



**EPOSS**

European Technology Platform  
on Smart Systems Integration

# Healthcare Smart Systems

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**PHILIPS**

sense and simplicity

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- Smart Systems are able to sense and diagnose complex situations. They are “predictive”, they have the capability to decide and help to decide as well as to interact with the environment. They may also be energy autonomous and networked.

We're getting older and sicker



Demand for care is growing



We don't take good care of ourselves



We expect better choices



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# Medical Technologies

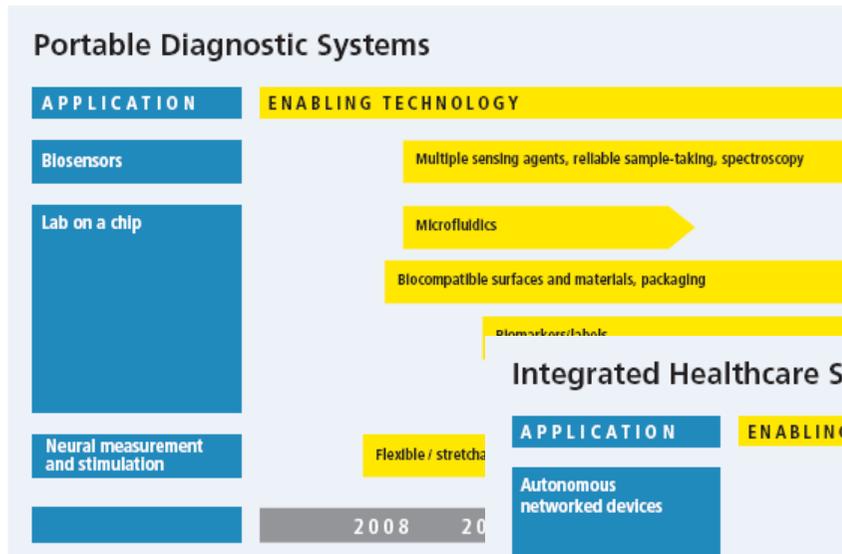
- Smart systems are critical in driving innovations in the field of medical technology, as they provide the basis for **information-based care and cure**.
- The **integration** of microsensors and micro-actuators in products will provide the healthcare professional to better treat and take care of patients in the hospital and at home.
- The **seamless linking** of microsystems to a telemetric and telediagnostic infrastructure will significantly reduce response time, and simultaneously contribute to containing public healthcare costs.
- Roadmap
  - In-vivo and ex-vivo health **monitoring** devices
  - **Integrated** healthcare solutions
  - Portable **diagnostics** systems



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# EPOSS' Enabling Technology Roadmaps



### Integrated Healthcare Solutions

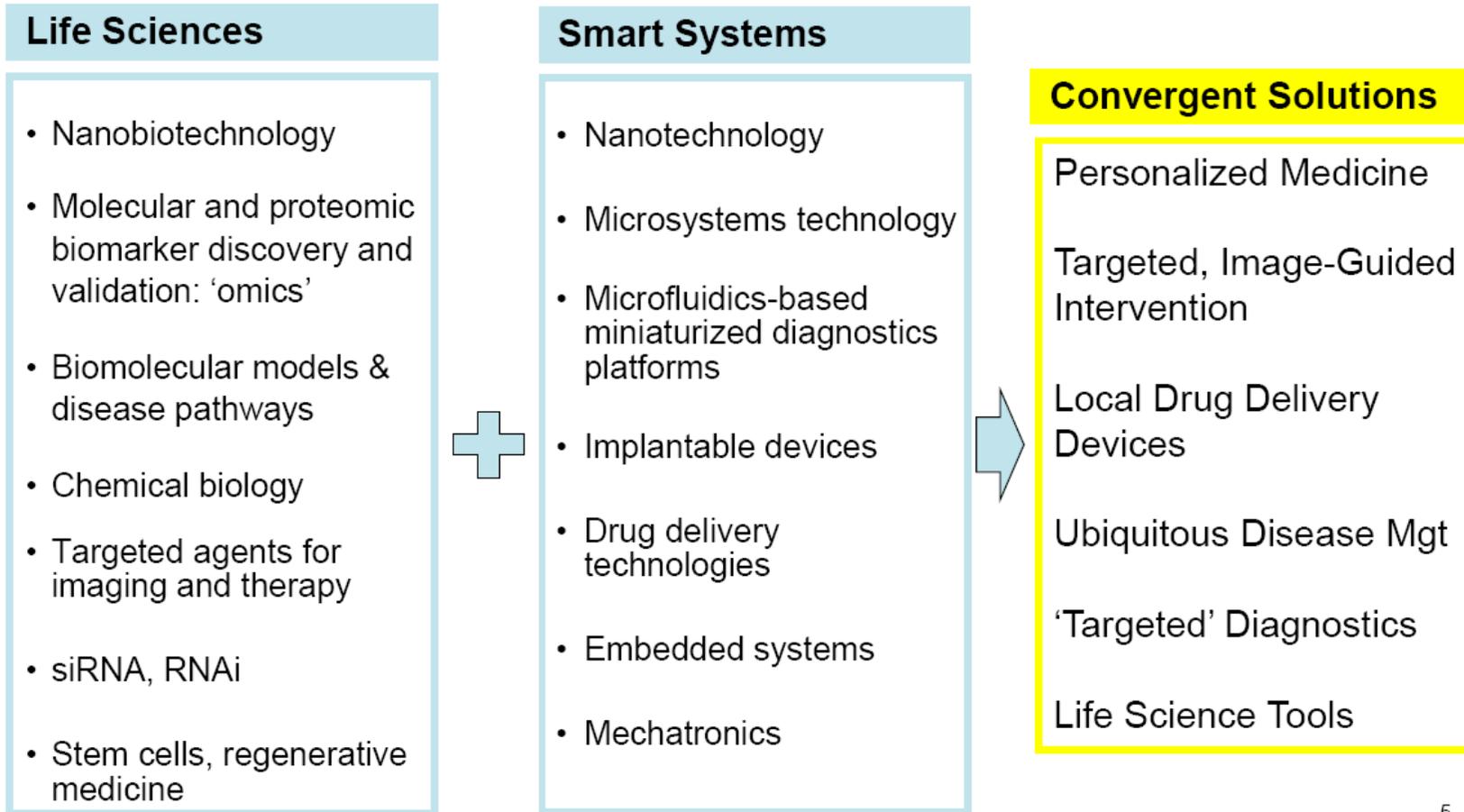


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# Convergent Solutions are enabled by MedTec

*Smart systems enable new care delivery models*



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# Clinical Validation is Key!

- Advantages of new treatment paradigms (enabled by integrated smart device technology) are often hypothetical and need clinical validation
- Specific requirements for medical devices are known only after first (pre-)studies have taken place
- Large chance that first technology solutions do not fit clinical needs

→ Close, iterative collaboration needed: Development of device solutions together with clinical insights and joint validation!



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# Concluding Remarks

- Smart System developments are driving innovations in healthcare, enabled by microsystems- and nanotechnology, addressing today's challenges
- Successful new products require joint technological development, and clinical development & validation (and business model innovation)
- Multidisciplinary collaboration across industries and with multiple academic partners (including those with access to clinical applications) is key