Next Generation of Body Monitoring

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Objective - improving wearable health monitoring

**Median age in EU has risen from 38.3 to 42.8 Years**

**28.5% of the EU-28 population aged 65 years and over were living alone in 2011**

**15% of over-85s will have 24-hour care needed by 2035**

**Approximately 50% of people aged 55-75 have a long-standing illness or health problem**
Our Solution

*Key micro-electronic technologies and components for mobile/wearable health care systems*
Our Solution

→ Key micro-electronic technologies and components for mobile/wearable health care systems
Test results Glucose Monitor

Biomedical and functional evaluations

- Biostability test for Silicon nitride coatings (coating for stub lines)
- Liquid phantom with varying glucose concentrations for testing of intermediate demonstrator

In vivo experiments

- Experiments with intermediate demonstrator
- Intermediate glucose monitor demonstrator implanted into mice under anesthesia

Glucose Level over Time
Our Solution

→ *Key micro-electronic technologies and components for mobile/wearable health care systems*
Test results Multiparameter Monitor

Biomedical and clinical evaluation:

Stress Test with 20 humans

Resulted in:
- Proof of Concepts
- Sensors functional
- Values validated
- Values in clinical relevant concentration
- Data transmission functional

MEASUREMENT PARAMETERS

- Skin temperature
- Skin hydration
- Skin conductance
- Sweat concentration Cl⁻
Our Solution

→ Key micro-electronic technologies and components for mobile/wearable health care systems

Communication and User Interface

RF implantable Glucose sensor

Multiparameter patch
Data management

- **Glucose Monitor**
- **Wearable Hub**
- **Multiparameter Patch**
- **Raspberry Pi Gateway**
- **Router / Switch**
- **Philips Cloud**
- **Medical Monitoring**

Connections:
- Sub GHz
- Bluetooth
- NFC
Next steps to address growing market

Outlook:

- <5 Years
  - Further testing to validate results
  - Innovative algorithm development
  - Focus on higher integration level

- <10 Years
  - Preparation of medical approval

- <15 Years
  - Market entrance

If we want to be leading → we need to be first
Thank you for your attention

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