
INTEGRATING GENDER ASPECTS IN USER DRIVEN INNOVATION PRACTICES

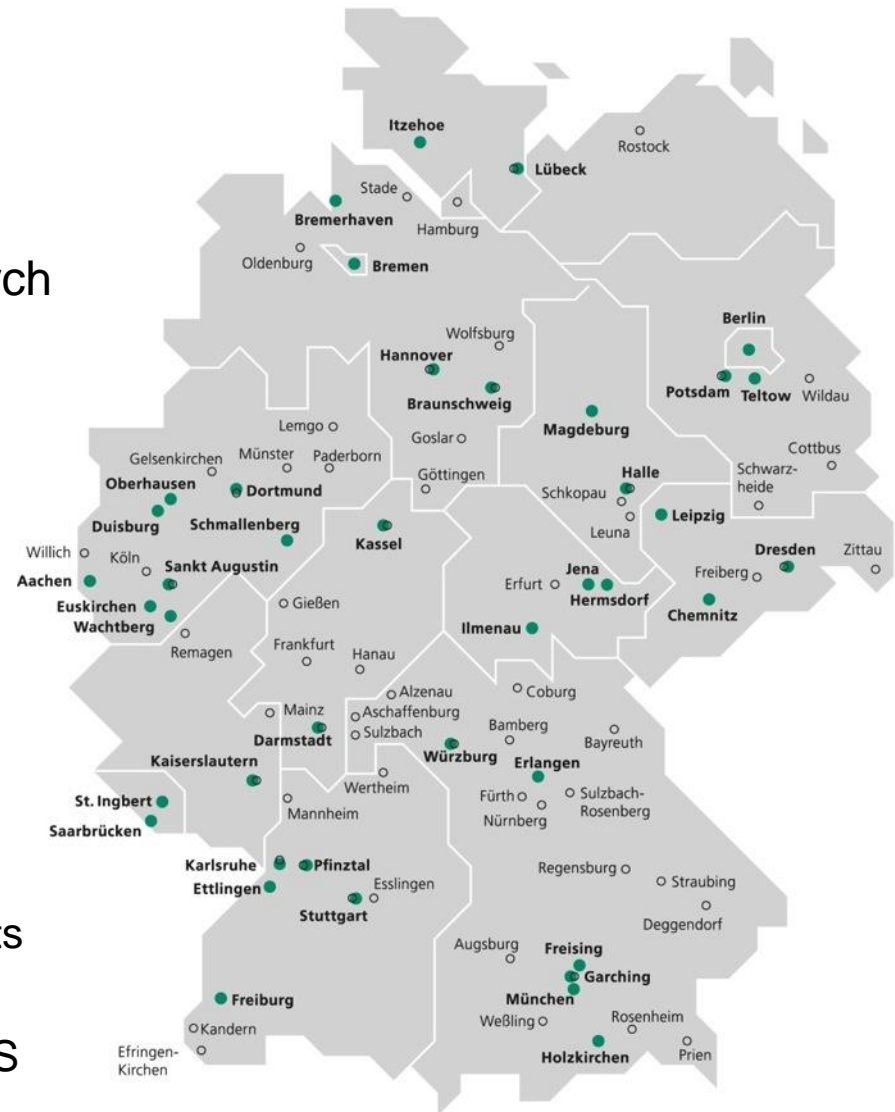
Gender Summit 6 – Asia Pacific
August 26 – 28, 2015, Seoul, Kor
ea

Prof. Dr. Martina Schraudner
Fraunhofer–Center for Responsible
Research and Innovation
Berlin, Germany

Fraunhofer

Locations in Germany

- 67 institutes and independent research units
- more than 23,000 staff
- 7 Alliances:
 - ICT Group
 - Group for Life Sciences
 - Group for Light & Surfaces
 - Group for Microelectronics
 - Group for Production
 - Group for Materials and Components – MATERIALS
 - Group for Defense and Security VVS



● main location ○ other location

Concentration on value and utility for customers

THIS MEANS:

TO ENABLE BOTH MEN AND WOMEN TO DO
WHAT THEY CANNOT DO AT THE MOMENT BUT
WOULD LIKE TO DO IF THEY KNEW THAT IT WAS
POSSIBLE!

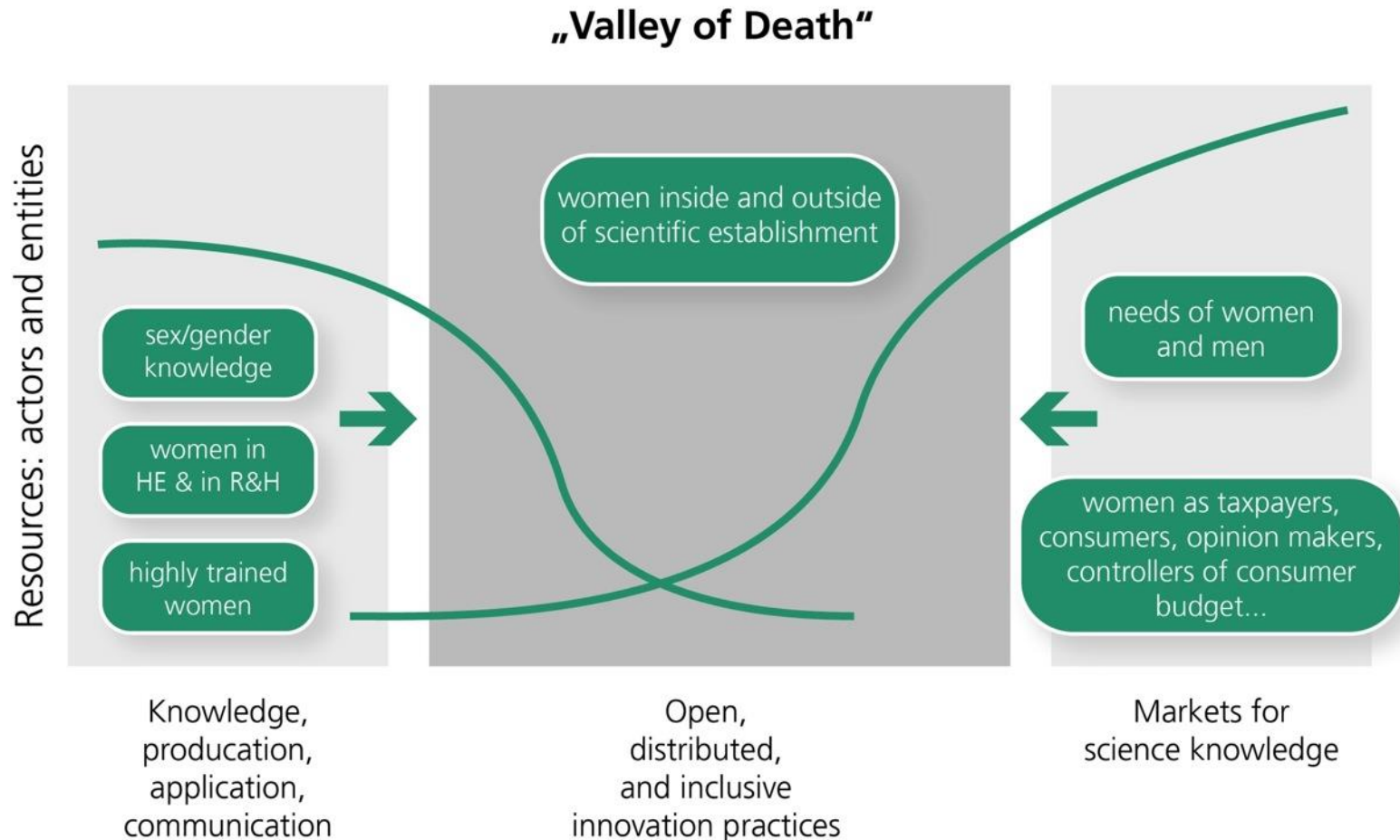
Typology on Innovation – Data from Special Eurobarometer (2005)

Group Name	Proportion of EU25 population	<i>BROAD</i> characteristics of Group compared to others*
„Anti-innovation“	16%	Female; aged 55 or over; lower level of education; living alone; principal occupation – taking care of the home or being retired
„Reluctant“	33%	Female, aged 40 or older; tend to be manual workers or not economically active (though not students)
„Attracted“	39%	Male, young, students or white collar workers, living in a large household
„Enthusiasts“	11%	Male, young, students, those with high levels of education, managers

* *Group descriptors were assigned based on the largest single contributing demographic subgroup; these descriptors are not meant to comprehensively represent a group's demographic composition*

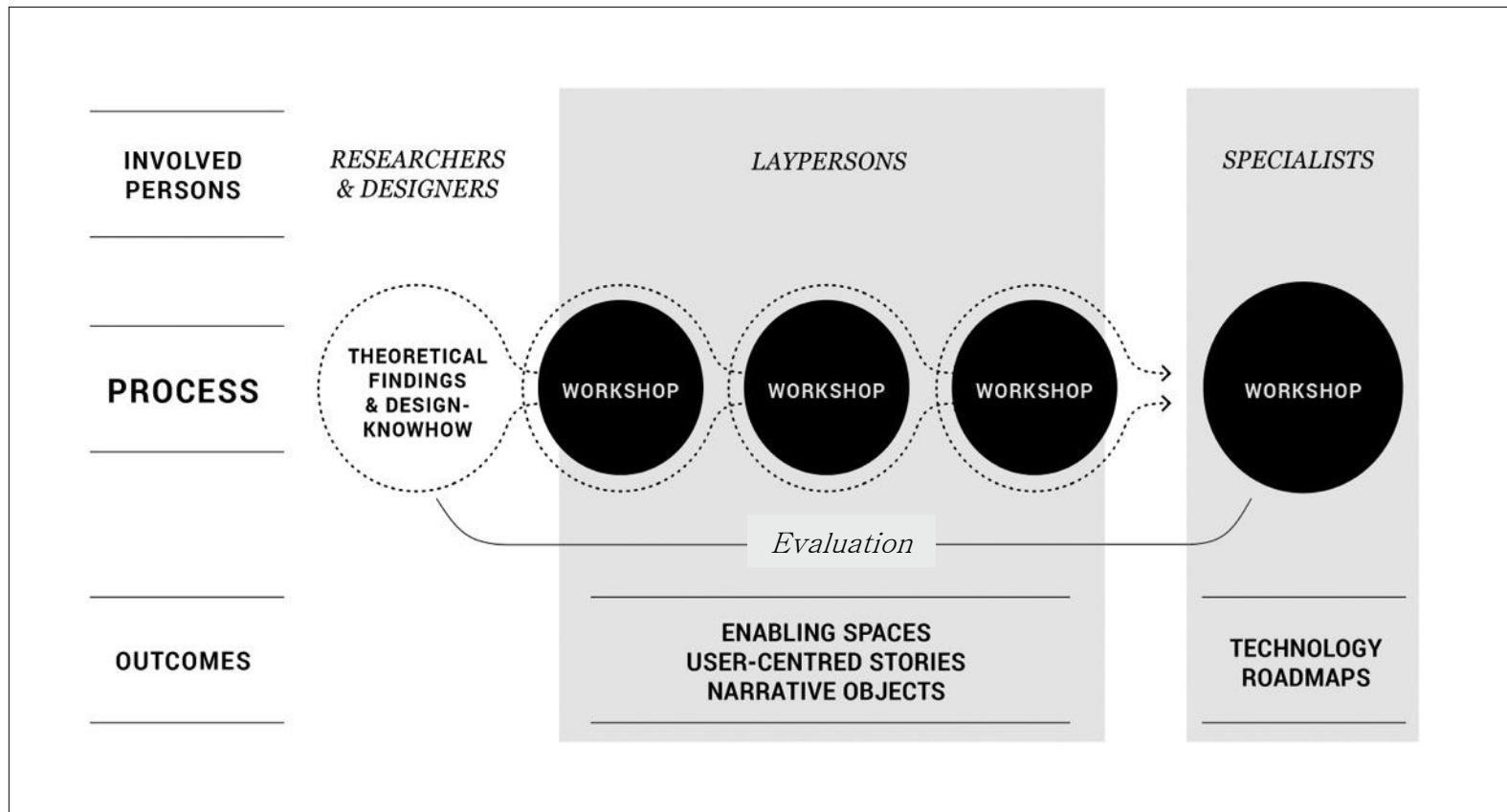
Source: European Commission, Population Innovation Readiness, Special Eurobarometer 236 / Wave 63.4 – TNS Opinion & Social (2005)

Gender Dynamics in Innovation Ecosystems



Source: Elisabeth Pollitzer, Martina Schraudner (2015): Gender dynamics and women's careers in innovation ecosystems and knowledge practises; The 2015 Annual Conference of the EU-SPRI Forum in Helsinki, Finland, Tagungsband S. 25-29

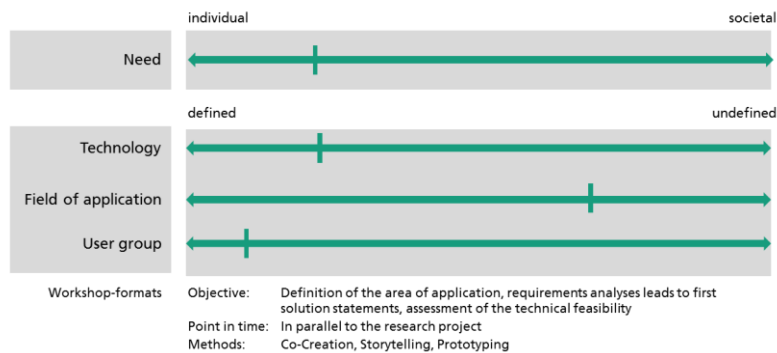
Laypersons are key in the process of designing technology roadmaps responsive to societal challenges



Heidingsfelder, Marie; Kimpel, Kora; Best, Kathinka & Schraudner, Martina (forthcoming): Shaping Future – Adapting design know-how to reorient innovation towards public preferences. *Technological Forecasting & Social Change* 90(10).

Case 1: Fit65@home aimed at developing a mobile, interactive, game-based home-training

Framework for the selection of the methods applied



Purpose: Develop an interactive and mobile physical therapy

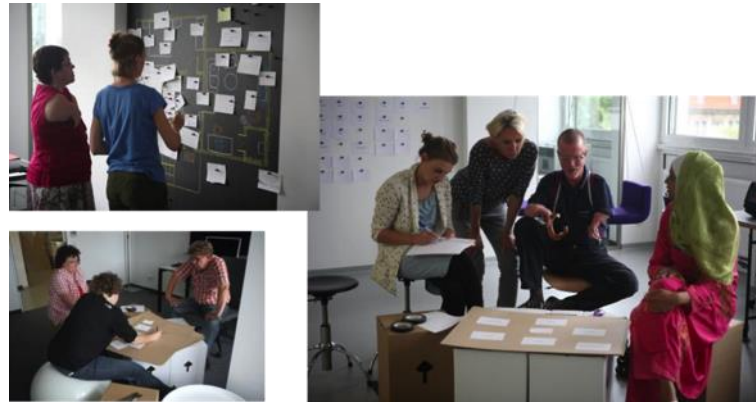
Participants: Engineers, professional therapists, designers, “people affected by Contergan“

Methodology: Co-creation, Innovation re-augmented, storytelling, prototyping, user texts

Results: Applications & software for a medical home-training set

Fit65@home initially based on three user-centered workshops

In the project Fit65plus@home users and technology partners develop technical solutions that provide people with severe mobility difficulties with the means to absolve a physical training program in a home setting (in virtual communities or alone, with and w/o support by a therapist).



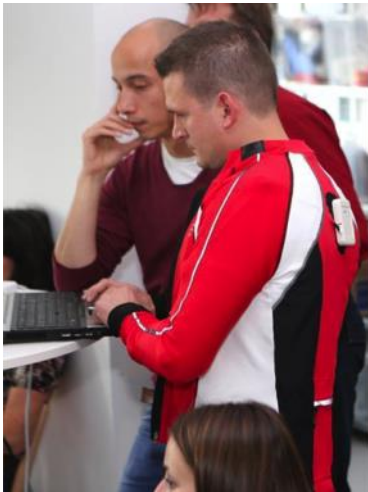
Fit65@home initially based on three user-centered workshops

In the project Fit65@home people affected by Contergan are an integral part of the development process and act as peers to provide significant added value and insights.

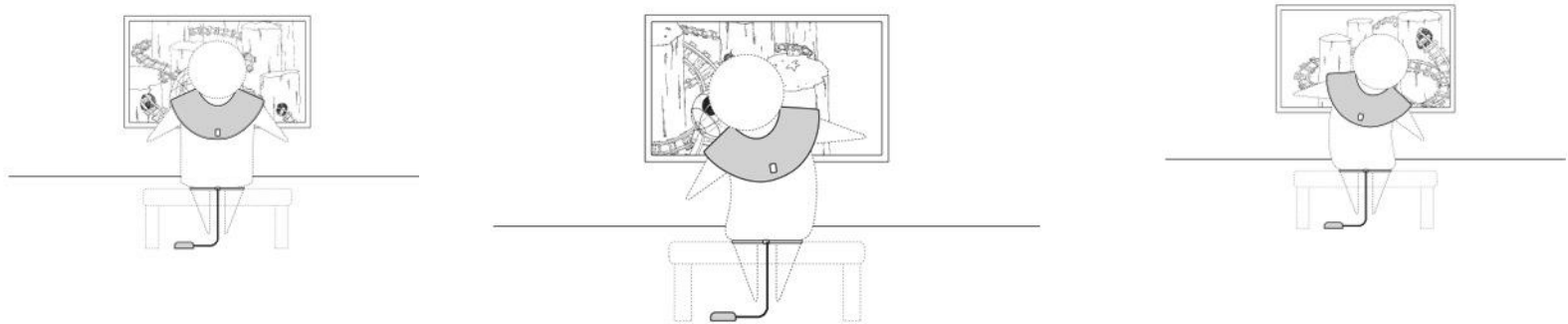


Fit65@home initially based on three user-centered workshops

New ideas for technological solutions are generated out of the requirements that are encountered in problems of everyday life. A focus lies upon the strategies that have been developed by the individuals over the decades. The objective is to leverage these consolidated findings in order to develop new assistive systems and to transfer these new technologies to other population groups.

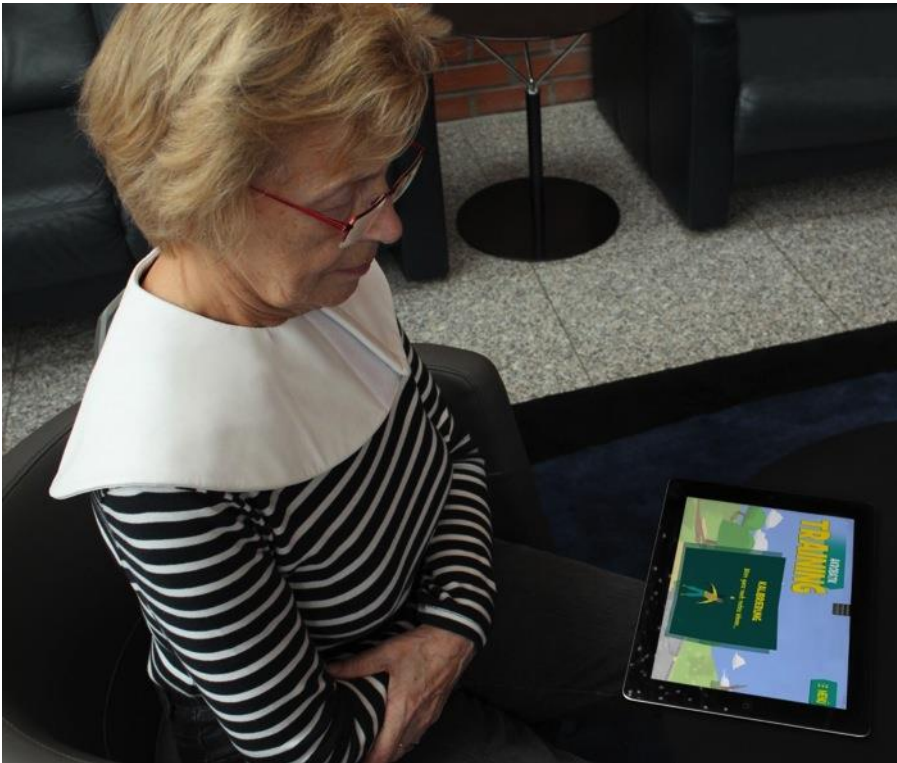


As technological feasibility & functionality were confirmed, mock-ups were developed



By integrating end-users' prospective early in the innovation process, Discover Markets helps by conforming technological advances to their preferences, **which increases their acceptance**

From ideas to application: a health care training device successfully trains elder disabled people at home

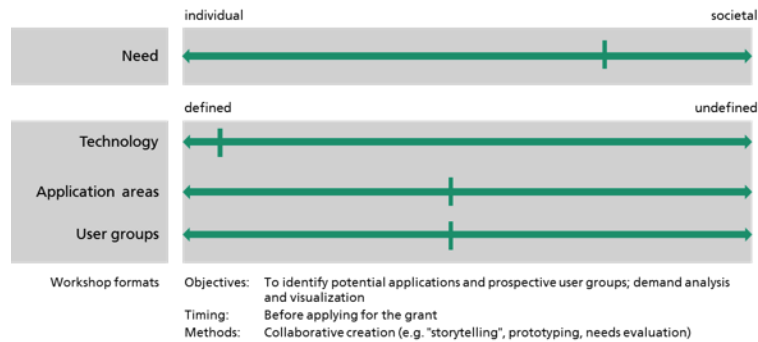


From ideas to application: the developed **health care – training device** satisfies individual user-needs



Case: CareJack seeks to explore user-needs to provide care-givers an intelligent exoskeleton

CareJack: Initial estimates



Purpose: Provide both physical support and ergonomic training on the job

Participants: Engineers, scientists, designers, “end-users” – male and female professional caregivers

Methodology: Storytelling, design prototyping, identifying needs

Results: Possible technological solutions and identified required further research & development



Case 1: Care
to provide o

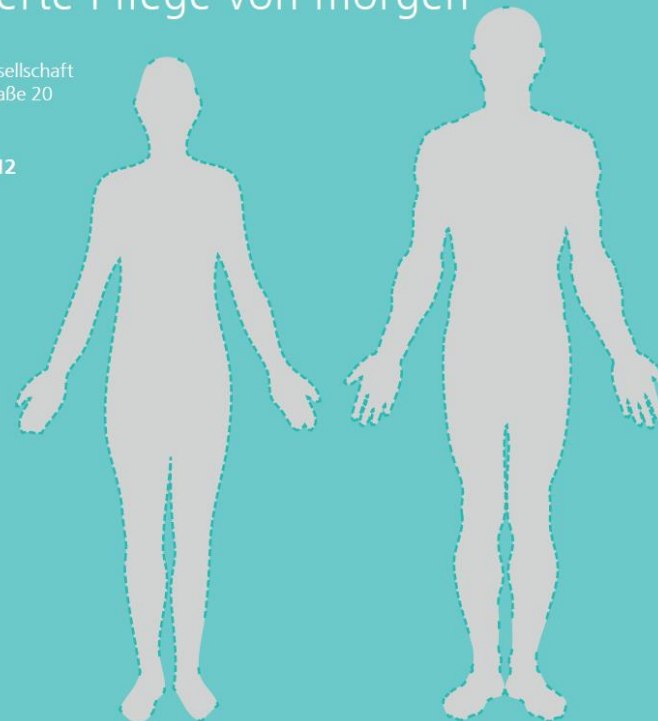
ser-needs
orthosis

CAREJACK-DOKU

Assistierte Pflege von morgen

Fraunhofer-Gesellschaft
Hardenbergstraße 20
10623 Berlin

22. März 2012



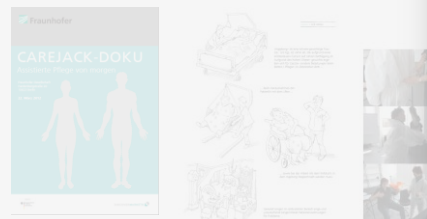
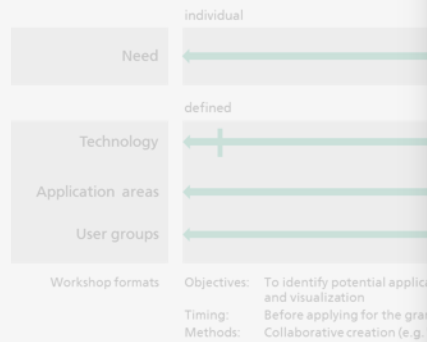
both physical
nic training on

eers, scientists,
s” – professional

telling, design
ng needs

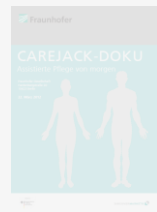
chnological
ed required
velopment

CareJack: Initial estimate



Case 1: CareJack to provide c

CareJack: Initial estimate



Method: Storytelling



Session 1 ASB LÜBBEN

»Ingeborg« ist eine schwer-gewichtige Frau (ca. 120 kg), 62 Jahre alt, die aufgrund eines Wirbelsäulen-Tumors seit Jahren bettlägerig ist. Aufgrund des hohen Körper- gewichts ergeben sich für Lisa be- sondere Belastungen beim Betten / Pflegen im überbreiten Bett ...



... beim Herausnehmen der Patientin mit dem Lifter ...



... sowie bei der Arbeit mit dem Rollstuhl, in dem Ingeborg festgeschnallt werden muss.



Generell sorgen im ambulanten Bereich enge und unzureichend eingerichtete Patientenwohnungen für Probleme.

ser-needs
orthosis

both physical
nic training on

eers, scientists,
s” – professional

telling, design
ng needs

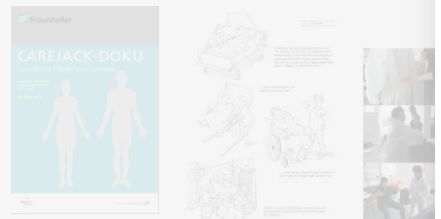
chnological
ed required
velopment

Case 1: CareJack to provide care

Method: Design prototyping

Session 2 ASB Lbbben

CareJack: Initial estimates



er-needs
orthosis

both physical
nic training on

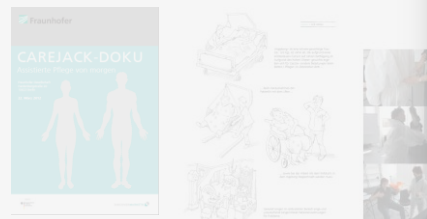
ers, scientists,
s” – professional

telling, design
ng needs

chnological
ed required
velopment

Case 1: CareJack to provide care

CareJack: Initial estimate



Method: Identifying needs

Session 3 ASB Lötzen

DISCOVER MARKETS

Projekt_Care Jack
Projektteam: *FSB*

Kurzbeschreibung der Pflegesituation: *Beim Anpa mit dem Rollstuhl... d.h. die Rollstuhl und ohne Tor ausl...
Mittels Pk. kann... stehen (Passe Körper ein)*

Wo fehlt es an Kraft? *→ im Rücken und Beinen & Arm/Hand/WS*
An welchen Körperstellen wird eine Kräftunterstützung gewünscht? *→ speziell Rücken, WS, Beine/Hand*
Welche Körperstellen sollten geschützt werden? *→*
Welche Fehlhaltungen sollten vermieden werden? *→*

Nutzen Sie die vorgegebenen Silhouetten (Mann / Frau) und zeichnen sie Ihre Vorschläge ein.

Projekt_Care Jack
Projektteam: *FSB W. Lötzen*

Kurzbeschreibung der Pflegesituation: *Rollstuhlfahrer in der Toilette... (Stuhllehre vor dem Rollstuhl)*

Wo fehlt es an Kraft? *→ im Rücken & Beinen*
An welchen Körperstellen wird eine Kräftunterstützung gewünscht? *→ Rücken & Beine/Hand*
Welche Körperstellen sollten geschützt werden? *→ WS & Beine/Hand*
Welche Fehlhaltungen sollten vermieden werden? *→*
Nutzen Sie die vorgegebenen Silhouetten (Mann / Frau) und zeichnen sie Ihre Vorschläge ein.

Fraunhofer

ser-needs
orthosis
both physical
nic training on
eers, scientists,
rs” – professional
rtelling, design
ng needs
chnological
ed required
velopment

Workshop feedback

“The morning after the workshop, ideas and visions kept going through my mind. It is important to be able to envision future challenges as manageable and to shape them into desirable outcomes. It is this approach, I believe, that makes your project so appealing.” (woman)

THANK YOU!

Prof. Dr. Martina Schraudner
martina.schraudner@iao.fraunhofer.de