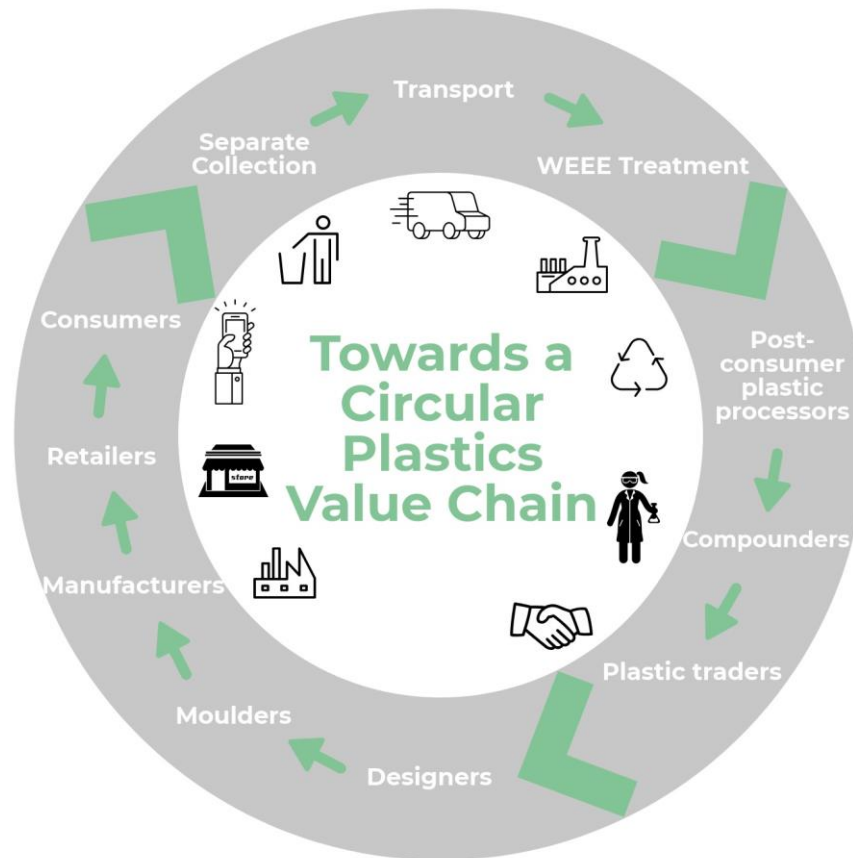## POST-CONSUMER HIGH-TECH RECYCLED POLYMERS FOR A CIRCULAR ECONOMY – POLYCE –

Faculty IV Electric Engineering and Computer Science

Technische
Universität
Berlin

Department Environmental and Reliability Engineering

Research Topics:

- Circular Economy: closing the loop for post-consumer recycled plastics and critical raw materials from electronic applications

- Circular design concepts and eco-design: modular product designs of electronics

- Provide easy access to eco-design methods in a "hands-on" training

- Environmental product policies (RoHS, WEEE, ErP, Energy Label)

- Obsolescence and eco-reliability

- Life Cycle Assessments of smart phones/tablets/servers

- Contact: johanna.emmerich@tu-berlin.de

PolyCE: **Poly**mers for the **C**ircular **E**conomy (2017-2021)

PolyCE
POST-CONSUMER HIGH-TECH RECYCLED
POLYMERS FOR A CIRCULAR ECONOMY

Towards a Circular Plastics Value Chain

Transport

Separate Collection

WEEE Treatment

Consumers

Post-consumer plastic processors

Retailers

Compounders

Manufacturers

Plastic traders

Moulders

Designers

Funding: € 8.3 Mio supported by the European Commission's Horizon 2020 research and innovation programme

Coordination: Fraunhofer IZM

Total person months (PMs): 951,2

Co-funded by the Horizon 2020 programme of the European Union

Cross-stakeholder cooperation: win-win situation!

Joint cooperation: together we can move (plastic) mountains!

and Industry

How to bring industrial partners on board?

Consortium set-up:
- ❖ What do they want? Who do we need? → check the H2020 proposal
- ❖ Use existing contacts (if any)
- ❖ Strong consortium needs a well balanced mix (innovation, reseach/academia/ industries/SMEs)
- ❖ Consider regional diversity
- ❖ For EU-Projects: consider a value chain approach
- ❖ Industry interest is a strong indicator!

Proposal writing:
- ❖ Role distributions between industry partners and researchers must be feasible
  - ❖ Reports
  - ❖ Proposal writing
  - ❖ Data analysis
- ❖ Timeframe for H2020 poposals: 2-3 months (full time for proposal leader)

Joint project with industry: Benefits and challenges

Benefits from a researcher perspective:

❖ Lots of expertise to learn from

❖ To be able to work on real challenges that industries are faced with today.

❖ Insights into how companies work

❖ Industry contacts might enable future job opportunities

❖ International partner network, valuable experience

Benefits for industry:

❖ Setting-up a neutral meeting environment

❖ Bridging partners that would otherwise not talk to each other

❖ Change of perspective: learn from each other on a specific problem

❖ high intrinsic motivation

Project implementation: What are(specific) challenges when cooperating with Industry ?

❖ Lack of time→ make the most use of the „experts"

❖ Consortium also means consensus! → no solo actions (e.g. publications, conferences, press releases)

❖ Respect confidality issues →instinctive feeling from researcher´s side important

❖ Lack of trust → Good management skills demanded

What´s next? Future (collaboration) plans

❖ Start thinking about new ideas/futurue cooperation already 2 years before project ending

❖ Share ideas for possible continuation and listen to the feedback

❖ Keep contact list active, keep in good contact

❖ Lesson´s learned from previous projects?

❖ Remaining data gaps?

THANK YOU FOR YOUR ATTENTION!
CONTACT

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