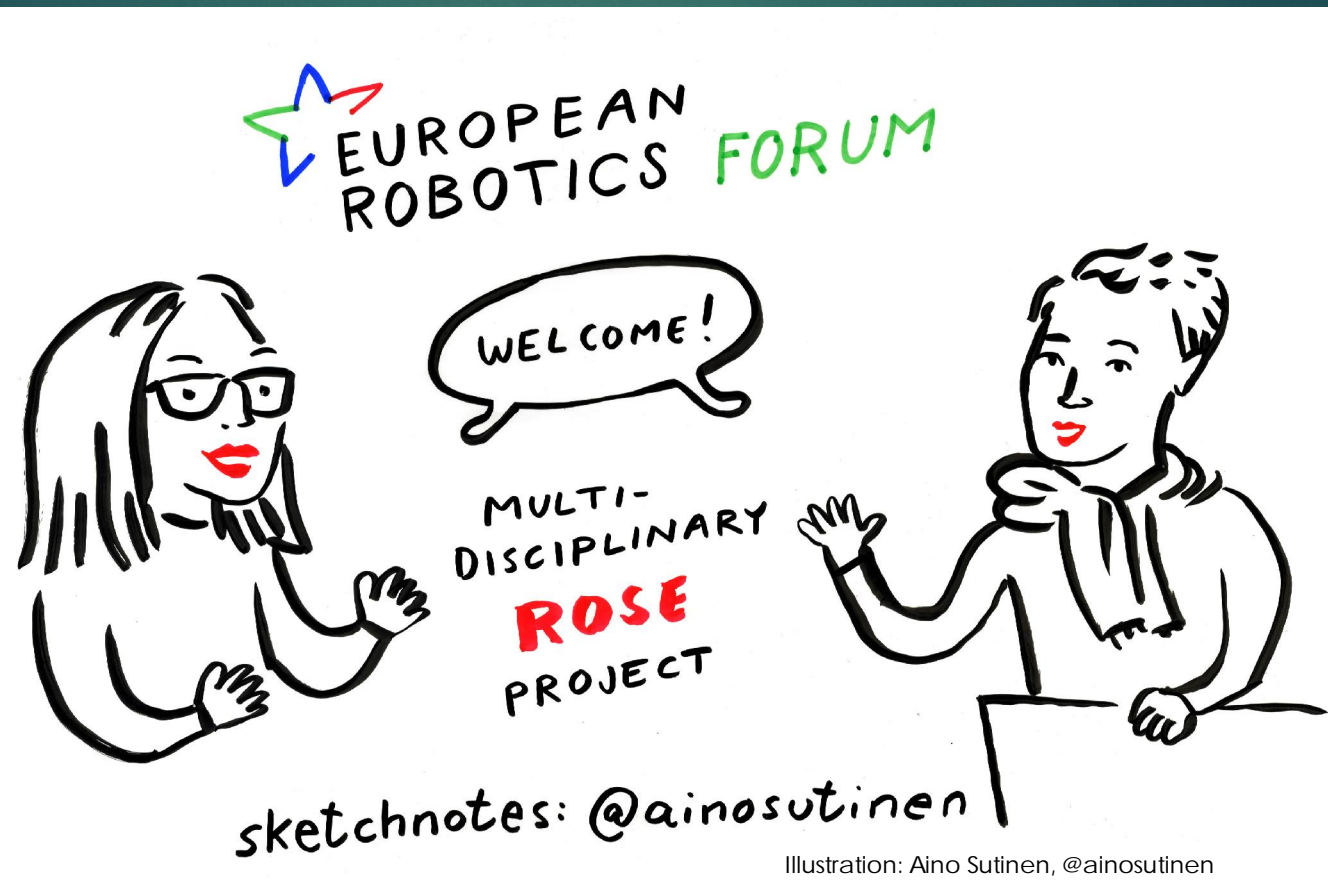# Building care robotics business and innovation ecosystems – ERF2018 workshop report
by Marketta Niemelä & Helinä Melkas

Illustration: Aino Sutinen, @ainosutinen

Agenda, 14 March 2018

- Introduction by the moderators
- Position statements by
    - Dympna Casey, Professor, National University of Ireland Galway
    - Amit Kumar Pandey, Head Principal Scientist, SoftBank Robotics
    - Leire Martinez Beitia, Project Manager, Tecnalia
- Group discussions
- Presentations of group discussions' outcomes

Moderators from the ROSE project:

Marketta Niemelä, VTT & Helinä Melkas, LUT (in collaboration with Lea Hennala & Satu Pekkarinen, LUT)

Graphic recording:

Aino Sutinen

- The ROSE project is funded by Academy of Finland, Strategic Research Council (2015-2020).

- A multi-disciplinary consortium of six Finnish institutions (Aalto University, VTT Technical Research Centre of Finland, Lappeenranta University of Technology, University of Tampere, Tampere University of Technology, Laurea School of Applied Sciences)

- Research areas: Nursing science, Technology/Engineering, Sociology, Ethics, Innovation research

- Different kinds of (care-related) robots and all the three levels of society, services and individuals are studied
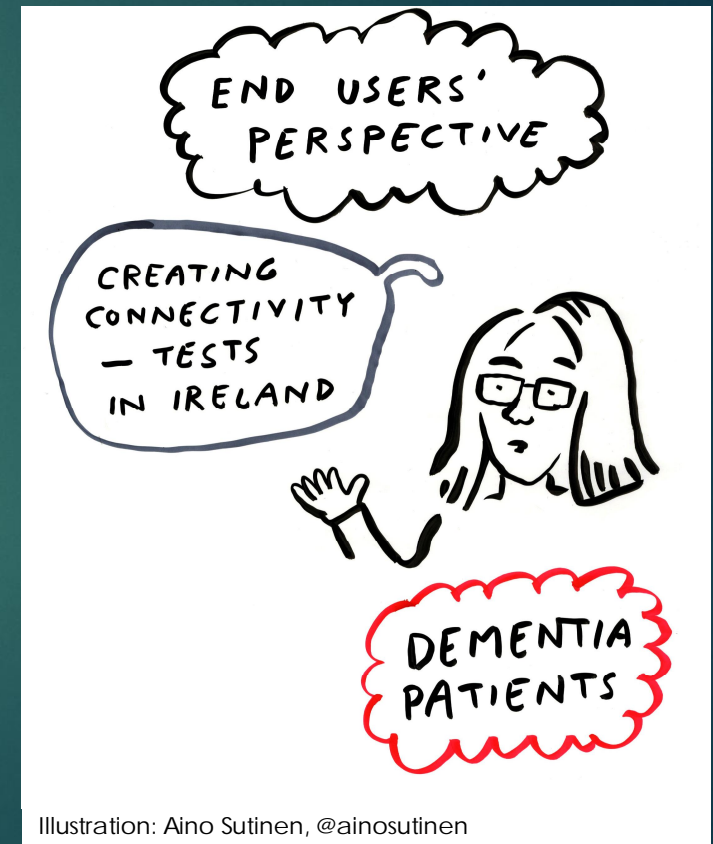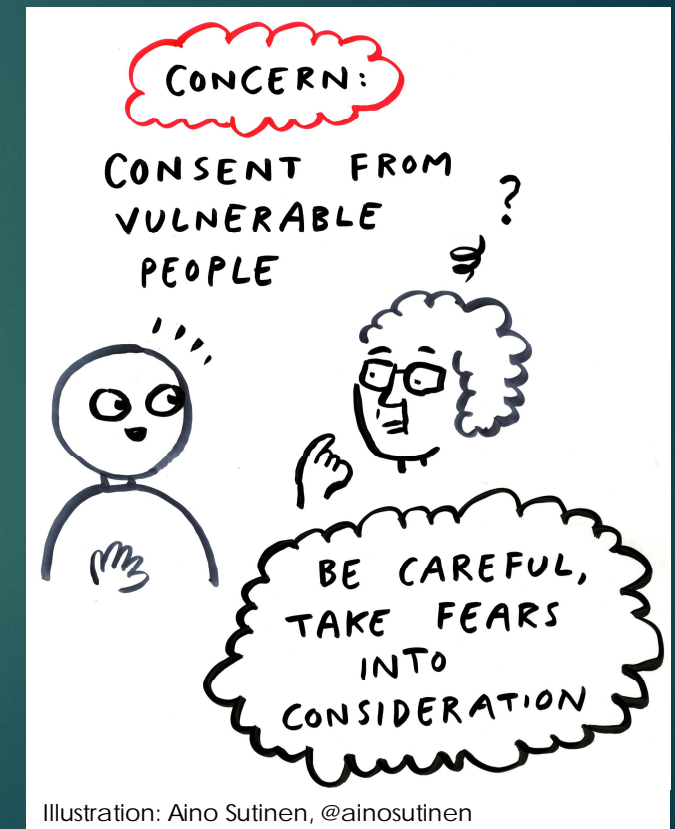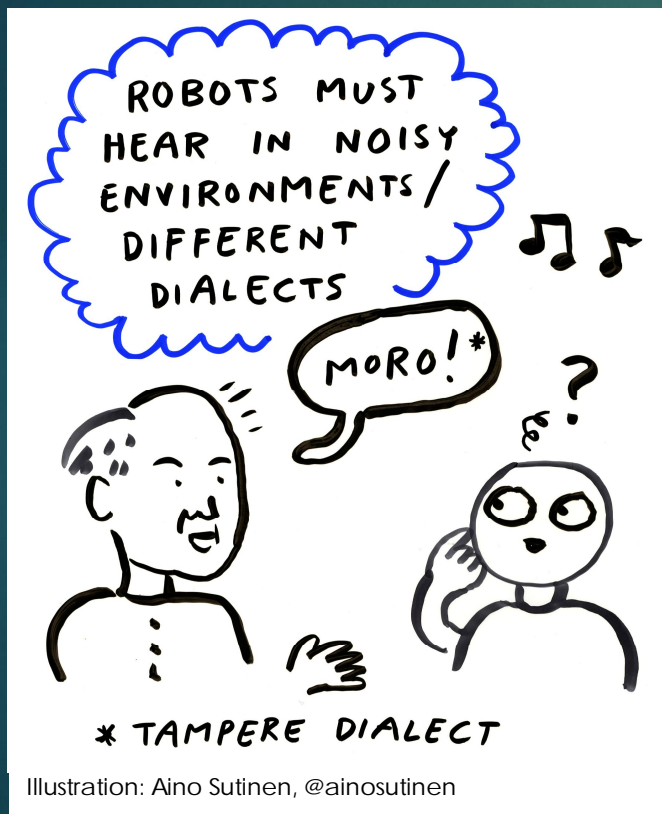
- http://roseproject.aalto.fi/

Background and aims

▶ There is lots of activity among robot technology providers in the care service field in different countries. Piloting of care robots in different use environments is underway.

▶ Companies recognize the business potential, but also face many challenges.

▶ Companies should be seen as part of an 'ecosystem', where companies and other actors cooperate, compete and co-create capabilities.

▶ The creation of an 'ecosystem mindset' will be important for the field of care robotics in any country.

▶ This session contributes to building care robotics business and innovation ecosystems from various points of view.

Notes on the presentations (1)

- Professor Dympna Casey spoke about end-user perspectives, e.g. those of people suffering from severe dementia

- User-friendlyness of the technologies is vital; designing robots that can be personalized to the health and communication status of the individual.

- Interaction between and regulation of the different technologies in the home would be crucial, too.

- There are still many challenges, e.g. ethical and privacy issues, negative attitudes and concerns.

- Research in the real world of practice (e.g. in noisy environments) needs to be conducted.

- See also the next slide.

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Notes on the presentations (2)

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Notes on the presentations (3)

- Amit Kumar Pandey, Head Principal Scientist, presented an industrial perspective.

- He introduced lessons learned from project work, such as the importance of adjusting to the cultural backgrounds of elderly people.

- He also highlighted the need to involve many kinds of stakeholders in networks, such as media, end-users, industry, insurance sector, academia.
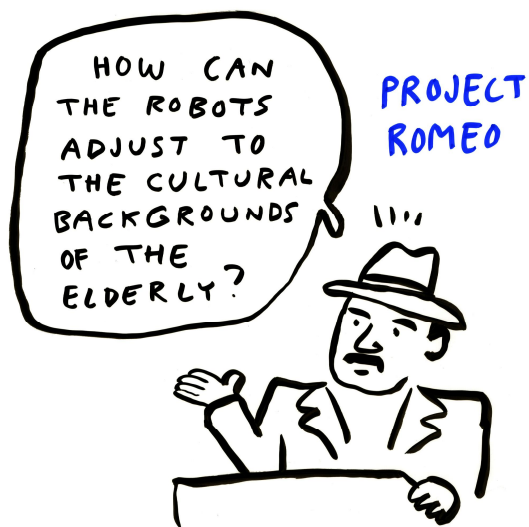

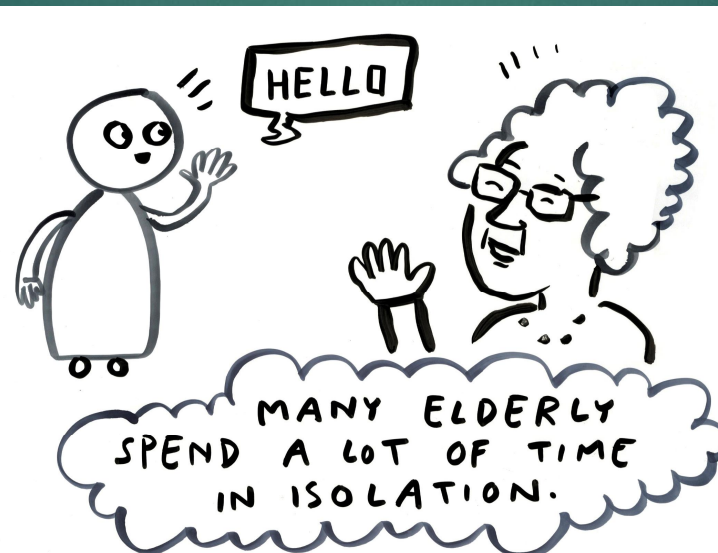Illustration: Aino Sutinen, @ainosutinen
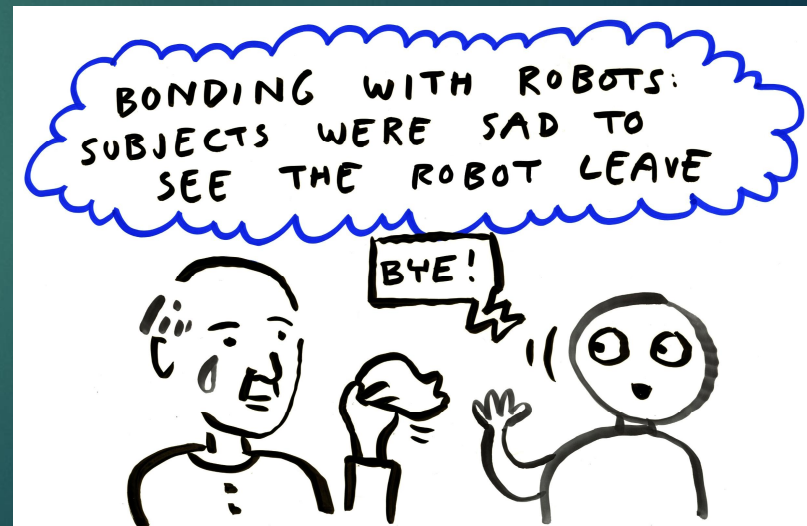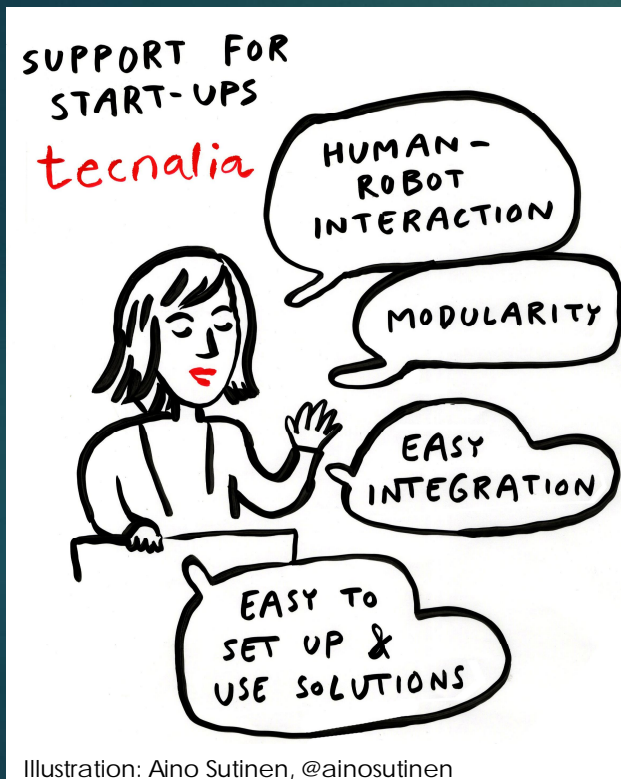
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Notes on the presentations (4)

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▶ Leire Martinez Beitia, Project Manager, presented a company support perspective, emphasizing the need to help companies build ecosystems.

▶ Innovations have to deal with regulations and standards that were not defined with the innovation in mind.

▶ There are various business model related challenges; e.g. high price of robotic solutions, differences in healthcare systems, lack of reimbursement policies at early stages.

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Group discussions

- Questions discussed by the groups:
  - What can be the role of international collaboration in cultivating ecosystems?
  - How to connect robotic care technologies, related services and service users better?

Notes on the group discussions: group 1

- Group 1 discussed international collaboration in cultivating ecosystems.

- Collaboration is vital, but transferring from one market to another is problematic. Environments are diverse, and solutions have to be localized.

- Openness and understanding have to be cultivated, especially between technical and care professionals, at regional, national and global levels.
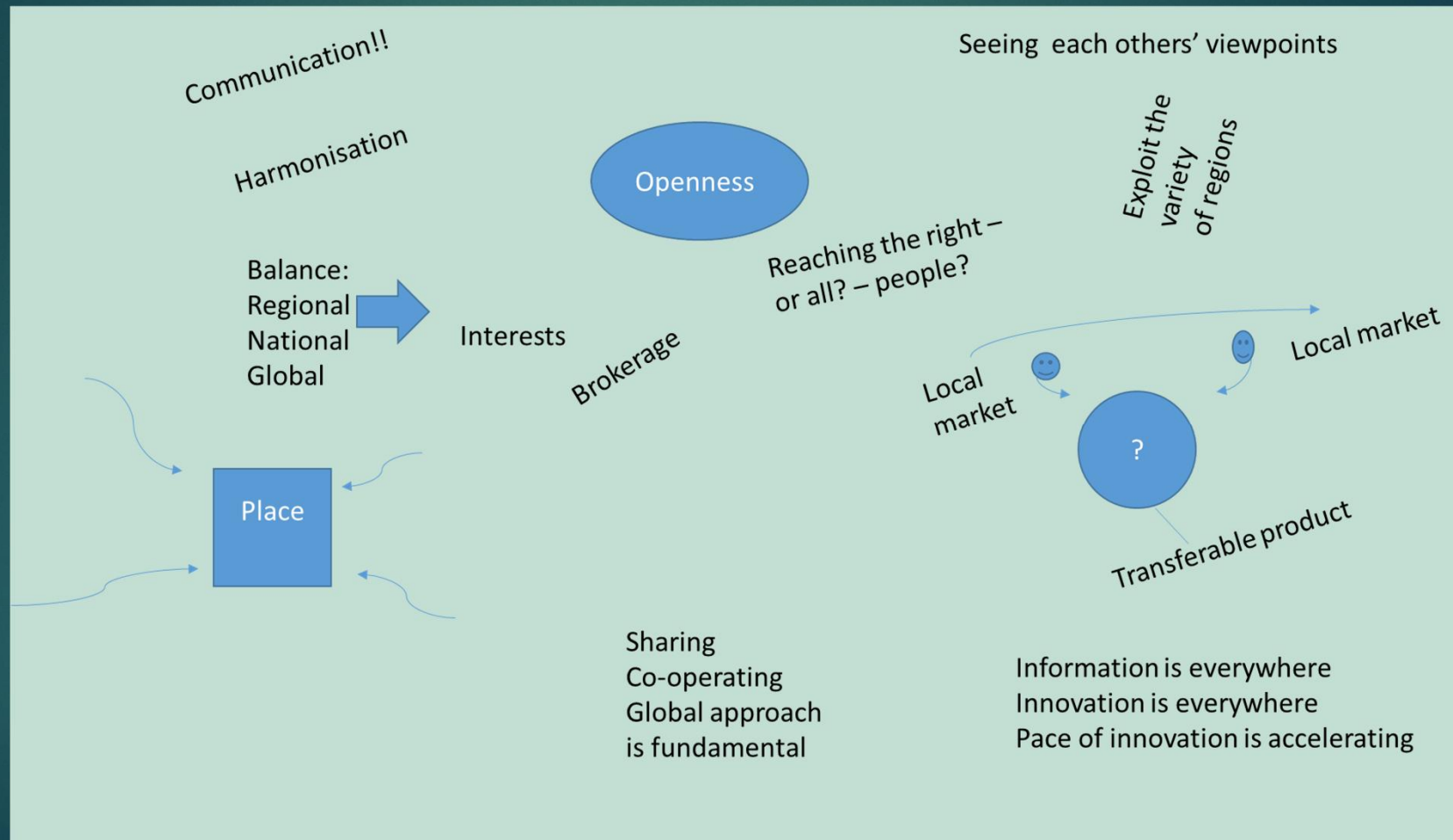
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Perspectives of Group 1

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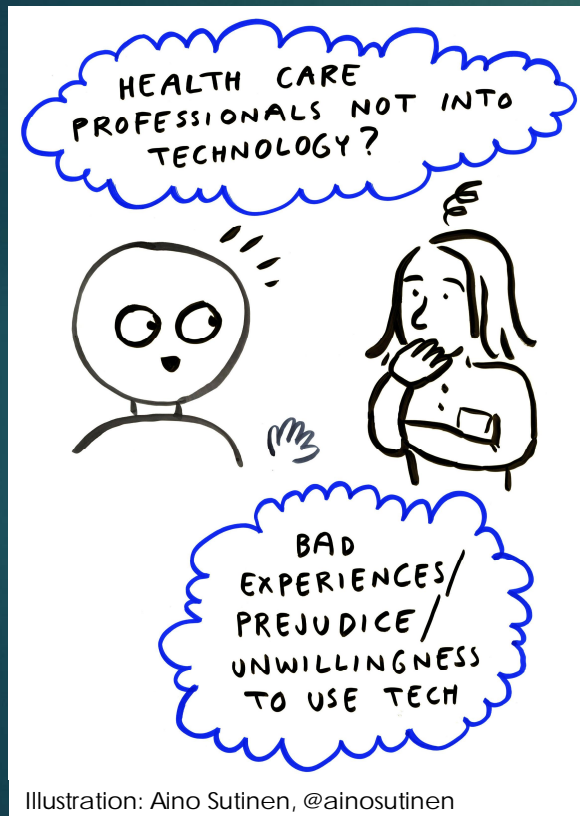# Perspectives of Group 1

Group discussions: group 2

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- Group 2 discussed how to connect robotic care technologies, related services and service users better.

- Interaction and dialogue as well as experiments and experiences (and the resulting feedback) were noted to be central to overcome barriers.

- Ways of engaging users in actual development work need to be planned carefully.

- Bringing users in is always beneficial.

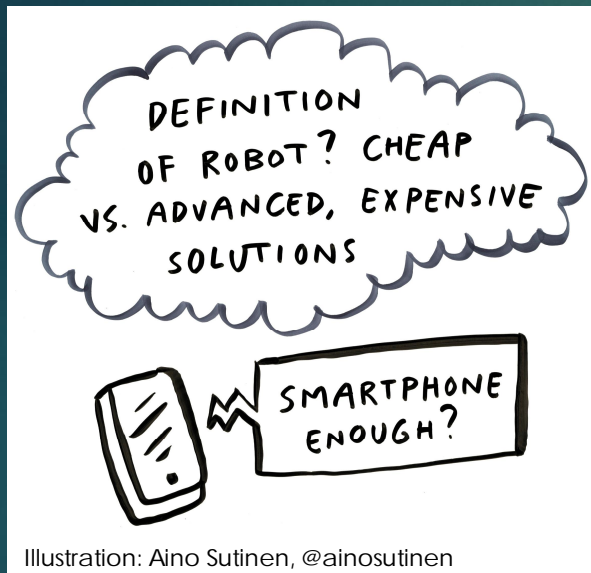# Perspectives of Group 2

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▶ To connect technologies and services better, there is a need to train and educate care professionals to work with robots – education is a long-term solution.

▶ Technology may also make care professions more appealing.

▶ 'Interpreters' are needed for technology – there is also business potential here.

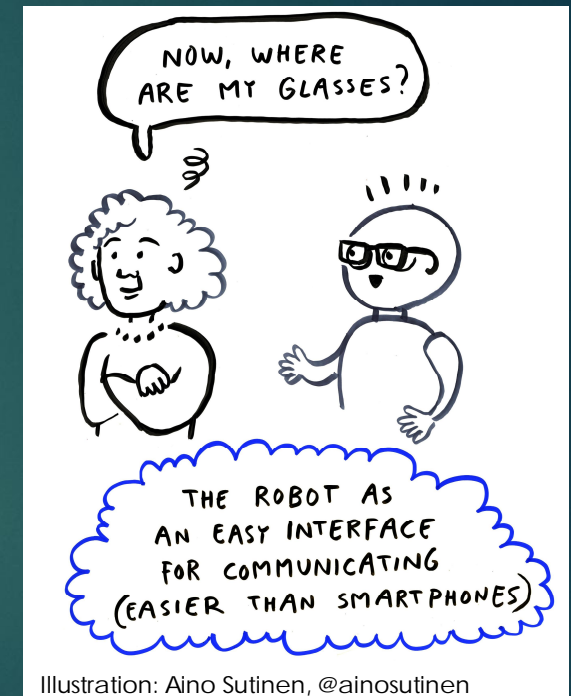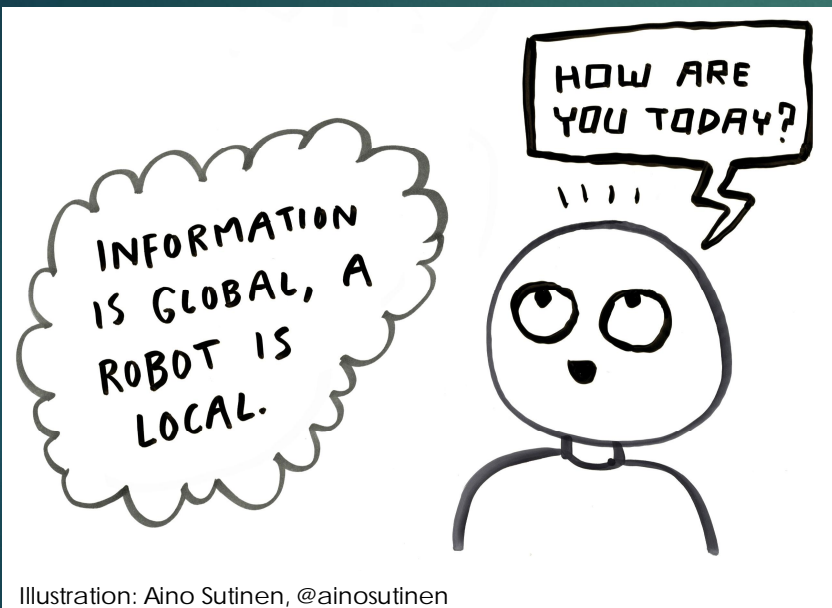▶ A welcome example was brought up of an engineer who has also been working at a care home.

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Perspectives of Group 2

Illustration: Aino Sutinen, @ainosutinen

Illustration: Aino Sutinen, @ainosutinen

▶ To connect technologies and service users better, we need to depart from needs of older people.

▶ What is actually the definition of a robot? Is a robot needed? Could the need be responded to with some other technology? Are there fears towards technology?

▶ Users need to be met and understood (e.g. their different diseases).

▶ 'Fit-for-purpose' technology! 'Do not take too big bites.'

Conclusions: some essential steps in building care robotics ecosystems

Illustration: Aino Sutinen, @ainosutinen

▶ Creating purpose for robot use and thorough localization of solutions

▶ Solving business model and regulation related challenges

▶ Educating professionals in different fields

▶ Gradually increasing exposure to robots; reducing concerns

▶ Engaging with end-users (e.g. panels, happenings, videos to stimulate discussions); starting from their needs

▶ Building multi-faceted, wide and localized ecosystems that cherish true collaboration and knowledge sharing

Thank you for your participation!

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