# Umbrella AAI for Photon / Neutron Community

**Mirjam van Daalen, Heinz Weyer, Björn Abt**

**Umbrella is the revolutionary Authentication and Authorisation Infrastructure (AAI) concept for the Photon and Neutron community**

**It is the first time that such a kind of IT environment is offered**

- **European wide**

- **Community overlapping**

- **Shared between different EU projects**

# Future user operation at large scale facilities
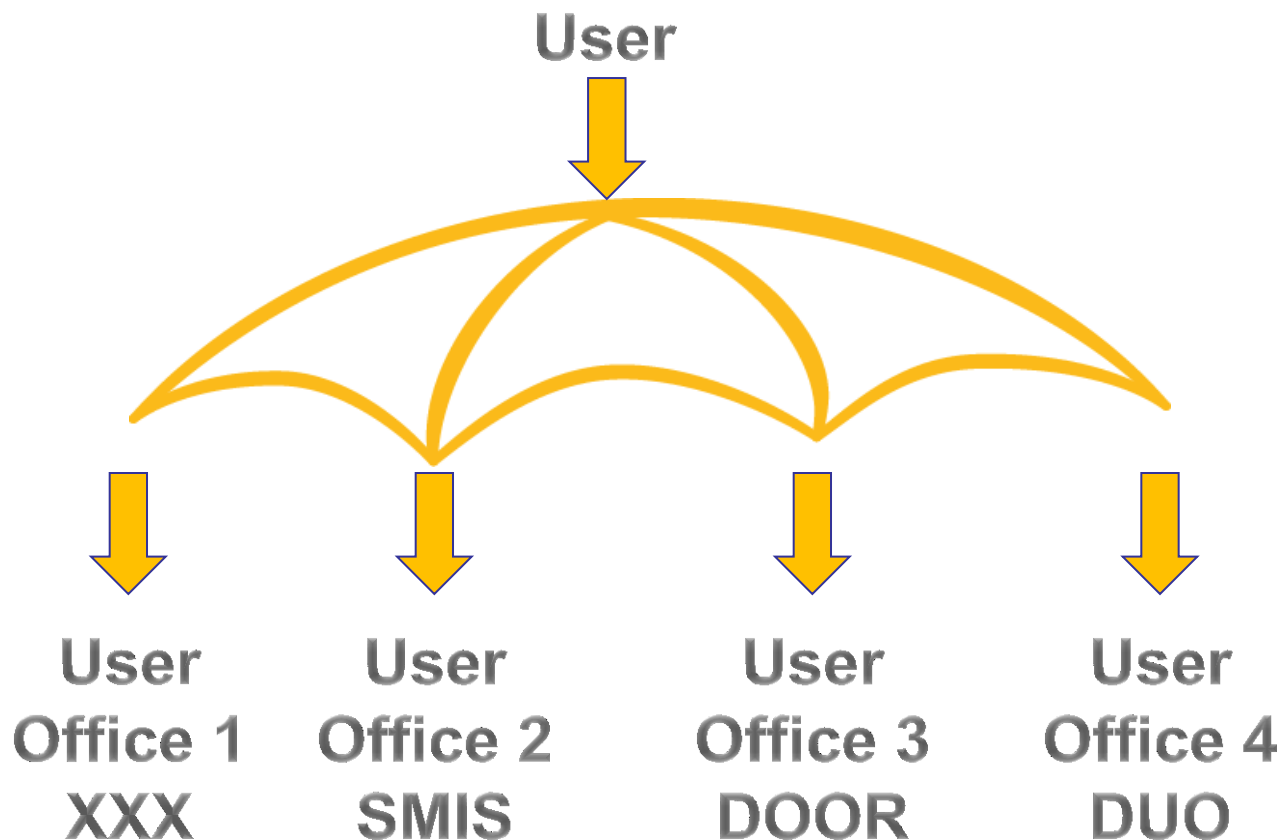
## What are the present and upcoming user needs?

a. 40% of the users do experiments at different facilities, transfacility access for users.
b. Acces to and management of experimental data (also within the collaboration).
c. Online entry mode: remote experiment access
d. Access to efficient data analysis tools.
e. Minimal administration load for users.
f. Remote file access.

**At the end all this needs a unique persistent user identification to have unified access to these tools.**
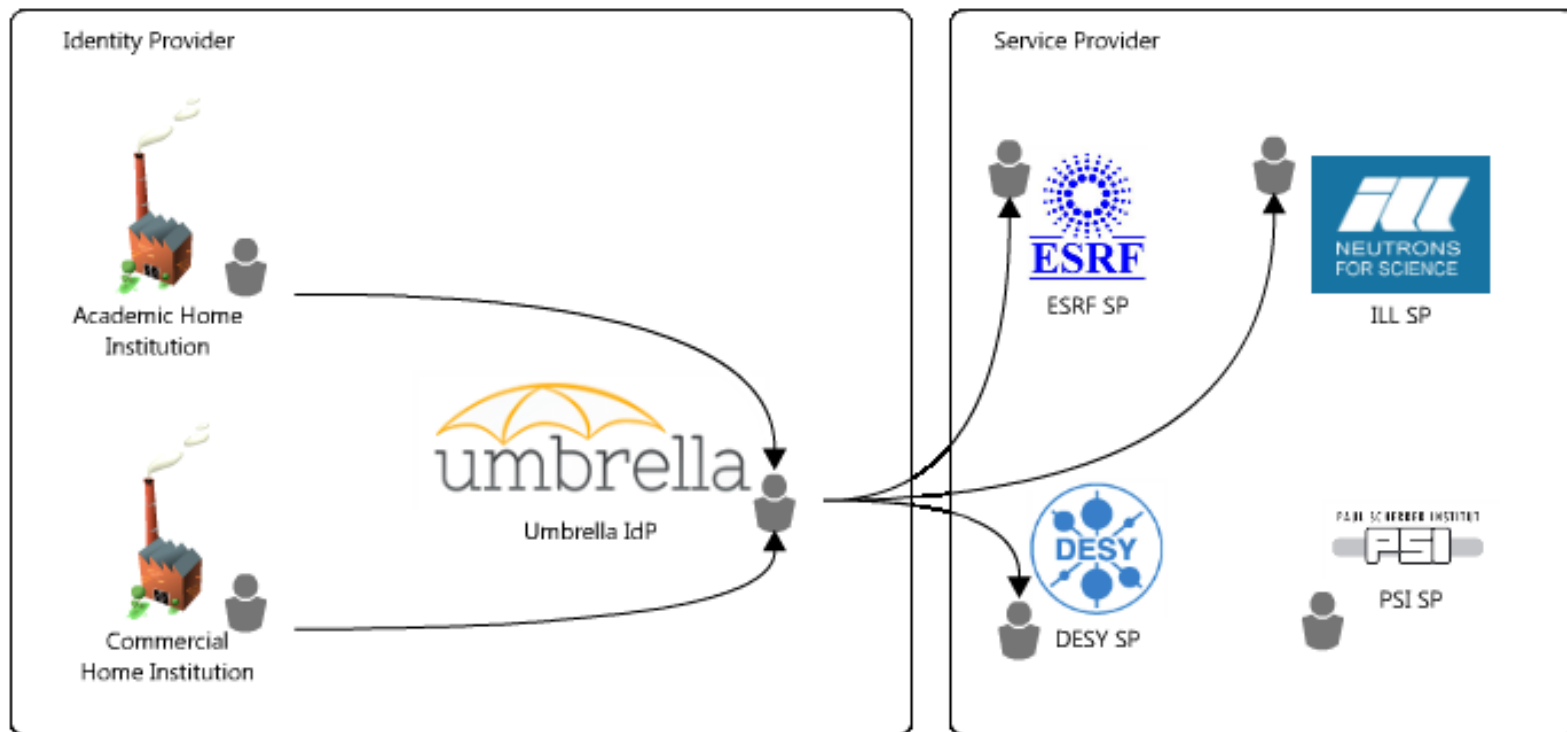
## User input needed! Future tools Horizon 2020

**Umbrella is part of several FP7 projects:**

- **EuroFEL- ESFRI project Free Electron Lasers of Europe**

- **PaNData-Europe, PaNData ODI- FP7 projects**

- **CRISP – Cluster project of different ESFRI projects**

- **CALIPSO – I3 synchrotron community**

- **NMI3 - I3 neutron community**

- BioStruct-X – renewal of I3 ELISA FP7 (only struct. biol)

- **Instruct – ESFRI project**

# How does it work?

User

User
Office 1
XXX

User
Office 2
SMIS

User
Office 3
DOOR

User
Office 4
DUO

EuroFEL
FREE ELECTRON LASERS OF EUROPE

CRISP
The Cluster of Research Infrastructures
for Synergies in Physics

pandata
Photon and Neutron
Data Infrastructure

calipso
wayforlight

nmi3

# Overview

**Umbrella is the basis for various user services under development**

a. Info & service portal
b. European proposal support (NMI3 & CALIPSO)
c. Remote experiment access
d. Remote file access
e. Metadata catalogue (iCAT)

**Without a unique identifier it will not be possible to have unified access and work with these tools.**

# Umbrella Characteristics

**Concept**

- Unique + persistent user identification on EU scale
- Single sign-on
- No possibility for cross-facility information pull
- Waterproof but slim data protection system

**Incorporate confidentiality aspects**

- High competition, especially structural biology
- Time-window-structured access to experiments and data.

**Rely on existing local user office structure**
- Great experience
- DIY (Do It Yourself) operation
  - Users: manage their personal entries
  - User offices: supervising; manage authorizations
  - Principal investigators: have responsibility for their teams and can handle authorization within their group

**Base system on professional authentication standard**
- Shibboleth, federated Single-Sign-On System (SAML), widely used
- Special photon / neutron user federation
- Supervising by local User Offices

# Roadmap for Umbrella deployment

- Project end PaNData 31.03.2014

- Until then deployment of Umbrella

- Project end CRISP 30.09.2013

- MoU between partners

# Status of implementation:

1. First wave: ILL, ESRF, PSI online since August 2013

2. Next facilities which and when?

   - DESY- early 2014 (now on dummy system door)

   - ISIS-November 2013

   - Diamond-November 2013

   - HZB-not clear

   - Elettra - early January

3. Deployment ready until end of March 2013.

## Status of Service Provider deployment 1st wave:

| Facility | Status | SP installed | WUO adapted | Production |
|---|---|---|---|---|
| ESRF | OK | OK | OK | OK |
| Institut Laue-Langevin | OK | OK | OK | OK |
| PSI | OK | OK | OK | OK |

| Deployment planning Umbrella | Umbrella Deployment | CRISP | PaNData | NMI3 | CALYPSO | Others |
|---|---|---|---|---|---|---|
| ESRF | implemented | X | X | | X | |
| ILL | implemented | X | X | X | | |
| DESY | Fall 2013 | X | X | | X | |
| Diamond | Fall 2013 | X | X | | X | |
| ISIS | Fall 2013 | | X | X | | |
| Elettra | Planned until end of PaNdata | | X | | X | |
| MaxLab | Planned until end of PaNdata | | X | | X | |
| HZB | Not clear yet | | X | X | X | |
| Soleil | ? | | X | | X | |
| Alba | Fall 2013 | | X | | X | |
| EUXFEL | Planned at start of user operation | X | X | | | |
| ESS | Planned at start of user operation | X | | | | |
| GSI | Planned at start of user operation | X | | | | |
| PSI | Summer 2013 | X | X | X | X | |
| Biostruct-X | | | | | | X |
| FMI Basel | | | | | | X |

# In operation

1. Basic Umbrella [https://umbrellaid.org/euu/](https://umbrellaid.org/euu/)

2. Geo DNS (server Umbrella distributed between different facilities)

# In progress

1. Access to Umbrella via EduGain (Geant 3+, Switch)

   • Login with account home institution (Universities etc.)

2. Link of Umbrella to Moonshot (Geant 3+ , non web based access)

   • Remote experiment access

3. Access to iCAT metadata catalogue via Umbrella

# Umbrella collaborators

**ALBA**
- ❖ Daniel Salvat

**DESY**
- ❖ Frank Schluenzen, Rolf Treusch, Thorsten Kracht, Jan-Peter Kurz, Ulrike Lindemann

**Fermi/Elettra**
- ❖ Cecilia Blasetti, Ornela Degiacomo, Giorgio Paolucci

**ESRF**
- ❖ Rudolf Dimper, Dominique Porte, Julien Savoyet, Stefan Schulze

**European XFEL**
- ❖ Krzysztof Wrona

**GSI**
- ❖ Peter Malzacher, Almudena Montiel Gonzalez, Kilian Schwarz

**HZB**
- ❖ Thomas Gutberlet, Dietmar Herrendoerfer

**I LL**
- ❖ Jean-Francois Perrin

**IPJ (Poland)**
- ❖ Robert Nietubic

**MaxLAB**
- ❖ Krister Johansson

**PSI**
- ❖ Bjoern Abt, Stephan Egli, Stefan Janssen, Markus Knecht, Mirjam van Daalen, Heinz J Weyer

**Soleil**
- ❖ Frederique Fraissard

**STFC**
- ❖ Anthony Gleeson, Tom Griffin, Alistair Mills, Bill Pulford

# Thank you for your attention!