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DELIVERABLE 6.2

Strategy for ELI innovation

Work Package #	6
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Abstract:

ELI Innovation Strategy opens up the ELI's mission in basic science to support technology innovation and contribute to tackling societal challenges. ELI strives for creation of an innovation ecosystem to make the internal innovation processes efficient, cultivate the environment inside and around ELI, and initiate the networking with key industry partners.

IMPULSE has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 871161.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
EC	European Commission
ELI	Extreme Light Infrastructure
ELI-ALPS	ELI Attosecond Light Pulse Source Facility
ELI-NP	ELI Nuclear Physics Facility
ELI ERIC	ELI European Research Infrastructure Consortium
ERIC	European Research Infrastructure Consortium
ESFRI	European Strategy Forum on Research Infrastructures
H2020	Horizon 2020
IP	Intellectual property
KPI	Key Performance Indicators
PC	Project Coordinator
RIs	Research Infrastructures
TL	Task Leaders
WP	Work Packages
WPL	Work Packages Leaders

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1 Introduction

This strategy opens up the ELI's mission in basic science to support technology innovation and contribute to tackling societal challenges. Innovation and technology management processes at ELI maximize its impact on innovation through the development of a shared approach to knowledge transfer and industrial access.

ELI as a distributed research infrastructure is a platform where excellent research meets industry. ELI is characterized by interconnecting multiple disciplines in research and technology development, which is a significant driver for industrial research and innovations. ELI focuses primarily on breakthrough innovations with a potential to move the frontiers of current applied research and development.

Specific procedures related to innovations at ELI are subject to individual internal directives.

The key innovation processes at ELI are in

- Granting **proprietary access for industry users** with additional services offered to industry;
- Providing **support to innovative entrepreneurship of ELI personnel** and its support through ELI ERIC Innovation Fund and other financial and non-financial incentives;
- Developing **collaborations with industry leading to new technologies** and identification of new application areas incl. innovative procurement and pre-competitive procurement;
- Identification, protection and **commercialization of outcomes of research**, engineering and technical teams;
- **Industrial Liaison network** to build the partnership with industry community throughout Europe and wider; and
- Building **knowledge and skills human capital** by building expert capacities, providing training for industry, enabling access to talent and stimulating mobility of experts related to laser technologies within Europe and wider.

2 Objectives

The principal objective of ELI in innovations is to become a global innovation leader among public research organizations in the domain of high power lasers and help Europe's technology and research sectors to widen its excellency and sustainability in the long term.

In order to strengthen its position in the European innovation environment and maximize its outreach to industry, ELI takes part in relevant conferences, trade shows and other industry-related events in Europe and wider.

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ELI applies for monetary and non-monetary support for development of innovation ecosystem and innovation processes. ELI strives for making maximal use of opportunities in public funded innovation-driven projects and invites its industry partners to join these efforts.

Specific objectives in the long term are:

- An increase in collaborations with industry incl. proprietary access for industry users;
- An increase in ELI personnel involved in innovative entrepreneurship and IP valorization;
- A growing Industrial Liaison network covering relevant partner countries;
- An increase in building knowledge and human skills capital; and
- A strong perception of the ELI brand in the industrial community.

3 ELI innovation ecosystem

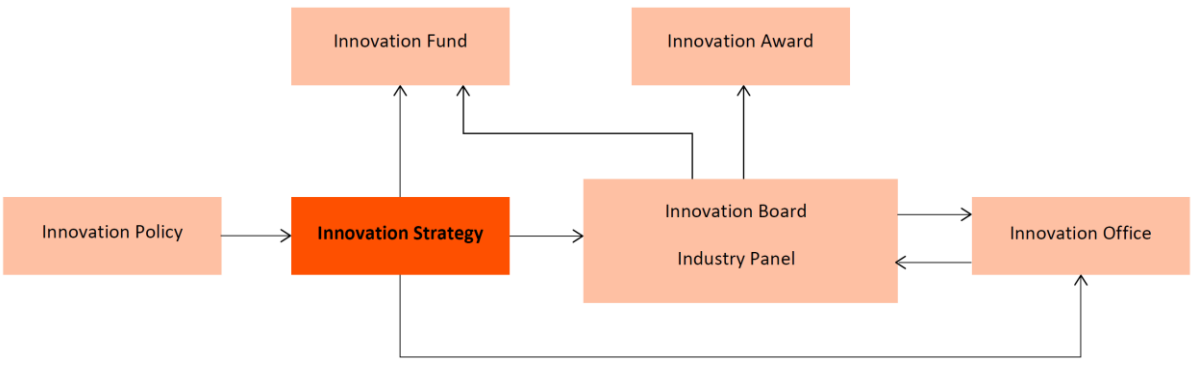
ELI strives for creation of an innovation ecosystem to make the internal innovation processes efficient, cultivate the environment inside and around ELI, and initiate the networking with key industry partners.

3.1 Situation analysis

ELI is building an internal structure of innovation management leading to a comprehensive system of innovation support across ELI Facilities, see 3.2.

ELI is building on existing processes and capacities, which have been created in the construction and commissioning phases. ELI already offers available instrumentation, developed IP, and expert skills for industry use. This offer is continuously being extended according to newly commissioned research, engineering and technical outcomes suitable for industry use.

3.2 Structure of the ELI innovation management



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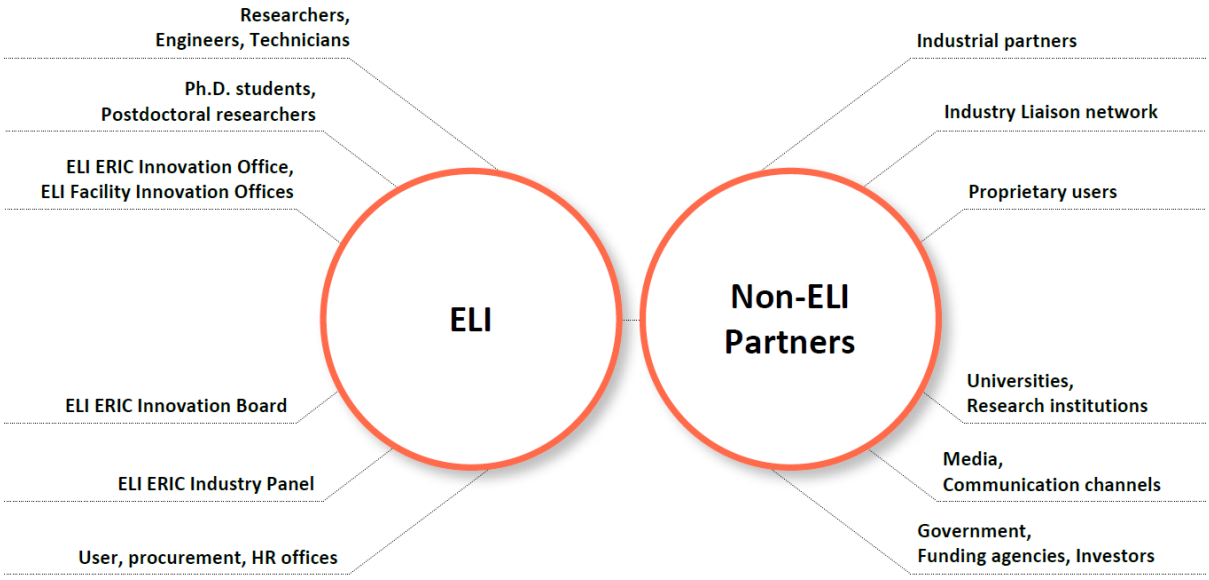
3.3 Key ELI innovation ecosystem stakeholders



3.4 Guidance, monitoring, support, and facilitation of innovation processes

3.4.1 ELI ERIC Innovation Board

ELI ERIC Innovation Board is an internal body for implementation of innovation-related processes and actions. The ELI ERIC Innovation Board is set up to discuss, assess and make decisions on all matters related to implementation of the ELI Innovation Strategy in ongoing processes.

ELI ERIC Innovation Board acts in preparation of procedures and implementation in ELI ERIC funding schemes and other mechanisms aiming at identification, and development of innovations and at ELI, proprietary access guidance and supervision, definition and guidance on innovation-driven procurements processes and other types of cooperation with industry, making decisions on IP provisions both for legally protected and other intellectual assets that could be used in valorization activities and other innovation-related activities at ELI.

3.4.2 ELI ERIC Industry Panel

ELI ERIC Industry Panel is an external advisory body to ELI ERIC Director General and other ELI management members. ELI Industry Panel provides feedback on the industrial impact of ELI development directions and applications and suggests additional development topics. It is a platform for interaction with relevant industry partners for the supply of components (industry as a supplier) and for exploiting the ELI ERIC technologies (industry as a user).

3.4.3 ELI ERIC Innovation Office & ELI Facility Innovation Offices

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ELI ERIC Innovation Office and ELI Facility Innovation Offices are entrusted with executing activities in implementation of the ELI Innovation strategy, primarily focused on management of innovation opportunities arising from ELI's technology development and research portfolio, fostering of collaboration with industry through knowledge and technology transfer, building knowledge and skills human capital and building partnerships with industrial communities through Industry Liaison network.

ELI ERIC Innovation Office together with ELI Facility Innovation Offices promote opportunities for industry collaboration both internally (ELI personnel), externally (industry), and do internal awareness raising among ELI personnel.

4 Innovation processes

4.1 Proprietary access for industry users

ELI offers access to laser instrumentation and other scientific equipment to industry and other users. This access is usually perceived as proprietary access (results remain with the user), however mission-based access (results are published) is applicable, too. ELI also supports users with expert analysis and support to the user's requirements (e.g. sample preparation, setting-up of experimental stations, identification of beamtime slots, data interpretation, guidance through the administrative processes, etc.), and other expert consultancies. ELI strives for maximal transparency of the proprietary access in relation to other forms of access to the ELI infrastructure.

The process is reviewed by ELI ERIC Innovation Board. ELI ERIC Innovation Office provides general support and back-up, and ELI Facility Innovation Offices process individual activities. All these steps are done in close coordination with ELI Facility User offices.

4.2 Support to innovative entrepreneurship of ELI personnel

ELI extends the process of helping to grow new and develop existing results of research, engineering and technical teams at ELI, based on support to development of commercially self-sustaining spin-off projects of ELI personnel. This process covers promotion of internal and external funding (e.g. public funding, equity acquisition, or risk sharing by venture projects) and rewards by the ELI ERIC Innovation Awards program.

The process is reviewed by ELI Innovation Board. ELI ERIC Innovation Office, together with ELI Facility Innovation Offices, manages processes individual activities.

4.3 Collaborations with industry leading to new technologies

ELI engages in co-creation of technologies and identification of new application areas in collaboration with industry. This includes also identification of new application areas guided by ELI ERIC Innovation Board and positive approach to innovative and pre-competitive procurements.

The process is guided by ELI ERIC Innovation Board, and supported by ELI ERIC Industry Panel. Individual activities are processed by ELI ERIC Innovation Office.

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4.4 Identification, protection and commercialization

ELI endeavors its personnel to exploit innovative results of their research, engineering and technical activities. ELI encourages its personnel to move Technology Readiness Level (TRL) of their outcomes to higher levels, turn them into applications, and place them in the market.

ELI provides its personnel with support in business development activities, intellectual property protection, and administrative steps.

The process is reviewed by ELI ERIC Innovation Board, and managed by ELI ERIC Innovation Office. Individual activities are processed by ELI Facility Innovation Offices.

4.5 Industrial Liaison network

ELI prioritizes its engagement in interaction with Europe's laser technology companies and positions itself as a natural extension of their R&D and innovation pipelines. ELI strives to enhance communication, increase awareness and build user community throughout Europe and wider.

Industry Liaison network comprises of representatives of ELI ERIC member and observer countries, where each country is represented by one contact institution. ELI strives to engage new partners in Europe and overseas in order to strengthen and develop its position for creation of a sustainable network of industrial partners in the long term.

The process is reviewed by ELI ERIC Innovation Board, and supported by ELI ERIC Industry Panel. Relations among ELI, individual members of the Industry Liaison network and industrial partners are processed by ELI ERIC Innovation Office and ELI Facility Innovation Offices, in close coordination with ELI Facility Procurement offices.

4.6 Building knowledge and skills capital

ELI aims to be a source of highly skilled workforce for industry users and technology developers related to laser technologies within Europe and wider. ELI trains early-career researchers (M.S., Ph.D.), facilitates industry sponsorships for Ph.D. students working at ELI, or organizes joint job fairs at ELI with or for industry.

The process is reviewed by ELI ERIC Innovation Board, and supported by ELI ERIC Industry Panel. Individual activities are carried out by both ELI ERIC Innovation Office and ELI Facility Innovation Offices, in close coordination with ELI Facility HR offices.

5 Evaluation and monitoring

The ELI innovation performance is evaluated and monitored by

- Collecting feedback from the ELI innovation ecosystem stakeholders;
- A number of involvements in innovation-driven public funded projects;

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- A number of ELI involvements in collaborations with industry, innovative entrepreneurships and IP valorization;
- A number of involved persons in building knowledge and human skills capital; and
- A number of collaborations within the Industrial Liaison network.

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