

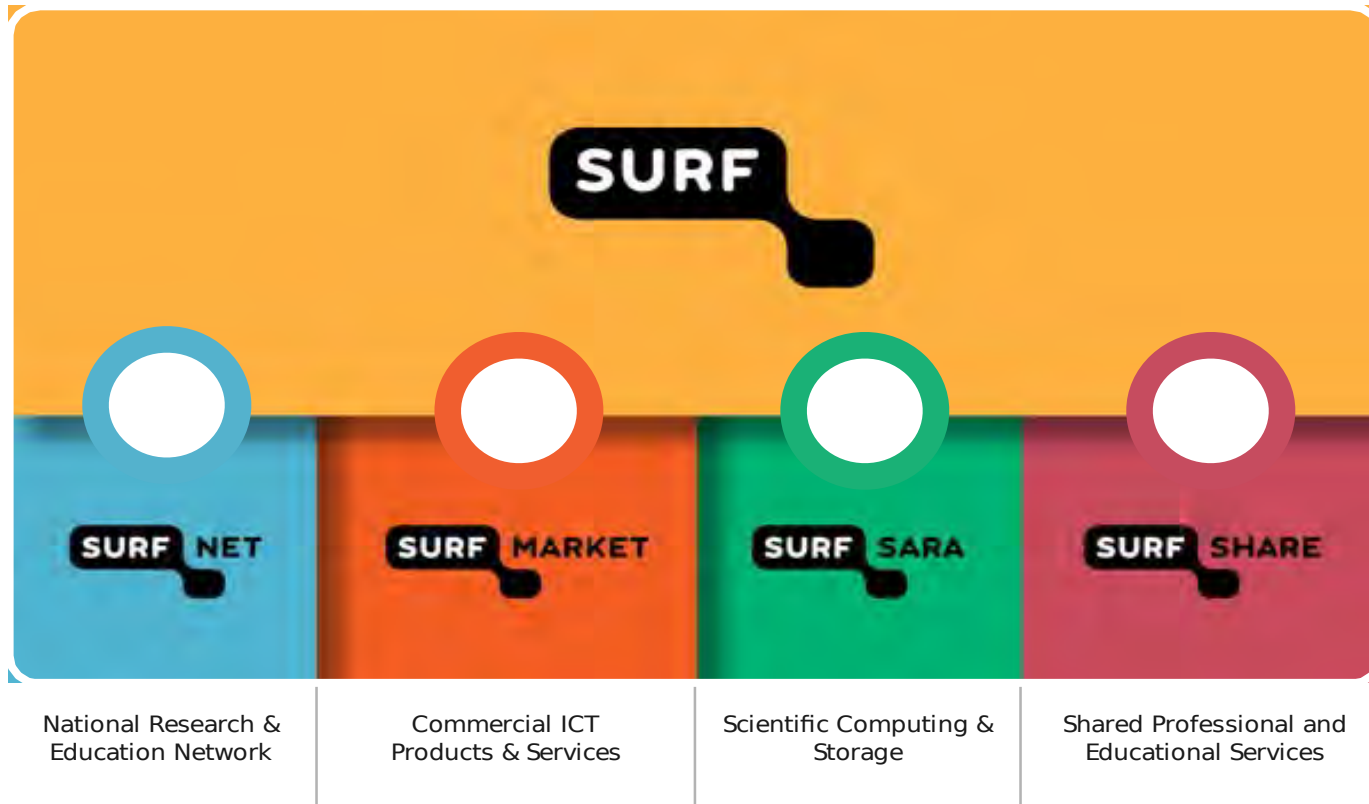
# Collaboration in the Cloud



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CAMP, Nov 15 2013, San Francisco



# R&E in The Netherlands: SURF and SURFnet



# SURFconext: Federation, Broker & Platform

SURF CONEXT

start

uitleg

instellingen

service providers

studenten

contact

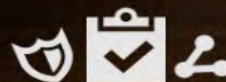
inloggen

## Cloud integration for higher education and research



30+ cloud applications.

And many more soon connected to SURFconext. Easy access for users at your institutions



One single account

Easy login with your trusted institutional account



Extreme collaboration

Connect to your peers with your favorite cloud collaboration tools. Create groups and invite guests from abroad.



We connect

SURF NET

# SURFconext Federation

## Authentication

- 112 IdPs (70% of Member Institutions), covering ~ 90% of R&E users in The Netherlands
- IdPs run ADFS (70%), Novell, SimpleSAMLphp and Shibboleth.
- Government ID login (DigiD) added for selected Services in Healthcare
- ~ 4m logins/month

## Services

- ~ 150 services connected  
<http://www.surfnet.nl/nl/Thema/coin/cloudservices/Pages/Default.aspx>

## Groups

- AdHoc using SURFteams (Grouper based),
- 4 external group providers connected (LDAP, MS AD)
- ~ 250k group request/month

## Social2SAML

- Commercially provided gateway
- Uses account mapping to link social accounts to a persistent SAML ID

# SURFconext Broker

## Cloud Broker

- Working closely with SURFmarket, who take care of procurement
- Commercial services meet federation standards AND are procured on a National level



Welcome [Jan Arts](#)

SURFnet BV

NL | EN

Help

Logout



Apps



History



Statistics

## Apps

Connected

Not connected

Search in applications...



**3TU.Datacentrum | TU Delft**

Repository for resear...



**[OAuth] Sympa (test) | SURFnet**



**Academia.nl | Beeld en Geluid**

Online access for hig...



**Arthurian Fiction | KNAW**

Research tool that pr...



**Authenticatie Server | ThiemeMeulenhoff**

Authenticatie server f...



**Bandwidth on Demand | SURFnet**

Manage dynamic light...



**BeeHub | SURFsara**

Data storage service ...

CONNECT



**BigBlueButton (Experimental) | SURFnet**

Experimental videoco...



**BioOne**

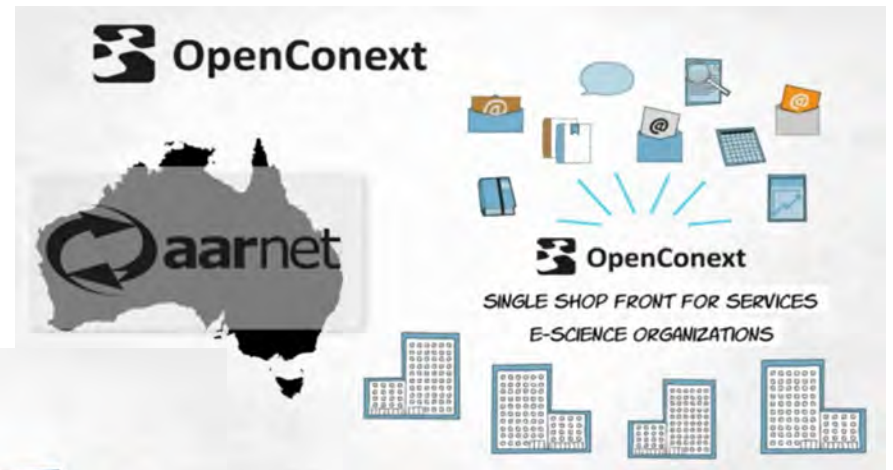
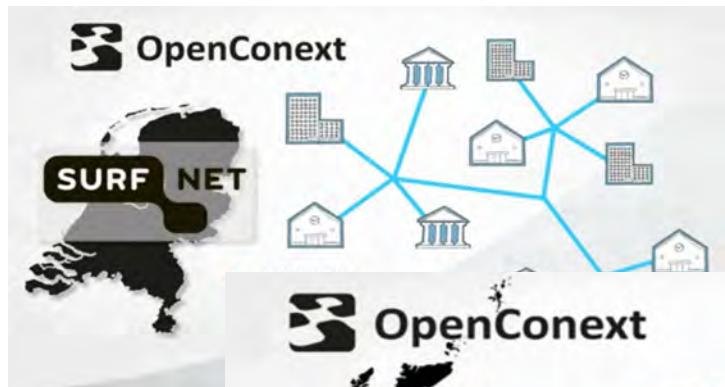
Online journals for th...



# SURFconext Platform

SURFconext is built on OpenConext, an Open Source collaborative platform for AuthN, Groups & Attributes

- OpenConext in use in UK (JISC), Australia (AARnet)
- OpenConext in 3 minutes: <http://www.youtube.com/embed/kUpn568NSI0?hd=1>



# Private Cloud

## **Dutch University Medical Centers**

- Long standing collaborations, however never actual collaboratively sharing resources or infrastructures

## **Project Goals**

- Identify who benefits most: Use cloud to improve the most important daily activities
- Support 80.000 staff and reseachers
- A safe alternative for public cloud services

## **Along the way**

- Strengthen collaboration between institutions at IT and Management level
- Create common vision
- Identify opportunities
- Build towards future workplace for staff and reseachers

# Preparation: Persona

## Dr. J.W.A. de Bie - Onderzoeker

### Constateringen

"Ik neem regelmatig deel aan teleconferencing. Daarvoor gebruik ik verschillende applicaties, opzetten kost veel tijd"

"Ik werk vaak samen met collega's van andere instituten. We delen documenten via Dropbox en met mijn projectgroep gebruik ik google Docs"

"Ik mis structuur in vergaderingen, eigenlijk in veel van onze werkwijzen"

"Als ik informatie zoek gebruik ik Google, intranet alleen voor ziekenhuis informatie"

"Ik koop zelf IT middelen voor onze afdeling, wij weten wat we nodig hebben"

"Ik werk thuis in de avonduren, maar overdag zijn we meestal aanwezig. Ik waardeer korte lijnen met mijn team"

**Work from home**

### Wat kan beter?

- Standaardisatie van werk processen
- Samenwerken: documenten opslaan versiebeheer **Share documents** Document
- Vergaderen: makkelijke manier om virtueel te vergaderen met externen
- Communicatie: minder e-mail, beschikbaarheid en bereikbaar **Presence, not email**
- Devices: eigen keuze over te gebruiken IT middelen
- Opslag en netwerkcapaciteit voor zeer grote bestanden **Store and share large files**
- Rekencluster voor langdurige berekeningen

### Werkstijl



### Devices Werk

**Work Devices**



### Devices Prive

**Personal Devices**



## Results:

- Centralize & share *documents*, agenda, tasks
- Find people and *documents*
- Effective use of email
- Share *documents*, also from home
- *Document* versioning
- Share *documents* with external
- **Document sharing was the No 1. usecase**



# Why Private Cloud?

## Improve collaboration between UMHs

- Joined Project
- Joined Results
- Joined Platform:
  - Clear obligations from Cloud vendor
  - All UMHs are equal
  - Collaboration is prioritized, no hidden agenda

## A safe alternative for UMH data

- Not using public cloud
- Implement data classification (High, Medium, Low)
- Guest Access
- Federated Access using home institution login
- Multi Factor Authentication if required

Teamwerk AMC • Home  
Teamwerk AMC

Teamwerk AMC +Nieuwe Teamsite Support Search Zoeken op deze site...

**Beveiligingsniveau: MIDDEN**

Deze omgeving is bestemd voor informatie van ten hoogste classificatie midden en daarmee:  
**GESCHIKT** voor: bedrijfsvertrouwelijke gegevens, personeelsgegevens (beperkt), anonieme onderzoeksgegevens, etc.  
**NIET GESCHIKT** voor: Concurrentie- of beursgevoelige gegevens, proscakriieke informabe, patiëntgegevens, etc.  
Om het volledige classificatieschema te raadplegen klikt u hier: [classificatieschema beveiligingsniveau's](#)

**Welkom bij Teamwerk AMC**

Teamwerk is een samenwerkingsomgeving voor de 8 Nederlandse UMC's. U krijgt hier de mogelijkheid om met SharePoint eenvoudig samen te werken binnen of tussen de UMC's en met door u uit te nodigen externen.

**SURF NET**

## Authenticatie Server

ZOT

### Aanmelden via uw eigen instelling

Kies uw instelling om aan te melden bij Teamwerk AMC.

Uw vorige keuze



### UMC instellingen



### Overige instellingen



[mijn instelling staat er niet bij](#)

2025 SURF - EXPLORER 2

# International Cloud Collaboration



TU/e



## Virtual Campus Hub

*A single sign-on system for cross border collaboration*

**Merete Badger**

**Frank Vercoulen**

**Lucio Monaco**

**Laura Farinetti**

*Technical University of Denmark (DK)*

*Eindhoven University of Technology (NL)*

*Royal Institute of Technology (SE)*

*Politecnico di Torino (IT)*



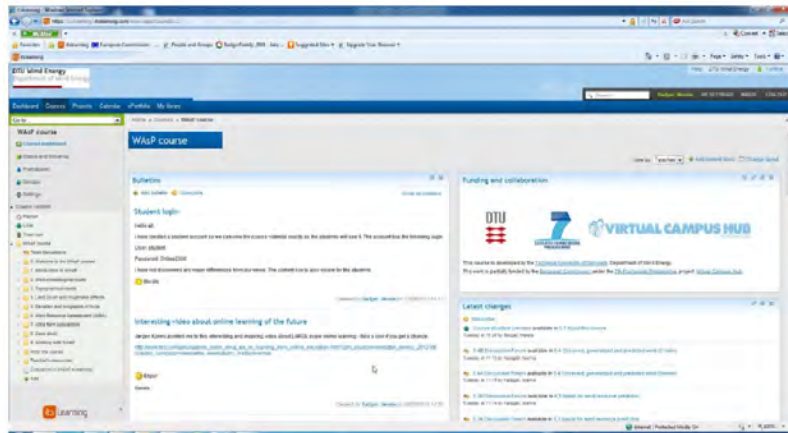
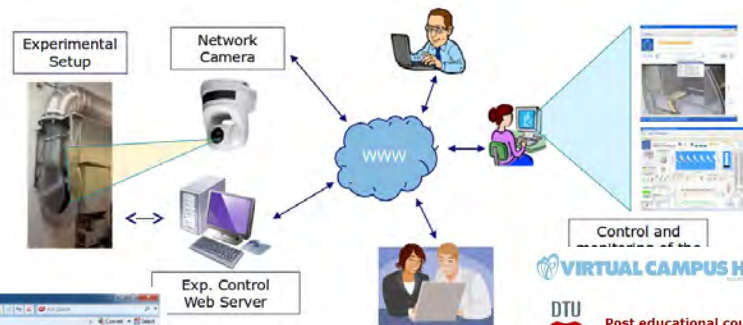
**TU/e**

Technische Universiteit  
**Eindhoven**  
University of Technology

Where innovation starts

# Components of VCH

- Campus and Cloud-based Learning Management Systems
- Collaboration Portal and Platform
- Virtual Laboratory
- Integrated for end users



VIRTUAL CAMPUS HUB



Post educational course on wind energy



Virtual Incubator



Remote cascade lab



TU/e Collaboration environment

### My Virtual Campus group memberships

Virtual Campus Hub

Virtual Campus Hub is a collaborative project between four technical universities in Europe. The project runs from October 1, 2011 to September 30, 2013. The project is partially funded by the European Commission under the 7th Framework Programme. More information can be found on the official project website.

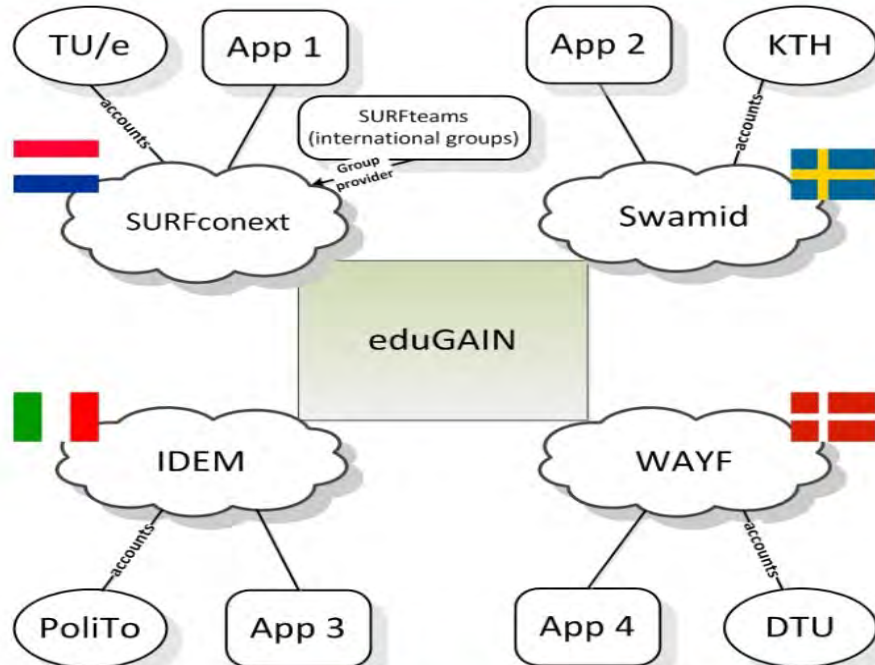


Partners



# A template for Crossborder Learning

## Enabling international collaboration: National (NRENs) and European (Géant)



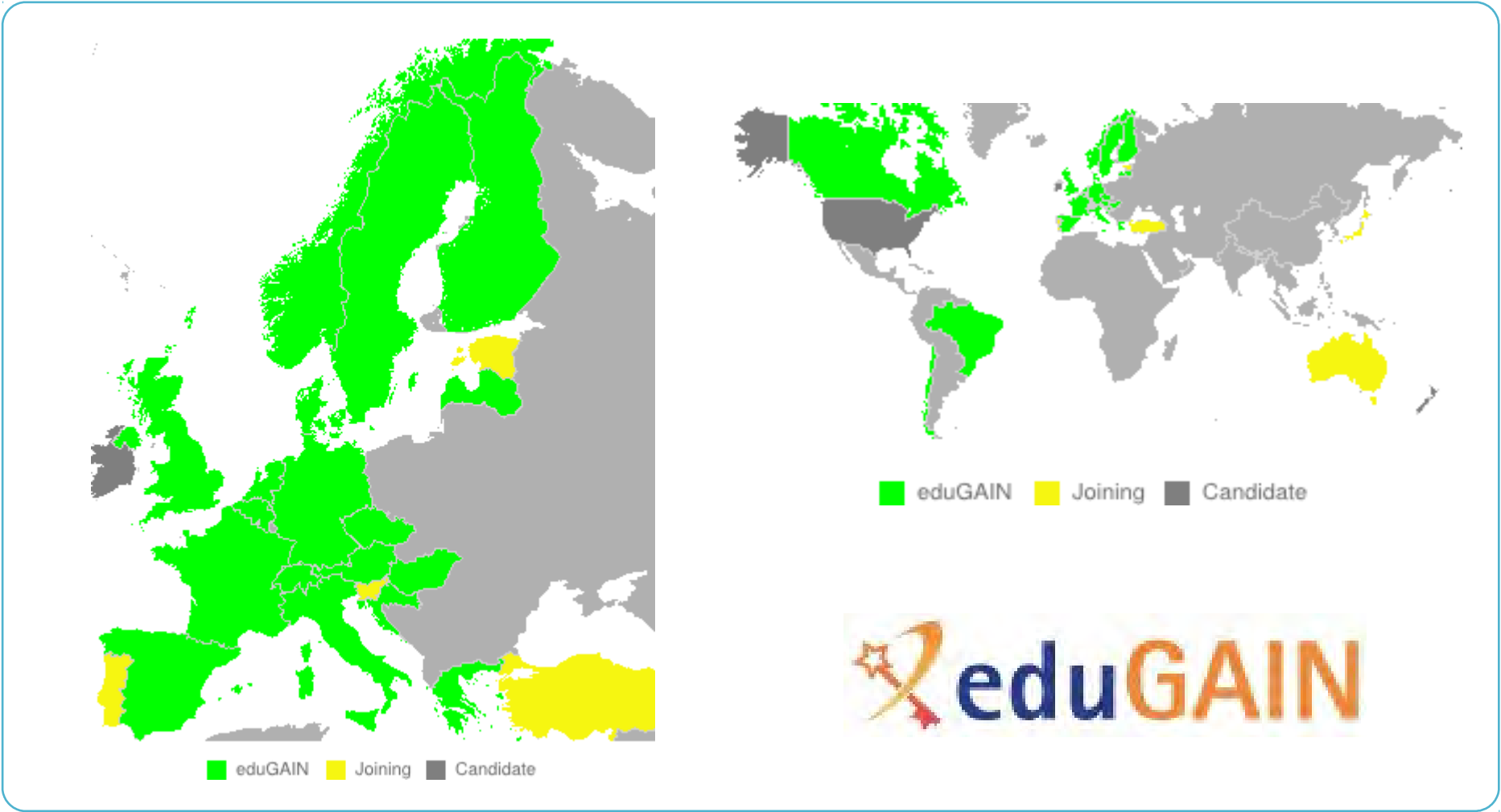
### **Federated authentication**

Use your own institution's account for applications elsewhere

### **Group management**

Using cross-institutional and cross border group definitions (virtual organizations) for authorization at different locations and in different applications

# Global Interfederation: eduGAIN



# VCH Experiences

## **The Good**

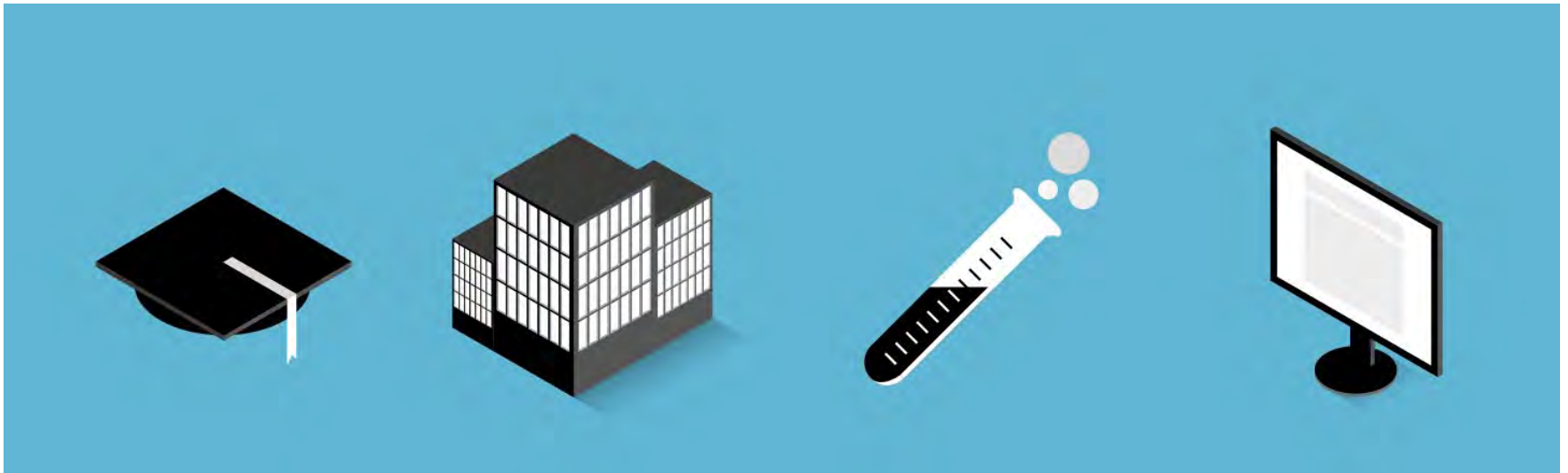
- FIM is promising technology and fairly well standardized across NRENs (except for group management)
- Enables institutions to join forces in education

## **However**

- Knowledge and motivation at local institutions still very limited
- Crossing borders (inter-federation) is also new to NRENs
- Difficult to sell infrastructure improvements to users
- Not allowing industry on Géant infrastructure as IdP hampers collaboration with industry
- Involve federations and central IT departments from the start!

# Lessons Learned

## The International Collaboration Infographic



# Pointers

## **SURFconext**

- <http://www.surfconext.nl/en> (generic)
- <https://support.surfconext.nl/> (technical, policy)

## **OpenConext**

- <https://www.openconext.nl>
- <https://github.com/openconext>
- <http://www.youtube.com/watch?v=kUpn568NSI0>

## **Virtual Campus Hub**

- <http://www.virtualcampushub.eu>

## **eduGAIN**

- <http://www.geant.net/service/eduGAIN/Pages/home.aspx>

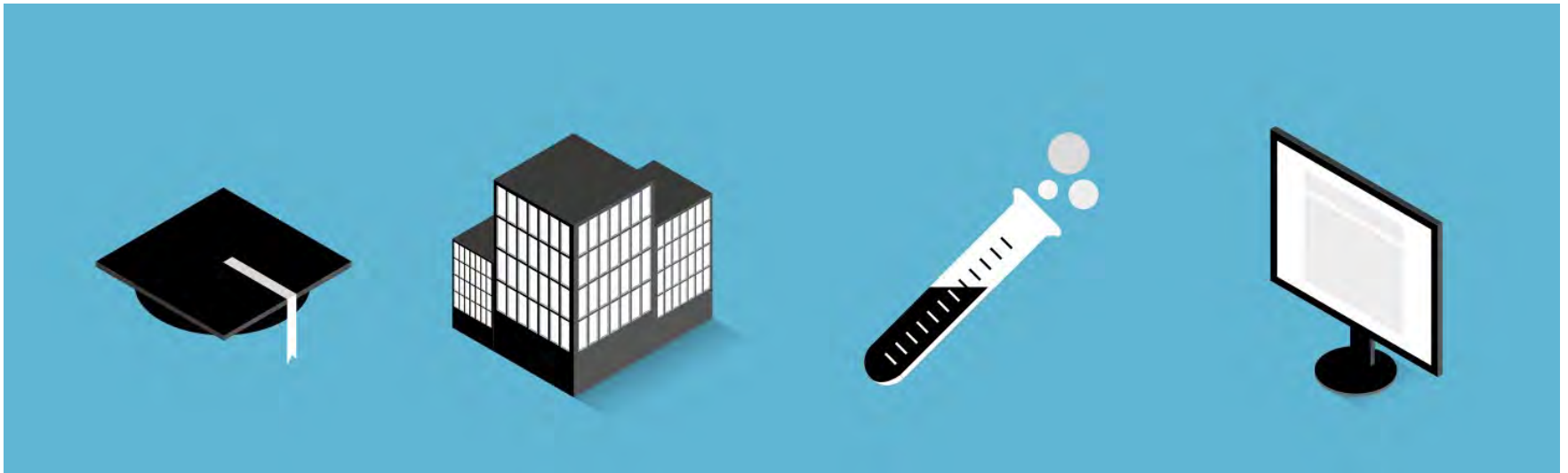
## **Infographic International Collaboration**

- Attached to this slidedeck



# Lessons Learned

## The International Collaboration Infographic



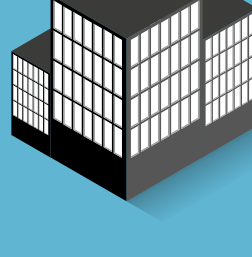
## WHY COLLABORATE INTERNATIONALLY ONLINE?

Online collaboration at an international level enhances the quality of education. It offers space for more depth and specialisation. Collaboration saves costs, increases the institution's appeal and makes knowledge possible on a greater scale. Why would you limit yourself to the institution or country borders if, technically speaking, there were no further hindrances?



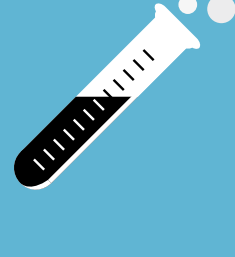
### STUDENTS

Get in touch with international lecturers and students in your field. Strengthen your career perspectives. Work towards an international future.



### EDUCATION INSTITUTIONS

Broaden the courses that you have on offer. Improve the quality of education. Increase international appeal. Keep smaller courses profitable. Invest in large-scale research.



### RESEARCHERS

Analyse, visualise and interpret big data at the same time as colleagues all over the world.



### COLLABORATIVE ORGANISATIONS

Work efficiently, safely and simply on cross-border issues.

LEARN MORE

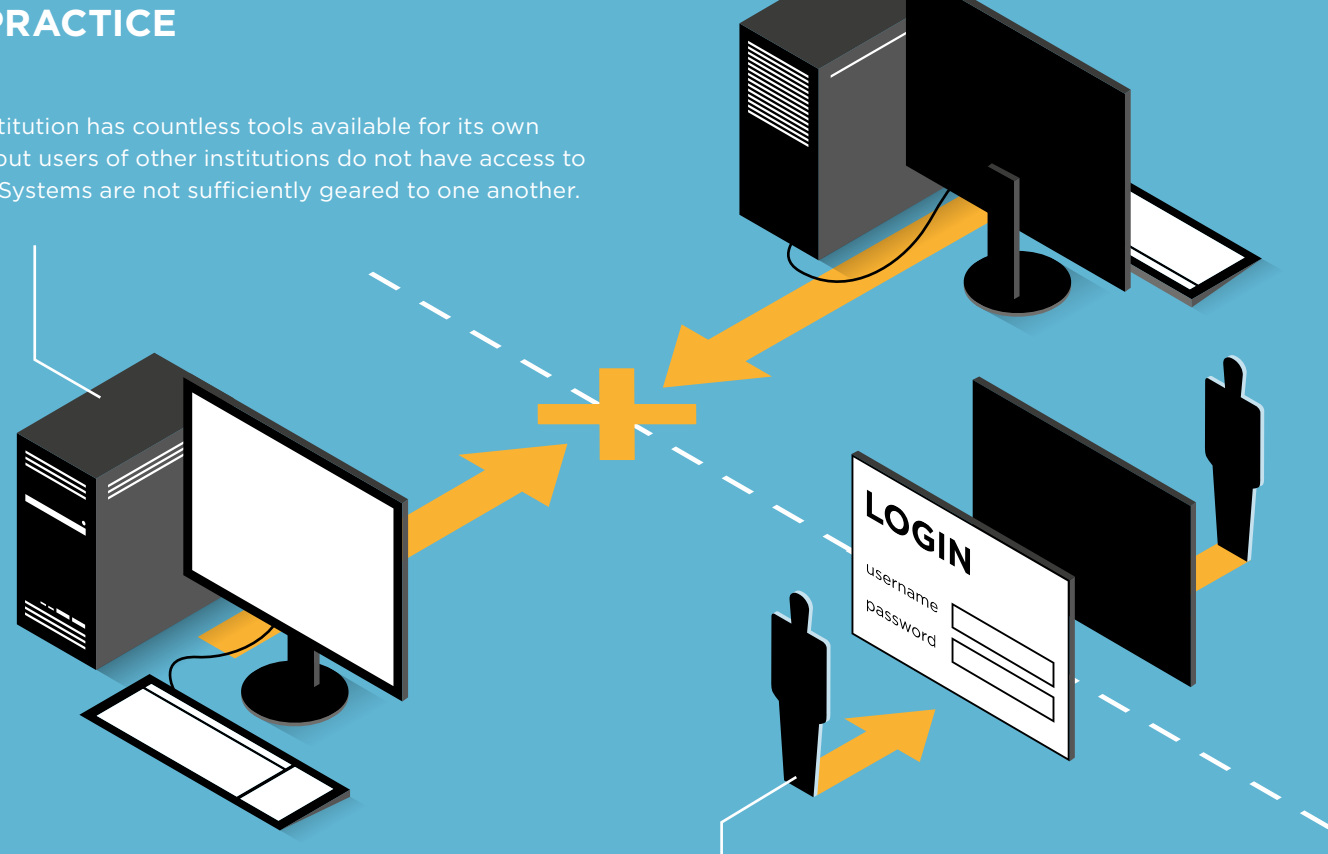
INNOVATE MORE

EXPERIMENT MORE

INTERACT MORE

## COLLABORATION IN PRACTICE

An institution has countless tools available for its own users but users of other institutions do not have access to them. Systems are not sufficiently geared to one another.

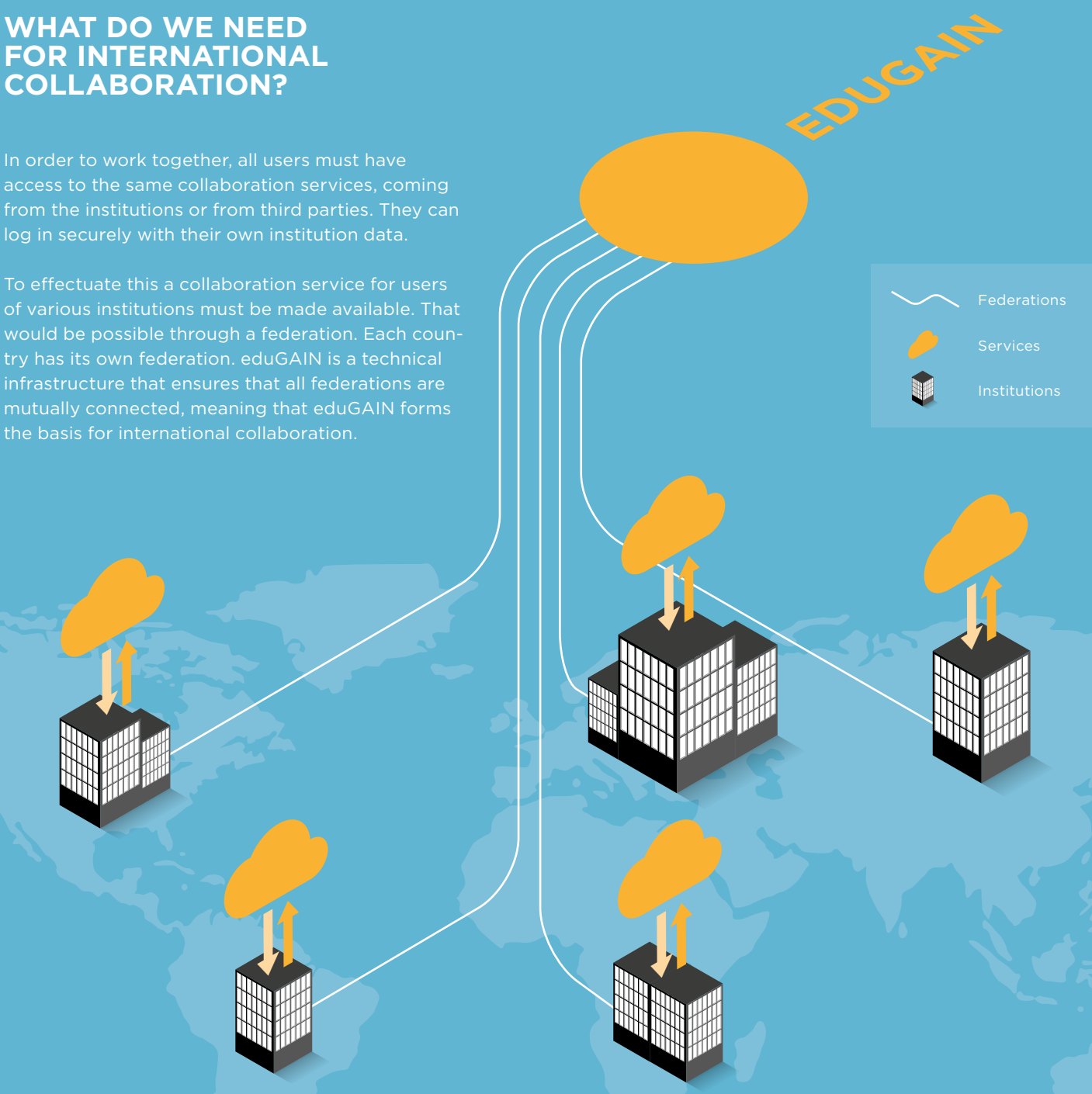


In order to be able to work together institutions are forced to set up labour-intensive workarounds and keep double records, which is not an optimal situation.

## WHAT DO WE NEED FOR INTERNATIONAL COLLABORATION?

In order to work together, all users must have access to the same collaboration services, coming from the institutions or from third parties. They can log in securely with their own institution data.

To effectuate this a collaboration service for users of various institutions must be made available. That would be possible through a federation. Each country has its own federation. eduGAIN is a technical infrastructure that ensures that all federations are mutually connected, meaning that eduGAIN forms the basis for international collaboration.



# 16

✓ **DOS**

- Manage the online international collaboration as a project: it is very important to have a project leader and an overview of activities and planning
- Involve all relevant stakeholders from the start, e.g. when writing the proposal
- Invest in communication with the necessary parties
- Assess the 'maturity' in Federated Identity Management of the institutions involved, the Service Providers and the NRENs
- Make sure you have enough technical and other resources to get the online collaboration up and running

✗ **DON'TS**

- Don't assume everyone is on the same page about desired functionality
- Don't think everyone has the same technical knowledge
- Don't assume everybody sees the benefits immediately
- Don't consider the technique as the solution to everything. You will also need to think about processes, legal agreements, communication and informing the end users and so on
- Don't regard testing as optional; testing connections is crucial

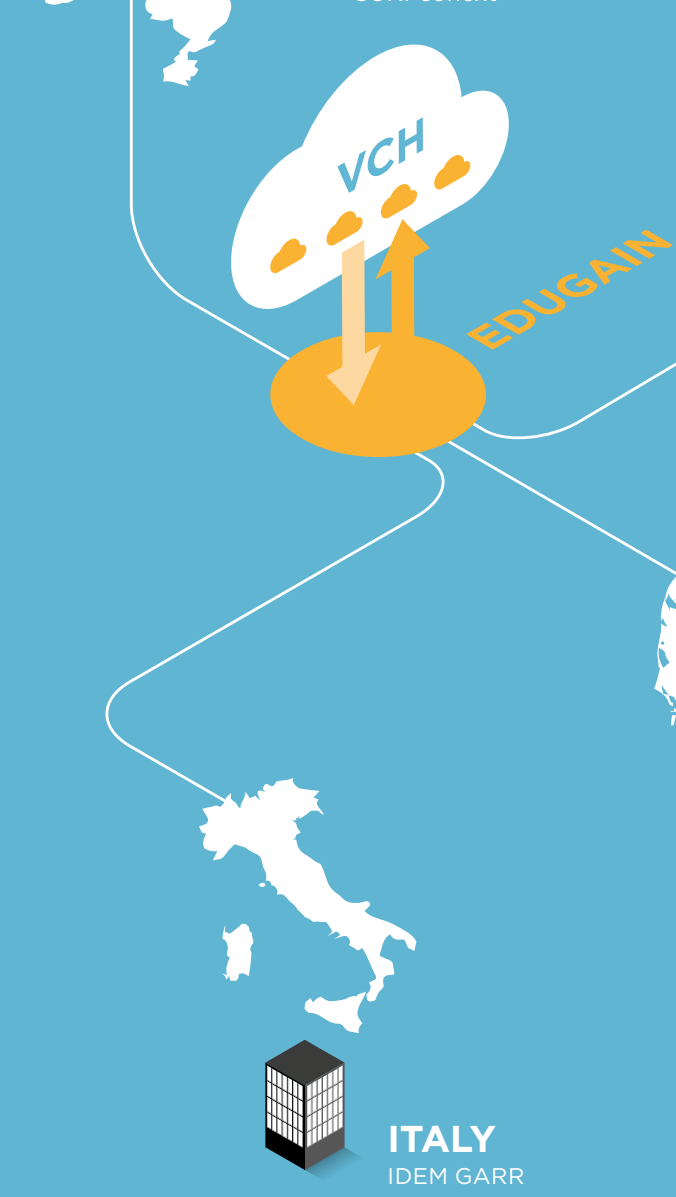
TU/e



**THE NETHERLANDS**  
SURFconext

### BEST PRACTICE: VIRTUAL CAMPUS HUB

Together with three international top institutes, the Technical University of Eindhoven (TU/e) is setting up a Virtual Campus Hub (VCH). The VCH is a shared digital learning and working environment for students in the field of sustainable energy. They can follow virtual lectures, use a remote lab facility, do assignments and safely store documents. The project is partly funded by the European Commission.



**SWEDEN**  
SWAMID

**DENMARK**  
WAYF

**ITALY**  
IDEM GARR

SURFconext ensures that the students and employees of the TU/e can log in with their own institution's account to collaboration services shared through eduGAIN. SURFconext functions as a federation that connects accounts and services with one another.

# 16

In this 'proof of concept' 5 types of applications have been developed and tested for online teaching in VCH. All apps are now being connected through the VCH Portal.

- 3 remote labs
- 2 examination tools
- 3 online courses
- 1 start up for entrepreneurs
- 1 collaboration environment

**AT 9 VIRTUAL EVENTS**

**500 STUDENTS AND 25 TEACHERS**

the apps were tested in real teaching situations.

tested the applications.

The Virtual Campus Hub project has received funding from the European Union's Seventh Framework Programme (FP7 2007-2013) for Research and Technological Development under grant agreement no. 283746.