

# What collaboration can do for higher education and research

DEVELOPMENT AND SUPPORT OF E-INFRASTRUCTURE FOR R&E IN THE NETHERLANDS



14th Annual Global LambdaGrid Workshop  
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Kees Neggers, CEO SURF

**SURF**



# Pioneering ICT innovations

SURF is a partnership of

- 14 research universities
- 42 universities of applied sciences (*hogescholen*)
- 8 university medical centres
- National Library of the Netherlands
- Netherlands Organisation for Scientific Research (NWO)
- Royal Netherlands Academy of Arts and Sciences (KNAW)
- Institutions for vocational education (recently admitted)

- SURF unites Dutch higher education and research institutions in pursuing improvements in education and research through pioneering ICT innovations.



# History of SURF

- 1987 SURF
- 1988 SURFnet
- 1991 SURFmarket
- 2000 Platforms Education, Research and Business Administration
- 2008 ICTRegie recommendations
- 2011 Netherlands eScience Center
- 2013 SURFsara (SARA since 1971)
- 2014 Restructuring

# Dutch ambition

- *ICTRegie: '(...) achieving the desired top position as a knowledge economy asks for competing on scientific and economic markets. Maintaining the position of the Netherlands in the top of science requires permanent investments and developments in computers, databases and tools of the ICT infrastructure'*

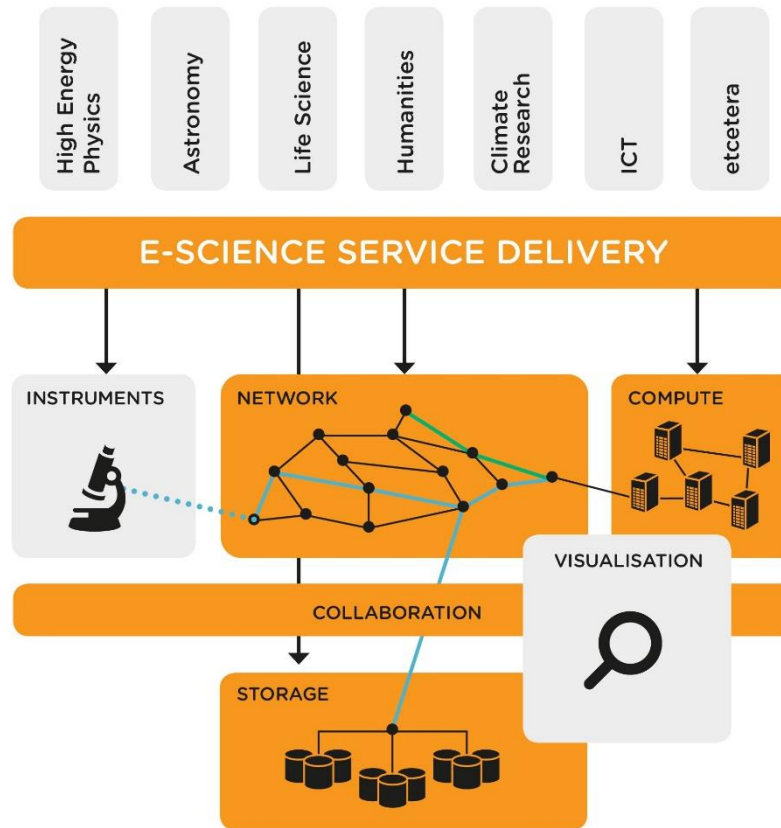
- Recommendations ICTRegie (2008)
  - Top position of The Netherlands in international science
  - Coherence
  - Leading role for SURF
  - Merger SURF and SARA
  - Founding of eScience center
  - Structural funding for national e-infastructure



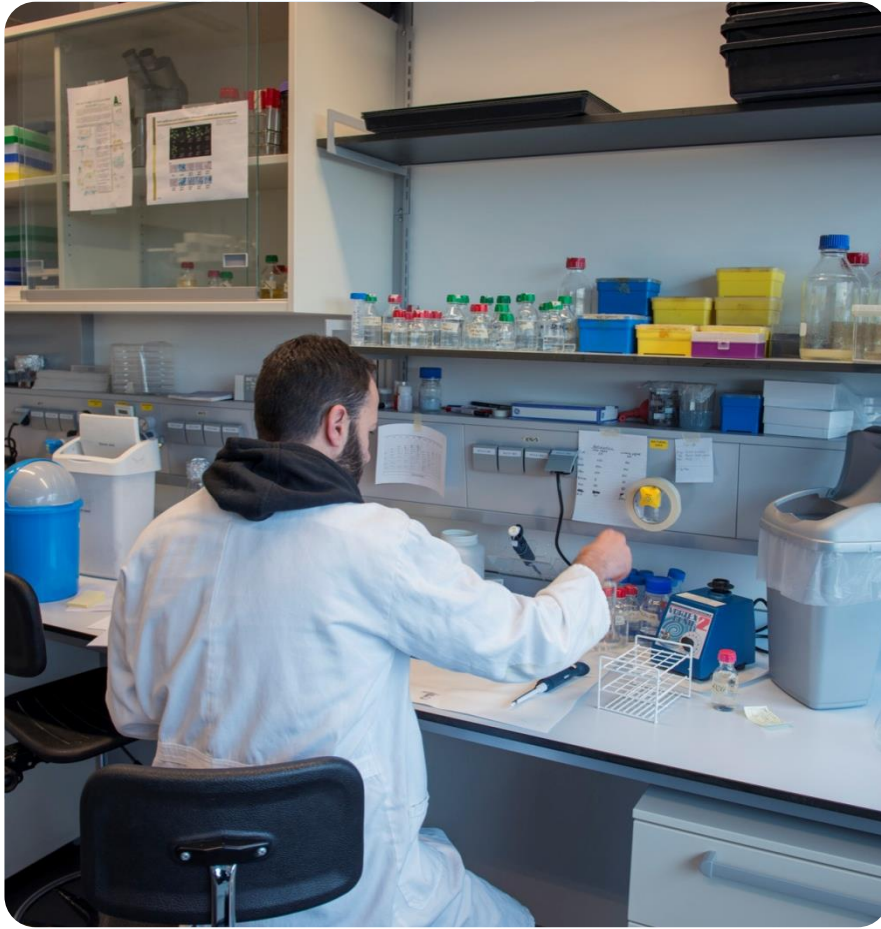
# Financing of the e-infrastructures

- Cooperation contribution member institutions
- Innovation funding from the government
- Innovation funding from the institutions
- Exploitation paid by users
- NLeSC: cooperation of SURF and NWO (Netherlands Organisation of Scientific Research)

# E-infrastructure ecosystem



# Single support desk for researchers



- Separate components of the e-Infrastructure will be offered as an integrated service for researchers.
- Coherent offering of network services, (HPC) computing and data facilities, and new services provided by The Netherlands eScience Center.
- Support for research programme has been worked out in 2014

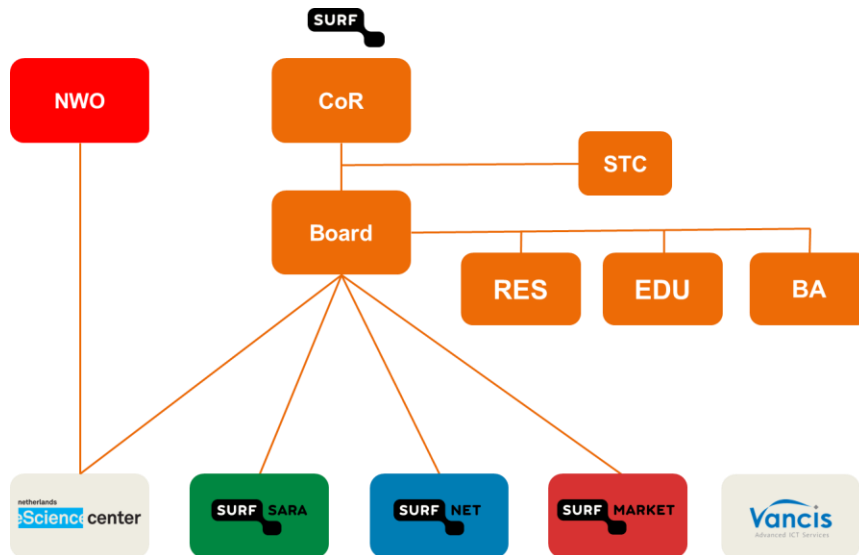
# SURF 2.0

- Continue model of insourcing
- Need for more transparent governance structure
- Increase sense of ownership and control for member institutions
- Retain and reinforce managerial involvement
- Core business = providing a national e-infrastructure for higher education and research

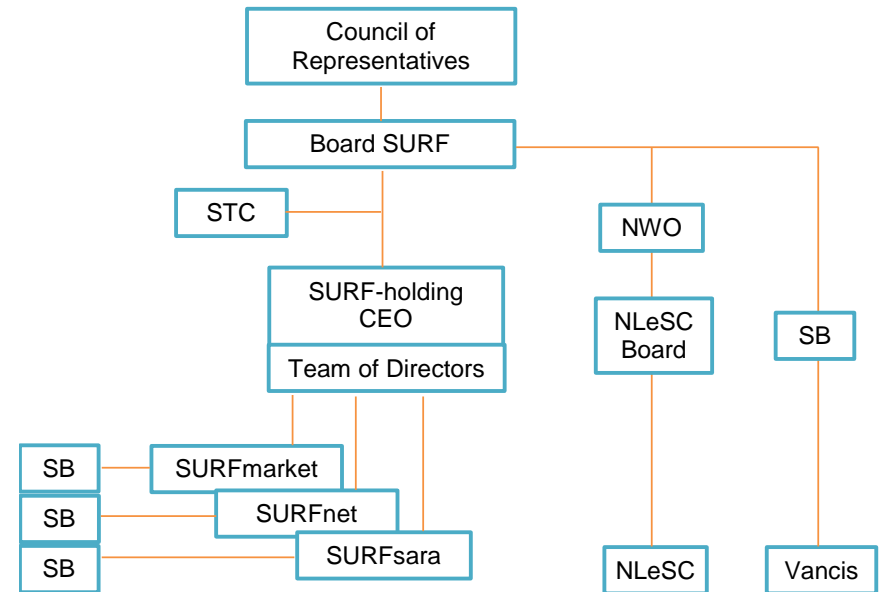


# New organisation as of 1 july 2014

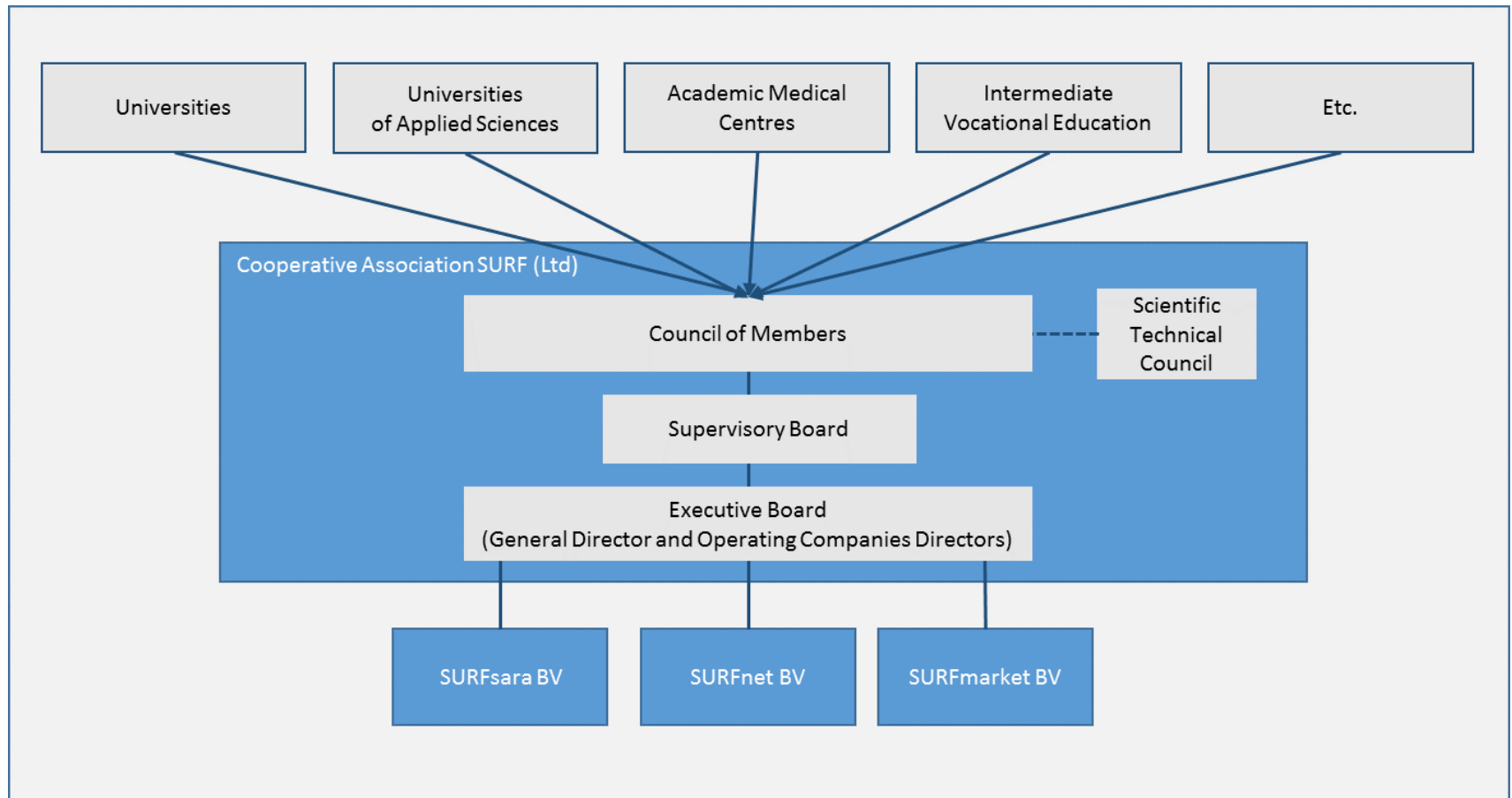
Old situation



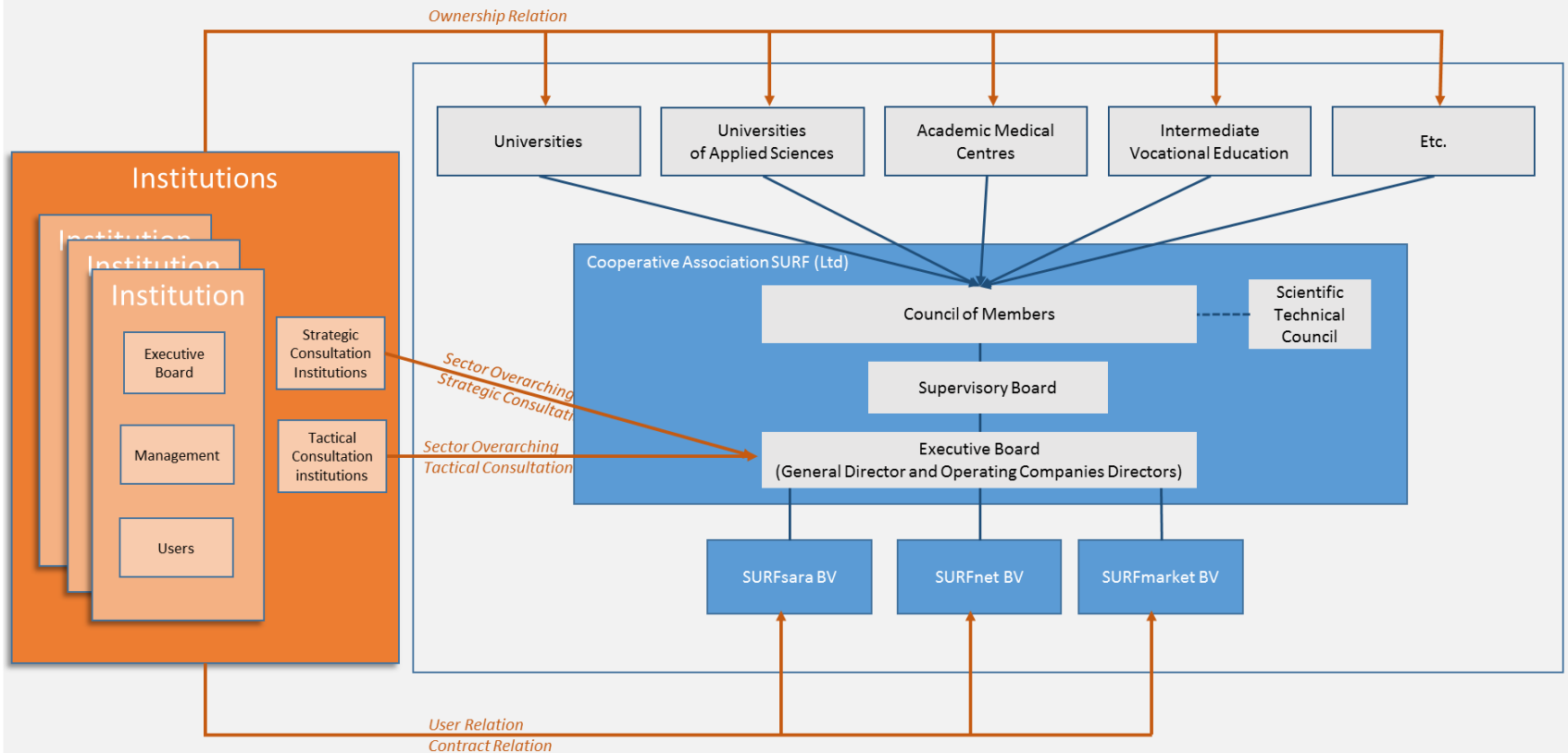
Current organisation structure



# Next step: SURF as cooperative association



# Relationship with member institutions

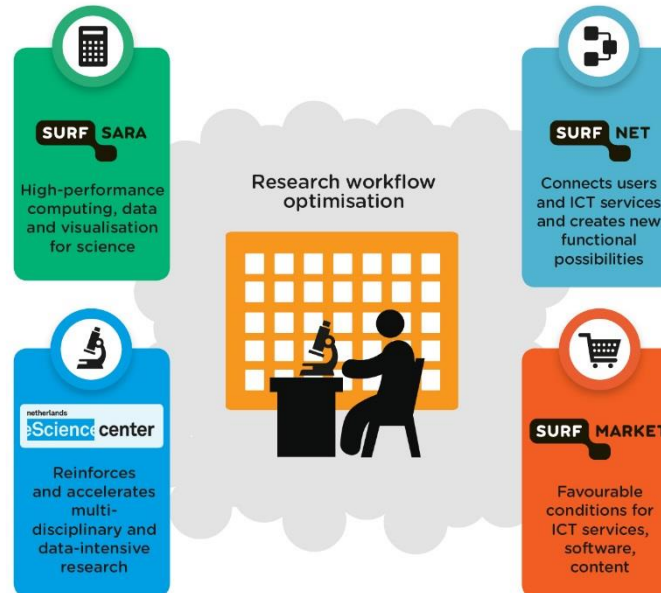


# What SURF can do

## WHAT SURF CAN DO

GUARANTEES COLLABORATION AND INVOLVEMENT  
OF MANAGERS IN HIGHER EDUCATION AND RESEARCH

**SURF**



# SURFnet

- State of the Art Hybrid end-to-end network
- Trust & identity infrastructure
- Security & Privacy
- Over 1 million users



# SURFsara

- High-performance computing (HPC) services, data storage, and visualisations
- Local availability of HPC infrastructure is essential for many scientific fields
- GRID and HPC infrastructure seamlessly connected to Europe
- HPC services are also available for the commercial sector, including SMEs

# SURFmarket

- ICT marketplace for the higher education and research sector.
- More than 160 agreements with various ICT providers and publishers.
- Cloud service broker
- Services to HE-libraries
  - Negotiating with (big) scientific publishers
  - procurement (contracts, billing)
  - Contract management

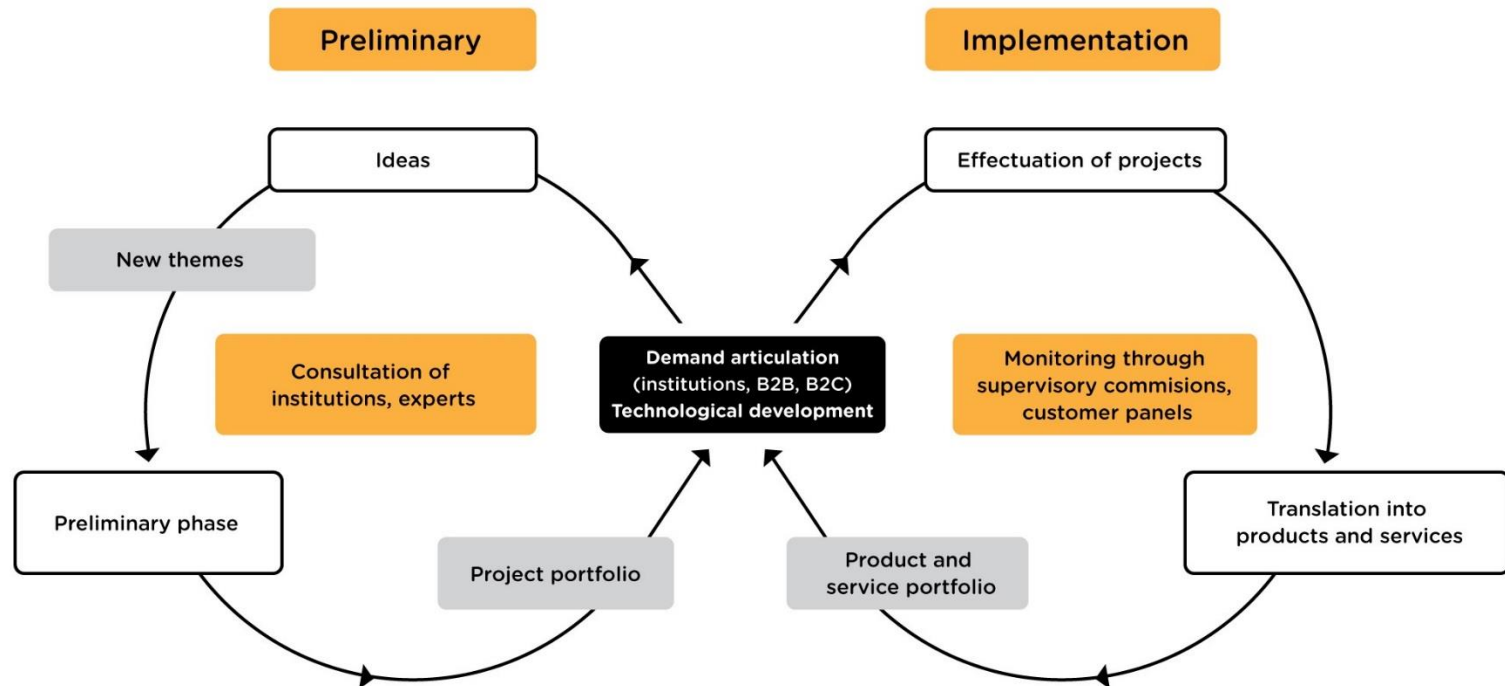




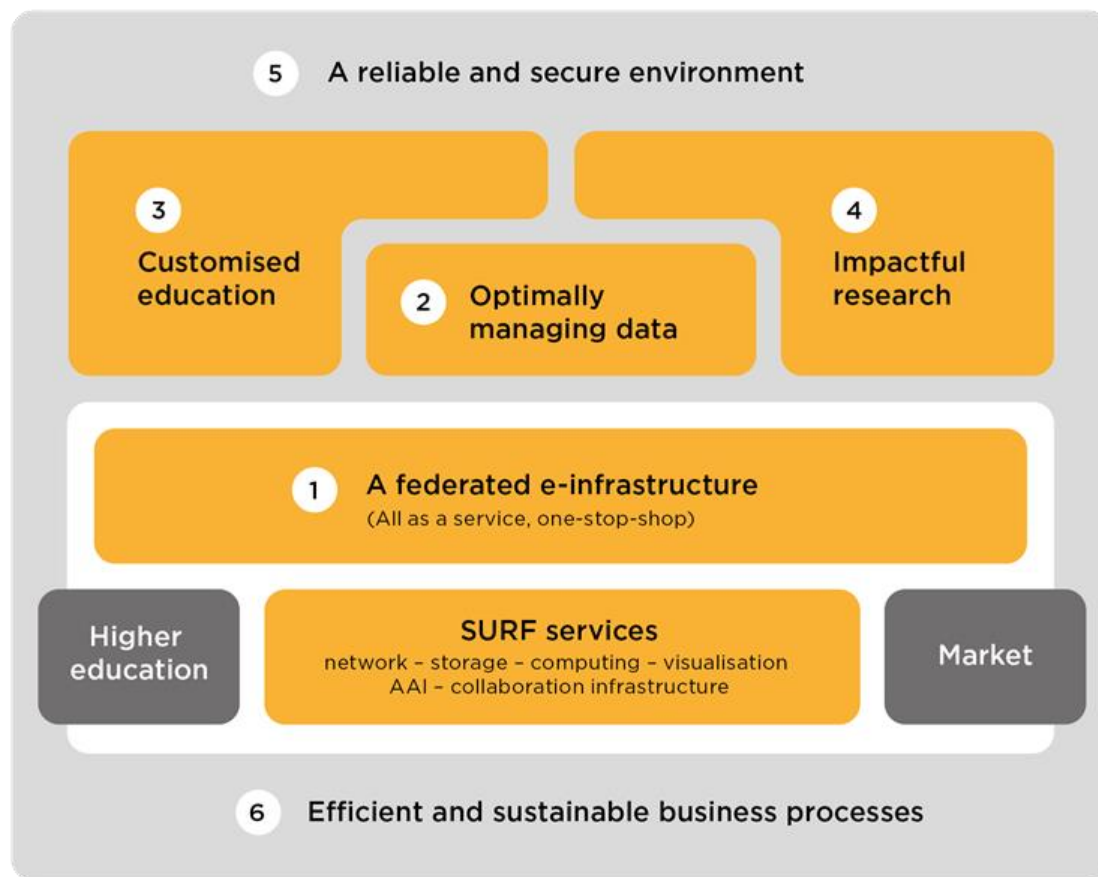
# eScience Center

- Collaboration between SURF and NWO
- Creating a bridge between research and ICT
- Optimizing discovery in the Big Data Era
- eScience technology re-use
- Breakthroughs at scientific interfaces

# Innovation process



# Strategic themes 2015-2018

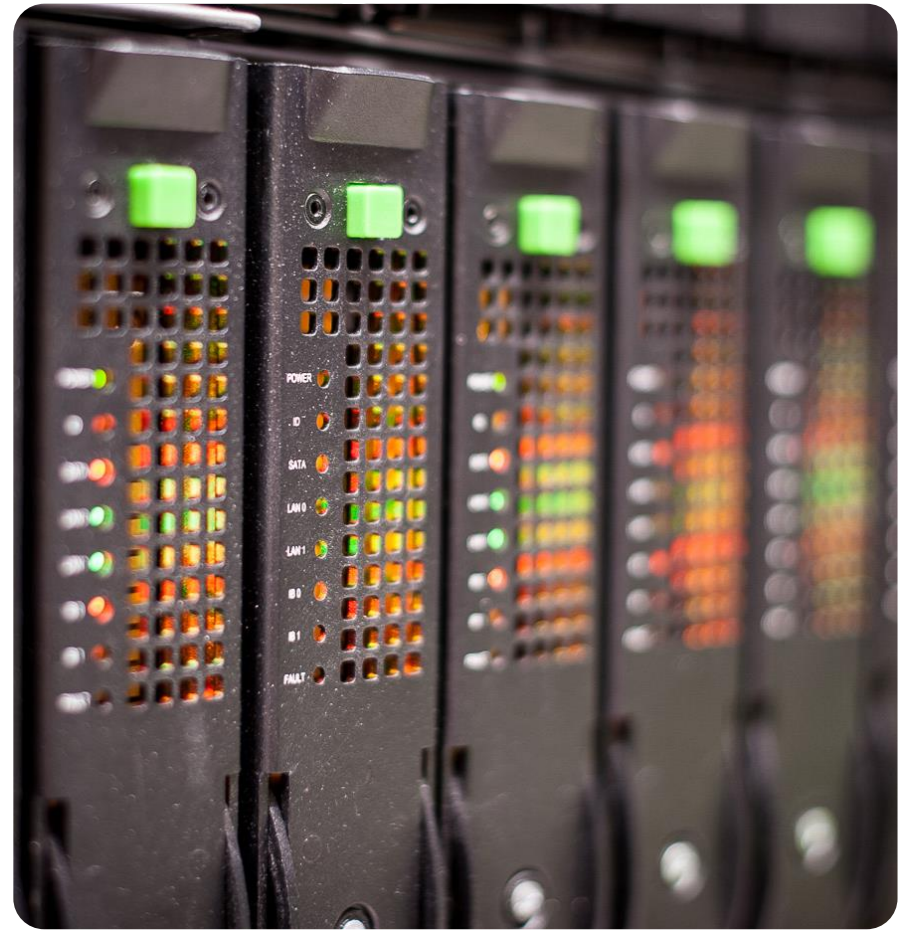


# 1. A federated e-infrastructure for education and research

- Goal: e-infrastructure for top-level research, excellent and high-quality innovation
- Innovation agenda
  - Implementing an innovative, sustainable e-infrastructure
    - Authentication and Authorisation Infrastructure (AAI)
    - Data storage
    - Computing facilities
    - Visualisation tools
    - Network infrastructure
    - Collaboration infrastructure
  - Providing the accessible e-infrastructure as a service
    - State-of-the-art
    - Collaborations
    - Technology partner and knowledge bank
    - One-stop-shop
    - Community cloud

## 2. Optimally managing data

- Goal: Sustainable data services
- Innovation agenda
  - Providing a platform designed for the optimal use of data in education and research
  - Organising data life cycle support for the education and research community
  - Supporting the process for the sustainable storage of research and education



### 3. Customised education



- Goal: facilitating personalised education
- Innovation agenda:
  - Organising an integrated services portfolio for the education community in association with institutions and market parties
  - Organising, in association with institutions and market parties, a secure and reliable digital environment for supra-institutional and other forms of collaboration and exchange in the education process
  - Providing a platform for building and sharing knowledge and professionalising

# 4. Impactful research

- Goal: Optimal support for research
- Innovation agenda:
  - Supporting researchers in making effective use of ICT resources
  - Providing a flexible research and collaborative environment
  - Facilitating the digital publication process (open access) of scientific and practice-based publications



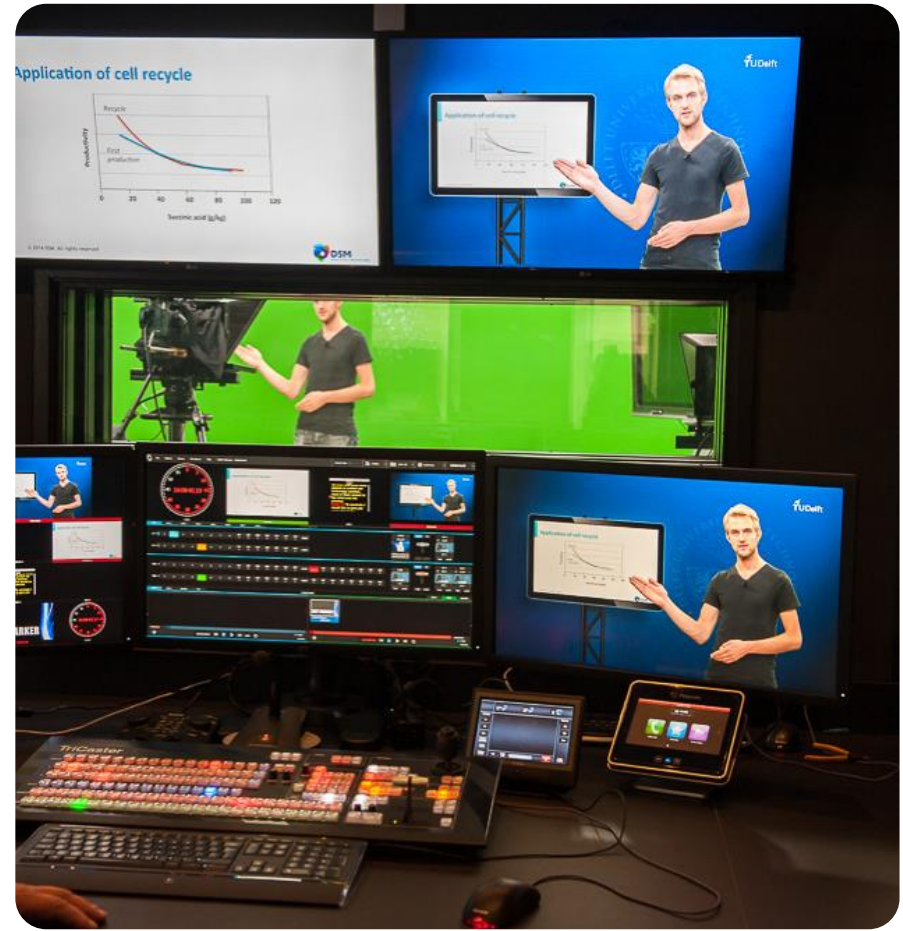
## 5. A reliable and secure environment



- Goal: Trust, security and privacy
- Innovation agenda
  - Ensuring ICT services are optimally secure and reliable in association with the institutions and other stakeholders

# 6. Efficient and sustainable business processes

- Goal: working efficiently and sustainably as a result of ICT
- Innovation agenda
  - Encouraging and supporting collaboration on and sharing knowledge of efficient business processes
  - Promoting and supporting collaboration on and sharing knowledge of sustainable business processes





# Thank you for your attention!

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WHAT **SURF** CAN DO