EFFORTI

Evaluation Framework for Promoting Gender Equality in Research and Innovation

Capturing complex impact chains: gender equality measures and their effects on research and innovation

R&I Impact Conference
5th & 6th November 2018, Vienna

Susanne Bührer, Sybille Reidl

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 710470

European Commission

ASSOCIATION OF HUNGARIAN WOMEN IN SCIENCE
INTRASOFT INTERNATIONAL
UOC R&I IN3 Internet Interdisciplinary Institute
AARHUS UNIVERSITY
JOANNEUM RESEARCH POLICIES
Fraunhofer Center for Responsible Research and Innovation
Fraunhofer IAO
Fraunhofer ISI

Content

- Using impact models and theory based evaluation approaches for the analysis of complex impact chains: The example of gender equality
- Case Study FEMtech Research Project
- Conclusion and Discussion

Background and Motivation

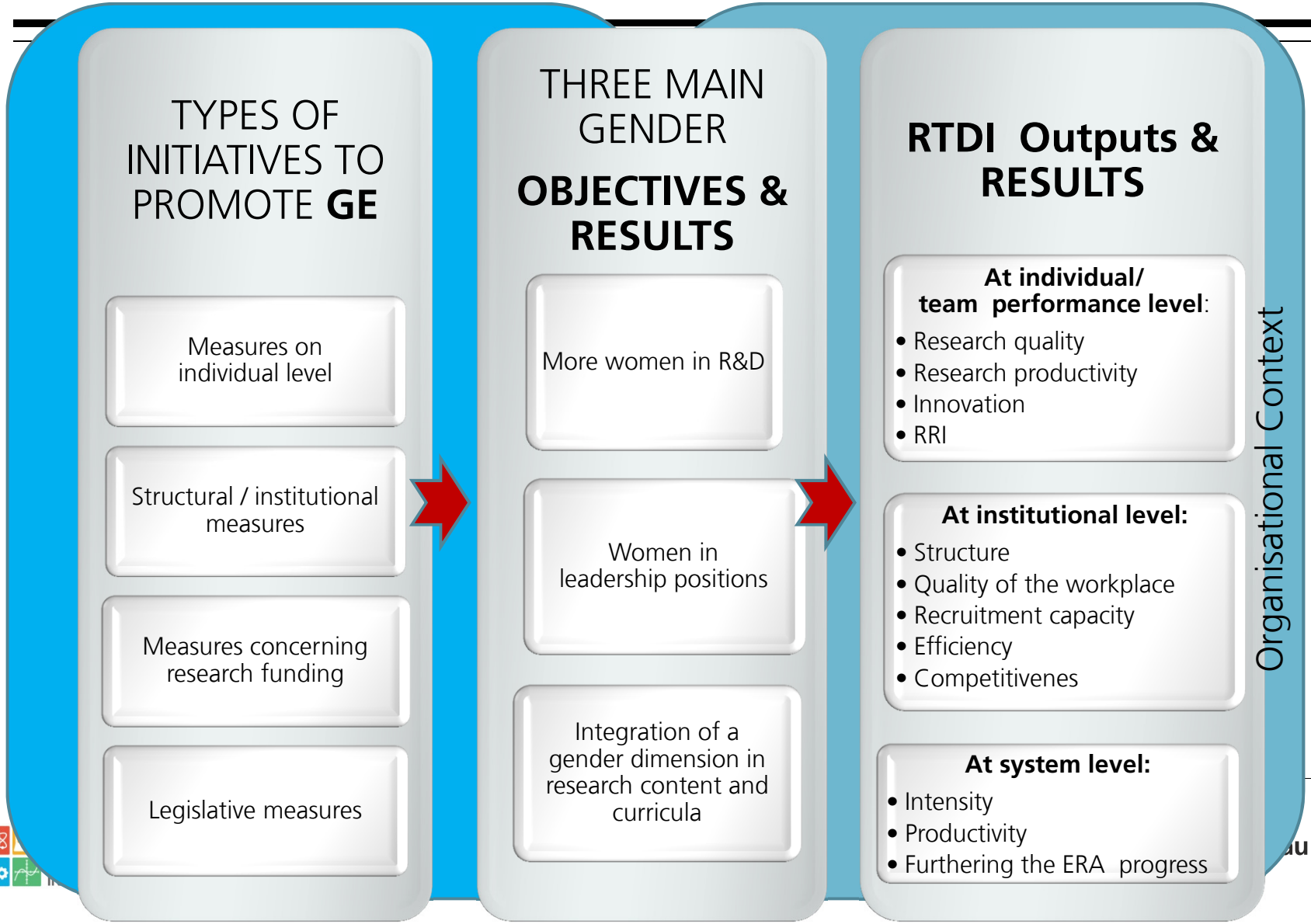
EFFORTI

- Background
  - H2020 project EFFORTI (Evaluation Framework for Promoting Gender Equality in Research and Innovation), funded under SWAFS (Science with and for Society)
  - Duration: June 2016 until May 2019
- Motivation
  - Gender equality (GE) is one of the top priorities since decades
  - The scientific knowledge of the underrepresentation of women within R&I systems and the most important hindrances are comprehensive (see She Figures)
  - A plenty of measures and toolkits exist that aim at the promotion of GE regarding the ERA objectives (e.g. GENDER-NET IGAR tool 2009, EIGE GEAR tool 2016, GARCIA tool 2015)
  - But: Progress is made at a rather low pace

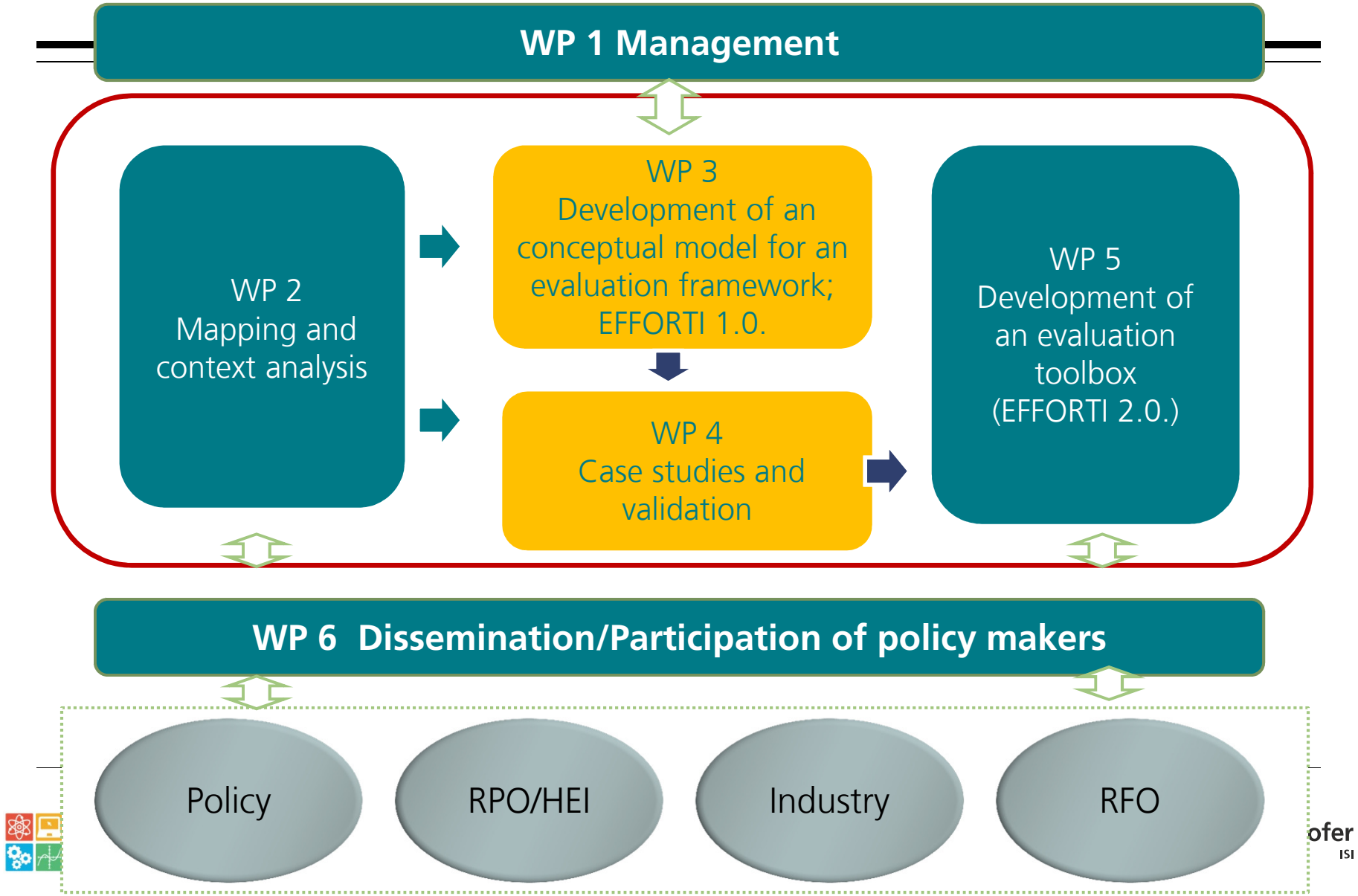
→ More evidence is needed that versatile perspectives lead to more responsible R&I

→ EFFORTI aims to deliver such evidence by developing an evaluation framework which establishes the link between Responsible R&I and Gender Equality

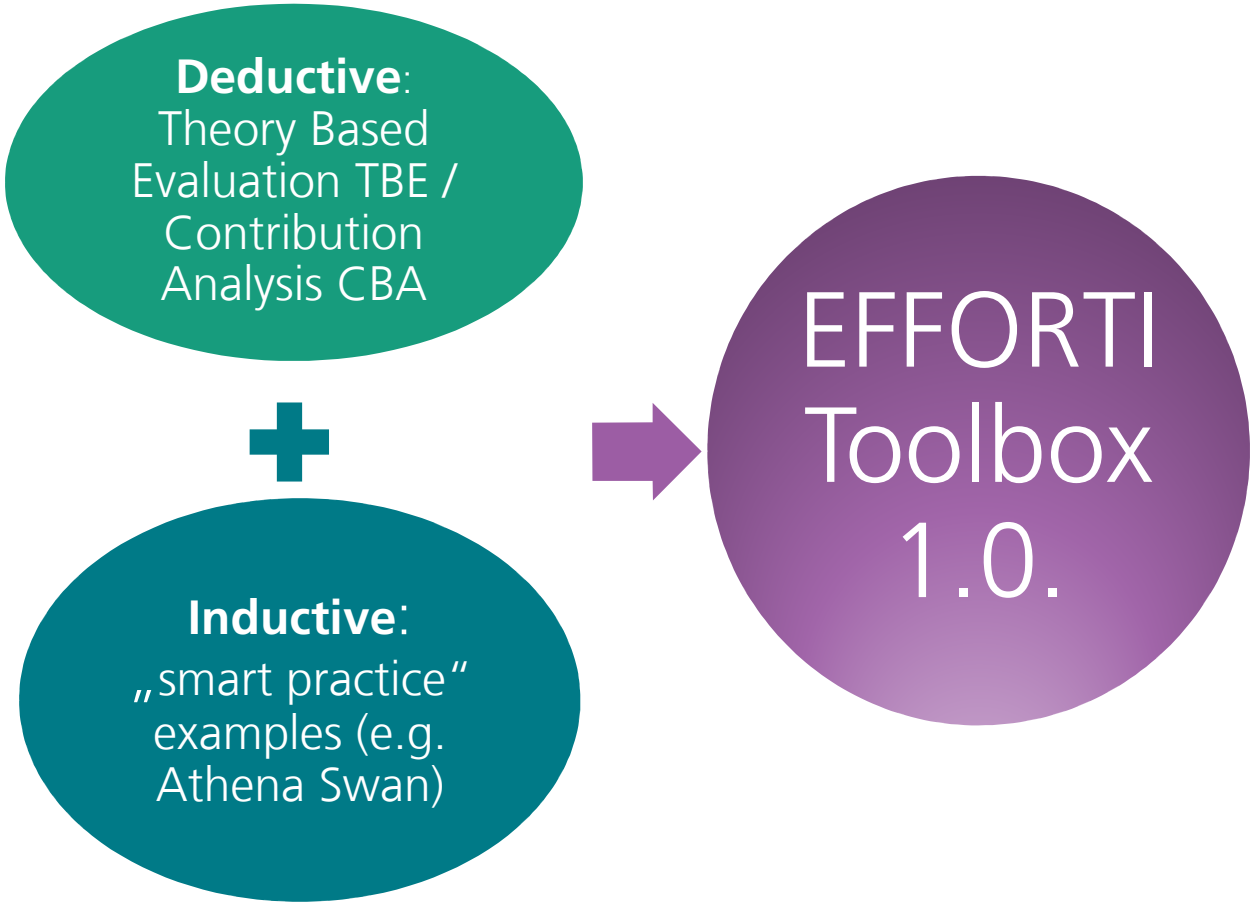
The EFFORTI Core Model



Work packages



The evalution approach



Motivations for TBE

- Answering the question how and why a policy works – in which context (opening the „**black box**“)

- Intention to make a **meaningful statement** about:
  - the impacts of an intervention where the intervention is only one factor among others
  - long-term effects or societal change (like cultural change in RPOs)
  - the context-sensitivity of an intervention

- Within **complex environments**, counterfactual analysis based on experiments and / or control group approaches usually not possible

- **Learning** as important aim of evaluations

Central Aspects of TBE

Central Aspects

Intervention Theory = action and change theories: implicit or explicit assumptions how and why an intervention should work (impact pathways and mechanism)

Contribution instead of attribution

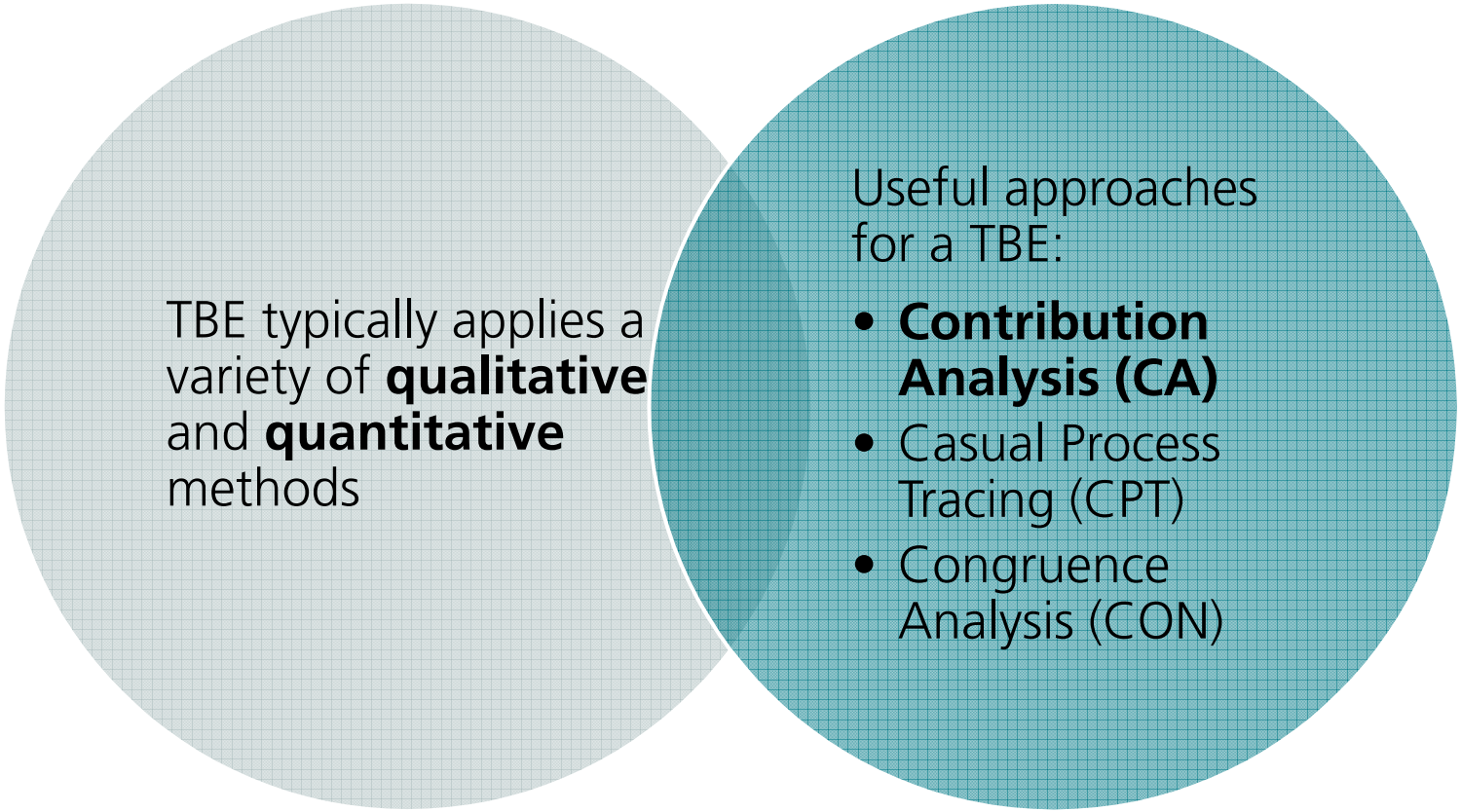
Two main components

- **Conceptional component:** design of a programme theory / theory of change
- **Empirical investigation** of the programme / intervention theory

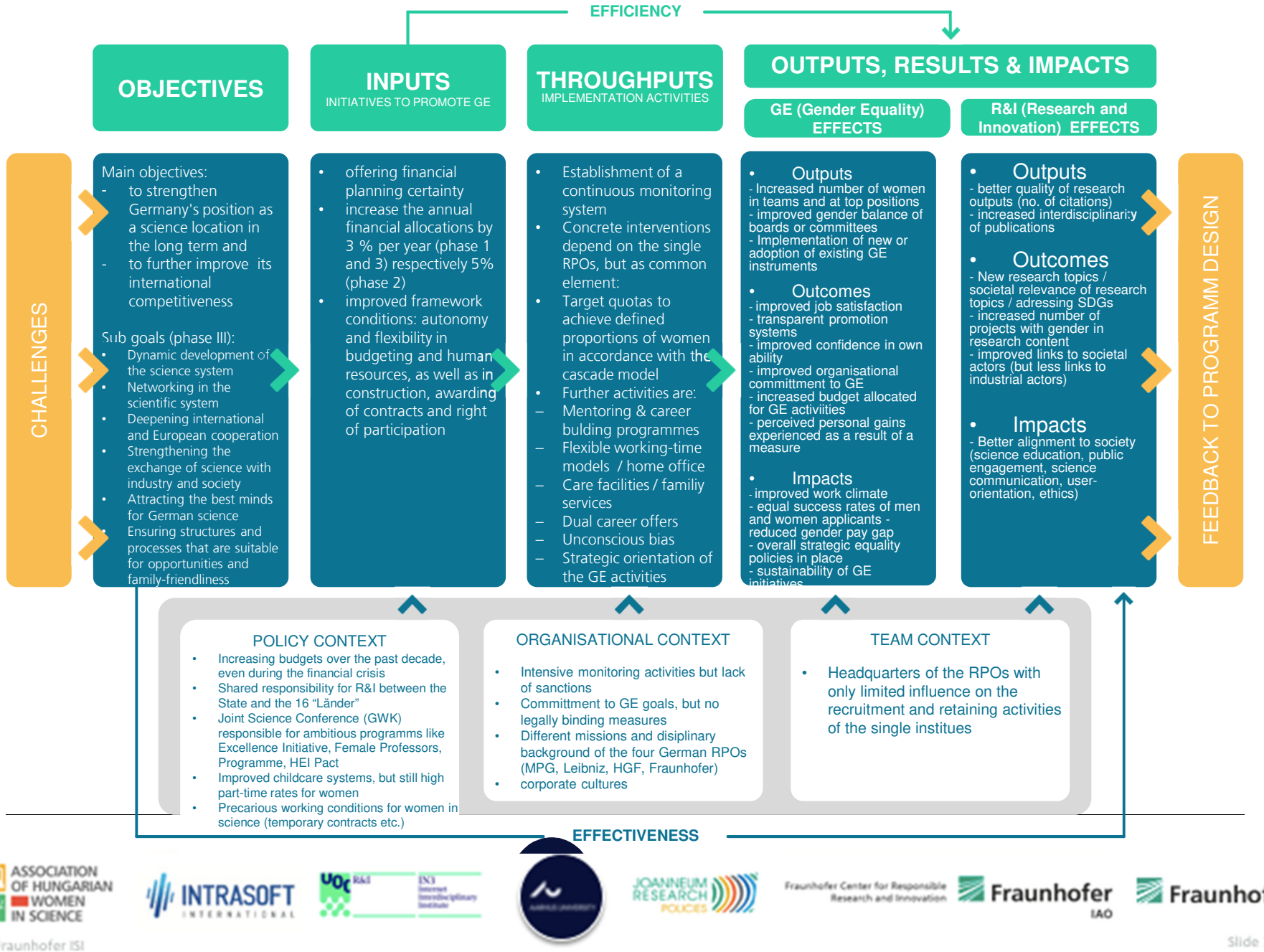
.

Quelle: Eigendarstellung, basierend auf ~~"European Commission (2013): und Leeuw (20129~~

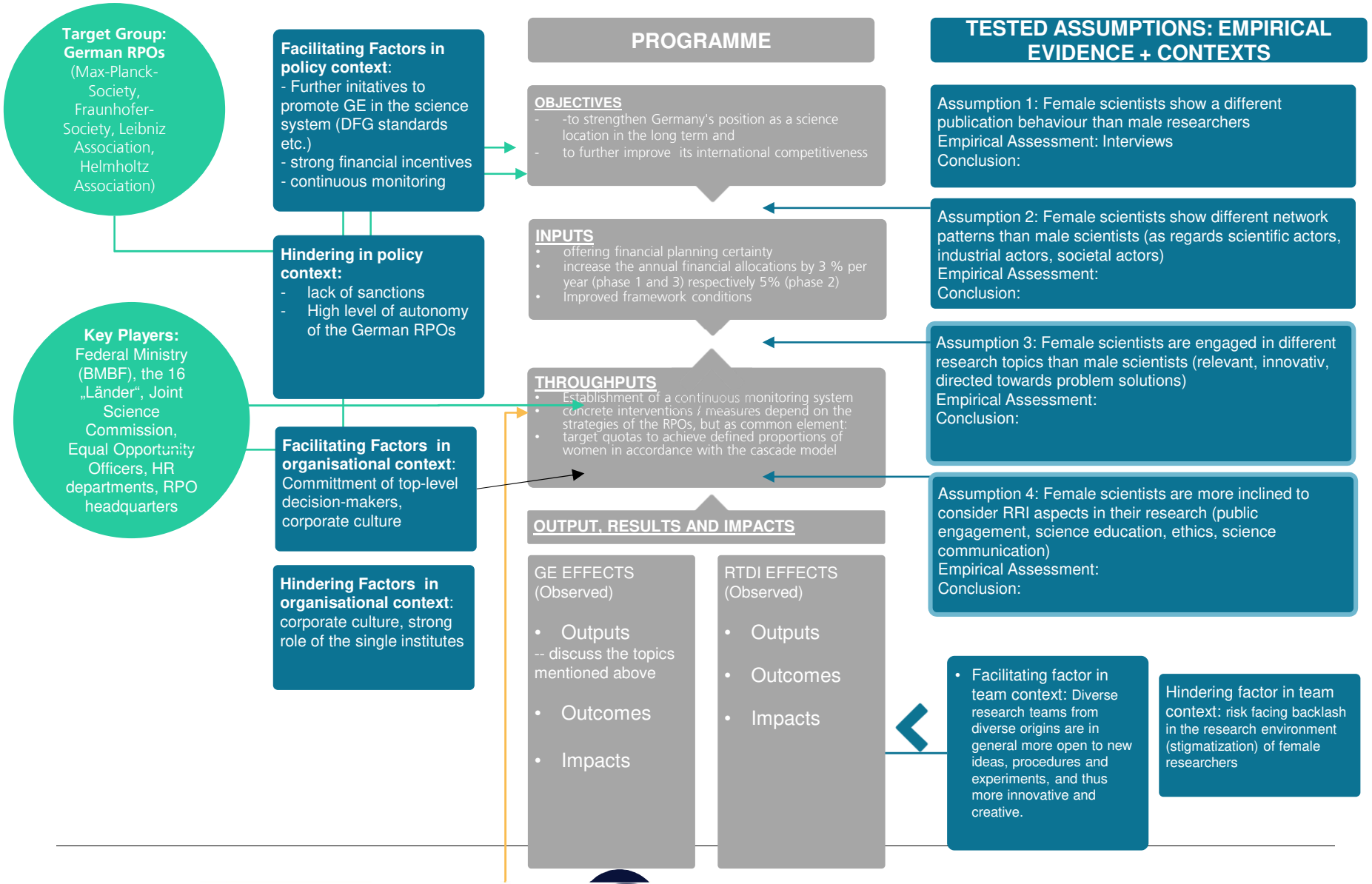
TBE: Empirical investigation of the intervention theory



CASE STUDY WORK: LOG FRAME Example



EFFORTI CASE STUDY WORK: THEORY OF CHANGE Example



Case Study
FEMtech Research Projects

EFFORTI

UrbanFoodSpots
Kühlstationen zur Lebensmittelweitergabe

ABFÄLLE VERMEIDEN MIT ÖFFENTLICHEN KÜHLSTATIONEN
LEBENSMITTEL ABGEBEN UND/ODER KOSTENFREI ENTNEHMEN

ASSOCIATION OF HUNGARIAN WOMEN IN SCIENCE
INTRASOFT INTERNATIONAL
UoC R&I IN3 Internet Interdisciplinary Institute
AARHUS UNIVERSITY
JOANNEUM RESEARCH POLICIES
Fraunhofer Center for Responsible Research and Innovation
Fraunhofer IAO
Fraunhofer ISI

Background Information

EFFORTI

General Information

Measure:	Promotion of gender-sensitive research projects in STEM
Time period:	since 2008
Target of measure:	Initiation of gender-sensitive research
Legal framework:	FEMtech Research Projects is a programme of the Federal Ministry of Transport, Innovation and Technology (BMVIT)
Funding authority:	Austrian Research Promotion Agency (FFG)

Relevance

- FEMtech Research Projects is an international good practice example for the promotion of the gender dimension in research.

- Case Study
  - Targets:
    - Which RTDI effects of the funding programme can be identified?
    - How can one measure the broad impact in the scientific community?

Objectives & Input

EFFORTI

OBJECTIVES

- Initiation of RTI projects with gender relevant content.
- Initiation of future-relevant research fields and products with a gender dimension
- Increasing the quality of technologies and products on the market
- Development of tailor-made, innovative solutions that have a demonstration character
- Increasing acceptance and interest in gender in research projects among scientists

- concrete measurable target: 20-30 proposals per call and funding of 10-12 projects

INPUT

- projects are funded with 300.000€
- data base to find gender experts

Expected Effects

OUTPUT

- Number of funded projects per call
- Thematic diversity of funded projects
- Number of proposals per call
- User oriented demonstrators/ services / know-how

GE EFFECTS

Outcome:

- Increased gender competence of researchers
- Increased gender awareness in organisation

Impact:

- Anchoring of gender in application-oriented research
- Gender criteria in other funding programs

RTDI EFFECTS

Outcome

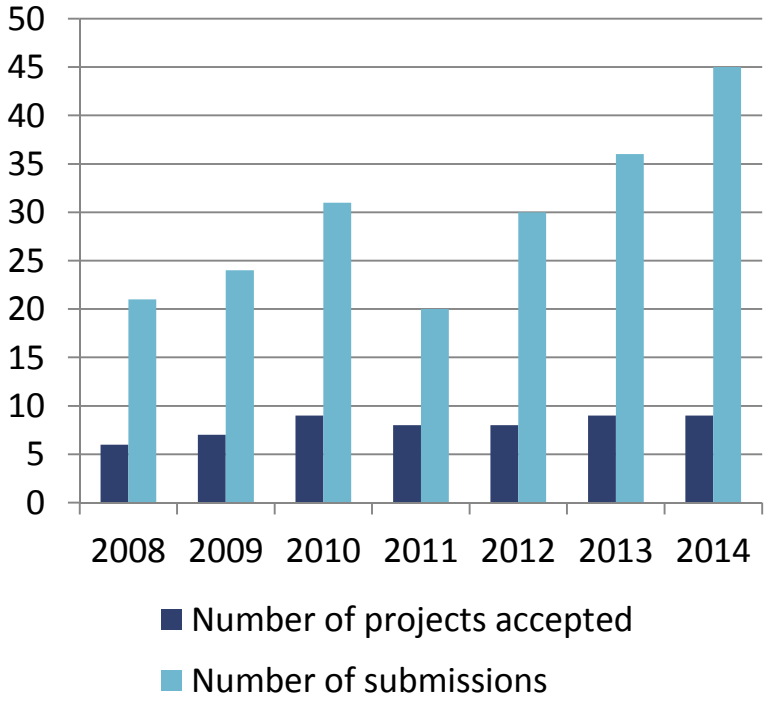
- User-oriented technologies and products on the market

Impact:

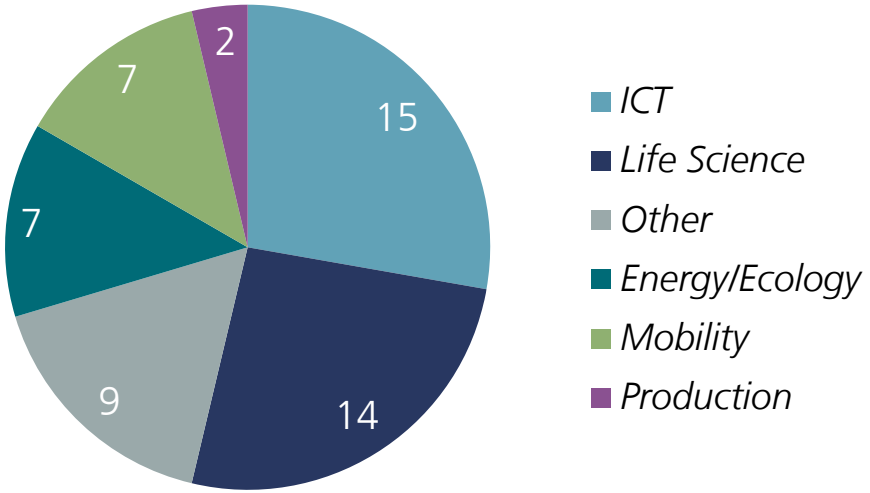
- Creation of new and expanding of existing markets

Outputs

Number of submitted and accepted projects per year (2008-2014)

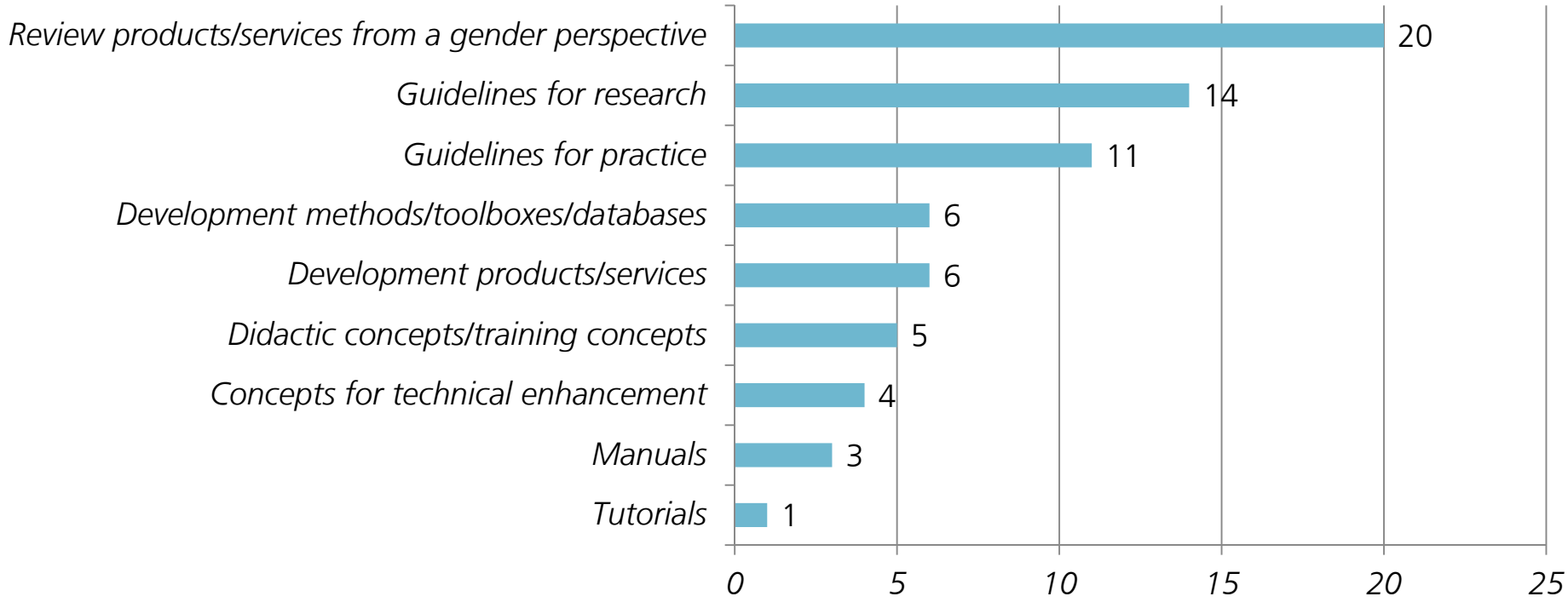


Projects according to thematical focus



Outputs

Type of results



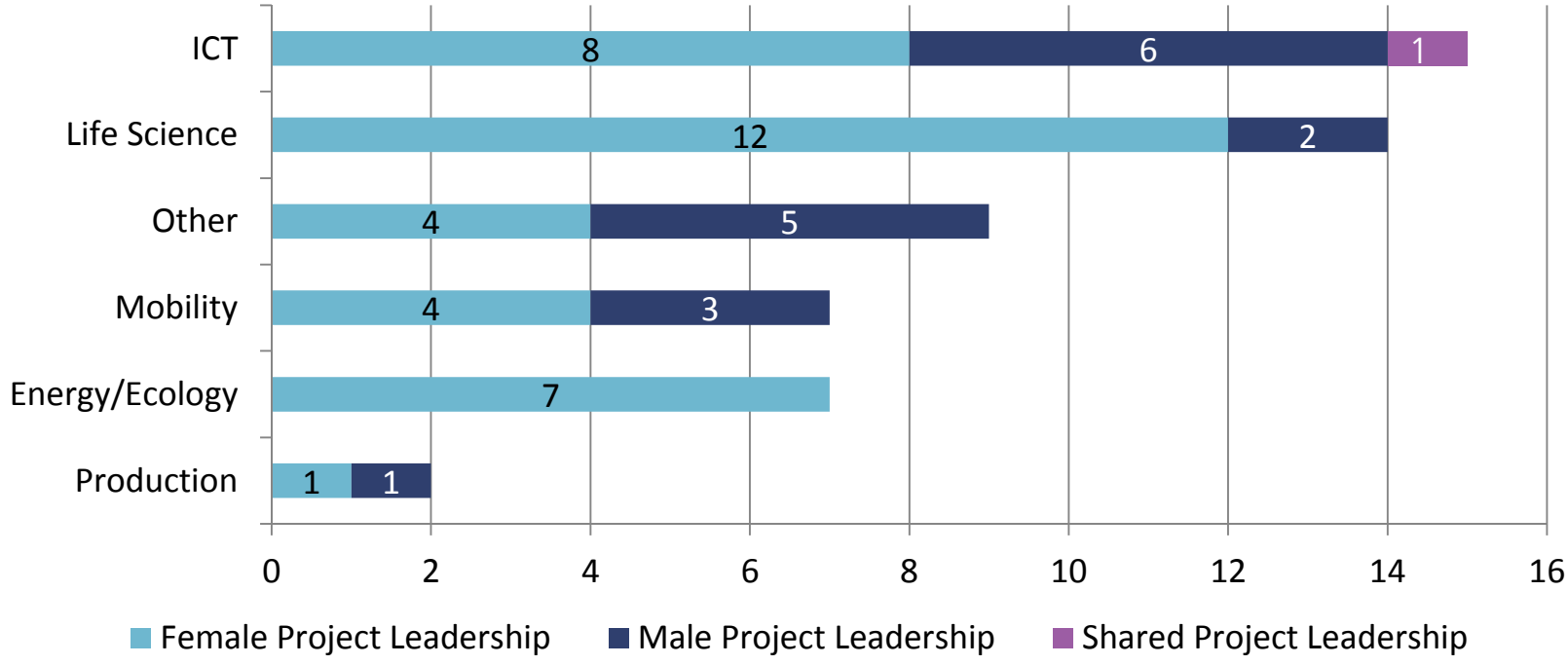
Outcomes

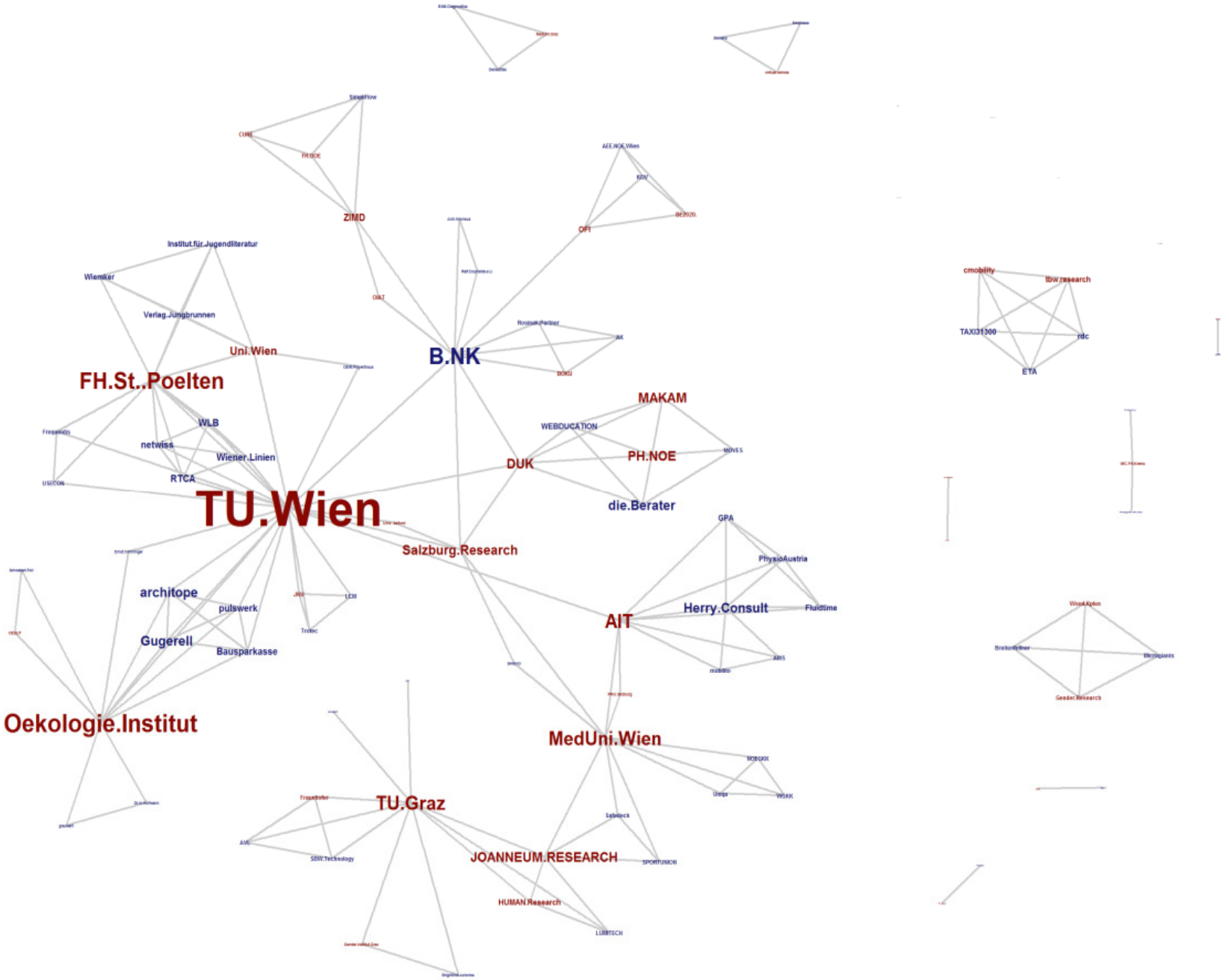
Type of further use of results

Outcomes

Not intended: two thirds of the projects are led by women!

Projects according to thematical focus and gender of the project leader




ZIMD
Institut.für.Jugendliteratur
Wienker
Verlag.Jungbrunnen
Uni.Wien
FH.St..Poelten
B.NK
OFI
cmobility
tbw.research
TAXI31300
rdc
ETA
MAKAM
WEBDUCATION
PH.NOE
DUK
die.Berater
WLB
netwiss
Wiener.Linien
RTCA
TU.Wien
Salzburg.Research
GPA
PhysioAustria
Herry.Consult
AIT
architope
pulswerk
Gugerell
Bausparkasse
Oekologie.Institut
MedUni.Wien
TU.Graz
JOANNEUM.RESEARCH
HUMAN.Research
Salzeck
Wood.Kplus
Gender.Research

Results of the Impact Assessment

- ✓ FEMtech research projects initiates projects in FTI with gender-relevant content; with 56 projects funded so far.
- ✓ FEMtech research projects increases acceptance and interest in gender in research projects among participating scientists
  - ✓ Evidence from qualitative interviews; the effect is greater with business project partners
  - ✓ Scientists acquire more gender competence, but were often already sensitised.
- ✓ Expectation of anchoring the gender dimension in applied research is too high
  - ✓ Network analysis shows multipliers, it is however questionable whether the growth of the community will decrease
  - ✓ Further evidence needed for gender criteria in other funding schemes
- ✓ Development of tailor-made, innovative solutions with demonstration character only possible to a limited extent due to funding amount
- ✓ Impact on the quality of technologies and products on the market cannot be demonstrated
  - ✓ Projects do not lead to the marketability of products (due to the framework conditions)
  - ✓ Monitoring beyond the funding period would be necessary

Insights from the Case Study

EFFORTI

Strengths
- First attempt to measure RTDI effects of the programme
- Identification of unintended effects
- Recommendations for action identifiable
- Experimental Access

Weaknesses
- Context and impact assumptions cannot be recorded in a standardised way, depend on the view of the interviewees and the evaluators
- Economic effects (in the sense of market expansion, developed products) cannot yet be measured due to lack of data.

Chances
- Further development of the representation of RTDI effects
- If access to further funding data is provided, effects could be measured in other funding programmes.

Challenges
- Statements from qualitative interviews must be empirically validated; resource problem
- Effects regarding sensitization for the gender dimension in research are difficult to attribute

Conclusion and Discussion

EFFORTI

Conclusion:

- ✓ EFFORTI is faced with the conflict between context sensitivity and reduction of complexity
- ✓ TBE and the assumption of far-reaching indirect effects on research and innovation are often difficult to communicate
- ✓ A dynamic toolbox is in the making

Discussion:

- ✓ Assessing GE programmes also in terms of their R&I impacts can enrich evaluations, but is not always feasible
- ✓ Not only the measure itself, but also its context is decisive for its impact.
- ✓ Complex program theories should be based on plausibility and not exclusively on statistical evidence.
- ✓ Effective programme theories must be "agile": they must leave room for uncertainty, be experimental and iterative and easily adaptable.

Literature

- ✓ European Commission (2013): EVALSED Sourcebook: Method and Techniques, regional and urban policies.
- ✓ Leeuw, F. (2003): Reconstructing Program Theories: Methods Available and Problems to be Solved, in «American Journal of Evaluation», n. 24(1), pp. 5-20
- ✓ Leeuw, F. (2012): Linking theory-based evaluation and contribution analysis: Three problems and a few solution, Evaluation 18(3), p. 348-363
- ✓ Weiss, C. H. (1997a): How can theory-based evaluation make a greater headway? Evaluation Review Vol 21, 1997, p. 501-524
- ✓ Weiss C. H (1997b): Theory-based evaluation: Past, present and future. New Directions for Evaluation 76:41–55
- ✓ White, H. (2010): A Contribution to Current Debates in Impact Evaluation. Evaluation 16(2), 153-164

EFFORTI

Thank you very much
for your attention!

ww.efforti.eu

ASSOCIATION OF HUNGARIAN WOMEN IN SCIENCE
INTRASOFT INTERNATIONAL
UOC R&I IN3 Internet Interdisciplinary Institute
AARHUS UNIVERSITY
JOANNEUM RESEARCH POLICIES
Fraunhofer Center for Responsible Research and Innovation
Fraunhofer IAO
Fraunhofer ISI