


October 1, 2009

Technology Assessment



Ambient Intelligence

A normative framework

Content



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1. Presenting the Rathenau Institute
2. Publication Ambient Intelligence
3. Trends in healthcare
4. Towards a normative framework
5. Applying the framework: case study
6. Conclusion: shared vision

1. The Rathenau Institute



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- Dutch think tank on science and technology
- Task: Informing and advising (a) the Dutch parliament & (b) the Dutch citizens
- Two departments: (1) Science System Assessment (SciSA) & (2) Technology Assessment (TA)

2. Publication Ambient Intelligence

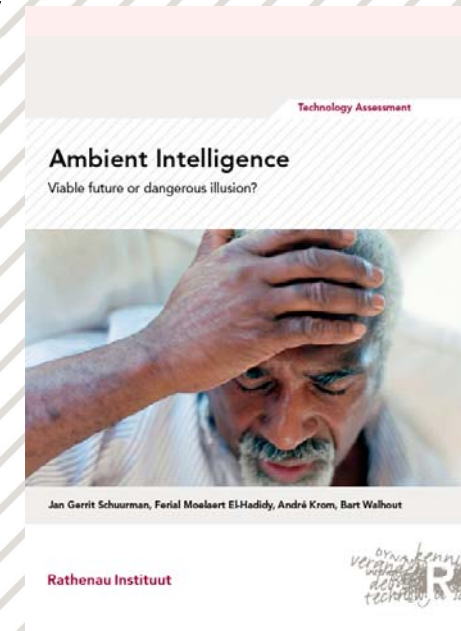


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- 'Ambient Intelligence. Viable future or dangerous illusion?'
- Report can be downloaded from RI website
- Flyer with webpage in conference bag



3. Trends in Healthcare



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- Global trends in healthcare (WHO):
 - Decentralization and self-care
 - Prevention and increasing comfort
 - Treatment vs. Enhancement
- Socio-economic trends:
 - Ageing
 - Individualization

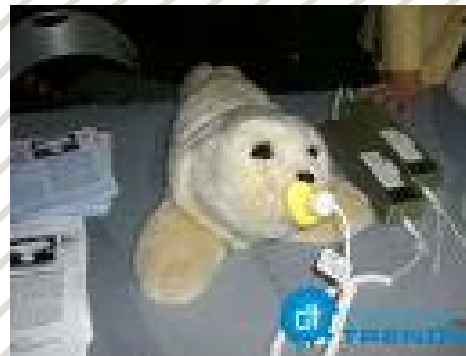


3. Trends in Healthcare

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- Technological innovations
 - Medical devices for self-care
 - Robotics (surgery, social)
 - Intelligent environment: Ambient Intelligence



4. Towards A Normative Framework



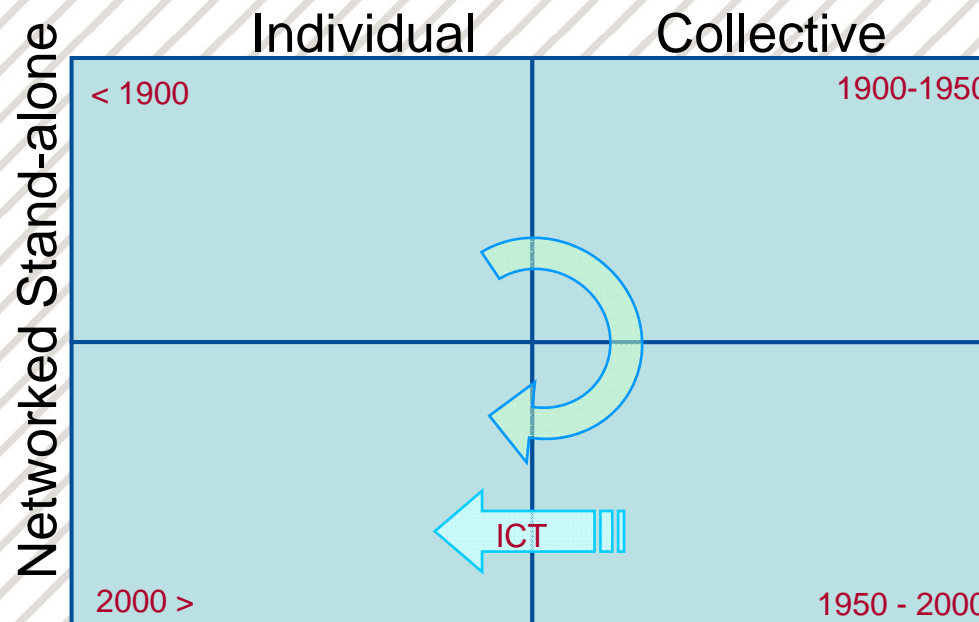
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- Ambient Intelligence: viable future...

Personal healthcare in a professional care network



4. Towards A Normative Framework



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- ...or dangerous illusion?

Personalizing healthcare requires information exchange in a care network

Interest of patient may conflict with interest of actors in care network

- Basic idea: Formation of care network is both condition & obstruction

4. Towards A Normative Framework



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- Ambient Intelligence: 5 layers of intelligence
 - Embedded (physical and social)
 - Context Aware
 - Personalized
 - Adaptive
 - Anticipatory

4. Towards a normative framework



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- Cases and scenarios

- Embedded (physical and social): Live-care area
- Context Aware: Future hospital
- Personalized: Children physiotherapy
- Adaptive: Cancer aftercare
- Anticipatory: Sports



4. Towards a normative framework

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- How to judge a vision?



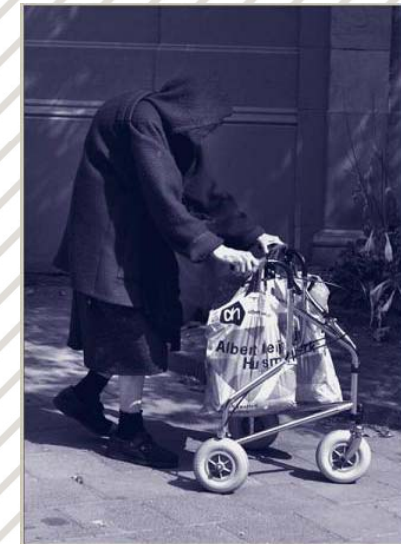
- Which functional improvements are offered?
- Which normative issues emerge?
- To what extent can care be automated?

5. Case study

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- Case: 'live/care area'
- Mrs. P, 85 year old widow, living alone:
 - Moves to a homecare department
 - Receives an alarm system (necklace)
 - Starts wandering at night
 - Moves to a nursing home
 - Takes of her alarm system and disappears
 - Alarm system is attached on her back
 - But she takes the employee exit door



5. Case study



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- Assessment of Mrs. P's case:
 - Which needs are not sufficiently met?
 - ✓ Providing help in time
 - ✓ Integration of care services
 - ✓ Adaptation of care services
 - ✓ User friendliness
 - ✓ Making allowance for resistance

5. Case study



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- Every technology demands:
 - Patient skills
 - What do I need?
 - How do I use it?
 - What do the results mean?
 - Social network
 - Professional network

6. Conclusion: shared vision

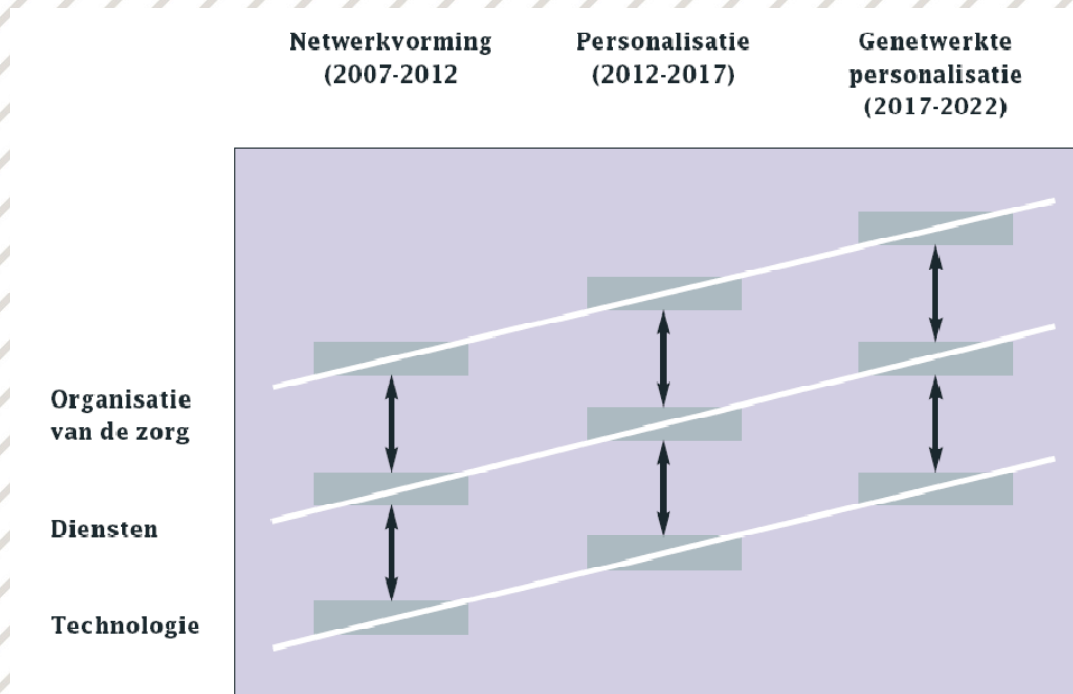


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- Shared vision needed, requires checks and balances
- How to reach a shared vision?



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- Thank you for your attention!
- Download our publication (see flyer in conference bag)
- Find our other publications on www.rathenau.nl :
 - Medical Devices
 - Healthcare robotics in Japan
- Or email: m.besters@rathenau.nl