

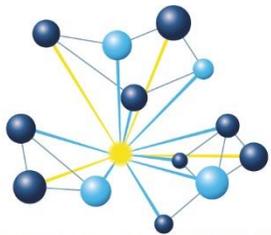
About Vanguard

The demo-case on NeMs4BIO is part of the New Nano-Enabled Products pilot of the Vanguard Initiative, and is led by Dr. Wolfgang Eberle, Funded Program Manager Smart Health at imec in Belgium.

The Vanguard Initiative is an association of 30 EU-regions stimulating Industrial Modernisation through a more effective deployment of new technologies. More in particular, the Initiative aims at providing industrial companies easier access to (networked) facilities for demonstration, to lower technology uncertainty and speed up market uptake of new technologies, more advanced industrial production and new value chain.

Read more at the Vanguard Website:

www.s3vanguardinitiative.eu/cooperations/vanguard-initiative-pilot-project-new-nano-enabled-products



VANGUARD INITIATIVE
New growth through smart specialisation

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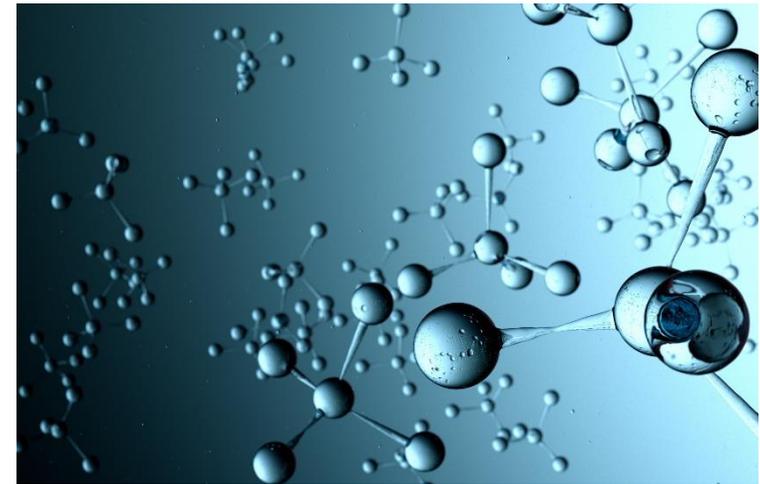


VANGUARD INITIATIVE

New growth through smart specialisation

NeMs4BIO

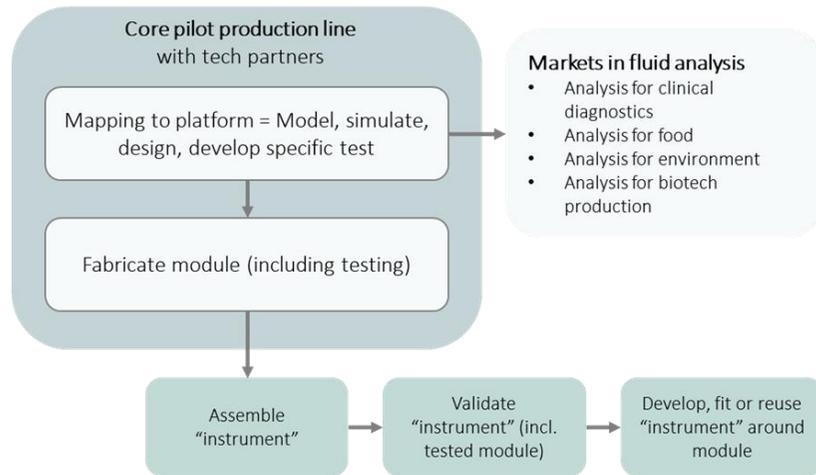
A demonstration case
within the Vanguard Initiative on
New Nano-enabled Products Pilot



Scope & Organisation

The Nano-enabled Microsystems for Bioanalysis (NeMs4Bio) demonstration case (part of the Vanguard Initiative on New Nano-enabled Products Pilot) aims to address the microfluidic integration challenges covering aspects such as bio-functionalisation, nano-functionalisation, heterogeneous cross-KET microfluidic integration (Si-on-X, Si-in-X) towards a module format (e.g. chip carrier, cartridge).

Figure 1: Organisation of the production line in view of instrument development and relevant markets



Source: imec

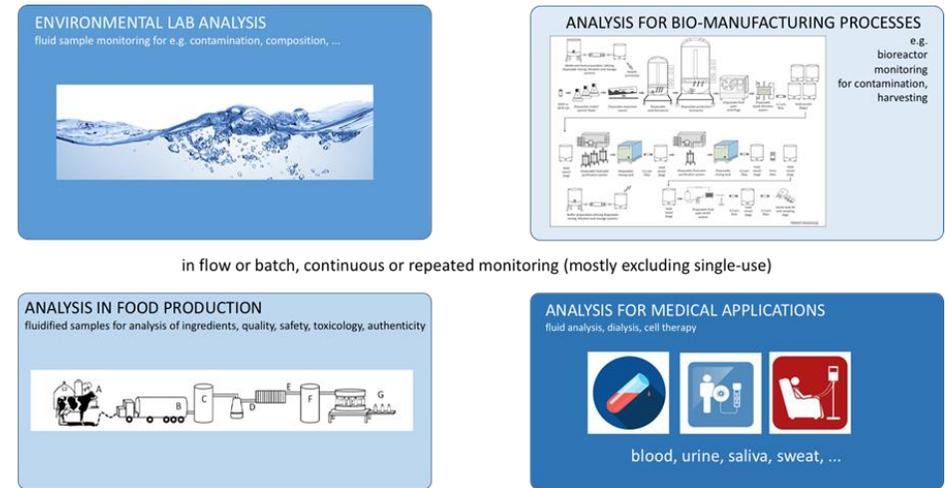
This demo-case is jointly working on developing a network of pilot production facilities across participating regions and will involve core platform teams and application-specific experts including system builders and end-users. The aim is to accelerate the work of the demonstration case through a cross-regional collaboration platform in view of the detailed scope. Figure 1 emphasizes the pre-competitive nature of the platform as well as the ability to add tests to the module developed as relevant to the needs of the markets and actors.

Markets in fluid analysis

The following markets have been identified as the clearly applicable markets of interest and are presented in Figure 2:

- Analysis for medical applications
- Analysis for food production
- Analysis for environmental lab analysis
- Analysis for bio-manufacturing processes

Figure 2: Markets relevant for the instrument developed

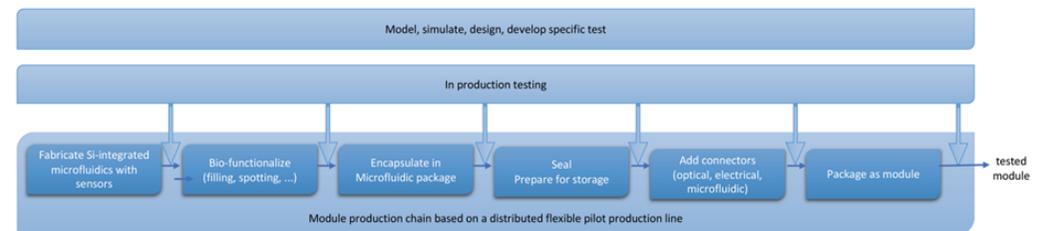


Source: imec

Proposed action for the platform

A cross-regional platform on NeMs4BIO will require active participation and validation from RTOs and industrial players in order to accelerate the proposed action, and is proposed to be set-up according to the follow steps (see Figure 3):

Figure 3: Proposed steps and way forward for the platform



Source: imec

In this regard, actors (technology partners) active in the area of nano-enabled micro-systems for bioanalysis will be approached with regards to their particular interest in collaborating through this platform. In particular, actors will be asked to contribute their views on the indicated process steps (see figure) and an indication of their expertise with respect to the proposed stages indicated in the figure above. In addition, the links with the markets will be made in order to ensure the viability of the developed module.