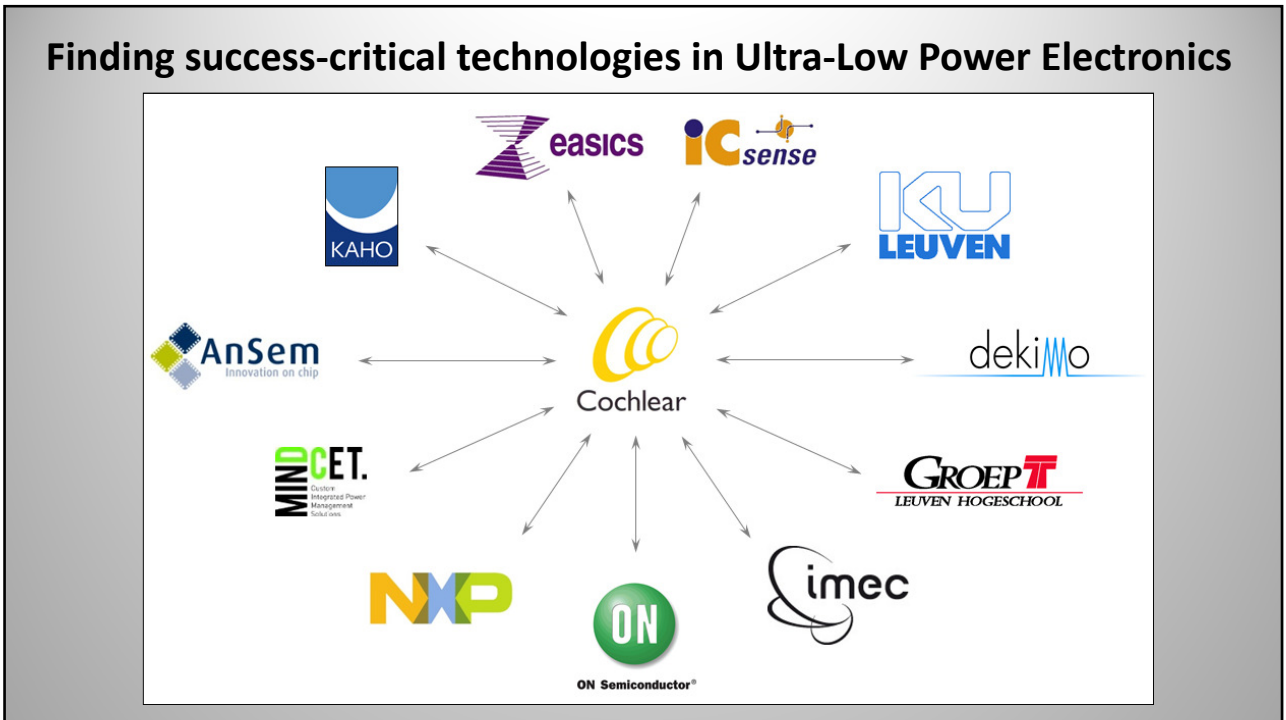


dsp valley
designing smart products

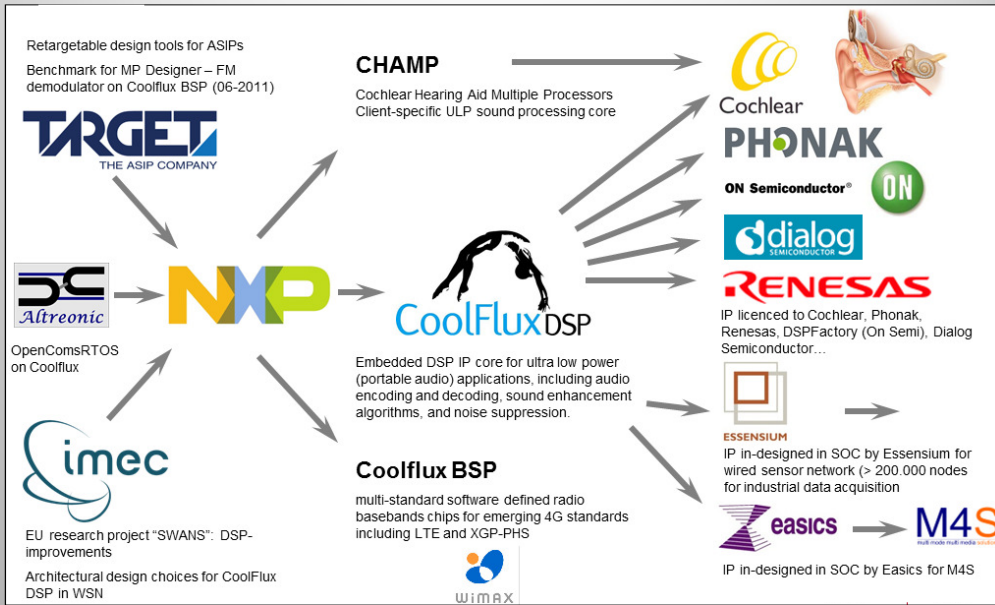
Cochlear™

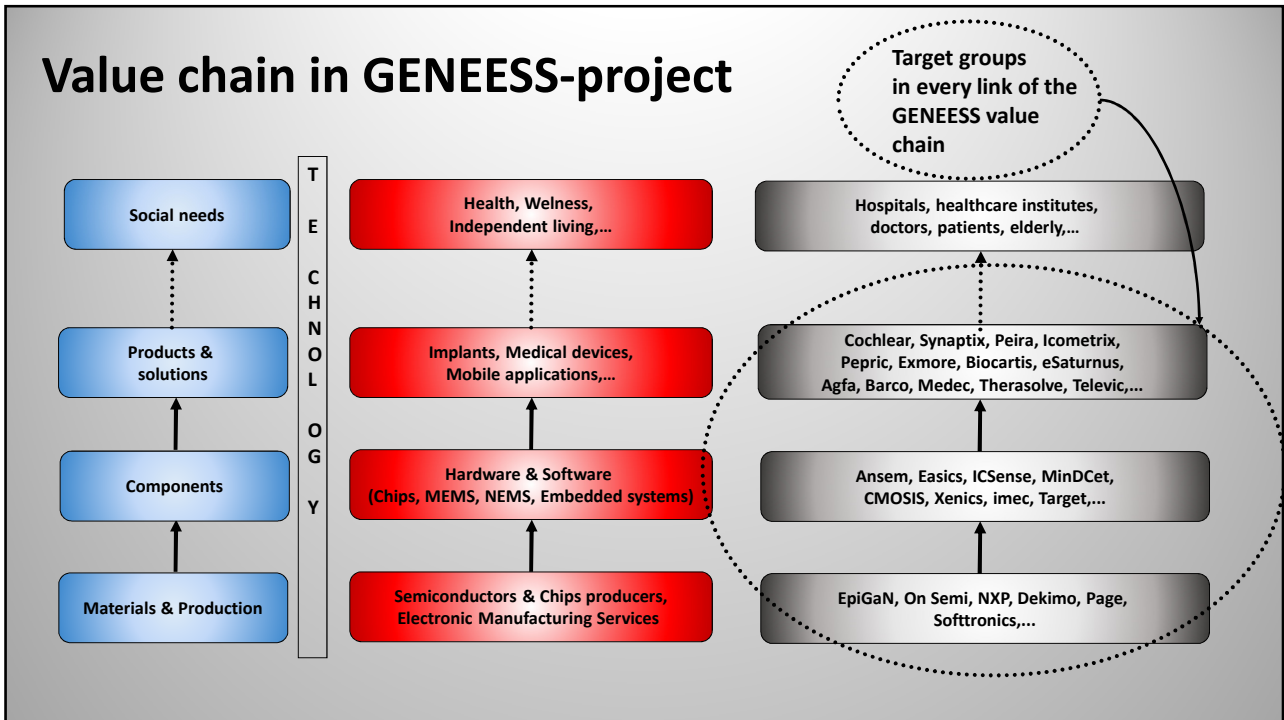
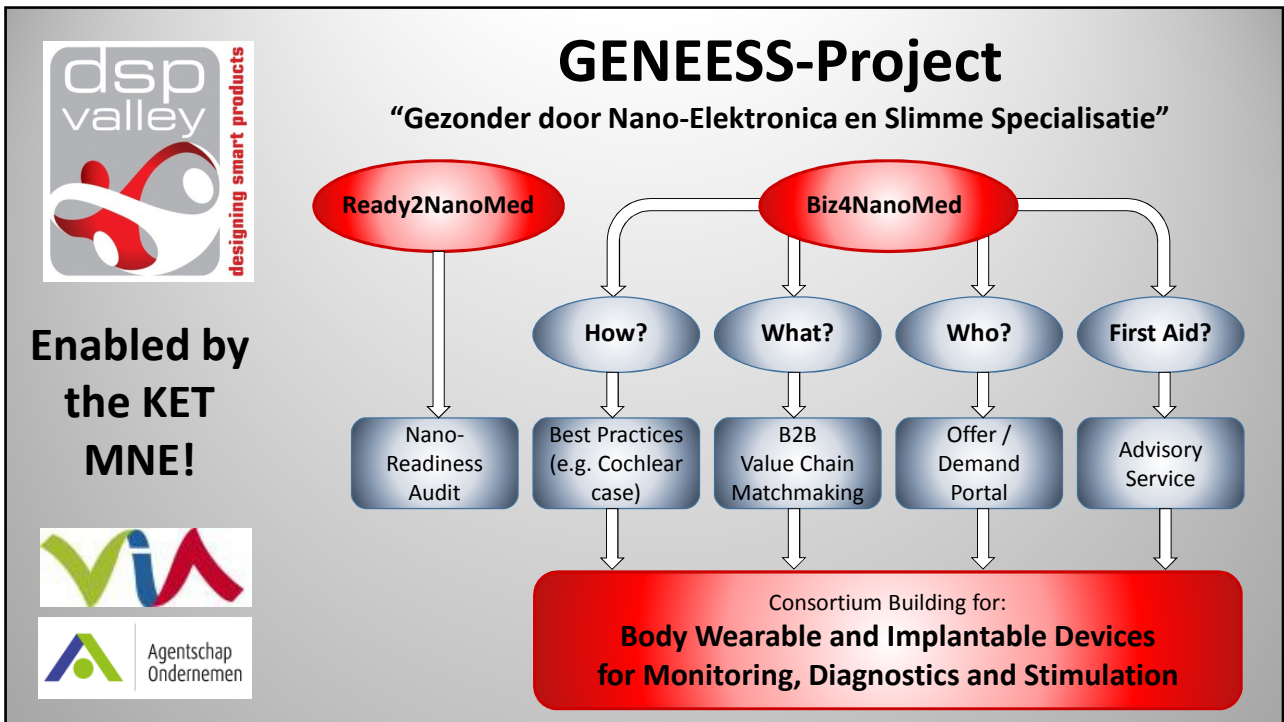
Success Story
in DSP Valley

The diagram shows a cross-section of a human head with a cochlear implant. The implant consists of an external processor (1) connected to an internal receiver (2) and a cochlear implant (3) which is connected to the cochlea (4). Labels A, B, and C are also present on the diagram.



Providing success-critical technologies in Ultra-Low Power Electronics





Synapse Deep Brain Stimulator: partnering success in DSP Valley / GENEES

SYNAPTIX

imec

AnSem
Innovation on chip

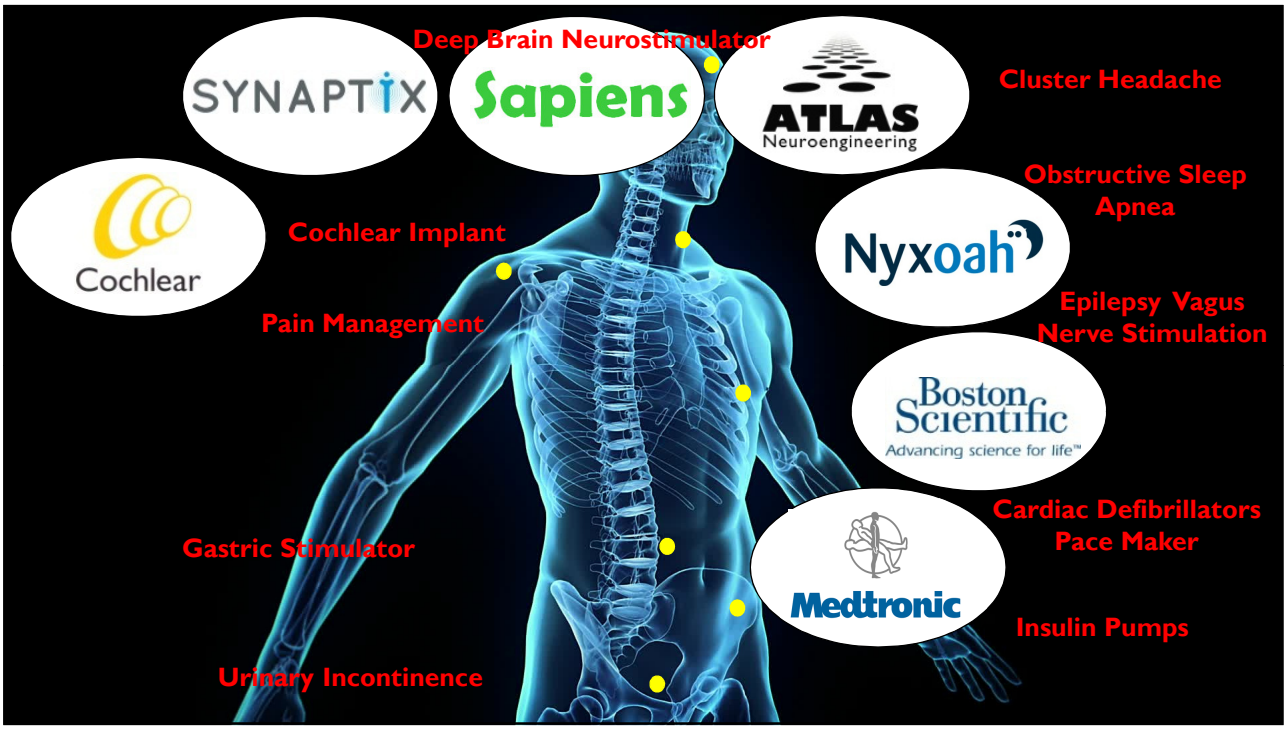
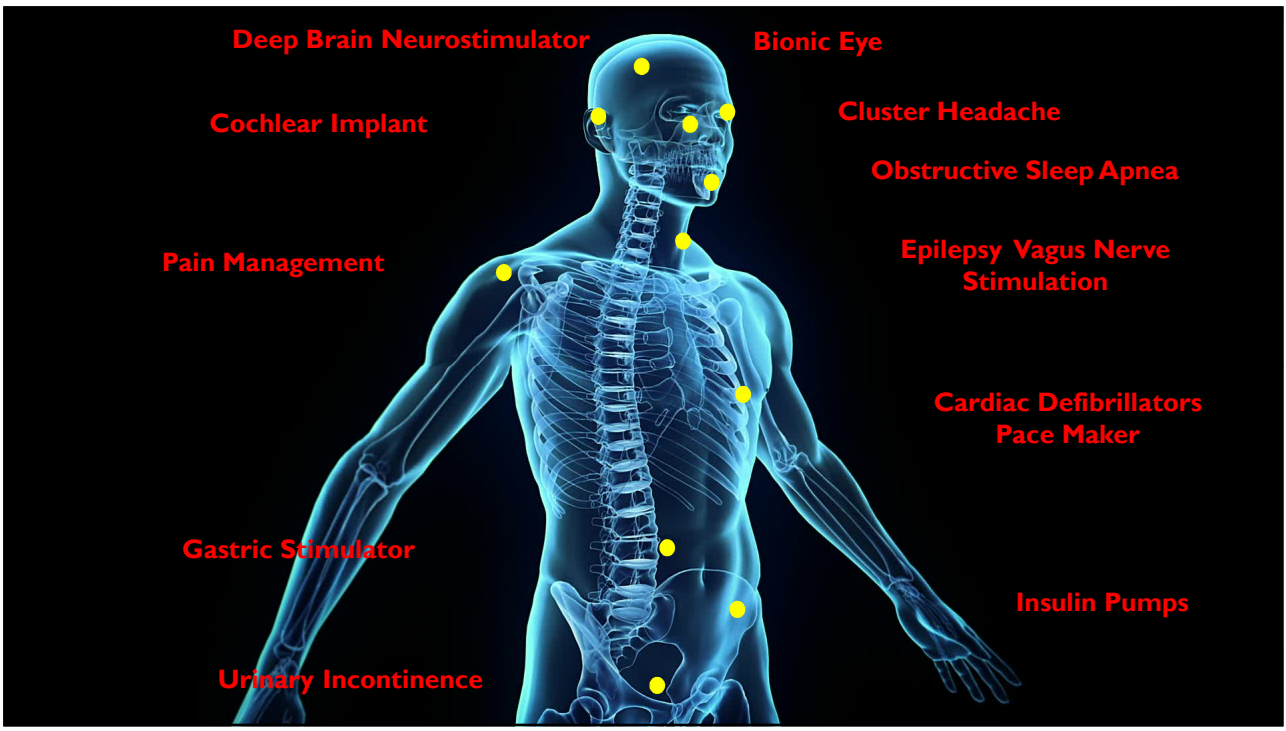
zenso
innovative custom electronics

Eye Pressure Sensor for Glaucoma Smart Health System enabled by Micro/nano-electronics

die #100

SENSIMED
Triggerfish

AnSem
Innovation on chip



Facilitated Matchmaking

NXP – Influx:
patiëntenbandje met RFID

Deltatec – Instrumen:
video-processing

Maastricht Instruments – Bluelce:
Bluetooth Low Energy

KULeuven – Multicap:
SBO-project



NXP – Televic
(non-disclosed funded project)

Boone – Unitron:
deelname in PROF

Boone – Vitaallicht:
deelname in PROF

imec – Connect:
advies over zelfcertificatie
van medical devices





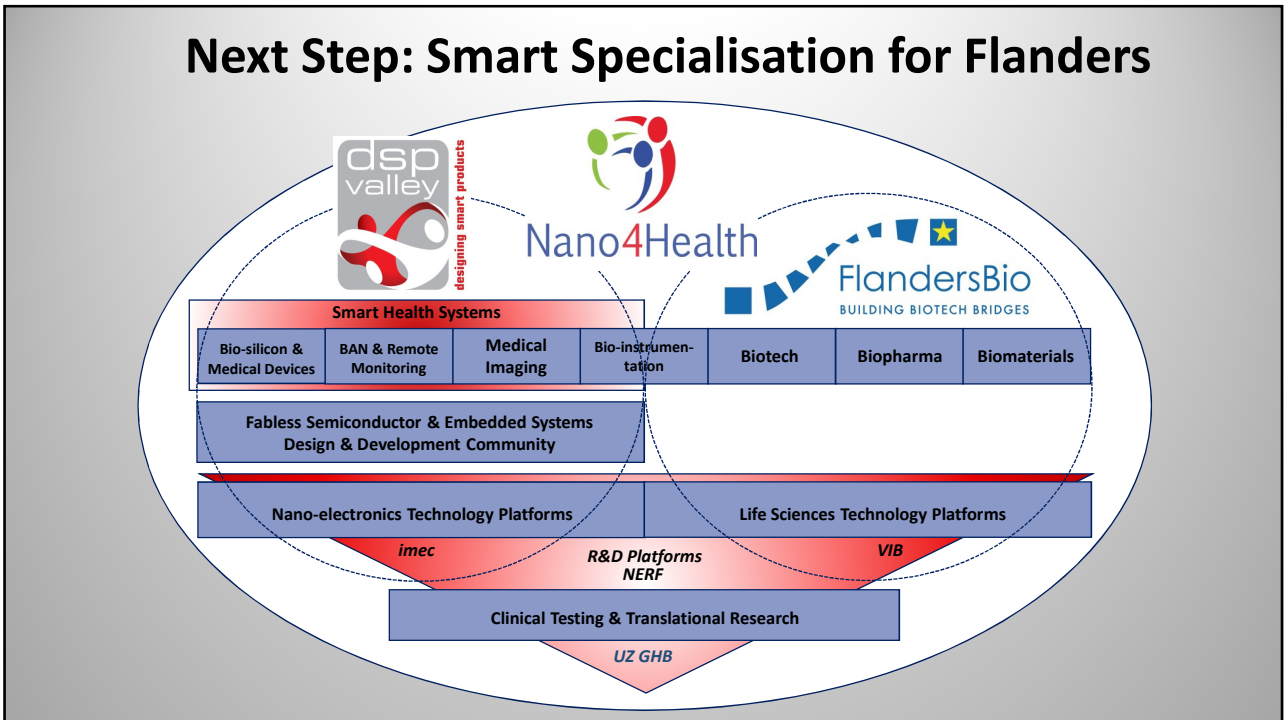


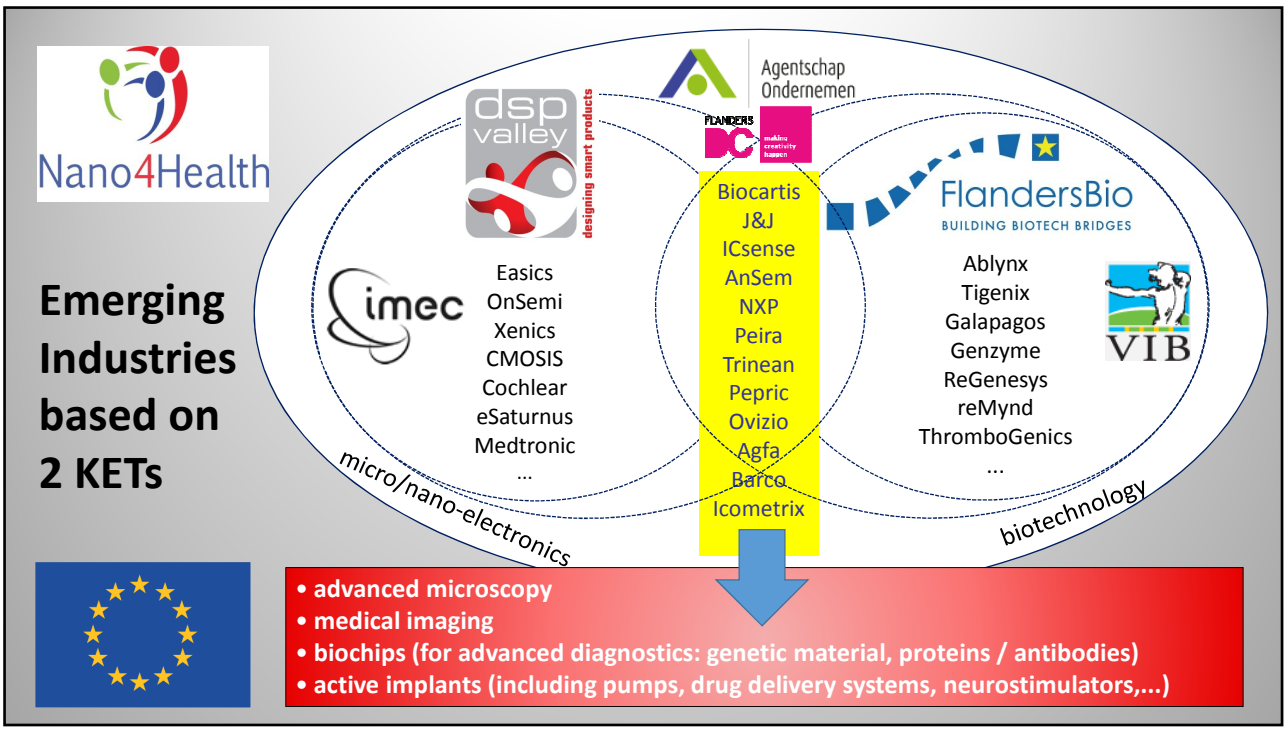
Race Biking Helmet with Built-in Heart Rate Monitor



Jasper De Buyst at the 75th 6 Days of Gent in Lazer Z1 helmet and Solid State SS1 eyewear!!

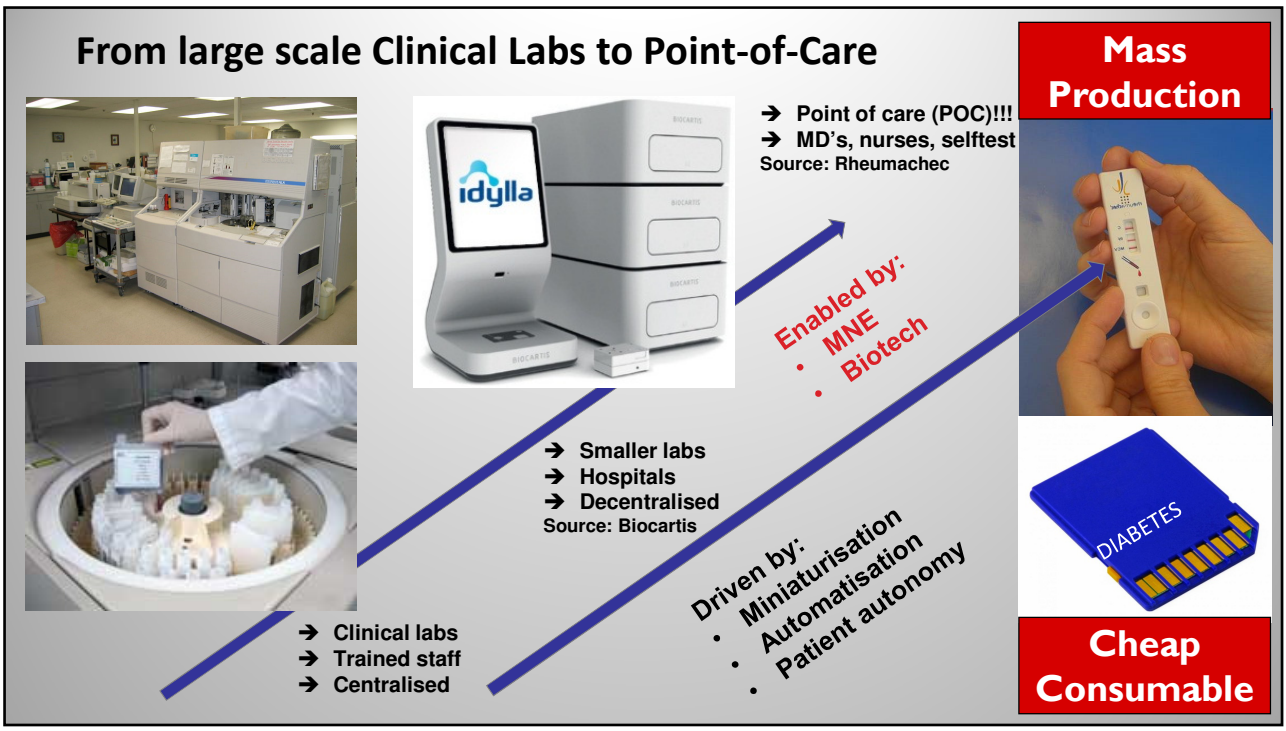
and with Built-in Inclination Sensor





Biocartis

Pioneer in combining Micro-electronics with Microfluidics, MEMS, Biomarkers...



Compute Power for Image Processing



vito






Non-invasive Retinal Imaging
 Detection and follow-up of chronic diseases
 By combining Electronics, Optics, Data analytics software

Active Implantable Systems: Smart Pills

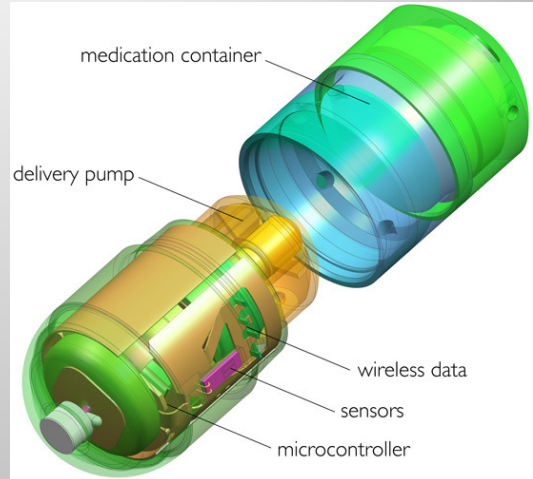


Enabled by:

- Active biomedical component (drug)
- Microactuator (delivery pump)
- Microcontroller
- Wireless communication

Closed loop sensor feedback

**Energy Efficiency
Miniaturisation**



Conclusion: Capitalising on the Benefits of MNE

Cross-KET
Applications

**Active
Devices**

**Personalised
Diagnostics**

**Cell Sorting /
sequencing**

Characte-
ristics

**Low
Cost**

**Volume
Production**

**Closed loop
Sensors**

Moore's Law
Benefits

**Ultra Low
Power**

**Miniaturi-
sation**

**Compute
Power**