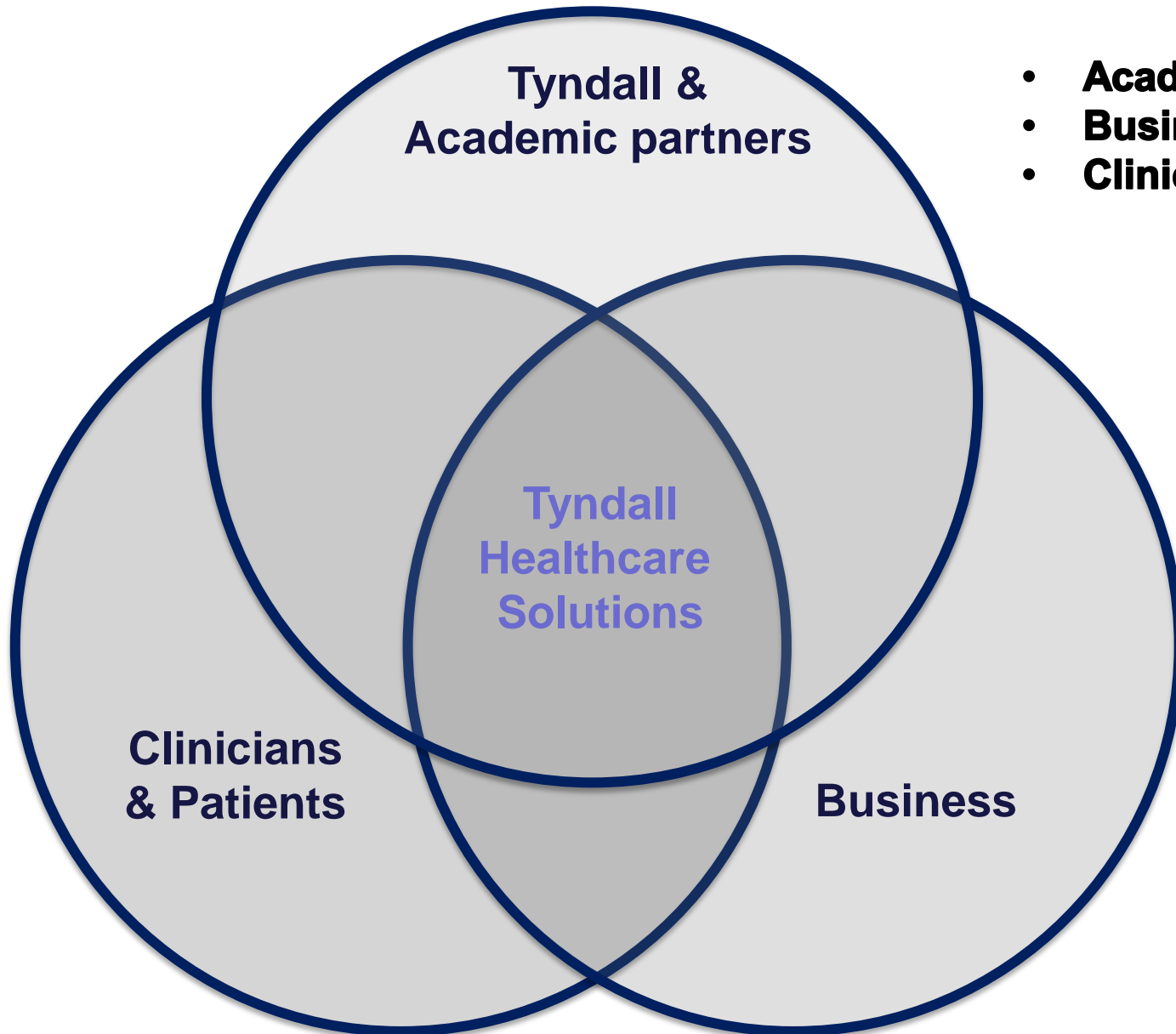


# Healthcare and Wellness Applications for Smart Systems



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- **Academic**
- **Business**
- **Clinical**

# Clinical Applications

**Anaesthetics:**

**Dentistry / Oral Health:**

**Respiratory:**

**Gastroenterology:**

**Technology Enhanced  
Learning**

**Pharma compliance**

**Obstetrics:**

**Neonatology:**



**Neurology / Neural  
physiology:**

**Pain management**

**Cardiology:**

**Cardiovascular:**

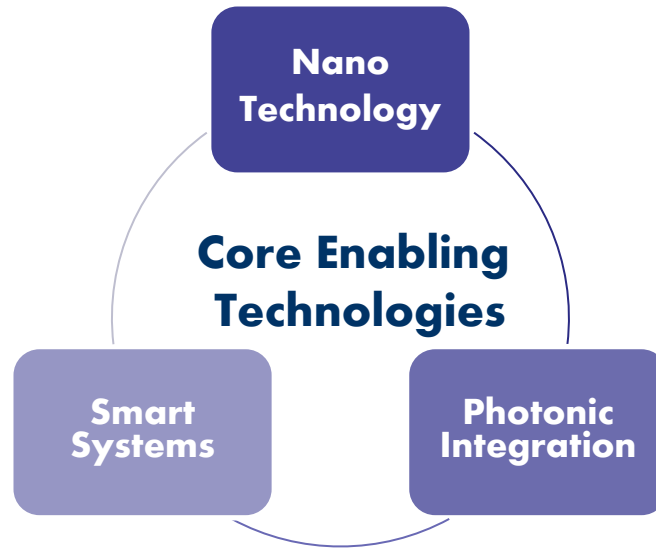
**Palliative Care:**

**Oncology:**

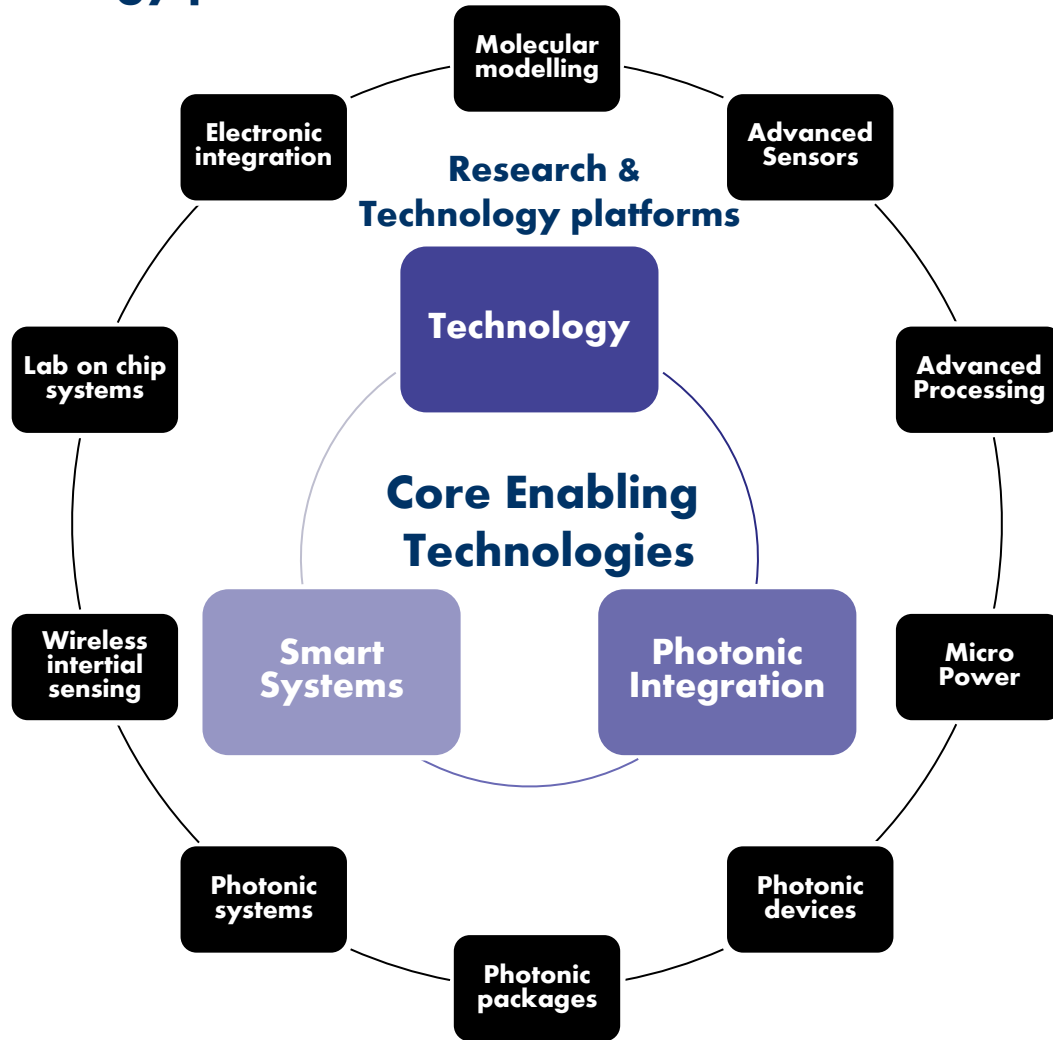
**Orthopaedics:**

**Gerontology:**

## Core Enabling Technologies



## Research & Technology platforms



Applications



# Case 1: Connected Health

## Body Area Networks and Physiological Health Monitoring Platforms



Wireless blood pressure monitoring



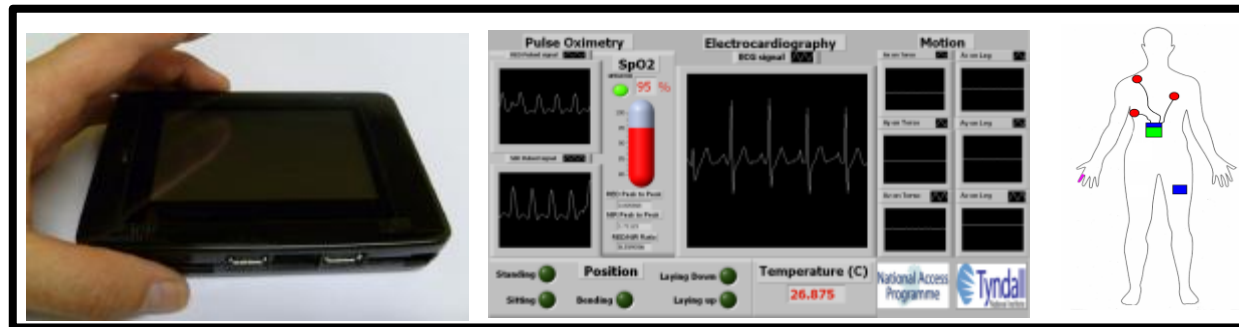
Temperature patch for patient skin temperature monitoring



Piezo Respiratory Effort Sensors for breathing analysis



Wireless ECG monitoring



Tyndall Communicator



Smart Wireless Inertial Measurement



Wireless Pulse Oximetry

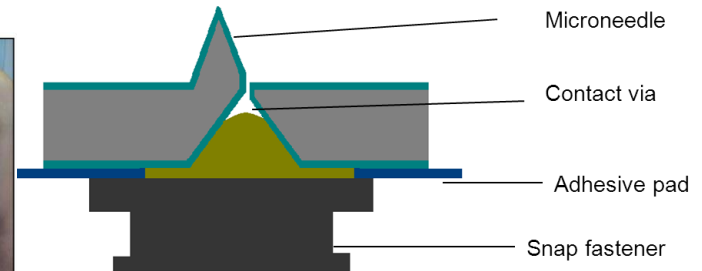
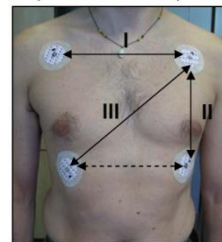
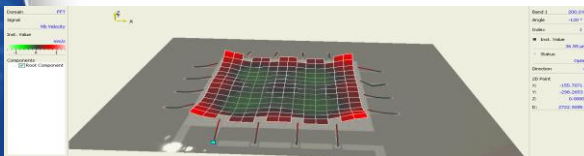
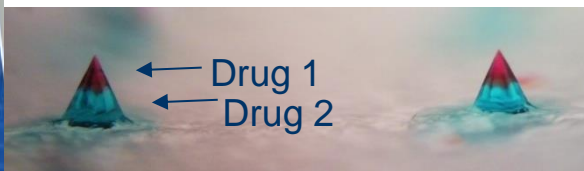
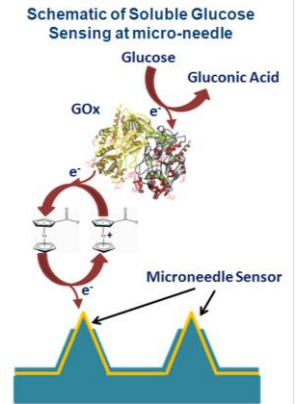
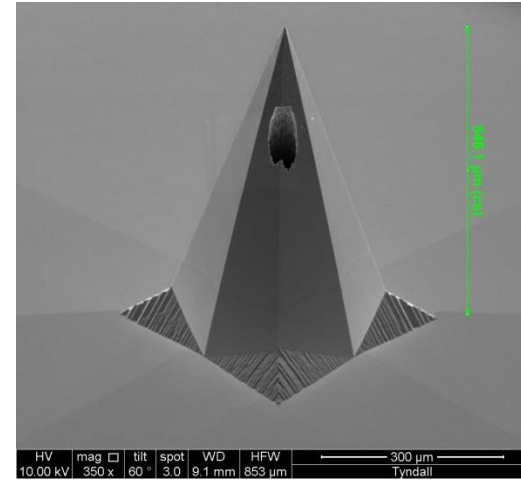
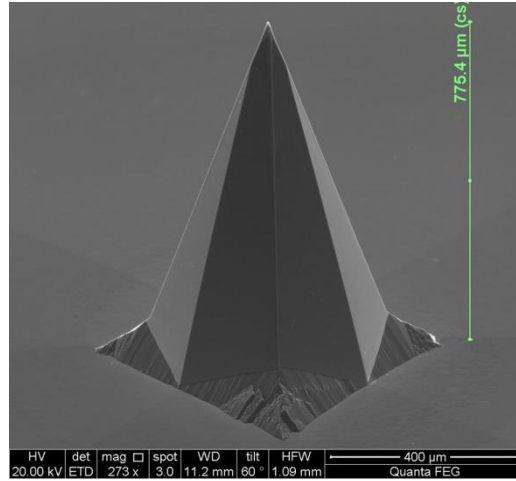
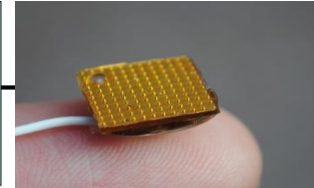
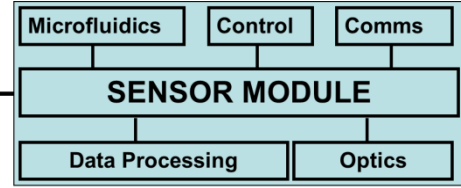
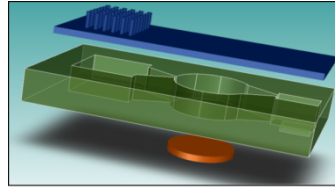
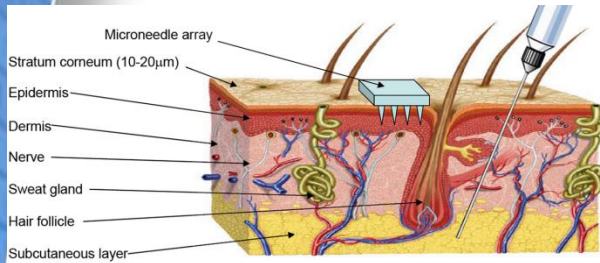


Smart Glove



# Case 2: Therapeutic Systems

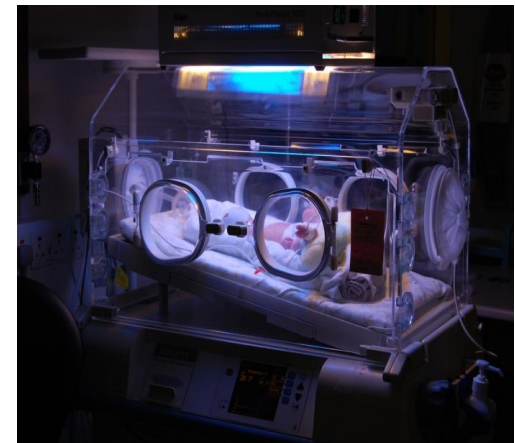
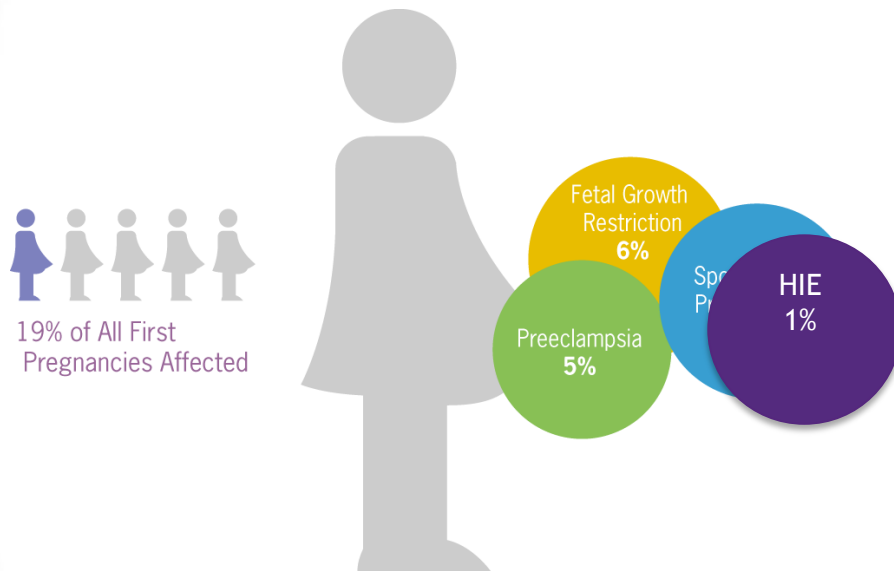
## Integrated microneedle array theranostic systems





**INFANT**  
**Centre for Perinatal Research**  
[www.infantcentre.ie](http://www.infantcentre.ie)

- 500,000 maternal deaths
- For every maternal death 17 cases of significant maternal morbidity
- 3.2 million stillbirths
- 4 million neonatal deaths



- Perinatal complications account for 10% of global disease burden
- R&D investment in perinatal health remains small and non-strategic
- Equitable investment in perinatal healthcare could avert 3% of the global disease burden

Thank You

