ELIXIR Guide

"How to engage with industry"

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1. Target audience

This "How to..." guide has been produced for ELIXIR members who want to engage with industry. It draws on experiences from the ELIXIR Industry Strategy as well as individuals within ELIXIR working in public-private collaborations, experts from ELIXIR's Industry Advisory Committee and current literature describing public-private partnerships. The "How to...." guide should be seen as a supporting document for everyone in ELIXIR who wants to engage with industry.

2. What's in it for you?

2.1 Why should you consider engaging in a collaboration with industry?

- Increase the impact of your service, resource or Node, by increasing usage and update from industry
- Raise awareness of your services and tools to new stakeholders
- Demonstrate applicability of your services/tools e.g. by developing industry use cases
- Create additional sources of income/funding (e.g. for PhD studentships), access specific funding schemes for industry collaboration, and enhance funding capabilities. Public-private collaborations are often mandatory for acquiring large multi-annual grants (for instance from the National Growth Fund in the Netherlands, or the Resilience and Recovery Fund (EC)).
- Access knowledge and data that might not be publicly available
- Understand bottlenecks and advances in the bioinformatics/life science industry
- Increase internal skills and competences by developing industry specific training content for your services.

2.2 What's in it for the industry partner?

1. Encouragement for a culture of innovation, develop relevant technology and science (R&D):

- Outsourcing of high-risk research (in terms of likelihood of success)
- Development of faster timelines to market through co-development of products and services
- Access or generation of relevant IP (e.g. explore Software and Data licences in the Turing Way)
- Being up-to-date on research achievements and societal needs, and looking ahead to future trends
- Exploration of new areas of expertise and scientific interests (e.g. Biomentors club)

2. Gaining better knowledge of the publicly-funded data, software and workflows available, which can act as the basis for new products and services (e.g. Publication on Open data: A driving force for innovation in the life sciences, 2021)

3. Capacity building and developing training tailored to company needs (e.g. customized training activities on Pharmaceutical Bioinformatic, and bioinformatics training for companies)

4. Participation in co-development of open-source projects and accessing relevant funding opportunities

5. Testing of products in the market and collecting feedback (beta test)

6. Expansion of recruitment target audience:

- Directly: from the collaborator
- Indirectly: word of mouth in the field (ELIXIR job vacancies portal), also possibly as external contractors

7. Building public relations, crucial for business development:

- Outreaching relevant scientific communities and key opinion leaders
- Added value in corporate social impact
- Proof of Concept for new applications
- Indirect marketing

2.3 Who are key partners in the bioinformatics ecosystem

ELIXIR Nodes are vital players in building partnerships with the private sector by sharing direct experiences and collecting feedback. Some of the Nodes activities on industry engagement are described in the publication and the Industry live-map.

For example:

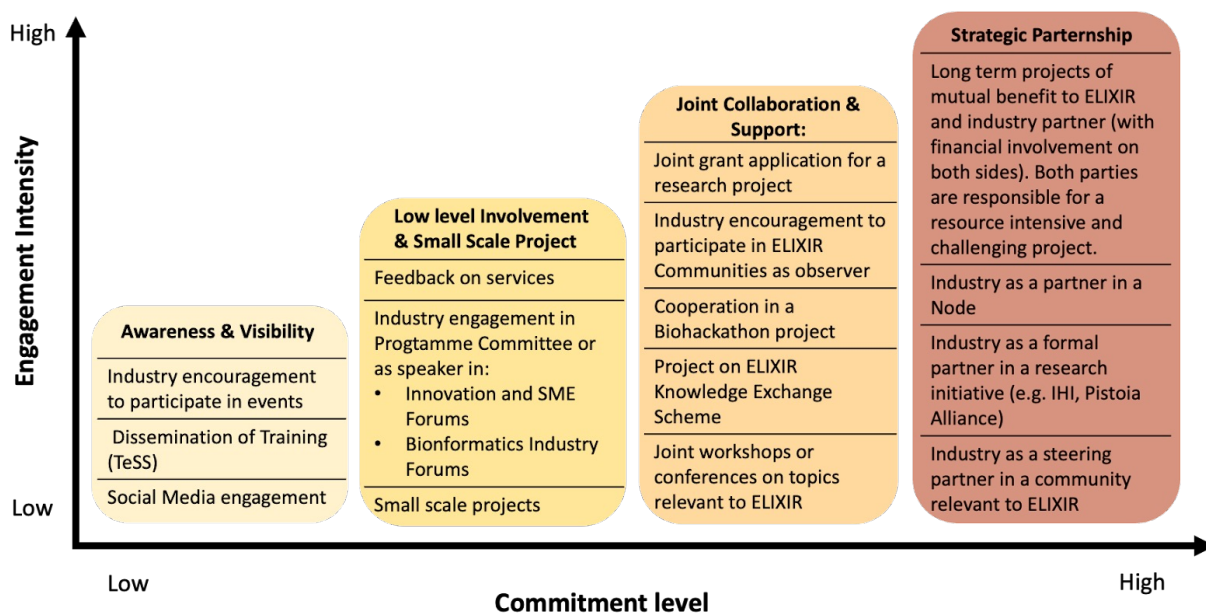|	
ELIXIR-Portugal	Knowledge Exchange Schemes between BioData and companies from the agritech sector, such as The Navigator Company, and Phenospex.
ELIXIR-Sweden	Collaboration with the BioInnovation Institute, as part of the Knowledge Exchange Scheme.
ELIXIR-Finland	Collaboration on data standardisation and access with BC Platforms.
ELIXIR-UK	Run a number of industry-relevant resources, often jointly developed with industry including FAIR Cookbook
ELIXIR-Germany (de.NBI)	Industrial Forum with many activities and members
ELIXIR-Italy	Collaboration with Chiesi Farmaceutici S.p.A. on training materials
EMBL-EBI	Industry Programme
ELIXIR-Switzerland (SIB)	Public-private partnership on numerous services
ELIXIR-Netherlands (DTL)	Public-private partnership model

Working with industry associations and other regional actors can lead to productive engagement (e.g. Clusters and SME Associations of relevance to ELIXIR).
Example include:

Ecosystem	Example
National initiatives for establishing a start-up ecosystem	Techleap
Regional Development Agencies	Innovationquarter; Brabantse ontwikkelingsmaatschappij; Apulia Region Agency for Technology and Innovation
Science parks	Leiden Bioscience Park; AREA science park
Entrepreneurial organisations	YesDelft; UtrechtInc
Science incubators	Biopartner
Technological cluster	Alisei
Biotech & Industry clusters and associations	HollandBio; Vereniging Innovatieve Geneesmiddelen; Clusters and SME Associations of relevance to ELIXIR
Universities & Research Centres	
Research Infrastructures	National Research Data Infrastructure Association Germany
Funders such as venture capitals and business angels	Alta Life Science Spain

2.4 Things to consider when planning engagement activities towards industry

The level of formal commitment in engagement activities can range depending on capacity, resources, national priorities and the local needs of industry. The type of engagement can change over time and evolve from low-level commitment activities, which focus on outreach and awareness raising, to more formal strategic partnerships, which require more effort and capacity to implement. Examples of these different actions are presented below:

Awareness & Visibility	**Low level Involvement & Small Scale Project**	**Joint Collaboration & Support:**	**Strategic Parternship**
Industry encouragement to participate in events	Feedback on services	Joint grant application for a research project	Long term projects of mutual benefit to ELIXIR and industry partner (with financial involvement on both sides). Both parties are responsible for a resource intensive and challenging project.
Dissemination of Training (TeSS)	Industry engagement in Progtamme Committee or as speaker in: • Innovation and SME Forums • Bionformatics Industry Forums	Industry encouragement to participate in ELIXIR Communities as observer	Industry as a partner in a Node
Social Media engagement	Small scale projects	Cooperation in a Biohackathon project	Industry as a formal partner in a research initiative (e.g. IHI, Pistoia Alliance)
		Project on ELIXIR Knowledge Exchange Scheme	Industry as a steering partner in a community relevant to ELIXIR
		Joint workshops or conferences on topics relevant to ELIXIR	

Engagement Intensity (Low → High) vs *Commitment level* (Low → High)

A few key points to consider when planning formal engagement and partnerships with industry partners are the following:

1. Consider reputational risks when engaging with a particular industry sector/partner
(Do I want to be affiliated with a particular company?)

2. Define a due diligence process for industry collaborations (covering legal, commercial and technical aspects)
→ Liaise with your institution's legal team to make sure they are ready to act on the necessary documentation
→ Define the policies on how you are prepared to engage with the industry

3. Clarify the background and ownership of the parties before starting the engagement ("who owns what" e.g. even if the data is open, not all the information is public)
→ Set up a collaboration agreement (partnership agreement, confidentiality and disclosure rules, IP rights, licensing, open data).

4. Define how effective communication will be sustained throughout the collaboration
→ Decide the contact person from both sides and arrange short monthly/regular meetings.

5. Consider the industry timescale/speed in research (e.g. commercial pressures, TLRs, Time to market)
→ Clarify time commitment from both sides, define a timetable, milestones and expected outcomes.

6. Ensure that any licensing model will drive knowledge transfer and business innovation to firms while preserving open science practices.

2.5 Suggested engagement actions

1. Consider a role for industry in your existing governance structures (such as Scientific Advisory Board) or set up a dedicated Industry Advisory Committee.
2. Assess the impact of the tools, software, databases that you run, develop an awareness of those with the highest potential for industrial use.
3. Build activities for cross-fertilization between your Node and industry.
4. Consider building a collaborative project with an industry partner through the ELIXIR Knowledge Exchange Scheme (EKES).
5. Invite industry representatives as speakers to regular activities and outreach events.
6. Communicate the public-private partnership to your network at the national and international level, and disseminate relevant information to industry.

3. Focus areas

a. Understanding your local ecosystem through stakeholder mapping

Before planning an engagement strategy, it is advisable to first understand the ecosystem the Node or institute are based in. Thriving innovation ecosystems harbours well-established relationships between social, political, academic and economic actors, all focusing on the development of new value through innovation. Several ELIXIR members have worked on stakeholder mapping to build relations and understand the local innovation ecosystem; examples and good practices are listed here.

For more information on what an innovation ecosystem is, read Deborah J. Jackson's publication.

To get a better understanding of who the stakeholders in your ecosystem are you can make use of tools such as the stakeholder map or the platform ecosystem framework. In this context, it is also helpful to understand where the gaps (e.g., knowledge, technical, training etc.) in your ecosystem are. A SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis can be an insightful analysis method, more information can be found here.

b. Developing an efficient industry strategy

The development of an industry strategy for your Node will help you to leverage your strategic positions and internal resources to attain a competitive advantage. In this process of developing an industry strategy, it is essential to understand the intent/purpose, the why, how and what of your strategy for engaging with the industry, and it will help you formulate a vision and mission statement. ELIXIR Hub has developed an industrial strategy with the vision to support the creation of an open innovation ecosystem in the life sciences by driving collaboration between industry and ELIXIR Nodes (2019-2023 Industry Strategy).
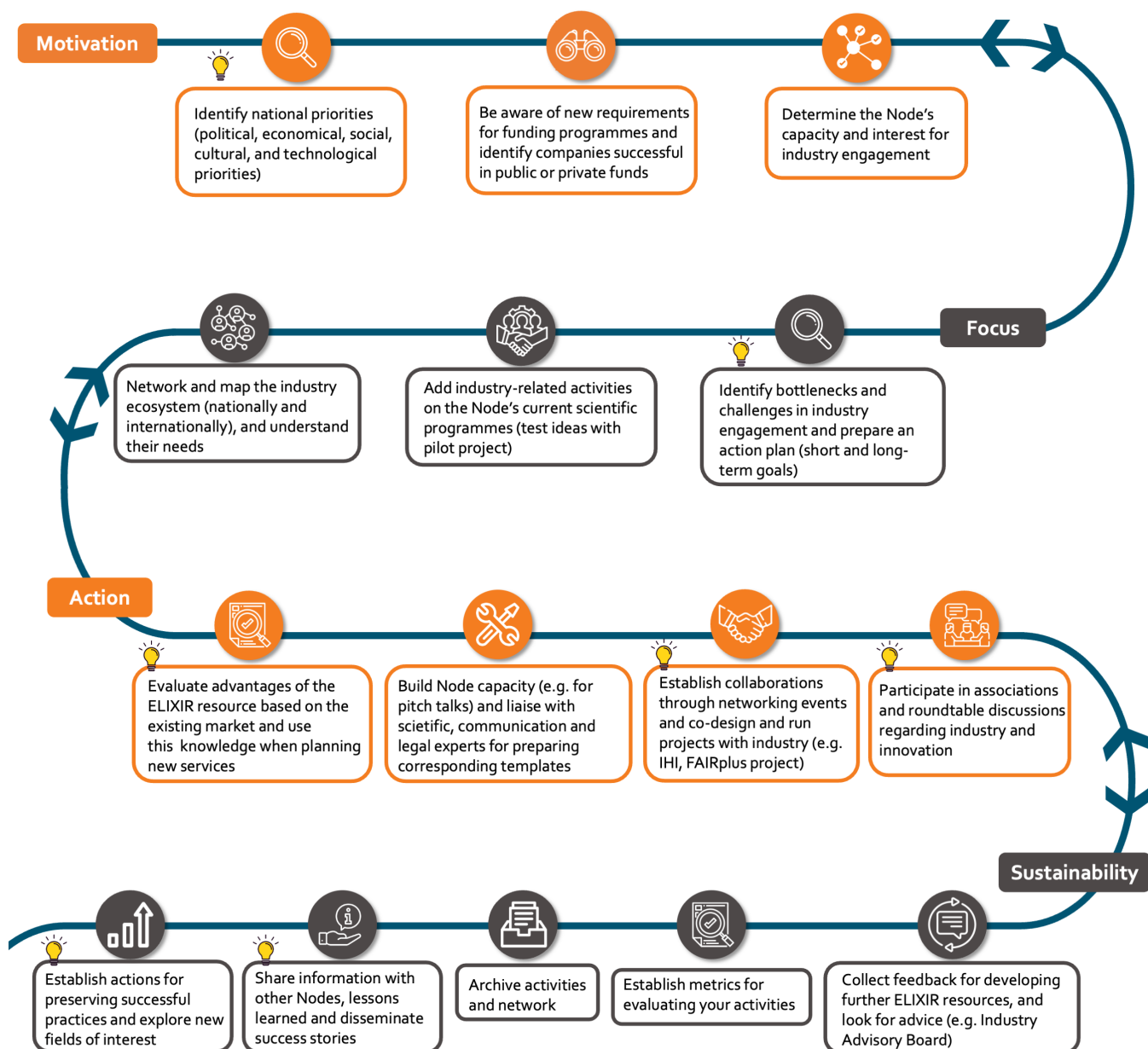
💡 **Formulate your strategy based on the following questions:**

- What is your motivation for engaging with industry (Diagnosis)?
- Which role will your Node play in the overall ecosystem?
- How will you satisfy user needs?
- What is your competitive advantage ? How can you differentiate yourself (know-how, quality, speed, price)?
- What are your core competencies & resources (exploit existing and build new)?
- What are the resources & environments that you will & will not compete in?
- What are the boundaries (e.g. geographical and budgetary constraints)?
- What is your approach in collaborations?

An Industry engagement strategy usually is built on four pillars: Motivation, Focus, Action, and Sustainability. This process of building a strategy is not necessarily linear, and it is very interactive, adjustable and inspires the development of new ideas and establishing relations.

Below you can see a few points of action for the different stages. This will help you understand what you may already have in place and which points could further inspire your research work.

Build an Industry engagement strategy

Motivation

Identify national priorities (political, economical, social, cultural, and technological priorities)

Be aware of new requirements for funding programmes and identify companies successful in public or private funds

Determine the Node's capacity and interest for industry engagement

Focus

Network and map the industry ecosystem (nationally and internationally), and understand their needs

Add industry-related activities on the Node's current scientific programmes (test ideas with pilot project)

Identify bottlenecks and challenges in industry engagement and prepare an action plan (short and long-term goals)

Action

Evaluate advantages of the ELIXIR resource based on the existing market and use this knowledge when planning new services

Build Node capacity (e.g. for pitch talks) and liaise with scietific, communication and legal experts for preparing corresponding templates

Establish collaborations through networking events and co-design and run projects with industry (e.g. IHI, FAIRplus project)

Participate in associations and roundtable discussions regarding industry and innovation

Sustainability

Establish actions for preserving successful practices and explore new fields of interest

Share information with other Nodes, lessons learned and disseminate success stories

Archive activities and network

Establish metrics for evaluating your activities

Collect feedback for developing further ELIXIR resources, and look for advice (e.g. Industry Advisory Board)

c. Building collaborations and licensing agreements

A good agreement with an industry partner will greatly increase the chance of successful technology transfer of benefit to all parties involved. There are a number of useful sources of information on agreements, though CORBEL gathered some of the main elements about collaboration and licensing agreements for Biological and Medical Sciences Research Infrastructures:

- Basic Aspects for Budgeting
- Compendium on Elements of Collaboration and Licensing Agreements
- Guidelines for Technology Transfer and Partnering
- Good Negotiating Practice
- Features of Intellectual Property
- Approaches to Life Science Evaluation
- IP issues in Open Science, pre-competitive Research and Open Innovation

Template agreements do exist, although agreements are almost always tailor-made and great caution should be exercised before using pre-existing templates. Details and examples of templates for Collaboration Agreements (CA), Confidentiality agreements, Material and data transfer agreements (MTA/DTA) have been developed through the CORBEL project can be found here.

d. Ensuring good communication to industry

Before planning any communications it is necessary to define the audience you are targeting and the key messages you hope to convey. Consider making contact with your institutional communications office who may be able to provide support, resources and training.

There are a range of communications tools available at your disposal for engaging with those outside of your academic environment including industry. Which ones you choose will depend on the messages and content that you wish to share.

Twitter is the default for academics and industry bodies sharing output. Its short form messaging is great for calls to action and stimulating visuals.

LinkedIn is very popular amongst research professionals in academia and industry alike, and the long-form post format can be beneficial for sharing stories and more detailed, blog style information. If you're seeking a personal connection, far more people have a LinkedIn profile than a Twitter account.

Regular newsletters work well to share content such as events, vacancies, publications and activity reports. Tools such as MailChimp will help you plan a campaign and monitor engagement. They also allow you to build up a targeted mailing list of key industry stakeholders. The [Node Communication Toolkit](#) contains additional newsletter guidelines.

The ELIXIR-CONVERGE webinar series hosted four sessions on focused on communication you may find useful:

- [CONVERGE WORKSHOP SERIES | Communications tips. One-size does not fit all](#)
- [CONVERGE WORKSHOP SERIES | Design made easy for communicators](#)
- [CONVERGE WORKSHOP SERIES | Check your communications campaign in a heartbeat](#)
- [CONVERGE WORKSHOP SERIES | Analytics — measuring communications](#)

Finally, make sure you assess the impact of your communications, for example by tracking social media analytics or newsletter click rates. This will ensure you are reaching your intended audience and sharing your key messages.

e. Engagement by hosting events

The benefits of hosting an industry outreach event include:

- Opportunity to better understand industry's requirements in your country/region
- Opportunity to showcase your local resources and national infrastructure to funders and industry, therefore helping to make the case to increase long term sustainability for bioinformatics resources
- Opportunity to establish/strengthen relationships with local SMEs & other companies

The event could be in the form of an Innovation and SME Forum or a roundtable. Here are the [guidelines](#) that we advise you to use when you organise an event, and [some lessons learnt from organising and hosting a hybrid conference](#).

It is recommended that a feedback questionnaire is administered at the end of each event and that the feedback is captured in a manner that allows for comparison of feedback over time. There is a collection of useful [Survey Questions for online meetings](#).

f. Looking at industry engagement through the impact lens

Whether you are setting up an industry engagement programme from scratch, or have been running one (or related activities) for years, you may wish to look at your efforts through the lens of impact. What is the overall goal of this portfolio and its activities, and who benefits? Is your industry engagement having the desired effect(s), and do you have evidence to prove this to your set of stakeholders?

ELIXIR has put together the following resources, which you may find useful to get started with monitoring and evaluating your industry engagement efforts:

- During the training event "Getting started with impact evaluation", one of the breakout groups worked on the topic "Establishing and running an industry engagement programme". The result of their work to draw a pathway covering activities, outputs, outcomes and impacts can be seen here, and you can also look at the facilitator's cheat sheet put together ahead of the event. To gain a deeper understanding, you can access the full outputs from the training course, which was undertaken as part of the ELIXIR-funded Strategic Implementation Study on Impact.

- Also coming under the broader umbrella of this study is this knowledge-exchange event around the 2021 report "Open data: A driving force for innovation in the life sciences" (news item, report) in which the authors presented the survey methods and interviews which they used to quantify the benefit of open data to industry and innovation.

- A wealth of information and more generic resources related to impact (in the context of ELIXIR) are available under the Impact Focus Group, and you can get an overview of ELIXIR's approach to impact in this article.

🪁 Useful literature collection:

- Targeting Academic Engagement in Open Innovation: Tools, Effects and Challenges for University Management
- Framework of collaboration between the European Medicines Agency and academia
- Harnessing Public Research for Innovation in the 21st Century An International Assessment of Knowledge Transfer Policies
- ENRIITC: Practical step-by-step guide for ILOS and ICOS to organise brokerage events
- ENRIITC: Deliverable Report: D3.2: Strategy for innovation and industry-RI cooperation
- ENRIITC: Deliverable Report: D3.3 Strategy for training of ILOs/ICOs and outreach towards industry

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