

ELIXIR

Handbook of Operations



May 2019

The ELIXIR Handbook of Operations is available at:
<https://elixir-europe.org/about-us/governance/handbook-operations>



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ELIXIR Handbook of Operations

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1. Purpose

This ELIXIR Handbook of Operations is the main source of information on ELIXIR policies, guidelines, recommendations and related procedures. It provides an overview of documents available on the ELIXIR website and intranet. A new version is released annually as part of the EXCELERATE project. The Handbook is aimed for the whole ELIXIR community, including all individuals in ELIXIR Nodes, ELIXIR Hub staff, ELIXIR Board members, and national funders.

2. Governance and groups

This section points to information on the ELIXIR Governance structure and the legal framework under which ELIXIR operates. It provides a description of the roles of the Governance bodies and responsibilities of ELIXIR's operational groups (including terms and Rules of Procedure of the groups). The section also points at those Policies available to the public, as approved by the ELIXIR Board.

ELIXIR Consortium Agreement

[ELIXIR Consortium Agreement](#) (ECA) is the legal basis for ELIXIR. It establishes an organisational structure and defines the relationship between the ELIXIR Hub and the ELIXIR Nodes, specifies the EMBL's role as host of ELIXIR and sets out the ELIXIR Members' rights and obligations.

A [FAQ on the legal framework of ELIXIR](#) provides answers and explanations to the frequently asked questions about the legal framework of ELIXIR.

[Up-to-date information on ELIXIR Member States](#) is available on the ELIXIR website.

ELIXIR Collaboration Agreement

[ELIXIR Collaboration Agreement](#) is the legal document that ties together the ELIXIR Hub with the national ELIXIR community. By concluding the Collaboration Agreement a national community is allocated the status of an ELIXIR Node. It defines the institutes that are members of the national Node, who are partners in ELIXIR.

Policies

Within ELIXIR's legal framework, the ELIXIR Board may adopt and revise policies that may be required for the operations of ELIXIR, provided they are consistent with EMBL's rules, regulations and policies.

Policies deal with scientific, technical and administrative matters. Those affecting the relationship with ELIXIR Nodes become effective for the ELIXIR Nodes through the Collaboration Agreements.

[Categories and approval levels of ELIXIR-wide policies and guidelines](#)

ELSI POLICY

EP1 - ELIXIR [ELSI Policy](#)

Governance structure

The [ELIXIR Governance structure](#) is defined in the ELIXIR Consortium Agreement.

The [ELIXIR Board](#) appoints and dismisses the [ELIXIR Director](#), who is responsible for executing Board decisions. The ELIXIR Board also appoints the members of the [ELIXIR Scientific Advisory Board \(SAB\)](#), which advises the ELIXIR Board and the ELIXIR Director in scientific and ELSI matters. Furthermore, the [Heads of Nodes Committee](#), comprising representatives of the ELIXIR Nodes and EMBL-EBI, gives advice to the ELIXIR Board and Director in relation to ELIXIR activities.

In addition to these permanent advisory boards, the ELIXIR Board may establish additional advisory bodies and form working groups where this is necessary for the proper functioning and achievement of ELIXIR's goals, as has happened e.g. in the case of the [Industry Advisory Committee](#).

Principles of meeting procedures for ELIXIR groups

Each permanent group of ELIXIR has agreed on rules of procedures within terms of reference provided by the ECA or within those agreed by the ELIXIR Board. The links to these documents are provided below.

Group	Terms of Reference	Rules of Procedure
Board	Defined in Art. 6.2.1 ECA	Pdf
Heads of Nodes Committee	Defined in Art. 6.5.1 ECA	Pdf
Scientific Advisory Board (SAB)	Pdf (Approved by ELIXIR Board)	Pdf
Industry Advisory Committee (IAC)	Pdf (Approved by ELIXIR Board)	Pdf

Operational structure and responsibilities

The [operational structure](#) of ELIXIR consists of service Platforms and scientific Communities.

ELIXIR has five operational Platforms: Data, Tools, Compute, Interoperability and Training. Each Platform is led by a leadership team - the Executive Committee (ExCo) - agreed upon by the Heads of Nodes Committee. The Platform membership consists of the ExCo, task leads, technical contributors, and a Platform Coordinator based at the ELIXIR Hub. Each Platform Coordinator provides support to the Platform leaders and ensures that the Platform's activities are aligned to its goals defined by the Platform roadmap. See section 8. "[Technical Operations](#)" for information about the Platform activities.

Each ELIXIR Community is led by a leadership team, appointed by the members of that Community. The Communities consist of experts from ELIXIR Nodes in the specific scientific area, as well as external experts. The Communities Coordinators at the ELIXIR Hub provide support to the Communities and ensure close connections with ELIXIR Platforms. See section 8. "[Technical Operations](#)" for information about the Communities.

Node Coordinator Groups

There are two Coordinator Groups:

1. The [Technical Coordinators Group \(TeCG\)](#) is a group comprising technical ELIXIR Node representatives. It identifies gaps and promotes connections among Nodes and Platforms. It is the responsibility of the TeCG to explore technical opportunities and

issues aiming to provide advice and recommendations. The TeCG is connected to ELIXIR Platforms through Node technical representatives who are actively involved in the implementation of Platforms.

2. The [Training Coordinators Group \(TrCG\)](#) is composed of training representatives of each of the ELIXIR Nodes. TrCG meets regularly to share information, expertise and to coordinate and lead the implementation of the ELIXIR training strategy across Europe.

The [Coordinators guidelines](#) provide further detail on the role and remit of these groups. The [performance indicators for permanent working groups](#) have also been defined.

ELIXIR Hub

The [ELIXIR Hub](#) coordinates the infrastructure and accommodates executive management and administrative staff. It acts through and under the supervision of the ELIXIR Board and the leadership of the ELIXIR Director.

Equal Opportunities Strategy

The [ELIXIR Equal Opportunities Strategy](#) covers recommendations on equal opportunities for the ELIXIR Hub and Nodes, and also ELIXIR's advisory and governance committees, trainers, events, tools and services, and ELIXIR Platforms and Communities.

General Data Protection Regulation

The EU General Data Protection Regulation (GDPR) sets out the requirements across the EU for the legal basis by which personal data may be processed. The ELIXIR Hub has undertaken a number of measures to mitigate the risk posed by GDPR for Node activities. For instance, we have enhanced knowledge-exchange within the ELIXIR community by holding webinars and workshops.

3. Nodes and Service provision

ELIXIR Nodes contribute the resources and services that are part of ELIXIR. These include: data resources; bio-compute centres; tools; services for the integration of data, software, tools and resources; training; and standards expertise. The integration of these resources and services provided by ELIXIR Nodes across Europe is supported by the ELIXIR Hub.

This chapter contains reference material useful for ELIXIR Nodes, including templates for Node application and Node review, the scope and terms of ELIXIR Services and instructions for preparing Service Delivery Plans.

Establishing a Node

[Guidelines how countries join ELIXIR and establish a Node](#) are available. This requires both the government of the country and the scientific community to work together.

Node Membership

Most ELIXIR Nodes have more than one member. The Collaboration Agreement established between the Hub and the Node defines the institutes that are members of the national Node who are partners in ELIXIR.

Node review

Once established, ELIXIR Nodes are regularly reviewed by the ELIXIR Scientific Advisory Board. Each year, three to five Nodes are invited to submit their update via the Node review form and attend the annual SAB meeting to present an update from their Node. After the meeting, the SAB submits a review of the Node to the ELIXIR Board. [Guidelines for ELIXIR Node review](#) have been approved by the ELIXIR Board and provide further information on the review process and also include forms to be used by the Node and the SAB in the review process.

The scope and terms of ELIXIR Services

To clarify what the word “Service” means in the ELIXIR context, a [definition of terms and scope of ELIXIR Services](#) is provided. The document also defines the role of the ELIXIR Node with regards to ELIXIR Services and discusses the benefits and responsibilities that come with the “ELIXIR Service” label.

Guidelines for Node Services Selection Process

ELIXIR has developed [Guidelines for Node Services Selection Process](#). Each Node is recommended to build their own services selection process based on these guidelines.

Service Delivery Plans

Each Node, with support from the ELIXIR Hub, will prepare a Service Delivery Plan that outlines those services that the ELIXIR Node puts forward to ELIXIR and which are funded by the Node (Node-funded Services). The Service Delivery Plan is an annex to the [Collaboration Agreement](#) concluded between the ELIXIR Hub and the Node and is approved by the ELIXIR Board.

[Guidelines for the development of Service Delivery Plans](#) are available and the Hub will work together with each Node to prepare the Service Delivery Plan.

Annual Collaboration Oversight Process

The ELIXIR Collaboration Agreement concluded between the Hub and a Node establishes an oversight group: the Collaboration Agreement Oversight Group (COG). The COG is formed by the ELIXIR Director, the Head of Node and others appointed by them to regularly review aspects of the Agreement. An online COG form is intended to be a lightweight mechanism to capture an overview of the Node and identify any issues that might need to be discussed.

ELSI Policy

EP1 - ELIXIR [ELSI Policy](#)

Approved by the Board in November 2016.

Related documents:

- [ELSI Policy Background Document](#)

Letters of support from the Hub

The Hub is happy to provide Letters of Support to ELIXIR Nodes according to our [principles for providing Letters of Support to ELIXIR Nodes](#).

Process for selecting Node participation in ELIXIR's External Grant applications

The ELIXIR HoN have agreed an approach to be followed for [the selection of ELIXIR Node partners when applying for external grants](#) including Horizon 2020 and the Innovative Medicines Initiative (IMI).

4. ELIXIR Core Data Resources and other public service recommendations

This section covers the recommended resources that ELIXIR, as an infrastructure, has reviewed and selected as resources of specific purpose.

Core Data Resources

The ELIXIR Core Data Resources are defined as a set of European data resources that are of fundamental importance to the broad life science community and the long-term preservation of biological data. The process for selecting ELIXIR Core Data Resources has been developed by the Data Platform and was published on ELIXIR's F1000Research channel (Link to article: [Identifying ELIXIR Core Data Resources](#)). The [details of the first round of selection are available](#).

[The initial list of Core Data Resources was published 25 July 2017](#). The list is not static and [was most recently updated on 25 June 2018](#).

Deposition Databases

In addition to the list of Core Data Resources, ELIXIR has compiled a list of [databases that it recommends for the deposition of experimental data](#). The purpose of this list is to provide guidance to journals and funders on the appropriate repositories in which to publish open data in the life sciences. [The process to select Deposition Databases](#) has been agreed upon by the ELIXIR HoN.

Recommended Interoperability Resources

The [ELIXIR Recommended Interoperability Resources \(RIRs\)](#) are selected based on the community-consensus guideline (*i.e.*, [the RIR Selection Criteria](#)) as the key resources that are critical to FAIRification process (the activities to make data FAIR). [The call for RIR applications](#) happens on a regular cycle (currently planned for an annual call). Applications are reviewed by the Hub-organised [review process](#). Selected RIRs are subject to annual review and approval by Heads of Nodes.

5. ELIXIR Programme

The [ELIXIR Programme](#) is the five-year scientific plan of ELIXIR, prepared by the ELIXIR Director in consultation with the ELIXIR Heads of Nodes Committee and adopted by the ELIXIR Board to fulfill the purpose and goals of ELIXIR. The current Programme covers the time-frame from 2019-2023. It is accompanied by the [ELIXIR Financial Plan](#) that sets out the indicative budget and membership fees in ELIXIR over the same period.

ELIXIR's financial model

ELIXIR has prepared a process and a [financial model](#) to develop the five-year Financial Plan that supports the ELIXIR Scientific Programme. The process and the model has been presented at the Executive Masters in Management of Research Infrastructures (<http://www.emmri.unimib.it>) and is available for others to reuse via CC BY 4.0 licence.

Additional content:

- [How to build a financial plan: ELIXIR](#)

The ELIXIR annual cycle

Within the framework of the five-year Scientific Programme and Financial Plan, each year the annual ELIXIR Work Plan and Budget are prepared by the ELIXIR Director and approved by the ELIXIR Board. The annual Work Plan includes objectives for ELIXIR Platforms and Communities and defines the Hub-funded activities, Commissioned Services, to be conducted each year.

The annual Work Plan and the accompanying budget are developed in an agreement with the Heads of Nodes Committee and submitted to the ELIXIR Board no later than 1 October each year.

Commissioned Services

Commissioned Services are services that generally fall under the responsibility of the ELIXIR Hub but are carried out by the ELIXIR Nodes (including EMBL-EBI) and are funded through the ELIXIR Budget.

According to the 2019-23 Programme, ELIXIR will fund Commissioned Services through the following funding instruments ("programmes"):

Infrastructure Services

This programme involves services that provide long-term, essential infrastructure services within ELIXIR upon which other services can be built.

Funding to ELIXIR Platforms

The programme supports the continued development of the Platforms: Data, Tools, Compute, Interoperability and Training; and support service coordination and inclusion of additional Node services into the Platforms.

Community-led Implementation Studies

This programme includes funding for Implementation Studies to support the linking of ELIXIR Communities with ELIXIR Platforms.

Strategy-driven Implementation Studies

This programme includes resources for ELIXIR to drive cross-Platform activities and to drive initiatives to tackle strategic priorities ELIXIR-wide.

Funding to ELIXIR Communities

This programme includes base-level funding for annual workshops for ELIXIR Communities and funding to run an initial Implementation Study to initiate the implementation of the roadmap and to link the Community to the ELIXIR Platform services.

The Staff Exchange Programme

This programme supports staff exchange activities in ELIXIR.

Industry engagement activities

This programme supports promoting interactions between academia and industry.

The current programmes assume exploratory, collaborative projects whose main aim is to foster collaboration between ELIXIR Nodes, to explore inter-Node solutions and to identify those services that should become future long-term, essential services upon which other services can be built on.

Request for Proposals

"Request for Proposals" is a mechanism that ELIXIR uses to select Implementation Studies through a competitive process. This process employs a peer-review component, with an Evaluation Committee consisting of external reviewers and chaired by the ELIXIR Director. So far, there has been one [Request for Proposals for Data Platform Implementation Studies](#) and a second RFP for [Community-led Implementation Studies in 2019](#).

General Guidelines for the Implementation of Commissioned Services

The [General Guidelines for the Implementation of ELIXIR Commissioned Services](#) set out the rules for the usage of Commissioned Services funding and define guidelines for the implementation of the projects. These Guidelines are approved by the ELIXIR Director and annexed to each Commissioned Services Contract with ELIXIR Nodes.

Guidelines for organising Hub-funded events

- [INFORMATION: Guidelines for workshops](#) (in the Intranet)
- [ELIXIR Equal Opportunities Strategy](#) - Equal Opportunities and diversity should be considered in ELIXIR sponsored events

Staff Exchange Programme

The purpose of the ELIXIR Staff Exchange Programme is to support the exchange of staff between ELIXIR Nodes for short periods of time. This helps to strengthen the links between ELIXIR Nodes, facilitates capacity building across the infrastructure, enhances the interactions within or between Communities and supports the interoperability and sustainability of ELIXIR Nodes, services and data resources. Staff exchange should also expand and diversify the talent pool across the ELIXIR infrastructure and support staff to operate at a European level.

The first call for Staff Exchange projects was published in summer 2017 with eight projects selected for initiation in late 2017. Since then, two other calls for Staff Exchange have taken place with a specific focus on the Train-the-Trainer and Bioschemas activities. Going forward,

there will be an annual [call for Staff Exchange projects](#) (link in intranet only), and additionally a new [Travel Grant Scheme](#) (link in intranet only) is initiated in 2019 to fund the travel of individuals from ELIXIR Nodes to ELIXIR-related events.

6. Project Management Unit

The ELIXIR Hub manages a portfolio of externally funded projects that involve ELIXIR Services and Node partners, often through large research infrastructure consortia.

The Project Management Unit (PMU) supports ELIXIR with the progression of funding opportunities and assists ELIXIR Nodes and partners in the development of project consortia in line with ELIXIR's strategic goals.

The PMU manages all aspects of Hub-coordinated projects (including reporting, monitoring, internal communication in the project and organisation of project management meetings). The PMU owns the ELIXIR risk management plan that defines the process and the assets used to identify and monitor risks within ELIXIR.

The PMU also acts as the financial controller and is therefore responsible for the elaboration of the Financial Plan and yearly budgets that accompany the ELIXIR Programme as well as the annual Work Plan. Once approved, the PMU monitors the execution of the annual budget and its alignment with the ELIXIR Programme, making recommendations when needed.

Funding opportunities and proposal preparation

The PMU supports ELIXIR partners through the development of new grant applications. For proposals led by the Hub, this includes project management, budget development, consolidation of partner budgets, development /consolidation of milestones and deliverables, proposal editing, and assistance with other formal requirements such as ethics. For proposals submitted by Nodes input is provided for general assistance, including advice on strategy, provision of templates, etc.

- EC Funding and Proposal Preparation
 - [Finding a call](#)
 - [Register in the EC portal](#)
 - [EC Proposal Submission Guidance](#)
 - [From evaluation to EC grant signature](#)
 - [How to present ELIXIR in grants](#)

EC Focus Group

The "[ELIXIR project management network \(PMN\) - EC Focus Group](#)" (link in intranet only) is a growing community of colleagues across ELIXIR interested in the exchange of knowledge critical for their roles. The main focus will be to further spread EC funding knowledge to make future proposal preparation processes and project implementation function more evenly than they have been in the past. The ELIXIR intranet provides access to [relevant information](#) to the group members (i.e. presentations, guidelines, members profiles, etc.)

Guidance on project implementation and reporting

The PMU provides expertise and support to Nodes through formal aspects of project implementation (e.g. funding rules, administrative processes, workshop costs, Grant Agreement amendments etc.). It also provides project management support to Hub Platform coordinators.

- [EC Grant Management](#)
- [ELIXIR Equal Opportunities Strategy](#) (for gender and diversity aspects of proposal preparation and project execution)
- [INFORMATION: EC funding rules in a nutshell](#)
- [PROCESS: EC project reporting](#)
- [INFORMATION: Guidelines for workshops](#) (in the Intranet)
- [TEMPLATE Grant Agreement amendments - items and administrative info](#)

Linked Third Parties

The PMU supports Nodes using the EC Horizon 2020 Linked Third Party clause, under which ELIXIR can participate in consortia in a more unified manner or as a single infrastructure (as opposed to a large number of separate beneficiaries).

- [INFORMATION: Linked Third Parties in H2020 - practical aspects](#)
- [INFORMATION: Linked Third Parties in H2020 - ELIXIR principles](#)

Project dissemination

Externally funded activities usually have specific dissemination requirements. It is essential that funders and other stakeholders see the return on investments made into ELIXIR. To support this, together with External Relations, the PMU supports dissemination of projects output.

- See [ELIXIR Communications Strategy](#)

Risk management

- [PROCESS: ELIXIR risk management](#)

ELIXIR's externally funded projects

[The list of EU-funded projects that ELIXIR is involved in is available on the ELIXIR website.](#)

7. Communications and External Relations

This chapter contains background and links to ELIXIR's strategies concerning External Relations, particularly communications. The aim of the various documents and guides is to ensure a harmonised communications presence for ELIXIR and enable Nodes, through collaborative editing of the website, to ensure their news, content and events are captured effectively.

Communications Strategy

ELIXIR's Communications strategy provides a reference for all aspects of ELIXIR communications. The document is intended for members of ELIXIR who need a comprehensive overview of ELIXIR communications channels and policies.

- [ELIXIR Communications Strategy](#)

The Communications Strategy review conducted in 2017 presents qualitative and quantitative data to measure the effectiveness of ELIXIR Communications and provides a series of recommendations for specific communications channels and/or audience. The review can be made available upon request.

Node Toolkit

The [Node Toolkit provides tips and resources to help Nodes communicate efficiently](#) (link available on intranet only) even without a dedicated Communications Officer or team. It also outlines methods for Nodes to make better use of Hub communications for promoting activities.

Website

The ELIXIR website, <https://elixir-europe.org/>, is the main source of information about ELIXIR. Any member of ELIXIR can log in and suggest edits to the web pages to keep them up to date and informative. They can also add their events to the site. These events will be pulled in by [TeSS](#) and appear there, too.

ELIXIR Nodes and colleagues from industry and academia can advertise jobs relevant to the bioinformatics community via the [ELIXIR Job Vacancies page](#).

[The ELIXIR Intranet](#) allows members of the ELIXIR community to share information. It is also a reference point for important documents such as ELIXIR templates and imagery. The documents below provide comprehensive guidelines on how to use the intranet:

- [Intranet guidelines](#) - Basic information about the structure and functionalities of the ELIXIR intranet.
- [Instructions for group managers](#) - Instructions how to how to view, add, invite and delete members of intranet groups, using the PERUN platform.
- [Instructions for Intranet champions](#) - Detailed instructions how to create and maintain content on the ELIXIR intranet.
- [How to edit pages on the ELIXIR website](#) - You need to log in first, and all edits will be moderated.

Calendar

The [ELIXIR Calendar](#) brings together various calendars from around ELIXIR. Note that you need to be logged into the intranet to access the calendar (link available on intranet only).

Glossary of Terms

[The ELIXIR website maintains a glossary of terms.](#)

ELIXIR Channel on F1000R

ELIXIR has established [an F1000R channel](#) for scientific and technical output. The [ELIXIR Publication principles](#) provide guidelines on how to publish here.

Industry Strategy

[ELIXIR's Industry Strategy](#) sets out the objectives and activities that will be carried out by partners to ensure maximum use and uptake of ELIXIR's services by industry. The Industry Strategy is reviewed periodically by the [ELIXIR Industry Advisory Committee](#).

In order to support Europe's industry and in particular its SMEs, ELIXIR's Innovation and SME Programme is a series of specialised events for companies, hosted by ELIXIR Nodes and funded through the ELIXIR Hub. Each Forum provides companies with the opportunity to learn more about the emerging ELIXIR services and to forge strong links with the local ELIXIR Node representatives running these services.

- [Guidelines to Organising an SME event](#) (intranet only)

In order to increase ELIXIR's visibility and reach SMEs across Europe in a more efficient and strategic way we engage with local and pan-European industry associations and clusters.

- [Mapping of Clusters and SME Associations of relevance to ELIXIR](#)

To generate more opportunities for the academic sector and industry to collaborate, a new scheme to provide short-term knowledge exchange schemes with industry will be piloted in 2019. The [ELIXIR Knowledge Exchange Scheme](#) (EKES) will cover travel and accommodation expenses to give ELIXIR members the opportunity to spend time on site at the industry partners' facilities or to host workshops either at the academic or industry partners' facilities.

The [ELIXIR Bioinformatics Suppliers Forum](#) (EBSF) provides a way that suppliers of services can meet with consumers from across ELIXIR. A pilot event was held in May 2019. The forum gives ELIXIR groups the opportunity to tell suppliers about the scientific and technical challenges they face, and gives the suppliers the opportunity to offer solutions to address these challenges. It allows suppliers to present technical information relating to their products and services, and propose the use of these services.

International Strategy

[ELIXIR's International Strategy](#) sets out the priorities and activities that ELIXIR will undertake with specific countries outside Europe and relevant global, scientific initiatives.

Long-term sustainability plan

[ELIXIR's Long-term sustainability plan](#) provides an overview of previous, current and future actions that aim to support the sustainability of bioinformatics resources across ELIXIR's Nodes.

8. Technical Operations

This section contains information and guidelines for ELIXIR's technical operations, including ELIXIR Services, guidelines developed by the community and practical information on operations.

Overview of Technical Team - Role, Remit and Structure

The ELIXIR Technical Team has overall responsibility for coordinating technical activity across the Platforms, Communities and Nodes. [The role and remit of the Technical Team is defined in this](#)

[document](#). Further information as to how the Technical Team support the Platforms involving Implementation studies can be found here: [Guidance for how ELIXIR Platform coordinators are involved with Implementation Studies](#).

ELIXIR Platforms

ELIXIR's activities are divided into five areas called 'Platforms': Data, Tools, Compute, Interoperability, and Training.

[The Data Platform](#) maintains the lists of ELIXIR [Core Data Resources](#) and recommended [Deposition Databases](#), works to increase the linkage between publications and data across all ELIXIR data resources that they describe, promotes Open Access as a core principle for publicly funded research and collaborates internationally on improving the long-term sustainability of data resources.

[The Tools Platform](#)'s main objective is to improve the discovery, quality and sustainability of software resources. It helps researchers find, benchmark and deploy the best software tools and workflows to analyse their data.

[The Compute Platform](#) coordinates services to enable life scientists to access a range of data, tools and compute resources including standardised research workflows and container deployments. Identity and access management is enabled through the provision of an [ELIXIR AAI](#) identity management infrastructure service, deployed across multiple environments including local, cloud and supercomputing resources provided by the Nodes. The Platform develops and implements common technical standards for life science in the European research infrastructure ecosystem and through a Strategic Partnership with the [Global Alliance for Genomic Health \(GA4GH\)](#).

[The Interoperability Platform](#) encourages the adoption of standards to describe life science data, and identifies best practices to achieve FAIR-compliant methodology through the development of FAIRification tools and services across the different layers of interoperability: identifiers, ontologies, standardised schemas, semantic technologies, and linked data facilitated by ELIXIR resources such as [identifiers.org](#), the [Ontology Lookup Service](#), [Bioschemas](#), or [FAIRsharing](#). In addition it develops the Interoperability service framework through selection of the Recommended Interoperability Resources ([RIRs](#)).

[The Training Platform](#) establishes and implements best practices in bioinformatics training, supports training providers across Europe in developing and delivering training to three major target audiences; Developers, Researchers and Trainers. It maintains [TeSS](#), the [ELIXIR Training registry](#), which provides a one-stop shop for trainers and trainees to register or discover online information and content, including training materials, events and interactive tutorials.

The Platforms are led by leaders known as the Executive Committee ("ExCos"), working closely with a Hub-based Coordinator. The Platforms' work is carried out by groups within them, funded by a variety of different mechanisms. Further information can be found on the ELIXIR [website](#).

[Process to appoint new Platform ExCo](#) was developed through consultation with the Heads of Nodes and the existing Platform ExCo. ELIXIR is currently running [the first instance of the ExCo appointment process](#).

ELIXIR Communities

ELIXIR Communities are a means for ELIXIR to obtain input on service requirements from specialised scientific domains and so drive its service provision. Communities participate in, and in many instances drive, Implementation Studies to develop technical services.

- [Communities page on ELIXIR website](#)
- [How Communities are recognised by ELIXIR](#)
- [How to become an ELIXIR Community Member](#) (for members of ELIXIR Nodes)
- [How to become an ELIXIR Community Partner](#) (for non-members of an ELIXIR Node)

Human Data Communities

The ELIXIR Human Data Communities (HDCs) aim to create a mechanism whereby ELIXIR Nodes, Communities, and key projects can co-develop a long-term European strategy for sharing sensitive human research data based on a set of flexible, production quality and sustainable components. This is not to detract from the identities of the participating communities, but instead to provide a forum for coordination and communication across these powerful entities.

ELIXIR Services and how to access them

ELIXIR Compute, Database, Interoperability, Tools and Training Services include services contributed by the ELIXIR Nodes as well as services developed or supported within the ELIXIR Infrastructure. They can be accessed via [the ELIXIR website's Services page](#).

ELIXIR Collaborations

ELIXIR collaborates beyond its own Node structure, with several international organisations. These initiatives are listed on [the ELIXIR website's Collaborations page](#).

FAIR Data Management in the Life Sciences

ELIXIR has published a statement addressing how its infrastructure will help researchers to make published life-science data FAIR (Findable, Accessible, Interoperable and Reusable).

- [ELIXIR position paper on FAIR Data Management in the life sciences](#)

This statement also voices ELIXIR's commitment to enabling the availability of FAIR data within the framework of the European Open Science Cloud (EOSC), an initiative of the European Commission and Member States to connect big data across Europe.

Software Best Practices and Open Source Software Principles

[Four simple recommendations to encourage best practices in research software have been published](#). You are welcome to [endorse](#) these recommendations and [join the open SoftDev4Research working group](#).

The ELIXIR Git repository

The [ELIXIR Git repository](#) is recommended for all code produced through ELIXIR-funded projects, e.g. via EXCELERATE or Commissioned Services funding. To upload your code, simply register or log in to Git.

ELIXIR Authentication and Authorisation Infrastructure

ELIXIR aims to provide a sustainable, user-friendly Authentication and Authorisation Infrastructure (AAI) to meet the evolving needs of all life scientists in Europe. To accomplish this, the [ELIXIR AAI Strategy](#) was agreed with the ELIXIR Heads of Nodes Committee in June 2016.

[ELIXIR AAI documentation](#) on the ELIXIR website provides more practical information on the service and how to connect your service to the AAI.

- [Standard Operational Procedure \(SOP\) for Registering Relying Services to ELIXIR AAI](#)

Interoperability Knowledge Hub

The Interoperability Platform is working on the development of an ELIXIR Interoperability Knowledge Hub of Services, Standards and Best Practices. The information in the Knowledge Hub will allow infrastructure and tool developers to assess current best practice and determine which interoperability services and standards to implement under specific circumstances. The first version is expected to be released in 2019.

Determining quality and impact of ELIXIR training events

The Training Platform's Quality and Impact subtask has developed a strategy for assessing audience demographics and training quality, in the short term, as well as training impact, in the longer term, of ELIXIR-badged training events. This strategy has been approved and endorsed by the ELIXIR Heads of Nodes and adopted by the ELIXIR Training Coordinators.

Briefly, a defined set of metrics are captured for all ELIXIR training events run by all ELIXIR Platforms, Communities, and Services. [The strategy, including metrics and associated questions and answers scales](#), is available to everyone in ELIXIR. If you are involved in running an ELIXIR training event, please get in touch with your [Node's Training Coordinator](#) to ensure that Quality and Impact data is properly captured using the appropriate tools and included in ELIXIR-wide training analyses.

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