

Smart Systems for Ensuring European Competitiveness

Introduction to the EPoSS Strategic Research Agenda

by

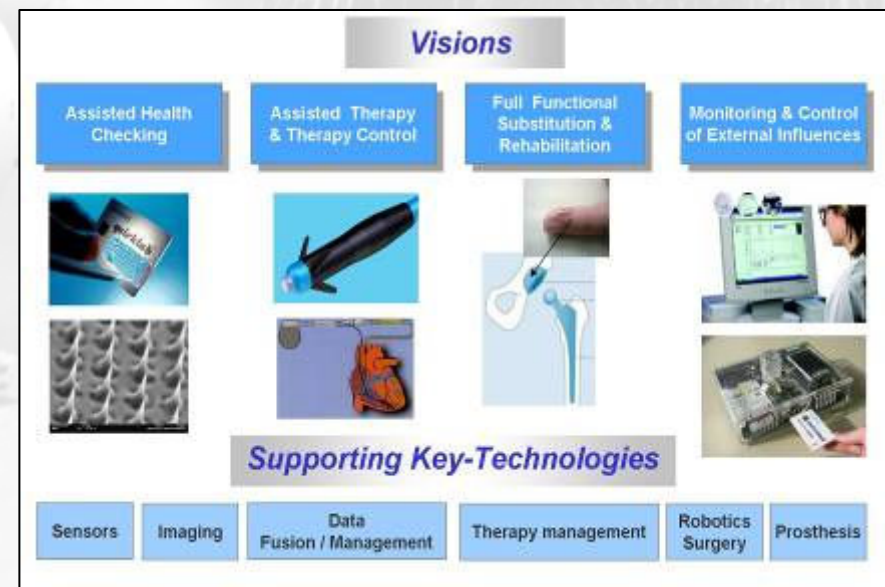
Günter Lugert

Siemens AG Corporate Technology
Chairman of the EPoSS Executive Committee

The Strategic Research Agenda Approach

Contributing to Competitiveness = Thinking in Product Terms

- **Top down approach:
defining R&D needs starting from
application requirements**
- **Systems and integration approach**
- **Defining priority areas**
- **Setting the conceptional basis
for implementing the
Vision of Smart Systems**



Systems and Integration Approach:

I. Bridging the gap from the component to the product

**Integrated
design and manufacturing**

**Integration at systems level: realisation of
miniaturised systems**

Integration into the macro-system

Integration into the application environment

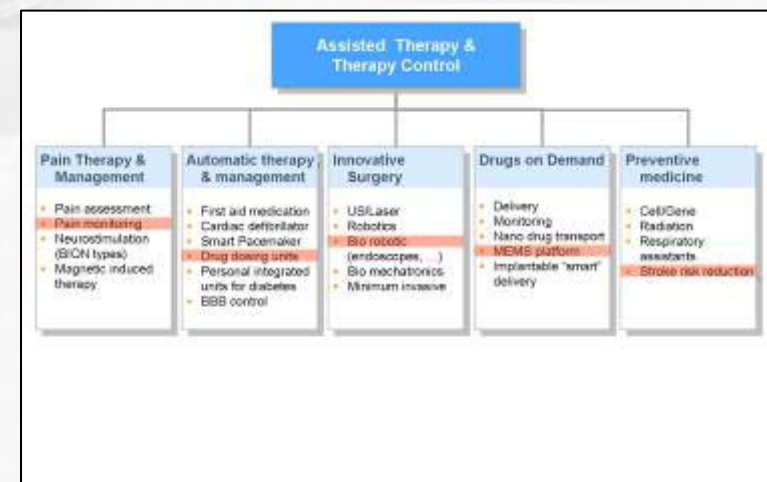
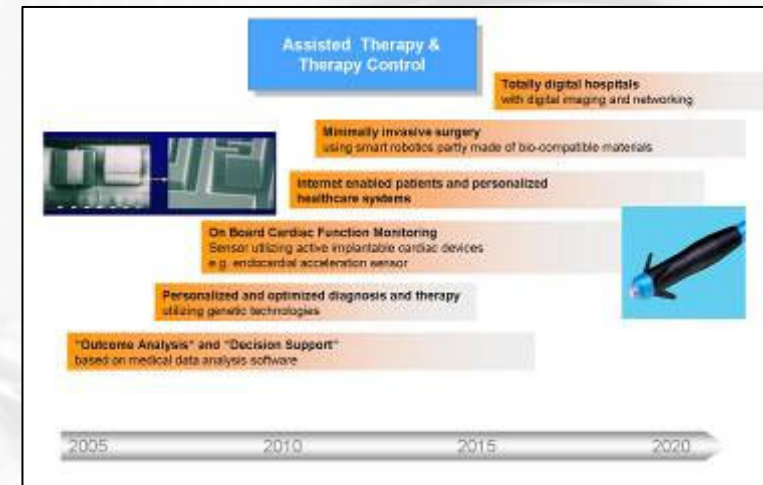
Systems and Integration Approach:

II. Multidisciplinary

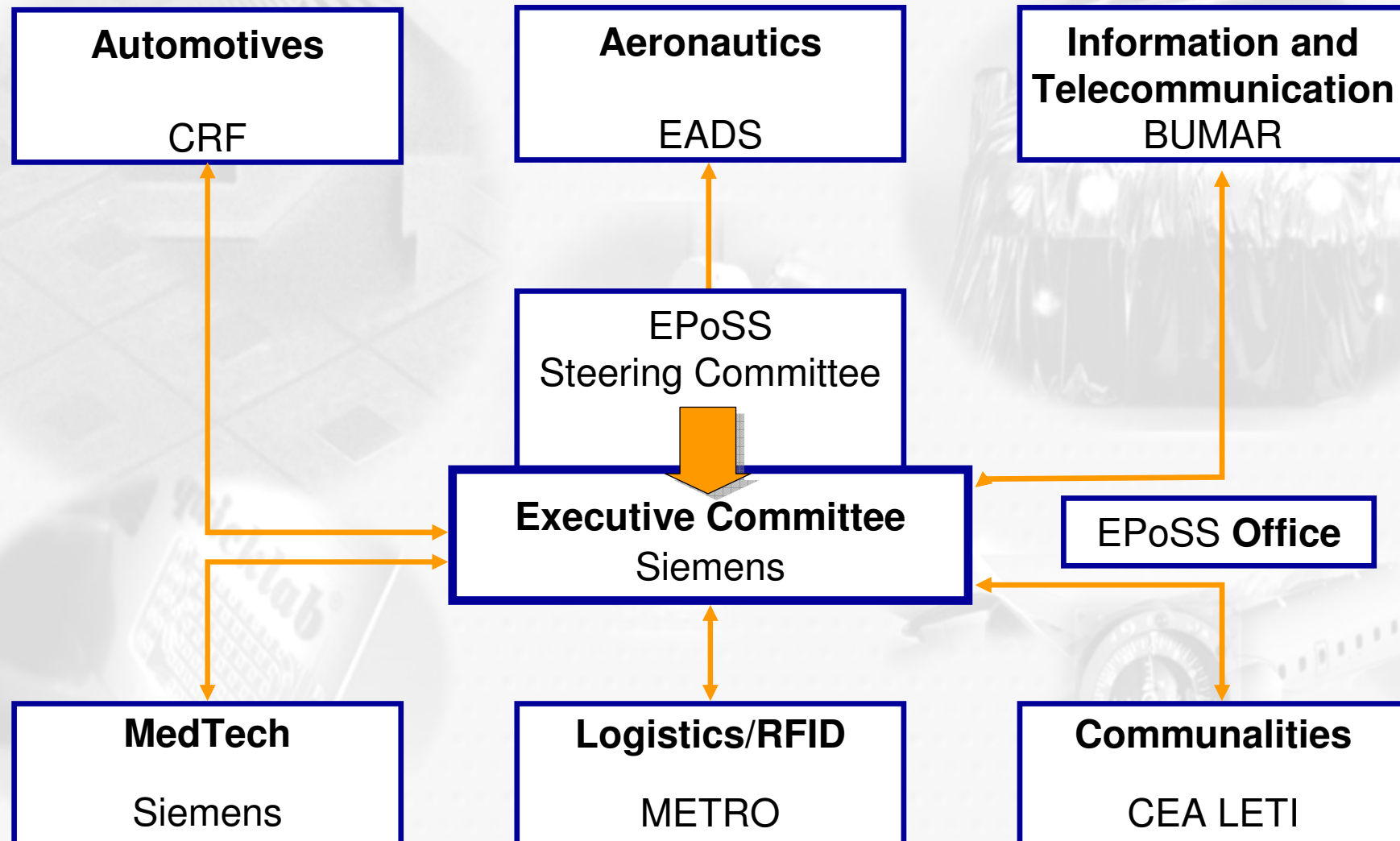
- **Combining of optics, mechanics, electronics, fluidics, thermo-dynamics, chemistry, biology**
- **Converging technologies: Micro, Nano, Bio, Info, Cogno**
- **Using a variety of materials: silicon and non silicon, SiC, alternatives (e.g. polymers, ceramics, powders etc.)**
- **Monolithic, hybrid, multi-chip, wafer level and other techniques**
- **Modularization, characterization and design ability of systems**

Structure of the SRA: Defining Priority Areas

1. **Automotive**
2. **Aeronautics**
3. **Telecommunication**
TIC: Technologies for Information and Telecommunication
4. **Medical Technologies**
and Ambient Assisted Living
5. **Logistics / RFID**
6. **Communalities**
Common Technology Issues

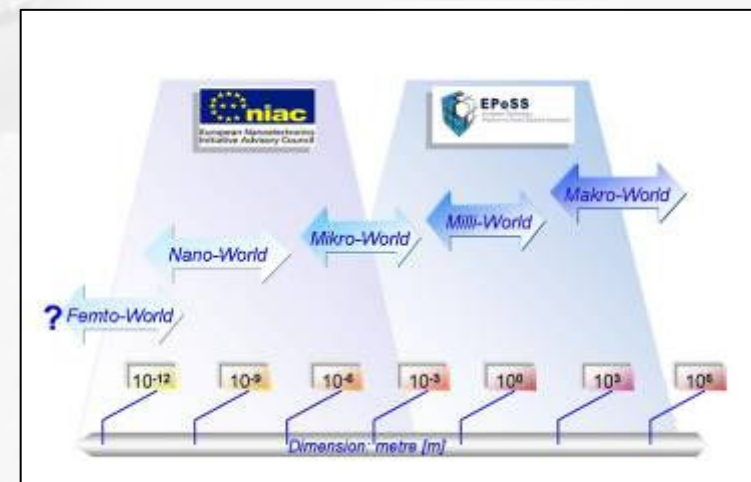
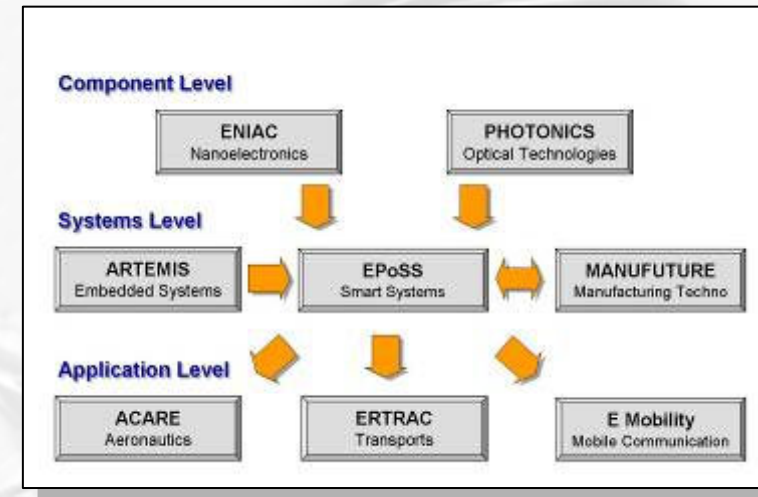


The SRA Working Groups



Guiding Principles

- Creating synergy and complementarities among the EPoSS priorities (Working Groups)
- Creating synergy and complementarities with other ETPs by:
 - assessing official documents
 - nominating delegates for interfacing
- SRA as a process (continuous updates and adjustments)
 - Milestones for updating
 - Interaction with the Smart Systems community



Results

- **Common view on roadmaps and strategies**
- **Agreement on application requirements**
- **Technology basis defined**
- **Common R&D issues across the various sectors identified**
- **Basis set for future actions**
(up to 30 proposals, R&D projects, ..., JTI)



*Strategic Research Agenda
document issued 05.07./2006*

Thank you for your attention

guenter.lugert@siemens.com

