

TTN

Ethik interdisziplinär

Institut Technik-Theologie-Naturwissenschaften
an der Ludwig-Maximilians-Universität München



Evangelische
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Lutheran University of Applied Sciences

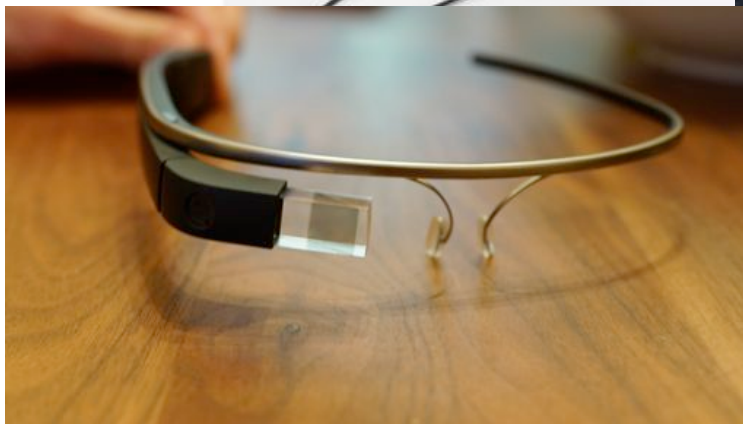
»Ethical evaluation of socio-technological systems by MEESTAR«

European Workshop on Ethical Issues in Human-Machine-Interaction and Service Robotics

Bruxelles, May 6th, 2015

Prof. Dr. Arne Manzeschke

Technological assistance in everyday life



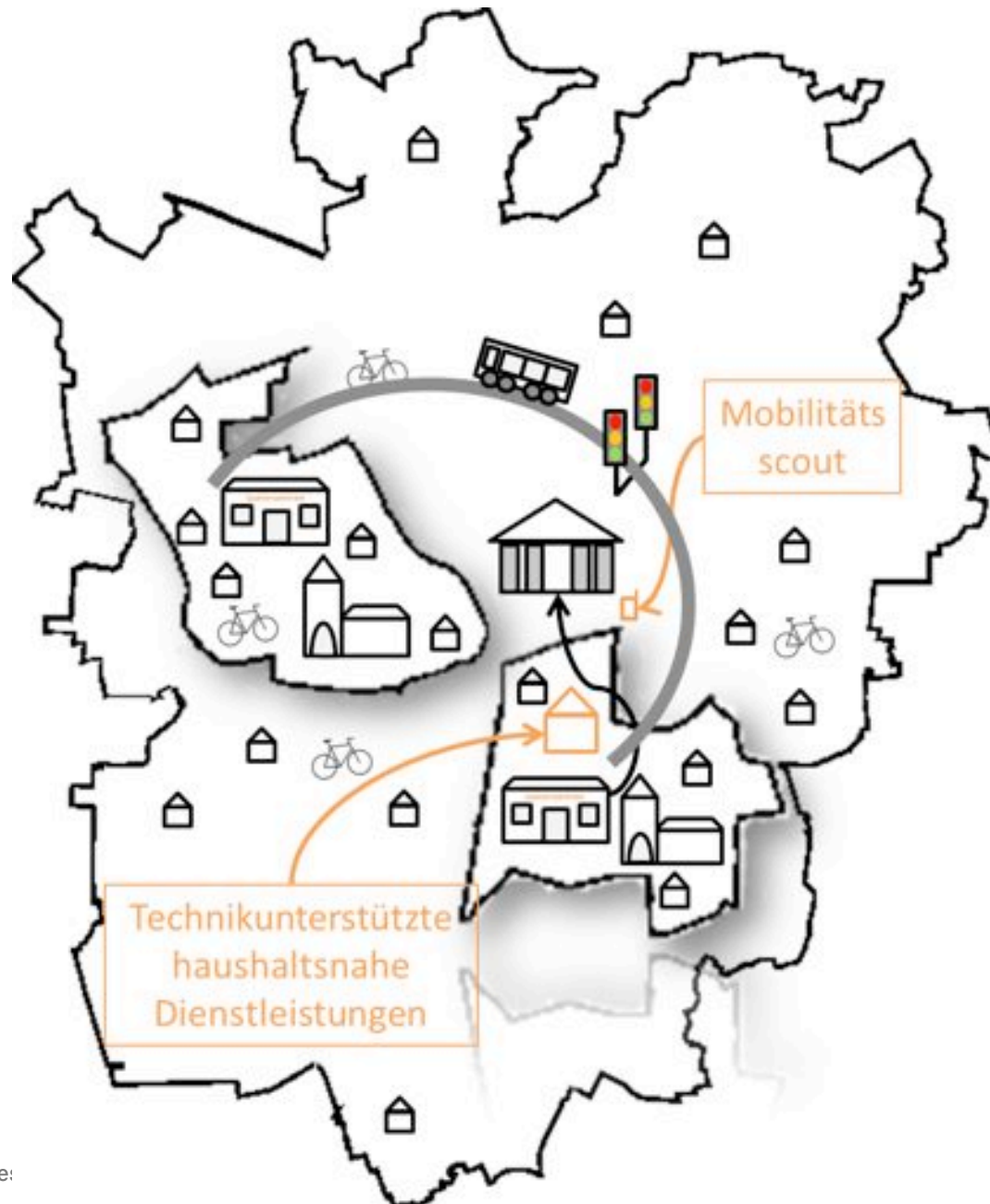
Assistance in the environment



Assistance in the environment



Assistance in the Surrounding



Assistance applied to the body



<http://vitalvest.com/Technology.aspx>



http://www.medlaunches.com/gadgets/vital_jacket_by_biodevices_to.php



<http://www.lifesynccorp.com/products/leadwear.html>

Assistance implanted in the body



e.g. electrodes for deep brain stimulation, cardiac pacemakers, insulin pump

Connection of the implantes with remote monitoring and/or controlling

Intelligent Assistance and its application modes

- Environmental Applications
- Body-worn Applications
- Applications implanted in the body

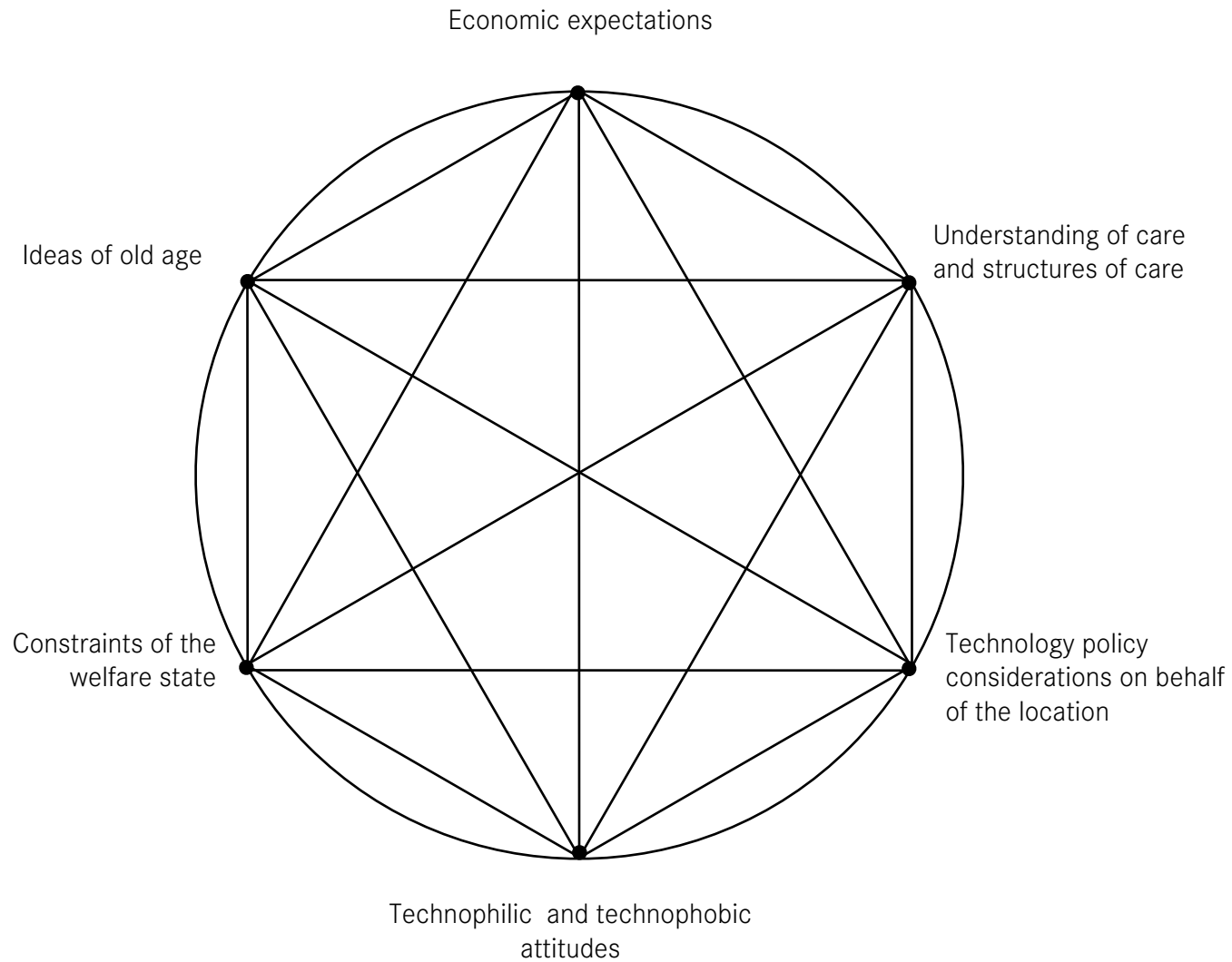
The invasiveness of Intelligent Assistance

- Monitoring of Mobility
- Monitoring of Vital Data
- Measuring and Controlling of Vital Processes

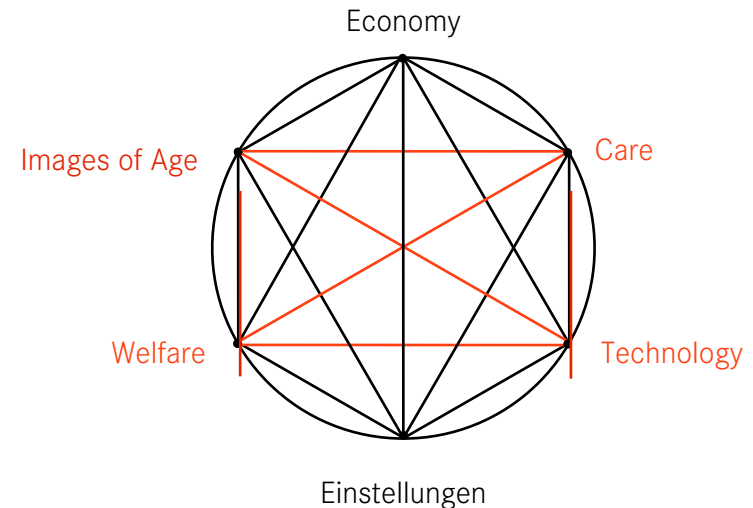
The interconnectedness of all electronic devices in a technologically assisting environment and daily companionship entails a severe intrusion into peoples privacy and self-conception, which has to be considered ethically.

Ethical conflicts in socio-technical arrangements

Complexity: Determinants und Dynamics



Determinants and Dynamic



Self-Dependence is defined »as the person's capability, to conduct actions on her own, i.e. without being supported by other persons. Thus it has no impact if technology is applied. A person is viewed as self-dependent even if she is using technology for her specific action but does not need any personal support. Accordingly self-dependence is viewed as restricted when personal support is needed.«

IPW und MDK WL, Das neue Begutachtungsassessment. Erg. und korr. Fassung vom 25. 3. 2008, S. C5

Self-determination, Self-dependence, Care

Self-dependence is defined as independence from personal support

- Technical assistance is ranked before personal support
- A certain reduced term of self-dependence gets normative

Care (Fürsorge) as personal attention and support may be pushed aside by this definition

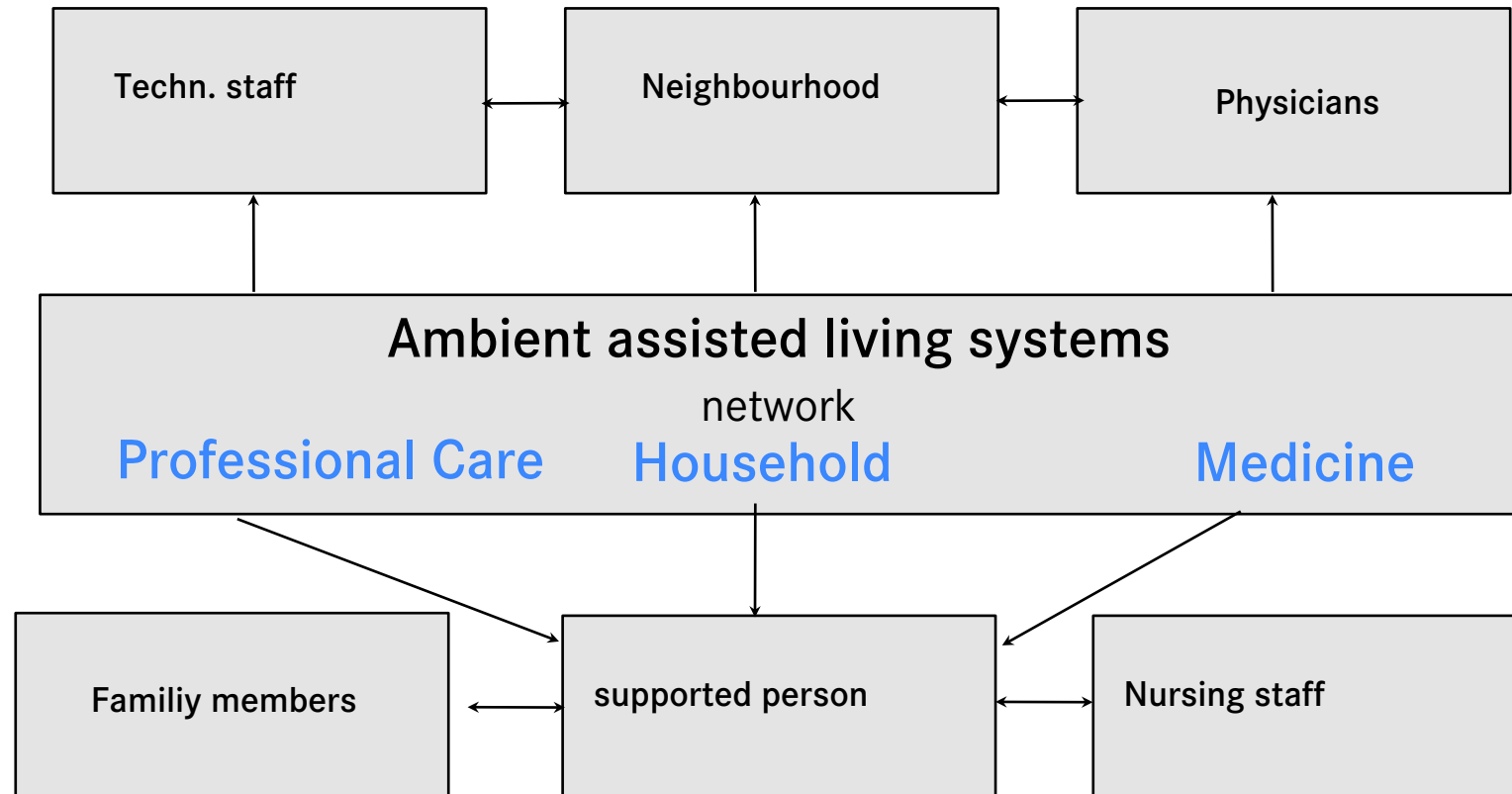
- The specifics of care (germ.: Fürsorge) cannot be replaced technically and should not be pushed aside by technique

Self-determination can effectively be strengthened and preserved by technical systems

- Precise analysis of the concrete socio-technical arrangements
- Description and evaluation of the ethical conflicts

Ethical reflections

Approach of systems technology



Aims of accompanying research



- Instrument of ethical evaluation (MEESTAR)
- Ethical-normative guiding principles for the use of ambient assisted living systems
- Download:
<http://www.ttn-institut.de/meestar>

Ethical-normative guiding principles

Within the framework of the study have been established 15 guidelines:

- Referring to 7 ethical dimensions
- Differentiated according to:
 - Research & development
 - Provider
 - User
- Addressees are primarily providers, who want to insert an AAL-system – mandate to shape things
- The majority of the guidelines concentrates on the individual level – consequent orientation on the user

A Model for the Ethical Evaluation of Socio-Technical ARrangements (MEESTAR)



Evaluation of a scenario



Steps of procedure within the workshop

- Introduction to ethics and the model (MEESTAR).
- Common understanding of the scenario, which describes the planned socio-technical arrangement.
- Identification of ethical problems – in three working groups.
- Evaluation of the ethical problems – in three working groups.
- Synopsis of the results of the three working groups.
- Identification of work tasks.
- Agreement on methods of resolution.

Aims of the workshop



- The complexity of the own project and the related ethical dimensions become immediately recognisable.
- The evaluation of related or identical ethical problems may differ according to the different levels of observation.
- Certain topics might appear on all three levels of observation and mark by that a certain urgency.
- If certain dimensions are occupied strongly or not at all, interpretation is challenged and may open a better understanding of the own project and the further steps of procedure.

Theoretical premises of MEESTAR

- The distinction of ethics and morals.
- The increasing coupling of human body and informatically accessed environment.
- The indisponability of the interfaces between human body and world.
- The standardization of individuals and society through technical systems.
- The possible loss of human self-experience and self-determination caused by the hardly perceivable ambient technical systems.
- The possible absence of individual and societal reflection on the determinative power of technical systems.

Further need for research

- The direct coupling of man and machine on the motor level and cognitive level.
- The human relation to the self, understanding himself increasingly as an effect of data.
- The question concerning places for societal deliberation with the aim of avoiding a privatisation of these questions.
- Follow-up problems of the transformation of informal into formal, ICT-supported ways of helping.
- Gender and cultural aspects in the context of AAL-technology.
- The effects and meanings of ICT-induced emotions

Integrating Ethics in Research & Development

»If we could get designers of technology to think about the ethical and social implications of their designs before they become a reality, the world might be a better place«

Deborah G. Johnson: The Future of Computer Ethics. In: Göran Collste (Ed.), Ethics in the Age of Information Technology, Linköping (Centre for Applied Ethics) 2000, pp. 17–31, 18f..

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