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# FRAUNHOFER RRI AMBITIONS:

## DOCUMENTATION OF THE GOAL SETTING WORKSHOPS

Results from WP 2: Development of RRI goals at Fraunhofer

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 709747

# Background – Goals of Work package 2 - Development of RRI goals at Fraunhofer

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- From the JERRI Description of work:
  - „...for each RRI dimension a **goal setting workshop** will be carried out in order to develop a shared understanding of the guiding goals for the transition process. Participants will be **internal and external stakeholders**, carefully selected according to research based stakeholder analysis methods.”
  - “The conversation will be structured by a **Foresight visioning methodology** ensuring long term perspective and alignment of diverse viewpoints.”
  - “The **goals** that will be derived from the visions will be specified on **an operational level**, e. g. ‘application of the open access principle on research data’.”
- *No ex ante definition of ambitions and goals for RRI pilot activities, but joint development with various stakeholders in the project!*

# Background – Specificities of Fraunhofer / Work package 2 “Goal development”

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- ***No ex ante definition of ambitions and goals for RRI pilot activities, but joint development with various stakeholders in the project!***
- **At Fraunhofer different organisational units / institutes are responsible for the pilot activities related to different RRI dimensions → Goal development processes are relatively independent from each other**
- **Use of Foresight (visioning) approach in the workshops to develop long-term orientations as a basis for all pilot activities**
- **Three components of the goal development approach / each workshop**
  - ***Informal organisational long-term visions as legitimation and orientation to act (they may be formally taken up later)***
  - ***Long-term goals and actions (informal) as a basis for field-specific organisational roadmaps (long-term) to be developed in WP 4***
  - ***Ideas for pilot activities within JERRI (short-term) to be decided upon***

# Background – Work package 2: Our concept of a vision

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## ■ Vision

### ■ „Future of the heart“

- Where do we want to go?
- Emotional, ‚electrifying‘
- Ambitious, clear distinction from status quo
- Stakeholders required
- One vision

## ■ Scenario

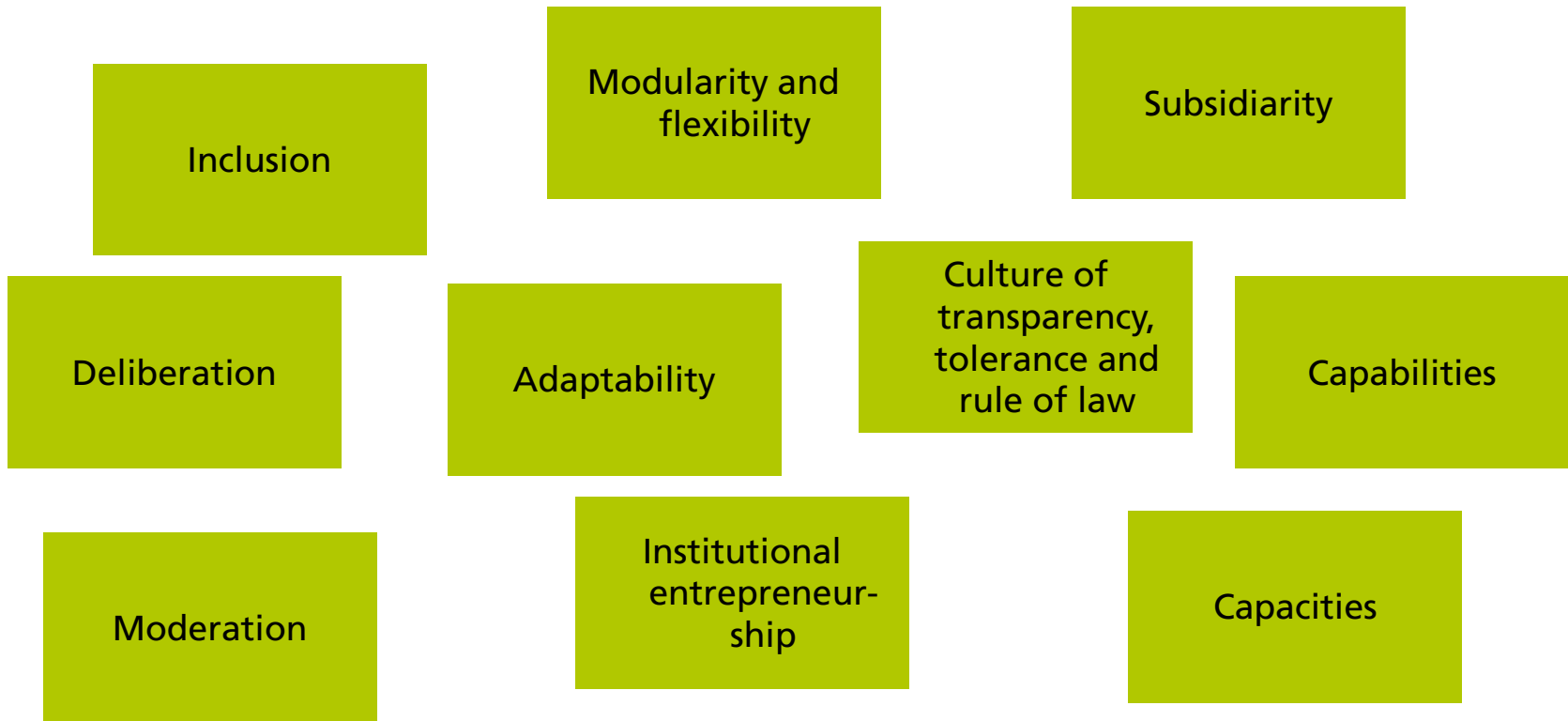
### ■ „Futures of the head“

- What may happen in our focal system?
- Plausible and rational
- Derived from today’s dynamics
- Knowledge about the field is required
- Several scenarios



# Background – Work package 2: Action fields for long-term goals and measures

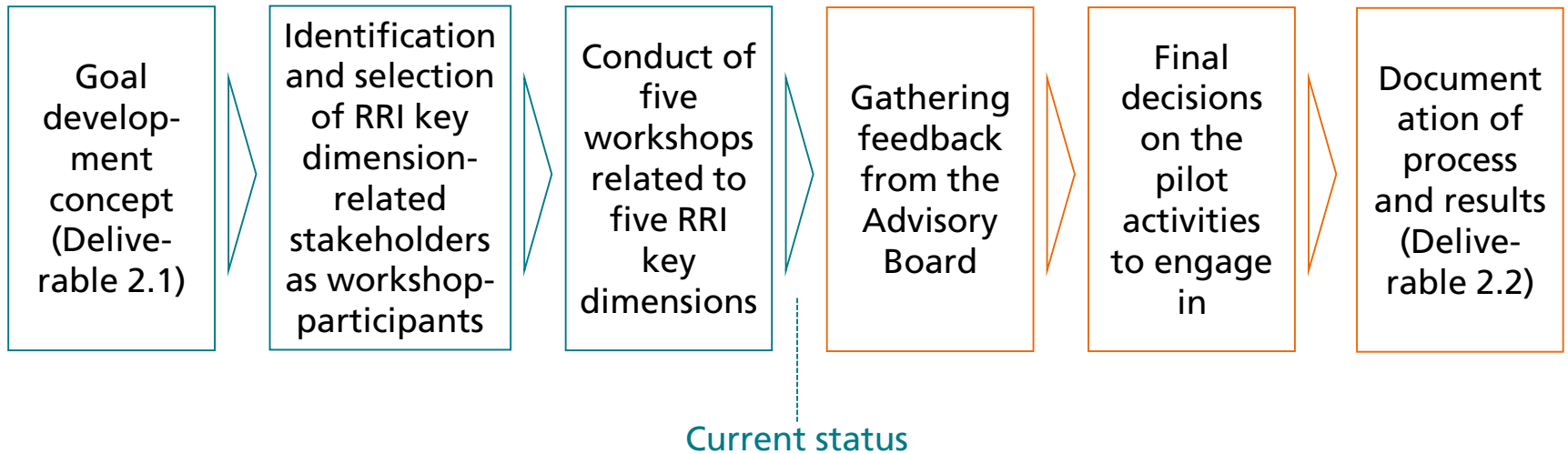
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- Long-term goals and measures were discussed based on the developed visions
- Action fields were derived from the Res-AGorA project

# Background – Work package 2 process

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- All five workshops were carried out by Fraunhofer ISI – documentation in progress.
- The workshop language was German.
- Feedback of the Advisory Board will be fed into the final results.

# Background – Work package 2: Workshops and results

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<i>Workshop on...</i>	<i>Number of participants</i>	<i>External stakeholders</i>	<i>All three components developed</i>
...Ethics	14	no <sup>1</sup>	yes
...Science Education	7	yes	no <sup>2</sup>
...Open Access	14	yes	yes
...Societal Engagement	13	yes	yes
...Gender	15	yes	yes

- Results were developed in group work and in the plenary.
- All results take the form of single aspects / statements (no running text)
- <sup>1</sup>Ethics: External stakeholder views gathered in interviews were brought in
- <sup>2</sup>Science Education: Instead of long-term goals / actions and ideas for pilots, topics for further mutual learning were identified

# Some reflections on the goal development process

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- The stakeholder identification concept applied worked well
- Pros and cons of external stakeholder involvement
- Role of expertise and previous framing of the topic within the organisation influenced the results
- Hard to recruit 'enough' participants, even harder to achieve heterogeneity
- Stakeholder roles and use of the results were sometimes unclear to participants
- 'One size fits all' approach could be questioned
- ...



# Informal vision “Ethics at Fraunhofer” (I)

- Fraunhofer takes on a leading role in the ethical discourse of the applied sciences.
- Ethics contributes to the creation of identity at Fraunhofer.
- Fraunhofer is being consulted for ethical issues in Fraunhofer-dominated strategic fields, as it actively deals with the respective ethical challenges.
- Responsibility:
  - Besides technological developments, Fraunhofer addresses societal, ecological and economical implications (“thinking mid- and long-term”).
  - Fraunhofer integrates and lives up to ethical responsibility.
  - Fraunhofer carries out research projects with a long term perspective and takes on responsibility towards its customers and society as a whole. This responsibility is borne by both project members and executives.



# Informal vision “Ethics at Fraunhofer” (II)

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- Individual enabling:
  - Fraunhofer staff is enabled (in terms of ‘competence’) to live up to ‘ethics’
- Value pluralism:
  - Fraunhofer creates and supports an open, constructive and respectful culture of dealing with conflicts, e.g. via clearing agents, consultancy services etc.
- Dealing with conflicts:
  - Fraunhofer actively deals with different moral concepts.

# Ethics at Fraunhofer: Summary of long-term orientations (goals / actions)

- **Resources to support individual capabilities:** ,Institutionalising' contact persons a different levels:
  - *at institute level:* Widening existing functions, e. g. ethics as part of scientific integrity, or ethics as work packages in projects
  - *at the level of the whole organisation:* Training, ethics network between contact persons, competence building via internal (research) programmes

- **Modularity, flexibility, and subsidiarity:** What are the right levels within the organisation?
  - *Fraunhofer groups:* Grouping institutes with similar research topics
  - Impulse from the executive board
  - Centrally coordinated workshops per institute
  - Pooling of competences / actions according to particularly relevant research fields
  - Commissioners per institute
  - Peer-to-peer exchange

- **Internal entrepreneurs and moderators:**
  - *Enabling 'the organisation':* Executive levels, directors, Fraunhofer groups, external communication
  - *Individual enabling:* line managers, organisation wide consultancy, internal communication / media, data protection officer
  - Clearing agents

# “Ethics at Fraunhofer”: Ideas for pilot activities (selection)

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Testing a new ethics module within existing qualification program

Acquiring external expertise

Best practice catalogue

Ethical screening / consultancy of / for project proposals in internal research programs

Engaging in a wider discourse on a currently relevant topic

Deeper analysis of needs and offers 'on the market'

# Science Education – Definition / Aspects

“Europe must not only increase its number of researchers, it also needs to enhance the current education process to **better equip future researchers and other societal actors** with the necessary knowledge and tools to **fully participate and take responsibility** in the research and innovation process.” (EC 2012)

*Aspects identified in JERRI before*

Attraction of young people by HR marketing

Scientific Literacy

Science Communication

Interdisciplinarity / Transdisciplinarity

# Informal vision “Science Education at Fraunhofer” (I)

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## ■ Junior and specialised staff / change in career paths:

- Fraunhofer actively contributes to lifelong learning
- Fraunhofer possesses unique characteristics and attractiveness for junior and specialised staff via:
  - Authentic enthusiasm for (research and) technology at Fraunhofer
  - Junior and specialised staff perceive a real benefit of working at Fraunhofer.



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## ■ New forms of interaction between citizens and science:

- Fraunhofer promotes learning (two-way) for topics with high demand.
- Fraunhofer realises / supports citizen science.
- Both employer and employees are ready for alternative / individual career and working models.

# Informal vision “Science Education at Fraunhofer” (II)

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- **Role of Fraunhofer as in carrying out applied sciences**
  - Fraunhofer transfers research content and methods to internal and external students and scientists.
- **Transdisciplinarity**
  - Transdisciplinarity is promoted in order to achieve accepted results.
- **Cross-cutting issue “communication”**
  - External communication differentiates between target groups.
- **General principles:**
  - Transparency
  - Feasibility according to a concrete action plan
  - (Social) responsibility, e. g. as part of the education programme

# Science Education at Fraunhofer: Selected topics for mutual exchange in the future

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## ▪ Within Fraunhofer:

- Strategic aspects of science education, e. g. goals, resources,...
- New / flexible career paths
- Possibilities for participation / exchange with society

## ▪ With external actors:

- Development of education / training programs for transdisciplinary / RRI competences
- Bachelor and Master Theses at Fraunhofer: Interaction with other scientific institutions
- Transferring knowledge on new technologies to society
- Communication of Science Education programs in the organisation
- Different experiences with Science Education in general / exchange of best practices
- How can success be measured?
- New / flexible career paths
- Possibilities for participation / exchange with society



# Informal vision “Open Access at Fraunhofer”

## – Guiding questions

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- How do we define Open Access?
  - Why Open Access?
  - Open Access: With whom?
  - Who owns the Intellectual property?
  - Who pays?
  - Which results (should be Open Access)?
  - How much open Access?
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- Open Access is both related to publications and to research data!



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# Informal vision “Open Access at Fraunhofer” (I)

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- Fraunhofer has undergone a fully-fledged cultural transformation towards Open Access and now lives up to its social responsibility
- All data and publications resulting from publicly funded scientific research are treated as commons. Full access is provided to any person wishing to consult them.
- Fraunhofer has put into place an Open Access Platform i.e. data rooms that are open and – where needed – closed, together with the necessary infrastructure components
- Fraunhofer researchers deal with research data and related industry collaborations in a fair and competent way. Clear rules and licensing models exist. Industry clients are supported to use OA business models wherever feasible
- Fraunhofer researchers are present in Editorial Boards of Open Access Journals



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# Informal vision “Open Access at Fraunhofer” (II)

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- Fraunhofer has institutionalised:
  - Quality management
  - The protection of Intellectual property using a classification
  - Personal accounts taking into account different target groups
  - The recording of all research data / possibility to identify research data
  - Digital Object Identifiers (DOIs)
  - Links between research data and publications
  - Interfaces and standards
  - Long-time archival storage

# Open Access at Fraunhofer: Summary of long-term orientations (goals / actions)

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## ■ Resources:

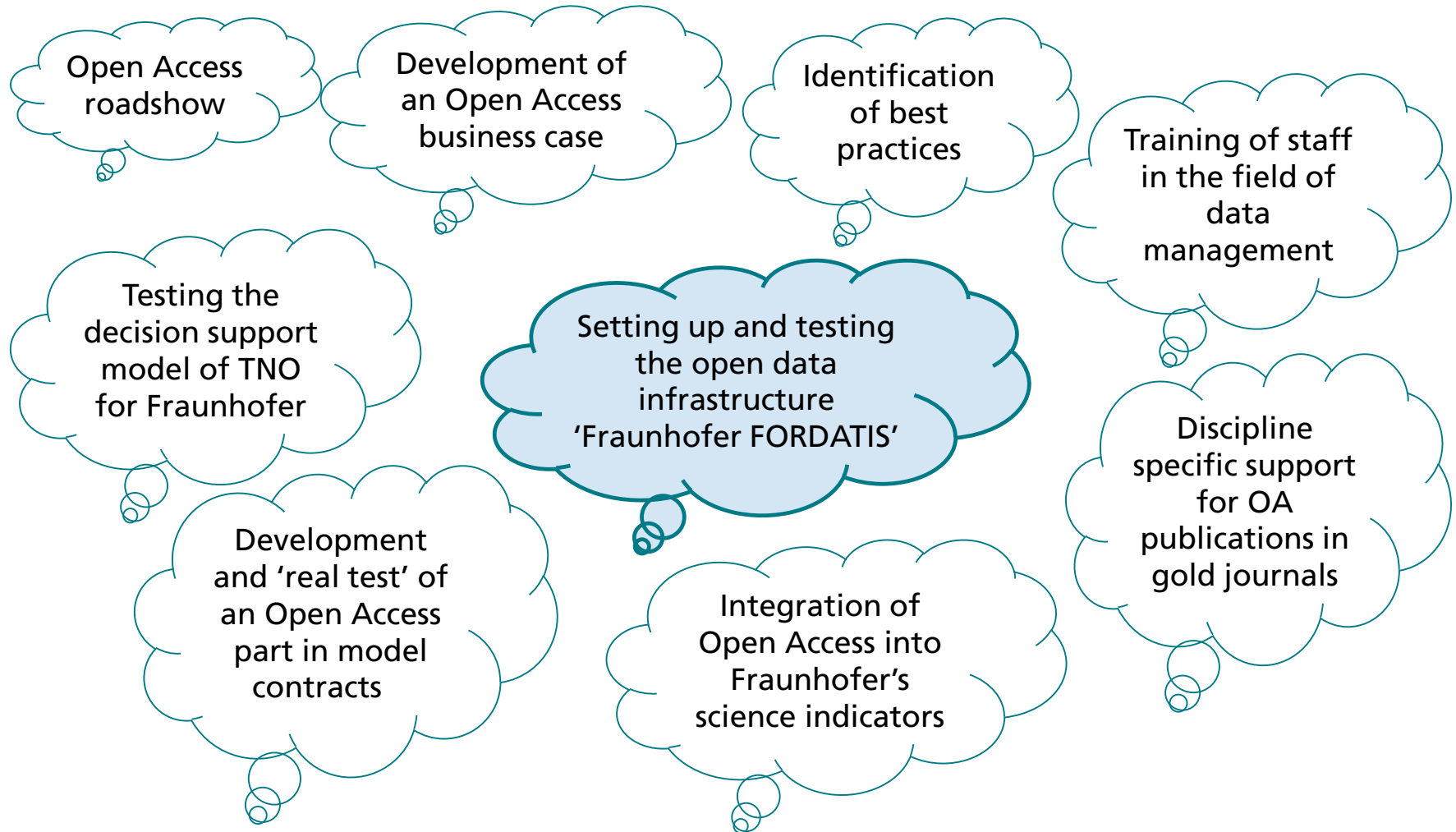
- *Adaptability*: Top-down definition of an Open Access strategy that can be operationalised
- *Subsidiarity*: Realisation on the level of the institutes; feedback to the strategy
- *Transparency*: Information / training of scientists on Open Access or...
- *...Modularity / Flexibility*: Support with decision support tools
- *Resources*: Personnel resources and hardware exist, financial resources to pay Open Access publications to be addressed in project proposals

## ■ Culture:

- Set up an Open Access Business Case (→ MP3)
- Different strategies for different disciplines (analysing the history of successful transitions that have already taken place)
- Coordination with Fraunhofer's science communication
- Central support / consulting on Open Access and different business cases --> integrated in an internal programme
- Incentives for Open Access

# Open Access at Fraunhofer: Ideas for pilot activities (selection)

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# Informal Vision “Societal Engagement at Fraunhofer” – Guiding questions

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## ■ Societal Engagement:

- Who?
- Whereby?
- When? At which point in time?
- Why?
- How much?
- How?
  - Institutionalisation
  - (Attractive) realisations
- Infrastructure, integration?



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# Informal vision „Societal Engagement at Fraunhofer“

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- Fraunhofer covers **all levels of participation**: Agenda setting (30 % of research are defined via societal participation), the research process / research projects, and societal debates.
- A **culture of participation** is deeply institutionalised at Fraunhofer.
- Fraunhofer is a **permanent contact point** for citizens, also in “physical” terms.
- Fraunhofer is a **key enabler for participation**. It points to barriers for participation and helps to smooth them out.
- Fraunhofer provides **resources and leeways** for participation.
- Fraunhofer bears responsibility by pursuing a **participatively developed roadmap** concretising the **Sustainable Development Goals**.



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# Societal Engagement at Fraunhofer: Summary of long-term orientations

## Goals in the fields of "resources & management":

- Gearing the internal research programs towards ‚societal criteria‘
  - Re-distribution of resources, e. g. via a KPI indicating the share of research explicitly pursuing societal goals
  - This KPI could be operationalised on the basis of the Sustainable Development Goals
- Education / training program for participation, e. g. integrated in IPR courses, events for executives and new staff
- Special leaves for societal engagement
- Balance in the distribution of resources:
  - Balance between the headquarters and the local institutes
  - Adapted to the local needs, e. g. differentiating between cities and rural areas
- Esteem as a resource
- "Societal impact" as an evaluation criteria...
  - in annual employee interviews / appraisals
  - in the evaluation of publications.

## Goals in the field of "communication":

- Creating contact points, e. g. if contact persons are needed or citizens are interested in Fraunhofer's activities
- Fulfilment of the education mission in cooperation with schools and other educational institutions
- Organisation of specific conferences
- Interdisciplinary working groups
  - "Beyond one's own nose"
  - Composing the working groups randomly
- Using target-group specific media
- Participation of committees and stakeholders , e. g. work council, schools, the craft sector,...
- Charismatic moderation in the organization and beyond: „acting credible and exemplary to convince others“
- Creation of leeways for communication activities.



# Societal Engagement at Fraunhofer: Ideas for pilot activities (selection)

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Implementation of concrete societal participation in a cooperation project with industry

Setting up a contact point / constituency surgery

„Participation manifesto“:

- Possible content: Barriers & Enablers
- Possible target groups: Executive board, Federal ministry of Education and Research

„Tinker Lab“-realisation for Societal Engagement

Joint trips of scientists and citizens to relevant places (e. g. [Innovative Citizen Festival](#))

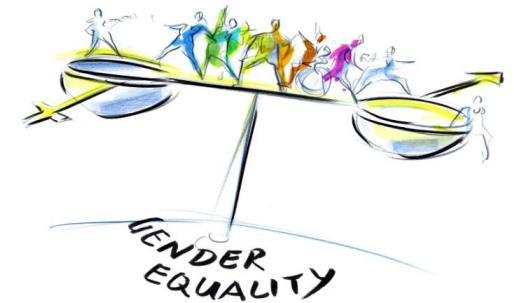
Public events such as Science Slams

Publishing in popular science media

# Informal vision "Gender at Fraunhofer\*" (I)

## ■ General:

- Equal opportunities of all individuals independent from their sex is realised and self-evident
- Everyone has equal opportunities
- Gender bias is removed



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## ■ Why:

- Benefit for society as a whole
- Higher job satisfaction, higher quality of work and higher overall success for Fraunhofer

## ■ What:

- Realisation of working models that fit different ways of (organising private) life
- Gender competences exist, also for gender in research content

# Informal vision “Gender at Fraunhofer” (II)

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## ■ How:

- Culture of fairness and respect

## ■ Who:

- Authorised and accepted persons in charge with the necessary qualification
- Executives
- ‘You and I’
- Women, men and all others

# Gender at Fraunhofer: Summary of long-term orientations (goals / actions)

## ▪ **Entrepreneurs / promoters:**

- Role models
- Qualification 'while doing' in different fields of application, e. g. equal opportunities in personnel selection
- Promoters as persons in charge who...
  - ...offer support,
  - know where to find help, and
  - develop the topic further.

## ▪ **Resources:**

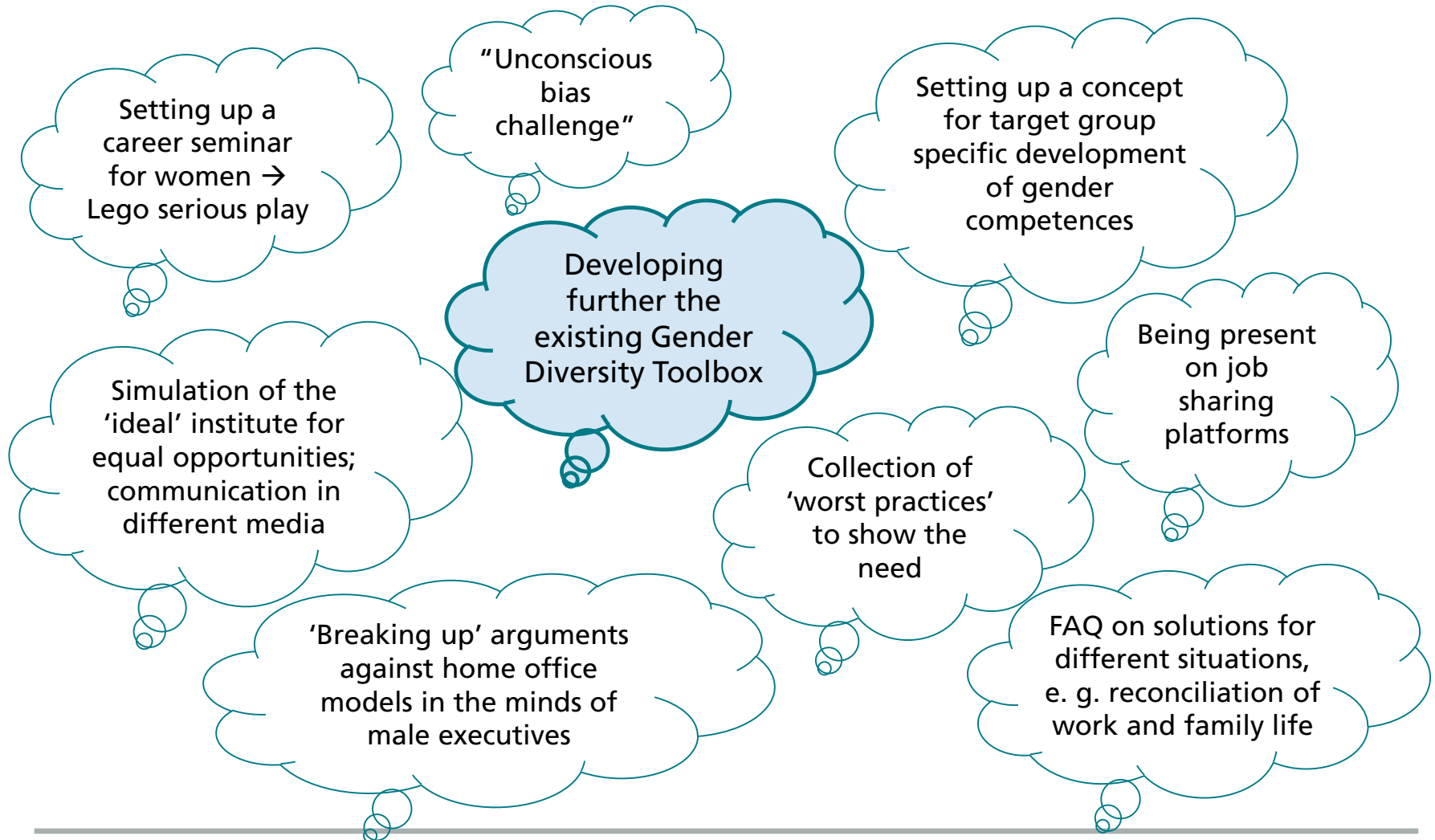
- Personnel: Authorised promoters with acceptance, motivation and qualification; they call others to commit themselves and monitor success
- Time: Fixed time slots in the meetings of all relevant decision-making bodies; also time for trainings
- Financial resources:
  - 'Negative' incentives for persons in charge
  - Trainings
  - Information materials / campaigns
  - Gender budgeting

## ▪ **Deliberation and transparency:**

- Important elements in the organisation-wide (and beyond) gender debate:
  - Terminology: Using 'gender'?
  - Psychological factors
  - Facts
  - Communication specific to target groups
  - Making everyone accountable
- Methods:
  - Constructive debates
  - Transfer of gender competence
  - Motivation development to deal with the topic

# Gender at Fraunhofer: Ideas for pilot activities (selection)

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# Outlook: Possible roadmap visualizations in WP 4 (Example)

