



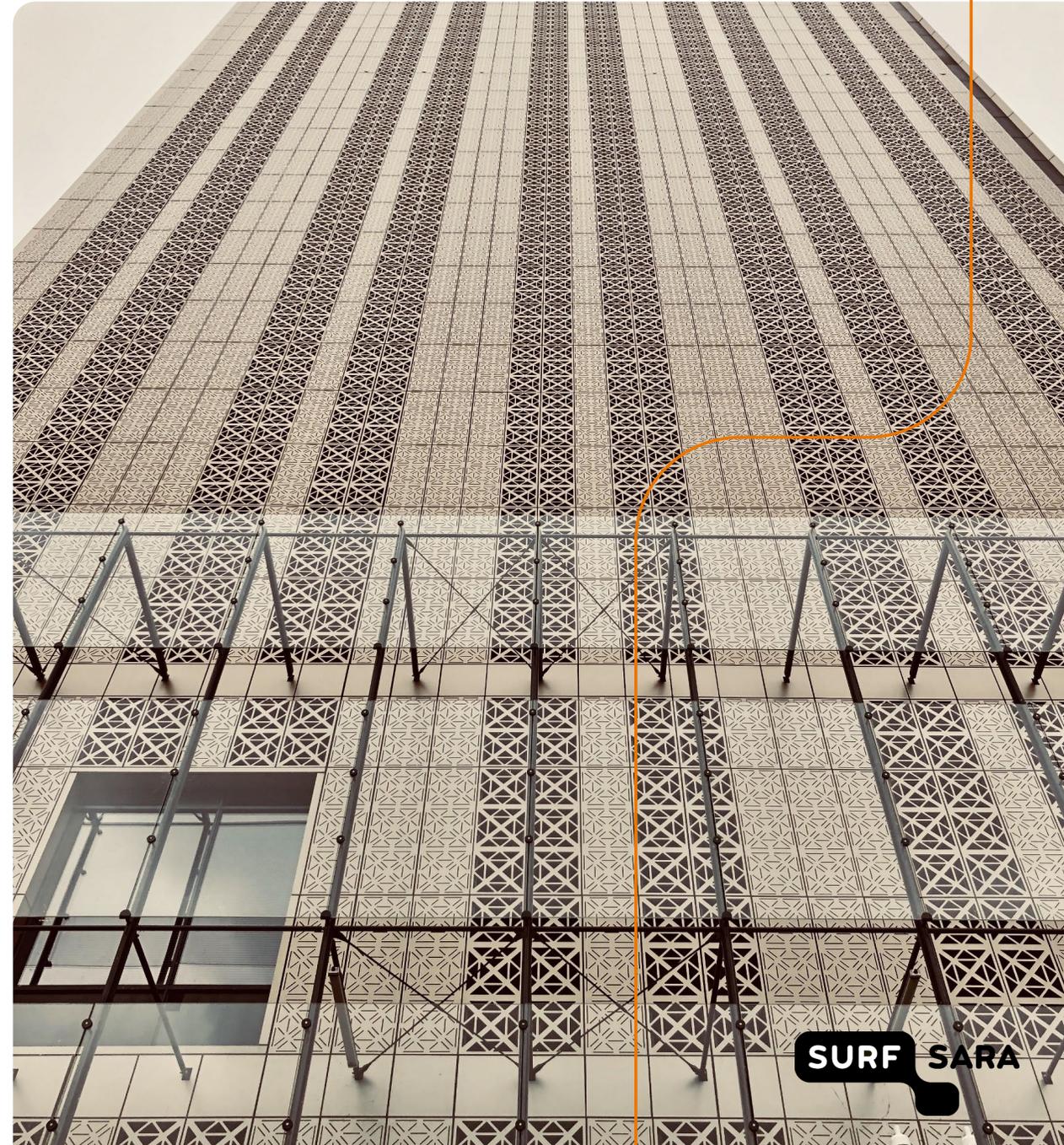
# SURF RESEARCH CLOUD ET AL. UPDATE

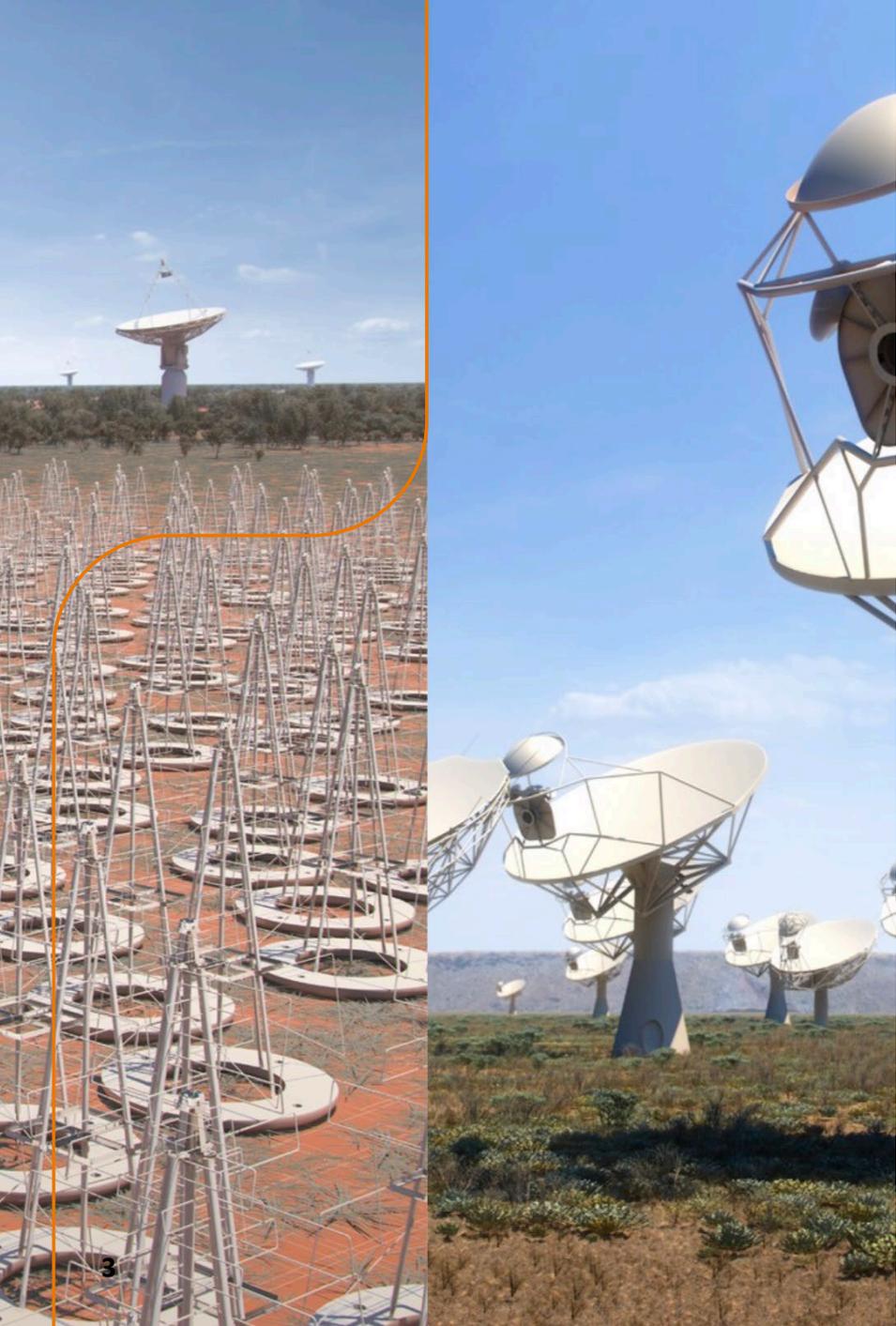
Supporting cooperation in research

Ivar Janmaat: Product manager

# Agenda

- Vision
- Update Research Cloud
- Update resource providers
- Update SURFcumulus
- Update iRODS
- Update SURFresearch Access Management (SCZ)
- Update Research Drive





## Vision

In our scientific quest to gain more knowledge we are producing, storing and analyzing more and more data.

*(Ian Bird, CERN)*

**LOFAR  
2016**

7 PB

**LHC 2018  
Science Data**

60 PB

Google  
Searches  
98 PB

Facebook  
Uploads  
180 PB

SKA Phase 1 2028  
Science Data  
600 PB

HL-LHC 2026  
Raw Data  
600 PB

Google  
Internet  
Archive  
15 EB

SKA Phase 2 2030  
Science Data  
1 EB

HL-LHC 2030  
Science Data  
1 EB

**SURF**





## Genome researchers raise alarm over big data

Storing and processing genome data will exceed the computing challenges of running YouTube and Twitter, biologists warn.

Erika Check Hayden

07 July 2015

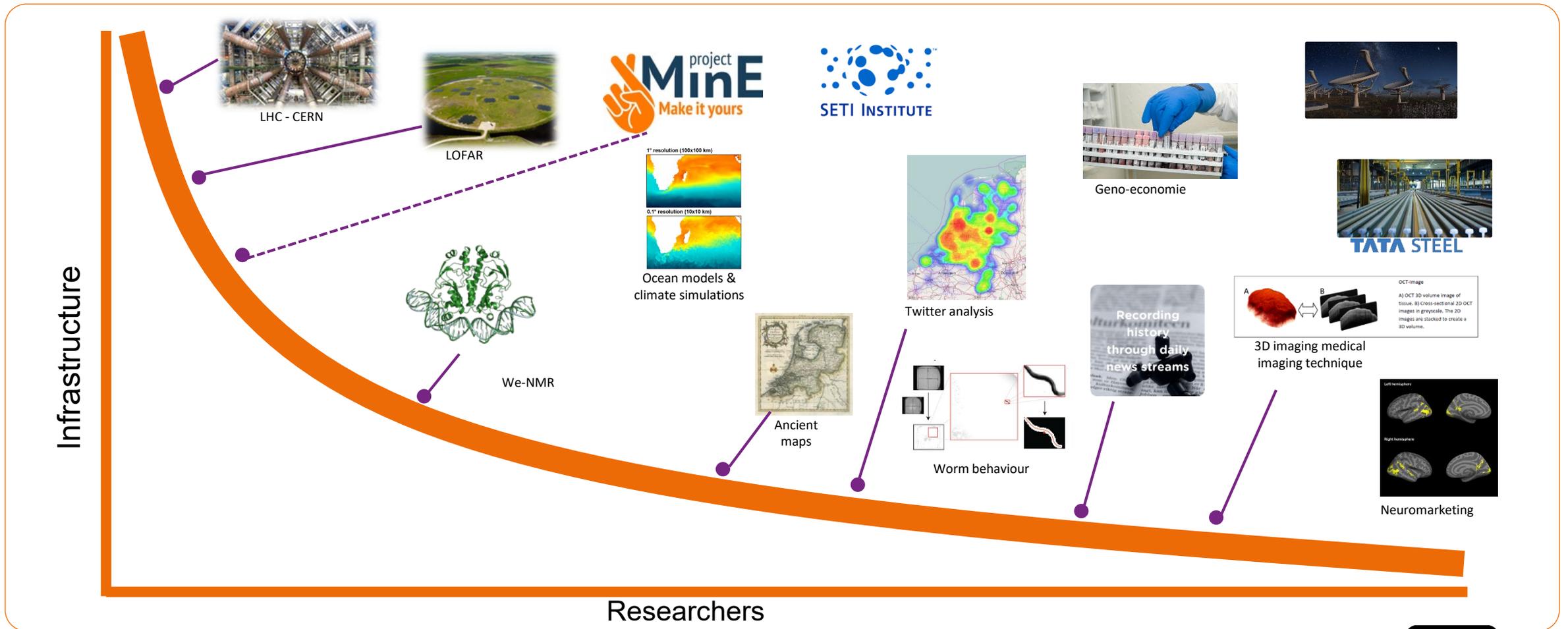
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The computing resources needed to handle genome data will soon exceed those of Twitter and YouTube, says a team of biologists and computer scientists who are worried that their computing infrastructure is not geared up to cope with the coming genomics flood.

“It even exceeds the 1 exabyte per year projected for what will be the world’s largest astronomy project, the [Square Kilometre Array](#)”

SURF SARA

# Different disciplines with different or comparable FAIR data and compute requirements



# O

opinie

 Marc Hijink

 2 augustus 2019

 Leestijd 1 minuut

 Opslaan in leeslijst



## Het datacenter draait al op reserve

**D**e Bennebroekerweg gaat er over in de Nieuwe Bennebroekerweg. Verder gebeurt er bar weinig bij dit weiland net onder Hoofddorp. Hier, langs de A4 en de spoorlijn Schiphol-Leiden, onder het gebulder van de Kaagbaan, moet een transformatorstation komen dat het stroomnet weer wat lucht geeft. Er is geen capaciteit om aan de groeiende elektriciteitsbehoefte in de omgeving te voldoen. Mede daarom kondigden Haarlemmermeer en



“Nederlandse datacentra vergen 1.500 megawatt aan capaciteit. De helft gaat naar de cloudfabrieken van Google en Microsoft”

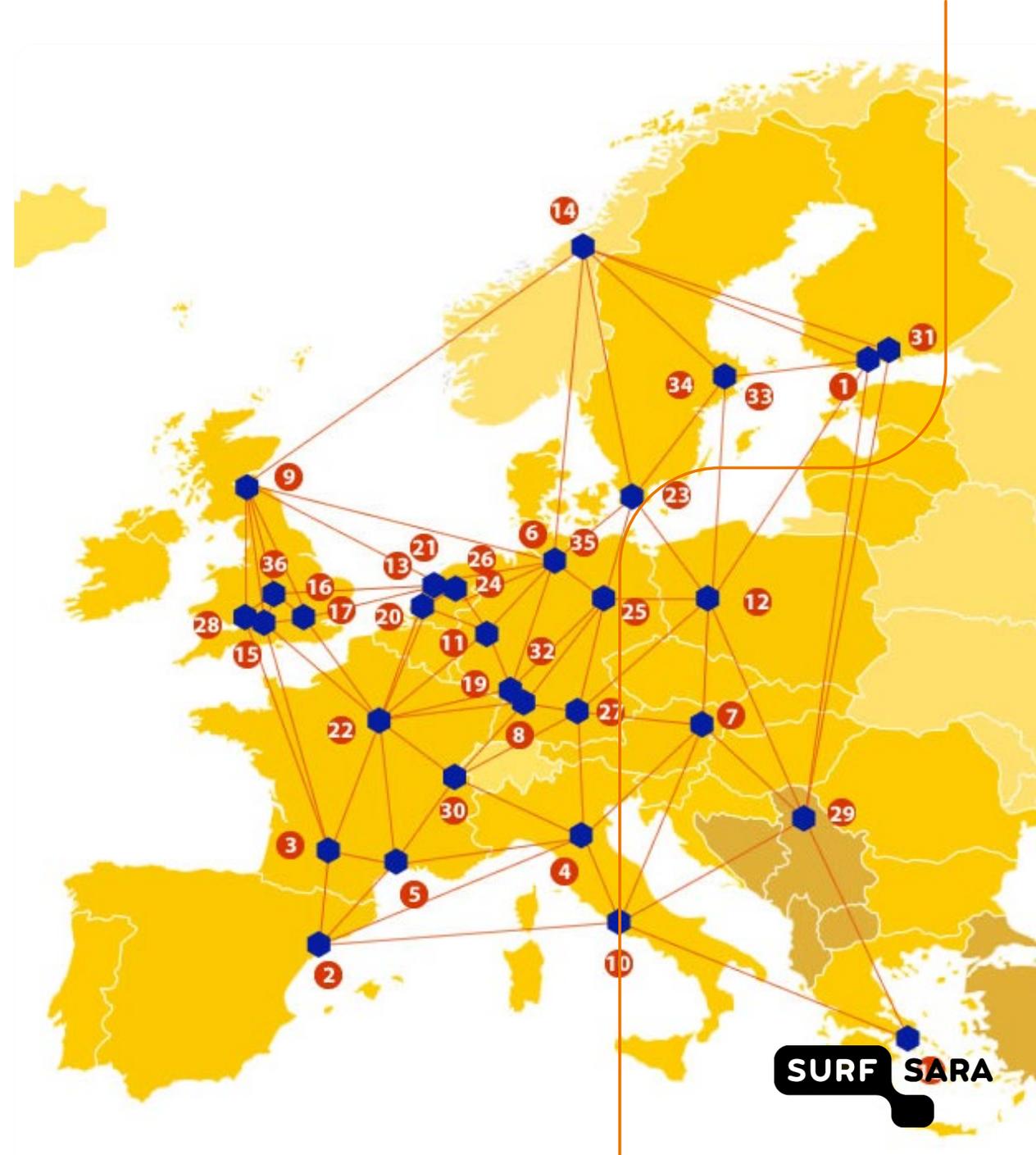
**SURF SARA**

# SURF expertise

- Storage
- Data archiving
- Compute
- Data processing
- Research support
- Identity and access management
- Cloud computing

# Collaborative frameworks

- EOSC (European Open Science Cloud)
- CS3 (Cloud Storage services for Synchronization and Sharing)
- Federated HTC (Federated OpenStack)
- EUDAT (Collaborative Data Infrastructure)
- U2CONNECT (iRODS related data management)
- GEANT (European Research Network)
- LCDRM (Landelijk Coördinatiepunt Research Data Management)



# Update Research Cloud

- Development environment
- Test environment for pilots
- Production environment not yet available

MVP Januari 2020 (Linux, nog geen Windows)

ISO 27001 audit SURFsara October 2019

PEN test December 2019

# Research Cloud Pilots

Natuurwetenschappen:

KNMI

Sociale en Geesteswetenschappen:

UVA-HVA; Koninklijke Bibliotheek

Medische Wetenschappen:

A-UMC; BBMRI BIOS-VM (Datasets + R-Studio)

Artificial Intelligence:

OpenStack GPU

Research Data Management:

iRODS

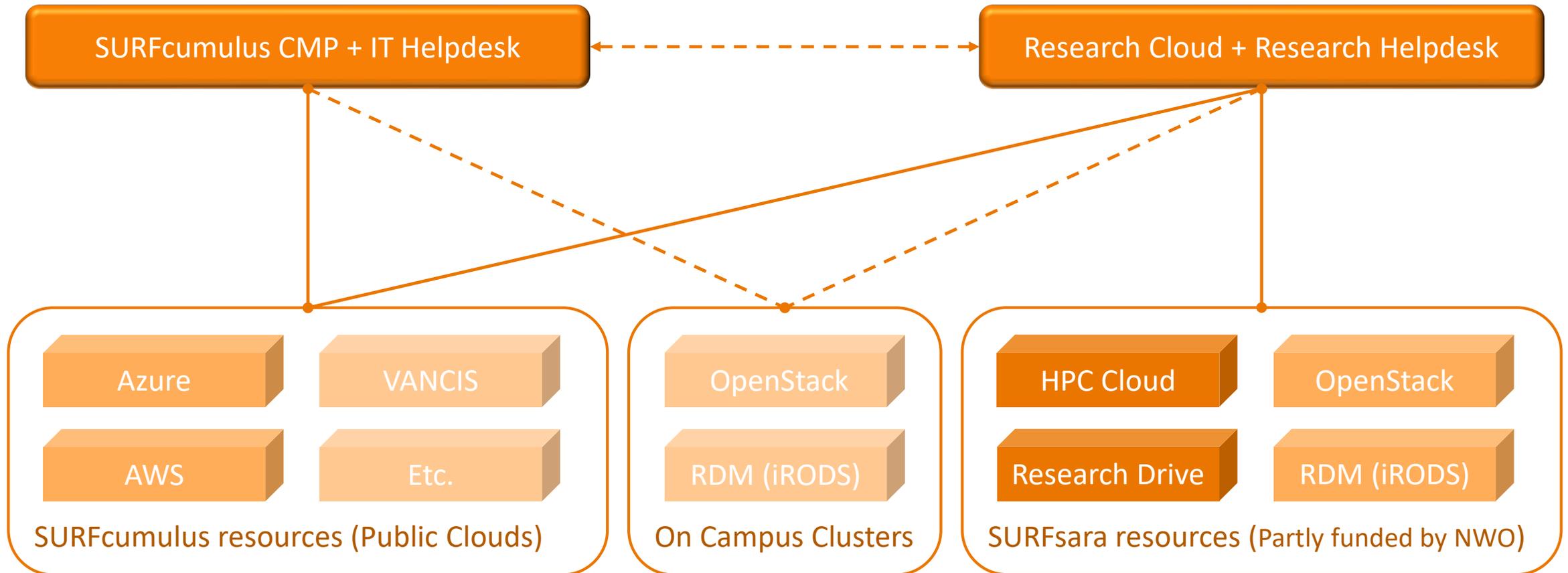
Onderwijs:

HU; (Jupyter Notebook/HUB)

Computer science:

eScience TaDpole + software catalog

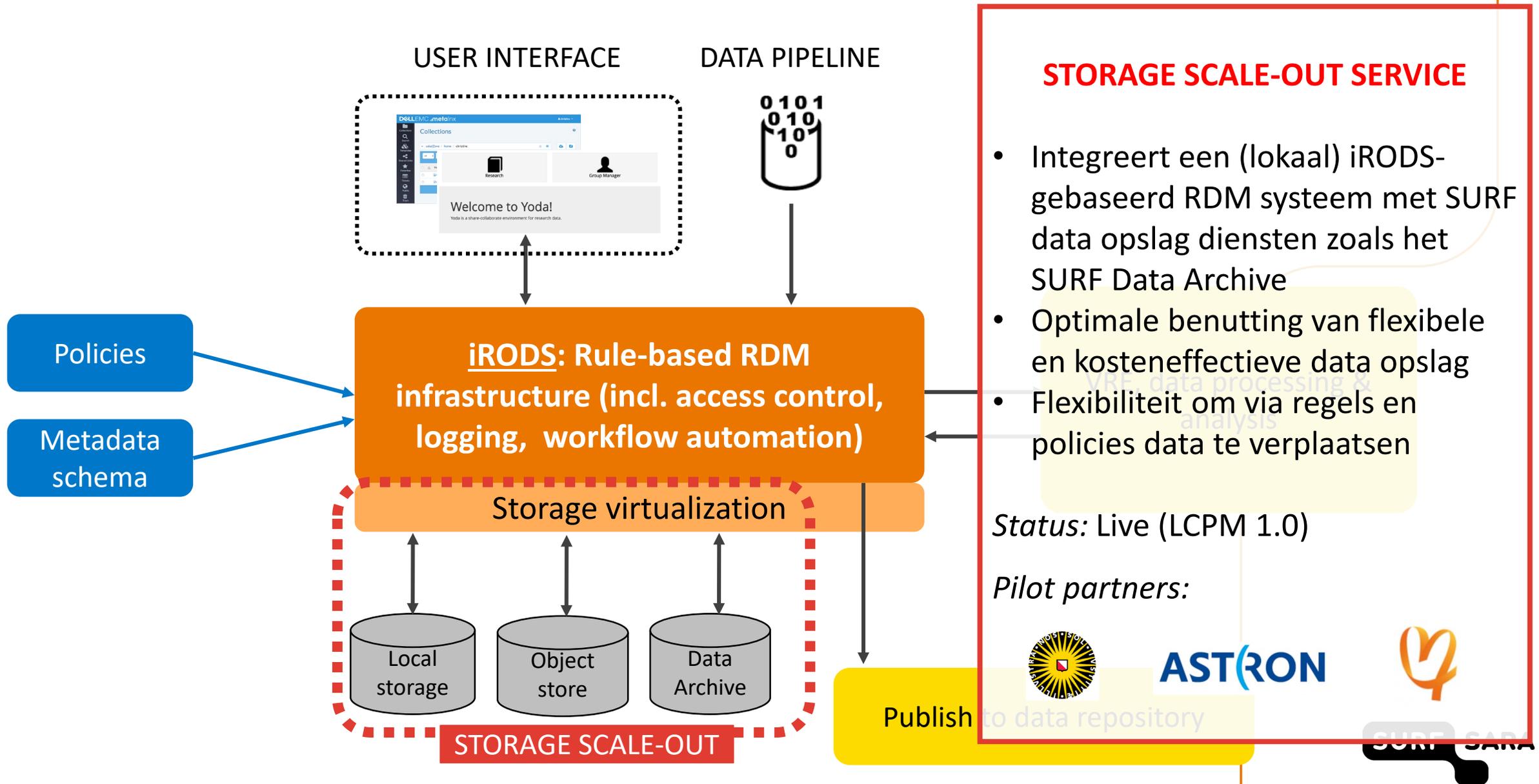
# Update resource providers



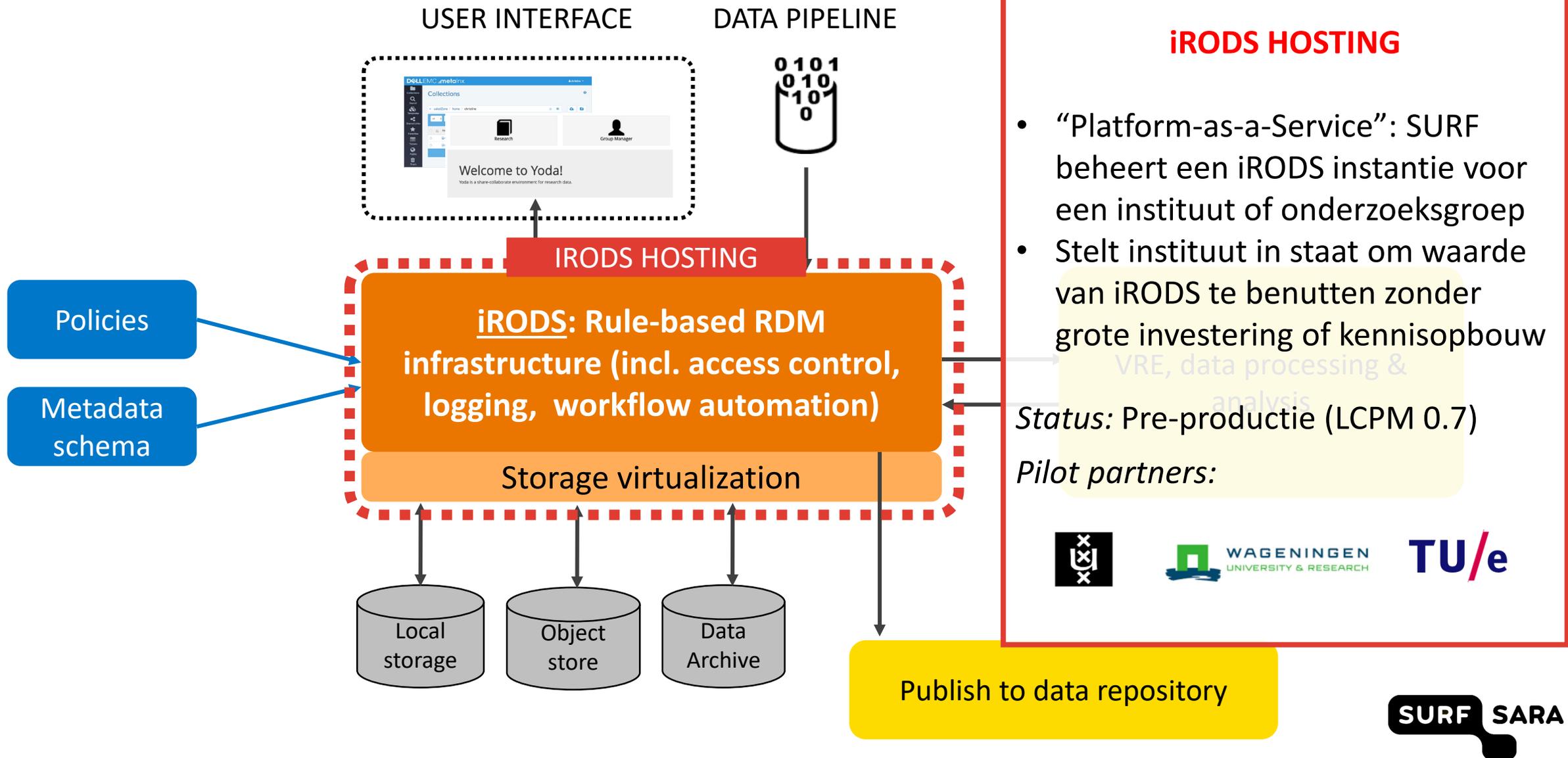
# Update SURFcumulus

- OCRE aanbesteding is in voorbereiding (verwachting is dat Google, Oracle en IBM zullen inschrijven)
- CMP aanbesteding deze week afgerond (groen licht voor onderhandelingen met Cloudbolt)

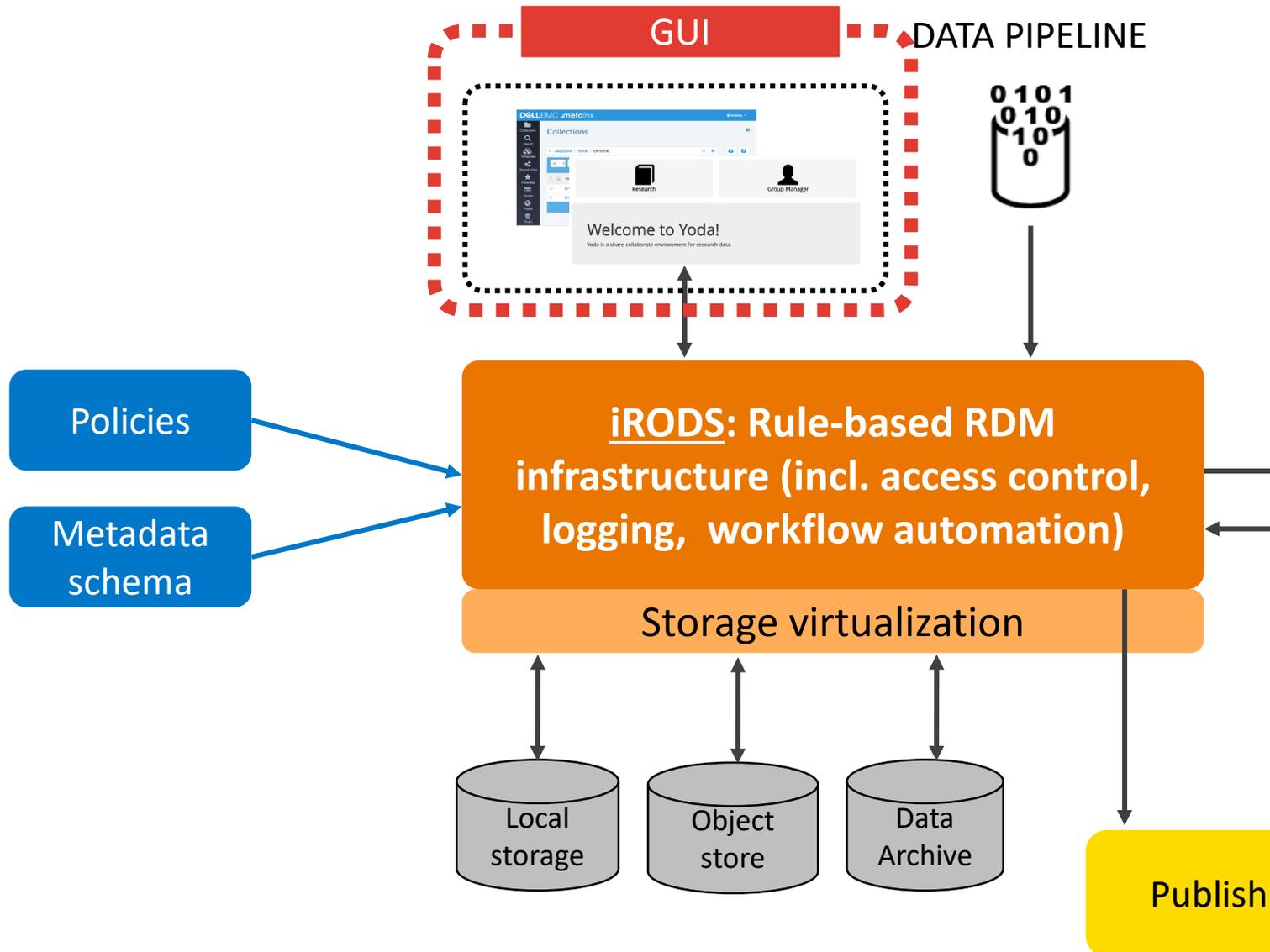
# Update iRODS: *RDM Storage Scale-out service*



# Update iRODS: *RDM iRODS hosting*



# Update iRODS: *Graphical User Interfaces*



## GRAFISCHE USER INTERFACE (GUI)

- Biedt grote groep onderzoekers toegang tot krachtige RDM functionaliteiten zonder de complexiteit van de command-line
- Werkt als 'schil' bovenop iRODS om integraal & consistent beheer van de volledige data catalogus te waarborgen.

*Status:* POC's & pilots (LCPM <0.5)

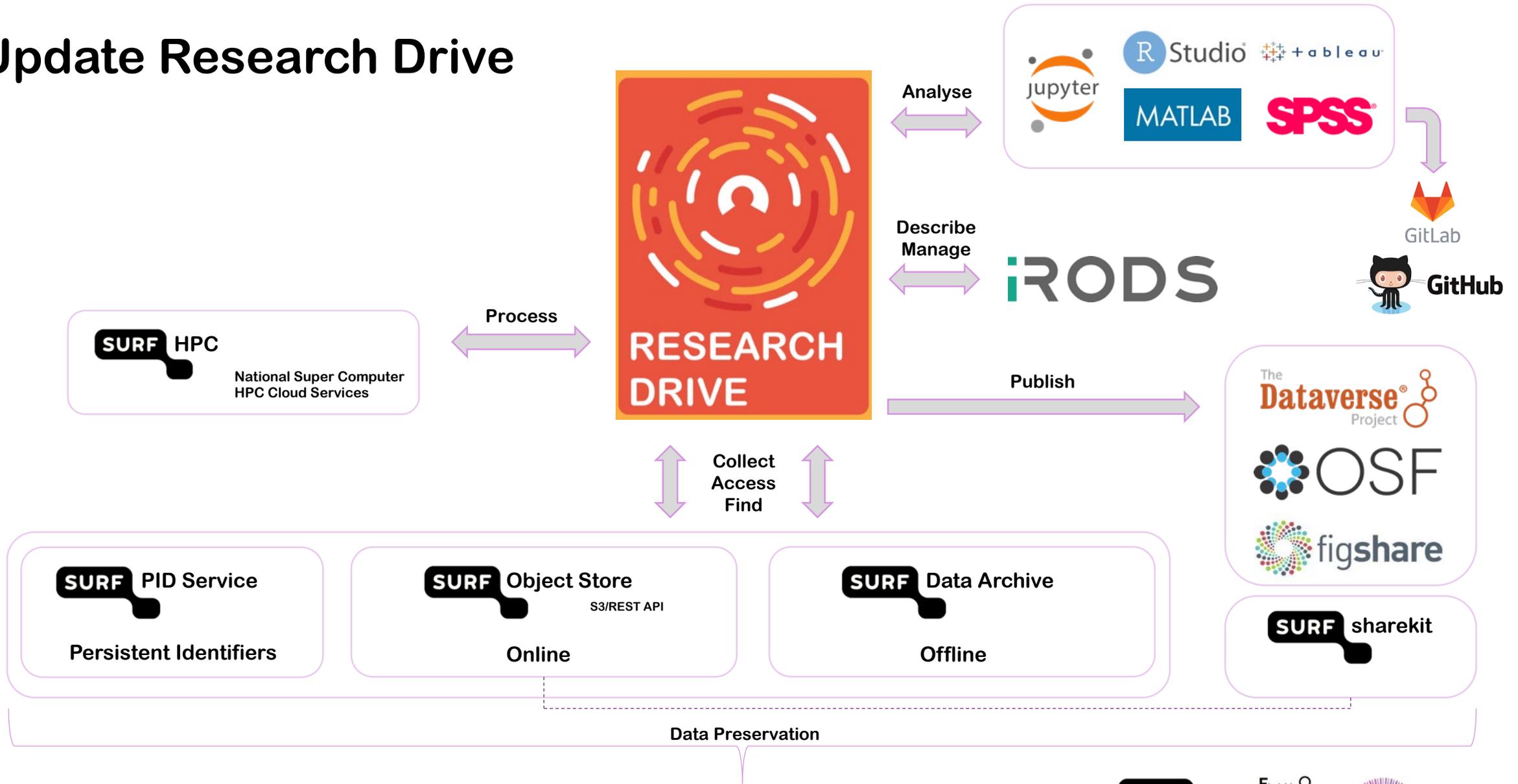
*Pilot partners:*

- YODA: 6 universiteiten via RDM-TEC
- ResearchDrive: Saxion hogeschool & MUMC+

# Update SURFresearch Access Management (SCZ)

- SPA akkoord in jun '19 met (LCPM) v0.7
- Focus op productieversie
- Planning in productie v1 Q2 2020
- Sterke relatie met/gebruik van GEANT eduTEAMS
- CO manage wordt vervangen door SBS

# Update Research Drive



# Update Research Drive

- CS3 Grant for European data sharing.

Questions?