"Defining standards for the publication of research facilities and equipment data"

How did it evolve?

- Adrian Cox – University of Southampton
- Melanie King – Loughborough University
- Hamish McAlpine – University of Bath
- Gavin Burnell – University of Leeds

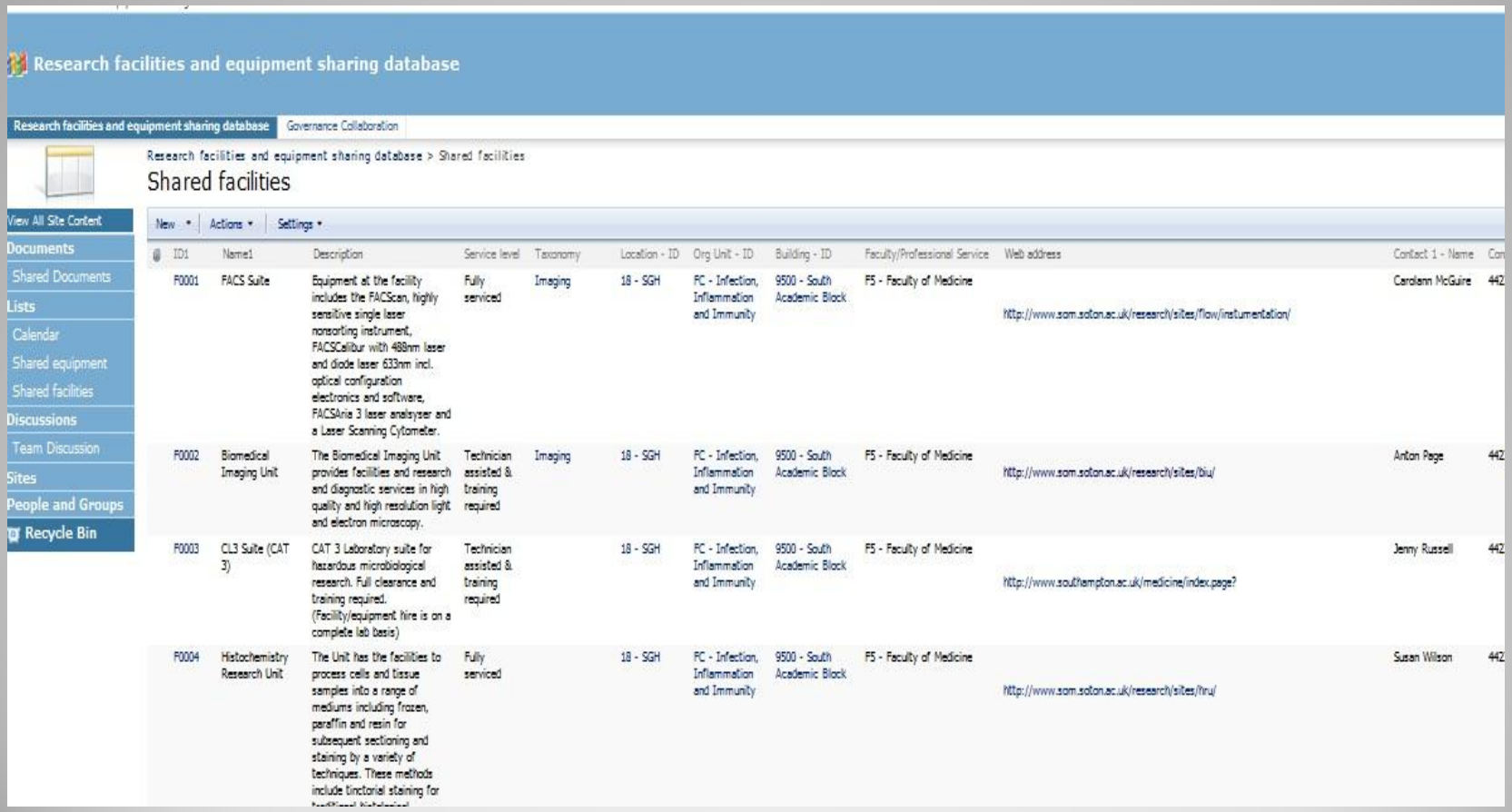
18th September 2012

uniquip

Changing face of equipment funding

- RCUK/EPSRC Equipment guidelines
- EPSRC Funding to kick start sharing agenda
- Growth of regional consortia projects

University of Southampton Database



Research facilities and equipment sharing database

Research facilities and equipment sharing database | Governance Collaboration

Research facilities and equipment sharing database > Shared facilities

Shared facilities

View All Site Content
Documents
Shared Documents
Lists
Calendar
Shared equipment
Shared facilities
Discussions
Team Discussion
Sites
People and Groups
Recycle Bin

New | Actions | Settings

ID1	Name1	Description	Service level	Taxonomy	Location - ID	Org Unit - ID	Building - ID	Faculty/Professional Service	Web address	Contact 1 - Name	Con
F0001	FACS Suite	Equipment at the facility includes the FACScan, highly sensitive single laser nonsorting instrument, FACSCalibur with 488nm laser and diode laser 633nm incl. optical configuration electronics and software, FACSAria 3 laser analyser and a Laser Scanning Cytometer.	Fully serviced	Imaging	18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.som.soton.ac.uk/research/sites/flow/instrumentation/	Carolann McGuire	442
F0002	Biomedical Imaging Unit	The Biomedical Imaging Unit provides facilities and research and diagnostic services in high quality and high resolution light and electron microscopy.	Technician assisted & training required	Imaging	18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.som.soton.ac.uk/research/sites/biu/	Anton Page	442
F0003	CL3 Suite (CAT 3)	CAT 3 Laboratory suite for hazardous microbiological research. Full clearance and training required. (Facility/equipment hire is on a complete lab basis)	Technician assisted & training required		18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.southampton.ac.uk/medicine/index.page?	Jenny Russell	442
F0004	Histochemistry Research Unit	The Unit has the facilities to process cells and tissue samples into a range of mediums including frozen, paraffin and resin for subsequent sectioning and staining by a variety of techniques. These methods include tinctorial staining for	Fully serviced		18 - SGH	FC - Infection, Inflammation and Immunity	9500 - South Academic Block	F5 - Faculty of Medicine	http://www.som.soton.ac.uk/research/sites/hru/	Susan Wilson	442

University of Southampton Database

Open Data Service beta

UNIVERSITY OF Southampton

#opensoton

- Open Data Homepage
- 5★ Data
- Frequently Asked Questions
- Apps
- Data Catalogue
- Places
- Phonebook
- Academic Programmes
- Organisation
- Research Facilities
- Jargon
- Points of Service
- Products & Services
- Bus Routes
- SPARQL Endpoint
- Feedback
  - Suggestions
  - Report a Problem
  - Register an App

University of Southampton • Open Data • Facilities • Facility: Nanomaterials Rapid Prototyping Facility

Share

Facility: Nanomaterials Rapid Prototyping Facility

http://id.southampton.ac.uk/facility/F0041 ← This is the URI

Building: Physics
Facility of: University of Southampton
Facility of: Physics & Astronomy

The NanoMaterials Rapid Prototyping Facility is a semi-cleanroom environment, equipped for the fabrication and analysis of NanoMaterials. The facility is designed to allow prototype Nano-devices to be quickly built and tested and is a collaboration between physicists, chemists, engineers, material scientists and industrialists to combine the successes of their disciplines to create entirely new ways of building on the nano-scale.

Contact: Zondy Webber +442380593936 z.webber@soton.ac.uk

©2010 François-Xavier Beckers (CC-BY)

Equipment

Wentworth Laboratories Probe Station (Fa 6 Probe Station Package R32/6 (S/N 2930))

A manual 8inch wafer prober with a Leica GZ4 stereomicroscope. Local ID: PH/01713

Contact: Zondy Webber +442380593936 z.webber@soton.ac.uk

Coherent Ar Ion laser (Direct Write System)

Ar Ion Laser (458nm and other lines). Beam diameter 0.08 to 1.25mm. Mounted to direct write lithography system. Local ID: PH/1895

Contact: Zondy Webber +442380593936 z.webber@soton.ac.uk

Nisha Printing Co Offset Printer

Offset flexographic printer. Local ID: PH/01793

Contact: Zondy Webber +442380593936 z.webber@soton.ac.uk

Zeiss Confocal Microscope (Direct write system)

A Zeiss confocal microscope system which is also capable of UV writing of samples. (HeNe - 633nm, GeNe - 543nm, UV - 351nm, Arlon - 458nm, and other lines)

uniquip

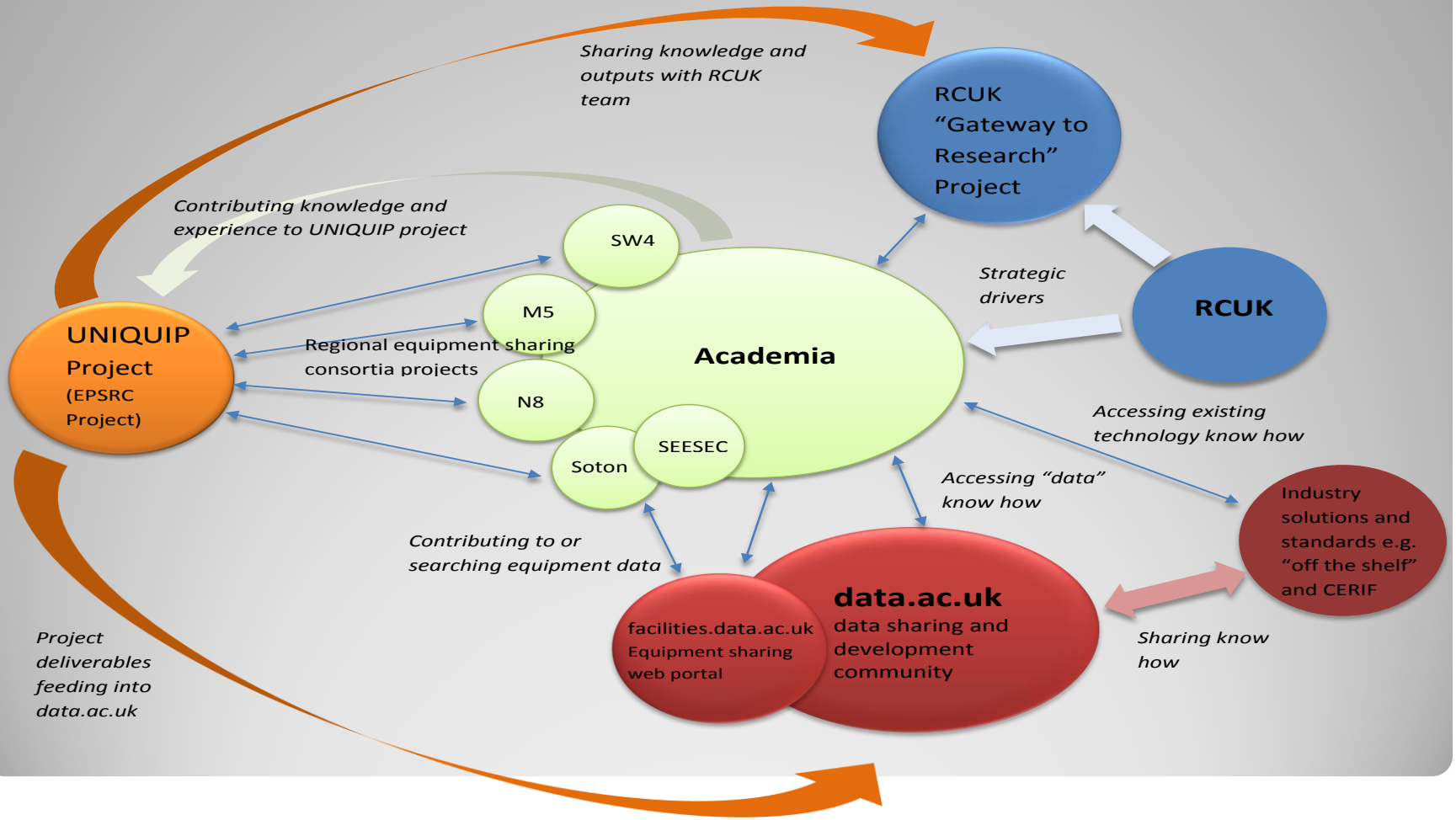
The early conversations:

- **How are we describing items** – The question of web semantics. What might we call our core data fields and are they the same?
- **How could we share data?** – If national database searching is to be achieved interoperability would be required. How could this be achieved?
- **Standardising extended descriptions** – Are we using any form of taxonomy or categorisation describing equipment group or techniques.

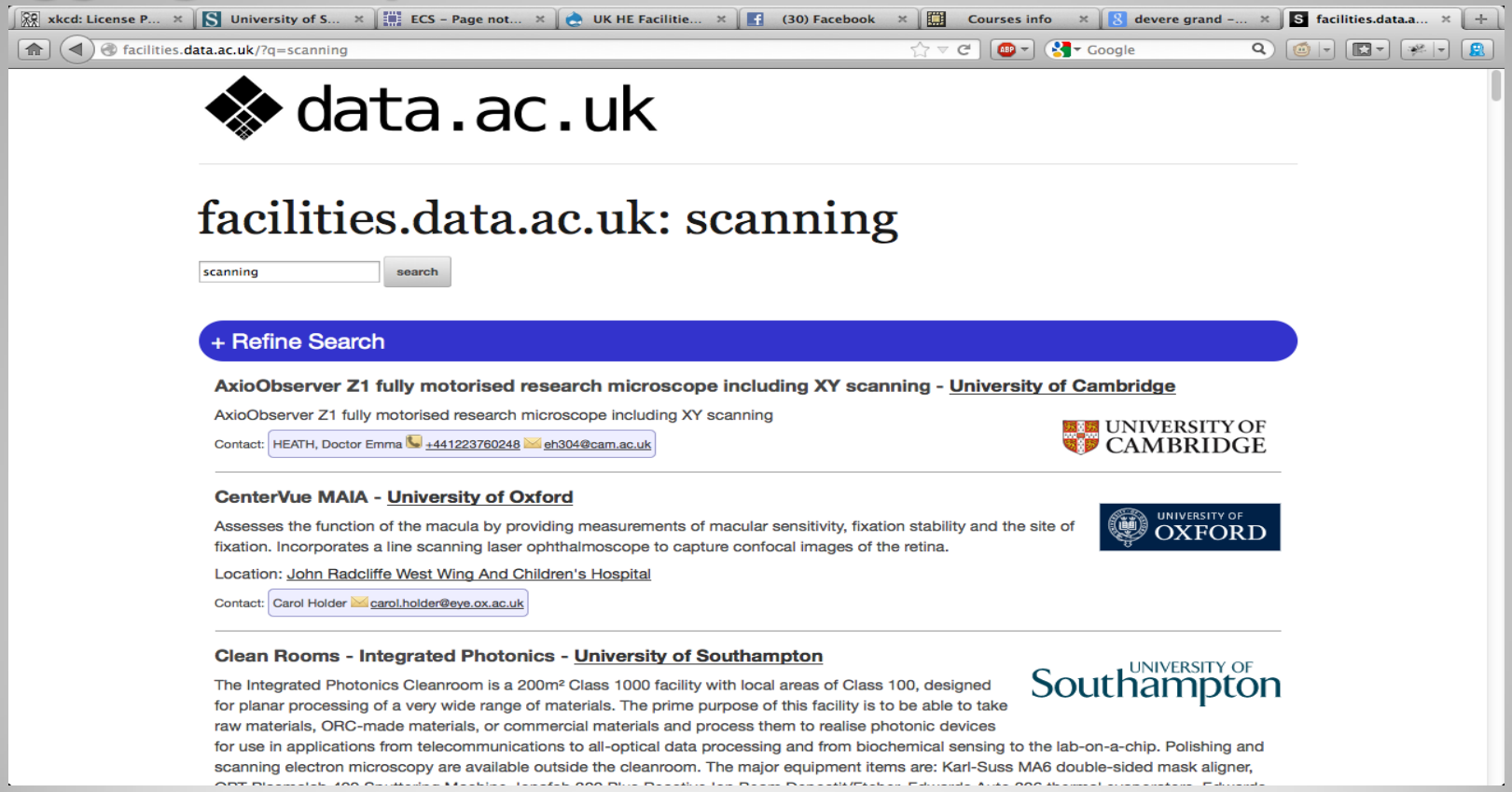
UNIQUIP Project aims:

- Facilitate discussion on standardisation
- Develop standardised guidelines for vocabularies
- Support technology development to enable sharing
- Enable early data sharing opportunities through wider engagement
- Aim to build a sustainable sharing network

Research data sharing landscape



"Proof of concept" for national equipment data aggregation portal

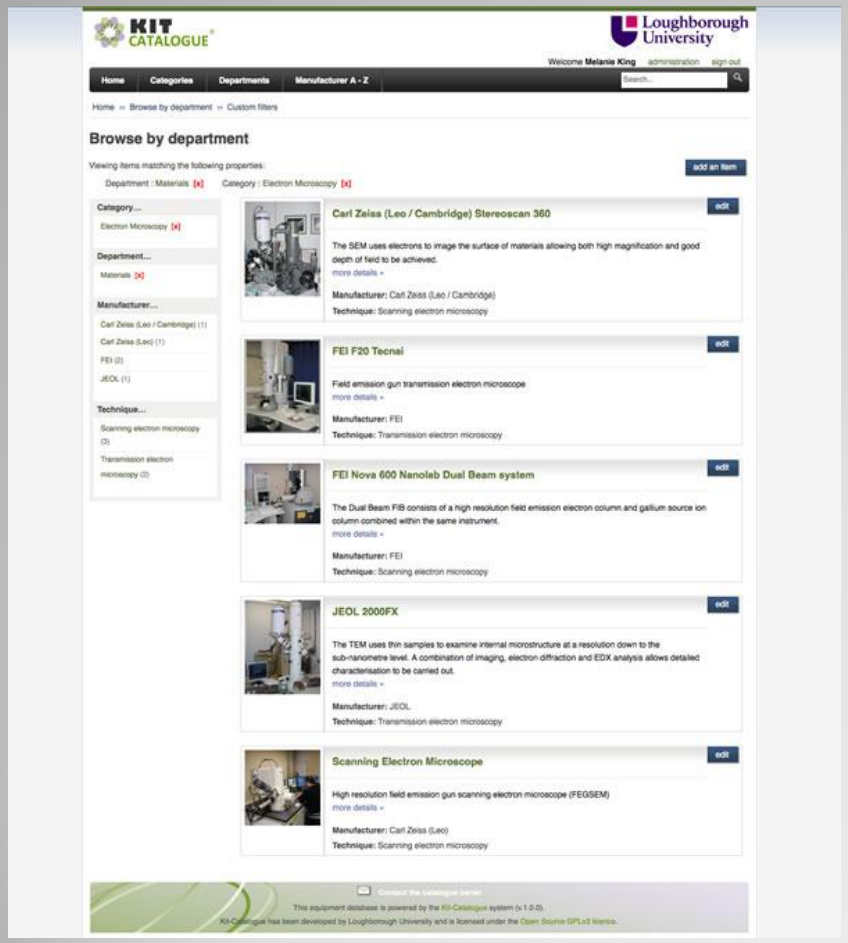


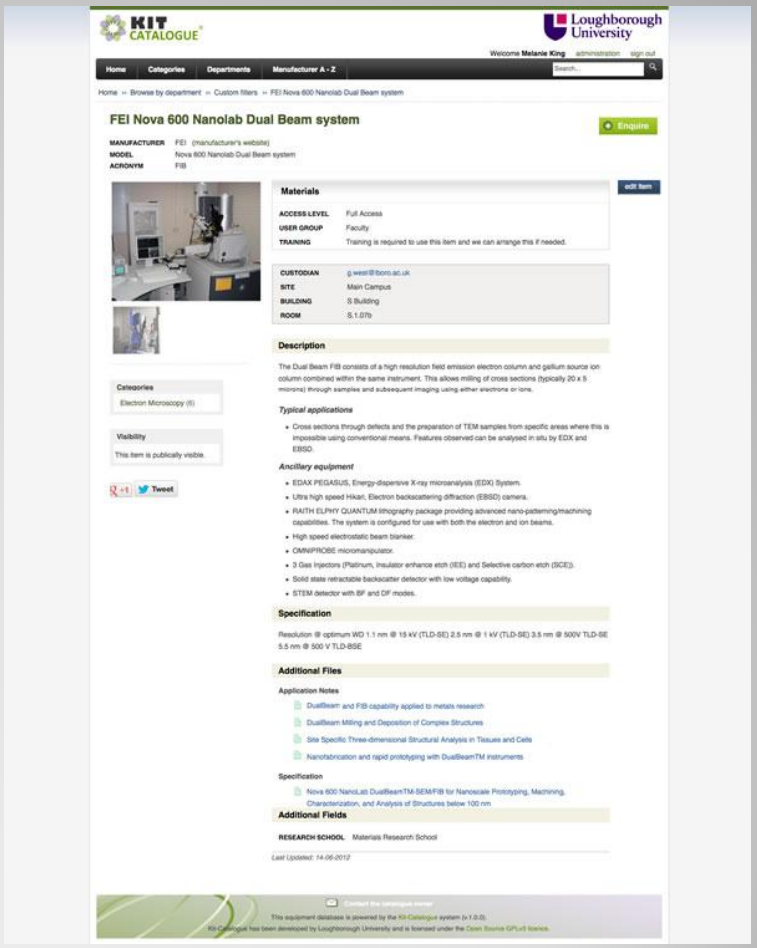
Loughborough University: Equipment database

http://equipment.lboro.ac.uk

- **Jan 2008** – Proposal made, by Prof Rachel Thomson, for a Materials Research School Equipment Database to Loughborough's Engineering Centre for Excellence in Teaching and Learning (engCETL).
- **Feb 2008** – Work begins to develop the database and catalogue the materials research school equipment (MySQL and PHP web based system).
- **Dec 2008** – The database is piloted with key stakeholders. The system is improved and expanded in response to academic and technician feedback.
- **Sep 2009** – Official launch of the Equipment Database. Over 800 items catalogued, complete with photographs and numerous supporting documents.
- **Mar – Nov 2011** – JISC fund the open source Kit-Catalogue™ Project.
- **Nov 2011 – present** – Loughborough continue to build upon the Kit-Catalogue system and support a growing number of UK HEIs adopters.

uniquip





KIT CATALOGUE®

uniquip

System features:

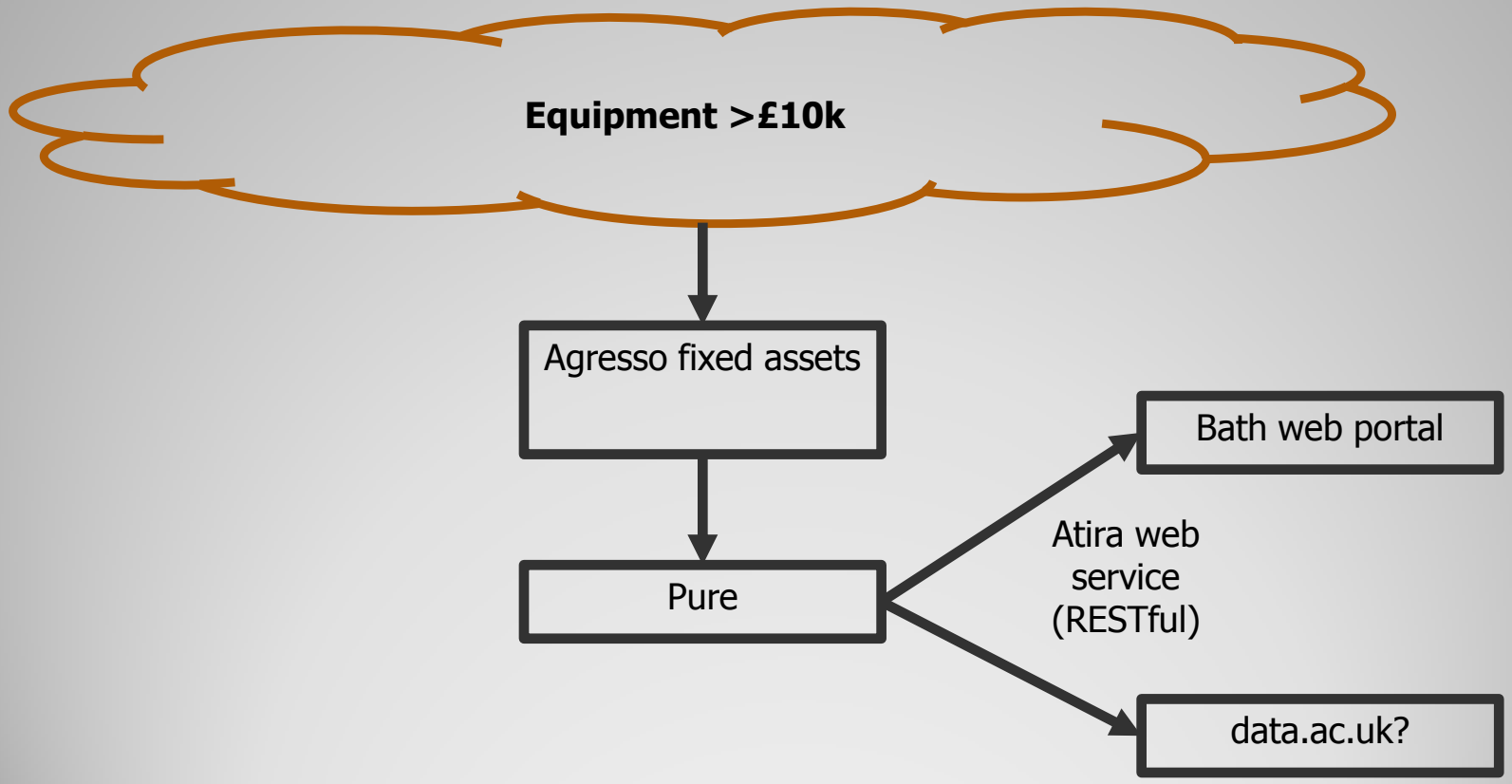
- Simply import and export equipment details from CSV spread-sheets.
- User friendly interface
- Add custom fields to satisfy specific institutional requirements (e.g. research schools, servicing dates etc.)
- Support for local configuration, styling and institutional logo changes to allow easy customisation of the software.
- Includes common authentication mechanisms by default. (Active Directory or Database)
- Open source implementation, so adopters are free to adapt and rewrite the code to satisfy any local considerations.
- Supports equipment classification using: CPV codes, free text categories, #tag groupings
- Community support from a growing number of Institutional adopters (~8+)

KIT CATALOGUE®

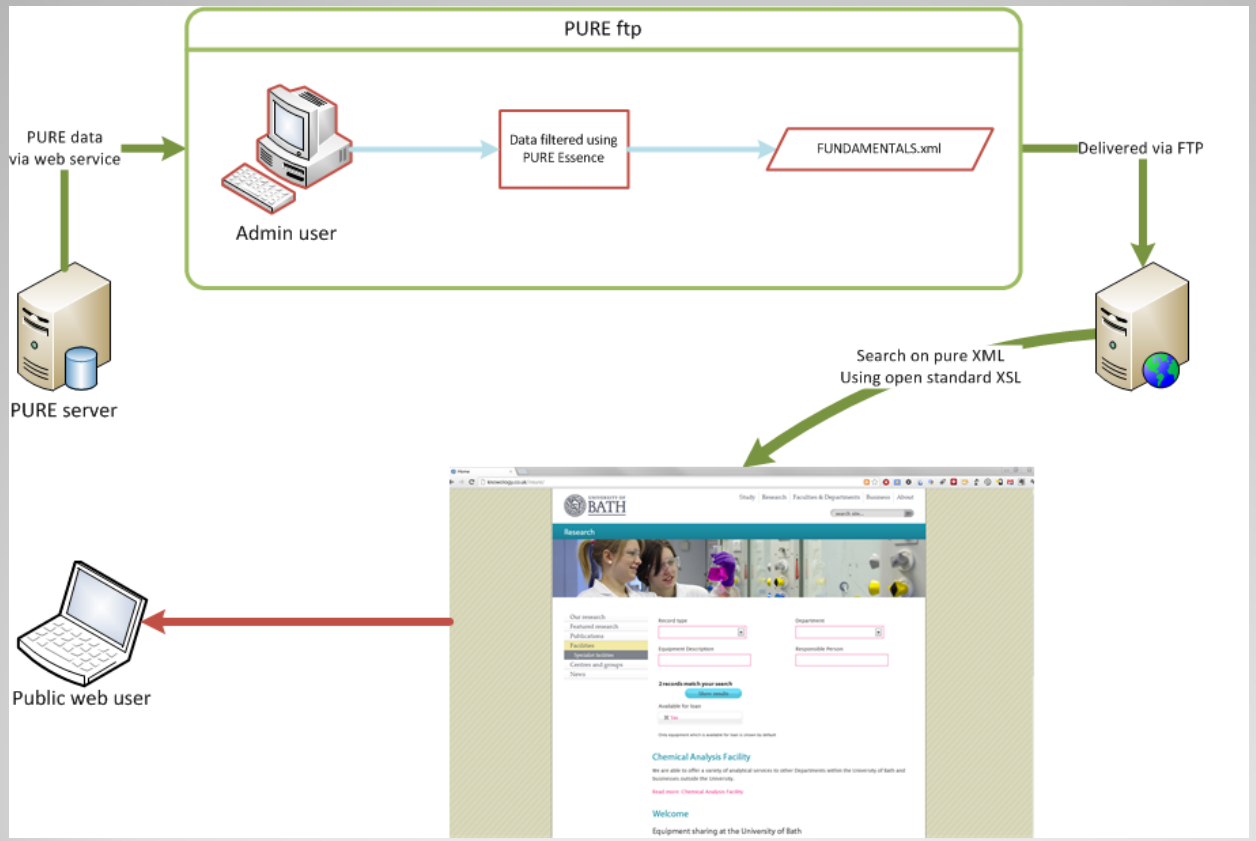
M5 Consortium Equipment Sharing

- Midlands consortium of research intensive universities; University of Birmingham, University of Leicester, Loughborough University, University of Nottingham, and the University of Warwick.
- Collaborating on equipment sharing both publically, and between the M5 institutions
- Working towards sharing of systems, expertise, policies and practice
- M5 working with Uniquip to benefit from community driven developments around equipment sharing initiatives.

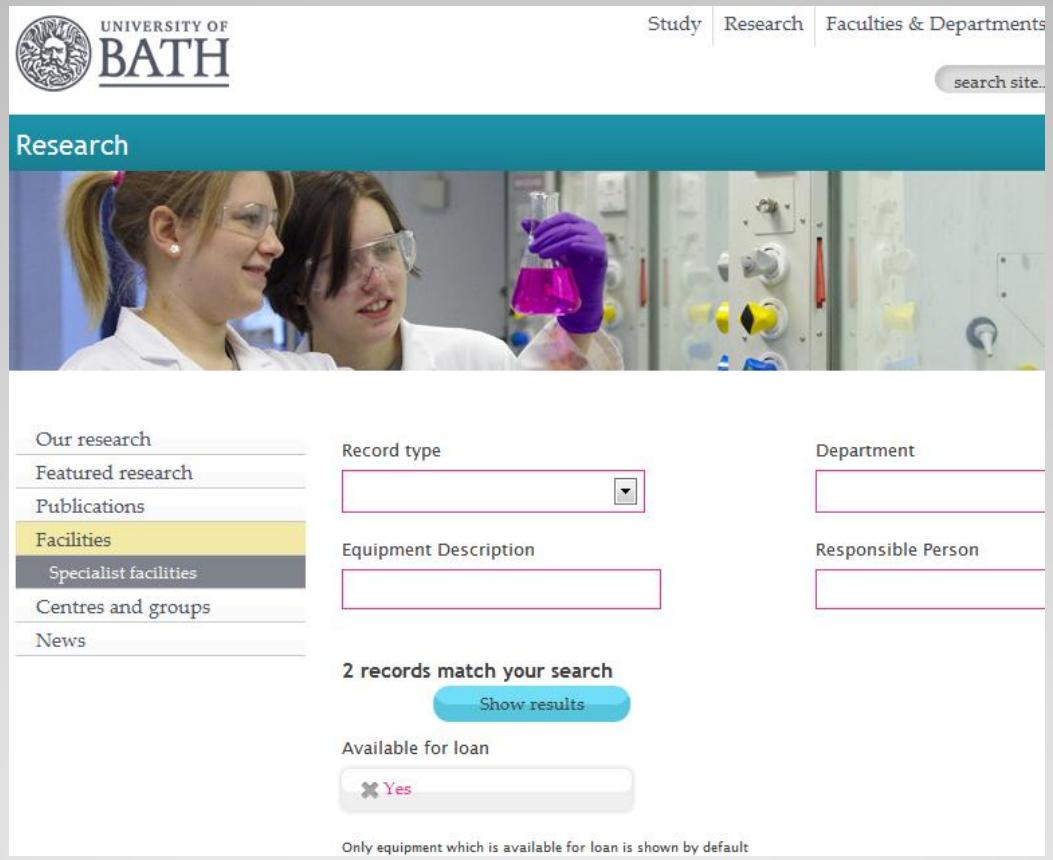
University of Bath



University of Bath



University of Bath



uniquip

University of Bath

1. Not “yet another database”
2. Existing Pure Web Service
3. On-going support for Agresso & Pure at Bath > sustainable
4. Capturing impacts and outputs from sharing?

University of Leeds – N8 Equipment database

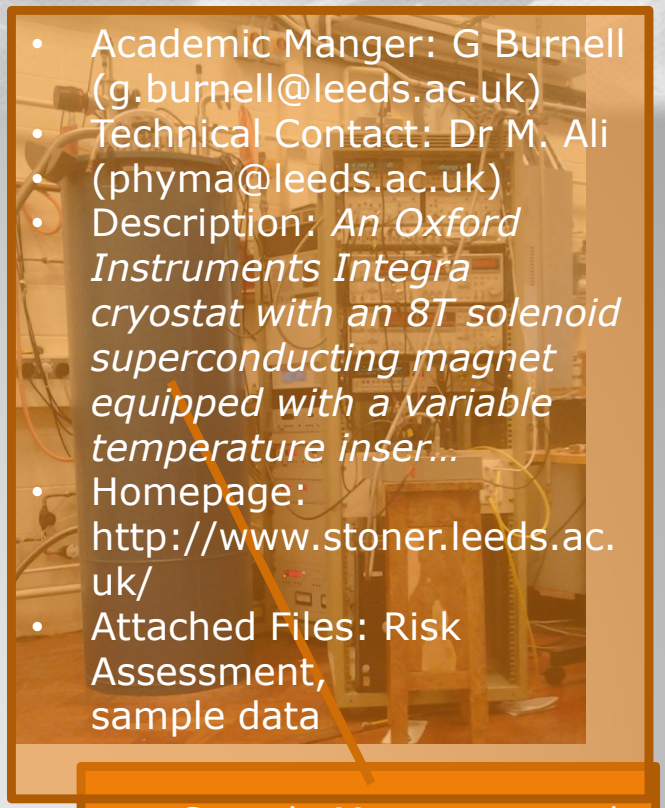
- N8 Research Collaboration project "**Sharing for Excellence and Growth"**
  - *Cultural barriers to sharing*
  - ***Technical needs** – shared data schema, functional classification, online equipment inventories*
  - *Business/costing models*
  - *Regional strategic view*

- Internal need for equipment inventory to be visible
  - Historically a finance and purchase office system
  - Massive data accuracy and relevancy problems
  - Not a rich source of information – bare minimum of asset details

uniquip

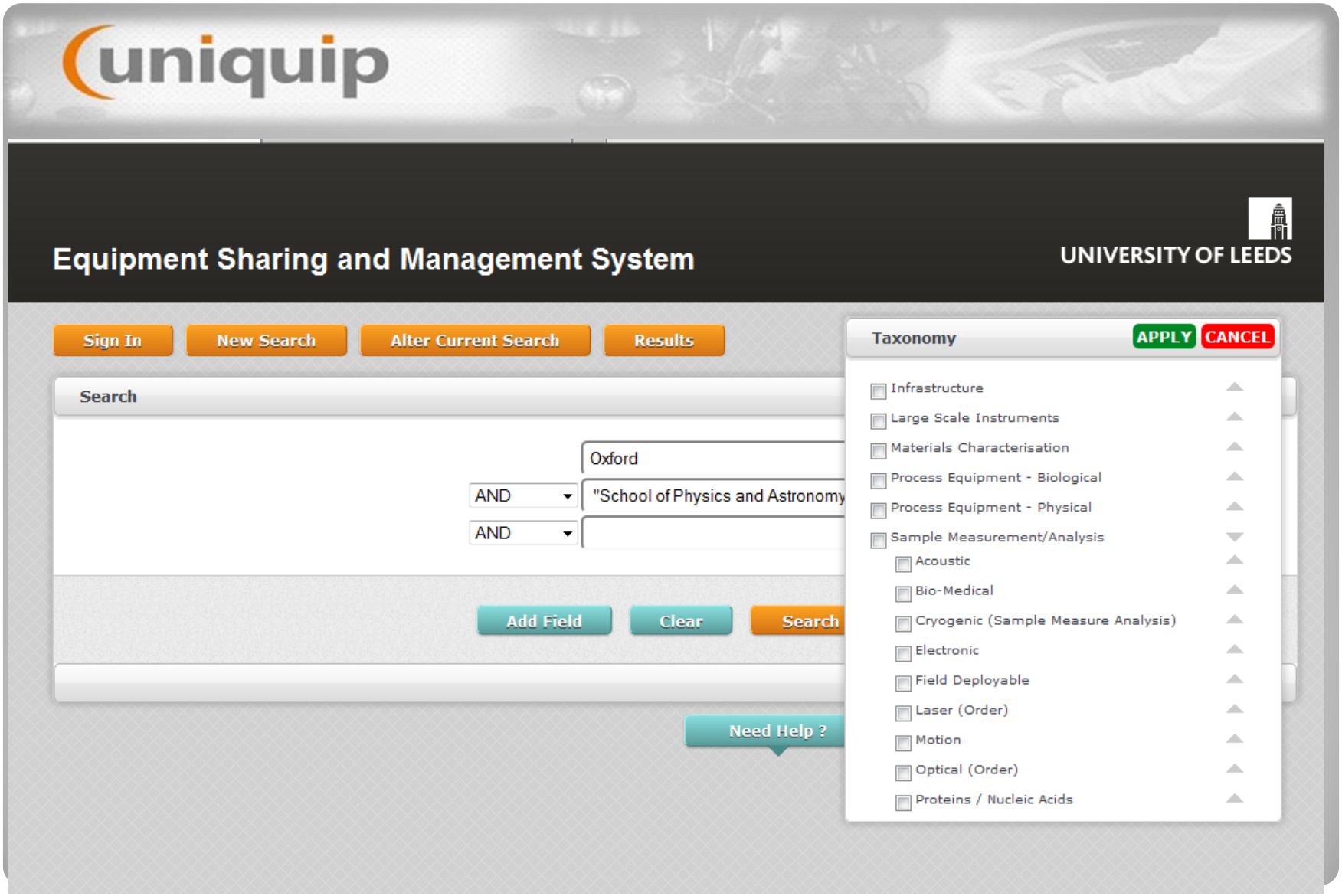
University of Leeds

- Develop a taxonomy that was relevant to researchers
- Engage with PI's, lab mangers to cleanse data and enrich
- Develop an architecture to present refreshed inventory online – links to corporate management information system



- Academic Manger: G Burnell (g.burnell@leeds.ac.uk)
- Technical Contact: Dr M. Ali
- (phyma@leeds.ac.uk)
- Description: *An Oxford Instruments Integra cryostat with an 8T solenoid superconducting magnet equipped with a variable temperature inser…*
- Homepage: http://www.stoner.leeds.ac.uk/
- Attached Files: Risk Assessment, sample data

- Sample Measurement / Characterisation
- Cryogenic
- 1.4K (continuous flow)


uniquip
Equipment Sharing and Management System
UNIVERSITY OF LEEDS
Sign In
New Search
Alter Current Search
Results
Search
Oxford
AND
"School of Physics and Astronomy
AND
Add Field
Clear
Search
Need Help ?
Taxonomy
APPLY
CANCEL
Infrastructure
Large Scale Instruments
Materials Characterisation
Process Equipment - Biological
Process Equipment - Physical
Sample Measurement/Analysis
Acoustic
Bio-Medical
Cryogenic (Sample Measure Analysis)
Electronic
Field Deployable
Laser (Order)
Motion
Optical (Order)
Proteins / Nucleic Acids

N8 Equipment database

- N8 Working to develop multi-institutional view of equipment inventories
- Build on existing standardisation of schema and taxonomy, develop common webservice standard to interrogate institutional inventories
- But UNIQUIP agenda vital to build systems beyond the regional silos.

Moving forwards….

- Establishing a common consensus
  - Publishing a core minimum data
  - Agreeing to publish openly
- Managing and promoting the standards
  - A role for UNIQUIP and data.ac.uk
- Generating the efficiencies
  - Establishing mechanisms to deliver the efficiencies

uniquip

Thank you