



Open innovatie als hefboom voor slimme productie

15-5-2014

Met de steun van:



Marc Corthout - OMC



Open Innovatie

- **Rationale:**

In deze steeds complexere wereld, kunnen niet alle deskundigen van ons zijn

→ We moeten werken met deskundigen binnen en buiten onze organisatie.

→ We hoeven het oorspronkelijk onderzoek niet zelf te doen om ervan te kunnen profiteren.

- **Definitie:**

Het combineren van interne en externe bronnen voor zowel de ontwikkeling als het op de markt brengen van nieuwe technologieën en producten.

Open innovatie in de praktijk



HTC @ Eindhoven
Open Innovatie in R&D
(Research & Development)



Slimste vierkante km in high-tech

Hart van Brainport community

OMC @ Turnhout
Open Innovatie in E&M
(Engineering & Manufacturing)



Meest productieve vierkante km
in high-tech en lifesciences

Hart van Factory of the Future community

OMC
Ambitie

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Ingrediënten (1): Ruimte

- Interne open innovatie contacten stimuleren:
flexible opgedeelde hallen met centrale vergaderruimtes en 1 kantine



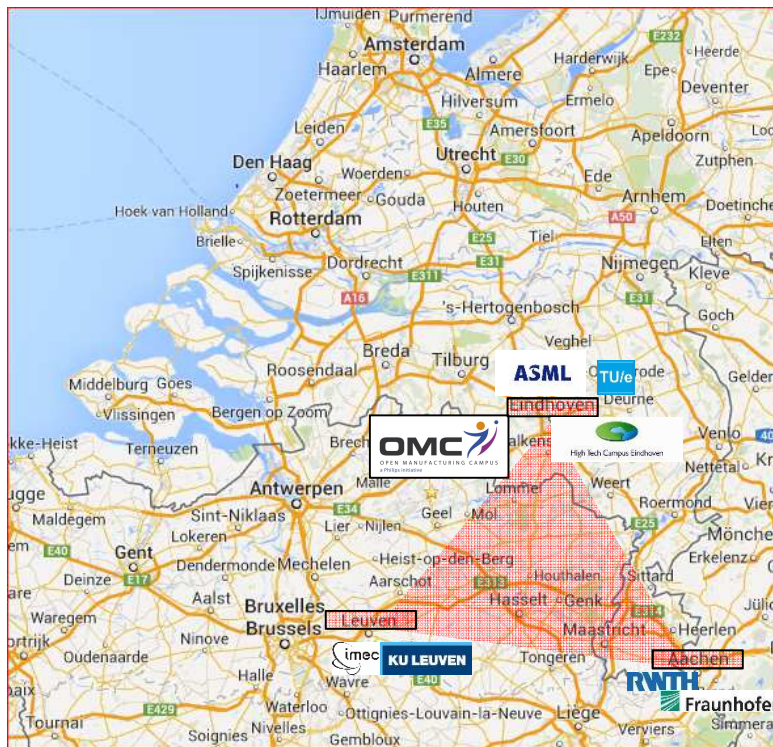
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Ingrediënten (1): Locatie



- Smart Specialisation Strategy: Linken van Innovatie & Industrie: belang van nabijheid van R&D en E&M bestendigen en verankeren.
- OMC als proeftuin voor nieuwe “slimme productie”

High-tech: ELAt driehoek



Lifesciences cirkel



Ingredienten (2): Apparatuur



- Testapparatuur

- Mechanical Testing

- Bump
 - Drop
 - Vibration
 - Tensile and Compression
 - Torsion



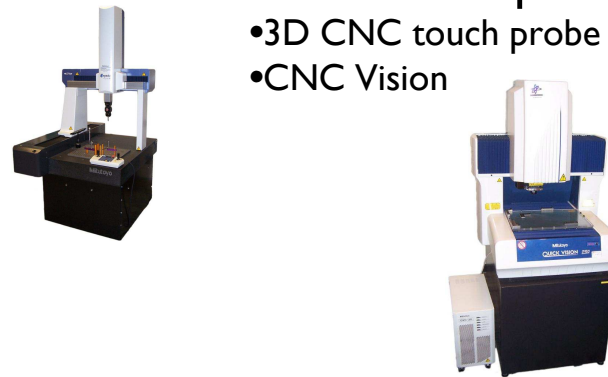
- Visual inspection

- SEM
 - X-ray
 - IR
 - High Speed video



- Dimensional inspection

- 3D CNC touch probe
 - CNC Vision

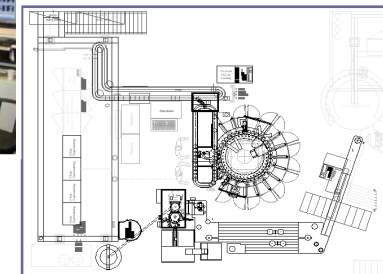


- Endurance Testing

- Thermal
 - Electrical

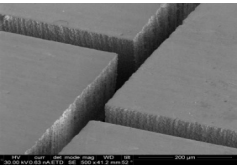
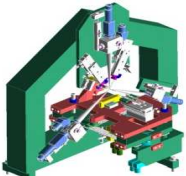
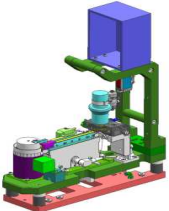
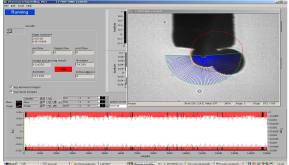



- Productie equipment ontwerp kennis



Ingredienten (3): State-of-the-art kennis



Laser processing	Micro welding	Small parts handling & micro dosing	Vision systems	Light measurement
<p>Special capabilities:</p> <ul style="list-style-type: none"> • Continuous Wave: <ul style="list-style-type: none"> - heating of cera-mics & metal (up to 6kW) • Pulsed laser: <ul style="list-style-type: none"> - micro welding - cutting & drilling - rounding • Q-switched laser: <ul style="list-style-type: none"> - ablation - surface modification - marking • extensive laser lab with multiple CO₂, YAG and diode lasers available 	<p>Technologies:</p> <ul style="list-style-type: none"> • laser welding • resistance welding • TIG-welding <p>Special capabilities:</p> <ul style="list-style-type: none"> • high °T metals (W, Mo, Nb,...) • small parts, high precision • high yield & quality welds through: <ul style="list-style-type: none"> - vision-controlled laser welding - displacement controlled resistance welding 	<p>Special capabilities:</p> <ul style="list-style-type: none"> • ultra reliable separation, transportation and deposition of single and multiple particles as small as 50 µm • in-line detection & weight measurement of particles • micro dosing of liquids, glue & silicones • parts handling in glovebox (inert atmosphere) 	<p>Special capabilities:</p> <ul style="list-style-type: none"> • measurement on transparent products (e.g. glass) • vision systems integrated in (fast) production lines • detection of visual defects (e.g. contamination, cracks,...) • multi-camera systems (3D) • x-ray based vision • self-learning vision systems • state-of-the-art vision lab available 	<p>Special capabilities:</p> <ul style="list-style-type: none"> • light measurement systems in production lines • customized measurement systems for product characterization and quality control • calibration and performance monitoring of measurement systems • spectrometer and camera based solutions • integrated database applications 

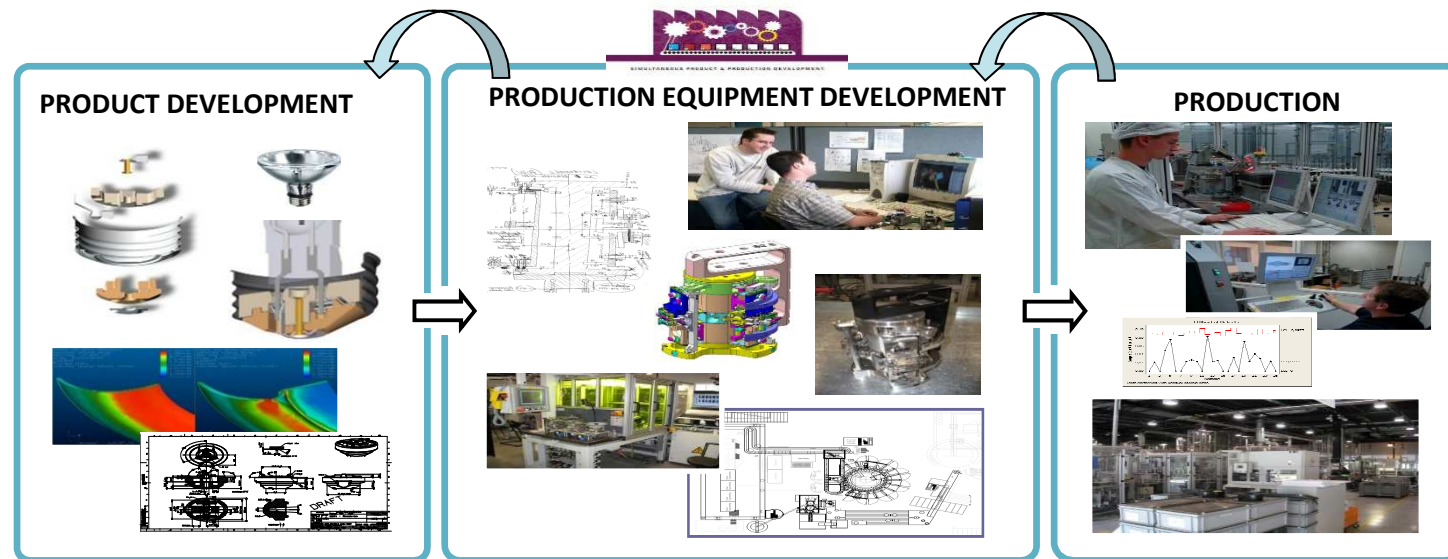
- Verder ontwikkelen met stakeholders (Thomas More, KU Leuven, Sirris, ...)
- Samenwerken met SOC Slimme Maakindustrie als proeftuin

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Ingrediënten (4): Mensen

- Operators: “slimme sluitstenen” in het “slimme productie”
- De mix van mensen die alle facetten van een succesvolle productie ramp-up tegelijkertijd bezitten en als mindset samen opbouwen en perfectioneren



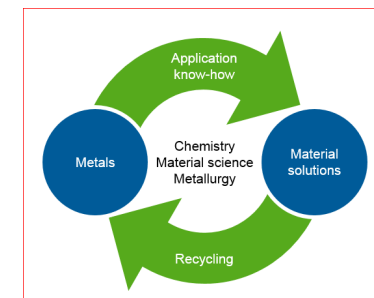
Na de ingredienten, het soort “restaurant”



- Producten worden minder “massa” en meer en meer gepersonaliseerd
- Service wordt hierbij een integraal deel van de aanbieding
-> interactie product – markt en productie in de nabijheid



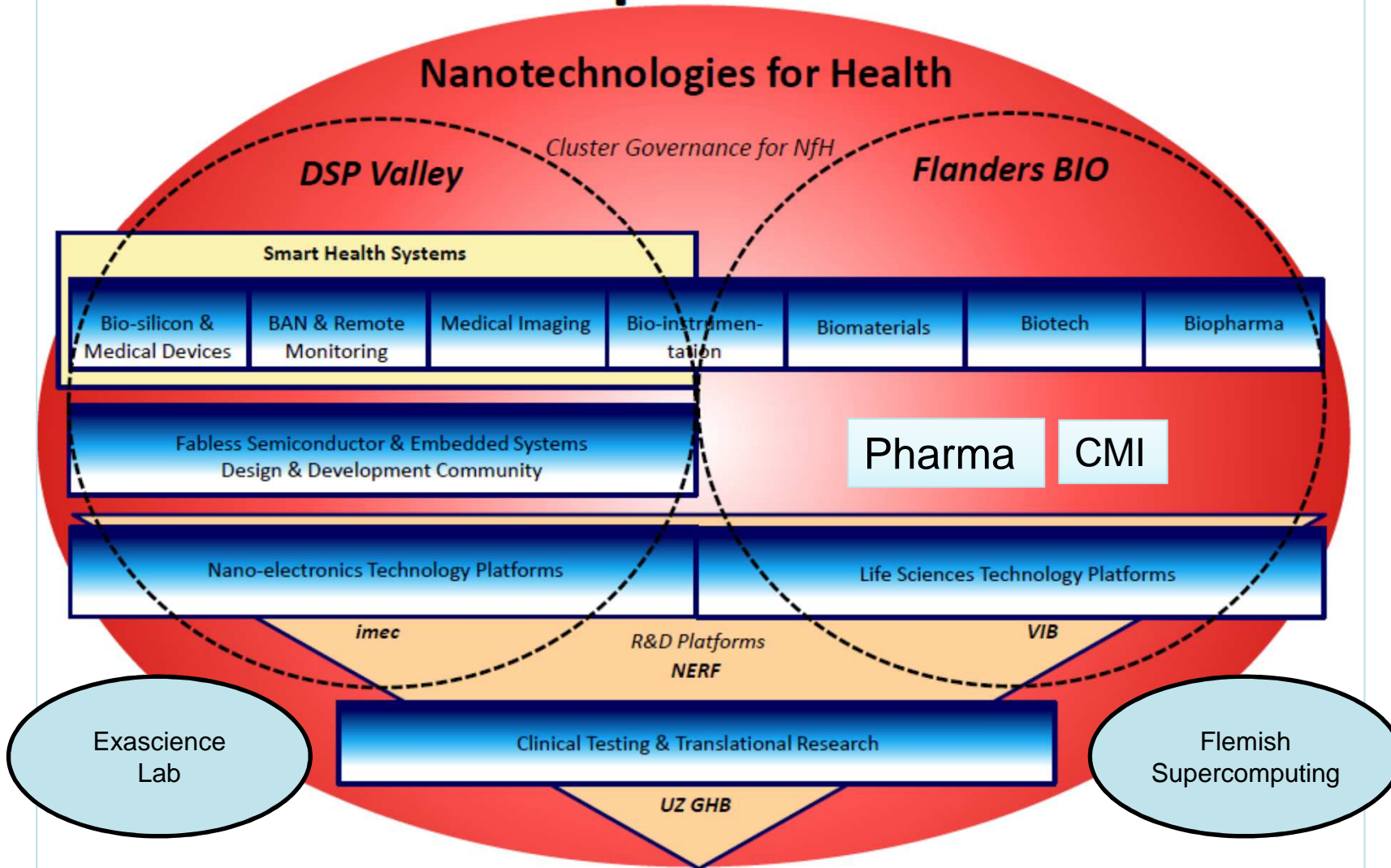
- Circulaire economie wordt vereist “by design”
- Smart specialization strategies bepalen het menu



Nanotechnologies for Health als carrier



Smart Specialization

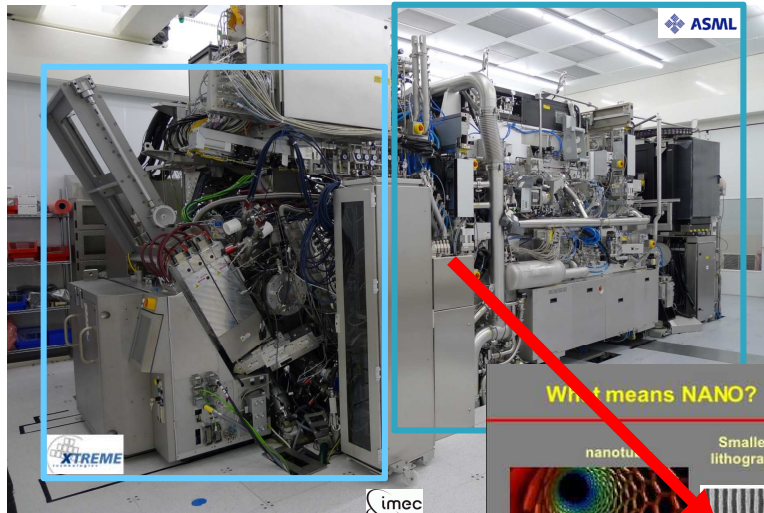


Electronics meets life



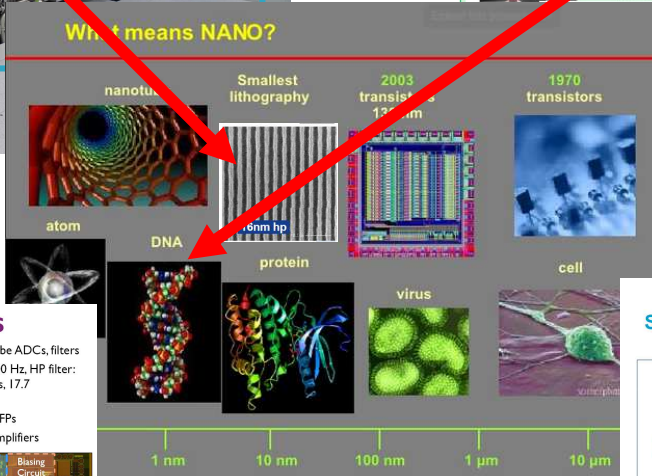
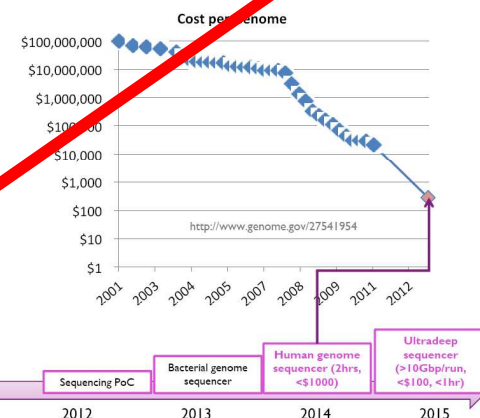
High-tech: De dunste lijntjes ter wereld @ Imec

Biotech: Onttrafelen van ons persoonlijk DNA...

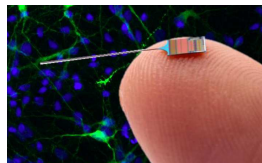


Courtesy Imec

SEQUENCING ROADMAP

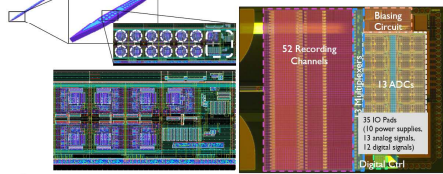


Neuroprobes



ADVANCED ELECTRONICS

- 456 electrodes, 52 channels, on-probe ADCs, filters
- Gain: 30-4000 V/V, LP filter: 200/6000 Hz, HP filter: 0.53/200/300/500 Hz, 30kS/s, 10 bits, 17.7 uW/channel
- 4 uVrms for APs and 7 uVrms for LFPs
- 25x25 μm² and 15x15 μm² shank amplifiers

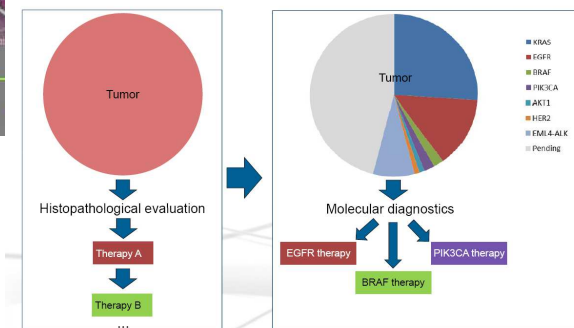


imec

Nano4Health:
Electronics meets life

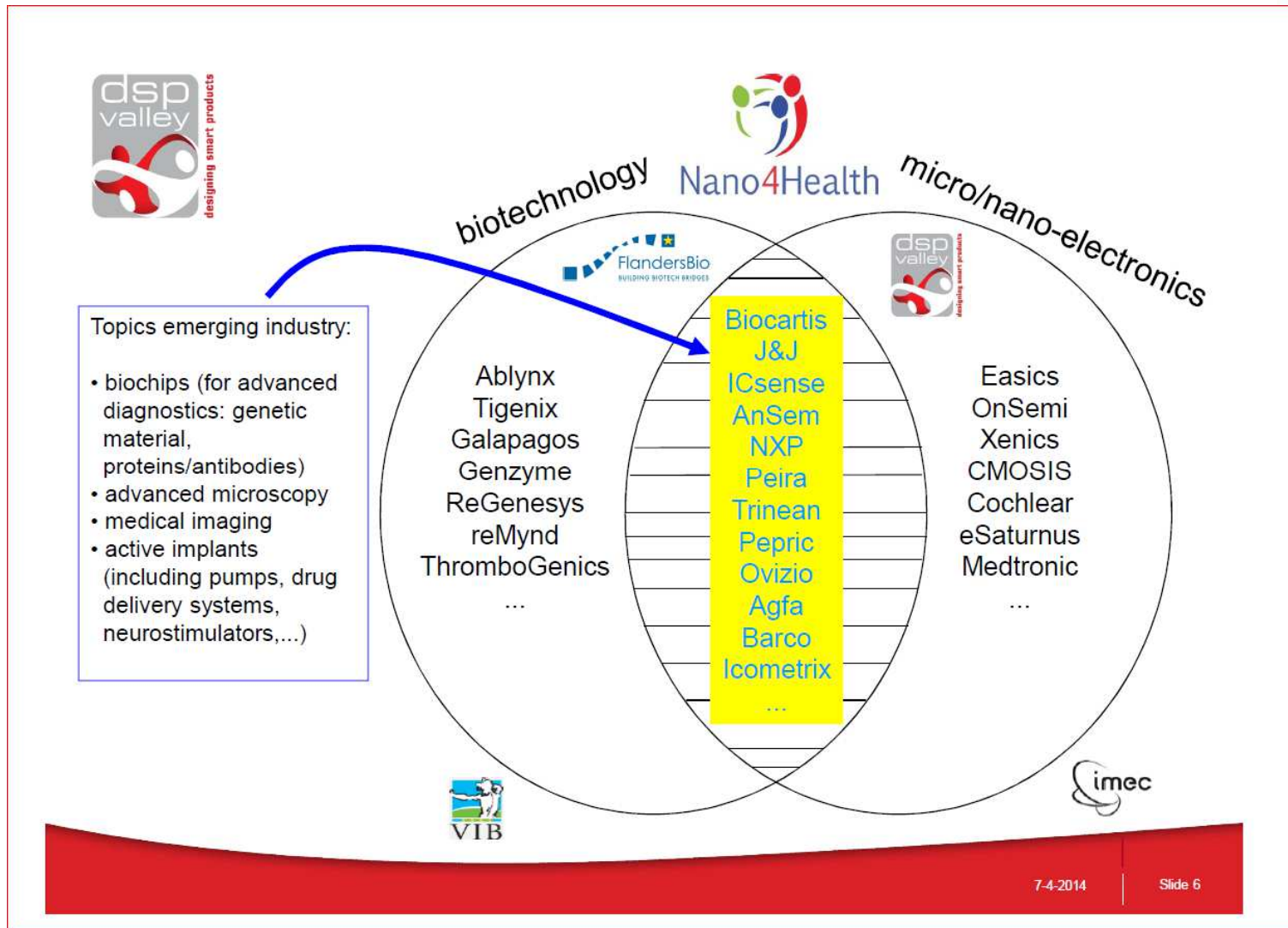
Personalized medicine

Shifting cancer therapy in the molecular era



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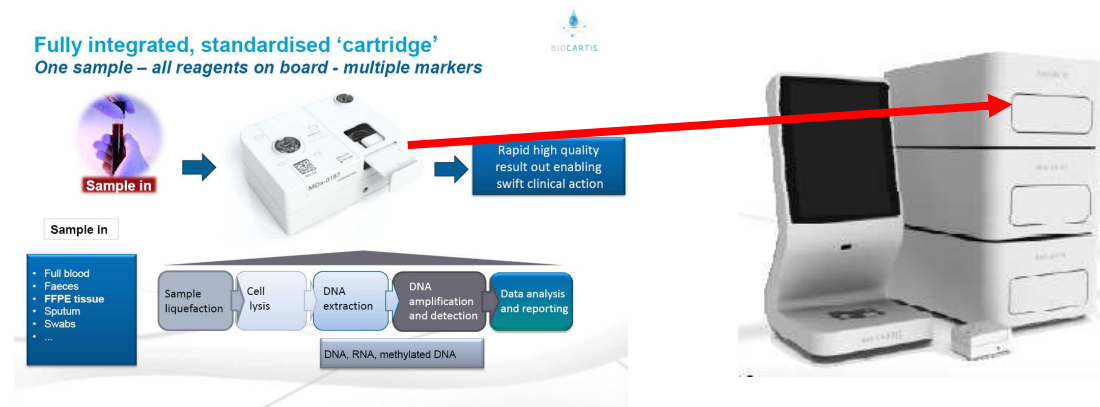
Bedrijven actief in deze “sector”





Soorten gerechten

- Biocartis: trace-ability, micro-dosing, ...



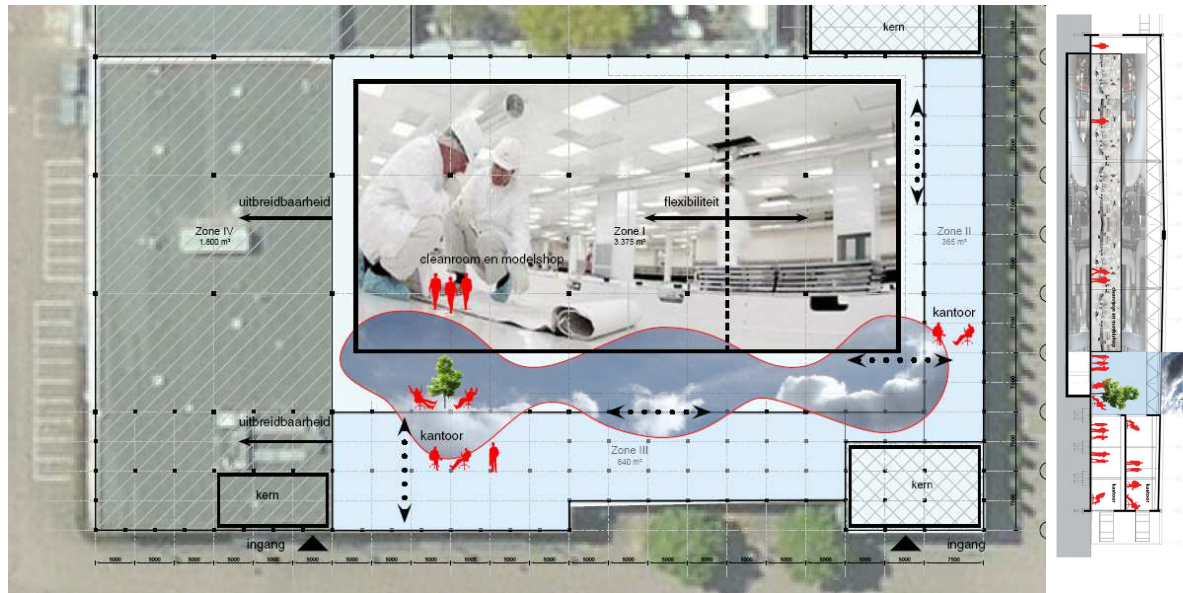
- Nieuwe vrijgave-aanpak voor personalized medicine via CROs en CMOs

- Peira: nieuwe medical devices: TM900

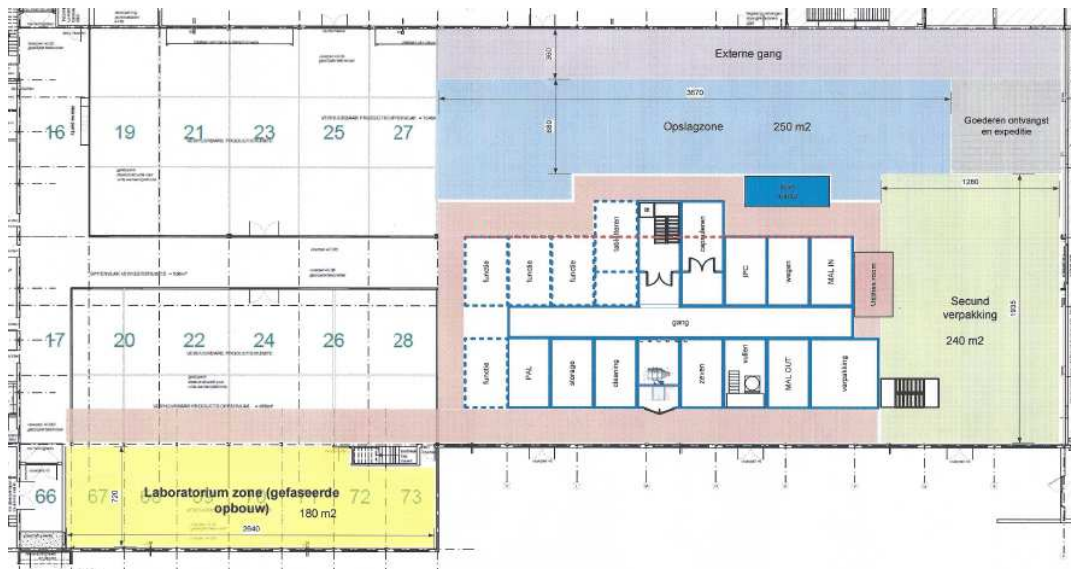


- Imec en Janssen Innovation Labs: nieuwe recepten met nieuwe bestanddelen

De gewenste “keukens”



Hal X: high-tech



Hal B: pharma

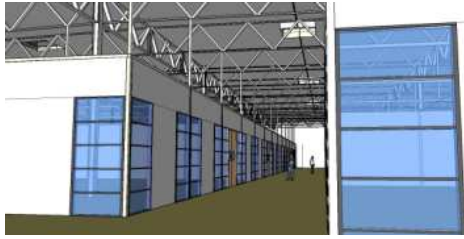


Open innovatie in deze context

- Nieuwe applicaties samen mogelijk maken met nieuwe technologieën:
Ceramics voorbeeld: lampen -> koffie malen -> andere reacties, micro-reactoren

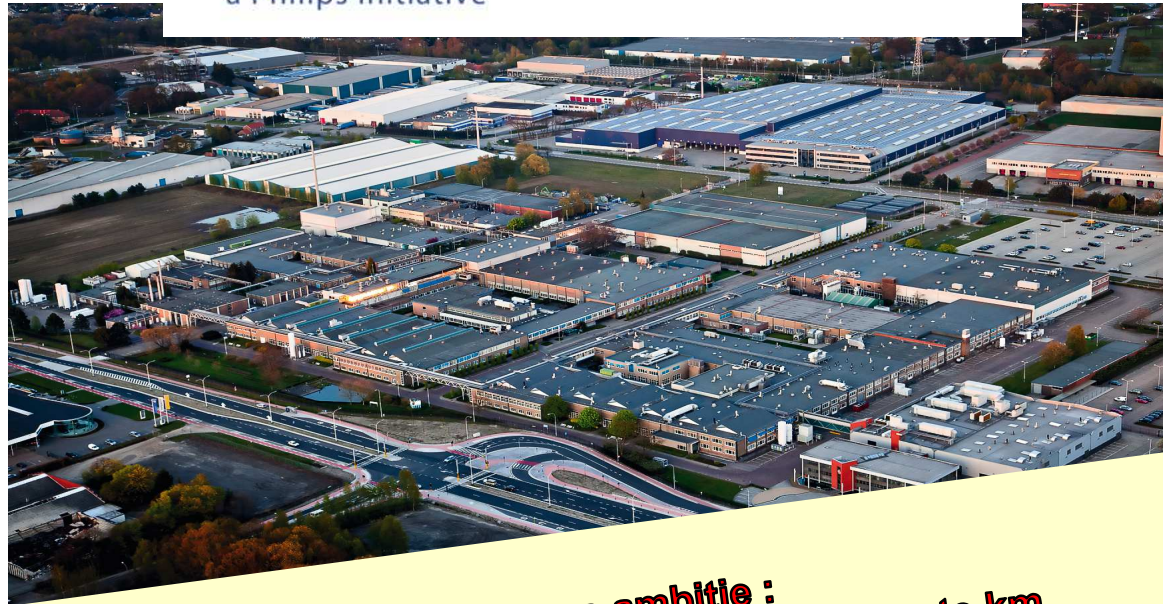
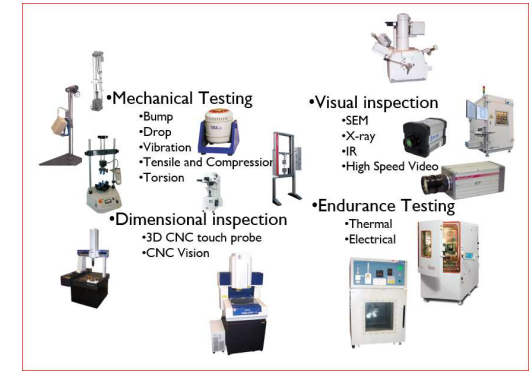


- Vertrouwen als basis van een community
- Campus als thuis en ontmoetingsplaats voor zo een Community
- Focus om samen Markten en Waardeketens te ontwikkelen
- Die we in onze regio willen verankeren






OMC

OPEN MANUFACTURING CAMPUS
a Philips initiative



**Onze ambitie :
"OMC als meest productieve vierkante km
In high-tech en lifesciences"**

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