
SHAPES – FORESIGHT EXERCISES



S H A P E S

Awareness Week – Tuesday



Fraunhofer INT
Tuesday 28.04.2020
27.04. – 01.05.2020

Future Influencing Factors and Technologies



On the second day during our Awareness Week we want to provide you with information about:

- ? How can future influencing factors and technologies for SHAPES be identified?
- ? How can the information about influencing factors and technologies be gathered?
- ? How will the information be used in the course of the SHAPES project?



? How can information be identified and gathered?



! Sources of information may include:

- foresight and current research studies (mostly, but not only related to smart and healthy aging),
- exchanges with scientists and researchers in the fields,
- discussions with all affected persons (elderly, caregivers, ...).

! In order to make sure, that all gathered information are consumable and useful for the project, we developed two templates and examples (shown in the following slides).

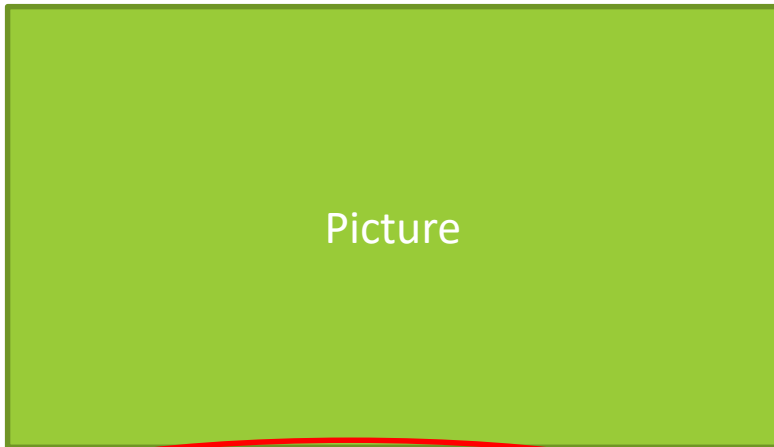
! These templates are called Technology Cards and Influencing Factor Cards and they should provide starting points for interested actors for more in depth analysis into specific topics.

[Template] Title/Topic of the Technology or Innovation

Description:
 Short description of the technology or innovation.
 What is it and what is it for?

What needs does the technology or innovation satisfy?

Who are relevant actors in the EU?
 If there aren't any important actors in the EU, where and who are they? Could there possibly be collaborations?



Who uses the Technology or Innovation?

SWOT-Analysis

TRL

Themes 1 2 3 4 5 6 7

Picture: Source

If it is a technology, what is the Technology Readiness Level.

Which Pilot Themes are concerned by this topic? (Pilot Themes will be discussed during the next three days)

[Technology Card] Exoskeletons

Example Card

Description:

Exoskeletons are lightweight robotic scaffolds that can be worn over the user's arms, legs, and torso to augment elderly's movements. Such devices can be passive or electrically powered.

What needs does the technology or innovation satisfy?

- To improve strength and speed of a person
- Extending times for manual labor
- Prevention of falls
- Rehabilitation

Who are relevant actors in the EU?

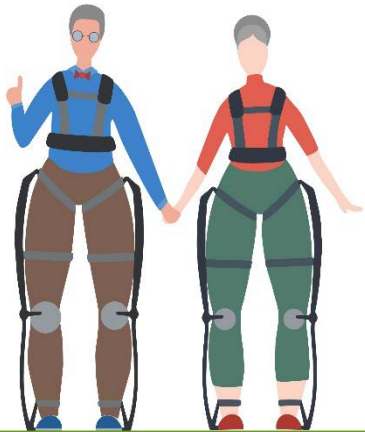
- Aalborg University (Denmark)
- Sant'Anna School of Advanced Studies in Pisa, Italy
- Swiss Federal Institute of Technology in Lausanne, Switzerland

Who uses the Technology or Innovation?

- Aging people and workers
- Care givers to the elderly

SWOT-Analysis

- S easy to apply
- W depending on the model they can be bulky and slow
- O extending the labor years; supporting freedom of movements and extending autonomy
- T Costs



TRL

6-9

Themes

2

6

[Template] Influencing Factor (Identified from Foresight Studies)

Description:

Description of the influencing factor (e. g. Shortage of drugs due to productions downtimes outside Europe)

Facts and Figures:

E. g.: How many people are affected by the topic?
What are the necessary expenses concerning the topic/influence on people?

Future influences:

Describe up to three possible future directions which could be deduced from Description, Facts and Figures as well as Examples/Research.

Examples/Research:

Does the influence already have an impact? On whom/what?

Sources:

Picture

[Influencing Factor] Drug Shortage

Example Card

Description:

Medicines are an important part of medical care. However, drug shortages are getting more common. This can happen because pharmaceutical companies are usually dependent on a single manufacturer. And the partial relocation of the production of raw materials abroad - mostly to Asia – because of cost savings, aggravates the problem. E. e. if a batch is not released, for example due to a power failure or contamination, no drugs can be supplied. Also quality inspections can stop production.

Facts and Figures:

According to a survey among 13 pharmacies, which in turn supply 59 clinics, a total of 239 medicines were temporarily unavailable in 2013. The pharmacists were forced to change 331 medicines. In 139 cases, they had to switch to another active substance or other form of application, for example from tablet to infusion, or were confronted with changed storage conditions. In the other cases, they found a drug from another manufacturer, but the product name was different. This affected 143 active substances from 55 different ATC groups, including life-saving antibiotics.

Future influences

- A) Due to continuing bottlenecks in the supply of medicines, political measures have been introduced to ensure that critical medicines and their raw materials for the European market are produced on European soil.
- B) The bottlenecks in supply of certain medicines could not be resolved. Deaths are on the increase and hidden from public distribution battles within the EU are taking place.

Examples/Research:

During the last years, drug shortages by pharmaceutical companies became a major difficulty e.g. in Germany [1]. This problem results in an increasing amount of unplanned drug switching due to drug shortages (DSS). A multi-centre analysis assessed e.g. the drug shortage situation in German hospitals.

[1] A. Kellermann, et al.; Evaluation von Lieferengpassinduzierten Arzneimittelumstellungen in 59 deutschen Krankenhäusern – eine Multicenterstudie Gesundheitsökonomie & Qualitätsmanagement 2017; DOI: 10.1055/s-0042-120477



? How will the information be used in the course of project?

! Information cards can and should be used at various points during the project:

- Input for other work packages, e. g. technical work packages.
- Cards could be used as inspiration for work in pilot themes and highlight solutions for SHAPES personas.
- Cards can also be used as information source for people which are not directly involved in SHAPES but are interested in future technologies concerning smart and healthy ageing.
- Etc....



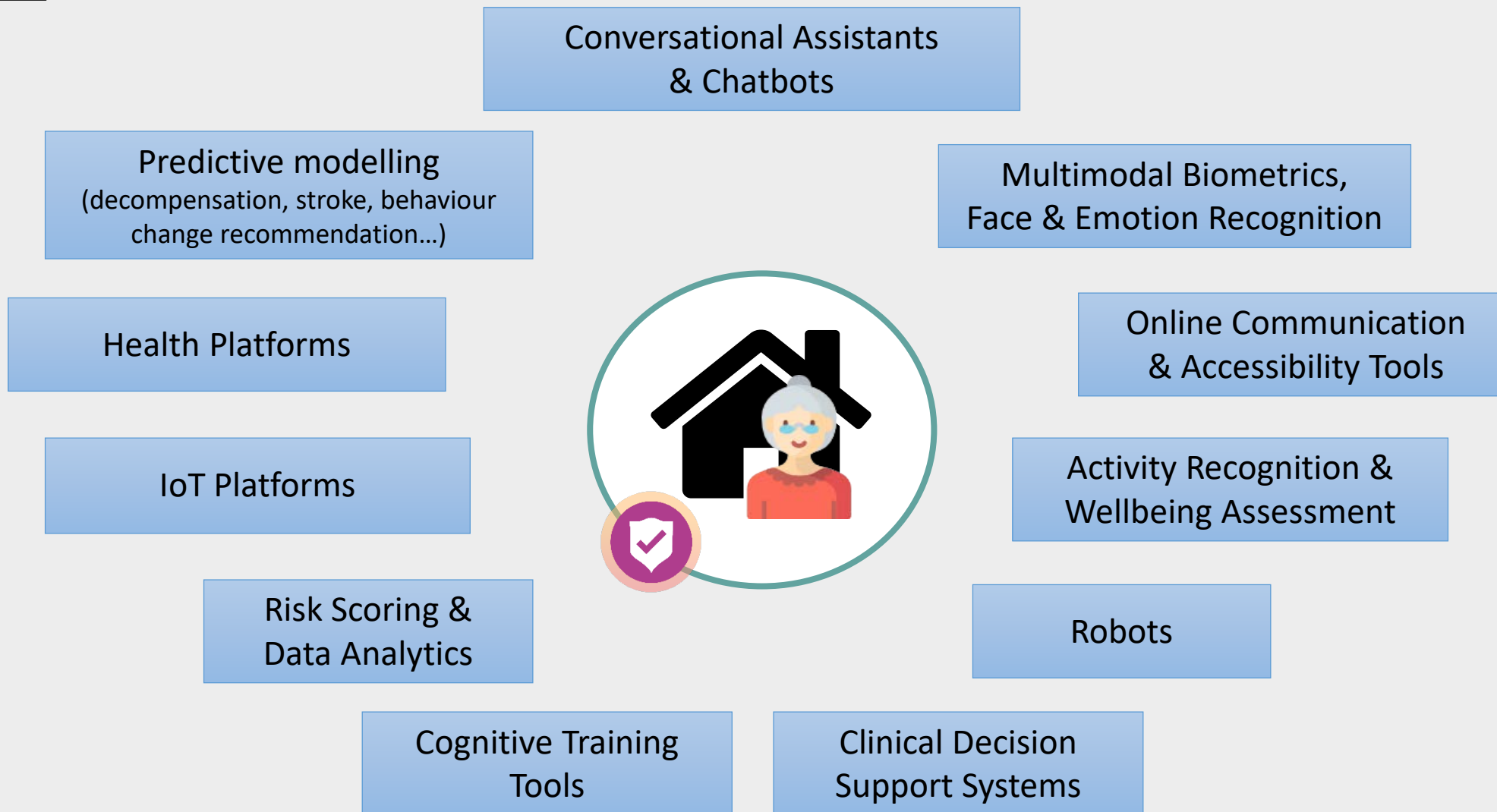


S H A P E S

1st Awareness Campaign Shapes Technologies

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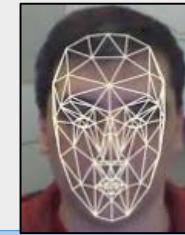




SHAPES Technological Components



Conversational Assistants & Chatbots



Multimodal Biometrics, Face & Emotion Recognition



Predictive modelling

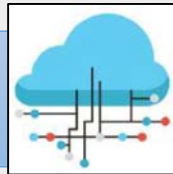
(decompensation, stroke, behaviour change recommendation...)



Health Platforms



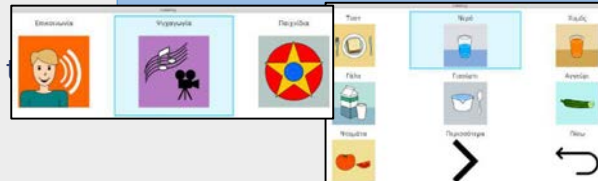
IoT & Big Data Platforms



Risk Scoring & Data Analytics



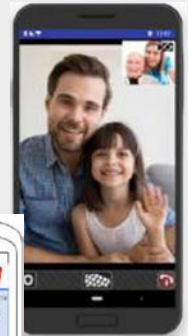
Cognitive Training Tools



Clinical Decision Support Systems



Online Communication & Accessibility Tools



Activity Recognition & Wellbeing Assessment



Robots

