Handbook of Operations

ELIXIR Handbook of Operations

1. Purpose of this document

The scientific direction of ELIXIR is laid out in the [Scientific Programme 2024-28](#) (▶▶section [4.1 ELIXIR Programme](#)) and in annual Work Plans which describe the activities that take place in each year.

To facilitate the delivery of the Scientific Programme 2024-28, ELIXIR has a wealth of resources available to support the whole infrastructure to collaborate and achieve its goals. The Handbook of Operations provides a comprehensive overview of ELIXIR policies, guidelines, recommendations and related procedures that are available via the ELIXIR website and intranet.

The Handbook is intended for use by the whole ELIXIR infrastructure, including all individuals in ELIXIR Nodes, ELIXIR Hub staff, ELIXIR Board members and national funders.

2. ELIXIR purpose, identity and values

2.1 ELIXIR purpose and identity

ELIXIR's purpose statement is a simple way of expressing the reason ELIXIR exists. Clarity of purpose is particularly important for ELIXIR as the organisation is very complex and can be difficult to explain and understand. The purpose statement can be used to check actions and plans against.

ELIXIR purpose: **Together we accelerate the understanding of life**.

ELIXIR's identity statement is similar to a mission statement - it shows how we achieve our purpose.

ELIXIR identity: **We enable scientists to access and analyse life science data.**

2.2 ELIXIR values

ELIXIR's values show the types of behaviours that enable us to achieve our purpose.

- **We work to benefit everyone** - we enhance the quality, efficiency and novelty of life science research, leading to improvements in health and wellbeing.
- **We are trusted** - our services and resources are trusted and we are trusted to deliver on our commitments.
- **We work with a spirit of openness** - we are committed to open science, promoting sharing of knowledge and information throughout the discovery process.
- **We strive for excellence** - we provide a world-class service to support world-class science.
- **We work in an environment of respect** - we create an environment where everyone can be their best and enjoy their work.

3. ELIXIR operational structure

3.1 ELIXIR Hub

The ELIXIR Hub coordinates the infrastructure and accommodates the executive management team and Hub staff. It acts through and under the supervision of the ELIXIR Director, who is appointed by the ELIXIR Board.

An overview of the six teams based at the Hub is below, with additional information provided elsewhere in the document where indicated with an arrow ▶▶.

Operations

The Operations team manages the administrative and operational guidelines, procedures and processes necessary to operate the distributed infrastructure. The team also ensures the ELIXIR Scientific Programme, together with the Financial Plan and annual Work Plan, is delivered and executed and outcomes are reported to the ELIXIR governance bodies. The Operations team is responsible for developing and monitoring the ELIXIR Financial Plan and annual budget, and collaborates with EMBL-EBI finance, grants and administrative functions to ensure budgeting and reporting processes are effective and efficient.

The team supports initiatives funded by the ELIXIR budget to deliver the ELIXIR Scientific Programme. This support includes the planning, management and administration of Commissioned Services and the Capacity Building and Knowledge Exchange Programme (section ▶▶ 4.3 Commissioned services).

Responsibility for the operations of ELIXIR's governance structures includes the administration and management of the agreements underpinning the ELIXIR infrastructure, the coordination, communication and administration of Board and committee meetings, and subsequent action tracking (section ▶▶ 9.Governance and legal framework).

Events management functions within the team are responsible for the planning, coordination and execution of ELIXIR events. Information is detailed in section ▶▶ 7. ELIXIR Events.

External Relations

The External Relations function ensures that ELIXIR monitors, engages and influences developments in the European and global science policy and funding landscape. The team is responsible for non-legal aspects of engagement and membership of new Member States, effective interactions and communication with existing Member States and efforts to demonstrate impact and value of membership to countries.

Engagement with industry, and the management of programmes to facilitate this, sits with the External Relations team, as does impact evaluation. Section ▶▶6.6 Strategy documents provides further information on strategic aims in these areas. The team is also responsible for ELIXIR's communications, including the website, news releases, digital and print materials, newsletters, social media presence, annual reports, slides and other audio-visual materials. Section ▶▶ 6. Communications and External Relations provides more details.

Human Genomics and Translational Data

The Human Genomics and Translational Data Team supports and coordinates efforts across the ELIXIR Nodes to implement a strategy towards sustainable and long-term infrastructure for sensitive human data in Europe. This infrastructure will enable researchers from all sectors to find, manage, access and reuse data whilst also preserving and respecting the national data privacy laws of the country of origin. For more information see section ⏩ 8.5 ELIXIR Human Genomics and Translational Data.

The ELIXIR Human Data Communities are the backbone in implementing our strategic approach via Commissioned Services, combined with externally funded projects (such as the European Genomic Data Infrastructure, EOSC4Cancer, CanSERV and PROPHET) and the pivotal 1+MG initiative.

Legal Services

ELIXIR's Legal Services are responsible for ELIXIR's legal organisation (for example, collaboration, service and funding agreements) and ensuring that the infrastructure's activities are carried out in accordance with its governing documents and relevant laws, rules, policies and ethical standards. Legal Services represent the infrastructure on all legal matters, including ELIXIR's governance, existing or new advisory bodies, and the involvement of existing and new ELIXIR Members. ELIXIR's Legal Services also provide corporate legal services covering all areas of ELIXIR's operations, such as for example ELIXIR's funding activities of Commissioned Services and data protection matters concerning personal data processing by Hub staff.

In addition, this function oversees arrangements with ELIXIR's host - EMBL - and the necessary considerations that arise from EMBL's specific legal personality as an intergovernmental organisation (for example, application of privileges and immunities). See section ⏩ 3.Governance and legal framework.

Project Management Office

The Project Management Office (PMO) at the ELIXIR Hub manages a portfolio of externally funded projects that aligns with the ELIXIR Scientific Programme, often through large research infrastructure consortia. It 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 PMO is also responsible for the deployment of the European Genomic Data Infrastructure. More information on PMO and its activities is covered in section ⏩ 5. Externally funded projects.

Technical Team

The ELIXIR Technical Team has overall responsibility for coordinating technical activity across the Platforms, Communities and Nodes. This is achieved through the development of technical roadmaps to support the implementation of the ELIXIR Scientific Programme, Commissioned Service project plans and associated EU-funded projects. The team coordinates the integration of ELIXIR Services into ELIXIR Platforms and provides the ongoing monitoring and development of ELIXIR's Service portfolio including the technical and scientific details of Node Service Delivery Plans. Details of these activities are outlined in section ⏩ 8.Technical Operations.

3.2 ELIXIR Nodes

An [ELIXIR Node](#) is typically a consortium of research institutes and universities within an ELIXIR Member State. The Node supports their national scientific community and runs ELIXIR resources and Services locally. The Services that a Node provides or contributes to are defined in Service Delivery Plans (section ▶▶ [8.1 ELIXIR Services](#)).

Nodes collaborate across ELIXIR to deliver data resources, bio-compute centres, tools, data integration resources, software, training and standards expertise (section ▶▶ [8. Technical Operations](#)). The integration of resources and services provided by ELIXIR Nodes across Europe is supported by the ELIXIR Hub by means of Commissioned Services (section ▶▶ [4.3 Commissioned Services](#)).

Establishing a Node

[Guidelines](#) on 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

Node members can be research institutes and universities within an ELIXIR Member State. Most ELIXIR Nodes have more than one member institution. The Collaboration Agreement, established between the Hub and a Node, defines which organisations are members of the national Node (section ▶▶ [9.2 Legal framework](#)).

Node review

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

Annual collaboration oversight process

Execution of the ELIXIR Collaboration Agreement between the Hub and a Node (section ▶▶ [3.2 Legal framework](#)) leads to the establishment an oversight group called the [Collaboration 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 provided annually to the Nodes and is intended to be a lightweight mechanism to capture an overview of the Node and identify any issues that might need to be discussed.

3.3 Platforms and Communities

Platforms and Communities are key structures in ELIXIR. An introduction is given below, more information on the activities of each structure is in section ▶▶ [8. Technical operations](#).

Platforms

ELIXIR has five Platforms: Data, Tools, Compute, Interoperability and Training. Each Platform is led by a leadership team, known as co-leads or ExCos (Executive Committee members), agreed

upon by the Heads of Nodes Committee following an appointment process.

Platform membership consists of the co-leads, task leads, technical contributors and a Platform Coordinator based at the ELIXIR Hub. Each Platform Coordinator provides support to the Platform co-leads and ensures that Platform activities are aligned to the goals defined by the Platform roadmap.

Communities

ELIXIR Communities consist of experts from ELIXIR Nodes in the specific scientific or technical area, as well as external experts. The role and purpose of ELIXIR Communities is outlined in ELIXIR's Communities Handbook. It is the go-to document with regards to ELIXIR Communities, including their responsibilities and benefits, as well as related processes. It contains links to other key documents related to ELIXIR Communities.

In a nutshell, ELIXIR Communities:
- Are formed around domain experts in ELIXIR Nodes (including non-ELIXIR partners).
- Provide a mechanism for long-term collaborations with other research infrastructure on the European Strategy Forum on Research Infrastructures (ESFRI) roadmap and large-scale initiatives.
- Drive service developments in the ELIXIR Platforms.
- Provide a framework to develop and maintain community standards.

A Technical Team Programme Manager works with the Science Officers to support each Community and ensure close connections with other ELIXIR Communities and Platforms, as well as alignment with the Scientific Programme.

3.4 Cross-topic coordination

ELIXIR also collaborates across Coordinator Groups and Focus Groups

Coordinator Groups

The Technical Coordinators Group (TeCG) comprises technical ELIXIR Node representatives from each Node. It identifies gaps and promotes connections among Nodes and Platforms. The TeCG explores technical opportunities and issues and aims to provide advice and recommendations. The TeCG is connected to ELIXIR Platforms through Node technical representatives who are actively involved in the Platform activities.

The Training Coordinators Group (TrCG) is composed of representatives of each of the ELIXIR Nodes. TrCG meets regularly to share information and expertise, and to coordinate and lead the implementation of the ELIXIR training strategy across Europe. Their activities are closely connected with those of the Training Platform.

It is mandatory for each Node to appoint a Technical and Training Coordinator. Nodes also have the option to join the Node Coordinators Group which facilitates inter-Node communication on topics relevant to the operation of the Nodes.

Focus Groups

Focus Groups are a way to bring interested parties in ELIXIR together around a particular topic

for a limited time. Typically, Focus Groups are used to address emerging areas of interest and seek to identify a strategy that ELIXIR could follow.

Further details on purpose, scope, funding options available, and the application process for new Focus Groups are documented here: Focus Groups in ELIXIR.

3.5 External collaborations

ELIXIR collaborates internationally beyond its own Node structure. These initiatives are listed on the ELIXIR Collaborations webpage. Information on ELIXIR's efforts to reinforce its global visibility and impact can be found in the ELIXIR International Strategy.

3.6 ELIXIR in the context of EMBL

EMBL's role within ELIXIR is threefold:

a. As an ELIXIR Member, EMBL sends its delegates to the ELIXIR Board, ELIXIR's decision-making body, having one vote like all other Members of the ELIXIR Consortium.

b. As the host of the ELIXIR Hub, it allows ELIXIR to use its legal personality and gives access to those services essential for the operation and management of the ELIXIR Hub (for example employing staff, access to procurement, HR, Finance) in compliance with EMBL's Financial Rules, Staff Rules and Regulations, and Internal Policies. In addition, EMBL, as part of and as mandated by the ELIXIR Consortium, enters into agreements with third parties or acts as party to legal disputes.

c. EMBL also takes on the role of an ELIXIR Node, mainly through EMBL-EBI.

More detailed information on ELIXIR in the context of EMBL is available.

4. ELIXIR Programme and Commissioned Services

4.1 ELIXIR Scientific Programme

The ELIXIR Scientific Programme 2024-28 is the five-year plan of ELIXIR, prepared by the ELIXIR Director in consultation with the ELIXIR Heads of Nodes Committee and approved by the ELIXIR Board to fulfil the purpose and goals of ELIXIR. It represents the overarching document containing overall strategic objectives and priorities set for each strategic tier of the Programme (Science, Technology, Nodes and People) in the period from 2024 to 2028. The ELIXIR Scientific Programme 2024-28 is accompanied by the ELIXIR Financial Plan that sets out the indicative budget and membership fees in ELIXIR over the same period.

Commissioned Services (CoS) are projects specifically designed and financed in the framework of the Scientific Programme 2024-28 with the purpose to achieve ELIXIR's priorities and ambitions. Each CoS is led and contributed to by one or more Nodes. Engagement is based on expertise, capacity and availability.

The Scientific Programme 2024-28 builds on the exploratory and collaborative nature of the CoS under the previous Programme 2029-23. It further strengthens the relationship between the Nodes via joint activities and key results delivery. In addition, it also represents a consolidation of efforts in realising set strategic priorities and ambitions while measuring impact of CoS projects under the different strategic tiers.

4.2 Commissioned Services

Commissioned Services (CoS) are funded projects, proposed and delivered by ELIXIR Nodes, which aim to deliver the strategic objectives and priorities set out in the Scientific Programme. CoS fall under the budget responsibility of the ELIXIR Hub.

Funding periods, Work Plan and Budget

In the ELIXIR Scientific Programme 2024-28 and associated Financial Plan, fewer but larger and longer CoS are planned than in the previous Programme. There are two funding periods: 2024-2026 and 2027-2028. The majority of CoS will fit into one of the funding periods and last between 24 and 36 months.

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 each of the four strategic tiers in the 2024-28 Programme (Science, Technology, Nodes and People) with an overview of CoS starting, finishing or continuing in the given year.

The annual Work Plan and 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.

Application process

The process for applying for a CoS funding in ELIXIR starts with a project plan and proposed budget, using the supplied templates. The project plan is submitted to proposals@elixir-europe.org by the set deadline. CoS are selected based on priorities and ambitions of the strategic tier with input from the ELIXIR Director and the Head of Nodes Committee and, if necessary, a consultative process. The consultation step is used to ensure transparency across ELIXIR Nodes.

Funding is also available through open calls. Node members are invited to submit proposals which contribute to the Science, Technical, Nodes or People CoS and related priorities and ambitions outlined in the 2024-28 Programme. Cross-Node and cross-tier proposals are encouraged and may be defined as a required criteria in some open calls. Each open call follows the same format and submission process. Calls may be opened by different strategic tiers in different years, but timelines within each year are aligned to simplify the communication and evaluation processes.

Capacity Building and Knowledge Exchange

The Capacity Building and Knowledge Exchange Programme consolidates and simplifies several features of the ELIXIR Staff Exchange Programme in the 2019-23 Programme.

It is designed to allow exchanges of staff between two or more ELIXIR Nodes or industry on a

specific topic. Like its predecessor, the programme covers exchanges of various lengths, from conference or workshop travel grants and short term visits, to longer-term stays (up to six months). It encompasses four components:

- Travel Grant Scheme,
- Staff Exchange Projects,
- Knowledge Exchange Scheme,
- Industry Engagement Days.

The purpose of the Capacity Building and Knowledge Exchange Programme is to strengthen the links between ELIXIR Nodes, facilitate capacity building in ELIXIR Nodes and support the exchange of best practices in bioinformatics service provision. It covers *ad-hoc* needs, accommodating innovative, emerging ideas, or newly onboarded people requiring capacity building and knowledge exchange outside of the activities already funded in ELIXIR Commissioned Services.

Application to the programme is via the separate application forms available on the [ELIXIR website](). An annual call for Capacity Building and Knowledge Exchange in all four areas is also published, along with application requirements.

Further information on each of the four schemes is given below.

Travel Grant Scheme

The purpose of the ELIXIR Travel Grant Scheme is to support individuals in ELIXIR Nodes to attend ELIXIR-related events, travel between ELIXIR Nodes, and travel between the Nodes and the Hub. Applications must be submitted with at least 30 day's notice. Travel grants will cover conference registration fees, transportation, accommodation and subsistence. These will be reimbursed through ELIXIR external expenses.

Staff Exchange Programme

The ELIXIR Staff Exchange allows members of an ELIXIR Node to travel and work in other ELIXIR Nodes, or to attend a specific ELIXIR-related event. The aims of the ELIXIR Staff Exchange Programme are to strengthen the links between ELIXIR Nodes, facilitate capacity building in ELIXIR Nodes and support the exchange of best practices in bioinformatics service provision.

ELIXIR Knowledge Exchange Scheme

ELIXIR supports collaborative partnerships between industry and ELIXIR members to drive innovation in bioinformatics. The Knowledge Exchange Scheme will cover the cost of transportation, accommodation, personnel costs of a maximum one person-month per person, and subsistence to a maximum budget of €15,000. These costs will be reimbursed to the travelling Node through a Proposal of Funding Letter and invoicing after the Knowledge Exchange has been completed and a report submitted to the Hub. Industry partners are not eligible for funding.

Industry Engagement Days

Industry Engagement Days give Nodes a chance to reach out to relevant companies and industry associations, communicate ELIXIR services and forge strong links with the local representatives. The costs covered for the event will include the venue, catering and travel expenses to a

maximum of €7,000. These costs will be reimbursed to the organising Node through a Proposal of Funding Letter and invoicing after the event, and when a report has been submitted to the Hub.

General Guidelines for Implementation of Commissioned Services

The ELIXIR Commissioned Services Guidelines and Conditions for Funding (2024-2028 Programme) describe the pre-award phase of CoS preparation and application, set out the award phase rules for the usage of CoS funding and describe operational support for the implementation of the CoS projects. Guidelines are approved by the ELIXIR Director and annexed to each Commissioned Services contract with ELIXIR Nodes.

5. Externally funded projects

5.1 Introduction

The Project Management Office (PMO) at the ELIXIR Hub supports ELIXIR partners through the development of new grant applications. The list of ELIXIR's EU-funded projects is available on the ELIXIR website.

Projects may be led by ELIXIR Nodes or the ELIXIR Hub. The PMO manages all aspects of Hub-coordinated projects (including reporting, monitoring, internal project communications and the organisation of project meetings).

For proposals submitted by Nodes, input is provided by PMO for general assistance. This includes advice on strategy as well as practical resources such as the provision of templates.

5.2 Funding opportunities and proposal preparation

Detailed information to ensure a consistent representation of ELIXIR and partners is available in this document: How to present ELIXIR in grants.

The PMO can help steer proposals through the EC Funding and Proposal Preparation process which covers finding a call, registering in the EC portal, EC proposal submission guidance and the steps from evaluation to EC grant signature.

5.3 Guidance on project implementation and reporting

The PMO provides expertise and support to Nodes through formal aspects of project implementation (for example, funding rules, administrative processes, workshop costs and Grant Agreement amendments). It also provides project management support to the implementation of the ELIXIR Scientific Programme.

- EC Grant Management
- PROCESSES: Exemplar EC project management and reporting based on PM2
- TEMPLATE: ELIXIR Project Monitoring

5.4 Affiliated Entities and Associated Partners

Affiliated Entities

The Collaboration Agreements between ELIXIR and national Nodes provide the legal basis for the ELIXIR Hub and Nodes to participate in EC-funded programmes (Horizon Europe, Digital Europe and EU4Health) using the Afficialted Entity model. This model facilitates the management of complex project consortia and establishes a bridge to bring in Node expertise according to the evolving needs of the project. It allows Nodes to participate under the entity of the ELIXIR Hub without being a separate beneficiary in the project.

It is strongly recommended that Nodes appoint one institute to sign the Collaboration Agreement on behalf of every Node member (Representing Entity model) when renewing their Collaboration Agreement instead of only one Node member signing in their name (Lead Entity model). Under the Representing Entity model all Node members become party to the Collaboration Agreement and are legally linked to the ELIXIR Hub, which is often necessary for multi-party projects.

- [Affiliated Entities in EU Grants](#)

Associated Partners

Associated Partners in Horizon Europe, Digital Europe and the EU4Health programmes are a new type of "project party" introduced by the last European Commission framework programme. This model facilitates the participation of entities from third countries and those institutions that do not want to receive funding but are still keen to contribute to the project, allowing them to be assigned tasks without EC funding. Usually, they are funded by their national funding authorities. While their budget is incorporated at the proposal stage, it is taken out during the Grant Agreement preparation phase as Associated Partners are considered self-funded. The consortium (not only the coordinator) will be liable for delivery from an Associated Partner.

5.5 Letters of support from the ELIXIR Hub

The ELIXIR Hub is committed to providing Letters of Support (LoS) to ELIXIR Nodes according to agreed [principles](#).

5.6 Project dissemination

Externally funded activities usually have specific dissemination requirements, often detailed in the project proposal, and reported to the funder by the PMO, in the case of grants coordinated by the ELIXIR Hub. Dissemination activities are in collaboration with the External Relations team and are essential to ensure that project outputs are known outside of the project consortium and have a long-term legacy after the end of the funded phase. This, in turn, helps ensure uptake, and hence impact, of the project outputs. Some dissemination activities benefit greatly from expert communications support (section ▶▶[6.3 Impact](#)).

6. Communications and External Relations

This section collates the various documents and guides available to ensure a harmonised communications presence for ELIXIR across all digital platforms and ELIXIR branded publications.

6.1 Supported communication channels

Website

The ELIXIR website, https://elixir-europe.org/, is the main source of information about ELIXIR. Any member of ELIXIR can log in (see ▶▶Intranet below) and suggest updates and add their events.

ELIXIR Nodes and colleagues from industry and academia can advertise jobs relevant to the bioinformatics community via the ELIXIR Job Vacancies page. The ELIXIR Weekly Brief and Industry newsletter automatically pull the information from this page to showcase the most recent job adverts.

ELIXIR email for Nodes

Each Node may request up to four ELIXIR email addresses to be administered and funded via the ELIXIR Hub. These are for receiving emails only. Alternatively, Nodes may fund their own choice of mail server should they wish to send from, and receive, emails for multiple ELIXIR email addresses. The mail server may be third-party or bespoke and should be set up in consultation with the ELIXIR Hub. The process is detailed here: ELIXIR email policy.

Intranet

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 - how to view, add, invite and delete members of intranet groups, using the PERUN group management platform.
- Instructions for intranet champions - how to create and maintain content on the ELIXIR intranet.
- How to edit pages on the ELIXIR website - login is required and all edits will be moderated.

Mailing lists, Weekly Brief and Key Contributors Update

The ELIXIR Hub manages numerous mailing lists and regular, coordinated communications on behalf of ELIXIR members and key stakeholders, details of which can be found in the ELIXIR mailing lists and weekly updates document. A comprehensive directory is provided, for example, mailing lists for all ELIXIR Platforms, Communities, events, finance matters, contracts and project management.

The ELIXIR Weekly Brief is an internal email newsletter circulated every Monday to all ELIXIR Node members. The purpose is to provide general information and updates from the Hub, Nodes, Platforms, Communities and related initiatives. ELIXIR members can subscribe using a landing page. All new subscribers are reviewed based on their institutional account domains – personal email accounts will not be accepted.

The ELIXIR Key Contributors Update (KCU) is an email newsletter, circulated weekly to key stakeholders in ELIXIR with updates on meetings, activities and information relevant to this group, which is not suitable for wider circulation. Key stakeholders in ELIXIR include: Heads of Nodes (HoN) and appointed Deputy HoN, Training Coordinators (TrCG), Technical Coordinators (TeCG), Node Coordinators, Platform co-leads, Community co-leads, co-leads of ELIXIR Commissioned Services, and PAs/secretaries of those above.

ELIXIR Gateway on Faculty 1000 research (F1000Research)

The ELIXIR F1000Research Gateway provides an option for open access and open peer-review research articles, with article processing charges covered by the ELIXIR Hub. In addition to research articles, it is also possible to publish documents (for example roadmaps, reports, process and strategy documents), posters and slides. This 2021 blog provides an overview of the ELIXIR Gateway on its fifth anniversary.

ELIXIR – Europe YouTube channel

The ELIXIR Youtube channel collects videos produced by the ELIXIR Hub and content associated with ELIXIR-coordinated grants and projects. Content includes recordings of ELIXIR webinars and selected ELIXIR training sessions, recordings of talks and presentations at ELIXIR events (both online and onsite), as well as promotional videos.

Photos from ELIXIR events

Given the correct permissions, ELIXIR may record digital content (photographs and/or video footage) at an event for documentation and promotion of ELIXIR activities, which includes publishing photos from ELIXIR events on the ELIXIR website. The photos are stored and displayed via an ELIXIR Flickr Gallery. ELIXIR Nodes should contact info@elixir-europe.org if they wish to reuse this content in any of their online or printed material.

6.2 Industry engagement

To support Europe's industry and in particular its SMEs, ELIXIR hosts a series of industry engagement activities as part of innovation and industry engagement. Activities include mapping of ELIXIR industry activities, events, dissemination of industry relevant activities, short industrial projects, sharing of best practices and assessing the impact of openly available resources in innovative solutions.

In addition, the Hub funds Innovation and SME Forums hosted by mature Nodes, and Node Industry Engagement Days hosted by Nodes with an emerging interest in industry engagement. Each event provides companies with the opportunity to learn more about ELIXIR services and forge strong links with the local ELIXIR Node representatives. Guidelines for organising industry events are available.

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. More information can be found in the mapping report: [Mapping of clusters and SME associations of relevance to ELIXIR](#).

To generate more opportunities for the academic sector and industry to collaborate, short-term knowledge exchange schemes with industry have been established. The [ELIXIR Knowledge Exchange Scheme](#) (EKES) covers travel and accommodation expenses, as well as one month of staff costs, giving ELIXIR members the opportunity to spend time at industry partner facilities or to host workshops and knowledge exchange events either at the academic or industry partner facilities.

To ensure capacity building in industry engagement skills, ELIXIR organises an [ELIXIR Innovation and Industry Group](#) meeting once every two months. ELIXIR members are invited to discuss a topic of interest and share experiences on engaging with the local industry community. To showcase success stories, a collection of [ELIXIR industry publications](#) can be viewed online.

6.3 Impact

ELIXIR works with its Nodes to make open data and open science realities in terms of digital skills, innovation, health, food security and the environment. The [Impact Group](#) aims to empower ELIXIR partners in evaluating and communicating their performance and impact, in support of the long-term sustainability of national Nodes.

ELIXIR Members can:
- [Join](#) the intranet group to gain access to the [full resources under 'Documents'](#),
- [Register](#) for the mailing list (it is not synchronised with the intranet group, and membership is moderated), and
- Join the #fg_impact channel on the ELIXIR-wide Slack space.

Anyone within and beyond ELIXIR:
- Explore examples of ELIXIR's impact through on the [Impact Dashboard](#), and
- Make use of [ELIXIR's Impact Toolkit](#).

Determining quality and impact of ELIXIR training events

The Training Platform has developed a [framework](#) for assessing audience demographics and training quality, as well as training impact of ELIXIR-badged training events. The framework has been approved and endorsed by the ELIXIR Heads of Nodes and adopted by the ELIXIR Training Coordinators and is publicly available.

A [defined set of metrics](#) are captured for all ELIXIR training events run by all ELIXIR Platforms, Communities and Services. If you are involved in running an ELIXIR training event, please get in touch with your [Node Training Coordinator](#) to ensure that quality and impact data is properly captured using the appropriate tools and included in the ELIXIR-wide training report.

6.4 Resources

Node Communications Toolkit

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

The Toolkit includes links to the following:

- Social media guidelines for account managers: building Node presence,
- Social media guidelines for employees: amplifying ELIXIR presence,
- Online content guidelines,
- ELIXIR Node newsletters,
- ELIXIR print materials,
- ELIXIR Style and spelling guidelines.

These guidelines provide practical advice on how to use different tools in social media management, email communications (newsletters and mailing lists) and present basic principles for developing communications materials.

In addition, there are a number of communications assets available via the [ELIXIR intranet](#), such as [branding guidelines](#), a [standard slide deck](#), ELIXIR [logos and templates](#) and other visuals.

6.5 Acknowledgement guidelines

How to acknowledge ELIXIR funding and support

If your work has received financial support (for example, grant funding, event sponsorship) or other support (for example, in-kind contribution) linked to ELIXIR, you need to visibly acknowledge ELIXIR's contribution using [these guidelines](#). The ELIXIR Hub also monitors a number of search terms via text-mining of Europe PMC, and you can access [visualisations](#) of this effort to measure ELIXIR's scientific legacy.

How to publish ELIXIR-related work

Options for publishing peer-reviewed and non-peer-reviewed work related to ELIXIR are described in [these guidelines](#), and also in [more detail](#) (including general principles and special cases). Information on ELIXIR publications is [available](#), including publicity materials, Scientific Programmes and strategy documents, and annual reports.

6.6 Strategy documents

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.

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.

International strategy

ELIXIR's international strategy describes what ELIXIR is doing to reinforce its global significance and impact. ELIXIR is involved in a range of collaborations, including, for example, a collaboration strategy with the Australian BioCommons. The ELIXIR Hub can financially support strategically relevant interactions with organisations beyond Europe, for example, through Staff Exchange projects and Travel Grants.

Long-term sustainability plan

ELIXIR's Sustainability Plan gives an overview of how ELIXIR intends to support the sustainability of the bioinformatics resources across its Nodes.

7. ELIXIR events

7.1 What is an ELIXIR event?

A meeting is classed as an "ELIXIR event" when registration is required. For clarity, a meeting organised through calendar invites and email, is not an ELIXIR event.

Currently, ELIXIR holds around 50 events a year which include governance meetings (SAB, HoN, Board, IAC meetings, see section ▶▶Governance and legal framework), industry meetings (SME events), conferences (ECCB, ISMB, ICRI), project meetings (EC funded projects) along with its signature event All Hands Meeting, workshops and hackathons (for example the Biohackathon). The format of the ELIXIR events can be face-to-face, virtual or hybrid.

The ELIXIR events homepage is the external source of event communications for ELIXIR. The page displays details of internally organised events, along with external events pulled from ELIXIR's Training Portal (TeSS).

7.2 Event preparation

There are a number of documents and templates that help produce a successful ELIXIR event, whether it is in person, hybrid or online. Event organisers can find practical guidelines and tips

for either event format on the ELIXIR website (left menu) along with the ELIXIR Code of Conduct, which is applicable to all Hub organised or funded events.

Event merchandise

The ELIXIR Hub has a small stock of ELIXIR merchandise (for example, branded pens) for promoting ELIXIR at external events. Shipping can be prohibitive and guidance can be provided by Communications on ordering merchandise locally.

Communications

Whilst presenting at ELIXIR events, we highly recommend that speakers and organisers adhere to the ELIXIR style guidelines, logos and recommended visualisations. The intranet Communications page contains guidance documents.

7.3 After the event

It is recommended that a standard feedback questionnaire is used, so feedback can be compared over time. There is a collection of useful survey questions to provide inspiration. For training events, the feedback is recommended to be captured and submitted as defined in section ▶6.3 Determining quality and impact of ELIXIR training events.

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.

8.1 ELIXIR Services

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. These are listed on the ELIXIR website's Services page.

The scope and terms of ELIXIR Services

A "Service" is defined in the document Clarification of terms and scope of ELIXIR Services . The document also defines the role of the ELIXIR Node regarding ELIXIR Services and discusses the benefits and responsibilities that come with the "ELIXIR Service" label.

Service Delivery Plans

Each Node, with support from the ELIXIR Hub, will prepare a Service Delivery Plan outlining services that fall under the administrative and financial responsibility of the Node (Node-funded Services).

Guidelines for Node Services Selection Process

ELIXIR has developed Guidelines for Node Services Selection Process. It is recommended that each Node builds their own services selection process based on these guidelines.

8.2 Key service collections

ELIXIR's Data Platform is responsible for the administration and support of the Core Data Resource and Deposition Database portfolio. The Interoperability Platform coordinates the selection of Recommended Interoperability Resources.

Core Data Resources

The ELIXIR Core Data Resources (CDRs) are 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 (Identifying ELIXIR Core Data Resources).

The list of Core Data Resources was initially published in July 2017, with updates in June 2018 and December 2023.

Deposition Databases

In addition to the list of CDRs, ELIXIR has compiled a list of databases recommended for the deposition of experimental data - ELIXIR Deposition Databases for Biomolecular 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. Additional Deposition Databases can be added as part of the CDR call cycle, or where necessary as described in the process to select Deposition Databases, which has been agreed upon by the ELIXIR Heads of Nodes.

Recommended Interoperability Resources

The ELIXIR Recommended Interoperability Resources (RIRs) are key resources critical to the FAIRification process (the activities to make data FAIR[1]) and are selected based on the guidelines created by community consensus (RIR Selection Criteria). The call for RIR applications happens on a regular cycle. Applications undergo a Hub-organised review process and selected RIRs are subject to annual review and approval by Heads of Nodes.

8.3 ELIXIR Platforms

ELIXIR's activities are divided into five areas called Platforms: Data, Tools, Compute, Interoperability, and Training. Each Platform is led by co-leads, also known as the Executive Committee ("ExCos"), working closely with a Hub-based Coordinator. Platform' work is carried out by groups within them, funded by a variety of different mechanisms. Further information can be found on the Platform webpage.

The Process to appoint new Platform ExCos was developed in 2019 through consultation with the Heads of Nodes and Platforms ExCos. The first instance of the ExCo appointment process concluded in December 2019 and each new process is advertised ELIXIR-wide.

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[1] Wilkinson MD, Dumontier M, Aalbersberg IjJ, Appleton G, Axton M, Baak A, et al. The FAIR Guiding Principles for scientific data management and stewardship. Sci Data. 2016;3: 160018. doi:10.1038/sdata.2016.18

The Data Platform

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

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

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 (now rebranded Life Science Login) 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

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. These include: 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

The Training Platform is building a network of training resources and services, aiming for collaboration, visibility and standardisation. It maintains TeSS, the ELIXIR Training registry, which provides a one-stop portal for trainers and trainees to register or discover online information and content, including training materials, events and interactive tutorials. The Platform coordinates the ELIXIR Training Metrics Database that collects statistical information about training events and serves them to the Nodes (see section ⏩ 6.3 Impact for further details). The ELIXIR trainers page (intranet only) enables users to find ELIXIR trainers by searching for topics of interest.

8.4 ELIXIR Communities

ELIXIR Communities are groups of experts across ELIXIR Nodes, and beyond, that represent a scientific or technological theme which drives the development of standards, services and/or training in and across services offered by ELIXIR. They connect the infrastructure services to research domains.

Communities benefit from dedicated funding, including funding for a face-to-face/hybrid meeting, and involvement in the technical development of ELIXIR. Communities are also eligible to apply to open calls for Commissioned Service funding.

Communities are established following consultation with the Heads of Nodes Committee after preparing a white paper. Each Community is led by three co-leads. The appointment process, as well as more in depth details regarding the above mentioned points are described in the [ELIXIR Communities Handbook](#).

Community membership is open to members and non-members of ELIXIR Nodes, however Community co-leads must be members of ELIXIR Nodes. The process for joining Communities is described in the Communities Handbook.

The Communities currently recognised and supported by ELIXIR are listed on the [Communities page on the ELIXIR website](#).

8.5 ELIXIR Human Genomics and Translational Data

The [ELIXIR Human Genomics and Translational Data (HGTD)](#) team coordinates ELIXIR Nodes, Communities, and key projects to co-develop a long-term European strategy for sharing sensitive human research data based on a set of flexible, production quality and sustainable components.

HGTD aims to provide a forum for communication across all ELIXIR structures to construct and operate a sustainable infrastructure for human data in Europe. This will support life science research and enable its translation into medicine at scale. Any data in this infrastructure must be shared responsibly, and in line with General Data Protection Regulations and ethical policies, to preserve the trust of people participating in research and volunteering their data.

8.6 Technical resources

ELIXIR Git repository

The [ELIXIR Git repository](#) is a resource available for code produced through ELIXIR-funded projects, for example via an ELIXIR-coordinated EC project or Commissioned Services funding. To upload your code, contact the ELIXIR Hub to have a repository created. Likewise, existing code repositories can be tagged and linked through this resource.

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, an [ELIXIR AAI Service Plan](#) was agreed for 2021-23 and a new [Life Science Login service](#), implemented through EOSC Life science cluster project and operated by ELIXIR and partners, has been operational since 2022. This follows the [AARC Blueprint Architecture](#), also co-developed by ELIXIR and partners.

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

FAIR data management in the life sciences

ELIXIR has published a [statement](#) addressing how it helps researchers to make life science data FAIR (Findable, Accessible, Interoperable and Reusable).

The statement also expresses 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.

9. Governance and legal framework

9.1 Governance structure

This section provides a description of the roles of the governance bodies including their terms of reference and rules of procedure. The section also signposts policies available to the public, as approved by the ELIXIR Board. The [ELIXIR governance structure](#) is defined in the [ELIXIR Consortium Agreement](#) (ECA), described in more detail below.

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 ethical, legal and social implications (ELSI) matters. Furthermore, the [Heads of Nodes Committee](#), comprising representatives of the ELIXIR Nodes, gives advice to the ELIXIR Board and Director in relation to ELIXIR activities and strategic priorities.

In addition to these permanent advisory boards, the ELIXIR Board may establish additional advisory bodies and committees, and form working groups where this is necessary for the proper functioning and achievement of ELIXIR's goals. For example, the [Industry Advisory Committee](#), which includes experts and members of industry who advise the ELIXIR Board, Director and the Heads of Nodes Committee on ELIXIR activities and interactions with industry.

Principles of meeting procedures for ELIXIR governance groups

Each permanent group of ELIXIR has agreed rules of procedure 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 ELIXIR Consortium Agreement	[Revision 2, June 2020](#)
[Heads of Nodes (HoN) Committee](#)	Defined in Art. 6.5 ELIXIR Consortium Agreement	[Version 3, Sep 2019](#)

Scientific Advisory Board (SAB)	Defined in Art. 6.4 ELIXIR Consortium Agreement For more information see Terms of Reference of the SAB: Revision 5, October 2023 (Approved by ELIXIR Board)	Version 3, Feb 2020
Industry Advisory Committee (IAC)	For more information see the Terms of Reference of the IAC: Revision 2, June 2020 (Approved by ELIXIR Board)	Version 2, Jan 2020

9.2 Legal framework

ELIXIR Consortium Agreement

ELIXIR is an international consortium. The ELIXIR Consortium Agreement (ECA) is the legal basis for ELIXIR entered into by Member States and EMBL. 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 Governance FAQ provides answers and explanations to the frequently asked questions about the legal framework of ELIXIR.

Information on how countries can apply to become a Member State in order to establish a Node is available on the ELIXIR website.

ELIXIR Collaboration Agreement

The 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. The ELIXIR Hub has established a template for the Collaboration Agreement, which is used by Nodes and which is only amended in very exceptional cases.

9.3 ELIXIR policies, guidelines and procedures

Tasks carried out by EMBL in its function as ELIXIR's host are subject to EMBL internal rules and regulations and policies, as applicable, including, for the avoidance of doubt, the EMBL Staff Rules and Regulations as well as the EMBL Financial Regulations and Internal Financial Rules.

In addition, and within ELIXIR's legal framework, the ELIXIR Board may adopt and revise policies or implementation guidelines that may be required for the operations of ELIXIR, provided they are consistent with EMBL's rules, regulations and policies. The review and approval processes of policies and operational procedures are described as follows.

Policies

As per the ECA, policies must be approved by the Board. They are prepared by the Director, in consultation with the Heads of Nodes, where applicable. Policies cover long-term and "constitutional" aspects in ELIXIR, and thus apply across all of ELIXIR. As defined in the Collaboration Agreement, Nodes need to comply with a number of policies, such as the 3.4 ELSI Policy below.

Operational procedures

Operations procedures collated within this Handbook outline ELIXIR best practice as approved by the ELIXIR Board or by the Director in consultation with the Heads of Nodes and include recommended processes, useful information and templates that enable us to provide a consistent and cohesive infrastructure across all ELIXIR. Such procedures include non-binding recommendations within ELIXIR and those created to drive the harmonising and implementation of technical best practice.

9.4 Ethical, Legal and Social Implications (ELSI) Policy

ELIXIR members should take note of the ELSI Policy, which was approved by the ELIXIR Board in 2016. More background and information regarding the ELSI Policy can be found in the ELSI Policy Background document.

9.5 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.

9.6 Code of Conduct

Any ELIXIR event organised and/or funded by the ELIXIR Hub is governed by the ELIXIR Code of Conduct which contains important and binding rules for all event attendees, covering the following areas: confidentiality and safety, professional integrity and personal conduct.

9.7 Data protection

ELIXIR Hub

Relying on EMBL's legal personality as an Intergovernmental Organisation (EMBL's international legal status), the ELIXIR Hub relies on EMBL's internal data protection framework, namely the EMBL Internal Policy No 68 on General Data Protection. Adopted in 2018, IP68 is adapted to the needs of international scientific research and reflects the principles of European data protection law while remaining within the boundaries of EMBL's international legal status. More information on Data Protection in ELIXIR is available on the ELIXIR website and further details on EMBL's approach to data protection is available on the EMBL website.

European Data Protection Board recognised that GDPR does not apply to international organisations in its Guidelines 3/2018 on the territorial scope of the GDPR (Article 3) of 12 November 2019, at page 23). This means that EMBL and therefore ELIXIR, is not subject to GDPR. Nonetheless, EMBL has self-regulated this area and implemented tools to ensure the protection of personal data processed and transferred. EMBL has established and implemented its own Internal Policy on Data Protection (IP68), considering the standards of data protection.

Due to ELIXIR's status, the Standard Contractual Clauses (SSCs) of the European Commission are not suitable to ELIXIR. Consequently, EMBL has implemented specific contractual mechanisms and legal frameworks to enable data transfers with confidentiality and integrity. Frequently, data transfers can be based on the derogation of the important public interest reason provided for in Article 49 (1) (d) of the GDPR for processing data, including the promotion of scientific research.

ELIXIR Nodes

Any personal data processing carried out by the ELIXIR Nodes falls outside the scope of ELIXIR's Data Protection framework, so the ELIXIR Nodes are responsible (alone or jointly with others) for compliance with their own national data protection legislation (for example GDPR and/or other relevant national data protection legislation). The ELIXIR Hub cannot advise the ELIXIR Nodes on GDPR-related matters, so for any such matter it is recommended to consult the Node member's Data Protection Officer for any GDPR guidance.