

Netherlands eScience Center

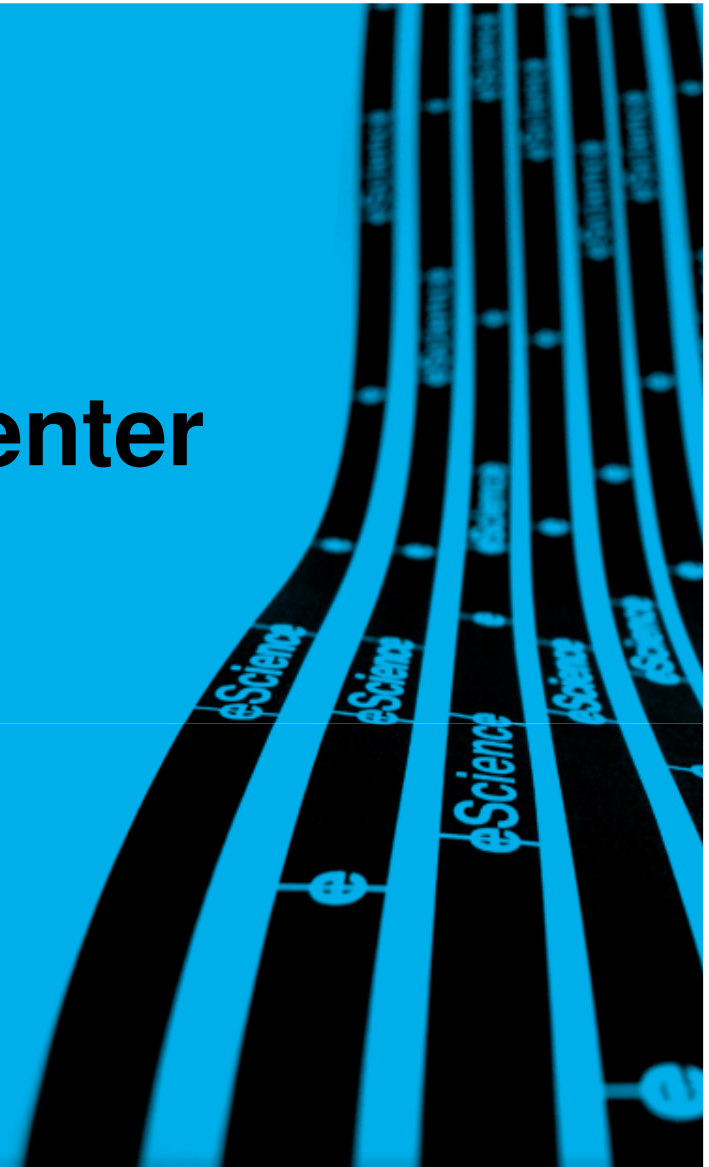
Maps4Science

Rene van Schaik - CTO

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by SURF & NWO



Goals of eScience Center

Organize a sustainable eScience environment for a diverse research ($\alpha\beta\gamma$) user community

To integrate ICT -in all its manifestations- into global, data driven and multidisciplinary research

Network organization: benefit from the powerful ICT & eScience expertise

Improve coordination and reduce fragmentation; exchange best practices

Bridging ICT and Science

eScience Integrators & eScience Engineers

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A Joint NWO – SURF Initiative: *Best of Both Worlds*

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Netherlands organization
for scientific research:
700MEuro/year



Principal Dutch body for
ICT innovation & support for
higher education, research &
business processes



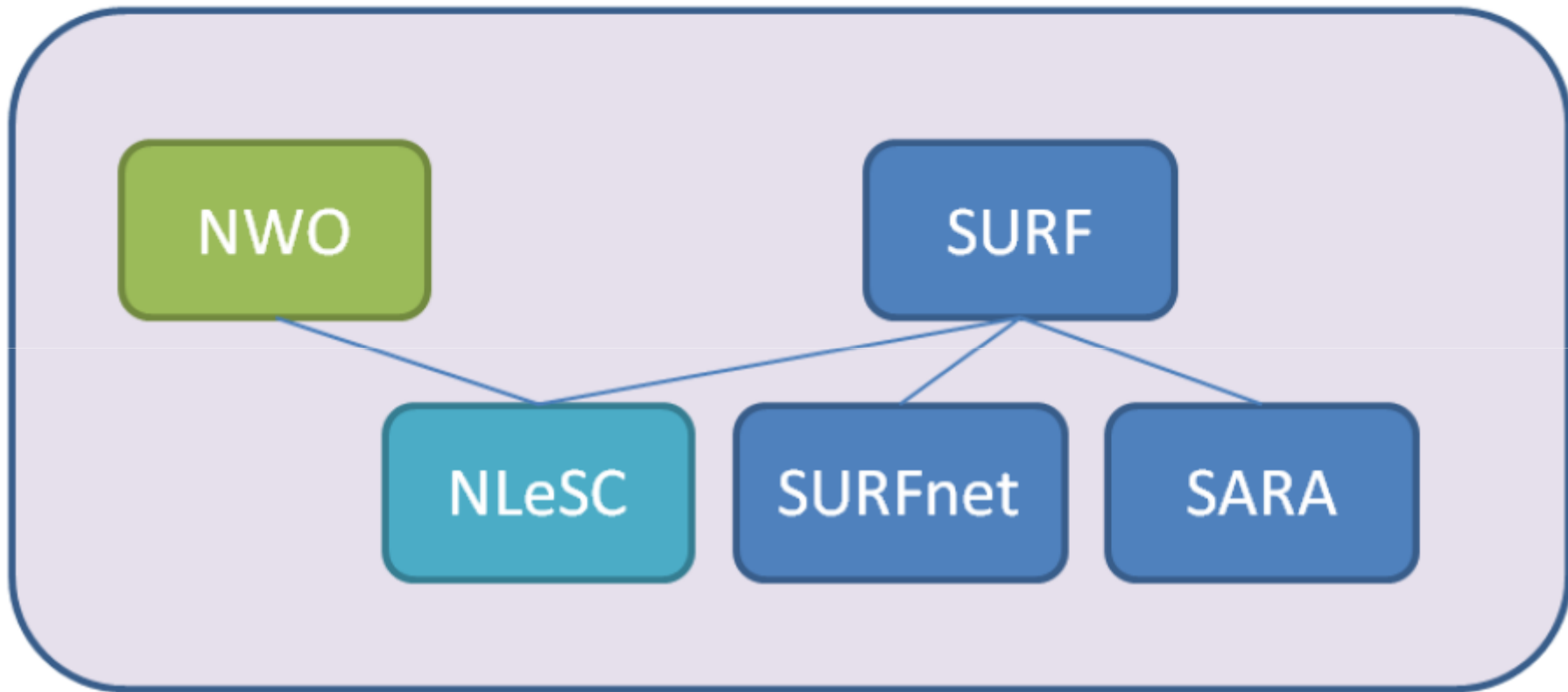
Scientific **Demand** \rightleftarrows *ICT* **Supply**

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NLeSC embedding/governance



eScience Definition

eScience = enhanced Science

Huge amounts of data produced in all scientific disciplines ($\alpha\beta\gamma$)

New generic techniques to manipulate and explore massive datasets:

Cross-type data integration

Data-driven simulations & multi scale modeling

Visualization & Analytics: e.g. pattern recognition

Distributed computing & fast networks

New ways of working & “reinventing science”

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Anecdotal example

Pitched idea for first feature length computer animated movie to his bosses at Disney

Suggested value of computer was beyond just saving time and money

Disney fired him immediately

Creative force behind Pixar – 26 Oscars

Pixar sold to Disney for \$7.4 billion

Currently chief creative officer at Disney

eScience's goal is to identify new ways to do science not possible without computing



John Lasseter

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Priotized science domains

- Astronomy
- Climate Research
- Cognition
- eChemistry
- eEcology
- eHumanities
- eScience Tech
- Food
- Green Genetics
- LifeSciences
- Water management

e-Infrastructure proposal

- Following ICTRegie recommendation
- SURF, SURFnet, SARA-SURF, NLeSC
- Upgrade national e-Infrastructure facility
- Requested budget 17.5 M€
- Time frame 2012-2014

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e-Infrastructure components

- **Capability computing resources**
replacing the current national supercomputer Huygens
- **Capacity computing cluster resources**
upgrading the current BiG Grid computing infrastructure
- **Data storage resources**
upgrading and extending the BiG Grid storage infrastructure

e-Infrastructure planning

Component	2011		2012				2013				2014			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
SURFnet7 basic services		Implement												
SURFnet7 new services					Define	Implement								
Capability computing		Define	Implement											
Capacity computing #1		Define	Implement											
Capacity computing #2									Define	Implement				
Data storage #1		Define	Implement											
Data storage #2							Define	Implement						