

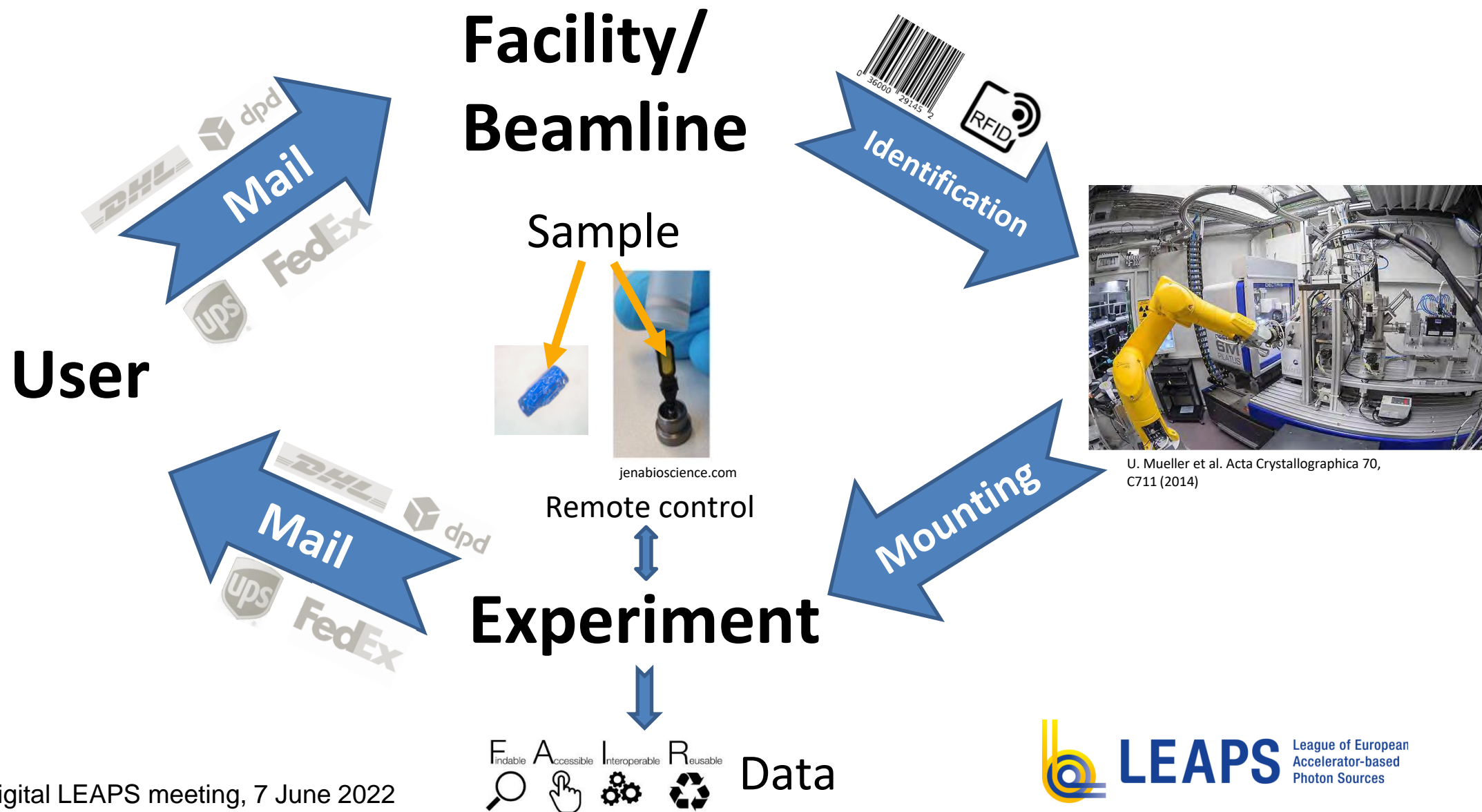


Digital LEAPS – STARS

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STARS – Sample Life Cycle



***STARS** – Surveying Technology for Advancing Remote Services*

One of the 3 pillars of Digital LEAPS

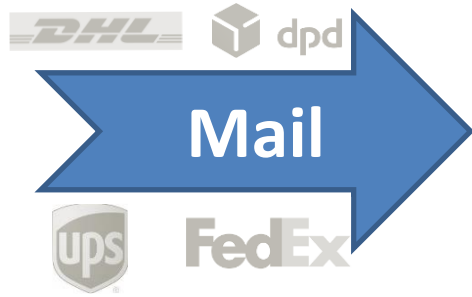
Objectives :

- Improve the facilities' service offer for automated and remote experiments by
 - sharing experiences on mail-in procedures, remote access tools and digital/automated sample handling;
 - considering the perspectives of IT experts, sample environment scientists, beamline scientists and user office experts .
- Foster the use of persistent sample IDs and meaningful sample metadata for the implementation of the FAIR data principles
- Pave the way for future standard solutions for digital and automated sample handling.

Distributed across 3 work packages:

- **WP1.1: Overview of procedures for mail-in sample handling (MailSamp)**
 - takes a look at the workflow that is needed to ship samples from the users to the facilities and then to the beamlines as well as their return to the facility of origin.
- **WP1.2: Overview of IT tools for remote access (RemAcc)**
 - will provide an overview of the different IT tools that help the users control their experiment at the beamline remotely.
- **WP1.3: Digital Sample Handling (DigSamp)**
 - covers different aspects needed for remote sample handling - from the identification of the individual sample to the automated mounting on the beamline.

STARS – WP 1.1: Overview of procedures for mail-in sample handling



One year duration (M1-12):

Task 1.1.1: Overview of mail-in sample handling procedures at LEAPS and LENS facilities

- Sample declaration
- Safety
- Tracking
- Shipment
- Experiment types
- Future perspectives

MailSamp questionnaire - structure

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<u>PART A: EXPERIMENT TYPES OFFERED and REMOTE SERVICES</u>	
1. Specific glossary of terms used in the survey	4. Fully Remote Experiments
2. Available Experiment Types at Your Facility	5. Financial
3. Remote Users	6. User Experience and Feedback
7. Outlook	
<u>PART B: MAILING SAMPLES</u>	
1. Software and Hardware Tools	4. Courier
2. Financial	5. Reception and return of samples
3. Transport administration and customs	6. Staffing
7. User Experience and Feedback	

Iterative process:
ESRF, ELETTRA and SOLARIS

- ☐ *all MailSamp members*
- ☐ *2nd version*
- ☐ *distribution*

MailSamp questionnaire - example

PART B: MAILING SAMPLES

Questions #29-32

1. Software and Hardware Tools

- Do you provide help (instructions, hints, auto-filling) to users for filling out the courier-specific documentation?
 - If yes, please share some details.
- For the samples being manipulated directly by the facility's staff, is there a different sample safety sheet provided to the users than the standard one available to visiting users?
☐ Yes ☐ No
- Is your tracking system directly linked with the Digital User Office (DUO, VUO, DOOR, GATE, UAS, etc) of your facility?
☐ Yes ☐ No ☐ Not applicable
- In your tracking system, do users need to fill out a different sample safety sheet than the one from the Digital User Office?
☐ Yes ☐ No
- If yes, where can the users find the instructions on how to do this?

MailSamp questionnaire – next steps

- We requested 1 answer per LEAPS member, i.e. 1 from DESY, 1 from PSI, 1 from Elettra synchrotron and FEL experiences together
- *LENS questionnaires received: ESS, ISIS, ILL, MLZ, SINO*
- Deadline for submission: June 3rd, 2022 **12 questionnaires received**
still missing: FELIX, MAXIV, SOLARIS, PTB, ESUO
- Summer 2022: data analysis
- September/October 2022: STARS workshop
- October: Report presentation @LEAPS Plenary meeting

Questions / Points for Discussion

- Who is responsible for sample management issues at your facility?
- Do you have issues with samples being blocked or delayed?
- Do you encounter many issues with customs, BREXIT, etc?
- What happens to experiments impacted by these delays or no-show of samples?
- Do you have an agreement/contract with a particular courier company? If yes, how did you negotiate the contact? Cost?
- Do you reimburse costs for shipping samples (equipment?)?
 - If yes, can you track the costs per experiment – how do you link the courier company bill with the experiment?
 - If yes, how do you limit costs related to value of samples if the user declares a high value?
- To what extent do safety considerations limit the implementation of mail-in workflows?
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MailSamp questionnaire – experiment types

- Vivid internal discussion on...**definitions** ! Outcomes:
 - now also STARS WP1.3 AutSamp uses the **same terms**
 - In MailSamp, we described 8 „Experiment types“ with no labels on them

Expt Type	Users participate onsite ?	Users participate remotely?	Samples sent to the facility?	Users control beamline and take data?	BL staff run experiment and take data? *	Notes
#1	No	No	Yes, must be	No	Yes	Full service provided by BL staff - instructions provided beforehand by users.
#2	No	Yes, all	Yes, must be	Yes	No: (automation)	Implies level of automation, maybe samples loaded by BL staff.
#3	No	Yes, all	Yes, must be	Yes	No: (sample manip)	Significant sample preparation or manipulation by BL staff.
#4	No	Yes, all	Yes, must be	Yes	Yes	Control and data taking shared between user team and BL staff as required.
#5	No	Yes, all	Yes, must be	Partially	Yes	As above but users not given full control, some limitations applied.
#6	No	Yes, all	Yes, must be	No	Yes	Users only observe results (e.g. Zoom) and make decisions, no direct control.
#7	Yes, at least one	Yes, at least one	Can be	Yes	No	Users onsite and in charge but with some users participating remotely also.
#8	Yes, all	No, none	Can be	Yes	No	Users onsite and in charge - traditional.

We asked Facilities to report

- Whether **they have** such exp types
- Whether they **wish to keep them** in the future
- If they **have “other”** exp types to describe