

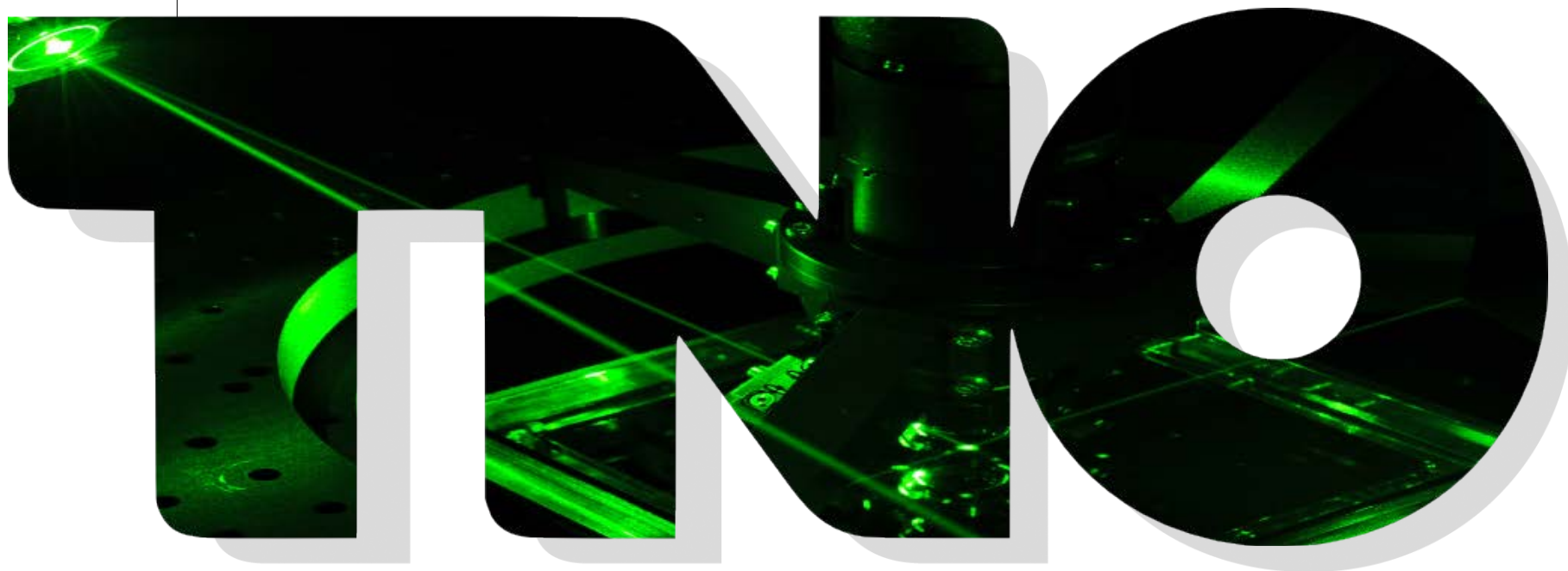
# Adoptive Strategies

**K.E.Y.  
PLATFORM  
2014** April 23 – 24, 2014  
Conrad Seoul, Korea

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# Our impact is: Acceleration of Innovation





## TNO: 대공황 시기 설립(1932)

### Article 4 TNO Act

*The Organisation aims to ensure that applied engineering and scientific research and other associated social scientific and applied research is made suitably serviceable for the general good and the distinctive interests contained therein.*

**TNO** (Toegepast Natuurwetenschappelijk Onderzoek / *Netherlands Organization for Applied Scientific Research*: 네덜란드 응용과학 연구기구)

- › **Applied Science** 영역 연구
- › 비영리 조직
- › **Independent**



## The TNO mission

- › TNO는 사람과 지식을 연결하여 사회의 참살이(Well-Being)와 지속가능한 경쟁력을 가속화 시키는 혁신을 창조 한다
- › TNO connects people and knowledge to create innovations that boost the sustainable competitiveness of industry and well-being of society.

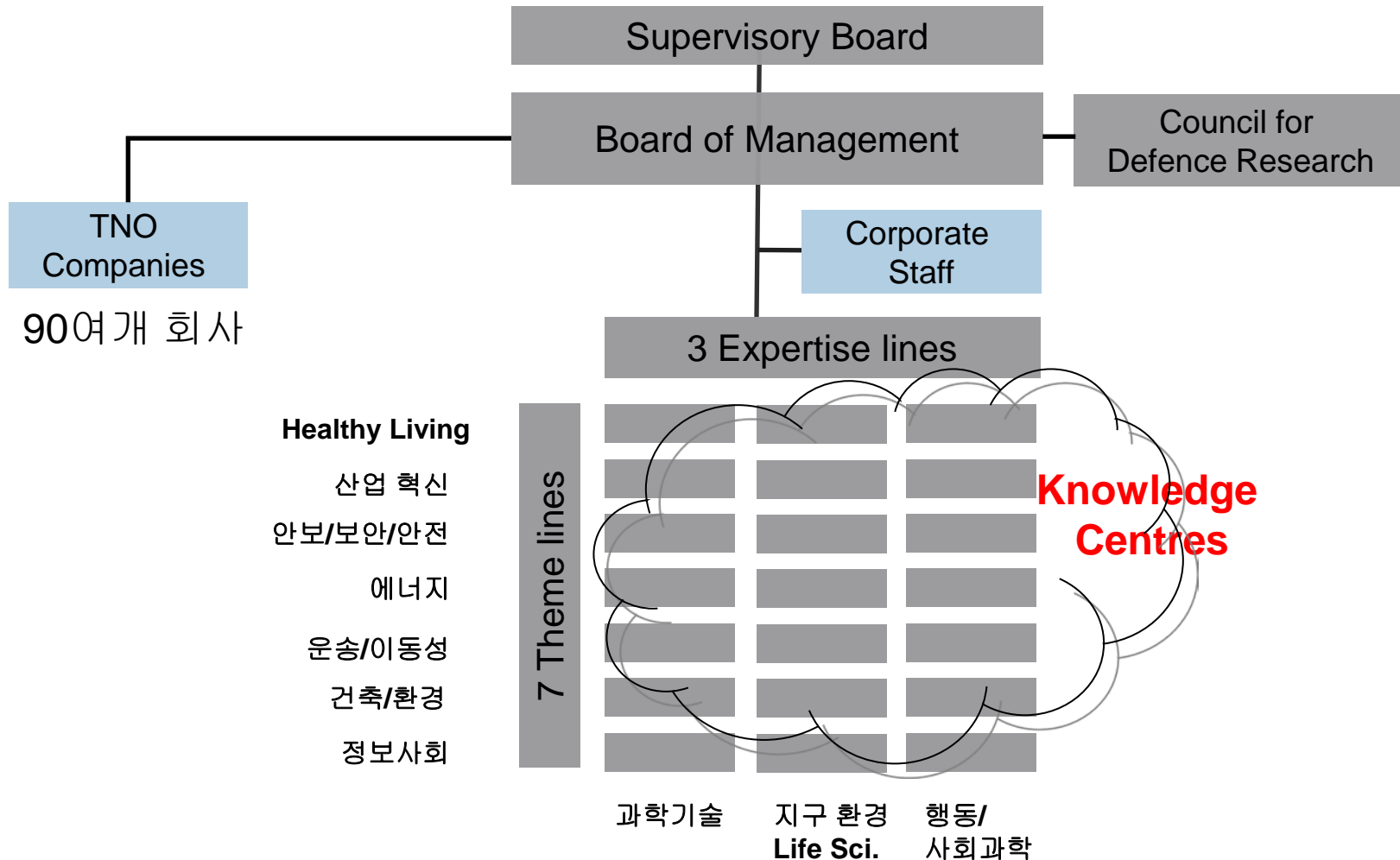


## We do this by

- › Contract Research / Technology Transfer
- › Licences of IP / Venture
- › Consultancy
- › Testing and certification
  
- › Performing assignments, e.g.:
  - 초정밀 기계장치/모듈의 개발
  - 기업과 협업하여 Turn-Key Solution 개발
  - Big Data 분석/응용



## TNO 조직 : 4,400 名 (4,000명 이상의 박사급 연구원)





## The power of TNO

### From idea to innovation

기초 과학  
기술 개발

심화 지식  
개발

지식의 응용  
적용 가능성

지식의 산업화  
시장진출

With  
universities



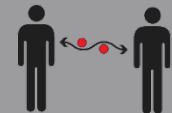
With  
partners



With  
customers



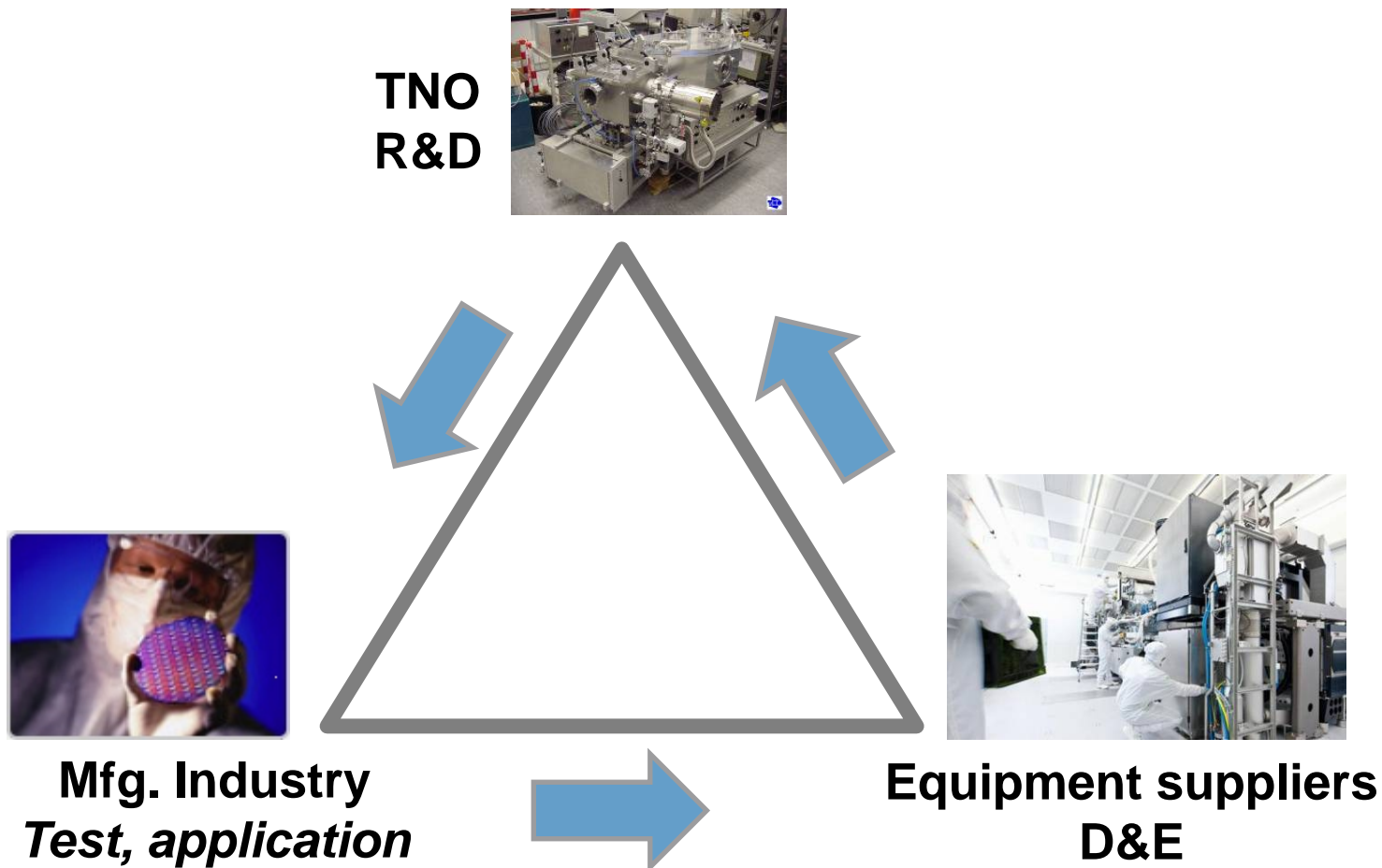
Embedded in the  
market



FOCUS on Enabling Technology  
i.e., Technology embedded Process Equipment



## Value Chain Approach

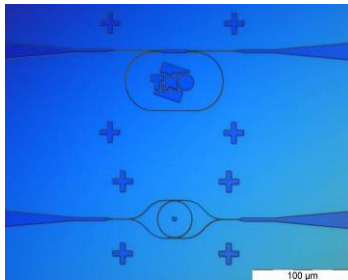




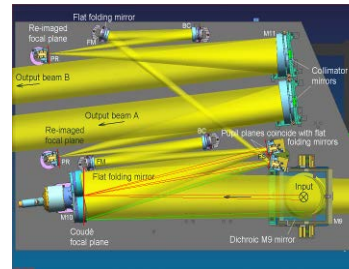


# Competences for the High-Tech Industry

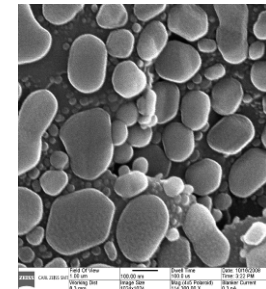
## Nanofabrication



## Optics



## Material Science



## System Architecture & Engineering



## Vacuum & Contamination Control



## Mechatronics

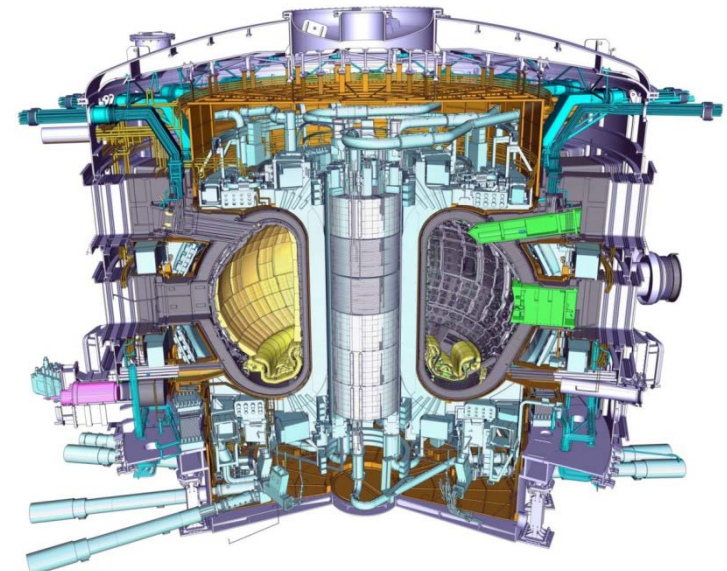
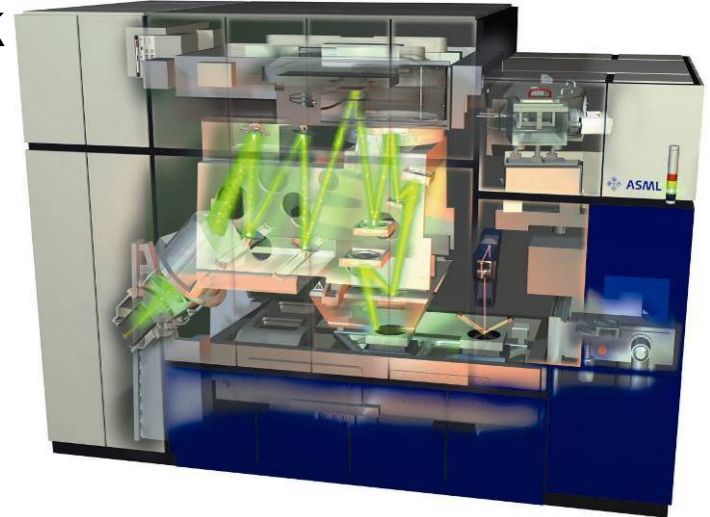


## Flow dynamics & thermo- mechanical simulations



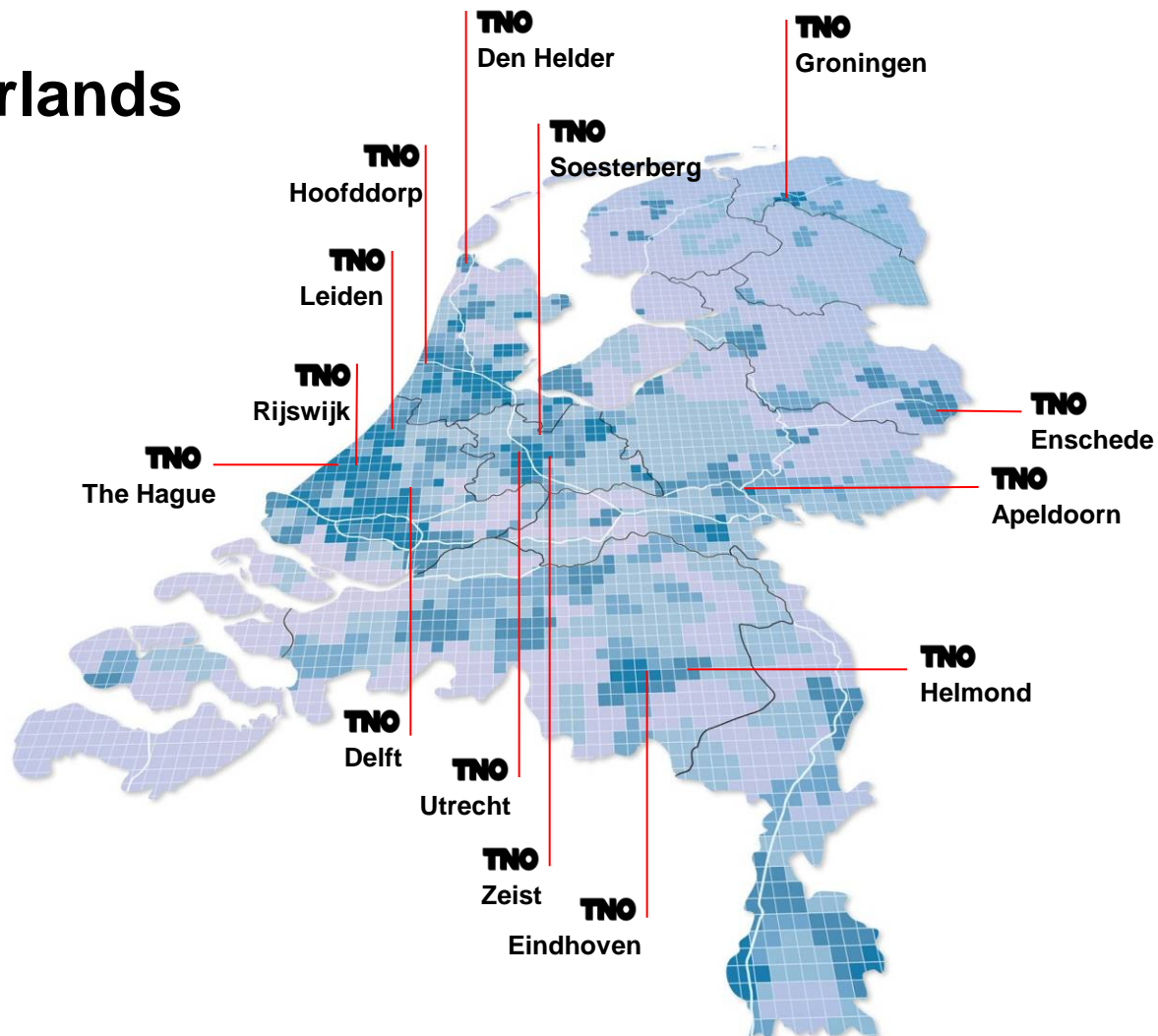
## Some examples of our work

- Contamination control
- Sensing and metrology
  - Optic / Acoustic / Laser
- Additive manufacturing
  - Thin Film
  - R2R Spatial ALD
  - 3D Printing
- Big Science
  - Space
  - Energy
- Big data / factory automation



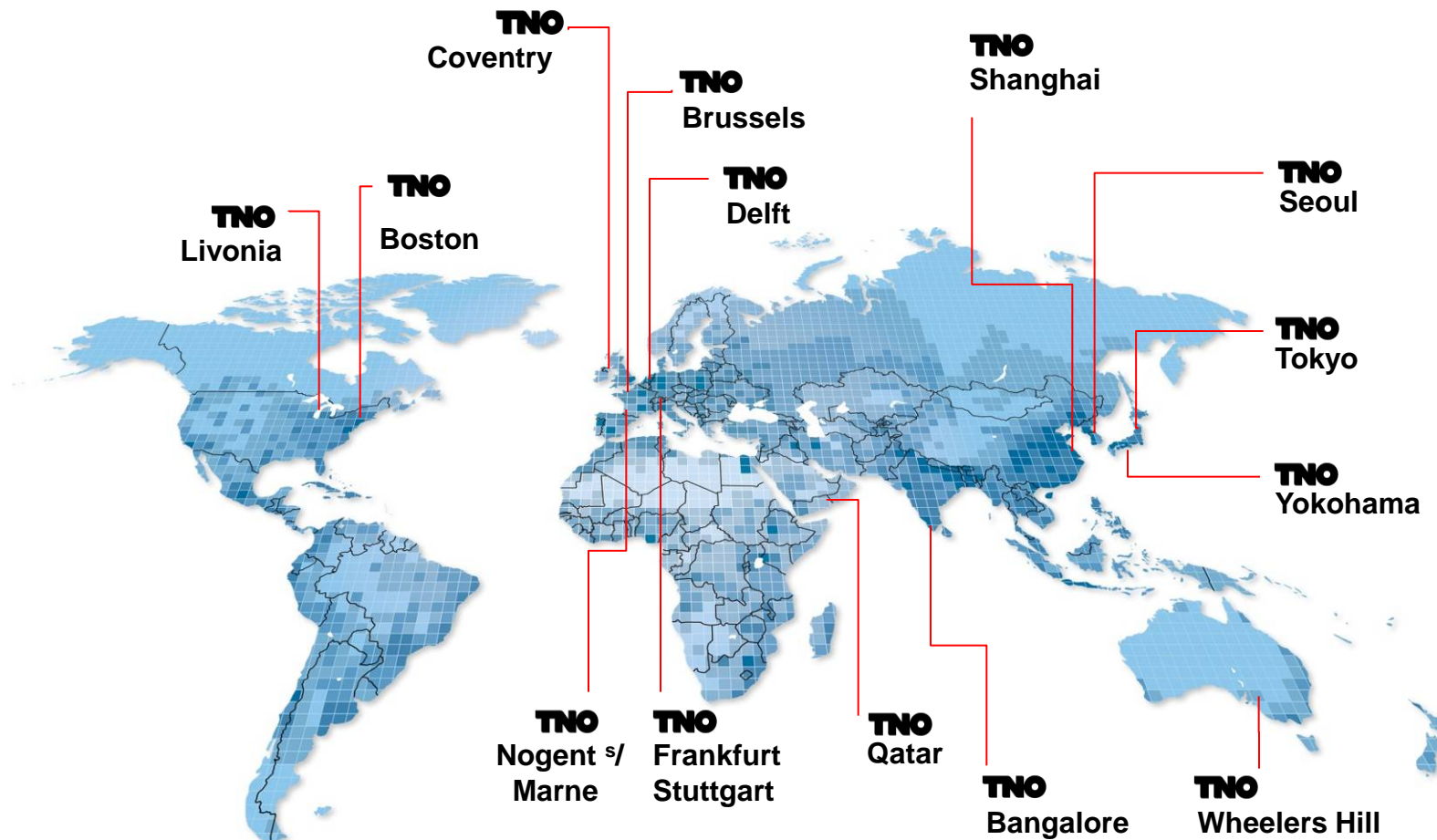


# TNO in The Netherlands





# TNO Global



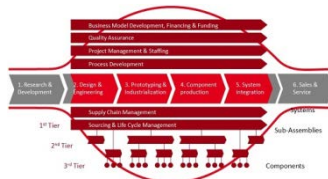




# Open Innovation Approach: TNO Model



**TNO: Shared R&D**



**Open Supply Chain**



**TAPinto**



# Open Innovation – Shared Research

**Contract Research & Consultancy**

- Project-based
- Fee for Service
- Confidentiality
- Exclusivity

**Co-innovation**

**Co-funded projects**

*Strategy alignment*  
*Specific criteria*



**Public & Private Partnerships**

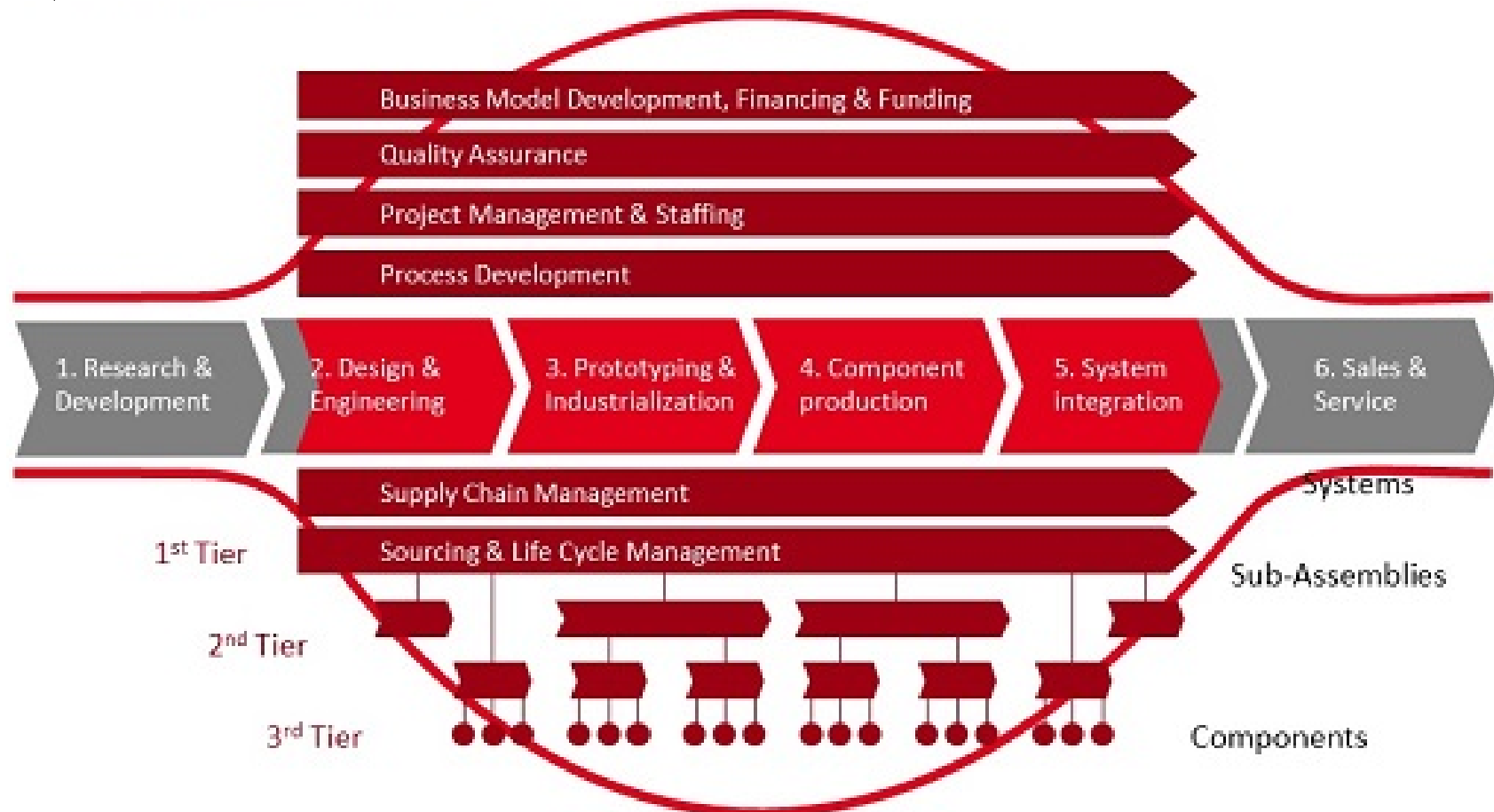


**Shared Research  
Private & EU Funds**





## Open Innovation – Open Supply Chain





# TAPinto

## › Members

### › Engineering Development

SIOUX, NTS Group, Rexroth/Bosch

### › Metrology

Technology of Sense, Xpress, Eternal Sun

### › Precision Modules

PM Bearing, Tecnotion

### › Scientific

Omix2Image, Amsterdam Scientific, Single Quantum

## › <http://www.tapinto.nl>





## TNO's Future Plans

- › From CRO to RTO
- › TAPinto in both ways
- › Shared Research

The background of the slide is a composite image of Earth from space. The top half shows the bright, sunlit horizon of the Earth against a black sky. The bottom half shows a view of the Earth at night, with city lights glowing across the continents. A horizontal teal band with white text separates the two halves.

**TNO | Innovation for Life**