The ELIXIR Training Platform:
ELIXIR's approach to tackle the digital skills gap

Celia van Gelder (DTL/ELIXIR-NL) , Pascal Kahlem (ELIXIR-Hub),
Fotis Psomopoulos (INAB-CERTH/ELIXIR-GR)

e-Infrastructures Reflection Group Workshop
25-26 May 2020, Zagreb, Croatia
www.elixir-europe.org

Outline

- Introduction to ELIXIR

- ELIXIR Training Platform

- ELIXIR & Policies related to digital skills

  - What was/is helpful

  - What could be useful/is needed

- ELIXIR & digital skill building - some final thoughts

ELIXIR: an intergovernmental organisation focused on biological research data

Data infrastructure for Europe's life-science research:

22 Members and **1** Observer, hence **23** Nodes

~ 220 institutes involved

700+ staff

18 Core Data Resources

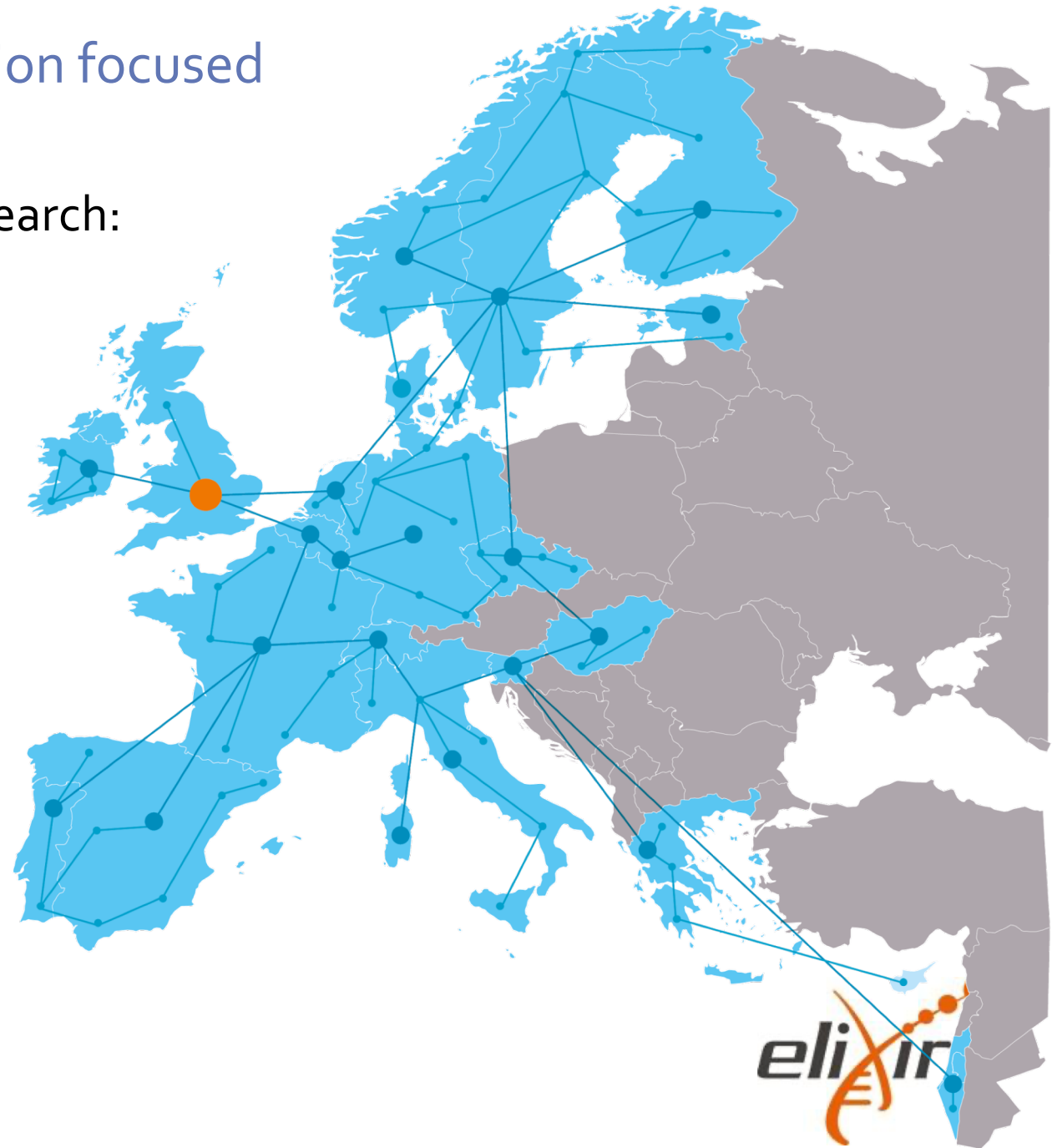**10** Recommended Interoperability Resources

12 Deposition Databases

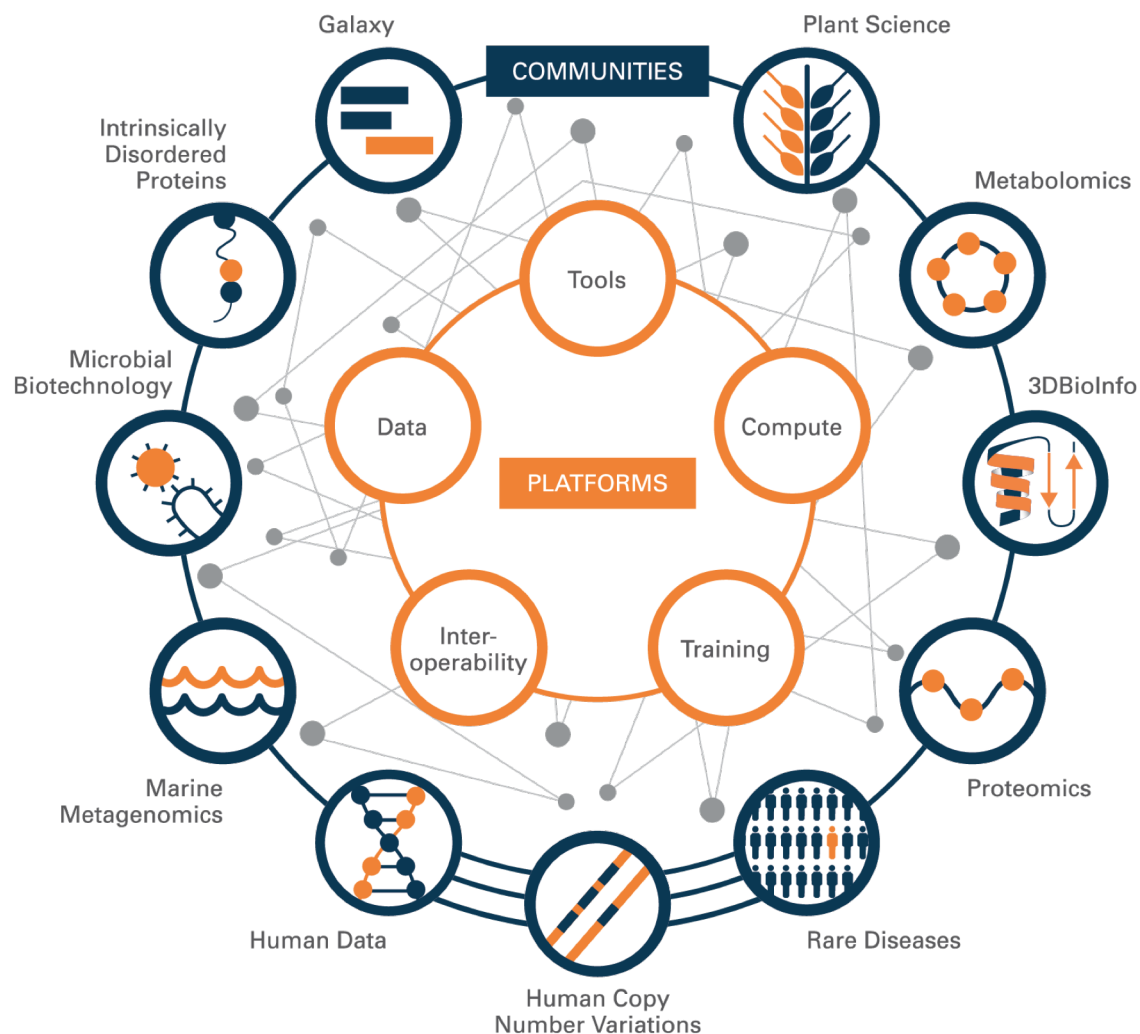**38** Commissioned Services (ELIXIR-funded) ongoing

29 papers in ELIXIR's "F1000 Gateway"

~ 300 upcoming events in TeSS, the Training Portal

400 companies attended the Innovation and SME programme

ELIXIR's structure

Five technical Platforms (*technical domains of implementation*) for Data, Tools, Compute, Interoperability and Training
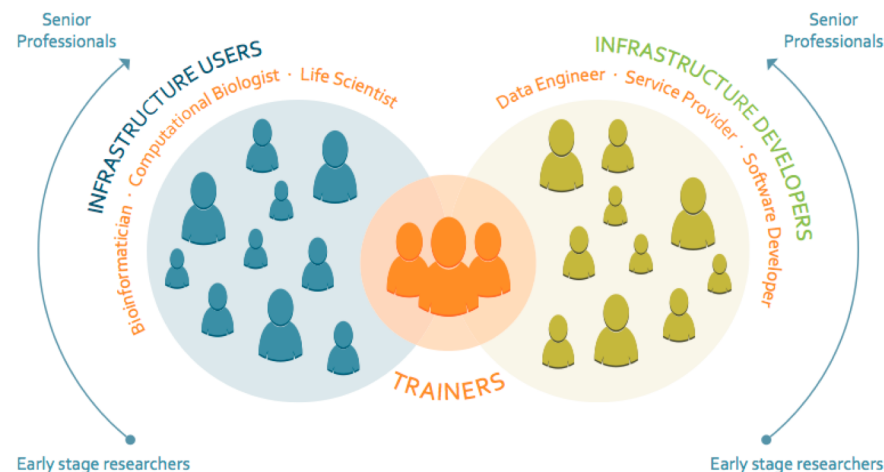
Bioinformatics service development is driven by eleven Communities (*or 'Use Cases'*)

ELIXIR's Training Platform:
Professional skills for managing and exploiting data

- Establish **sustainable training infrastructure** supported and adopted by all ELIXIR Nodes

- Deliver a coherent, high-quality and impactful **ELIXIR training program**

- **Building on and complementing** training programmes in ELIXIR Nodes

19 Nodes involved: BE, CH, CZ, DE, EBI, EE, ES, FI, FR, GR, IL, IT, LU, NL, NO, PT, SE, SI, UK

https://elixir-europe.org/platforms/training

Training Platform co-leads:
Fotis Psomopoulos (INAB-CERTH), Celia van Gelder (DTL)
Training Platform Coordinator: Pascal Kahlem

ELIXIR Training in 2019 - Summary

- **ELIXIR-badged Training events** – for researchers, developers, infrastructure operators & trainers

1000+ training events, **23,000+** people trained from **60+** countries, **2870+** days of training
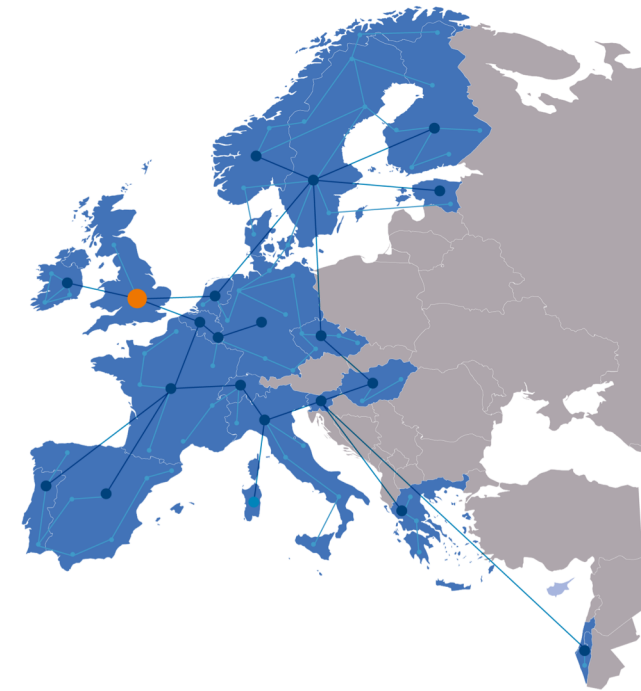
Sept 2015 – October 2019

- **Train-the-Trainer** – Programme consolidated and available for use; ELIXIR Trainer Pool steadily growing.

- Flagship Training portal **TeSS –** Recognized in- and outside ELIXIR as a solid approach to catalogue and share training events and materials (https://tess.elixir-europe.org/)

- **ELIXIR Training Toolkit -** Training best practices, guidelines for trainers, standardized metrics for quality & impact assessment

- **E-learning platform**

Introducing ELIXIR-CONVERGE

- Aiming to connect and align ELIXIR Nodes to deliver sustainable FAIR life-science data management services

  - All ELIXIR Nodes involved, individuals from 34 different organisations across Europe

  - 3 years funding (2020-2023), €5 million

  - Project start date: 1st February 2020

ELIXIR-CONVERGE Objectives

1. Develop a sustainable and scalable operating model for transnational life-science data management support by leveraging national capabilities

2. **Strengthen Europe's data management capacity through a comprehensive training programme delivered throughout the European Research Area**

3. **Align national data management standards and services through a sustainable, scalable and cost-effective data management toolkit**

4. Align national investments to drive local impact and global influence of ELIXIR

WP2: Training & Capacity Building

O2.1: Build a comprehensive, interconnected and sustainable ELIXIR Training and Capacity building programme in Data Management across all Nodes

O2.2: Connect the activities in the ELIXIR Training and Capacity building programme in Data Management sustainably to the national roadmaps of the Nodes

O2.3: Establish high level of Data Management and Data Stewardship knowledge and expertise across ELIXIR Nodes

ELIXIR & Policies related to digital skills

- ELIXIR is an infrastructure of global significance
- ELIXIR has a long standing collaboration with the OECD

But

  - ELIXIR is not a policy-setting organisation

However, ELIXIR :

- is intergovernmental and hence provides a pan-European perspective
- regularly provides input into policies being developed by other organisations on subjects relating to open data and data management
- has a mandate from the ELIXIR Member countries
- can act as a collective voice for the community and raise issues
- works to define and implement community standards
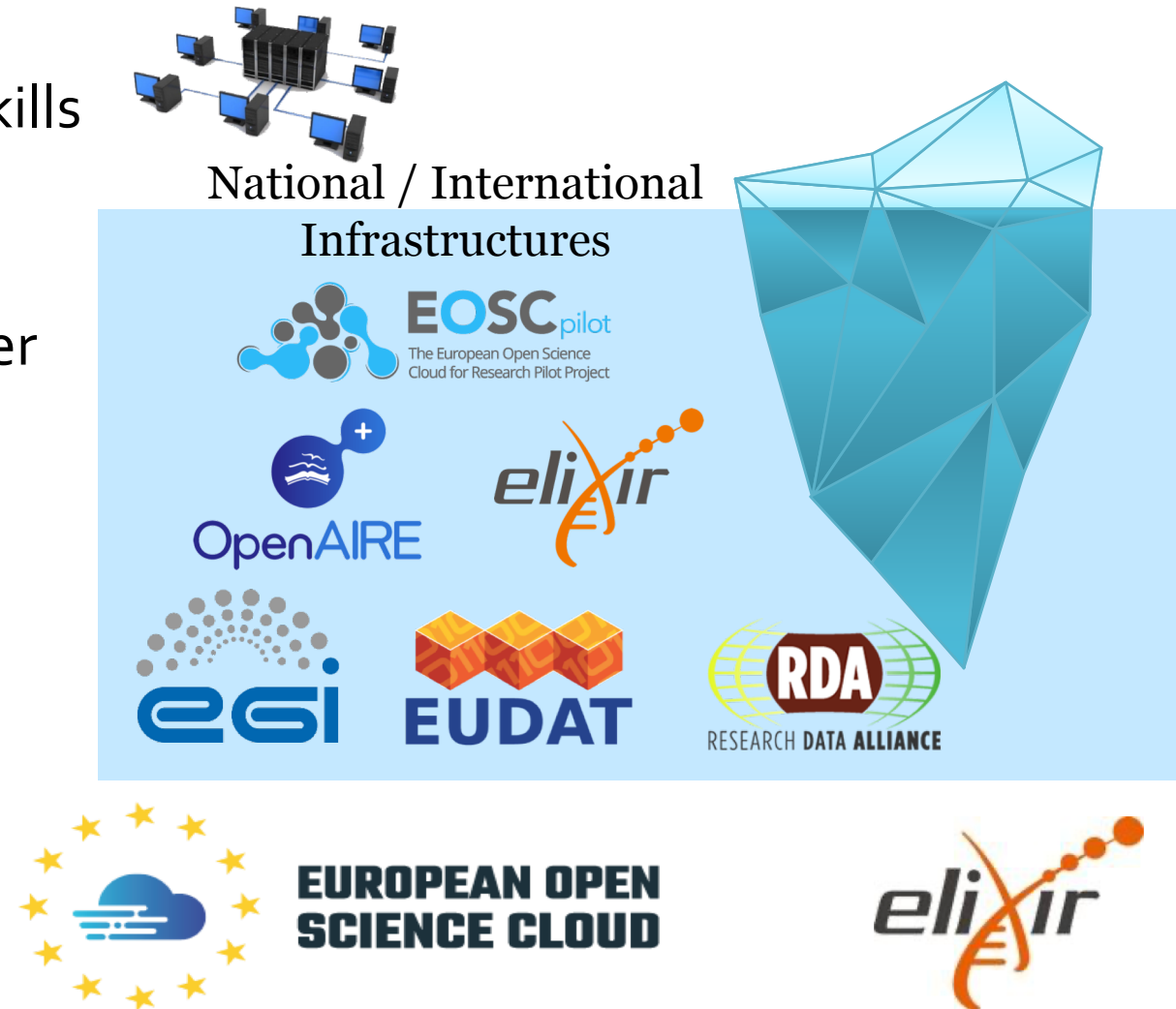- is a trusted partner for other international organisations, initiatives and projects

- Obligatory Software and Data Management Plans
  - … researchers are "forced" to think about their digital skills and about improving them … but areas like training and software are under-represented in current data management policies
  - ERC recommends ELIXIR Deposition Databases & ELIXIR Interoperability Resources

- FAIR principles
  - Skills are required to implement FAIR both for data and software

- GDPR - i.e. "you need a plan for handling data"
  - Created awareness about the value of personal and other sensitive data and the skills needed to take good care of the data

- EOSC is here

  - Endorses the FAIR principles

  - We need to be ready and we need the skills for both the EOSC experts and the EOSC users

  - This "forces" everybody to work together

    - e.g. ELIXIR is leading EOSC-Life (EOSC for the Life Sciences)

The EOSC Skills and Training WG is addressing both the digital skill set and the organizational structures necessary to support it.

National / International Infrastructures

EOSC pilot
The European Open Science Cloud for Research Pilot Project

OpenAIRE

elixir

egi

EUDAT

RDA
RESEARCH DATA ALLIANCE

EUROPEAN OPEN SCIENCE CLOUD

elixir

ELIXIR, Data Stewardship and Data Steward Roles in the Data Steward Landscape

- **Data Stewardship**
  - Responsible planning and executing of all actions on digital data before, during and after a research project, with the aim of optimizing the usability, reusability and reproducibility of the resulting data
- Data Steward Policy
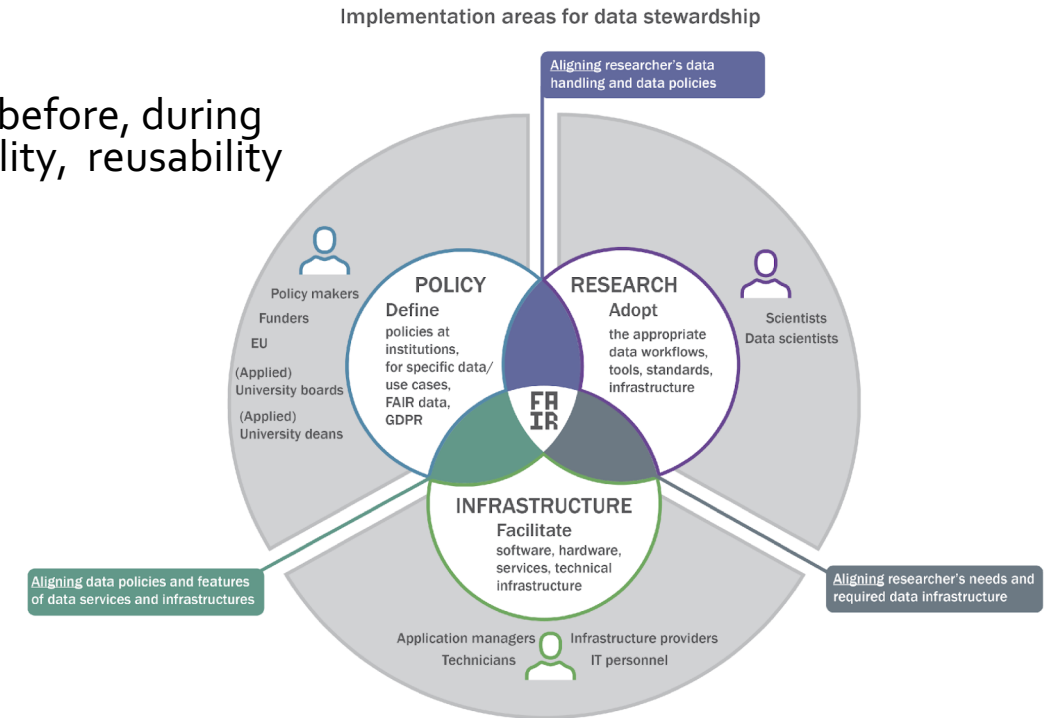 - institute and policy focused
- Data steward Research
  - project and research focused
- Data Steward Infrastructure
  - data and e-infrastructure focused

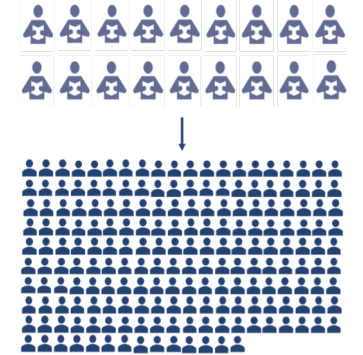- ZonMw & ELIXIR-NL funded project "**Towards FAIR Data Steward as profession for the Life Sciences**"
  - All project output
  - Skills and competency framework for the 3 data stewardship roles

Implementation areas for data stewardship

- **Serious investment in capacity building programmes**
  - Developing and delivering training courses takes time!
  - Training should not only be an afterthought in research projects
  - Skill building is necessary (Researchers, RSEs, Data Stewards, etc)

- Enhance **awareness creation** for researchers and citizens and work towards **lifelong learning**
  - Start early: Secondary education level
  - Join forces with all stakeholders, divide responsibility and make Lifelong Learning a reality together
  - Bridge the gap between the experts and the users!

- Establish a **network of digital research support** desks throughout Europe

- Connect to **Industry**

ELIXIR and digital skill building - some final thoughts

- Many of the activities that are needed have more **social** and **cultural** challenges than technical challenges
  - Lifelong learning
  - Training vs education

- **Transferable skills** are particularly important to be able to **bridge the gap**
  - Soft skills programmes are dispersed and embedded in organisations
  - Soft skills programmes are not the most likely to get significant funding

- New professions (e.g. data steward) need **proper career path and perspective**
  - Otherwise they will leave for more attractive and rewarding careers in the private sector (e.g. data analyst)

- **Generic/domain-agnostic versus Domain-specific training**
  - We need both; it is a spectrum
  - For our LS data stewardship matrices: No specific LS terms in there yet.
  - EOSC is here: we need to train EOSC experts and EOSC users
    (ELIXIR is coordinating EOSC-Life project)

Acknowledgements

- **ELIXIR Training Coordinator Group (TrCG)**
  Training Coordinator of each ELIXIR Node plus the subtask leaders of the EU-funded ELIXIR-EXCELERATE project
- **ELIXIR Training Community**
- **ELIXIR Hub**

https://www.elixir-europe.org/platforms/training

Thank you!