Open IRIS: A Free Platform to Enable Resource Sharing for Labs and Core Facilities

The S-Lab Award for Excellence in Laboratory Design, Management and Operation

2017 Award for innovation in “Laboratory Effectiveness”

Awarded by S-LAB (S-Lab is a not for profit initiative that is primarily funded by the Higher Education Funding Council for England) and UKSPA (UK Science Park Association)

Presented by JISC (National research network for academics in the UK)

Open IRIS is a Collaborative Effort

- Open IRIS is an ambitious collaborative project to reach these goals and beyond.
- It is open to other organizations to use for free or join as a partner.
- It is already in daily productive use by hundreds of other researchers.

Primary Goal of Open IRIS

The goal of Open IRIS is to design a simple entry point for researchers and resource providers to share, discover, access, and manage resources and services, either as central portal or as custom views for and across organizations and communities.

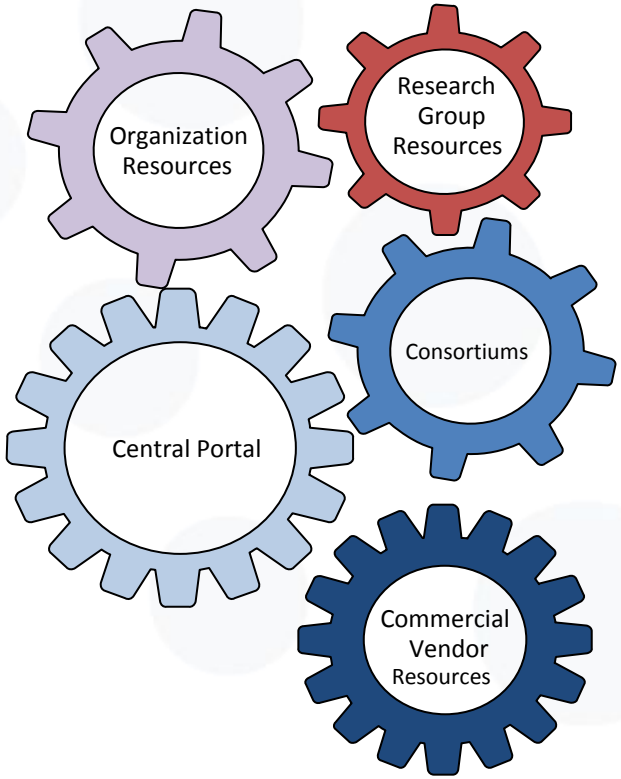
Why Open IRIS

- Open IRIS is a free non-commercial platform to enable resource discovery and sharing for researchers.
- It is a collection of best practices for resource management and optimization.
- Facilitates collaboration and resource sharing within and across labs and organizations.

Software development and ownership

- Software development is outsourced
  - CodeFirst (www.codefirst.net) provides developers, development platform and hosting
  - quality guaranteed
  - no interest or rights to the code
- Currently project is structured as a working group within EGI
- In process of forming a legal consortium (~months)
- Code always given out when there is a legitimate request (not for commercialization).

Long Term Vision



Goal to have a "*one stop shop for resources*" for researchers.

Benefits of Open IRIS

Optimize

Help optimize resource utilization by sharing of resources and tools to manage resources.

Discover

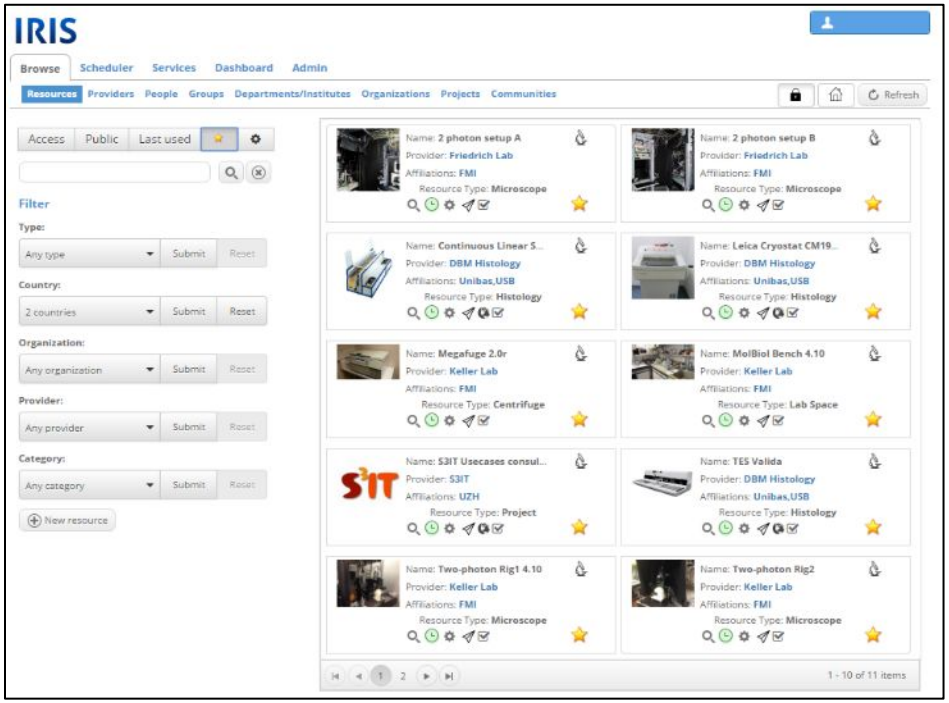
To help researchers discover local, national, and international resources available to them.

Accelerate

In allowing researchers to discover and access cutting edge resources they will be able to accelerate their research activities.

Overview of Open IRIS

- A free tool to empower researchers to share resources within and across institutions.
- Expose resources to more researchers.
- Create a virtual pools of resources for collaborations and communities.
- Supports: instruments, service requests, applications, etc.
- Usage restrictions and metering/billing can be enforced on resources.
- Directory of resources, people, groups, communities, and organizations.
- With the goal to provide integration into data management plans.



List of Key Functionality

Dynamic Forms

Create custom forms for requests and scheduling of resources.

Advanced Statistics

Determine resource usage with complex queries and various formats.

Project Management

Set milestones and assign tasks on requests.

Multi-facility

Support for working across multiple facilities.

Calendar Integration

Ability to integrate resources into calendars and determine availability of technical staff when booking resources.

Resource Restrictions

Ability to restriction resource utilization by date, time, user, quotas, etc. Installable agent to control access to resources.

Pricing Rules

Define complex pricing rules by date, time, users, groups, organization, etc.

Directory Management

Support complex organizational relationships. Including support for groups, departments, organizations, communities, and projects.

Custom Portals

Custom portals that allows for custom web site address with control of access and resources listed.

Scheduling

Schedule resources with support for recurring events, maintenance, etc.

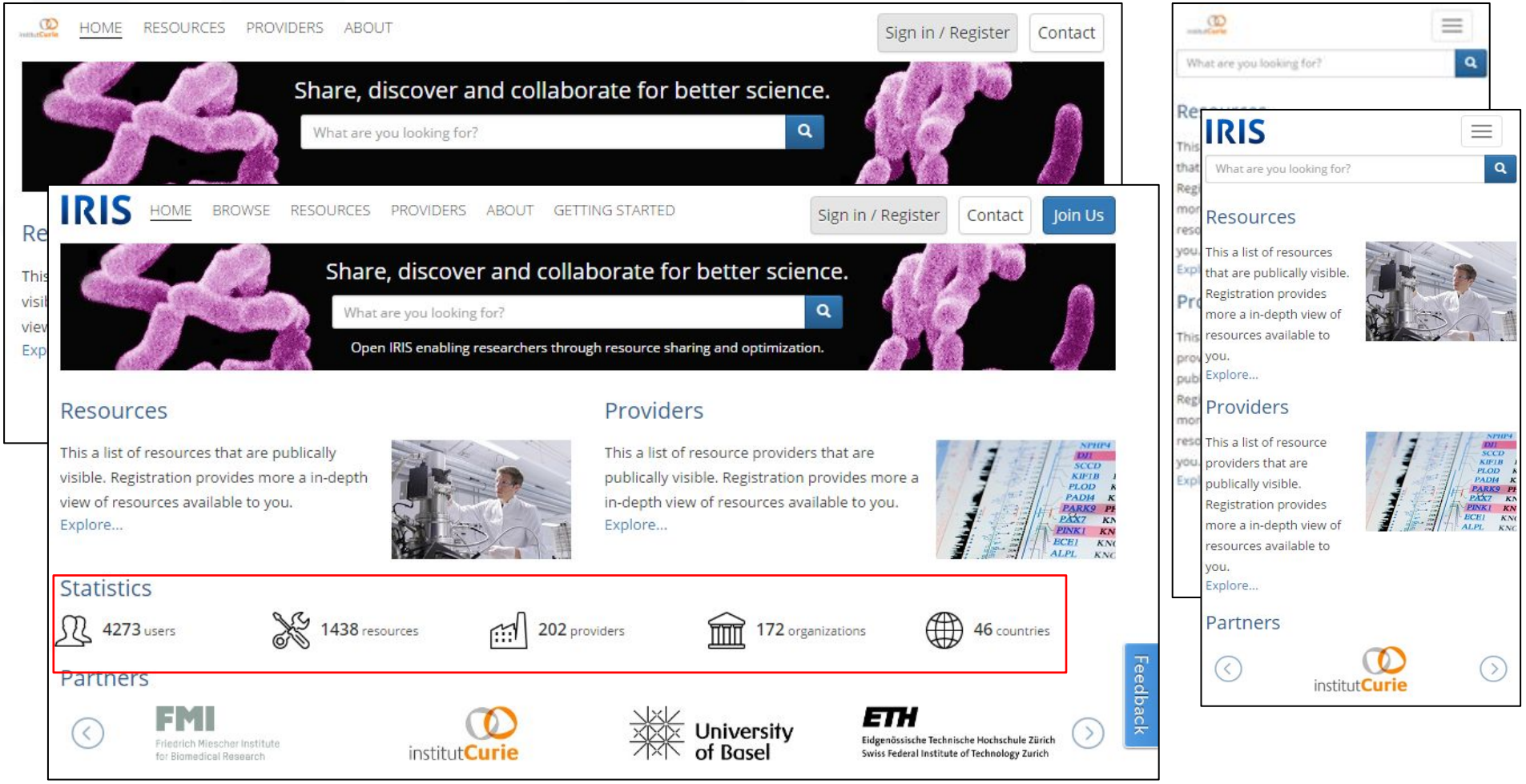
Service Requests

Submit and track service requests.

Issue Tracking

Track issues directly on resources.

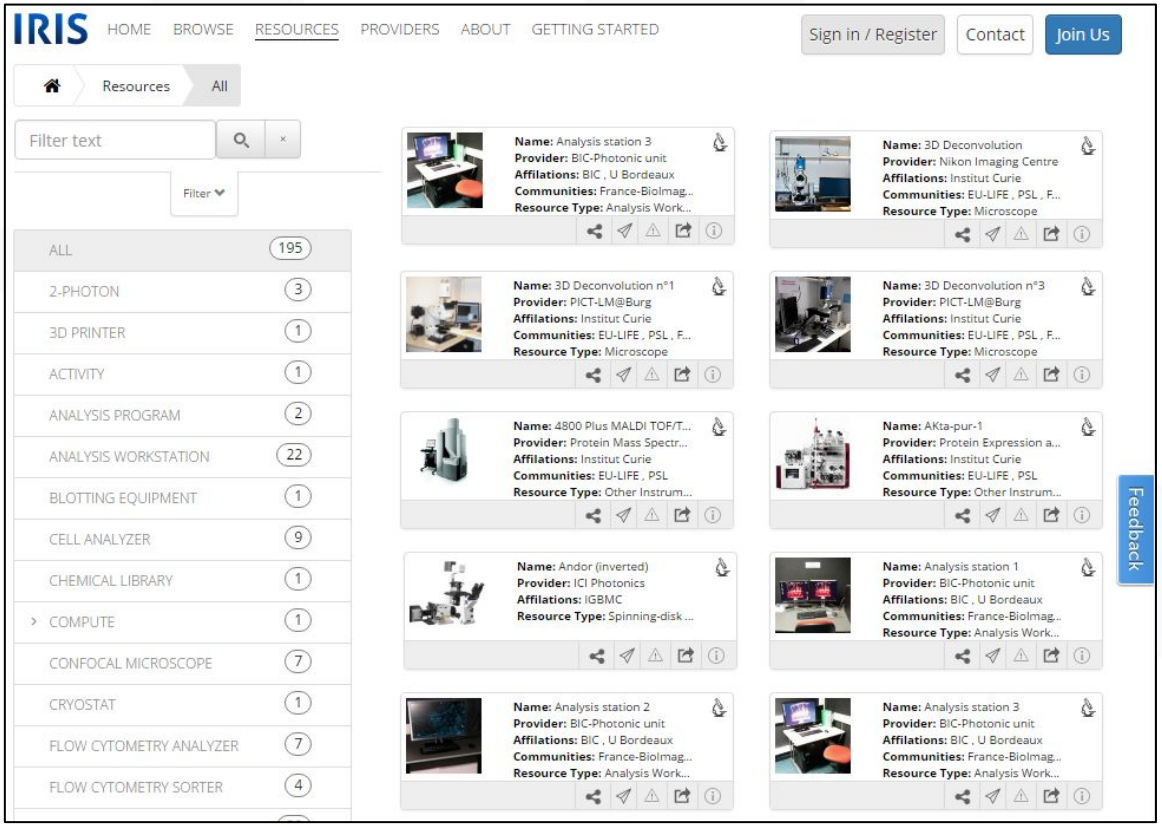
Features: Customizable Portals



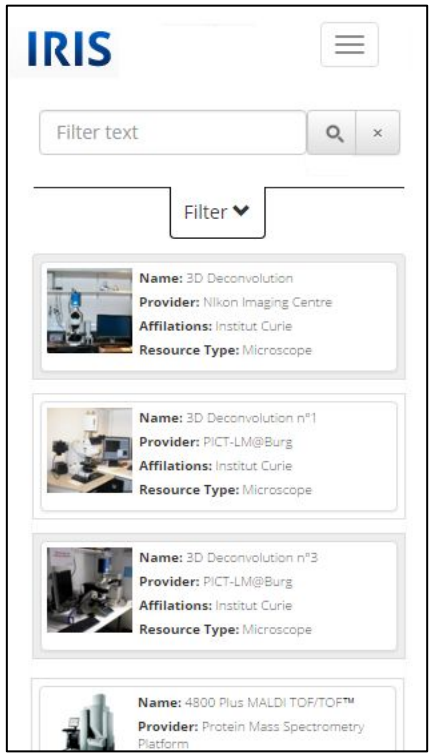
Desktop

Mobile

Features: Public Facing Discovery of Resources, Services, and Applications

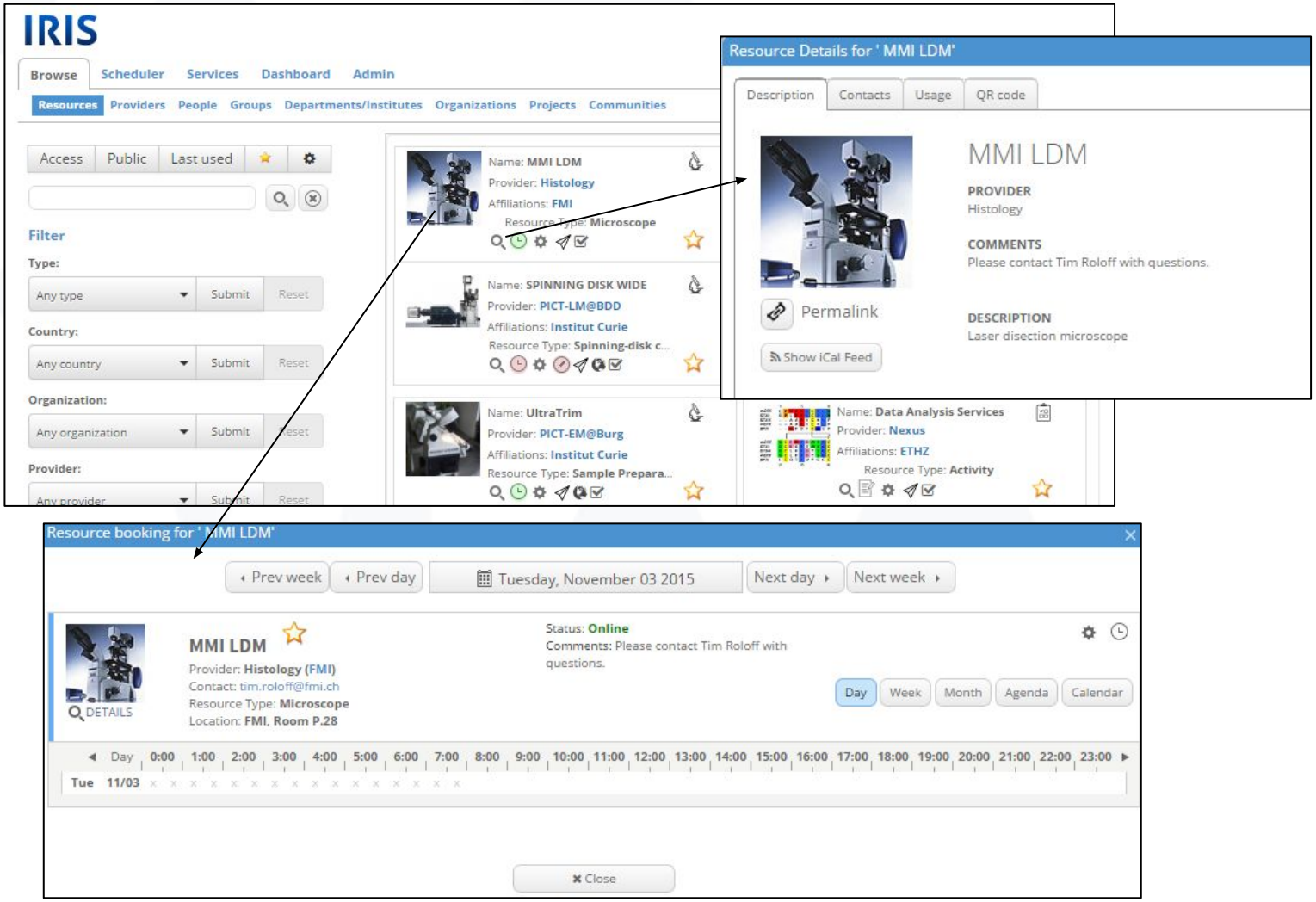


Desktop

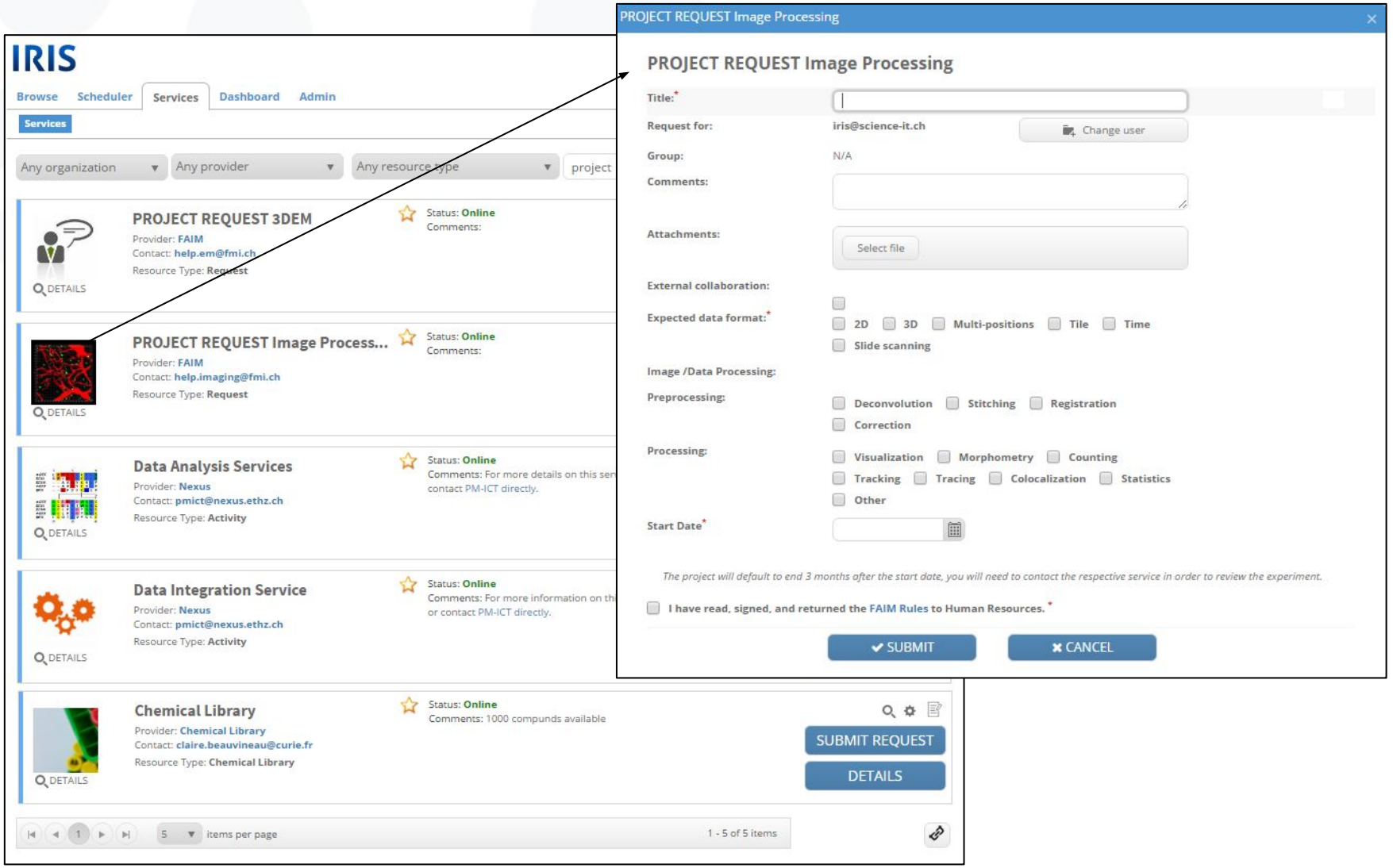


Mobile

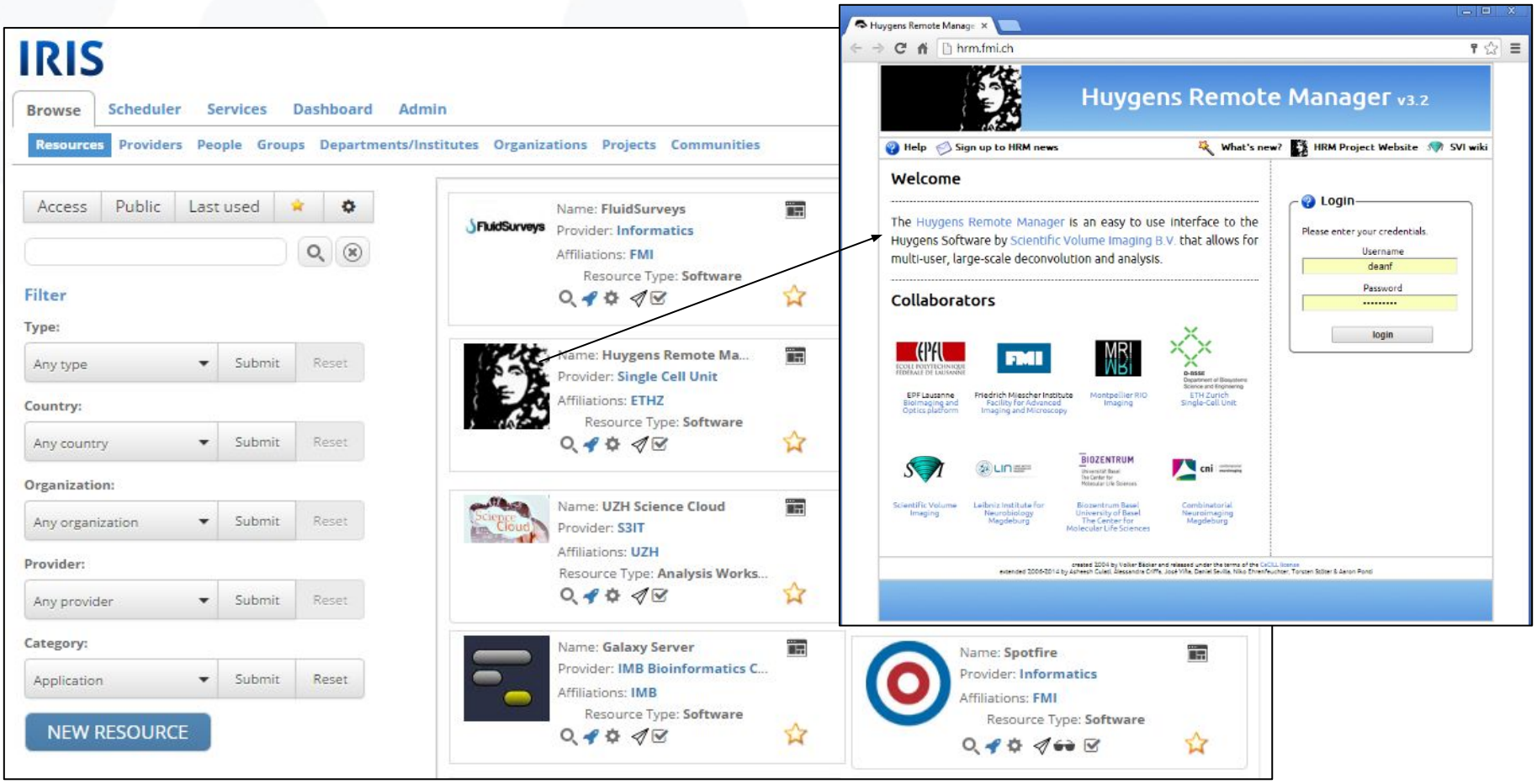
Features: Resource Discovery and Usage



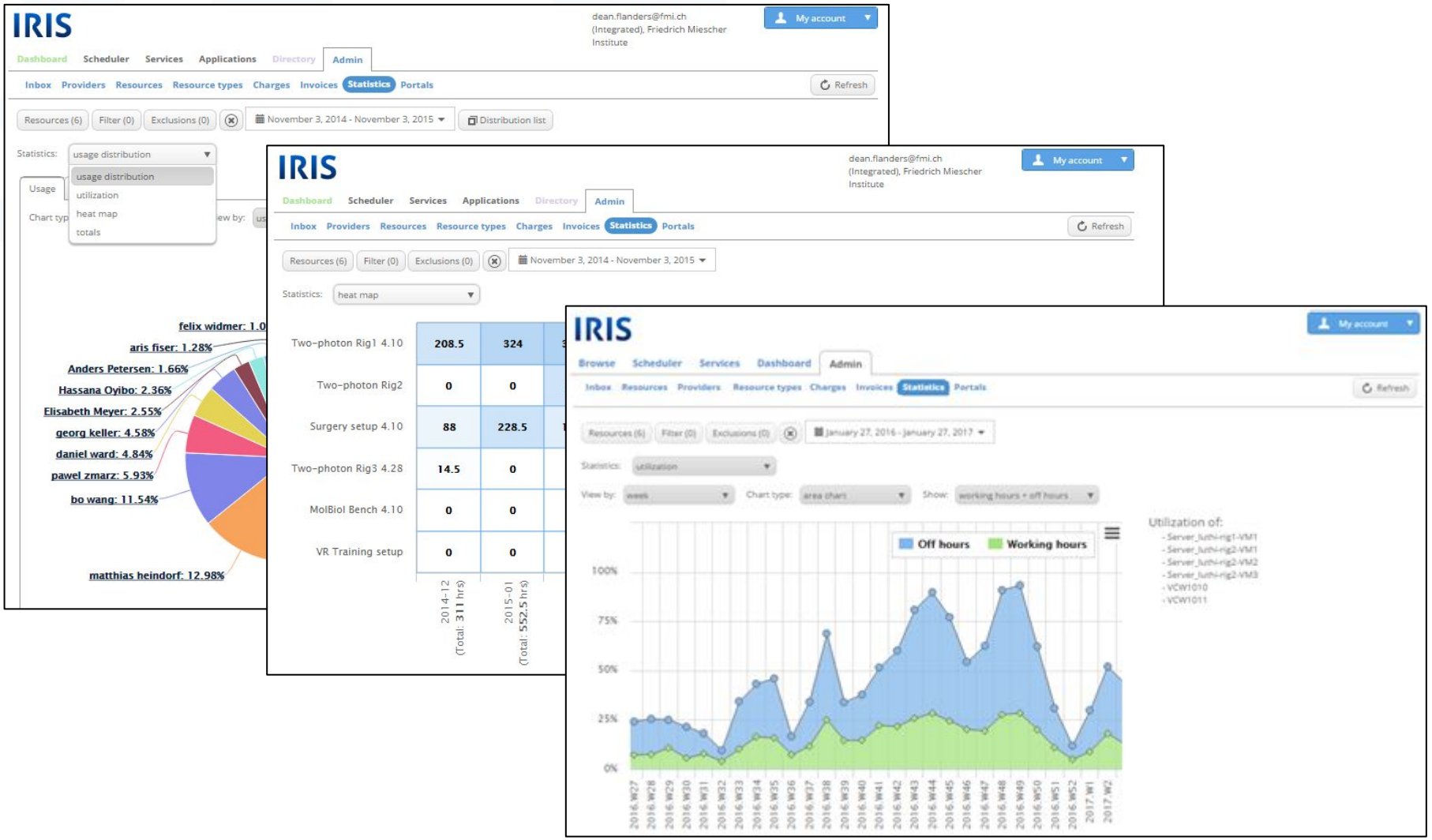
Features: Request Management



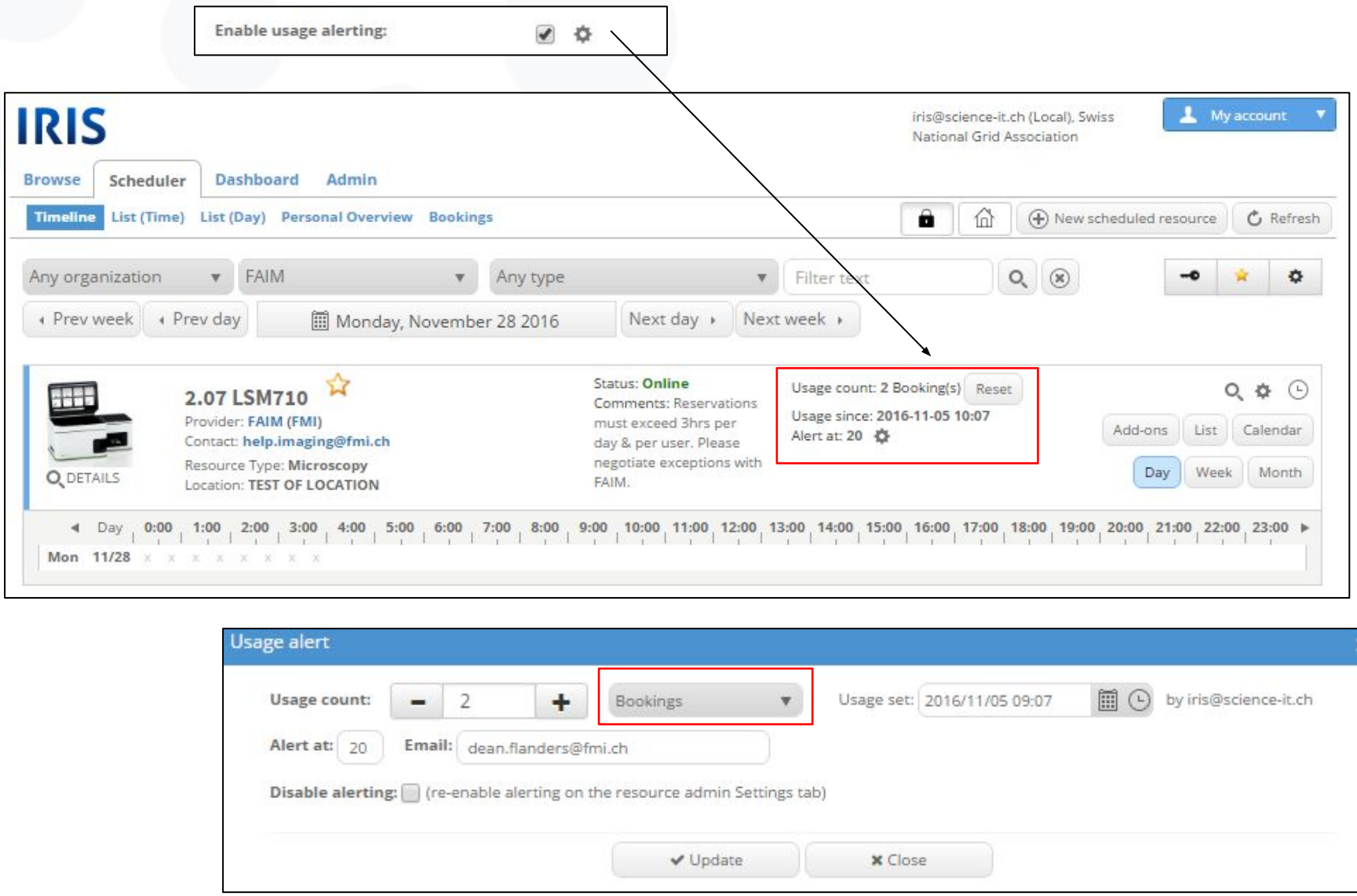
Features: Application Store



Features: Resource Usage Statistics



Features: Alerting on Resource Usage

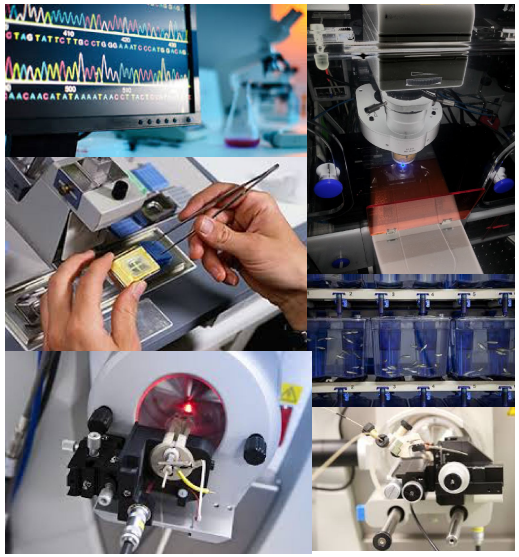


Case Study: Institut Curie

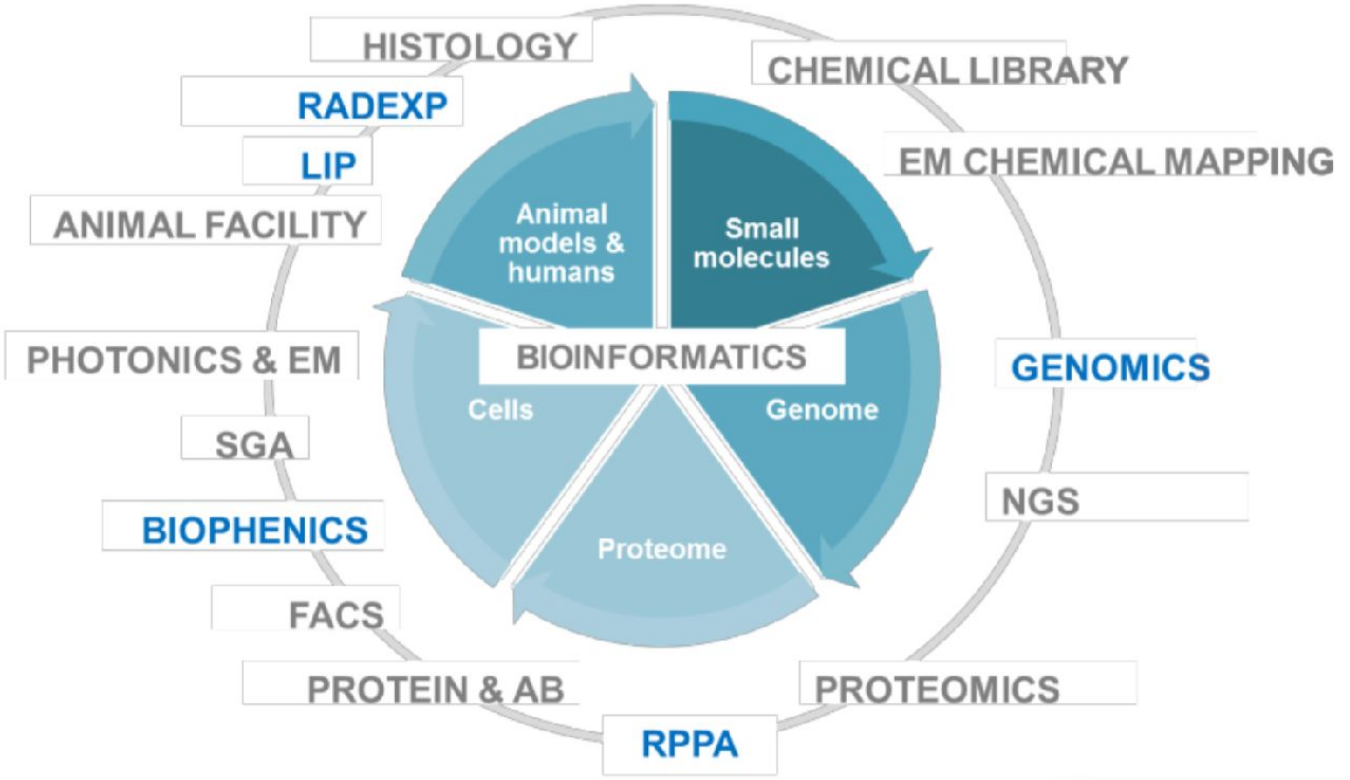
- Institut Curie is a hospital and research center focused on cancer.
- Missions: care, research, teaching
- Foundation created in 1909 by Marie Curie
- Key figures of Institut Curie
  - 3300 employees
  - 83 research teams
  - 21 technology facilities
  - 650 medical scientific publications
  - 3 locations in Paris (central Paris, Orsay, Saint-Cloud)

institutCurie

Together,
let's beat cancer.



Institut Curie: Core Facility Technologies



Institute Curie: Requirements

- Service requests
- Equipment management
- Complex project management
- Inventory management
- Billing / invoicing
- Reporting
- Communication
- Easy to use
- Upgrades / sustainability
- A single solution for all facilities (application modules)

Institut Curie: Evaluated Options

Commercial Software	Collaborative Software	Home-made Software
Disadvantages: ✓ High Cost ✓ Software as service ✓ Data confidentiality ✓ No specific development ✓ Commercial Software Advantages: ✓ Turnkey software ✓ Available for all facilities	Disadvantages: ✓ New and risky Advantages: ✓ Shared cost ✓ No limitation in number of equipment ✓ Continuous and specific improvements ✓ Feed-backs of users ✓ Available for all facilities	Disadvantages: ✓ Cost of staff ✓ Often depends on a single person developing it ✓ Code is often not robust ✓ Often developed for a specific need of an institute / service ✓ Not much evolution
iLab, Stratocore, Ideaelan, Bookitlab, Lexmark, Capitechnic, etc.	Open IRIS	phpScheduleIt, Google Docs, Google agenda, GRR, PLAGE 2.3 and hundreds of home-made developments

Case Study: Department of Biomedicine University of Basel

- In daily productive use and provides a “one stop shop” for resources and events.
- Enhanced visibility of all resources.
- Statistics:
  - 910 users (Unibas, Uni. Basel Hospital, UKBB)
  - 18 resource providers defined
  - 130 resources registered
  - ~150 resource requests per day
- Provided integration between Uni. Basel Hospital, Unibas, and UKBB
- Optimized resource usage
- Improved processes for room bookings and seminars

Departement Biomedizin Basel

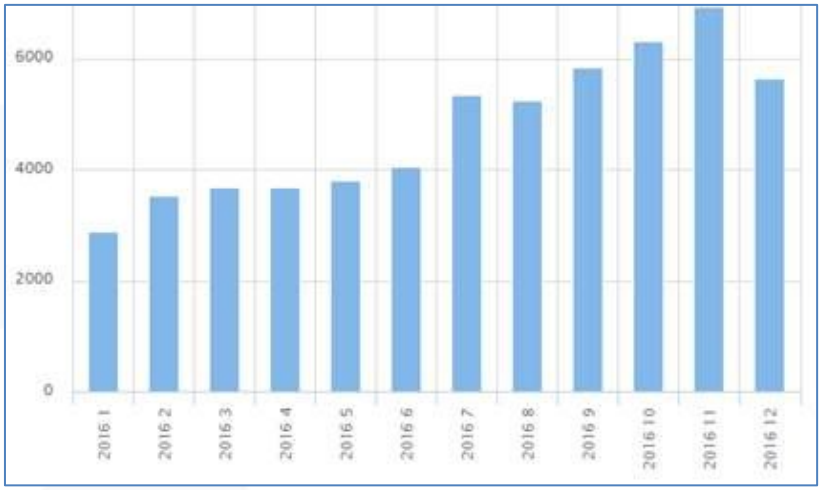
UKBB Universitäts-Kinderspital beider Basel

Universitätsspital Basel

Universität Basel

Open IRIS Metrics

- Doubling of users in 2015 and 2016, over 4200 users currently on the platform.
- Doubling of resource usage requests in 2016, over 6000 per month at the end of 2016.
- 85 organizations in 12 countries with hundreds of logins per day.
- It has approximately 150 resource providers registered with a total of over 1000 resources in the system.
- Usage spans universities, institutes, hospitals, and commercial entities.



Resource Booking Requests 2016

Conclusions and Status

- In daily productive use by hundreds of researchers and provides a “one stop shop” for their needs.
- Already becoming a collection of best practices for resource management and sharing in research helping to optimize resource utilization.
- Enhances visibility of resources and provides integration between organizations.
- Open IRIS is still evolving, but has become an ambitious collaborative project and open to other organizations to use and join.
- Funded in part from efforts in: EGI, SystemsX.ch, eSCT (Swiss eScience Team)