

Project Plan for the Training Platform Task 3

Title: Training Technical Infrastructure

Abstract/Purpose

The focus of this task is TeSS, the ELIXIR Training Platform's flagship resource and key reference training portal for the ELIXIR community; this is the principal channel of communication and aggregator of information about ELIXIR training events. TeSS began as an ELIXIR-UK pilot project prior to EXCELERATE, and has matured during EXCELERATE. As of July 2018, TeSS had displayed more than 8,000 training events, with a monthly average of at least 200 upcoming events; in addition, TeSS currently holds more than 1,000 training materials, aggregated from 51 training providers, of which 13 are ELIXIR Nodes. In the last 3 years, TeSS has been visited by around 13,000 unique users across Europe and beyond.

This task has 4 main objectives: 1) to maintain and sustain the standard minimal features of TeSS, including critical dependencies with other ELIXIR Registries and Nodes, with 3rd-party data and training content providers, etc.; 2) to develop TeSS (i.e. add functional capabilities); 3) to showcase, within TeSS, the training solutions available from all Nodes, both increasing their visibility and expanding the portfolio of TP's e-learning activities; and 4) to make the ELIXIR Training Handbook available through TeSS.

Time

Starting from 01/06/2019 for a period of 31 months

Participants

Name of Principal Investigator	Node (Institute)	Role	PMs	Optional information: in-kind contribution in PMs (Source: Institution, Grant, other)
Carole Goble	ELIXIR-UK (UNIMAN)	<i>lead</i>	19	
Alexander Botzki	ELIXIR-BE (VIB)	<i>lead</i>	1.8 ¹	Task 3 co-leadership
Milo Thurton	ELIXIR-UK (UOXF)	<i>member</i>	0	
Susanna Sansone	ELIXIR-UK (UOXF)	<i>member</i>	0	
Jon Ison	ELIXIR-DK (CTU)	<i>member</i>	0	
Eva Alloza	ELIXIR-ES (BSC-CNS)	<i>member</i>	0	Implementing Task 1 in collaboration with Task 3 - WP4
Patricia Palagi	ELIXIR-CH (SIB)	<i>member</i>	0	

¹ Resources for ELIXIR Belgium added 23 September 2020

Terri Attwood	ELIXIR-UK	<i>member</i>	0	
Brane Leskošek	ELIXIR-SI	<i>member</i>	0	
Victoria Dominguez	ELIXIR-FR	<i>member</i>	0	
Sarah Morgan	EMBL-EBI	<i>member</i>	0	
Danny Ben-Avraham	ELIXIR-IL	<i>member</i>	0	
Celia van Gelder	ELIXIR-NL	<i>member</i>	0	
Total			20.8	

Notes:

1. Prompt financial settlement relies on a Node having a CA.

Planned Work

WP1 - Maintenance of TeSS	
Lead	Carole Goble (ELIXIR-UK)
Members	Alexander Botzki (ELIXIR-BE), Milo Thurston (ELIXIR-UK)
Estimate	1 PM in 2019, then 3PM/year
As any technical service, TeSS needs to be routinely maintained. The minimal activities to ensure the viability of the service include both basic sysadmin functions (security patches, back-ups, hosting and domain renewal, etc.) as well as support and maintenance of core features and services: these include i) current automatic ingestions from content providers, to ensure that the information disseminated by TeSS is up-to-date; ii) user authorisation controls, to prevent predatory conference spam; iii) current widget code-base and services dependent on TeSS widgets, to sustain those dependencies; iv) integrations between TeSS and other registries (bio.tools, FAIRsharing, Impact platform, etc.) and 3rd-party services (e.g., Nominatim, Google Maps, Google Calendar, Bioportal); and v) the Bioschemas efforts, to ensure continued community work on interoperable training specifications. For 2020-2023, these activities are proposed to be carried out under the umbrella of the proposal for TeSS to become an ELIXIR Infrastructure Service. During 2019 it will be critical for the TP, working with the UK Node, to articulate the requirements that TeSS has for its routine maintenance to be funded as an Infrastructure Service, building on the following: ○ Outcome: TeSS maintained as the flagship for the ELIXIR Training Platform and ELIXIR. ○ How it is going to be accomplished: routine sysadmin of TeSS, maintenance of integrations between TeSS & other registries (bio.tools, FAIRsharing, Impact platform, etc.), maintenance of integrations between TeSS & 3rd-party	

services; continued community work on interoperable training specifications with the Bioschemas group.

- **Risks & Opportunities:** Risks - Not being able to fully integrate with other ELIXIR resources (mitigation: develop decision-support tools to help curators decide which links to be integrated); dependencies on automatic scrapers, which break when source websites are no longer maintained (mitigation: provision of troubleshooting documents to help providers fix broken scrapers, and bioschemas adoption to reduce broken scrapers in the long term). Opportunities - To ensure integration with resources from the Interoperability, Tools and Compute Platforms, to reach out to ELIXIR users to make ELIXIR events, and training opportunities and materials discoverable.
- **When will it be accomplished?** Q4 2019

If TeSS does transition to an ELIXIR Infrastructure Service in late 2019, this will release funds allocated to the Training Platform, currently for the maintenance of TeSS, to do development work associated with TeSS or other work of priority to the Training Platform and ELIXIR.

WP2 - Future technical developments of TeSS

Lead	Carole Goble (ELIXIR-UK)
Members	Alexander Botzki (ELIXIR-BE), Jon Ison (ELIXIR-DK), Brane Leskošek (ELIXIR-SI), Victoria Dominguez (ELIXIR-FR), Peter McQuilton and Milo Thurston (ELIXIR-UK), Sarah Morgan and Melissa Burke (EMBL-EBI)
Estimate	2 PMs/year

It will be important to ensure that TeSS is adopted by all Nodes, and kept up to date to remain the key reference training portal for the ELIXIR TP and Community. In the building stages, several consultations took place to shape TeSS development, mainly with the TrCG and mostly in the format of a number of workshops. New developments will be guided by the feedback from the Training Coordinators, as well as from TeSS users participating in a series of UX activities to be launched in the last year of EXCELERATE and continued in the period 2020-2023. Several new developments and features are already envisioned:

- Develop new automatic ingestions for content providers outside ELIXIR and new Nodes joining ELIXIR.
- Implement features for providers to access dynamic reports on TeSS traffic for each of their registered resources.
- Implement features to automate discovery & ingestion of resources, searching websites for structured data containing training content. In particular, TeSS will be linked to the platform for collecting training statistics and impact data developed in T1.

- Develop new tools to automatically extract categorical information (topics, keywords, authors, difficulty levels, prerequisites, *etc.*) from TeSS content.
- Develop techniques to semi-automatically form associations between TeSS resources & those in other ELIXIR registries
- Conduct and implement recommendations from a 2nd UX study.
- Integrate with other registries relevant to training:
 - containers registered in Biocontainers, designed to offer the correct computer environment for a class
 - computational infrastructures that allow classes to run educational example code such as Dodona (ELIXIR-BE).
- Develop Node 'shop windows', displaying details of their upcoming events, their resources, specialisations, personnel, *etc.*
- Implement 'calendar view' to facilitate organisation of events & avoid scheduling conflicts – provide overviews of historic & upcoming events around target dates using event data in TeSS.
- With further funding, we can ensure TeSS, FAIRsharing (databases, standards) and bio.tools (tools) are adequately crosslinked; moreover, if funding permits, we can ensure that information about containers (Biocontainers, Bioconda), workflows (CWL, Galaxy), computational infrastructures (Dodona), and scientific and technical performance (OpenEbench) is also made available.

WP3 - Expand the e-learning portfolio of the ELIXIR Platform

Lead	Alexander Botzki (ELIXIR-BE)
Members	Chris Child (ELIXIR-UK), Patricia Palagi (ELIXIR-CH), Victoria Dominguez (ELIXIR-FR), Sarah Morgan and Melissa Burke (EMBL-EBI), Celia van Gelder (ELIXIR-NL), Brane Leskošek (ELIXIR-SI)
Estimate	1 PMs/year for ELIXIR-UK 1.8 PM for ELIXIR-BE for Task 3 co-leadership ²

In the first ELIXIR Programme, the e-learning activities of the TP mostly focused on the EeLP platform, a Moodle-based environment, run by ELIXIR-SI. Several courses on topics identified by the Nodes as training needs, have been successfully implemented and run in a synchronous manner. In several Nodes (EBI, BE, CH, *etc.*), additional e-learning activities are taking place, using different Learning Management Systems, and offering asynchronous e-learning modules on a large variety of subjects. This task will ensure that those modules become an integral part of the ELIXIR e-learning strategy, and are visible and easily findable in TeSS. In order to further expand its e-learning portfolio, the TP will also explore the possible extension of the ELIXIR e-learning activities to produce training videos for a selection of topics/courses identified in T2 and T4.

² Addition 23 September 2020

- **Outcome:** e-learning section in TeSS.
- **How it is going to be accomplished:** e-learning activities of the Nodes will be tagged as e-learning in TeSS using, and a dedicated section in TeSS will be created to make these e-learning activities visible and findable in TeSS.
- **Risks & Opportunities:** Risks - Not a clear definition of e-learning is used and users become confused by the information displayed in TeSS, the activities in EeLP are not accessible in TeSS. Opportunities: to engage with all ELIXIR Nodes, and attract more users to TeSS.
- **When will it be accomplished?** Q4 2019

WP4 - Integrate the ELIXIR Training Handbook in TeSS

Lead Carole Goble (ELIXIR-UK)

Members Alexander Botzki (ELIXIR-BE), Eva Alloza (ELIXIR-ES)

Estimate 1 PMs/year

The ELIXIR Training Handbook, described in [WP1.1](#) as the collection of resources for developing, delivering and evaluating training, should be made available through TeSS. This work represents, in general, setting up a specific data-curation procedure, performing the data curation itself and some minimal developments to integrate the Handbook into TeSS, thus extending the functionalities of TeSS as the central landing page for all ELIXIR Training activities.

- **Outcome:** ELIXIR Training Handbook available in TeSS for all ELIXIR Nodes.
- **How it is going to be accomplished:** New developments will be made to integrate the ELIXIR Training Handbook in TeSS.
- **Risks & Opportunities:** Opportunities - attract more Nodes to use TeSS systematically.
- **When will it be accomplished?** Q4 2019

Delivery

Milestone = checkpoint through the life of the project

Deliverable = tangible, measurable outcome of the project, aligned with the purpose of the project

	Outline	Responsible Node	Due
M3.1	Progressive integrations between TeSS & other registries (bio.tools, FAIRsharing, ELIXIR Training Metrics Database)	ELIXIR-UK	Month 7, 19, 31
M3.2	Yearly release of the TeSS updates	ELIXIR-UK	Month 7, 19, 31
M3.3	Tag e-learning activities of the Nodes as e-learning in	ELIXIR-UK	Month 7,

	TeSS		19, 31
M3.4	Develop TeSS in order to integrate the ELIXIR Training Handbook	ELIXIR-UK	Month 15
D3.1	Report on maintenance of TeSS	ELIXIR-UK	Month 7, 19, 31
D3.2	A new e-learning section in TeSS is established	ELIXIR-UK, ELIXIR-BE ³	Month 12
D3.3	ELIXIR Training Handbook available in TeSS for all ELIXIR Nodes.	ELIXIR-UK	Month 31

Schedule

	2019		2020				2021			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WP1			M3.1.1 D3.1.1				M3.1.2 D3.1.2			M3.1.3 D3.1.3
WP2			M3.2.1	D3.2			M3.2.2			M3.2.3
WP3			M3.3.1				M3.3.2			M3.3.3 D3.3
WP4					M3.4					

Communication

The project outcomes will be presented in an ELIXIR webinar and communicated at the ELIXIR All Hands meeting. At the end of the project, a scientific end report will be prepared, which is either a scientific publication(s) or a collective report of the project. In addition, each Node receiving funds for a Commissioned Service must complete a Node-specific end report to fulfil requirements of the contract.

³ Deliverable added for ELIXIR Belgium on 23 September 2020

Resources

2019-TP3		Total	20.8	€166,986	€22,255	€47,310	€236,552		
Node	Indirect Cost(%)	IC Justification to be provided > 25%	PMs Total	PC	Direct Cost	Indirect Cost	Total Cost	DC/ PC	Justification when DC/ PC > 15%
BE ⁴	25%		1.8	€13,500	€0	€3,375	€16,875	0 %	
UK	25%		19	€153,486	€22,255	€43,935	€219,677	15%	

⁴ Resources added for ELIXIR Belgium on 23 September 2020