Harmonising standardisation strategies to increase efficiency and Competitiveness of European life-science research - CHARME
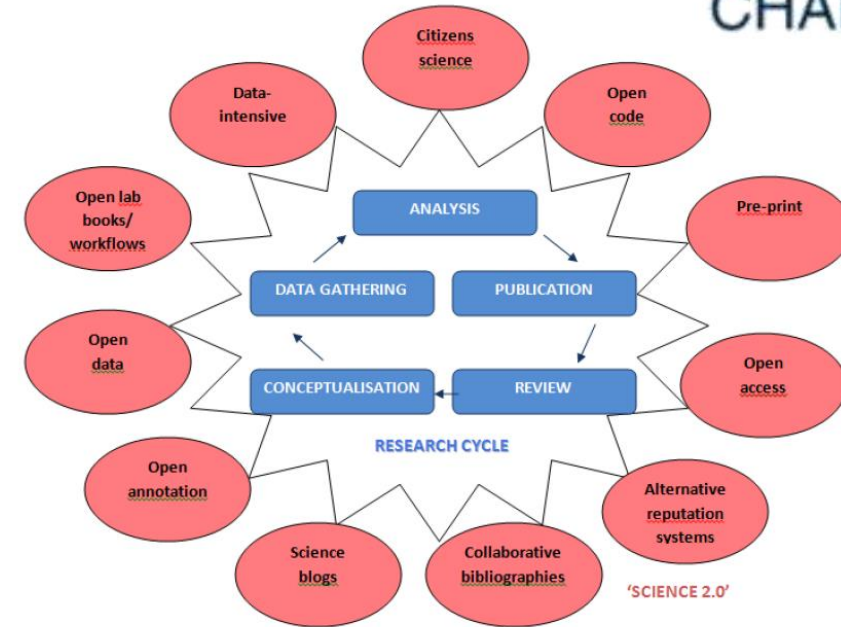
Coordinator: Susanne Hollmann, University of Potsdam
March 2016 – 2020

WG5: Kristina Gruden

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COST Action CA15110

CHARME – aim

- addressing the problem of
  - Low reproducibility of the results
  - Reuse of data
  - Linking the data

- Towards the **FAIR** data and **OPEN** science

CHARME – objectives

strategy development for a cross-cutting education and training concept

creation of a network for all relevant stakeholder groups involved in standardization

strategy development to enforce the implementation of standards and SOPs

strengthening of innovation creation and technology transfer

CHARME organisation - 6 interacting Working Groups

WG 6 Management

WG 1 Community / Platform building

Building a network of experts from academia and industry

WG 2 Innovation and technology transfer

Development of an Action Plan for quality manage-ment and standardization

WG 3 Implementation

Design, implementation, and incorporation of software solutions

WG 4 Dissemination & Exploitation

Development of a coherent implementation strategy

WG 5 Education

Knowledge transfer into educational purposes

WG5: Education & Training

Cochairs: Kristina Gruden, Marcus Frohme

Education in standardisation/open science: Objectives

- to identify gaps and bottlenecks in **training for quality management** in the data generation/data integration/implementation value chain
  - to identify and report on the gaps and bottlenecks **in the current education** and training system

- to **create** appropriate **capacities** for a standardisation strategy, and establish training activities to **close the knowledge gaps** by interdisciplinary training
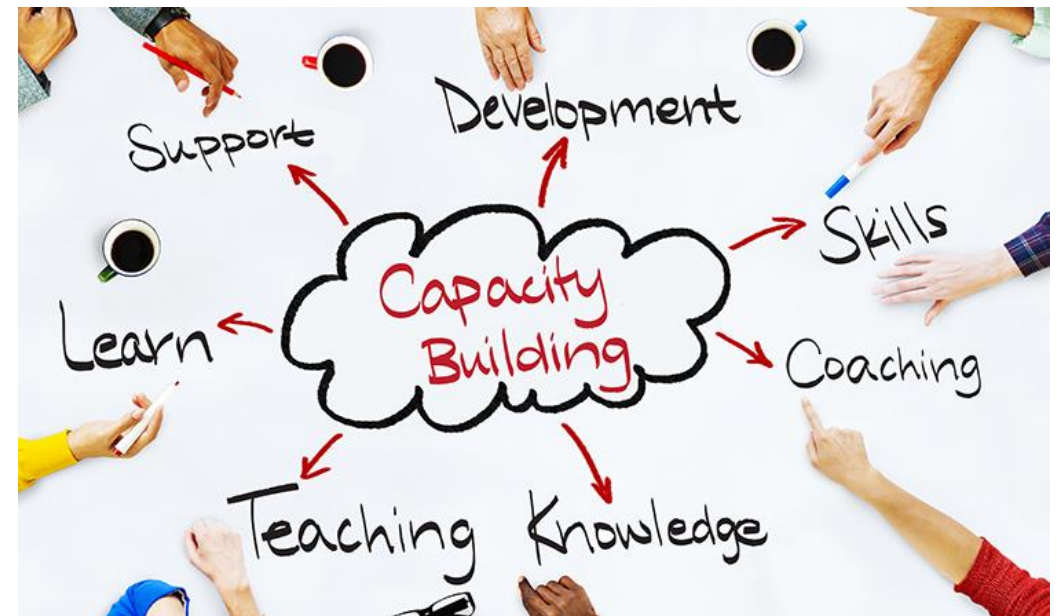
What are our target groups?

- Develop concepts for integration of standardisation into existing undergraduate education programmes

- Train also all other levels of researchers from PhD students, ESRs to PIs

- Include policy makers, ministries + top level boards at universities/research institutes

- Standardization bodies – they need to consider also education

- engage industry: how? advertising at conferences, engaging on undergraduate level

CHARME WG5 Road map

1. **Define teaching/training strategies:**
   - which are our target groups: revise/update the list
   - who do we need to engage: to get it done efficiently and assure implementaion
   - in line with available resources
   - how to make them sustainable

   - **first target undergraduate courses** (materials for professors,….)

CHARME WG5 Road map

2. On line support:

- General info on Wikipedia: local languages

- Teaching material on line: based on interesting use cases, add to coursera and/or use the infrastructure of GOBLET, Elixir TeSS

  - List of relevant training/educational events: *partially covered by ERANet SysBioApp, Corbel, ISBE, GOBLET*

  - SOPs exchange platform

CHARME WG5 Road map

3. Face to face meetings:

- Workshop to prepare teaching material: Coursera course(s), train the trainers (professors)

- Workshops for SOP writing

- Workshop(s) for the end users:
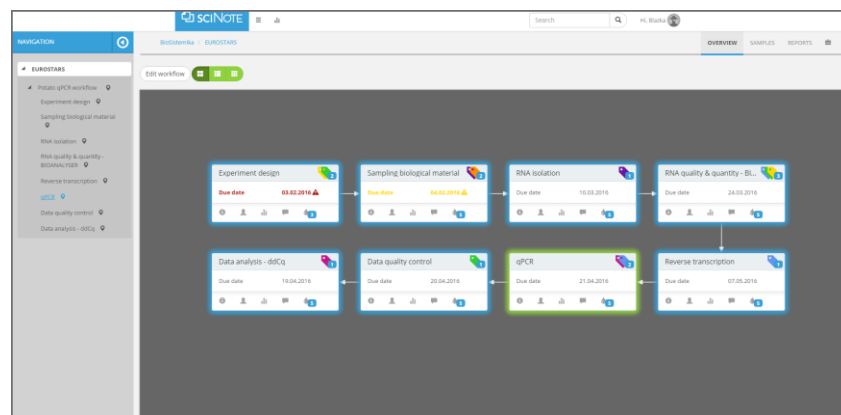 - Eg How to implement OpenScience principles in daily research

Example:
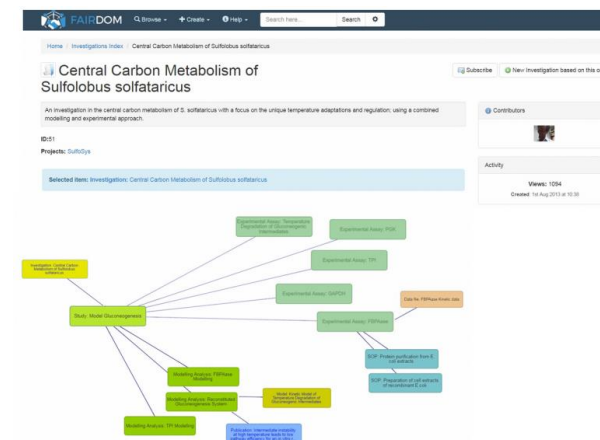## Open science implementation training
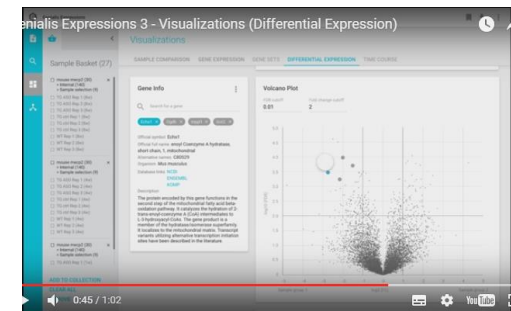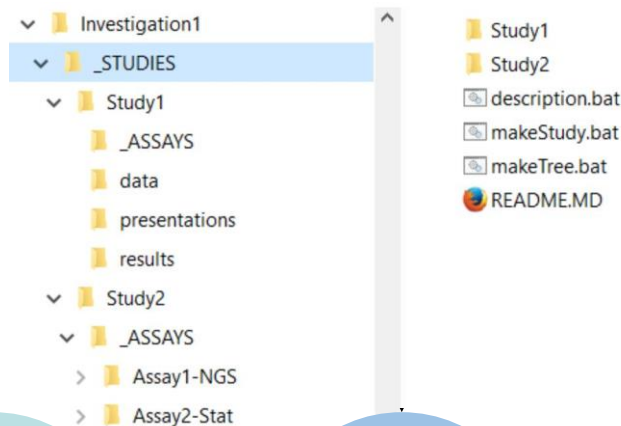
Example:
Open science implementation training

SciNote:
electronic lab notebook:
workflows, QC data

pISA tree
me...
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...its,
protocols
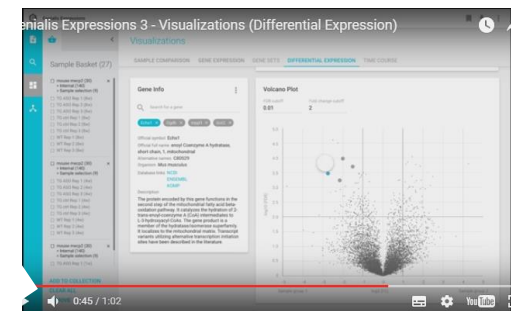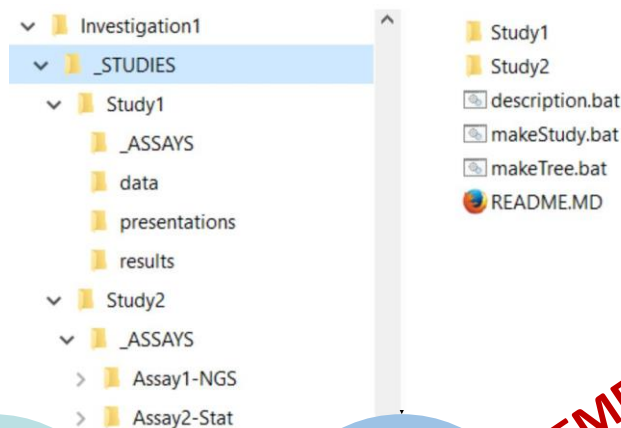
QUALITY CONTROL MANAGEMENT

Data analysis pipelines/ visualisation

FAIRDOM

Templates, data deposit

Publishing
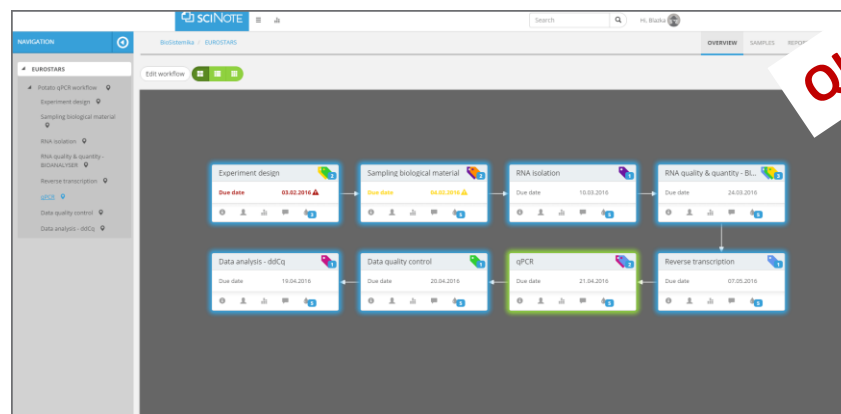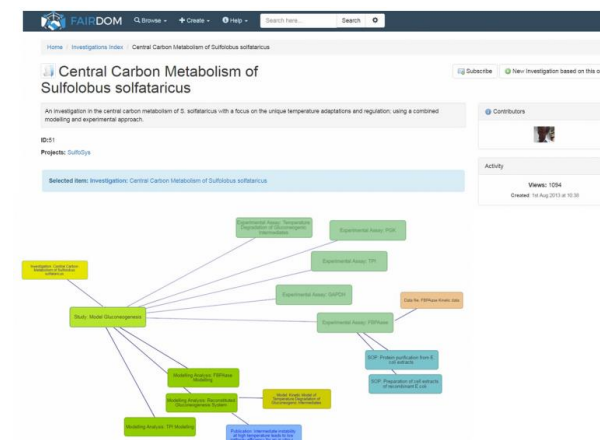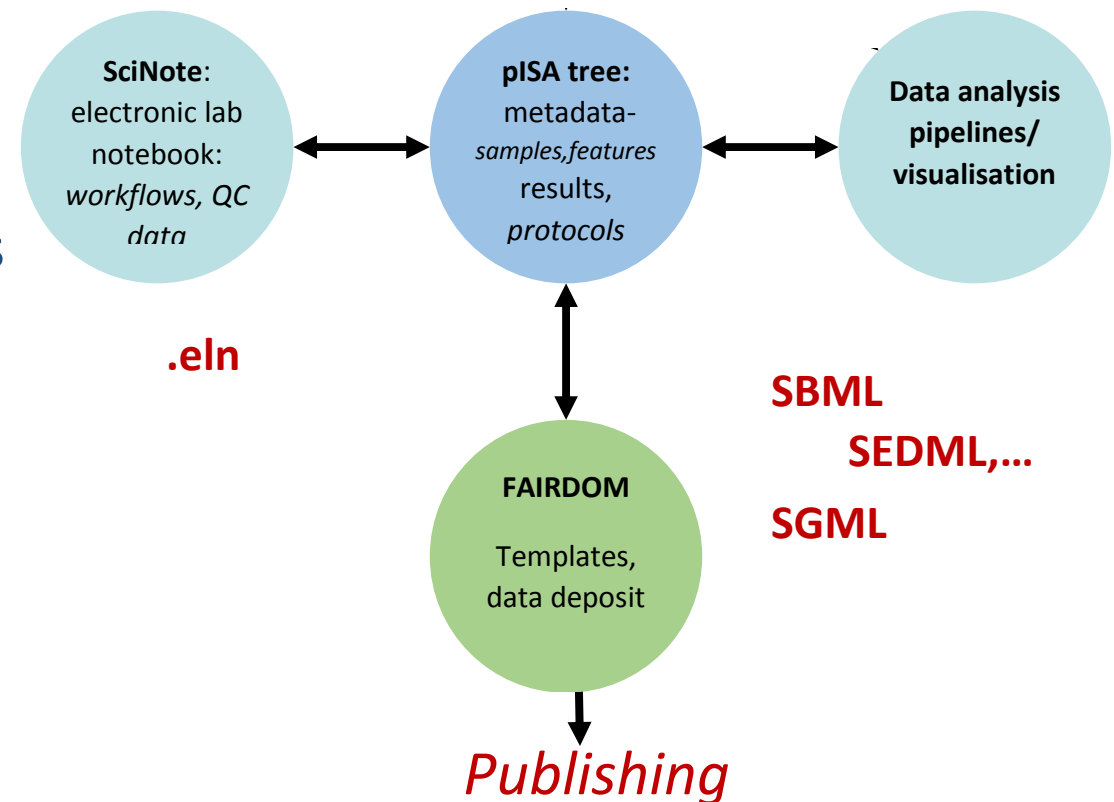
Example:
Open science implementation training
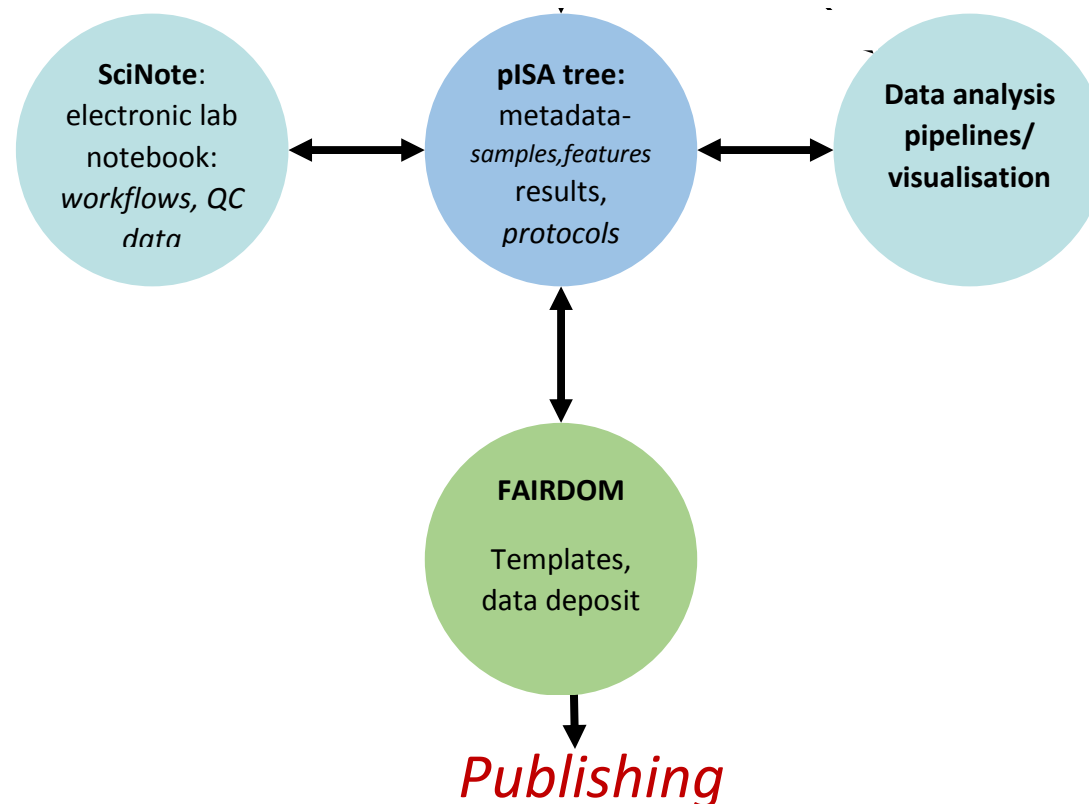
- All tools (*FairDomHub, pISA tree, SciNote*) open source/freely available

- All build upon isa-tab format

- All following standards at the level of assays *(MIQE, MIRIAM, MIAME, MIAPE...)* and samples description *(MIAPPE)*

- *In line with discusions in FP7 Excelerate*

- Fully exchangable:
  - Templates (SEEK)-metadata (pISA tree)
  - Protocols(pISA tree)-workflows(SciNote)
  - Supporting standardised export/import formats

SciNote: electronic lab notebook: *workflows, QC data*

.eln

pISA tree: metadata-*samples, features* results, *protocols*

Data analysis pipelines/ visualisation

SBML
SEDML,...
SGML

FAIRDOM Templates, data deposit

Publishing

Example:
Open science implementation training

1. Workshop to prepare the materials

2. Workshop to test the materials

3. On line courses

SciNote: electronic lab notebook: *workflows, QC data*

pISA tree: metadata- *samples,features* results, *protocols*

Data analysis pipelines/ visualisation

FAIRDOM Templates, data deposit

Publishing

THANK you FOR your ATTENTION!

CHARME – general info

- Annual meetings

- Workshops /training schools on the topic

- STSMs

- More info/news @ http://www.cost-charme.eu/