METHODOLOGY FRAMEWORK FOR MONITORING AND EVALUATING

RESEARCH AND INNOVATION PERFORMANCE AND SOCIO-ECONOMIC IMPACT

OF THE EXTREME LIGHT INFRASTRUCTURE

EXECUTIVE SUMMARY

Established under the European Research Infrastructure Consortium (ERIC) framework, the Extreme Light Infrastructure (ELI) operates as an international, intergovernmental, non-profit organisation. It is primarily supported by financial contributions from its Member, Observer, and Strategic Partner countries, complemented by project-based funding and commercial revenue.

In this context, ELI ERIC is required to define operational objectives in alignment with its statutory mission and stakeholder priorities. The achievement of these objectives is systematically monitored through a performance management framework that ensures strategic oversight of ELI's research and innovation (R&I) outputs and their broader socio-economic contributions.

Building on this foundation, the key objective of this methodology framework is to provide detailed guidelines for assessing the performance of ELI as a research facility and its socio-economic impact. This framework supports both internal and external monitoring processes, including evaluations of ELI conducted by the ELI ERIC International Scientific and Technical Advisory Committee (ISTAC).

To this end, a comprehensive set of monitoring indicators has been developed to assess ELI's role in advancing cutting-edge scientific knowledge, developing state-of-the-art technologies, promoting breakthrough innovation, fostering highly skilled human capital, catalysing cultural shifts towards a knowledge-based society, and driving structural transformations within the economy.

The methodology framework articulates the foundational principles that guided its development, delineates the focus areas for performance and socio-economic impact monitoring, and outlines the rationale for selecting monitoring indicators. It further clarifies how these criteria are operationalised to enable rigorous and systematic evaluation.

Reference Sheets, which detail each monitoring area, constitute a key element of the methodology framework. **They specify the monitoring indicators and define the associated performance targets, which serve as benchmarks for evaluating ELI's performance** within the context of the Organisation's mandate and strategic objectives.

I. INTRODUCTION TO THE EXTREME LIGHT INFRASTRUCTURE EUROPEAN RESEARCH INFRASTRUCTURE CONSORTIUM

NEXT-GENERATION HIGH-POWER AND ULTRA-FAST LASERS FOR SCIENCE AND SOCIETY

Extreme Light Infrastructure (ELI) is a world-leading European research infrastructure that operates an unparalleled suite of the most advanced and diverse high-power, ultra-fast, and high-repetition-rate laser systems. These systems can generate high-energy and ultra-short light pulses with durations reaching femtoseconds (10^{-15} s) and approaching even shorter, attosecond durations (10^{-18} s), while achieving high average output power and extremely high peak output power of up to ten petawatts (10^{15} W). Additionally, these systems operate at exceptionally high repetition rates, ranging from hertz (Hz) up to the kilohertz (10^{3} Hz) level, allowing for unprecedented levels of experimental throughput and research data acquisition.

Serving as primary driving sources, these state-of-the-art lasers are complemented by an extensive array of cutting-edge secondary sources, including photon and particle beam sources. This versatile fleet of next-generation experimental instruments, configurable in flexible setups and customisable at the user's discretion, collectively empowers end-stations for conducting groundbreaking research across a broad range of scientific fields. These fields encompass physics, chemistry, materials science, engineering, biology, and medical science, as well as multidisciplinary studies.

IMPLEMENTING THE ELI INITIATIVE AND ESTABLISHING THE EXTREME LIGHT INFRASTRUCTURE ERIC

The ELI initiative began to take shape in 2005 through a series of workshops aimed at uniting the European R&I community to develop a detailed technical concept and design for ELI as a pioneering international research infrastructure in laser science. Following the Preparatory Phase, covering the period from 2007 to 2010 and financially supported by the European Commission under the 7th EU Research and Innovation (R&I) Framework Programme, a political decision was made to establish ELI as a multi-site European research infrastructure with three ELI Facilities and complementary scientific programmes, covering attosecond laser science, high-energy beam science, and photonuclear science.

The Implementation Phase, spanning 2011 to 2021, led to the establishment of the ELI Attosecond Light Pulse Source (ELI ALPS) in Szeged, Hungary; ELI Beamlines in Dolní Břežany, Czechia; and ELI Nuclear Physics (ELI NP) in Măgurele, Romania. These facilities were equipped with state-of-the-art scientific instruments and technical resources, totalling nearly EUR 1 billion in initial investment from EU Cohesion Policy Funds and national co-financing from the Host Countries.

In April 2021, as ELI ALPS and ELI Beamlines transitioned from the Construction to the Operational Phase, the European Commission established ELI as a European Research Infrastructure Consortium (ELI ERIC). This arrangement brought the partnering countries together to collectively manage and fund the operations of the ELI Facilities as a single, integrated organisation, functioning under a unified governance and management framework.

In 2022, ELI ERIC launched the ELI User Programme, while also partnering with ELI NP, which has yet to be integrated under the common legal framework. **This partnership provides European and global user communities with access to world-class experimental instruments across all three ELI Facilities** through a single entry point, enabling researchers and innovators to leverage ELI's disruptive potential in addressing key scientific and technological challenges within high-impact R&I domains.

In 2006, ELI was designated as an ESFRI Project and featured in the inaugural edition of the Strategy Report on Research Infrastructures in Europe, a catalogue periodically published by the European Strategy Forum on Research Infrastructures (ESFRI). **In 2016, ELI achieved ESFRI Landmark status**, solidifying its position as a cornerstone of the European and global research infrastructure landscape.

ELI enjoys similar recognition in the research infrastructure roadmaps of its Host Countries and plays a central role in the strategy reports on research infrastructures of other European nations. **It is also referenced in R&I strategies worldwide that focus on laser and particle acceleration science**, thereby reinforcing its influence in shaping the future of laser science and technology on a global scale.

II. RATIONALES FOR MONITORING AND EVALUATING ELI's R&I PERFORMANCE AND SOCIO-ECONOMIC IMPACT

TYPOLOGY OF APPROACHES FOR MONITORING AND EVALUATING ELI's R&I PERFORMANCE AND SOCIO-ECONOMIC IMPACT

Legally established as an ERIC, ELI operates as a publicly funded research infrastructure with a non-profit purpose, engaging in limited economic activities. In this context, ELI's operations are primarily supported through financial contributions from ELI ERIC Members, Observers, and Strategic Partners, and, to a limited extent, project-based funding and commercial revenue.

Guided by the interests of its diverse stakeholders, ELI is subject to a range of assessments designed to evaluate its R&I performance, socio-economic impact, and the advancement of ELI ERIC as an organisation. These assessments are informed by a variety of monitoring criteria, encompassing both performance and socio-economic impact monitoring indicators, tailored to the specific context and collectively forming comprehensive frameworks for analysing ELI ERIC's organisational progress, ELI's R&I output, and its broader socio-economic contributions.

The initiatives to monitor and evaluate ELI are maturing, especially as the ELI Facilities progressively transition into Steady-State Operations. In this context, ELI ERIC is expanding its portfolio of activities in R&I and complementary areas, such as education and training, knowledge valorisation and business development, and public engagement and outreach, with the objective of fully realising ELI's potential in accordance with the Organisation's statutory mission and strategic priorities.

As this expansion advances, an increasing volume of primary data and contextual information about ELI's activities is being curated and analysed, yielding evidence-based insights that underpin informed conclusions about ELI's overall performance as a research infrastructure.

An overview of the monitoring and evaluation processes that ELI undergoes is provided below.

A. ELI ERIC STAKEHOLDER-DRIVEN MONITORING AND EVALUATION

(1) Assessment of the Scientific Performance of ELI

In alignment with the ELI ERIC Scientific Evaluation Policy, the ELI ERIC Management is entrusted with monitoring ELI's R&I performance, while the ELI ERIC International Scientific and Technical Advisory Committee (ISTAC) conducts evaluations of ELI at regular intervals, at least once every three years. These assessments are expected to provide a comprehensive review of ELI's scientific, educational, training, and international collaboration activities, as well as its involvement in policy-making processes. The ELI ERIC Director General is responsible for establishing the portfolio of relevant monitoring indicators in accordance with ISTAC's recommendations.

(2) Assessment of the Benefits and Impacts of Participation in ELI ERIC

Established by the European Commission under EU law, ELI ERIC operates similarly to international R&I organisations founded under international public law, such as the European Organisation for Nuclear Research (CERN). This involves the engagement at the governmental level of participating countries, including EU Member States, Associated Countries, Third Countries, and potentially also international intergovernmental organisations.

These stakeholders, as **Members, Observers, and Strategic Partners of ELI ERIC, play an essential role in funding ELI's operations**. **In return for their financial contributions, they regularly monitor and evalaute the benefits and impacts of their participation**. **These evaluations provide them with the necessary evidence to justify their ongoing funding commitments, thereby supporting informed political decision-making concerning the continuation, suspension, or termination of their partnerships with ELI ERIC**.

Given that the Organisation's budget plans and associated funding commitments span a five-year period, these evaluation cycles are anticipated to take place every five years, with an emphasis on assessing the benefits and impacts of participation for each country, within the specific context of its national R&I community.

(3) Assessment of the Achievement of EU Cohesion Policy Objectives

The initial investment in the ELI Facilities was predominantly funded through EU Cohesion Policy Funds in each of the Host Countries. In this context, ELI ERIC, as the governing and operating legal entity of ELI, is responsible for meeting the performance targets defined by the monitoring indicators established for the relevant projects under the respective Operational Programmes. These performance targets must be met throughout the mandatory sustainability period of each investment project, in line with their specific definitions and timelines. Accordingly, these targets are incorporated into this methodology framework to facilitate the monitoring and evaluation of ELI's R&I performance and socio-economic impact.

B. ESFRI-DRIVEN MONITORING AND EVALUATION

(4) Assessment of ELI as an ESFRI Landmark

Since its recognition as an ESFRI Landmark in 2016, ELI has been subject to regular assessments through the ESFRI Landmark Monitoring Process, conducted every five years. **This process aims to ensure ELI's excellent quality and validate its status as an ESFRI Landmark, overseen by ESFRI, which is responsible for guaranteeing the highest standards of ESFRI Landmarks to the European Commission**. The assessment includes a comprehensive review across various monitoring criteria, focusing on both the scientific progress of ELI as a research infrastructure and the implementation status of ELI ERIC as an organisation.

(5) Socio-Economic Impact Assessment of ELI

As part of the ESFRI Landmark Monitoring Process, ELI ERIC is tasked with conducting a socio-economic impact assessment of ELI. This responsibility is further emphasised by the interests of the Host Countries, which have predominantly financed the initial investments in the ELI Facilities through EU Cohesion Policy Funds aimed at advancing the societal and economic development of the hosting locations and surrounding regions. **In the absence of detailed guidelines for the socio-economic impact assessment from ESFRI, ELI ERIC is expected to develop its own methodology framework, conduct the evalutation, and report the findings and conclusions as contributions to the ESFRI Landmark Monitoring Process**.

C. ELI ERIC MANAGEMENT-DRIVEN MONITORING AND EVALUATION

(6) Assessment of ELI's R&I Performance and Socio-Economic Impact

The ELI ERIC Management conducts systematic evaluations of ELI's R&I performance and socio-economic impact to underpin strategic decision-making and optimise operational effectiveness. These evaluations are undertaken on both regular and ad hoc bases, providing insights that inform the development, adjustment, and refinement of strategies designed to strengthen ELI's scientific excellence, socio-economic contributions, and operational performance. Through this evidence-based approach, the ELI ERIC Management reinforces its commitment to advancing ELI's strategic objectives, ensuring alignment with its statutory mission and the interests of its stakeholders.

D. OTHER STAKEHOLDER-DRIVEN MONITORING AND EVALUATION

(7) Assessment of ELI as a Case Study

ELI represents a pioneering research infrastructure hosting the world's leading and most diverse collection of high-power and ultra-fast laser systems that operate simultaneously at high energy and high repetition rates. By capitalising on several key enabling technologies that transform the field of laser science, ELI attains global leadership in this area. **Additionally, ELI marks a significant milestone as the first large-scale international research infrastructure established in Central and Eastern European countries, thereby addressing historical disparities in the distribution of such facilities across Europe**. In this context, it plays a vital role in bridging the research gap and closing the innovation divide within the European Research Area (ERA). **Another distinctive feature of ELI is its funding model, in which the construction costs of the ELI Facilities were primarily financed through EU Cohesion Policy Funds and entirely covered by their Host Countries**, thereby relieving other partnering countries of funding commitments during the Implementation Phase. **Moreover, ELI also holds the distinction of being the first large-scale international research infrastructure in laser science, dedicated to serving users**, thereby empowering researchers and innovators to leverage its disruptive potential in addressing key scientific and technological challenges within high-impact R&I domains.

Collectively, these unique selling points position ELI as a central point of interest for diverse R&I stakeholders, including the European Commission, Organisation for Economic Cooperation and Development (OECD), and research organisations, which recognise its distinct features and may prioritise it as a subject for analysis in their case studies.

In summary, ELI ERIC undergoes various monitoring and evaluation processes, with some initiatives led internally by the Organisation's management and others undertaken by external stakeholders, typically ELI ERIC funders. **While methodological frameworks and assessment criteria for externally driven processes are generally determined by the initiating entity (e.g., ESFRI for the ESFRI Landmark Monitoring Process), ELI ERIC assumes responsibility for designing its internal evaluation processes and plays an essential role in supplying primary data and contextual information for both types of assessments**. Moreover, ELI ERIC often contributes to external evaluations by offering findings derived from both in-house and external analyses, addressing diverse aspects of ELI's R&I performance and socio-economic impact. This approach enables external evaluators to leverage thoroughly examined primary data and contextual information, enhancing their assessments with preliminary conclusions.

To effectively support both internal and external monitoring and evaluation, it is crucial to establish robust processes for collecting primary data and contextual information on ELI's activities, guided by a comprehensive set of monitoring indicators, while ensuring the consistency and continuity of these efforts over the long term. An advanced integrated solution for data collection and reporting, featuring user-friendly interfaces and export functionalities, is key for enabling efficient assessment.

III. METHODOLOGY FRAMEWORK FOR MONITORING AND EVALUATING ELI's R&I PERFORMANCE AND SOCIO-ECONOMIC IMPACT

DESIGNING THE METHODOLOGY FRAMEWORK FOR MONITORING AND EVALUATING ELI's R&I PERFORMANCE AND SOCIO-ECONOMIC IMPACT

Various R&I stakeholders have recently undertaken projects to design and develop comprehensive methodology frameworks to monitor and evaluate the R&I performance of research infrastructures and their socio-economic impact. These initiatives seek to map impact pathways that demonstrate how the scientific activities of research infrastructures, measured through standard R&I performance metrics, contribute to a wide range of socio-economic impacts. The R&I stakeholders involved in these endeavours included public entities, such as the European Commission, ERIC Forum, ESFRI, and OECD, as well as private companies, including CSIL, EFIS Centre, Technopolis Group, and Technology Centre Prague (TCP).

As a result, these efforts have led to the formulation of numerous guidelines for examining the R&I performance and socio-economic impact of research infrastructures, thereby laying the groundwork for customised approaches tailored to the unique characteristics of each facility. Ultimately, these developments are expected to enhance the overall effectiveness of assessing research infrastructures in achieving benefits and impacts, with ELI ERIC also integrating these guidelines into its practices.

Prompted by the ESFRI Landmark Monitoring Process that ELI underwent in 2024, ELI ERIC partnered with TCP, a reputable Czech private non-profit company specialising in public consulting, to establish internal processes for assessing ELI's R&I performance and socio-economic impact. Drawing on more than thirty years of experience in the market and profound expertise in advising on R&I policy-making, monitoring and evaluating R&I performance, analysing the socio-economic impact of R&I investment, managing European R&I projects, and promoting innovative entrepreneurship, TCP provided ELI ERIC with fundamental insights into the latest trends in R&I assessment metrics.

Building upon insights gained through this collaboration, ELI ERIC has established this methodology framework to monitor and evaluate ELI's R&I performance and socio-economic impact, featuring a comprehensive array of monitoring indicators that provide a structured, systematic, and evidence-based approach to assessing the Organisation's activities, their outputs, and ultimate impacts.

Aligned with ESFRI monitoring criteria and tailored to reflect the Organisation's statutory mission and strategic objectives, ELI ERIC's monitoring indicators are designed to enable evaluations of ELI's activities across R&I, education and training, international collaboration, knowledge valorisation, and technology and business development, as well as ELI ERIC's engagement in public policy-making and outreach to the general public. Additionally, the monitoring indicators emphasise the assessment of activities that underpin ELI's operations, particularly in the areas of employment and supplies.

The methodology framework is crafted to achieve the monitoring and evaluation objectives through the examination of ELI ERIC's primary activities, their outcomes, and broader impacts, including ELI's contributions to advancing science and technology, fostering innovation, developing human capital, catalysing cultural shifts towards a knowledge-based society, and driving structural transformations within the economy.

Overall, the methodology framework integrates the monitoring indicators into a comprehensive array of metrics that encompasses all critical aspects of ELI's activities as a research infrastructure and the key operational functions of ELI ERIC as an organisation, thereby facilitating assessments of ELI's R&I output and socio-economic impact.

CONSIDERATIONS IN DESIGNING PERFORMANCE AND SOCIO-ECONOMIC IMPACT MONITORING INDICATORS

The indicators for the monitoring and evaluation of R&I performance and socio-economic impact of ELI have been designed in alignment with the ELI ERIC statutory mission and strategic objectives, as outlined in Article 2 of the ELI ERIC Statutes. This section delineates ELI ERIC's tasks and activities, including operating the ELI Facilities as a single, integrated organisation with a unified governance and management structure, and enabling user access to these facilities for the R&I community through an international peer-review process. Additionally, it specifies that the Organisation's core mission and strategic priorities involve providing a platform for technology development, promoting the education and training of scientific and technical personnel, fostering collaboration with research stakeholders and industry, developing processes to commercialise intellectual property assets, and communicating scientific and technological achievements to academia and the general public. Consequently, all these functions are integrated into the comprehensive array of the Organisation's monitoring indicators.

Another key assumption underlying the establishment of internal monitoring and evaluation criteria is that ELI ERIC operates on a non-profit basis, as defined by its regulatory framework under EU law. Accordingly, the Organisation primarily focuses on non-economic activities while engaging in limited economic initiatives, ensuring that these do not compromise or hinder ELI ERIC's statutory mission of advancing scientific excellence. Consistent with this framework, the monitoring indicators designed to assess ELI's R&I performance and socio-economic impact are aligned with this operational boundary.

Ultimately, the indicators developed for monitoring and evaluating the R&I performance and socio-economic impact of ELI adhere to both the RACER (*Relevant, Acceptable, Credible, Easy, Robust*) and SMART (*Specific, Measurable, Achievable, Relevant, Time-Bound*) criteria. All selected indicators are aligned with the ELI ERIC statutory mission and strategic objectives, as delineated in the Organisation's statutes. Additionally, they are not only relevant, but also comprehensive in addressing ELI ERIC's full portfolio of tasks and activities. This guarantees that the indicators are robust, sufficiently specific, and enhance both acceptability and credibility among stakeholders. In view of this, assessing ELI's R&I performance and socio-economic impact through these indicators is both achievable and feasible.

Effective monitoring and evaluation of ELI's R&I performance and socio-economic impact requires examining the activities of both ELI ERIC, as the operator of the ELI Facilities, and ELI users, who are the primary beneficiaries of its efforts. To this end, effective engagement with the ELI user community is indispensable for ensuring the systematic collection of data that underpins the assessment process.

IV. STRATEGIC AREAS FOR MONITORING AND EVALUATING ELI's R&I PERFORMANCE AND SOCIO-ECONOMIC IMPACT

The Matrix of Performance and Socio-Economic Impact Monitoring Areas, presented below, delivers a comprehensive framework for the systematic monitoring and evaluation of ELI's R&I performance and broader socio-economic contributions. This matrix is structured into seven coherent thematic clusters, each reflecting key dimensions of ELI ERIC's activities, their results, and ultimate impacts.

Within these clusters, **16 Performance Monitoring Areas** are defined to assess ELI ERIC's effectiveness in delivering user services, generating R&I outcomes, securing and diversifying revenue through public and private funding channels, advancing the experimental capabilities and building infrastructure of the ELI Facilities, fostering human capital, and engaging with R&I stakeholders and the general public.

Complementing these domains, **4 Socio-Economic Impact Monitoring Areas** have been established to study the Organisation's contributions to scientific and technological advancement, the development of human capital, the promotion of economic growth, and the strengthening of regional development.

Each Performance and Socio-Economic Impact Monitoring Area is supported by a **Reference Sheet**, which defines the specific indicators integrated within the thematic domain, articulates the rationale for their selection, outlines the principal assumptions underlying monitoring and evaluation, assigns responsibility for the collection of primary data and contextual information within the Organisation, specifies the data points to be collected, and establishes targets to serve as benchmarks for assessing ELI's performance.

With respect to the scientific evaluation of ELI undertaken by the ISTAC in accordance with the ELI ERIC Scientific Evaluation Policy, the review will focus on eight top-priority Performance Monitoring Areas. These include User Access Provision (Areas # 1, # 2, # 3), R&I Performance (Areas # 4, # 5, # 6), Instrumentation Development (Area # 9), and Education and Training (Area # 13). **The remaining areas will also be addressed, serving a complementary role, while the assessment of ELI's socio-economic impact will stand outside the scope of this review and will instead be addressed through dedicated socio-economic impact assessment studies**.

METHODOLOGY FRAMEWORK FOR MONITORING AND EVALUATING RESEARCH AND INNOVATION PERFORMANCE AND SOCIO-ECONOMIC IMPACT OF THE EXTREME LIGHT INFRASTRUCTURE

PERFORMANCE AND SOCIO-ECONOMIC IMPACT MONITORING AREAS ACROSS THE DOMAINS OF SCIENCE, TECHNOLOGY, HUMAN RESOURCES, SOCIETY, AND ECONOMY

→	ACTIVITIES & RESULTS	→	ACTIVITIES & RESULTS	→	IMPACTS
I. CLUSTER	**USER ACCESS PROVISION**	**IV. CLUSTER**	**RESEARCH INFRASTRUCTURE DEVELOPMENT**	**VII. CLUSTER**	**SOCIO-ECONOMIC IMPACT**
AREA # 1	**Open Excellence-Based Access** Providing Experimental Offerings for Curiosity-Driven User Campaigns	**AREA # 9**	**Instrumentation Development** Delivering Advanced Experimental Offerings for User Campaigns	**AREA # 17**	**Science & Technology Development** Translating Knowledge into Scientific and Technological Advancement
AREA # 2	**Mission-Based Access** Providing Experimental Offerings for Mission-Based User Campaigns	**AREA # 10**	**Facility Development** Improving Building Infrastructure for Efficiency and Sustainability	**AREA # 18**	**Human Resources Development** Fostering the Advancement of a Knowledge-Based Society
AREA # 3	**Proprietary Access** Providing Experimental Offerings for Business-Oriented User Campaigns	**AREA # 11**	**Resource Provision** Procuring and Supplying Resources for Efficient Operational Performance	**AREA # 19**	**Economic Development** Fostering the Advancement of a Knowledge-Based Economy
II. CLUSTER	**RESEARCH AND INNOVATION PERFORMANCE**	**V. CLUSTER**	**HUMAN CAPITAL DEVELOPMENT**	**AREA # 20**	**Regional Development** Catalysing Regional Growth for Social Wellbeing and Economic Prosperity
AREA # 4	**Scientific Publications** Publishing and Promoting Open Access to Research Results	**AREA # 12**	**Employment** Creating Job Opportunities in Knowledge-Intensive Professions		
AREA # 5	**Research Datasets** Promoting Open Access to Research Data and Facilitating their Reuse	**AREA # 13**	**Education and Training** Developing Human Capital for Careers in Science and Technology		
AREA # 6	**Other R&I Results** Producing and Disseminating Non-Publication R&I Results	**VI. CLUSTER**	**STAKEHOLDER ENGAGEMENT AND PUBLIC OUTREACH**		
III. CLUSTER	**REVENUE FROM PUBLIC AND PRIVATE FUNDING**	**AREA # 14**	**Community Building** Expanding the User Community and Engaging R&I Stakeholders		
AREA # 7	**Revenue from Public Funding** Securing and Diversifying Revenue through Public Funding Sources	**AREA # 15**	**Policy Consulting** Advising and Supporting Policy-Making Processes		
AREA # 8	**Revenue from Private Funding** Securing and Diversifying Revenue through Private Funding Sources	**AREA # 16**	**Public Outreach** Bringing Science Closer to Society and Raising Public Awareness of R&I		

PERFORMANCE MONITORING AREAS # 1, # 2, AND # 3	OPEN EXCELLENCE-BASED, MISSION-BASED, AND PROPRIETARY ACCESS Providing Experimental Offerings for Curiosity-Driven, Mission-Based, and Business-Oriented User Campaigns
Definition	**PM Areas No. 1, 2, and 3 focus on monitoring the provision of ELI user services through Open Excellence-Based, Mission-Based, and Proprietary Access, which constitute the three access routes to ELI available under the ELI User Programme. The evaluation addresses both the scope of experimental capacity and capabilities provided by the ELI Facilities to academia and industry, and the response of the R&I community, as reflected in beamtime applications and the execution of user experiments. It further assesses user satisfaction with the performance of scientific equipment and with the quality of the full range of user services. In addition, the analysis examines the composition, structure, and profiles of ELI user communities to ensure a thorough understanding of user engagement. Collectively, this assessment offers critical insights into ELI's core R&I activities, underpinning the fulfilment of ELI ERIC's statutory mission and the advancement of the Organisation's strategic objectives in the field of laser science and technology.**
	In alignment with the ELI ERIC Statutes, a key strategic objective of the Organisation is to ensure user access to the ELI Facilities for the R&I community through an international peer-review process. This objective is realised through the implementation of the ELI User Programme, which offers three access routes to ELI – Open Excellence-Based, Mission-Based, and Proprietary Access. Building on this foundation, these PM Areas aim to monitor and evaluate the characteristics of experimental services provided by the ELI Facilities to the R&I community, while also examining how the community responds through the designated access channels. Specifically, the PM Areas are designed to systematically track the provision of services to users engaging with ELI through curiosity-driven, mission-based, and business-oriented experiments. This is achieved by assessing **the availability and operational capacity of scientific instruments made accessible for these user campaigns**.

	Additionally, the PM Areas are intended to analyse the response of the R&I community to ELI experimental offerings by monitoring **the number of proposals submitted and those awarded beamtime for conducting user experiments**. In this context, particular emphasis is placed on collecting user data to obtain detailed insights into **the composition, structure, profiles, and other quantitative and qualitative characteristics of the ELI user community**. Finally, attention is devoted to measuring user experience and satisfaction with **the functionality and operational reliability of scientific equipment used in experimental campaigns, as well as with the quality of the complete range of user services provided**.
	PM Areas No. 1, 2, and 3 are closely interconnected, focusing on monitoring and evaluating user service provision across the Open Excellence-Based, Mission-Based, and Proprietary Access frameworks. **Together, they offer a comprehensive perspective on the delivery of user services at the ELI Facilities and on the R&I community leveraging ELI experimental offerings**.
Rationale	Monitoring the range and operational capacity of scientific equipment dedicated to user experimentation yields critical insights into **the scope of services made available to the R&I community through the ELI User Programme**. Evaluating the number of proposals submitted under Open Excellence-Based and Mission-Based Access sheds light on **the R&I community's interest in pursuing curiosity-driven and mission-based experiments at ELI**. Assessing the number of submissions accepted through the international peer-review process indicates proposal quality and relevance, while reflecting **the ELI Facilities' capacity to accommodate user demand from the R&I community** under Open Excellence-Based and Mission-Based Access. Tracking experimental campaigns conducted under Proprietary Access reveals **the R&I community's engagement with ELI on a commercial basis** and emphasises the appeal of the ELI Facilities to researchers and innovators seeking to utilise their capabilities through a fee-based model.

	Analysing the functionality of scientific equipment throughout experimental campaigns demonstrates **the ELI Facilities' capacity to deliver services efficiently and reliably** in accordance with the performance levels required to achieve experiments' objectives. Examining overall user satisfaction provides a comprehensive understanding of **the R&I community's experience with ELI user services** throughout the experimental process – from preparation to on-site execution – encompassing scheduling, logistical support, reception services, and scientific and technical assistance. Reviewing participation in the ELI User Programme through user data collection provides in-depth insights into **the composition, structure, and profiles of the R&I community engaging with ELI**, including institutional and country affiliations, career stage, and other relevant characteristics.
Assumptions	**ELI Calls for Users under Open Excellence-Based Access are expected to be held biannually**, typically in spring and autumn, and to follow a single-stage process. By contrast, **ELI Calls for Users under Mission-Based Access are anticipated to occur at least once every two years** and follow a two-stage process, generally commencing with an Expression of Interest stage and advancing with a Full Project Proposal stage. **Beamtime for commercial users under Proprietary Access is intended to be allocated flexibly on an ad hoc basis**, without the competitive review and waiting periods inherent to Open Excellence-Based and Mission-Based Access. **Not all experimental instruments are designated to be available under every ELI Call for Users**, even when commissioned and fully operational, as some may be undergoing maintenance, ramp-up, or upgrades, resulting in their temporary removal from the calls. However, **each ELI Call for Users is designed to make available a minimum of 60% of instruments, with at least 80% accessible on an annual basis**, thereby ensuring a robust and strategically appealing experimental offering to the R&I community. **Experimental instruments are projected to perform reliably**, with at least 90% of user campaigns completed on scientific equipment operating in compliance with the performance levels required to achieve experiments' objectives.

	As the ELI user community continues to grow, the acceptance rate of experiment proposals is projected to decrease. Aligned with the strategic objective of maintaining competitive beamtime allocation while avoiding any perception of a lottery, the average success rate is expected to converge to approx. 50% or lower, with substantially lower rates for the most in-demand experimental instruments. **Collaborations with commercial users under Proprietary Access are often subject to confidentiality or non-disclosure agreements**, which may limit ELI ERIC's ability to collect or publish data on these services, in contrast to Open Excellence- and Mission-Based Access.
ELI ERIC Policy Reference Framework	**ELI ERIC User Access Policy** **ELI ERIC Innovation and Industry Policy**
Data Collection Responsibility	**A. <u>Open Excellence-Based Access</u>** ELI ERIC User Office **B. <u>Mission-Based Access</u>** **Coordinator and Lead Responsible** ELI ERIC Office of Science **Contributor and Supporting Lead** ELI ERIC User Office **C. <u>Proprietary Access</u>** **Coordinator and Lead Responsible** ELI ERIC Innovation Office **Contributor and Supporting Lead** ELI ERIC User Office
Data Parameters	**A. <u>Open Excellence-Based Access</u>** **ELI Call for Users** ▪ Identifier ▪ Launch Date ▪ Closing Date ▪ Peer-Review Panels Meeting Date ▪ Beamtime Allocation Decision Date ▪ Applicant Decision Notification Date ▪ Implementation Duration Period ▪ Experimental Instruments *per ELI Facility* ▪ Number of Experimental Instruments Accessible

	▪ Experiment Proposals *per ELI Facility*
	  ▪ Number of Experiment Proposals Submitted
	  ▪ Number of New Experiment Proposals
	  ▪ Number of Resubmitted Experiment Proposals
	  ▪ Number of Experiment Continuation Proposals
	  ▪ Number of Experiment Proposals Passing Safety Assessment
	  ▪ Number of Experiment Proposals Passing Technical Feasibility Assessment
	  ▪ Number of Experiment Proposals Awarded Beamtime
	  ▪ Average Scientific Merit Assessment Score of Experiment Proposals Submitted
	  ▪ Average Scientific Merit Assessment Score of Experiment Proposals Awarded Beamtime
	▪ Experiment Implementation *per ELI Facility*
	  ▪ Number of Experiments Completed
	  ▪ Functionality of Scientific Equipment
	  ▪ Number of Experiments Completed on Scientific Equipment Meeting Performance Specifications
	  ▪ Number of Experiments Completed on Scientific Equipment Not Meeting Performance Specifications
	  ▪ Complete Range of User Services
	  ▪ Number of Experiments Completed with Satisfactory User Feedback
	  ▪ Number of Experiments Completed with Unsatisfactory User Feedback
	  ▪ Number of Experiments Cancelled
	  ▪ Number of Experiments Cancelled Due to ELI Facility-Specific Reasons
	  ▪ Number of Experiments Cancelled Due to User-Specific Reasons
	▪ Announcement Webpage
	Experiment (Proposal)
	▪ ELI Call for Users
	  ▪ Identifier
	▪ Experiment (Proposal)
	  ▪ Identifier
	  ▪ Acronym

	▪ Full Title ▪ User ▪ Name ▪ Surname ▪ Role ▪ Principal Investigator (PI) ▪ Co-Investigator (COI) ▪ Nationality ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Career Stage ▪ Established Researcher ▪ Postdoctoral Researcher ▪ Doctoral Student ▪ Postgraduate Student ▪ Undergraduate Student ▪ User Institution ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital ▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website ▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Experimental Instrument ▪ Primary Source

	▪ Secondary Source ▪ End-Station ▪ Scientific Area ▪ AMO (*Atomic, Molecular, and Optical Physics*), Chemistry, and Physics in Gas and Liquid Phases ▪ Material and Surface Sciences ▪ Life Sciences ▪ Plasma/High-Energy-Density Physics ▪ Relativistic and Ultrarelativistic Interaction ▪ Particle Acceleration and Applications ▪ Societal Challenge ▪ Cultural Heritage ▪ Energy ▪ Environment ▪ Health and Food ▪ Industry and Manufacturing ▪ Materials for Digital Technology ▪ Other ▪ Application Status ▪ New Experiment Proposal ▪ Resubmitted Experiment Proposal ▪ Experiment Continuation Proposal ▪ Experiment Proposal Evaluation ▪ Experiment Proposal Passing Safety Assessment ▪ Experiment Proposal Passing Technical Feasibility Assessment ▪ Experiment Proposal Awarded Beamtime/Rejected ▪ Scientific Merit Assessment Score ▪ Experiment Implementation ▪ Experiment Completed ▪ Experiment Duration ▪ On-Site Experimentation Start Date ▪ On-Site Experimentation End Date ▪ User Satisfaction Feedback ▪ Functionality of Scientific Equipment ▪ Scientific Equipment Meeting Performance Specifications ▪ Scientific Equipment Not Meeting Performance Specifications ▪ Complete Range of User Services ▪ Satisfactory Feedback ▪ Unsatisfactory Feedback

- Experiment Cancelled
  - Experiment Cancelled
    Due to ELI Facility-Specific Reasons
  - Experiment Cancelled
    Due to User-Specific Reasons

B. <u>Mission-Based Access</u>

ELI ERIC Mission

- Detailed information outlining the scientific and technological challenges that the ELI ERIC Mission is designed to address, including an explanation of its relevance to broader socio-economic priorities

ELI Call for Expressions of Interest

- Identifier
- Launch Date
- Closing Date
- Applicant Decision Notification Date
- Expressions of Interest *per ELI Facility*
  - Number of Expressions of Interest Submitted for Initial Feedback
  - Number of Expressions of Interest Advancing to the Full Project Proposal Stage
- Announcement Webpage

Expression of Interest

- ELI Call for Expressions of Interest
  - Identifier
- Expression of Interest
  - Identifier
  - Acronym
  - Full Title
- User Institution
  - Acronym
  - Full Name
  - Category
    - Public Sector Organisation
      - Higher Education Institution
      - Research Institute
      - Hospital
      - International Organisation
        - Intergovernmental Organisation

	▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website ▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Experimental Instrument ▪ Primary Source ▪ Secondary Source ▪ End-Station ▪ Scientific Area ▪ AMO (*Atomic, Molecular, and Optical Physics*), Chemistry, and Physics in Gas and Liquid Phases ▪ Material and Surface Sciences ▪ Life Sciences ▪ Plasma/High-Energy-Density Physics ▪ Relativistic and Ultrarelativistic Interaction ▪ Particle Acceleration and Applications ▪ Societal Challenge ▪ Cultural Heritage ▪ Energy ▪ Environment ▪ Health and Food ▪ Industry and Manufacturing ▪ Materials for Digital Technology ▪ Other ▪ Project Duration ▪ Implementation Period (in months) ▪ Individual Experiments (number) ▪ Resource Contribution ▪ Cash Contribution (in EUR) ▪ In-Kind Contribution ▪ Specification ▪ Value in EUR ▪ Initial Feedback

	▪ Expression of Interest Advancing to the Full Project Proposal Stage/Rejected **ELI Call for Full Project Proposals** ▪ Identifier ▪ Launch Date ▪ Closing Date ▪ Peer-Review Panels Meeting Date ▪ Beamtime Allocation Decision Date ▪ Applicant Decision Notification Date ▪ Implementation Duration Period ▪ Experimental Instruments *per ELI Facility* ▪ Number of Experimental Instruments Accessible ▪ Full Project Proposals *per ELI Facility* ▪ Number of Full Project Proposals Submitted ▪ Number of Full Project Proposals Passing Safety Assessment ▪ Number of Full Project Proposals Passing Technical Feasibility Assessment ▪ Number of Full Project Proposals Awarded Beamtime ▪ Average Scientific Merit Assessment Score of Full Project Proposals Submitted ▪ Average Scientific Merit Assessment Score of Full Project Proposals Awarded Beamtime ▪ Project Implementation *per ELI Facility* ▪ Number of Projects Completed ▪ Number of Individual Experiments Completed ▪ Number of Experimental Days Conducted ▪ User Satisfaction Feedback ▪ Functionality of Scientific Equipment ▪ Number of Individual Experiments Completed on Scientific Equipment Meeting Performance Specifications ▪ Number of Individual Experiments Completed on Scientific Equipment Not Meeting Performance Specifications ▪ Complete Range of User Services ▪ Number of Individual Experiments Completed with Satisfactory User Feedback

	▪ Number of Individual Experiments Completed with Unsatisfactory User Feedback ▪ Number of Projects Cancelled ▪ Number of Projects Cancelled Due to ELI Facility-Specific Reasons ▪ Number of Projects Cancelled Due to User-Specific Reasons ▪ Announcement Webpage **Full Project Proposal** ▪ ELI Call for Full Project Proposals ▪ Identifier ▪ Full Project Proposal ▪ Identifier ▪ Acronym ▪ Full Title ▪ User ▪ Name ▪ Surname ▪ Role ▪ Principal Investigator (PI) ▪ Co-Investigator (COI) ▪ Nationality ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Career Stage ▪ Established Researcher ▪ Postdoctoral Researcher ▪ Doctoral Student ▪ Postgraduate Student ▪ Undergraduate Student ▪ User Institution ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital

	▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website ▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Experimental Instrument ▪ Primary Source ▪ Secondary Source ▪ End-Station ▪ Scientific Area ▪ AMO (*Atomic, Molecular, and Optical Physics*), Chemistry, and Physics in Gas and Liquid Phases ▪ Material and Surface Sciences ▪ Life Sciences ▪ Plasma/High-Energy-Density Physics ▪ Relativistic and Ultrarelativistic Interaction ▪ Particle Acceleration and Applications ▪ Societal Challenge ▪ Cultural Heritage ▪ Energy ▪ Environment ▪ Health and Food ▪ Industry and Manufacturing ▪ Materials for Digital Technology ▪ Other ▪ Full Project Proposal Evaluation ▪ Full Project Proposal Passing Safety Assessment ▪ Full Project Proposal Passing Technical Feasibility Assessment ▪ Full Project Proposal Awarded Beamtime/Rejected ▪ Scientific Merit Assessment Score

- Resource Contribution
  - Cash Contribution (in EUR)
  - In-Kind Contribution
    - Specification
    - Value in EUR
- Project Implementation
  - Project Completed
    - Individual Experiment
      - Experiment Duration
        - On-Site Experimentation Start Date
        - On-Site Experimentation End Date
      - User Satisfaction Feedback
        - Functionality of Scientific Equipment
          - Scientific Equipment Meeting Performance Specifications
          - Scientific Equipment Not Meeting Performance Specifications
        - Complete Range of User Services
          - Satisfactory Feedback
          - Unsatisfactory Feedback
  - Project Cancelled
    - Project Cancelled Due to ELI Facility-Specific Reasons
    - Project Cancelled Due to User-Specific Reasons

C. <u>Proprietary Access</u>

Commercial User Campaign

- Detailed information outlining the scientific and technological challenges that the commercial user campaign is intended to address, encompassing its contribution to broader socio-economic objectives

Customer Experiment

- Experiment
  - Identifier
  - Acronym
  - Full Title
- Customer
  - Name
  - Surname
  - Role

	▪ Principal Investigator (PI) ▪ Co-Investigator (COI) ▪ Nationality ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Career Stage ▪ Established Researcher ▪ Postdoctoral Researcher ▪ Doctoral Student ▪ Postgraduate Student ▪ Undergraduate Student ▪ Customer Institution ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital ▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website ▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Experimental Instrument ▪ Primary Source ▪ Secondary Source ▪ End-Station ▪ Scientific Area ▪ AMO (*Atomic, Molecular, and Optical Physics*), Chemistry, and Physics in Gas and Liquid Phases

	▪ Material and Surface Sciences ▪ Life Sciences ▪ Plasma/High-Energy-Density Physics ▪ Relativistic and Ultrarelativistic Interaction ▪ Particle Acceleration and Applications ▪ Economic/Technology Area ▪ NACE (*Nomenclature Statistique des Activités Économiques dans la Communauté Européenne*) ▪ KET (*Key Enabling Technologies*) ▪ Societal Challenge ▪ Cultural Heritage ▪ Energy ▪ Environment ▪ Health and Food ▪ Industry and Manufacturing ▪ Materials for Digital Technology ▪ Other ▪ Experiment Implementation ▪ Experiment Duration ▪ On-Site Experimentation Start Date ▪ On-Site Experimentation End Date ▪ Customer Satisfaction Feedback ▪ Functionality of Scientific Equipment ▪ Scientific Equipment Meeting Performance Specifications ▪ Scientific Equipment Not Meeting Performance Specifications ▪ Complete Range of User Services ▪ Satisfactory Feedback ▪ Unsatisfactory Feedback ▪ Experiment Cost ▪ Cash (in EUR) ▪ In-Kind ▪ Specification ▪ Value (in EUR)

Performance Targets	**A. <u>Experimental Offerings</u>** **(1) ELI Calls for Users** ▪ Open Excellence-Based Access ▪ Frequency: **twice per year** ▪ Mission-Based Access ▪ Frequency: **once every two years** **(2) Experimental Uptime for Users[1]** ▪ Access Units Available ▪ **≥ 3 300 experimental shifts per year** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 2 000 experimental shifts per year ▪ ELI Beamlines: ≥ 1 300 experimental shifts per year **(3) Experimental Instruments Accessible[2]** **(a) Accessibility Per ELI Call for Users** ▪ Experimental Instruments Accessible ▪ **≥ 30 out of 49 experimental instruments per call** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 20 out of 32 experimental instruments per call ▪ ELI Beamlines: ≥ 10 out of 17 experimental instruments per call **(b) Accessibility Per Year** ▪ Experimental Instruments Accessible ▪ **≥ 39 out of 49 experimental instruments per year**

[1] **Experimental Uptime for Users** refers to the periods during which R&I activities are carried out at the ELI Facilities within the framework of the ELI User Programme. This encompasses not only the experimental runs themselves, but also necessary preparatory activities, including the setup and configuration of instrumentation in accordance with user requirements. The total number of experimental shifts conducted under the ELI User Programme serves as an indicator of the experimental uptime allocated to users. For calculation purposes, an experimental shift is defined as an eight-hour period within a standard working day.

[2] The experimental suite at ELI consists of laser systems – serving as the primary driving sources – complemented by a diverse array of secondary photon and particle beam sources and end-stations. Collectively, this scientific equipment forms a versatile and integrated experimental fleet that can be arranged, combined, and customised to meet the specific user requirements. Distinct configurations of this equipment define individual experimental chains, providing the adaptability and flexibility required to support a broad range of experimental objectives across multiple scientific disciplines. For reporting purposes, an **Experimental Instrument** refers to the entry point for user access, encompassing the components directly relevant to the execution of user experiments. This may comprise either the end-station at the conclusion of an experimental chain or a laser system when offered as a standalone instrument.

	▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 26 out of 32 experimental instruments per year ▪ ELI Beamlines: ≥ 13 out of 17 experimental instruments per year **B. <u>User Engagement</u>** **(4) Experiment Proposals Received** ▪ Proposals Submitted ▪ **≥ 230 proposals per year** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 115 proposals per year ▪ ELI Beamlines: ≥ 115 proposals per year **(5) Experiment Proposals Accepted** ▪ Proposals Awarded ▪ **≥ 150 proposals per year** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 75 proposals per year ▪ ELI Beamlines: ≥ 75 proposals per year **C. <u>User Experience</u>** **(6) Functionality of Scientific Equipment[3]** ▪ Functionality Level ▪ **At least 90% of user experiments are completed with scientific equipment operating within, or exceeding, the technical specifications published for the relevant ELI Call for Users on the ELI User Portal, and in compliance with the performance levels required to achieve their objectives** **(7) User Satisfaction Feedback[4]** ▪ Satisfaction Level

[3] **Functionality of Scientific Equipment** refers to the extent to which experimental instruments operate in line with the technical specifications considered essential for the successful execution of user campaigns and the achievement of their objectives. These specifications are defined collaboratively by users and ELI's scientific and technical support team for each experiment, and fall within, or may exceed, the published specifications for the relevant ELI Call for Users on the ELI User Portal. Equipment functionality refers to the degree to which these requirements are met throughout the user experiment, thereby ensuring the realisation of its objectives.

[4] **User Satisfaction Feedback** is comprehensively assessed through a standardised post-experiment survey and reflects an integrated evaluation of multiple aspects, including the quality of logistical support, the effectiveness and responsiveness of ELI's scientific and technical assistance, experiment timeliness and scheduling, the extent to which scientific equipment met agreed technical specifications, the generation, quality, and accessibility of measured data, and the achievement of the experiment's predefined objectives.

	▪ **At least 90% of users, who complete experiments, provide satisfactory feedback on the overall range of user services received**

PERFORMANCE MONITORING AREA # 4	SCIENTIFIC PUBLICATIONS Publishing and Promoting Open Access to Research Results
Definition	**PM Area No. 4 aims to monitor and evaluate the publication outcomes of R&I activities conducted at ELI, both within and beyond the ELI User Programme. This involves analysing the volume of scientific publications, the quality of the journals in which they appear, their citation impact, and other quantitative and qualitative attributes assessed through bibliometric analysis. Additionally, the PM Area emphasises establishing links between publications and specific R&I initiatives and scientific equipment at the ELI Facilities, thereby clarifying the roles and contributions of individual experimental setups and user communities to ELI's overall publication output.**
	Given that advancing scientific excellence is the key statutory mission of ELI ERIC, scientific publications are regarded as the primary outcomes of R&I activities conducted at ELI. Building on this foundation, this PM Area focuses on monitoring and evaluating both **the quantitative and qualitative features of scientific publications arising from the use of ELI's experimental capacity**, whether through external user campaigns or in-house R&I initiatives. In the first instance, the PM Area covers **scientific publications resulting from user experiments conducted under the ELI User Programme**, within the frameworks of Open Excellence-Based and Mission-Based Access. Secondly, it addresses **scientific publications originating from in-house R&I initiatives outside the ELI User Programme**, including commissioning, ramp-up, technology development, and upgrades, as well as collaborative R&I projects involving ELI ERIC as a partner. In addition to collecting data on **the overall volume** of scientific publications produced at ELI, the PM Area aims to evaluate their **qualitative characteristics**. While categorisation by type (i.e., book, book chapter, journal article, meeting abstract, paper in proceedings, peer-reviewed article) and R&I field, and linking to the scientific domains and societal challenges defined under the ELI User Programme, are

	important, the primary focus of this PM Area is the evaluation of quality and impact through **journal rankings** and **citation counts**. A further qualitative aspect involves reviewing **the correlation between scientific publications and specific user experiments conducted under the ELI User Programme, as well as in-house R&I initiatives outside the programme**. This approach provides a clear basis for assessing the outcomes generated by each R&I initiative at ELI. Furthermore, it facilitates **the systematic linkage of publications to the specific experimental instruments utilised in the corresponding R&I activities** and to the respective scientific teams, thereby offering critical insights into performance relative to each experimental setup and user community. Finally, the PM Area is designed to track **scientific publications originating from industry collaborations** as a distinct category.
	This PM Area is closely associated with PM Areas No. 5 and 6, which focus on monitoring and evaluating additional types of R&I outcomes from experimental initiatives conducted at ELI, specifically research datasets and non-publication R&I results. Collectively, these PM Areas provide a comprehensive view of the R&I outputs generated through R&I activities that leverage ELI's experimental capabilities.
Rationale	Monitoring the volume of scientific publications produced at ELI, along with their qualitative characteristics, serves as an essential indicator of **ELI's scientific output**, whether generated from user experiments conducted within the ELI User Programme or from in-house R&I activities beyond its scope. Evaluating the distinction between scientific publications produced by external user communities and those authored by ELI scientific staff facilitates the assessment of **the balance between externally driven and in-house R&I performance**. Classifying scientific publications originating from ELI according to their type and scientific field reveals the predominant categories of publication outcomes and highlights **the specific R&I domains supported by the ELI Facilities**. Analysing the quality of journals in which scientific publications produced at ELI appear provides a critical understanding of the **calibre** of ELI's scientific outputs, while citation counts serve as a key metric of their **scholarly impact**.

	Examining the proportion of scientific publications arising from industry collaborations yields valuable insights into **the extent of private-sector engagement with ELI** and its readiness to co-publish R&I outcomes in collaboration with ELI scientific staff. Reviewing the correlation between scientific publications and specific R&I activities – whether within or beyond the ELI User Programme – along with the experimental instruments utilised, demonstrates **the connections between ELI's R&I outputs and its individual experimental setups**, including their modes of utilisation and the scientific teams involved.
Assumptions	**The fundamental principle for user experiments at ELI under Open Excellence-Based and Mission-Based Access is that results must be published and made openly accessible, with users expected to aim for publication in the open literature**. Accordingly, each experiment under these access schemes is anticipated to result in at least one openly accessible scientific publication. In certain cases, however, scientific teams may need to conduct additional user experiments to obtain further data required for the validation of their findings, which may impact both the timeline and the number of resulting publications. Furthermore, in certain cases, experiments may not lead to publication if the findings are inconclusive or insufficiently substantiated. **A different scenario is expected for user campaigns conducted under Proprietary Access**. **As this access route primarily serves industrial users and operates on a commercial basis, with users compensating for the provided services, it allows customers to retain ownership of primary scientific data and R&I results from experiments, without the obligation to publish these findings in the open literature**. Hence, the volume of scientific publications arising from user campaigns under Proprietary Access is expected to be significantly lower than that from user campaigns conducted under Open Excellence-Based and Mission-Based Access. With regard to the relationship between scientific publications and experimental instruments, these instruments are typically utilised in R&I activities involving complex setups that integrate primary and secondary sources with end-stations. Consequently, **each scientific publication is typically associated with multiple components of ELI's scientific equipment concurrently**.

	Concerning scientific publications produced by ELI staff, given that ELI scientists may also apply for beamtime under Open Excellence-Based Access and actively contribute to ELI ERIC Missions, **scientific publications authored by them will generally be classified as user publications if they result from experiments conducted under the ELI User Programme**. Conversely, **scientific publications authored by ELI scientific staff that arise from R&I activities outside the ELI User Programme will be classified as non-user publications**. These typically result from in-house R&I efforts, such as commissioning, ramp-up, technology development, upgrades, and collaborative R&I projects involving ELI ERIC is a partner. Regarding scientific publication authorship, **given the significant involvement of ELI scientific staff in the design and execution of user experiments under the ELI User Programme, it is common for them to be listed as co-authors in publications** resulting from these experiments, even when they are not officially designated as Principal Investigators (PIs) or Co-Investigators (COIs). However, **the majority of scientific publications arising from the use of ELI's experimental facilities is expected to be authored by external users**. Accordingly, the data collection process should be comprehensive and systematically organised to ensure effective engagement with both internal and external user communities. **Assessing the ultimate impact of scientific publications typically becomes relevant at least five years after their publication, since citation impact is lower in the immediate years following release**. Therefore, in the early stages, monitoring the quality of the journals where these publications appear serves as a more relevant indicator of their quality than citation counts. **Regarding the methodological approach to bibliometric analysis of scientific publications, indicators reflecting ELI's publication output will typically be sourced from InCites, an analytics extension of the Clarivate's Web of Science**. Unique identifiers will be used to select scientific publications, focusing on the publication types "Article", "Review", and "Letter". While InCites typically excludes conference proceedings, meeting abstracts, books, and book chapters from the bibliometric analysis, conference proceedings that are published as special issues of journals may occasionally be indexed and included in the periodical literature.

	Due to the completion of legal integration of the ELI Beamlines Facility into ELI ERIC as of 1 January 2023 and the ELI ALPS Facility as of 1 January 2024, scientific publications produced prior to the dates will be affiliated with their previous host institutions, i.e., the Institute of Physics of the Czech Academy of Sciences for the former, and ELI-HU Non-Profit Ltd. for the latter. **Additionally, owing to the legal status of the ELI ALPS host institution, scientific publications authored by ELI-HU Non-Profit Ltd. will be categorised as having industrial origin and must be revised to reflect their actual origin**.
ELI ERIC Policy Reference Framework	**ELI ERIC User Access Policy** **ELI ERIC Dissemination Policy**
Data Collection Responsibility	**A. <u>User Publications</u>** **Coordinator and Lead Responsible** ELI ERIC Office of Science **Contributor and Supporting Lead** ELI ERIC User Office Instrument Scientists **B. <u>Non-User Publications</u>** **ELI ALPS Facility** Head of Science Outreach Centre **ELI Beamlines Facility** Scientific Secretary

Data Parameters	**Scientific Publication**
	▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	▪ R&I Initiative Category
	  ▪ ELI User Programme R&I Initiative
	  ▪ Open Excellence-Based Access
	  ▪ Experiment Identifier
	  ▪ Mission-Based Access
	  ▪ Project Identifier
	  ▪ Experiment Identifier
	  ▪ Proprietary Access
	  ▪ Experiment Identifier

	▪ Non-ELI User Programme R&I Initiative ▪ Commissioning/Ramp-Up ▪ Technology Development/Upgrade ▪ Collaborative R&I Initiative ▪ Identifier ▪ Publication Type ▪ Book ▪ Book Chapter ▪ Journal Article ▪ Meeting Abstract ▪ Paper in Proceedings ▪ Peer-Reviewed Article ▪ Other ▪ Publication Details ▪ Number of All Authors ▪ Number of ELI Authors ▪ Number of Non-ELI Authors ▪ Author ▪ Name ▪ Surname ▪ Institutional Affiliation ▪ Article Title ▪ Journal/Book/Series Title ▪ Volume ▪ Number/Issue ▪ Pages From-To ▪ Page Count ▪ Article Number ▪ Publication Year ▪ Publication Language ▪ International Standard Serial Number (ISSN) ▪ Electronic International Standard Serial Number (eISSN) ▪ International Standard Book Number (ISBN) ▪ Digital Object Identifier (DOI) ▪ Unique Tag According to the Web of Science (UT WoS) ▪ Unique Tag According to the Scopus (UT Scopus) ▪ Open Access Type ▪ Gold ▪ Green ▪ Hybrid ▪ Platinum/Diamond ▪ Bronze

	▪ Conference
	  ▪ Title
	  ▪ Date
	  ▪ City
	  ▪ Country
	▪ Field of Research and Development (FORD)
	  ▪ Detailed Field of Research and Development (FORD)
	▪ Webpage

Performance Targets	**A. <u>User Publications</u>**
	
	(1) Publication Output
	▪ Publication Volume
	  ▪ **≥ 150 peer-reviewed articles per year**
	▪ Breakdown by ELI Facility
	  ▪ ELI ALPS: ≥ 75 peer-reviewed articles per year
	  ▪ ELI Beamlines: ≥ 75 peer-reviewed articles per year
	
	(2) Journal Quality
	▪ Publications in Q1 Journals
	  ▪ **≥ 40% of peer-reviewed articles per year**
	  ▪ Publications in Top 10% Ranked Journals
	  ▪ **≥ 20% of peer-reviewed articles per year**
	▪ Publications in Q2 Journals
	  ▪ **≥ 40% of peer-reviewed articles per year**
	
	(3) Citation Impact[1]
	▪ Publications Among the Top 1% Most Cited
	  ▪ **≥ 4% of peer-reviewed articles per year**
	▪ Publications Among the Top 10% Most Cited
	  ▪ **≥ 20% of peer-reviewed articles per year**
	
	(4) Publications with Industry
	▪ Publication Volume
	  ▪ **≥ [TBA] peer-reviewed articles per year**
	▪ Breakdown by ELI Facility
	  ▪ ELI ALPS: ≥ [TBA] peer-reviewed articles per year
	  ▪ ELI Beamlines: ≥ [TBA] peer-reviewed articles per year

[1] **Publications Among the Top 1% and Top 10% Most Cited in their Respective Field and Year** serves as an indicator measuring the proportion of peer-reviewed articles that rank within the top 1% and 10% most cited papers in their respective scientific field and year. This field- and time-normalised metric provides a measure of the relative scientific influence of research outputs, reflecting their citation performance compared with all other publications in the same discipline and period.

	B. <u>Non-User Publications</u> **(5) Publication Output** ▪ Publication Volume ▪ **≥ 80 peer-reviewed articles per year** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 30 peer-reviewed articles per year ▪ ELI Beamlines: ≥ 50 peer-reviewed articles per year **(6) Journal Quality** ▪ Publications in Q1 Journals ▪ **≥ 40% of peer-reviewed articles per year** ▪ Publications in Top 10% Ranked Journals ▪ **≥ 20% of peer-reviewed articles per year** ▪ Publications in Q2 Journals ▪ **≥ 40% of peer-reviewed articles per year** **(7) Citation Impact** ▪ Publications Among the Top 1% Most Cited ▪ **≥ 4% of peer-reviewed articles per year** ▪ Publications Among the Top 10% Most Cited ▪ **≥ 20% of peer-reviewed articles per year** **(8) Publications with Industry** ▪ Publication Volume ▪ **≥ [TBA] peer-reviewed articles per year** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ [TBA] peer-reviewed articles per year ▪ ELI Beamlines: ≥ [TBA] peer-reviewed articles per year

PERFORMANCE MONITORING AREA # 5	RESEARCH DATASETS Promoting Open Access to Research Data and Facilitating their Reuse
	PM Area No. 5 focuses on the monitoring and evaluation of ELI ERIC's research data management, implemented in accordance with the ELI ERIC Data Policy. This policy requires that research data resulting from experiments granted beamtime and carried out within the framework of the ELI ERIC User Access Policy be managed in compliance with the FAIR (*Findability, Accessibility, Interoperability, Reusability*) principles. In this context, PM Area No. 5 is key to assessing the effectiveness of implementation of these standards. Furthermore, it encompasses the examination of the extent to which research data are reused and the analysis of R&I results arising from such reuse. Collectively, these efforts serve to demonstrate ELI ERIC's contributions to advancing the strategic objectives of the European Open Science Cloud (FAIR) initiative and supporting the overarching goals of the European Open Science Policy.
Definition	Research data constitute a fundamental output and a key strategic asset in R&I. Ensuring adherence to the FAIR principles (*Findability, Accessibility, Interoperability, Reusability*) – alongside compliance with the ELI ERIC Data Policy – is paramount to securing the long-term utility of research data generated at ELI. This approach not only facilitates the verification and reproducibility of R&I results – thereby fostering confidence in the scientific process – but also enables further investigation through data reuse and integration with other relevant datasets. Consequently, effective FAIR data management optimises the experimental use of the ELI Facilities and maximises the value derived from the R&I conducted therein. Deeply rooted within the European Research Area (ERA) and as a Member of the European Open Science Cloud (EOSC) Association, ELI ERIC is firmly committed to the European Open Science Policy. In this context, the ELI ERIC Data Policy mandates that all research data resulting from experiments granted beamtime and conducted in the framework of the ELI ERIC User Access Policy be managed in accordance with the FAIR principles.

	Building on this foundation, PM Area No. 5 is established to monitor and assess **the effectiveness of ELI ERIC's research data management practices and the associated outcomes**. Specifically, it evaluates **whether the research data generated within the framework of the ELI User Programme are managed in accordance with the FAIR principles and ELI ERIC Data Policy** throughout their entire lifecycle, with the ultimate objective of ensuring long-term archiving for future accessibility and reuse. Additionally, PM Area No. 5 aims to examine both **the interest in and extent of research data reuse following the embargo period**, during which user access is restricted to the authors, including the impact of such reuse. This is evaluated by analysing **the proportion of research data that contributed to the generation of subsequent R&I outcomes – specifically scientific publications – through reuse**.
	This PM Area is closely aligned with PM Areas No. 4 and 6, which focus on the monitoring and evaluation of scientific publications as primary R&I outcomes from the experimental activities at ELI, alongside other, non-publication R&I results. **Together, these PM Areas provide a comprehensive overview of the R&I outcomes generated at ELI and their modes of dissemination**.
Rationale	Monitoring and evaluating the implementation of the ELI ERIC Data Policy, alongside ensuring alignment of the Organisation's research data management practices with the FAIR principles, underscores **ELI ERIC's commitment to the standards established within the European Open Science Policy framework, specifically through the EOSC initiative**. Assessing the extent of research datasets reused after the embargo period, during which access is limited to the authors, demonstrates **the interest of the R&I communities in these datasets, highlighting their benefits for different purposes, such as verifying R&I results, reproducing research, and building upon the previous findings to support further R&I endeavours**. Examining the volume of R&I outcomes produced from the reuse of research data provides critical insights into **the proportion of stored data that contributes to the generation of subsequent R&I results**. Analysing the balance between the investment required to manage research data and the potential costs associated with reproducing the original experiments that generated them reveals **the strategic**

	advantages of the open science policy approach, particularly in terms of cost efficiency and the optimisation of R&I outcomes.
Assumptions	In accordance with the ELI ERIC Data Policy, **each user experiment granted beamtime and conducted under the ELI ERIC User Access Policy framework is expected to result in a research dataset that is managed according to FAIR principles**. As outlined in the ELI ERIC Data Policy, **research data from a user experiment is subject to a three-year embargo, during which only the originating scientific team has access**. **Afterwards, the data is made publicly available for a minimum of seven years**. While the number of accesses or downloads of a research dataset may indicate interest, **verified reuse that leads to subsequent R&I outcomes – such as scientific publications – is considered tangible evidence of effective data reuse**. Since each research dataset is assigned a Digital Object Identifier (DOI), **it is crucial that this DOI be consistently cited in scientific publications and across all relevant R&I outcomes originating from ELI experiments, in order to ensure accurate attribution and maximise the visibility and impact of the data**. To effectively monitor and evaluate the impact of research data reuse on the generation of subsequent R&I results, **it is essential to establish a comprehensive process for engaging with the ELI user communities, including both internal and external teams**. Since customers leveraging ELI's experimental capabilities under Proprietary Access on a commercial basis retain ownership of the scientific results, including primary data generated through their experiments, **these are not subject to the standard research data management practices established by ELI ERIC, unless otherwise agreed with the customers**.
ELI ERIC Policy Reference Framework	**ELI ERIC Data Policy** **ELI ERIC Dissemination Policy** **ELI ERIC User Access Policy**
Data Collection Responsibility	**ELI ERIC Office of Science**

Data Parameters	**Research Dataset**
	▪ Digital Object Identifier (DOI)
	▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	▪ ELI User Programme R&I Initiative
	  ▪ Open Excellence-Based Access
	  ▪ Experiment Identifier
	  ▪ Mission-Based Access
	  ▪ Project Identifier
	  ▪ Experiment Identifier
	▪ Management Period
	  ▪ Embargo Period
	  ▪ Start Date
	  ▪ End Date
	  ▪ Open Access Period
	  ▪ Start Date
	  ▪ End Date
	▪ Reuse Rate
	  ▪ Number of Accesses/Downloads per Research Dataset
	▪ Re-User Institution
	  ▪ Identifier
	  ▪ Acronym
	  ▪ Full Name
	  ▪ Category
	  ▪ Public Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Research Institute
	  ▪ Hospital
	  ▪ International Organisation
	  ▪ Intergovernmental Organisation
	  ▪ Non-Governmental Organisation
	  ▪ Private Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Small-/Medium-Sized Enterprise
	  ▪ Large Enterprise
	  ▪ City
	  ▪ Country
	  ▪ Website

	▪ R&I Results Generated through Research Data Reuse
	  ▪ Scientific Publication Identifier
	  ▪ Non-Publication R&I Result Identifier

Performance Targets	**A. <u>Research Dataset Management During the Embargo Period</u>**
	
	(1) FAIR Compliance
	  ▪ Proportion of datasets from experiments under Open Excellence-Based and Mission-Based Access, managed in compliance with the ELI ERIC Data Policy, including FAIR and other processes: **100% of research datasets**
	
	B. <u>Research Dataset Reuse Following the Embargo Period</u>
	
	(2) Dataset Reuse
	  ▪ Number of accesses and/or downloads per dataset from experiments under Open Excellence-Based and Mission-Based Access, made available via the public data repository: **≥ [TBA] accesses and/or downloads per research dataset**
	
	(3) Dataset Citation in Scientific Publications
	  ▪ Proportion of datasets from experiments under Open Excellence-Based and Mission-Based Access that are cited in scientific publications by authors outside the data-generating team: **≥ 10% of research datasets**

PERFORMANCE MONITORING AREA # 6	OTHER R&I RESULTS Producing and Disseminating Non-Publication R&I Results
Definition	**PM Area No. 6 is dedicated to monitoring and evaluating the non-publication results of R&I activities carried out at ELI, both within and beyond the ELI User Programme. This encompasses assessing tangible and intangible R&I outputs, such as certified technologies, functional samples, industrial designs, prototypes, software, utility models, patents, and other categories of non-publication outcomes deemed relevant. In addition, the PM Area seeks to associate these results with specific R&I initiatives and scientific equipment at the ELI Facilities, thereby providing valuable insights into the roles and contributions of individual experimental instruments and research groups, as well as the contexts in which these results are produced.** The majority of scientific activities conducted at ELI focus on basic research, with the primary objective of advancing the fundamental understanding of core underlying principles and phenomena, often without immediate or direct functional applicability. Consequently, scientific publications are typically regarded as the main outcomes of R&I efforts at ELI. However, it is important to recognise that non-publication R&I results, though less frequent and fewer in number, also originate at ELI, emerging through the valorisation of acquired knowledge. This highlights the need to integrate the assessment of non-publication R&I outcomes into the analysis of ELI's overall R&I performance. Building on this framework, this PM Area is designed to monitor and evaluate both **the quantitative and qualitative characteristics of non-publication R&I results** at ELI, resulting from external user campaigns, as well as from in-house R&I initiatives. To this end, the PM Area tracks **non-publication outputs arising from R&I activities undertaken under the ELI User Programme**. Additionally, it addresses **non-publication results originating from in-house R&I activities outside the ELI User Programme**, including the commissioning and ramping-up of experimental instruments, upgrades, and technology development aimed at the introduction of entirely new scientific equipment.

	With regard to the categories of non-publication R&I results to be assessed under this PM Area, they primarily entail **certified technologies, functional samples, industrial designs, patents, prototypes, software, utility models, and other categories of non-publication outcomes deemed relevant**. An additional qualitative aspect of the evaluation process involves examining **the correlation between these outcomes and specific R&I initiatives undertaken at ELI**. This approach facilitates linking outputs to both the experimental instruments employed and the scientific teams involved, thereby providing key insights into the R&I performance of individual research groups and the technical equipment at ELI, including the modes of its utilisation.
	This PM Area is closely aligned with PM Areas No. 4 and 5, which are dedicated to monitoring and evaluating scientific publications and research datasets as the primary outcomes of R&I activities at ELI. **Collectively, these PM Areas provide a holistic perspective on the wide range of R&I outputs generated through initiatives that leverage ELI's experimental capabilities**.
Rationale	Monitoring and evaluating non-publication R&I results stemming from experimentation at ELI is crucial for gaining a comprehensive understanding of **ELI's overall R&I performance**. It also facilitates the assessment of the broader, long-term impacts of knowledge produced at ELI, whether through experiments conducted under the ELI User Programme or in-house R&I initiatives undertaken outside its framework. Examining the distinction between non-publication R&I results produced by external user communities and those achieved by ELI scientific staff enables the assessment of **the ratio between externally driven and in-house R&I performance**. Classifying non-publication R&I results by their type clarifies **the predominant categories of non-publication outputs** arising from experimentation at ELI. Analysing the correlation between non-publication R&I results and specific R&I activities carried out at ELI offers critical insights into **how ELI's R&I performance relates to experimental setups, their utilisation modes, and the scientific teams involved**.

Assumptions	While it is generally anticipated that each user experiment carried out at ELI under Open Excellence-Based and Mission-Based Access will lead to at least one openly accessible scientific publication, **the extent to which these new findings are subsequently valorised in practical applications is less predictable, making forecasting the volume of non-publication R&I results from experimentation at ELI rather challenging**. With regard to the linkage between non-publication R&I results and experimental instruments, these instruments are generally utilised in R&I activities involving complex setups that integrate primary and secondary sources with end-stations. Consequently, **each non-publication R&I result is typically associated with the combined operation of multiple components of ELI's research infrastructure**. Regarding non-publication R&I results developed by ELI scientific staff, as ELI researchers may also apply for beamtime under Open Excellence-Based and Mission-Based Access, **non-publication R&I results produced by ELI scientists will be classified as user results if stemming from experiments under the ELI User Programme**. Conversely, **non-publication R&I results produced by ELI scientific staff that arise from R&I activities outside the ELI User Programme will be classified as non-user results**. These typically originate from in-house R&I initiatives, such as commissioning, ramp-up, upgrades, and technology development. **Due to the significant involvement of ELI researchers in the design and implementation of experiments conducted under the ELI User Programme, it is common for them to be credited as contributors to non-publication R&I results**, even if they are not participating in the roles of Principal Investigators (PIs) and Co-Investigators (COIs). However, **the majority of non-publication R&I results stemming from the utilisation of ELI's experimental facilities is anticipated to originate from external users**. Accordingly, the data collection process should be comprehensive and systematically organised to ensure effective engagement with external ELI user communities. Given the confidentiality and non-disclosure agreements governing the utilisation of ELI's experimental capabilities through Proprietary Access, **data concerning non-publication R&I outcomes generated through commercial activities are expected to remain restricted**.

ELI ERIC Policy Reference Framework	**ELI ERIC User Access Policy** **ELI ERIC Dissemination Policy** **ELI ERIC Innovation and Industry Policy** **ELI ERIC Intellectual Property Rights Policy**
Data Collection Responsibility	**A. <u>User Non-Publication R&I Results</u>** **Coordinator and Lead Responsible** ELI ERIC Office of Science **Contributor and Supporting Lead** ELI ERIC User Office Instrument Scientists **B. <u>Non-User Non-Publication R&I Results</u>** ELI ERIC Innovation Office

Data Parameters	**Non-Publication R&I Result**
	▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	▪ R&I Initiative Category
	  ▪ ELI User Programme R&I Initiative
	  ▪ Open Excellence-Based Access
	  ▪ Experiment Identifier
	  ▪ Mission-Based Access
	  ▪ Project Identifier
	  ▪ Experiment Identifier
	  ▪ Proprietary Access
	  ▪ Experiment Identifier
	  ▪ Non-ELI User Programme R&I Initiative
	  ▪ Commissioning/Ramp-Up
	  ▪ Technology Development/Upgrade
	  ▪ Collaborative R&I Initiative
	  ▪ Identifier
	▪ Type
	  ▪ Certified Technology
	  ▪ Functional Sample
	  ▪ Industrial Design
	  ▪ Patent
	  ▪ Prototype
	  ▪ Software

	▪ Utility Model ▪ Other ▪ Title ▪ Details ▪ Number of All Contributors ▪ Number of ELI Contributors ▪ Number of Non-ELI Contributors ▪ ELI Contributor ▪ Name ▪ Surname ▪ ELI Facility ▪ Non-ELI Contributor ▪ Name ▪ Surname ▪ Institutional Affiliation ▪ Non-ELI Owner ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital ▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website ▪ Field of Research and Development (FORD) ▪ Detailed Field of Research and Development (FORD) ▪ Economic/Technology Area ▪ NACE (*Nomenclature Statistique des Activités Économiques dans la Communauté Européenne*) ▪ KET (*Key Enabling Technologies*) ▪ Confidentiality

Performance Targets	**A. <u>User Non-Publication R&I Results</u>** **(1) User Non-Publication R&I Output** ▪ Non-Publication Results Volume ▪ **≥ [TBA] results per year, including at least [TBA] patented technologies** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ [TBA] results per year, of which a minimum of [TBA] are patented technologies ▪ ELI Beamlines: ≥ [TBA] results per year, of which a minimum of [TBA] are patented technologies **B. <u>Non-User Non-Publication R&I Results</u>** **(2) Non-User Non-Publication R&I Output** ▪ Non-Publication Results Volume ▪ **≥ 10 results per year, including at least 2 patented technologies** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 5 results per year, of which a minimum of 1 is patented technology ▪ ELI Beamlines: ≥ 5 results per year, of which a minimum of 1 is patented technology

PERFORMANCE MONITORING AREAS # 7 AND # 8	REVENUE FROM PUBLIC AND PRIVATE FUNDING Securing and Diversifying Revenue through Public and Private Funding Sources
Definition	**PM Areas No. 7 and 8 focus on monitoring and evaluating ELI ERIC's revenue streams from public and private sources**. **These sources include financial contributions from Members, Observers, and Strategic Partners, which represent the Organisation's primary funding streams, as well as grant funding and commercial revenue, which serve as avenues for diversifying the funding base**. **Together, these PM Areas facilitate a comprehensive assessment of ELI ERIC's revenue portfolio, providing a clear understanding of the role and relative weight of each funding channel within the Organisation's financial framework and their contribution to the Organisation's long-term financial sustainability**.
	In view of ELI's legal establishment as an ERIC, an international intergovernmental organisation operating on a non-profit basis, funding commitments from ELI ERIC Members, Observers, and Strategic Partners serve as the Organisation's primary revenue streams. These financial contributions are critical in sustaining ELI ERIC's budget expenditures, with further support generated, to a limited extent, via grant funding and commercial activities, the latter being constrained by ELI ERIC's regulatory framework. Building upon this framework, these PM Areas aim to monitor and assess both the quantitative and qualitative aspects of **ELI ERIC's revenue streams from public and private sources**, their roles in sustaining the Organisation's financial stability, and the evolving structure and profiles of these streams. Given that funding commitments from Members, Observers, and Strategic Partners represent ELI ERIC's principal revenue streams, these PM Areas primarily focus on analysing **stakeholder financial contributions** as a key source for supporting ELI's operational costs. In addition, the PM Areas aim to evaluate **grant funding** from R&I projects supported under EU R&I Framework Programmes, as well as other international and national R&I grant schemes, which serve as significant mechanisms for diversifying ELI ERIC's revenue base.

	Finally, the PM Areas also focus on reviewing ELI ERIC's **revenue from commercial activities**, examining their contribution to the Organisation's overall financial stability and sustainability. Although ELI ERIC operates as a non-profit organisation, it engages in economic activities, such as offering ELI's experimental services on a fee-paying basis and commercialising its intellectual property assets. Consequently, the PM Areas are designed to track revenue generated through Proprietary Access, Special Purpose Vehicles (SPVs) established as subsidiary companies to advance ELI ERIC's economic efforts, and other commercial initiatives.
Rationale	Monitoring and evaluating the volume and structure of ELI ERIC's revenue from both public and private funding, including assessing the ratio between these funding sources and the evolution of their respective shares over time, is crucial for gaining valuable insights into **the primary revenue streams that support the Organisation's operations and budget expenditures**. Documenting and analysing ELI ERIC's revenue from Members, Observers, and Strategic Partners, along with the share of their respective national R&I communities in the ELI User Programme, reveals **the correlation between country funding commitments and the proportion of ELI's experimental capacity awarded to their national R&I communities** under Open Excellence-Based and Mission-Based Access. Examining ELI ERIC's revenue from grants and private funding provides critical insights into **the Organisation's effectiveness in diversifying its revenue streams** through competitive R&I grant schemes and commercial activities. In this context, assessing ELI ERIC's participation in R&I projects at both European and international levels also aims to reveal **the Organisation's capacity to collaborate with leading academic and industrial stakeholders** in Europe and worldwide, while addressing key scientific and technological challenges related to the operation, advancement, and experimental and practical applications of high-power, ultra-fast, and high-repetition-rate laser technologies. Observing ELI ERIC's success in coordinating these R&I initiatives further underscores **the Organisation's appeal as a coordinator of European and international efforts in this field**, contributing to the progress of laser science and its real-world applications.

	Tracking the shares of the Host Countries of the ELI Facilities in ELI ERIC's revenue is essential, as it allows for an assessment of **the Organisation's progress in achieving the high-level strategic objectives established in its initial financial plan**. This framework is anchored in Annex 2 of the ELI ERIC Statutes, which outlines the financial model for the Organisation and determines that the Host Countries of the ELI Facilities are responsible for covering 20% of the operating costs of their respective ELI Facility, along with any remaining costs not covered by other revenue streams. The overarching objective of assessing ELI ERIC's funding portfolio, including the relative value of each funding channel and long-term trends, is to provide evidence-based insights that shape **strategies for optimising revenue streams**, ensuring the achievement of ELI's strategic priorities in line with the Organisation's statutory mission.
Assumptions	**Given ELI's establishment as an ERIC, a non-profit international intergovernmental organisation, funding commitments from ELI ERIC Members, Observers, and Strategic Partners represent the primary revenue channels to sustain the Organisation's budget expenditures**. While grant and commercial funding offer further support, their overall contribution to the Organisation's budget remains limited, with commercial activities constrained by ELI ERIC's legal framework. **Regarding the correlation between country funding commitments and the shares of the ELI User Programme utilised by national R&I communities, Annex 2 of the ELI ERIC Statutes stipulates that the share from the preceding three years is to be taken into account when specifying the financial contribution**. While this proportion constitutes a significant consideration in negotiations, it retains an advisory and supplementary role within a broader, multi-factored decision-making framework. Annex 2 to the ELI ERIC Statutes delineates the commitment of the Host Countries of the ELI Facilities to contribute a minimum of 20% towards the operating costs of their respective ELI Facility. Additionally, they are responsible for covering any remaining costs up to 100% if these costs are not addressed by alternative sources of revenue. **Despite ongoing efforts to diversify ELI ERIC's revenue, the circumstances have resulted in the Host Countries assuming a disproportionally higher share of the operating costs for their respective ELI Facility, exceeding the initially projected 20%**.

ELI ERIC Policy Reference Framework	**ELI ERIC Financial Rules** **ELI ERIC User Access Policy** **ELI ERIC Innovation and Industry Policy**
Data Collection Responsibility	**A. <u>Revenue Diversification</u>** **Coordinator and Lead Responsible** ELI ERIC Director General's Office Senior Officer for Budgeting and Financial Planning **Contributor and Supporting Lead** ELI ERIC Director General's Office Grant Finance Officer ELI ERIC Office of Science ELI ERIC Innovation Office ELI Impact Lab s.r.o. [ELI ERIC Tech Ktf.] **B. <u>Collaborative R&I Initiatives</u>** ELI ERIC Director General's Office Senior Officer for Grants
Data Parameters	**A. <u>Revenue Diversification</u>** **Revenue from Public Funding** **[Year]** ▪ ELI ERIC Stakeholder Contribution ▪ Member ▪ Host Member ▪ Czechia ▪ Host Premium ▪ Value in EUR ▪ Cash Contribution ▪ Value in CZK ▪ Value in EUR ▪ In-Kind Contribution ▪ Value in CZK ▪ Value in EUR ▪ Hungary ▪ Cash Contribution ▪ Value in HUF ▪ Value in EUR

	▪ In-Kind Contribution ▪ Value in HUF ▪ Value in EUR ▪ Non-Host Member ▪ Country ▪ Cash Contribution ▪ Value in EUR ▪ In-Kind Contribution ▪ Value in EUR ▪ Observer ▪ Country ▪ Cash Contribution ▪ Value in EUR ▪ In-Kind Contribution ▪ Value in EUR ▪ Strategic Partner ▪ Country ▪ Cash Contribution ▪ Value in EUR ▪ In-Kind Contribution ▪ Value in EUR ▪ Institution ▪ Cash Contribution ▪ Value in EUR ▪ In-Kind Contribution ▪ Value in EUR ▪ Mission-Based Access: Contribution Value ▪ ELI ERIC Mission Identifier ▪ Institution ▪ Cash Contribution ▪ Value in EUR ▪ In-Kind Contribution ▪ Value in EUR ▪ Grant Funding ▪ Collaborative R&I Project Identifier ▪ Funder ▪ Value in EUR

Revenue from Private Funding

[Year]

- Proprietary Access: Customer Fee
  - Commercial User Campaign Identifier
    - Customer
      - Value in EUR
- Intellectual Property Assets Commercialisation
  - Commercialisation Campaign Identifier
    - Customer
      - Value in EUR
- Special Purpose Vehicles: Subsidiary Companies
  - ELI Impact Lab s.r.o.
    - Value in CZK
    - Value in EUR
  - [ELI ERIC Tech Ktf.]
    - Value in HUF
    - Value in EUR
- Other Commercial Revenue
  - Commercial Activity Identifier
    - Value in CZK/HUF
    - Value in EUR

B. <u>Collaborative R&I Initiatives</u>

- Initiative
  - Identifier
  - Acronym
  - Full Title
  - Abstract
    - Objectives
    - Achievements/Results
  - Contribution of ELI ERIC
    - Objectives
    - Achievements/Results
    - Scientific Publication Digital Object Identifier (DOI)
- Funder
  - Funding Programme
  - Funding Scheme
    - Coordination and Support Action (CSA)
    - Research and Innovation Action (RIA)
    - Training and Mobility Action (TMA)
    - Other

	▪ Funding Type ▪ Lump Sum ▪ Budget-Based ▪ Other ▪ Call for Proposals ▪ Identifier ▪ Topic ▪ Launch Date ▪ Closing Date ▪ Consortium ▪ ELI ERIC ▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Funding ▪ Total Cost ▪ Funder Contribution ▪ Project Investigator (PI) ▪ Name ▪ Surname ▪ E-mail Address ▪ Coordinator Institution ▪ Institution ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Private Sector Organisation ▪ Country Affiliation ▪ Funding ▪ Total Cost ▪ Funder Contribution ▪ Coordinator ▪ Name ▪ Surname ▪ E-mail Address ▪ Partner Institution ▪ Institution ▪ Acronym ▪ Full Name ▪ Category

	▪ Public Sector Organisation ▪ Private Sector Organisation ▪ Country Affiliation ▪ Funding ▪ Total Cost ▪ Funder Contribution ▪ Budget ▪ Total Cost ▪ Funder Contribution ▪ Implementation Period ▪ Start Date ▪ End Date ▪ Duration in Months ▪ Webpage
Performance Targets	**A. <u>Revenue Diversification through Public Funding</u>** **(1) Competitive Grants** ▪ Grant Funding ▪ Proportion: **≥ 5% of total revenue per year** ▪ Grant Submissions ▪ ELI ERIC as Consortium Coordinator: **≥ 1 new project proposal submitted under the EU R&I Framework Programme per year** **B. <u>Revenue Diversification through Private Funding</u>** **(2) Economic Activities** ▪ Commercial Income ▪ Proportion: **≥ 2% of total revenue per year**

PERFORMANCE MONITORING AREA # 9	INSTRUMENTATION DEVELOPMENT Delivering Advanced Experimental Offerings for User Campaigns
Definition	**PM Area No. 9 is designed to monitor advancements in ELI's high-power, ultra-fast, and high-repetition-rate laser systems, as well as laser-based particle acceleration. This involves evaluating progress achieved through the commissioning and ramp-up of experimental instruments, technological developments to enhance experimental capabilities, major upgrades, and the introduction of entirely new scientific equipment. The assessment provides a comprehensive overview of ELI's expanding experimental capabilities, ensuring it maintains its competitive edge and reinforces its position as a world-leading research infrastructure in laser science.** Advancing experimental instruments at the ELI Facilities through ongoing technological development is crucial for maintaining ELI's global competitive edge and its status as a world-leading research infrastructure in laser science. Sustained investment in enhancing the performance of scientific equipment, upgrading capabilities, and introducing entirely new services strengthens ELI's capacity to provide R&I communities with state-of-the-art experimental resources. This approach is integral to ELI ERIC's statutory mission and strategic objectives and is essential to ensuring ELI's success as a pioneering research infrastructure in laser science serving researchers and innovators with cutting-edge technologies. In alignment with this approach, the performance monitoring indicators under this area focus on evaluating **ELI ERIC's efforts to advance ELI's high-power, ultra-fast, and high-repetition-rate laser systems and laser-based particle acceleration technologies**. Building upon this framework, the advancements tracked within this PM Area primarily reflect **ELI ERIC's efforts to enhance both the operational efficiency and peak performance parameters of experimental instruments at the ELI Facilities**, which are either in the process of being commissioned, or have already been brought online and made accessible for utilisation by the R&I community under the ELI User Programme.

	Furthermore, the PM Area follows up on **ELI ERIC's progress in upgrading experimental instruments at ELI by enhancing their technical specifications, pushing them beyond those originally defined in their technical design**. In addition to these enhancements, the PM Area covers **ELI ERIC's achievements in introducing entirely new experimental offerings**, spanning all stages from scientific concept and technical design to development, manufacturing, delivery, installation, commissioning, and ramping-up for user operations under the ELI User Programme. Finally, the PM Area's focus also extends to **the advancements of scientific equipment and other technical resources available within the auxiliary laboratories at the ELI Facilities**, which are fundamental for supporting the implementation of the ELI User Programme, alongside primary and secondary sources and end-stations.
	This PM Area is closely linked to PM Area No. 10, which monitors and evaluates advancements in building infrastructure at the ELI Facilities, with the objectives of enhancing operational efficiency, strengthening resilience, and promoting long-term sustainability. **Collectively, these PM Areas provide a holistic perspective on ELI's ongoing progress in developing experimental offerings and facility infrastructure, addressing both R&I and operational dimensions**.
Rationale	Monitoring and evaluating ELI ERIC's progress in enhancing the experimental suite at the ELI Facilities – including commissioning, ramp-up, improvements, major upgrades, and the introduction of new experimental offerings and their integration into the ELI User Programme – seeks to offer critical insights into **the Organisation's commitment to expanding its portfolio of user services, ensuring access to state-of-the-art experimental resources, and sustaining ELI's position as a global leader in laser science and technology**.
Assumptions	ELI ERIC's statutory mission is primarily dedicated to supporting the R&I community by providing access to experimental resources at the ELI Facilities through the ELI User Programme. **The success of the programme depends on the ongoing advancement of ELI's experimental offerings, ensuring they remain state-of-the-art and continue to equip ELI users with cutting-edge scientific equipment and experimental capabilities for frontier research in laser science**.

	While these development efforts are smaller in scope than activities focused on user services, a significant share of ELI's experimental capacity is strategically allocated to them. This commitment aligns with the Organisation's overarching goal of delivering top-tier experimental facilities to users, maintaining ELI's global competitive edge, and strengthening its position as a world-leading research infrastructure in laser science. **Effective planning for the delivery of entirely new experimental offerings at the ELI Facilities requires a coordinated approach to developing investment campaigns that actively involve ELI ERIC Management, stakeholders, and principal ELI user communities**. A key element of this approach is the design of a comprehensive ELI Scientific Strategy. Rooted in R&I fields with high potential for breakthroughs, this strategy must align with the priorities of ELI users and address key scientific and technological challenges in laser science and laser-driven particle acceleration technology. **To ensure transparent and effective monitoring and evaluation of ELI ERIC's progress in advancing the experimental offerings at the ELI Facilities, it is essential to establish a detailed schedule for the commissioning and ramping-up of ELI's scientific instruments, their integration into the ELI User Programme, and the enhancement of their technical specifications and performance parameters through measurable milestones**. This approach will not only enable effective tracking of progress, but will also reinforce ELI ERIC's commitment to transparency and accountability. By maintaining clarity and openness throughout this process, ELI ERIC will also enhance stakeholder trust and encourage stronger, more collaborative partnerships.
ELI ERIC Policy Reference Framework	**ELI ERIC Activity Plan and Budget**
Data Collection Responsibility	**<u>Coordinator and Lead Responsible</u>** **ELI ERIC Office of Science** ELI ERIC Director of Science **<u>Contributor and Supporting Lead</u>** **ELI ALPS Facility Director** ELI ALPS Director of Science **ELI Beamlines Facility Director** ELI Beamlines Director of Science

Data Parameters	**Experimental Instruments** ▪ Specific data parameters will be established in an Annex to the ELI ERIC Activity Plan and Budget, as adopted by the ELI ERIC Governance Bodies, outlining criteria for assessing the achievement of performance targets and milestones related to the commissioning, ramp-up, and enhancement of ELI's experimental instruments, as well as major upgrades and the introduction of entirely new scientific equipment.
Performance Targets	**Experimental Instruments** ▪ **The Performance Monitoring Area addresses the commissioning, ramp-up, improvements, and major upgrades of existing experimental instrumentation** in accordance with the technical specifications established through development initiatives aimed at enhancing performance, **while also overseeing the delivery and deployment of newly introduced instrumentation**. ▪ **Specific performance targets will be formulated in alignment with the roadmap for advancing scientific equipment to the next performance levels**. These targets will be defined through benchmarking current capabilities against the planned technical specifications and associated milestones, thus ensuring effective monitoring of progress. ▪ **Annual performance targets will be determined in line with the ELI ERIC Activity Plan and Budget**, as approved by the ELI ERIC Governance Bodies.

PERFORMANCE MONITORING AREA # 10	FACILITY DEVELOPMENT Improving Building Infrastructure for Efficiency and Sustainability
Definition	**PM Area No. 10 is focused on monitoring and evaluating ELI ERIC's initiatives to advance the building infrastructure of the ELI Facilities, with the aim of improving operational efficiency, minimising environmental footprint, increasing self-sufficiency, strengthening resilience, and ensuring long-term sustainability. In fulfilling this mandate, the PM Area offers strategic insights into these initiatives, which support the effective and reliable operation of the ELI Facilities, maximise experimental uptime, mitigate vulnerability to external disruptions, and underpin ELI's long-term sustainable development.**
	The primary objective of operational efforts at the ELI Facilities is to ensure the continuous and reliable functioning of the research infrastructure, thereby enabling R&I activities to be conducted in full compliance with health and safety regulations and operational standards, while avoiding unnecessary interruptions. Central to this objective is achieving and sustaining high experimental uptime, with instrumentation operated and maintained to the highest standards of functionality and performance, and facility downtime minimised as much as practicable to support uninterrupted scientific work. Building upon this framework, the PM Area is primarily dedicated to monitoring ELI's **operational efficiency**, with particular emphasis placed on assessing the proportion of experimental capacity affected by planned maintenance and servicing of the research infrastructure, as well as by unforeseen operational disruptions.
	While maximising experimental uptime for the ELI user community is essential to realising the full potential of ELI's strategic objectives, it is equally important to minimise the environmental impact of its operations and its carbon footprint to the greatest extent possible. Given that ELI is an energy-intensive research infrastructure with substantial energy demands to power scientific instruments and, importantly, to maintain rigorous conditions within experimental areas, enhancing operational efficiency – especially by optimising energy consumption through innovative solutions – remains a key strategic priority for ELI ERIC.

	These efforts not only contribute to reducing the operational costs of ELI, but – when combined with the integration of carbon-neutral power generation solutions – also advance ELI ERIC's broader policy objective of mitigating ELI's environmental footprint and promoting its long-term sustainability. In this context, the PM Area places particular emphasis on assessing ELI ERIC's initiatives aimed at minimising the **environmental impact** of the ELI Facilities, with a focus on optimising energy consumption and supporting the integration of carbon-neutral power generation solutions into the ELI energy network.
	Beyond the challenges outlined above, the Organisation remains committed to addressing additional operational priorities that are essential to ensuring the seamless and efficient functioning of the ELI Facilities. These priorities extend beyond energy management and environmental considerations and encompass the broader operational requirements inherent to a cutting-edge research infrastructure. One such challenge arises from the unique nature of ELI's flagship experimental instruments, particularly the PW-class laser systems, whose operations depend on a reliable supply of spare parts, such as large optical components, which are unparalleled in design and functionality. The production of these spare parts typically requires customised, technology-intensive manufacturing processes that are tailored to meet ELI's precise technical specifications. Nevertheless, this dependence poses significant challenges, as suppliers in these specialised domains can be relatively limited, and markets for such components may be often scarce. Consequently, there is a pressing need for strategic solutions to reduce dependence on external supply chains, particularly when cost-effective alternatives and reliable resources are not readily available or easily accessible from established market providers. Complementing this approach, it is critically important to pre-stock commercially available, interchangeable, off-the-shelf components, thereby ensuring they can be deployed immediately when needed, without any procurement delays. In light of these considerations, the PM Area is devoted to reviewing ELI ERIC's efforts aimed at enhancing organisational **self-sufficiency**.

	This includes the advancement of in-house workshops and auxiliary laboratories capable of supplying critical components and delivering essential maintenance and operational services, as well as the pre-positioning of key interchangeable components.
	Another significant challenge lies in the ongoing development and enhancement of supporting infrastructure, ensuring that all critical systems – including IT, cooling, and power supply – are equipped with fully tested redundancy in both systems and their sources, thereby maintaining operational continuity during crisis events. Within this framework, a robust and resilient IT infrastructure is indispensable, not only for maintaining uninterrupted operations, but also for protecting e-security in an increasingly interconnected and digitalised global landscape. Furthermore, the deployment of the most advanced operational technologies, coupled with the integration of artificial intelligence into management systems, is key in optimising overall operational efficiency. Against this background, this PM Area also aims to analyse ELI ERIC's initiatives to strengthen the **resilience** of the ELI Facilities by monitoring the adequacy and robustness of redundancies in critical operational systems.
	Ultimately, by monitoring ELI ERIC's efforts in operational efficiency, environmental responsibility, self-sufficiency, and resilience, the PM Area provides a comprehensive review of the factors underpinning the long-term **sustainability** of the ELI Facilities, safeguarding their strategic capabilities and supporting the uninterrupted delivery of world-class R&I services.
	This PM Area is closely linked to PM Area No. 9, which monitors and evaluates advancements in research infrastructure to enhance the ELI Facilities' experimental offerings for user campaigns. **Taken together, these PM Areas provide a holistic view on ELI's progress in developing experimental capabilities and facility infrastructure, addressing both R&I and operational dimensions**.

Rationale	Monitoring ELI ERIC's initiatives to enhance the operational efficiency of the ELI Facilities provides essential insights into **the Organisation's commitment to maximising experimental uptime and ensuring uninterrupted conduct of R&I activities**. Evaluating ELI ERIC's efforts to optimise energy consumption through innovative solutions and to diversify the energy portfolio by integrating carbon-neutral power generation into the ELI energy network reveals **the Organisation's environmental responsibility in reducing its carbon footprint and minimising its ecological impact**. Assessing ELI ERIC's initiatives to develop in-house capabilities for supplying critical components and providing essential maintenance support, alongside the pre-positioning of critical resources, reflects **the Organisation's strategic focus on strengthening self-sufficiency**. Analysing ELI ERIC's efforts to advance the supporting infrastructure of the ELI Facilities through the strategic deployment of state-of-the-art operational technologies represents the **Organisation's strategic priority of strengthening resilience and ensuring the uninterrupted operation of the ELI Facilities even under challenging conditions**. Overall, examining ELI ERIC's strategies to optimise the building infrastructure of the ELI Facilities underscores the Organisation's strategic emphasis on enhancing operational efficiency, upholding environmental responsibility, reinforcing self-sufficiency, increasing resilience, and promoting sustainability, thereby strengthening **ELI ERIC's capacity to respond effectively to future challenges and to adapt to a rapidly evolving global landscape**.
Assumptions	**ELI ERIC's initiatives to optimise the operational performance of the ELI Facilities are guided by several factors. Foremost among these is the overarching goal of achieving operational efficiency, which acts as a catalyst for cost savings. Equally important is the deep commitment to environmental responsibility, emphasising the growing importance of advancing sustainable development. Additionally, geopolitical instabilities have become increasingly influential, often disrupting supply chains and markets, thereby amplifying the need for self-sufficiency – not only in energy, but also in key enabling technologies and other essential resources. Collectively, these factors drive the Organisation's strategies to strengthen ELI's resilience and ensure long-term sustainability**.

ELI ERIC Policy Reference Framework	**N/A**
Data Collection Responsibility	**<u>ELI ALPS Facility</u>** **Coordinator and Lead Responsible** Operations Directorate **Contributor and Supporting Lead** Engineering Division Environment, Health, Safety, and Infrastructure Department **<u>ELI Beamlines Facility</u>** **Coordinator and Lead Responsible** Infrastructure Division **Contributor and Supporting Lead** Technology Division
Data Parameters	**ELI Facilities' Building Infrastructure Development** ▪ The analysis will be underpinned by relevant primary data and contextual information, collected in a flexible manner without adhering to a rigid structure. **(1) Operational Efficiency:** The assessment will focus on tracking progress in enhancing operational efficiency by addressing key contributing factors, with particular emphasis on the integration of advanced operational technologies. **(2) Environmental Impact:** The assessment will track progress in optimising energy use and integrating renewable power generation solutions, thereby supporting the reduction of carbon emissions. **(3) Self-Sufficiency:** The assessment will monitor reductions in reliance on external suppliers in strategic areas, where operational resources and services are not readily or cost-effectively available, as well as progress in pre-positioning commercially available, interchangeable components. **(4) Resilience:** The assessment will review measures to ensure that all critical systems – including IT, cooling, and power supply – are underpinned by fully tested redundancies in both the systems and their sources.

	(5) Sustainability: The assessment will compile additional factors, not covered under previous categories, that are crucial in driving the long-term sustainable development of the ELI Facilities.
Performance Targets	**A. <u>Operational Efficiency</u>** **(1) Scheduled Facility Downtime[1]** ▪ Experimental Capacity Unavailable Due to Planned Maintenance and Servicing ▪ **≤ 20% of working shifts per year** **(2) Operational Interruption[2]** ▪ Experimental Capacity Unavailable Due to Unforeseen Operational Disruptions ▪ **≤ 5% of working shifts per year** **B. <u>Environmental Impact</u>** **(3) Carbon Footprint[3]** ▪ Greenhouse Gas Emissions ▪ **< TBA t CO_2e per year** ▪ Breakdown by ELI Facility ▪ ELI ALPS: < TBA t CO_2e per year ▪ ELI Beamlines: < TBA t CO_2e per year

[1] **Scheduled Facility Downtime** refers to periods during which R&I activities at the ELI Facilities cannot be conducted due to planned maintenance or servicing of research infrastructure, which prevents the execution of user campaigns, development projects, or other R&I activities. The total number of working shifts during which such activities cannot take place serves as the indicator of Scheduled Facility Downtime. For calculation purposes, a working shift is defined as an eight-hour period within a standard working day.

[2] **Operational Interruption** refers to periods during which R&I activities at the ELI Facilities are intended to be carried out, but cannot take place due to unforeseen disruptions in operations. These unscheduled disruptions may result from technical failures, unexpected maintenance requirements, or other operational issues that temporarily prevent the execution of user campaigns, development projects, or other R&I activities. The total number of working shifts affected by these disruptions serves as the indicator of Operational Interruption. For calculation purposes, a working shift is defined as an eight-hour period within a standard working day.

[3] **Carbon Footprint** refers to the total greenhouse gas emissions generated by ELI ERIC, expressed in tons of carbon dioxide equivalent, and quantified annually according to the ISO 14064-1 standard – a globally recognised framework providing specifications and guidance for organisational-level greenhouse gas measurement and reporting – using the Absolute Environmental Sustainability Assessment (AESA) methodology.

	C. <u>Self-Sufficiency</u> **(4) Critical Component Availability[4]** ▪ Interchangeable Component Readiness ▪ **100% of critical technical components that are interchangeable are in place, fully operational, and immediately deployable without the need for additional procurement** **D. <u>Resilience</u>** **(5) Crisis Response Preparedness[5]** ▪ System Continuity Preparedness ▪ **100% of critical operational systems, including IT, cooling, and power supply, are fully equipped with tested redundancy in both systems and their sources, ensuring continuous operational capacity** **E. <u>Sustainability</u>** **(6) Durability Performance[6]** ▪ Equipment Longevity ▪ **120% of the standard expected equipment lifetime**

[4] **Critical Component Availability** refers to the extent to which key technical components, both interchangeable and essential for sustaining the operational capacity of the ELI Facilities, are in place, fully operational, and immediately ready for use without the need for additional procurement, ensuring that R&I activities, such as user campaigns and development projects, proceed without unnecessary interruption.

[5] **Crisis Response Preparedness** refers to the extent to which key operational systems at the ELI Facilities, including IT, cooling, and power supply, are equipped with fully tested redundancy in both systems and their sources, ensuring operational continuity during crises and enabling the uninterrupted execution of R&I activities.

[6] **Durability Performance** refers to the extent to which equipment at the ELI Facilities exceeds its standard expected operational lifetime. It reflects the effectiveness of predictive maintenance, optimised operational practices, and other measures, while ensuring that performance standards are maintained or enhanced.

PERFORMANCE MONITORING AREA # 11	RESOURCE PROVISION Procuring and Supplying Resources for Efficient Operational Performance
Definition	**PM Area No. 11 focuses on monitoring and evaluating ELI ERIC's supply chains established through procurement arrangements, in accordance with the ELI ERIC Procurement Policy and Procurement Rules. This includes assessing the portfolio of industrial companies and academic partners involved in the Organisation's procurement initiatives, as well as analysing the range of products and services supplied by external partners to support the effective operations of the ELI Facilities.**
	The effective operations of ELI rely on various interrelated factors, with the establishment of reliable supply chains serving as a pivotal component. Collaborations with industrial companies and academic partners, established through procurement arrangements, facilitate the provision of products and services essential for maintaining the seamless operations of the ELI Facilities. In addition to meeting ELI's core operational requirements, these arrangements enable ELI ERIC to engage industry in the development and manufacture of scientific instruments and other technical equipment, based on ELI's technical designs and specifications that are key to its R&I activities. Ultimately, this approach contributes to ELI ERIC's broader objectives, including fostering collaboration between academia and industry. Building upon this framework, this PM Area focuses on monitoring and evaluating both the quantitative and qualitative aspects of **ELI ERIC's cooperation with industrial and academic partners through procurement arrangements**. These arrangements are fundamental for supplying the ELI Facilities with scientific instruments, technical equipment, components, spare parts, as well as maintenance and other services, including those supporting administrative functions. Specifically, the PM Area is designed to track **supplies that involve technology-intensive R&I**, ensuring the development and delivery of customised products and services that comply with the precise specifications of ELI's scientific concepts and technical designs. Furthermore, the PM Area also assesses **supplies of products and services, whose manufacture does not require a customised R&I approach**, yet remain essential for ELI's operations.

	In conclusion, the PM Area seeks to examine the primary supply chains that support ELI's operations. This includes identifying **ELI ERIC's key industrial partners and academic collaborators based on their involvement in the Organisation's procurement** and the cumulative volume of their contributions to ELI across various operational functions and technology development domains. In parallel with this, the PM Area focuses on exploring **whether these industrial partners function as direct manufacturers and suppliers or operate exclusively as local distributors** of products and services sourced from external third-party providers.
	While ELI ERIC's industry collaborations extend well beyond the procurement framework – such as those established through the ELI User Programme and collaborative R&I projects – this PM Area is specifically dedicated to analysing industry cooperation formed through procurement arrangements, in accordance with the ELI ERIC Procurement Policy and Procurement Rules. **Alongside PM Areas No. 1, 2, and 3, which analyse academia and industry engagement with ELI through the Open Excellence-Based, Mission-Based, and Proprietary Access frameworks, this PM Area plays a key role in offering a comprehensive overview of ELI ERIC's cooperation with industry**.
Rationale	Identifying ELI ERIC's key industrial and academic partners, whose supplies are essential to ELI's operations, provides critical insights into **the enterprises and research organisations, along with their host countries, that gain significant benefits from ELI's scientific activities through their involvement in the Organisation's supply chains**. This is particularly relevant for companies offering tailored solutions that require technology-intensive R&I. Collaborating with ELI ERIC enables these companies to gain expertise and experience applicable to their future production, empowering them to develop innovative offerings, attract new customers, and explore emerging market opportunities. Additionally, their association with ELI ERIC serves as a valuable reference, potentially unlocking new business avenues and strengthening their competitive edge in the market. Understanding the supply chains that support the ELI Facilities' operations also reveals **ELI ERIC's dependencies on suppliers of key enabling technologies**. These insights may guide ELI ERIC in leveraging supply chains during negotiations for membership and

	partnerships with countries hosting major industrial partners that benefit from ELI's operations. Alternatively, they may prompt the Organisation to diversify its supply chains to mitigate risks related to market volatility and geopolitical factors. Furthermore, analysing the supply chains can help ELI ERIC identify **the potential need for developing and further enhancing in-house workshops and auxiliary laboratories, thereby strengthening self-sufficiency in key technological fields and addressing operational and maintenance requirements through internal solutions**. In addition to these operational considerations, understanding the broader context of a country's involvement in ELI ERIC is essential. While a country's engagement with ELI ERIC is primarily driven by the interest of its national R&I communities in participating in the ELI User Programme, involvement in ELI ERIC's procurement may, for some countries, help mitigate hesitance to join. In this context, in-kind contributions can represent a form of funding commitment to ELI ERIC, offering an appealing alternative to cash contributions. By making in-kind contributions, ELI ERIC stakeholders can directly support their national industry. As a result, **analysing procurement data to identify potential in-kind contributions becomes critical for understanding how these deliveries can complement or partially substitute standard cash funding**. **Ultimately, the active engagement of both industrial companies and research organisations from Member, Observer, and Strategic Partner countries in ELI ERIC's procurement remains a key strategic priority for the organisation**. This focus aims to amplify the benefits and impact of each country's participation in ELI ERIC, ensuring that their national R&I and industrial stakeholders fully capitalise on the opportunities stemming from their involvement in the Organisation.
Assumptions	**A significant share of the supplies supporting the operations of the ELI Facilities may be provided not directly by manufacturers, but by local distributors of their products and services operating within the ELI Facilities' Host Countries. To accurately identify the relevant supply chains, it is fundamental to track the country and company of origin for products and services procured by ELI ERIC**.
ELI ERIC Policy Reference Framework	**ELI ERIC Procurement Policy and Procurement Rules**

Data Collection Responsibility	**ELI ALPS Facility** Department of Procurement and Public Procurement **ELI Beamlines Facility** Administrative Division

Data Parameters	**Procurement**[1]
	▪ Identifier
	▪ Organisational Division
	  ▪ ELI ERIC Director General's Office
	  ▪ ELI ERIC Office of Science
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	▪ Supply Type
	  ▪ Goods
	  ▪ Services
	  ▪ Works
	▪ Supply Category (> EUR 25 000)
	  ▪ Standard (Readily Available Off-the-Shelf)
	  ▪ Customised (Requiring Tailored Solutions)
	▪ Supply Technology Domain
	  ▪ TBA
	▪ Contract
	  ▪ Title
	  ▪ Subject
	  ▪ Conclusion Date
	  ▪ Termination Date
	  ▪ Value
	  ▪ Total in CZK/HUF
	  ▪ Total in EUR Equivalent
	  ▪ Annual Breakdown (> EUR 25 000)
	▪ Participant
	  ▪ Bidder
	  ▪ Awarded
	  ▪ Rejected (> EUR 25 000)

[1] *Procurements for low-value acquisitions below EUR 25 000 typically do not require requests for quotations or open calls. In such cases, the competitive process is adjusted to reflect the limited scope of the procurement and, therefore, does not justify the collection of detailed contextual information from potential suppliers beyond the selected awardee. Although the cumulative value of these acquisitions may be significant, the effort required to gather detailed data from all bidders would be disproportionate to the procurement's value. As a result, detailed information on bidders for acquisitions below EUR 25 000 is not collected for long-term archiving purposes.*

	▪ Full Name
	▪ Category
	  ▪ Public Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Research Institute
	  ▪ Hospital
	  ▪ International Organisation
	  ▪ Intergovernmental Organisation
	  ▪ Non-Governmental Organisation
	  ▪ Private Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Small-/Medium-Sized Enterprise
	  ▪ Large Enterprise
	▪ Supplier Type
	  ▪ Manufacturer
	  ▪ Distributor
	▪ City
	▪ Country
	▪ Website

Performance Targets	**(1) ELI Industry Liaison Officers Network Meeting** ▪ Frequency: **once per year** ▪ Invitations: **extended to representatives of ELI ERIC Member, Observer, and Strategic Partner Countries**

PERFORMANCE MONITORING AREA # 12	EMPLOYMENT Creating Job Opportunities in Knowledge-Intensive Professions
Definition	**PM Area No. 12 is dedicated to the monitoring and evaluation of ELI ERIC's employment status and workforce dynamics, with a particular emphasis on factors such as workforce composition, diversity and equity, employee retention and turnover, and the global reach of the personnel. In addition, this PM Area focuses on analysing remuneration practices, along with benefits, perks, allowances, and other components of the overall compensation package. This comprehensive approach provides critical insights into the evolving profiles of ELI ERIC's staff and emerging trends in the Organisation's compensation policies, ultimately enabling the formulation of evidence-based strategies that optimise ELI ERIC's workforce in alignment with its organisational priorities.**
	The effective operations of ELI depend on a range of critical factors, with human capital playing a pivotal role. While material resources are essential for transforming ideas into reality, it is human capital that lies at the heart of designing, developing, and implementing the initiatives that advance ELI ERIC's statutory mission. Therefore, monitoring and evaluating the Organisation's workforce from multiple perspectives is fundamental to gather evidence and inform strategies that build a diverse, well-balanced, highly skilled, and professional team, fully equipped and positioned to effectively drive ELI ERIC's organisational priorities. Building upon this framework, this PM Area is designated to focus on **ELI ERIC's role as an employer**, evaluating both the quantitative and qualitative dimensions of employment within the Organisation. In addition to analysing annual developments, it enables the tracking of trends, providing detailed breakdowns across the ELI ERIC central administration, ELI Facilities, and individual organisational units. Elaborating on these aspects, the PM Area aims to track **ELI ERIC's employment status and distribution across the Organisation's job clusters, including management, scientific, engineering, technical, and administrative/specialist roles**.

	In addition, it is meant to examine the composition of **ELI ERIC's workforce, considering factors such as education level, research career stage, age, gender, nationality, and competency level**. Furthermore, it is designed to assess employment contracts by monitoring **the duration of agreements for ELI ERIC core staff, as well as short-term contracts for fellows, interns, and other temporary collaborators**. Expanding on these aspects, the PM Area further emphasises the importance of assessing **the professional development of ELI ERIC employees, evaluating both vertical and horizontal career growth over the course of their tenure**. Particular attention is devoted to analysing **ELI ERIC's employee retention and turnover – especially among high-potential talent and other mission-critical personnel**, whose premature departure before the completion of their contractual terms could significantly jeopardise the Organisation's operational continuity, institutional knowledge retention, and overall capacity to fulfil its mandate. Another objective of the PM Area is to analyse the execution of **ELI ERIC's remuneration strategy across various job clusters and salary** grades, established based on relevant competency frameworks and the relative value of roles within the Organisation. Finally, the PM Area strives to monitor the composition of **ELI ERIC's benefits, perks, allowances, and other components of the total compensation package, placing particular emphasis on the accessibility, terms, and participation in the RESAVER** (*Retirement Savings Vehicle for European Research Institutions*) pension fund scheme.
	This PM Area is closely associated with PM Area No. 13, which focuses on monitoring and evaluating ELI ERIC's education and training initiatives, aimed at the Organisation's employees, ELI users, and the broader academic and industrial sectors. In this dual role as both an employer and a pivotal player in education and training, ELI ERIC significantly contributes to human capital development. This includes fostering talent, supporting career advancement, and equipping its workforce with the skills and expertise required to excel in knowledge-intensive fields, both within the ELI ecosystem and across the wider R&I landscape.

Rationale	Monitoring and evaluating the composition of ELI ERIC's staff, both from quantitative and qualitative perspectives, including long-term trends, is fundamental for gaining a comprehensive understanding of **the Organisation's workforce dynamics**. A detailed analysis of ELI ERIC's staffing forms the foundation for shaping **strategies to optimise workforce composition**, ensuring alignment with the Organisation's evolving strategic priorities. This evidence is also essential for addressing **disparities within ELI ERIC's staff**, such as underrepresentation by age or gender, and for defining targets that foster a well-balanced and diverse workforce across competency levels, knowledge domains, and experiential backgrounds. Analysing contract durations offers valuable insights into **employee retention and turnover at ELI ERIC**, shedding light on the dynamics of brain circulation within the Organisation. Assessing the global reach of the personnel underscores **ELI ERIC's appeal as an employer to talent relocating from outside the Host Countries of the ELI Facilities**. Evaluating gender diversity and equity within ELI ERIC's workforce serves to reveal **the Organisation's progress in increasing women's representation in laser science and technology, and broader R&I domains**, while also addressing other gender-related imbalances. By evaluating internships and fellowships, ELI ERIC demonstrates its **commitment to nurturing talent and fostering career growth** of both early-career researchers and senior professionals through practical learning and hands-on experience. Monitoring employees' career growth throughout their tenure provides valuable perspectives on **ELI ERIC's role in supporting both vertical and horizontal professional advancement** within the workforce. The evidence regarding the Organisation's compensation policy, encompassing remuneration, benefits, perks, and allowances, offers an understanding of **ELI ERIC's approach to structuring its compensation package**.

Assumptions	As the ELI Facilities transition to Steady-State Operations and progress towards unified governance and management within a single integrated organisation, **ELI ERIC's organisational chart and workforce composition are expected to evolve in response to the requirements of the changing operational framework**. In alignment with the implementation framework of the ELI ERIC Employment Policy, employment contracts in Czechia – hosting both the ELI ERIC Statutory Headquarters and the ELI Beamlines Facility – are generally offered for an initial period of up to five years, with the possibility of renewal for an additional five-year term. These **contractual provisions are expected to significantly influence workforce retention and turnover dynamics across the Organisation**, while also facilitating healthy brain circulation and the infusion of fresh perspectives. Exceptions may be made for personnel considered critical to the continuity and operational excellence of ELI ERIC. To ensure consistency and fairness in compensation, ELI ERIC is implementing a unified grading and remuneration system across the ELI Facilities. **Salary practices will consider purchasing power parity and cost-of-living differentials within the Host Countries and undergo regular reviews to remain competitive with local remuneration markets** – particularly in the capitals of the Host Countries. Exceptions to these grades may, however, be applied to attract top-tier professionals. **While a significant proportion of ELI ERIC's staff is expected to be recruited from the Host Countries of the ELI Facilities, ELI's status as a world-leading research infrastructure in laser science is likely to attract premier talent from around the globe**. This dynamic will result in a workforce that is highly diverse in terms of nationality. **As part of its efforts to address broader challenges within the R&I sector, ELI ERIC remains committed to promoting gender diversity across its workforce**. While women are typically underrepresented in scientific, technical, and engineering sectors throughout Europe, the Organisation is dedicated to reversing this trend. Nevertheless, the proportion of female staff across these areas at ELI ERIC may still reflect broader societal dynamics and gender stereotypes. **With respect to the implementation of the RESAVER pension fund scheme at ELI ERIC, it is expected that primarily international staff will take advantage of this opportunity**. **However, participation in**

	the plan remains open to all employees. The scheme provides staff with a portable pension solution, which is particularly appealing to those relocating to the Host Countries of the ELI Facilities, assisting them in mitigating the effects of temporary gaps in contributions to their home country national pension systems. As such, RESAVER is expected to primarily appeal to international staff members at ELI ERIC, particularly scientific personnel, as the scheme was originally designed to support their mobility. **With respect to gender diversity, the ELI ERIC Gender Equality Plan outlines detailed performance targets in several key areas (listed below), with only high-level objectives presented in this Reference Sheet (under Performance Targets)**. ▪ Work-life balance and organisational culture ▪ Gender balance in leadership and decision-making ▪ Gender equality in recruitment and career progression ▪ Integration of the gender dimension into research ▪ Measures to address gender-based violence, including sexual harassment
ELI ERIC Policy Reference Framework	**ELI ERIC Employment Policy**
Data Collection Responsibility	**<u>Coordinator and Lead Responsible</u>** **ELI ERIC Director General's Office** Senior Officer for Human Resources **<u>Contributor and Supporting Lead</u>** **ELI ALPS Facility** Department of Human Resources and Organisational Development **ELI Beamlines Facility** Human Resources Group
Data Parameters	**Employment Policy and Compensation Strategy** ▪ Details on the implementation framework of the ELI ERIC Employment Policy and compensation strategy, including the following aspects: ▪ **Contract Durations:** Details on the length and renewal terms of employment contracts, along with provisions for exceptions

	▪ **Job Clusters:** Details on job clusters, based on competency frameworks and categorising roles with similar skill sets and responsibilities, with levels outlining the career stages within each cluster and mapping employees' progression through various levels of expertise and responsibility
	▪ **Scientific Career Stages:** Details on career advancement in scientific roles, including development pathways and criteria for progression
	▪ **Salary Grades:** Details on salary grades designed to reflect the relative value of different roles within the Organisation, including alignment with job clusters and associated levels
	▪ **Compensation Package:** Details on the total compensation package, including remuneration, benefits package (e.g., employer contribution to pension schemes), allowances, perks, and other related components
	Employee
	▪ Personal Number
	▪ Full-Time Equivalent (FTE) Allocation
	▪ Criticality and Potential (where relevant)
	  ▪ High-Potential Employee
	  ▪ Mission-Critical Employee
	▪ Personal Data
	  ▪ Name
	  ▪ Surname
	  ▪ Academic Titles
	  ▪ Date of Birth
	  ▪ Gender
	  ▪ Male
	  ▪ Female
	  ▪ Other
	  ▪ Nationality
	  ▪ Education Level
	  ▪ Doctoral Degree
	  ▪ Master's Degree
	  ▪ Bachelor's Degree
	  ▪ High School Diploma
	  ▪ Other
	▪ Job Title
	▪ Organisational Division

	▪ Director General's Office ▪ Office of Science ▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Organisational Unit ▪ Directorate ▪ Department ▪ Division ▪ Group ▪ Job Cluster ▪ Management ▪ Manager ▪ Group Leader ▪ Senior Officer ▪ Scientific ▪ Scientific Career Path Stage ▪ Lead Scientist/Senior Scientific Manager ▪ Senior Scientist/Scientific Manager ▪ Scientist ▪ Associate Scientist ▪ Early-Career Scientist ▪ Early-Career Scientific Worker ▪ Engineering ▪ Senior Engineer ▪ Engineer ▪ Associate Engineer ▪ Technical ▪ Senior Technician ▪ Technician ▪ Worker ▪ Administration/Specialist ▪ Senior Specialist/Officer ▪ Specialist ▪ Associate Specialist ▪ Support Specialist ▪ Salary Grade ▪ Range: 10 to 20 ▪ Employment Form ▪ Employment Contract ▪ Collaboration Outside Employment

	▪ RESAVER
	  ▪ Participant
	  ▪ Start Date
	  ▪ End Date
	▪ Employment Duration
	  ▪ Start Date
	  ▪ End Date
	▪ Former Employer
	  ▪ Full Name
	  ▪ Category
	  ▪ Public Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Research Institute
	  ▪ Hospital
	  ▪ International Organisation
	  ▪ Intergovernmental Organisation
	  ▪ Non-Governmental Organisation
	  ▪ Private Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Small-/Medium-Sized Enterprise
	  ▪ Large Enterprise
	  ▪ City
	  ▪ Country
	  ▪ Website
	▪ Subsequent Employer
	  ▪ Full Name
	  ▪ Category
	  ▪ Public Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Research Institute
	  ▪ Hospital
	  ▪ International Organisation
	  ▪ Intergovernmental Organisation
	  ▪ Non-Governmental Organisation
	  ▪ Private Sector Organisation
	  ▪ Higher Education Institution
	  ▪ Small-/Medium-Sized Enterprise
	  ▪ Large Enterprise
	  ▪ City
	  ▪ Country
	  ▪ Website

Performance Targets	**A. <u>Gender Diversity</u>** **(1) Gender Representation in the Workforce** ▪ Proportion of Female Employees ▪ **≥ 25% of the workforce (by headcount) per year** **B. <u>Emerging Talent Engagement</u>** **(2) Student Representation in the Workforce[1]** ▪ Proportion of Students ▪ **≥ 5% of the workforce (by headcount) per year** **(3) Intern Representation in the Workforce[2]** ▪ Proportion of Interns ▪ **≥ 7.5% of the workforce (by headcount) per year** **C. <u>Talent Retention</u>** **(4) Voluntary Employee Turnover[3]** ▪ Voluntary Employee Departures ▪ **≤ 5% of the workforce (by headcount) per year**

[1] **Student Representation in the Workforce** is defined as the engagement of undergraduate, postgraduate, and Ph.D. students with ELI ERIC under employment contracts exceeding six months in duration.

[2] **Intern Representation in the Workforce** is defined as the short-term engagement with ELI ERIC, irrespective of career stage, under employment contracts not exceeding six months.

[3] **Voluntary Employee Turnover** is defined as the proportion of employees, who resign from their positions prior to the scheduled end of their employment contracts, except in cases where early termination is mutually agreed within the final three months of the contract to facilitate the employee's transition to a new position with another employer.

PERFORMANCE MONITORING AREA # 13	EDUCATION AND TRAINING Developing Human Capital for Careers in Science and Technology
	PM Area No. 13 focuses on monitoring and evaluating ELI ERIC's educational and training initiatives, addressing the professional development needs of both the Organisation's personnel and its collaborating partners in academia and industry. At the heart of this assessment are programmes designed to build and advance staff competencies and skills throughout their tenure at ELI ERIC. Equally significant is the analysis of engagement among students within the ELI User Programme and other participants in targeted educational and training activities. This comprehensive approach provides insight into the Organisation's contribution to nurturing talent in laser science and technology, while also highlighting its role in fostering human capital for other R&I fields and broader economic domains.
Definition	The success of ELI depends on several key factors, among which qualified human capital is paramount. Highly skilled personnel is critical for ensuring the efficient operation of ELI, while proficient user communities are essential to fully leveraging its experimental capabilities. At the same time, experienced industrial professionals are vital for providing ELI with the necessary operational resources. Collectively, these elements place human capital development at the forefront of ELI ERIC's strategic priorities, guiding its initiatives to cultivate talent for key roles within the ELI ecosystem, as well as across the broader R&I landscape and associated economic sectors. Building on this foundation, this PM Area is designed to monitor and evaluate both the quantitative and qualitative aspects of **ELI ERIC's educational and training initiatives**, tailored to address the professional development needs of the Organisation's personnel and collaborating partners from academia and industry. The first key focus of this PM Area is to track **the education and training opportunities provided by ELI ERIC to its staff**, with the aim of advancing their competencies and skills in alignment with ELI's operational needs and broader labour market requirements. In addition, the PM Area assesses the education and training dimension of the ELI User Programme, specifically focusing on **the proportion of undergraduate and postgraduate students,**

	Ph.D. candidates, and postdoctoral (early-career) researchers participating in experiments awarded beamtime as members of user teams. Furthermore, the PM Area addresses **ELI ERIC's educational efforts targeting academia and industry**, with the ELI Summer School serving as a flagship initiative. These efforts are designed to foster talent development across all educational levels, spread awareness of ELI's scientific and technological capabilities among universities, research institutes, and other research organisations, and strengthen collaboration with high-tech industry. Complementing these efforts, the PM Area also focuses on **ELI ERIC's internship programmes**, which offer valuable short-term opportunities for students, early-career researchers, and senior scientists and innovators to engage with ELI. Some programmes provide participants with practical, hands-on insights into ELI's operations, while others involve them as active contributors to specific scientific and technological initiatives. Lastly, particular attention within the PM Area is given to analysing **the post-education and training employment rate of participants in ELI ERIC's initiatives**. This entails a systematic evaluation of both the absolute number and relative proportion of those, who secure positions at ELI ERIC following completion of these programmes. In summary, the PM Area is structured to document and analyse **ELI ERIC's efforts in developing human resources** for various roles both within the Organisation and across the broader fields of laser science and technology, encompassing those targeted at ELI ERIC staff, educational institutions, research organisations, industrial partners, and other key collaborators within the R&I ecosystem.
	This PM Area is closely linked to PM Area No. 12, which focuses on the monitoring and evaluation of ELI ERIC's employment and the Organisation's role in creating job opportunities in knowledge-intensive professions. **Collectively, these PM Areas offer essential insights into ELI ERIC's contribution to human capital development, highlighting its dual role as an employer and an important player in education and training**. **Through these efforts, the Organisation supports the growth of a highly skilled workforce, equipping it to address the evolving demands within the dynamic R&I landscape – particularly in laser science and technology – and the broader labour market**.

Rationale	Evaluating ELI ERIC's education and training initiatives aimed at its staff provides critical insights into **the Organisation's commitment to fostering professional development of its employees, ensuring that personnel not only meet ELI's operational requirements, but also remain responsive to the evolving skill needs of the broader labour market**. Monitoring the share of undergraduate and postgraduate students, Ph.D. candidates, and postdoctoral (early-career) researchers within the ELI User Programme, who participate in experiments awarded beamtime as members of user teams, highlights **the Organisation's contribution to fostering emerging talent and advancing their skills and competencies in laser science and technology**. Analysing ELI ERIC's engagement in education and training across academia and industry underscores **the Organisation's strategies aimed at attracting talent from primary, secondary, and tertiary educational institutions, as well as from research organisations and industry, to pursue careers in laser science and technology**. Assessing ELI ERIC's internship programmes demonstrates **the Organisation's strategic focus on human capital development by offering practical experience through temporary roles that support hands-on engagement and skills development within ELI's operational setting**. Examining the post-education and training employment rate of participants in ELI ERIC's initiatives serves as a key indicator of the effectiveness and long-term impact of these programmes, with particular emphasis on **the proportion of participants who subsequently secure positions within the Organisation**.
Assumptions	**While certain education and training initiatives for ELI ERIC staff, such as those aimed at enhancing skills for working with internal management and administrative systems, will be available to all personnel, other initiatives will be tailored to strengthening the competencies of specific employee groups**, encompassing those across scientific, engineering, technical, and administrative roles, thereby ensuring targeted professional development. **Particular emphasis within ELI ERIC's portfolio of educational and training initiatives will be placed on systematically advancing the competencies and skills of scientific staff** as they progress through key milestones along their scientific career paths and trajectories.

	A specific category of education and training for ELI ERIC staff will involve customised programmes tailored to individual employees, aligning with their roles within the Organisation and targeting the distinct operational requirements associated with their functions. These individual development plans will focus on advancing both hard and soft skills and will be delivered through a wide range of educational and training opportunities, as detailed in the internal training catalogue. **All users conducting experiments on-site at the ELI Facilities are required to complete mandatory general training in health and safety protocols, as well as instrument-specific training aligned with their operational requirements**. While providing users with the necessary expertise for operating ELI's scientific instruments and ensuring strict compliance with health, safety, and additional operational standards within the experimental areas constitutes a fundamental aspect of education and training, this mandatory requirement for all on-site users is not monitored as a distinct performance monitoring indicator. Instead, it is regarded as an essential operational requirement. **The provision of travel and accommodation funding to Master's and Ph.D. students actively participating in the on-site execution of experiments awarded beamtime – regardless of whether their home institution is affiliated with a Member or Observer Country – is expected to contribute positively to student engagement and participation within the ELI User Programme**. **ELI ERIC's educational and training initiatives for academia and industry encompass a wide range of activities, including events for primary school pupils, lectures for high school students and teachers, regular university courses, as well as supervision and consulting for academic theses at Bachelor's, Master's, and Ph.D. levels**. **These initiatives also include summer and winter schools, as well as talent academies**. **Additionally, internship programmes provide opportunities for temporary collaboration with students, researchers, and industry professionals**. Considering the diversity of these initiatives, it is essential to collect both quantitative data and qualitative information on their scope, objectives, and impact.
ELI ERIC Policy Reference Framework	**ELI ERIC Employment Policy** **ELI ERIC User Access Policy** **ELI ERIC Innovation and Industry Policy**

Data Collection Responsibility	**A. <u>Education and Training for ELI ERIC Staff</u>** **Coordinator and Lead Responsible** ▪ **ELI ERIC Director General's Office** Senior Officer for Human Resources **Contributor and Supporting Lead** ▪ **ELI ALPS Facility** Department of Human Resources and Organisational Development ▪ **ELI Beamlines Facility** Human Resources Group **B. <u>Participation of Students in the ELI User Programme</u>** ▪ ELI ERIC User Office **C. <u>Education and Training for Academia and Industry</u>** **a) Academic Thesis Supervision and Consulting** ▪ **ELI ALPS Facility** Department of Human Resources and Organisational Development ▪ **ELI Beamlines Facility** Human Resources Group **b) ELI Summer School** ▪ **ELI ERIC Director General's Office** Senior Officer for Communications **c) Internships** ▪ **ELI ALPS Facility** Department of Human Resources and Organisational Development ▪ **ELI Beamlines Facility** Human Resources Group **d) Other** **Coordinator and Lead Responsible** ▪ **ELI ERIC Director General's Office** Senior Officer for Human Resources

	Contributor and Supporting Lead ▪ **ELI ALPS Facility** Department of Human Resources and Organisational Development ▪ **ELI Beamlines Facility** Human Resources Group

Data Parameters	**A. <u>Education and Training for ELI ERIC Staff</u>**
	Lecture/Course
	▪ Title
	▪ Abstract
	▪ Objectives
	▪ Duration
	  ▪ One-Off
	  ▪ Date
	  ▪ Series
	  ▪ Number of Sessions
	  ▪ Dates
	▪ Type
	  ▪ In-Person
	  ▪ Venue
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	  ▪ Other
	  ▪ City
	  ▪ Country
	  ▪ Virtual
	  ▪ Hybrid
	▪ Format
	  ▪ Lecture-Based
	  ▪ Seminar/Workshop
	  ▪ Hands-On/Practical
	  ▪ One-On-One
	  ▪ Self-Paced/Online
	  ▪ Blended
	  ▪ Other
	▪ Target Group by Organisational Division
	  ▪ Director General's Office
	  ▪ Office of Science

	▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Target Group by Job Cluster ▪ Management ▪ Scientific ▪ Engineering ▪ Technical ▪ Administration/Specialist ▪ Focus ▪ Hard Skills ▪ Soft Skills ▪ Lecturer ▪ In-House ▪ Personal Number ▪ Name ▪ Surname ▪ External ▪ Name ▪ Surname ▪ Institution ▪ City ▪ Country ▪ Website ▪ Expected Outcome ▪ Certified ▪ Non-Certified ▪ Participants ▪ Number of Trainees Present In-Person ▪ Number of Trainees Present Online ▪ Trainee ▪ Personal Number ▪ Name ▪ Surname ▪ Individual Development Plan Coverage ▪ Training Within the Scope ▪ Training Outside the Scope ▪ Certification (if applicable) ▪ Achieved ▪ Not Achieved ▪ Participant Feedback

- Collected
  - Number of Survey Responses
  - Average Satisfaction Score
- Not Collected

- Cost
  - In CZK/HUF
  - In EUR

B. <u>Participation of Students in the ELI User Programme</u>

- Consistent with the data points collected for experiments and ELI user communities under PM Areas No. 1, 2, and 3, addressing Open Excellence-Based Access, Mission-Based Access, and Proprietary Access

C. <u>Education and Training for Academia and Industry</u>

a) Academic Thesis Supervision and Consulting

- Comprehensive information about the guidance and consultancy offered for academic theses to Bachelor's, Master's, and Ph.D. students, including details on the topic selection process, methods for communicating opportunities, and arrangements with universities

Mentorship

- Topic
- Abstract
- Scientific Area
  - AMO (*Atomic, Molecular, and Optical Physics*), Chemistry, and Physics in Gas and Liquid Phases
  - Material and Surface Sciences
  - Life Sciences
  - Plasma/High-Energy-Density Physics
  - Relativistic and Ultrarelativistic Interaction
  - Particle Acceleration and Applications
  - Other
- Duration
  - Start Date
  - End Date
- ELI Facility
  - ELI ALPS
  - ELI Beamlines
  - ELI NP
- Consultant

- Personal Number
- Name
- Surname
- Advisee
  - Personal Data
    - Name
    - Surname
    - Gender
      - Male
      - Female
      - Other
    - Nationality
    - Thesis
      - Bachelor's
      - Master's
      - Ph.D.
  - Institution
    - Acronym
    - Full Name
    - Category
      - Public Sector Organisation
        - Higher Education Institution
        - Research Institute
        - Hospital
        - International Organisation
          - Intergovernmental Organisation
          - Non-Governmental Organisation
      - Private Sector Organisation
        - Higher Education Institution
        - Small-/Medium-Sized Enterprise
        - Large Enterprise
    - City
    - Country
    - Website
  - Thesis Defence
    - Passed
    - Failed

b) ELI Summer School

- Edition
- Duration
  - Start Date

	▪ End Date ▪ Venue ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Virtual Platform ▪ Type ▪ In-Person ▪ Virtual ▪ Hybrid ▪ Participants ▪ Number of Attendees Present In-Person ▪ Number of Attendees Present Online ▪ Participant Feedback ▪ Number of Survey Responses ▪ Average Satisfaction Score ▪ Webpage **ELI Summer School Participant** ▪ Personal Data ▪ Name ▪ Surname ▪ Academic Titles ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Nationality ▪ Research Career Stage ▪ Established Researcher ▪ Postdoctoral Researcher ▪ Doctoral Student ▪ Postgraduate Student ▪ Undergraduate Student ▪ Scientific Area ▪ AMO (*Atomic, Molecular, and Optical Physics*), Chemistry, and Physics in Gas and Liquid Phases ▪ Material and Surface Sciences ▪ Life Sciences ▪ Plasma/High-Energy-Density Physics ▪ Relativistic and Ultrarelativistic Interaction ▪ Particle Acceleration and Applications

	▪ Other ▪ Institution ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital ▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website ▪ Participation ▪ In-Person ▪ Online **c) Internships** ▪ Comprehensive information on the internship programmes implemented at the ELI Facilities, including details such as: ▪ Annual number of positions available ▪ Channels for disseminating opportunities ▪ Eligibility criteria for applicants ▪ Thematic areas offered to interns ▪ Mentoring and support structures ▪ Selection procedures and criteria ▪ Duration of placements ▪ Terms of employment **Intern** ▪ Consistent with the data points collected for interns under PM Area No. 12 on Employment

	d) Other
	▪ Title
	▪ Abstract
	▪ Duration
	  ▪ Start Date
	  ▪ End Date
	▪ Venue
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	  ▪ Other
	  ▪ City
	  ▪ Country
	  ▪ Virtual Platform
	▪ Type
	  ▪ In-Person
	  ▪ Virtual
	  ▪ Hybrid
	▪ Participants
	  ▪ Number of Attendees Present In-Person
	  ▪ Number of Attendees Present Online
	▪ Participant Feedback
	  ▪ Collected
	  ▪ Number of Survey Responses
	  ▪ Average Satisfaction Score
	  ▪ Not Collected
	Participant
	▪ Personal Data
	  ▪ Name
	  ▪ Surname
	  ▪ Academic Titles
	  ▪ Gender
	  ▪ Male
	  ▪ Female
	  ▪ Other
	  ▪ Nationality
	  ▪ Research Career Stage
	  ▪ Established Researcher
	  ▪ Postdoctoral Researcher
	  ▪ Doctoral Student

	▪ Postgraduate Student ▪ Undergraduate Student ▪ Scientific Area ▪ AMO (*Atomic, Molecular, and Optical Physics*), Chemistry, and Physics in Gas and Liquid Phases ▪ Material and Surface Sciences ▪ Life Sciences ▪ Plasma/High-Energy-Density Physics ▪ Relativistic and Ultrarelativistic Interaction ▪ Particle Acceleration and Applications ▪ Other ▪ Institution ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital ▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website ▪ Participation ▪ In-Person ▪ Online

Performance Targets	**(1) <u>Education and Training for ELI ERIC Staff</u>** **(1) Workforce Training Hours** ▪ Average per Employee ▪ **≥ 40 training hours per year** **(2) <u>Participation of Students in the ELI User Programme</u>** **(2) Undergraduate, Postgraduate, and Ph.D. Students within the ELI User Community** ▪ Proportion of Students ▪ **≥ 30% of total users** **(3) <u>Education and Training for Academia and Industry</u>** **(3) Academic Thesis Supervision and Consulting** ▪ Advisees ▪ **≥ 20 advisees per year** ▪ Breakdown by ELI Facility ▪ ELI ALPS: ≥ 10 advisees per year ▪ ELI Beamlines: ≥ 10 advisees per year **(4) ELI Summer School** ▪ Frequency: **once per year** ▪ Attendance: **≥ 100 participants per event**

PERFORMANCE MONITORING AREA # 14	COMMUNITY BUILDING Expanding the User Community and Engaging R&I Stakeholders
Definition	**PM Area No. 14 focuses on monitoring and evaluating ELI ERIC's activities aimed at strengthening and expanding the community of ELI users and other collaborating partners. This encompasses the assessment of ELI ERIC's community-building initiatives and engagement events held to raise awareness of ELI's experimental capabilities and user services. In addition, it includes tracking key events hosted by ELI ERIC to promote cooperation in laser science and technology, as well as participation in meetings organised by external stakeholders, where the Organisation contributes through sponsorship, keynote speeches, invited lectures, exhibition booths, and other forms of institutional involvement. Taken together, these efforts provide comprehensive insights into ELI ERIC's engagement with academia and industry, with the ultimate goal of expanding ELI's professional network and fostering long-term collaboration.**
	Unlocking ELI's full potential relies on several key factors, with the active engagement of diverse R&I communities – comprising both ELI users and other collaborating partners – being fundamental to these efforts. Their contributions are vital not only for optimising the utilisation of ELI's experimental facilities, but also for driving progress in the field of laser science and technology. In this context, this PM Area is designed to monitor and evaluate both the quantitative and qualitative aspects of **ELI ERIC's efforts to strengthen and expand the ELI user community, as well as to enhance its partner networks** within the European Research Area (ERA) and globally, with the objective of maximising ELI's impact as a research infrastructure dedicated to serving users and advancing laser science and technology through collaboration with academic and industrial stakeholders. Specifically, the PM Area focuses on tracking **community-building initiatives and engagement events organised by ELI ERIC** to raise awareness of ELI's experimental capabilities and user services, with the ELI User Meetings serving as flagship events that offer first-hand experience of the ELI Facilities and showcase the R&I achievements realised through the ELI User Programme.

	Additionally, the PM Area aims to monitor **conferences, congresses, lectures, seminars, symposia, workshops, and other events hosted by ELI ERIC** that address key scientific and technological challenges associated with advancing ELI's experimental instrumentation and its practical applications. Within this framework, particular emphasis is placed on **scientific seminars, conducted either internally among ELI ERIC personnel or featuring invited external speakers**. Primarily intended for ELI audiences, these events play a key role in fostering the growth of ELI ERIC's internal professional network – an essential component of the broader ELI community – by enabling the exchange of novel experimental concepts and the dissemination of research findings. Recognising the importance of proactive engagement in **R&I events organised by external stakeholders**, the PM Area also evaluates ELI ERIC's involvement in such fora, where the organisation contributes through sponsorship, invited lectures and presentations, exhibition stands, and other forms of institutional participation. By serving as speakers and actively engaging in discussions across a broad range of R&I topics, ELI ERIC personnel support the dissemination of the Organisation's strategic priorities and help raise awareness of ELI's experimental capabilities. Lastly, the PM Area is focused on evaluating **ELI ERIC's approach to collecting feedback from participants in community-building and engagement events**. Such feedback is essential for assessing the alignment of these initiatives with participants' expectations, identifying opportunities for improvement and refining strategies for engagement with academic and industrial partners.
	This PM Area is closely associated with PM Areas No. 15 and 16, which focus on monitoring and evaluating ELI ERIC's engagement in policy-making processes and public outreach initiatives. **Taken together, these PM Areas offer a comprehensive overview of the Organisation's efforts to engage R&I stakeholders and bridge the gap between science and society, with the overarching objective of fostering a knowledge-based society and economy**.

Rationale	Monitoring and evaluating both the quantitative and qualitative aspects of ELI ERIC's community-building efforts and participation in broader R&I community engagement initiatives demonstrates **the Organisation's commitment to assessing the effectiveness of its interactions with academic and industrial stakeholders**. This engagement seeks to strengthen and expand ELI's community of users and networks of collaborating partners, thereby unlocking its full potential to address scientific and technological challenges across a broad range of R&I domains. To effectively evaluate these efforts, a key focus is placed on examining **the proportion of new participants in the ELI User Programme, who engage as a direct outcome of ELI community-building and engagement activities**, thereby evidencing the tangible impact of these initiatives. Collecting feedback from participants in ELI ERIC's community-building and engagement initiatives provides key insights into **the Organisation's commitment to evaluating whether these initiatives meet the expectations and satisfaction criteria of target groups, as well as its openness to gathering recommendations for enhancing communication and engagement with academia and industry**.
Assumptions	**Since the legal establishment of ELI ERIC in 2021 and the official launch of the ELI User Programme in 2022, the growth of the ELI user community is expected to continue as user services across the ELI Facilities expand**. This growth is foreseen to align with the increasing availability of ELI's scientific instruments through the ELI User Programme, alongside the introduction of Mission-Based and Proprietary Access, broadening the portfolio of access routes to ELI. In addition to organising a variety of community-building events for specific scientific domains and broader R&I audiences, **ELI ERIC also hosts tailored engagement events for national groups in countries that are prospective Members, Observers, and Strategic Partners**. **Within this framework, collecting data and contextual information on these events is particularly important, as they play a key role in expanding ELI's impact within new R&I communities**.
ELI ERIC Policy Reference Framework	**ELI ERIC Communication Policy** **ELI ERIC New Member Policy**

Data Collection Responsibility	**<u>Coordinator and Lead Responsible</u>** **ELI ERIC Director General's Office** Senior Officer for Communications **<u>Contributor and Supporting Lead</u>** **ELI ERIC Director General's Office** Senior Officer for External Relations **ELI ERIC Office of Science** Head of Science Office **ELI ALPS Facility** Department of Public Relations and Communications **ELI Beamlines Facility** Communications and Outreach Group
Data Parameters	**A. <u>ELI ERIC Community-Building and Engagement Events</u>** **a) Events Targeting External Audiences (e.g., ELI User Meeting)** **Event** ▪ Title ▪ Abstract ▪ Date ▪ Venue ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Other ▪ City ▪ Country ▪ Virtual Platform ▪ Type ▪ In-Person ▪ Virtual ▪ Hybrid ▪ Participants ▪ Number of Attendees Present In-Person ▪ Number of Attendees Present Online ▪ Participant Feedback ▪ Arranged ▪ Number of Survey Responses

	▪ Average Satisfaction Score ▪ Non-Arranged ▪ Webpage **Participant** ▪ Personal Data ▪ Name ▪ Surname ▪ Academic Titles ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Nationality ▪ Research Career Stage ▪ Established Researcher ▪ Postdoctoral Researcher ▪ Doctoral Student ▪ Postgraduate Student ▪ Undergraduate Student ▪ Institution ▪ Acronym ▪ Full Name ▪ Category ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital ▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small-/Medium-Sized Enterprise ▪ Large Enterprise ▪ City ▪ Country ▪ Website

b) Events Targeting Internal Audiences (e.g., internal scientific seminars)

Event

- Title
- Abstract
- Date
- Venue
  - ELI ALPS
  - ELI Beamlines
  - ELI NP
  - Virtual Platform
- Type
  - In-Person
  - Virtual
  - Hybrid
- Participants
  - Number of Attendees Present In-Person
  - Number of Attendees Present Online

ELI ERIC Participant

- Personal Number
- Name
- Surname
- Organisational Division
  - Director General's Office
  - Office of Science
  - ELI Facility
    - ELI ALPS
    - ELI Beamlines
    - ELI NP

B. <u>Engagement in R&I Events Organised by External Stakeholders</u>

Event

- Title
- Abstract
- Date
- Venue
  - City
  - Country
  - Virtual Platform

	▪ Type
	  ▪ In-Person
	  ▪ Virtual
	  ▪ Hybrid
	▪ Sponsorship
	  ▪ Value in EUR
	▪ Webpage
	
	ELI ERIC Participant
	
	▪ Personal Number
	▪ Name
	▪ Surname
	▪ Organisational Division
	  ▪ Director General's Office
	  ▪ Office of Science
	  ▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP

Performance Targets	**(1) ELI User Meeting** ▪ Frequency: **once per year** ▪ Attendance: **≥ 150 participants per event**

PERFORMANCE MONITORING AREA # 15	POLICY CONSULTING Advising and Supporting Policy-Making Processes
	PM Area No. 15 is designed to monitor and evaluate ELI ERIC's engagement in public policy-making within the R&I sector and other related domains. This includes assessing the Organisation's involvement at the local level of the ELI Facilities' host regions, at the national level in the Host Countries of the ELI Facilities and other Member Countries of ELI ERIC, within the framework of the European Research Area (ERA), and on a global scale. The PM Area places particular emphasis on the Organisation's contributions to the formulation and implementation of public policies, strategies, and regulatory frameworks, while also examining its participation in platforms influencing these processes. Through this approach, the PM Area offers valuable insights into ELI ERIC's role in policy consulting, demonstrating its capacity to contribute and shape policy agendas across various governance levels within the R&I sector and other relevant economic domains.
Definition	ELI's recognition as a world-leading research infrastructure in laser science positions it to play a key role in shaping policies, strategies, and regulatory frameworks in R&I and other related sectors at local, regional, national, European, and global levels. In this context, this PM Area focuses on monitoring and evaluating **ELI ERIC's role in policy consulting**, analysing how the Organisation contributes to policy-making processes across various levels of R&I governance and other relevant sectors. First, the PM Area aims to address **ELI ERIC's involvement in public policy-making processes at the level of the regions hosting the ELI Facilities**. This aspect is of particular importance, as the ELI Facilities were established with EU Cohesion Policy funding and are expected to drive socio-economic development in their host regions, playing a pivotal role in orchestrating regional development strategies. Complementary to this regional focus, the PM Area also centres on **ELI ERIC's engagement in policy-making processes at the national governmental level in the Host Countries of the ELI Facilities and other Member Countries of the Organisation**. This encompasses the active participation of the ELI ERIC Management in advisory boards, coordination committees, councils, task forces, working

	groups, and other relevant fora and platforms, as well as broader consulting processes organised by public administration bodies. In view of ELI's central role in the research infrastructure policies of its Member Countries, this engagement is focused primarily – though not exclusively – on contributing to the development of research infrastructure policies and, more broadly, R&I policies. Shifting to an international perspective, the PM Area examines **ELI ERIC's involvement in European Research Area (ERA) governance and global-level policy-making**. In this context, ELI's legal status as an ERIC, its recognition as an ESFRI Landmark, and ELI ERIC's active participation in the European Open Science Cloud (EOSC) position the Organisation to serve a pivotal function within the ERIC Forum, European Strategy Forum on Research Infrastructures (ESFRI), and the EOSC Association. Furthermore, its engagement in processes that promote the convergence of R&I policy at international and global levels – exemplified by participation in events such as the International Conference on Research Infrastructures (ICRI) – highlights ELI ERIC's contributions to shaping global R&I policy. Finally, a distinct form of ELI ERIC's influence on policy-making emerges when policies, strategies, and regulatory frameworks are impacted by ELI's standing within the R&I landscape alone. In such cases, the Organisation may play a significant role as a key point of reference, irrespective of any direct engagement. Accordingly, the PM Area also seeks to assess the impact of this **indirect influence stemming from ELI's established role within the R&I ecosystem**.
	This PM Area is closely associated with PM Areas No. 14 and 16, which focus on monitoring and assessing ELI ERIC's initiatives to engage with R&I stakeholders across academia and industry and the Organisation's outreach to the general public. By integrating ELI ERIC's involvement in policy-making processes, this PM Area supports a more comprehensive evaluation of the Organisation's stakeholder engagement and public outreach efforts.
Rationale	Monitoring and evaluating ELI ERIC's engagement in public policy-making processes reveals **the Organisation's contributions to the formulation of policies, strategies, and regulatory frameworks in R&I and other related sectors** at the regional and national level in the Host Countries of the ELI Facilities, as well as in other Member Countries of ELI ERIC, across the ERA, and globally.

	This analysis sheds light on **how ELI ERIC actively contributes to platforms, where it holds formal membership**, such as the ERIC Forum and the EOSC Association. In addition, it provides valuable insights into its positioning and **attractiveness as a potential partner in R&I policy-making fora, where the Organisation does not assume formal membership**.
Assumptions	**In view of ELI's status as a world-leading research infrastructure in laser science, ELI ERIC is anticipated to be recognised as a key partner and relevant stakeholder in the formulation of policies, strategies, and regulatory frameworks within the R&I sector and other relevant domains**. This collaboration is expected to engage public administrations within the host regions of the ELI Facilities, stakeholders at the national governmental level across Host and other Member Countries of ELI ERIC, the European Commission, and relevant stakeholder associations. **While ELI ERIC defines its level of involvement in policy-making platforms where it holds formal membership – such as the ERIC Forum and the EOSC Association – the decision to invite ELI ERIC to participate in fora where it does not hold formal membership, rests with the relevant stakeholders**. **Assessing ELI ERIC's influence on public policy-making, where its impact arises from its inherent role and standing within the R&I landscape rather than direct involvement, presents challenges in collecting the evidence necessary to accurately document these indirect contributions**.
ELI ERIC Policy Reference Framework	**N/A**
Data Collection Responsibility	**<u>Coordinator and Lead Responsible</u>** **ELI ERIC Director General's Office** Senior Officer for Host Relations **<u>Contributor and Supporting Lead</u>** **ELI ERIC Director General's Office** Senior Officer for External Relations **ELI ERIC Office of Science** Head of Science Office

Data Parameters	**ELI ERIC's Engagement in Public Policy-Making** ▪ Information on the active participation of ELI ERIC Management representatives in public policy-making processes through their roles in advisory boards, coordination committees, councils, task forces, working groups, and other relevant fora and platforms, as well as in broader consulting processes organised by public administration authorities ▪ Information on ELI ERIC's engagement in public policy-making processes through its membership in stakeholder associations, where it is formally involved, such as the ERIC Forum and the EOSC Association, including a list of relevant contributions to these policy-making processes ▪ Information regarding policies, strategies, and regulatory frameworks in R&I and other related sectors developed at local, regional, national, European, and global levels with active participation from ELI ERIC
Performance Targets	**N/A**

PERFORMANCE MONITORING AREA # 16	PUBLIC OUTREACH Bringing Science Closer to Society and Raising Public Awareness of R&I
Definition	**PM Area No. 16 is dedicated to monitoring and evaluating ELI ERIC's public outreach initiatives, which aim to raise awareness of ELI's R&I achievements, while disseminating knowledge about laser science and technology. This involves examining the impact of public engagement events hosted by ELI ERIC and analysing the effectiveness of its media communication efforts. In doing so, the PM Area provides critical insights into how ELI ERIC helps bridge the gap between science and society, thereby enhancing public understanding of R&I and their role in addressing grand societal challenges that require knowledge-based solutions.**
	Public engagement and outreach play a central role in bringing science closer to society. They ensure that advancements in R&I are recognised, understood, and valued by the general public. For ELI ERIC, public outreach initiatives are pivotal in raising awareness of ELI's scientific and technological achievements, showcasing their potential to effectively address grand societal challenges across key sectors, including energy, healthcare, and security. In pursuit of these objectives, ELI ERIC hosts a range of public engagement events and employs a variety of communication channels, thereby increasing the visibility of ELI and fostering societal recognition of its contributions. Building on this foundation, this PM Area is designed to monitor and evaluate both the quantitative and qualitative dimensions of **ELI ERIC's public engagement and outreach efforts**, which aim to enhance public understanding of ELI's R&I advancements, while bridging the gap between laser science and society. First, it seeks to track and assess the impact of **ELI ERIC's public engagement events, including open days, public lectures, and other awareness-raising and commemorative activities**, which showcase ELI's experimental capabilities and its contributions to scientific and technological progress.

	While some of these events are held at the ELI Facilities with a specific focus on laser science and technology, others, which promote R&I in a broader context, involve ELI ERIC as a partner and are hosted at major congress centres and exhibition venues. Secondly, the PM Area aims to analyse **ELI ERIC's communication initiatives across print, broadcast, web-based, and social media**. Although the R&I content of these communications may primarily appeal to academia, they are directed towards the broader public to raise awareness of ELI's achievements. These initiatives are carried out through a variety of communication channels, encompassing press releases, website articles, newsletters, annual reports, appearances in print and broadcast media, as well as web-based platforms like the official Organisation's website, along with social media channels, such as Facebook, Instagram, LinkedIn, and YouTube.
	This PM Area is closely associated with PM Areas No. 14 and 15, which place a particular emphasis on monitoring and assessing ELI ERIC's engagement with R&I stakeholders across academia, industry, and public administration. **Together, these PM Areas offer a holistic view of the Organisation's initiatives to engage both R&I professionals and the general public, with the aim of maximising ELI's scientific, technological, and societal impact**.
Rationale	Monitoring and evaluating ELI ERIC's public engagement and outreach efforts offer valuable insights into **the Organisation's commitment to raising awareness of ELI's R&I achievements**. It reveals ELI ERIC's dedication to organising popularisation events focused on laser science and technology, while also reflecting its participation in broader public conventions, such as science and technology fairs and festivals, promoting R&I across disciplines. Analysing ELI ERIC's communication efforts across print, broadcast, web-based, and social media seeks to demonstrate **the diversity of communication channels utilised by the Organisation** to reach out to both R&I professionals and the general public and **the extent to which these channels are employed**. Collecting attendance data for ELI ERIC's public engagement and outreach events, whether hosted at the ELI Facilities or as part of broader public conventions, reveals **the Organisation's appeal to the general public**.

	In conjunction with tracking media mentions, website visits, and social media engagements, this data supports the analysis of **the impact of the Organisation's communication activities across multiple channels**, assessing engagement with diverse target audiences. In conclusion, examining ELI ERIC's public engagement efforts highlights **the Organisation's commitment to raising awareness of laser science and technology while bridging the gap between science and society**. As a publicly funded research infrastructure, ELI ERIC emphasises public outreach as a fundamental element of its mission, and assessing the effectiveness of these efforts offers evidence to refine strategies for more impactful engagement with the general public.
Assumptions	**Initiatives aimed at educational institutions – whether primary, secondary, or tertiary – that do not involve specific educational or training content, but instead focus on site visits and tours of the ELI Facilities, should be classified as public engagement and outreach efforts and recorded under this PM Area, rather than under PM Area No. 13 on Education and Training**. **Conversely, cultural and business events held at the ELI Facilities for commercial purposes, such as concerts, exhibitions, trade fairs, and industry expositions, do not qualify as public engagement and outreach efforts, if they are not organised by ELI ERIC and do not serve the purpose of promoting laser science and technology, or R&I more broadly**. **Public engagement and outreach events hosted by ELI ERIC at the ELI Facilities typically include open days, public lectures, as well as awareness-raising and commemorative activities**. Flagship occasions feature the United Nations' International Day of Women and Girls in Science (11 February), the UNESCO International Day of Light (16 May), and the European Commission's European Researchers' Night (last Friday of September). **Broader public conventions, in which ELI ERIC participates, include fairs and festivals**, such as the annual Science Fair and the Week of Science and Technology, hosted by the Czech Academy of Sciences, or the annual Day of Physics, organised by the University of Szeged, regarded as flagship initiatives in the ELI Facilities' Host Countries.

	ELI ERIC can effectively track attendance at public engagement and outreach events held at the ELI Facilities. **For broader public conventions, such as fairs and festivals hosted at congress centres and exhibition venues, it is more appropriate to record the number of direct engagements at ELI ERIC's booths and stands, rather than referencing the overall attendance figures for the entire event**. Attendance statistics for both event types should be recorded separately to ensure clarity in reporting. **While registration is not usually required for public engagement and outreach events, collecting basic attendee information, such as name, surname, and email address, can help foster continued interaction**. Alternatively, optional registration may be offered to individuals, who express interest in receiving further information from ELI ERIC regarding public outreach and engagement events.
ELI ERIC Policy Reference Framework	**ELI ERIC Communication Policy**
Data Collection Responsibility	**<u>Coordinator and Lead Responsible</u>** **ELI ERIC Director General's Office** Senior Officer for Communications **<u>Contributor and Supporting Lead</u>** **ELI ALPS Facility** Department of Public Relations and Communications **ELI Beamlines Facility** Communications and Outreach Group

Data Parameters	**A. <u>Public Engagement and Outreach Events</u>**
	
	a) In-House
	
	▪ Title
	▪ Abstract
	▪ Start Date
	▪ End Date
	▪ Venue
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	  ▪ Other
	  ▪ City

	▪ Country ▪ Virtual Platform ▪ Type ▪ In-Person ▪ Virtual ▪ Hybrid ▪ Participants ▪ Number of Attendees Present In-Person ▪ Number of Attendees Present Online ▪ Participant Feedback ▪ Collected (Core Events) ▪ Number of Survey Responses ▪ Average Satisfaction Score ▪ Not Collected ▪ File Upload ▪ Flyer ▪ Programme ▪ Photo ▪ Webpage **b) External** ▪ Title ▪ Abstract ▪ Start Date ▪ End Date ▪ Venue ▪ City ▪ Country ▪ Virtual Platform ▪ Type ▪ In-Person ▪ Virtual ▪ Hybrid ▪ Direct Engagements ▪ Number of Attendees Engaging In-Person ▪ Number of Attendees Engaging Online ▪ Participant Feedback ▪ Collected (Core Events) ▪ Number of Survey Responses ▪ Average Satisfaction Score ▪ Not Collected ▪ File Upload

- Flyer
- Programme
- Photo
- Webpage

B. <u>Media Communication</u>

a) Website Articles

- Count
  - Webpage

b) Media Mentions

- Count per Media Category
  - Print
  - Broadcast
  - Web-Based

c) Social Media Engagements

- Count per Social Media Category
  - Facebook
    - Followers
    - Impressions
    - Direct Engagements
  - Instagram
    - Followers
    - Impressions
    - Direct Engagements
  - LinkedIn
    - Followers
    - Impressions
    - Direct Engagements
  - YouTube
    - Followers
    - Impressions
    - Direct Engagements

d) Website Visits

- Count
  - Page Visitors
  - Page Views
  - Time on Page

	e) Newsletter Interactions
	▪ Count
	  ▪ Editions
	  ▪ Recipients
	  ▪ Open Rate
	  ▪ Click Rate

Performance Targets	**A. <u>Public Outreach Events</u>**
	(1) Annual Events
	▪ **United Nations' International Day of Women and Girls in Science**
	11 February
	▪ **UNESCO International Day of Light**
	16 May
	▪ **European Commission's European Researchers' Night**
	Last Friday of September
	(2) Annual Participation
	▪ Attendance
	  ▪ **≥ 5 000 attendees per year**
	B. <u>Media Communication</u>
	(3) Website Articles
	▪ Articles
	  ▪ **≥ 24 articles per year**
	(4) Media Mentions
	▪ Mentions
	  ▪ **≥ 100 mentions per year**
	▪ Breakdown by Category
	  ▪ Print: ≥ 30 mentions per year
	  ▪ Broadcast: ≥ 10 mentions per year
	  ▪ Radio: ≥ 10 mentions per year
	  ▪ Web-Based: ≥ 50 mentions per year
	(5) Social Media Followers
	▪ Followers
	  ▪ **Facebook: ≥ 3 000 followers**
	  ▪ **Instagram: ≥ 875 followers**

	▪ **LinkedIn: ≥ 3 000 followers** ▪ **YouTube: ≥ 150 followers** **(6) Website Visits** ▪ Page Visitors ▪ **≥ 25 000 visitors per year** ▪ Page Views ▪ **≥ 100 000 views per year** **(7) Newsletter Interactions** ▪ Editions ▪ **≥ 6 editions per year** ▪ Recipients ▪ **≥ 5 000 recipients per year**

SOCIO-ECONOMIC IMPACT MONITORING AREA # 17	SCIENCE AND TECHNOLOGY DEVELOPMENT Translating Knowledge into Scientific and Technological Advancement
Definition	**SEIM Area No. 17 focuses on monitoring and evaluating ELI's contributions to the advancement of science and technology. Its primary objective is to analyse the impact of ELI's cutting-edge technologies – particularly high-power, ultra-fast, and high-repetition-rate laser systems – across a broad range of R&I fields. In addition, the SEIM Area seeks to examine how experimentation at ELI, conducted within the framework of the ELI User Programme, drives advancement across diverse scientific disciplines. Collectively, these efforts are designed to provide fundamental insights into how ELI's contributions to expanding the frontiers of knowledge and exploring new technological horizons yield progress across various scientific and technological domains.**
	As a global leader in laser science, ELI operates an unparalleled suite of state-of-the-art high-power, ultra-fast, and high-repetition-rate laser systems, complemented by an extensive array of cutting-edge photon and particle beam sources. This unique combination empowers ELI to facilitate groundbreaking research experiments across a wide range of scientific disciplines, allowing researchers and innovators to leverage its disruptive potential in addressing key scientific and technological challenges, ultimately leading to breakthrough discoveries with significant impact across R&I and associated economic sectors. In addition to its role as a research infrastructure dedicated to serving the R&I community, ELI is committed to maintaining its global competitive edge through the continuous enhancement of laser technology and laser-based particle acceleration. This ongoing progress not only drives technological development, but also opens new avenues for experimentation, enhancing ELI's capabilities and impact across various scientific domains. Through these efforts, ELI remains at the forefront of scientific exploration and technological advancement, solidifying its role as a catalyst for transformative change in global R&I landscape.

	Furthermore, as a resource-intensive research infrastructure, ELI remains firmly committed to improving its operational efficiency through the continuous development of supporting infrastructure technologies. This includes the strategic advancement of auxiliary systems that underpin experimental instrumentation, workshops, and maintenance facilities, as well as IT and control systems, and other essential operational assets. Central to these efforts is also the focus on leveraging innovative energy management solutions. As a result, ELI is positioning itself as a leader in the development and deployment of pioneering technologies that not only enhance operational efficiency, but also promote long-term sustainability by mitigating its environmental footprint. In doing so, ELI contributes to global R&I sectors, driving progress that benefits both scientific discovery and broader societal objectives related to environmental responsibility. Taken together, ELI plays a pivotal role in advancing the frontiers of scientific knowledge and exploring new technological horizons. As a research infrastructure, ELI generates significant impact by enabling groundbreaking discoveries through its user programme. Moreover, through the continuous development of cutting-edge experimental instrumentation and state-of-the-art building infrastructure, ELI not only strengthens its capabilities, but also contributes to shaping the broader R&I agenda, particularly in efficiency and sustainability. In this context, this SEIM Area is designed to monitor and evaluate **the broader impacts of ELI across the scientific and technological domains**, with particular emphasis on how achievements realised at ELI foster progress in these fields. In pursuit of these objectives, the SEIM Area is primarily dedicated to examining **the impact of a broad range of R&I results produced at ELI, both in-house and by external users**. This entails publication-based outputs – particularly peer-reviewed articles – as well as non-publication results, such as patents. Particular attention is given to assessing the impact of ELI research datasets, with a focus on their reuse in subsequent scientific investigations. A further dimension of this SEIM Area involves analysing **how the development and enhancement of experimental instrumentation at ELI translate into broader scientific and technological progress, while fostering innovation in experimental approaches**.

	This encompasses, for instance, the optimisation of laser beamline operations – particularly in terms of stability and reliability – as well as improvements in performance parameters such as output power and repetition rate, all of which are fundamental for advancing the studies of extreme light-matter interactions. Another area of focus, for example, concerns the examination of advancements in laser-driven particle acceleration. This emerging technology lays the groundwork for the development of compact and cost-effective accelerators capable of generating high-energy particles over significantly shorter distances than those required by conventional radio-frequency-based systems. As such progress unlock ELI's disruptive potential for widespread application across diverse R&I fields, their systematic assessment forms an integral part of this SEIM Area's objectives. Completing its analytical focus, this SEIM Area also reviews **how ELI's advancements in infrastructure development – particularly in optimising operational efficiency and sustainability – play a key role in shaping the broader research infrastructure landscape and the R&I sector at large**. This includes assessing how improvements in auxiliary systems that support experimental instrumentation at ELI, workshops and maintenance facilities, IT and control systems, as well as other essential operational assets, drive efficiency and promote a more sustainable and environmentally responsible approach to research infrastructure operations.
	This SEIM Area is closely linked to PM Areas No. 4, 5, and 6, which examine ELI's R&I performance; PM Area No. 9, which assesses advancements in ELI's experimental capabilities; and PM Area No. 10, which focuses on the development of the ELI Facilities' supporting infrastructure. **Together, these PM Areas form the foundational framework for evaluating the broader scientific and technological impacts of ELI, with this SEIM Area focusing on the impacts arising from the activities and their results directly associated with the respective PM Areas**.
Rationale	Monitoring advancements across diverse R&I domains driven by experimentation at ELI highlights **ELI's strategic role in addressing key scientific and technological challenges through the application of state-of-the-art laser technology and cutting-edge laser-driven particle acceleration methods**.

	Assessing the scientific and technological progress catalysed by the enhancement of ELI's experimental instruments – particularly high-power, ultra-fast, and high-repetition-rate laser systems – provides valuable insights into **ELI's pivotal role in advancing experimental instrumentation and its broader impact across diverse R&I fields**. In addition, this assessment serves to study **whether ELI continues to maintain its global leadership in laser technology**, benchmarking its progress against that of other leading laser laboratories, thereby reaffirming its position as a pioneering research infrastructure that shapes emerging scientific and technological paradigms. Evaluating advancements in research infrastructure operations across the broader R&I landscape, influenced by ELI, emphasises **ELI's contribution to technological developments that enhance operational efficiency while promoting a more sustainable and environmentally responsible approach to the management of research infrastructures**.
Assumptions	**Significant scientific and technological advancements, marking breakthrough achievements, are recognised through prestigious awards, prizes, and medals**. Notable examples include the Nobel Prize in Physics, awarded in 2018 for the development of methods to generate high-intensity, ultra-short optical pulses, and in 2023 for the development of methods that generate attosecond pulses of light for the study of electron dynamics in matter. **Additionally, such achievements may also be recognised through features on the cover pages of leading scientific journals, as well as through peer-reviewed articles published in the top percentiles of these journals**. In assessing contributions to scientific and technological progress, these recognitions – along with other relevant factors – serve as key indicators of excellence, impact, and advancement in the respective R&I field, offering tangible evidence of a discovery's capacity to shape the future direction of R&I. **Given ELI's world-leading status in laser science, it is expected that it will facilitate the production of high-quality scientific publications with significant impact, as evidenced by both the quality of journals in which these publications appear and citation count**. The ultimate impact of these papers typically becomes more apparent at least five years after their publication, as citation impact is usually lower in the immediate years following release. Consequently, in the initial stages, evaluating the quality of the journals in which these publications are

	featured provides a more relevant qualitative indicator than citation metrics, offering a clearer indication of their potential to shape the future of R&I in the respective domain. **The impact of research data generated through experimentation at ELI, particularly in terms of its reuse for validating R&I results, ensuring reproducibility, and supporting subsequent R&I efforts, is expected to be delayed**. According to the ELI ERIC Data Policy, a three-year embargo period is imposed, during which access to the data is restricted exclusively to the authors. Following this period, the data becomes accessible for reuse by other researchers, with its management extended for a minimum of an additional seven years to enable data reuse and support future research efforts, thereby contributing to a sustained impact and driving further advancements within the relevant R&I sphere. **In assessing the long-term impact of both publication-based and non-publication R&I results, it is important to recognise that the translation of these findings into practical applications depends on a wide range of interconnected factors**. These factors include technological maturity, regulatory frameworks, market dynamics, and the availability of industrial partnerships, among others. Due to the complexity of these elements, forecasting the long-term impact of scientific publications, as well as non-publication R&I results arising from experimentation at ELI, remains challenging. **To effectively monitor and evaluate ELI's ultimate impact across diverse R&I domains supported under the ELI User Programme, it is essential to establish a comprehensive process for engaging with the ELI user community**. This process should be integrated within a well-organised framework for collecting data on their R&I performance, including the impact of their R&I achievements. Such an approach will not only provide a clear understanding of the R&I outputs, but also deliver key insights into the programme's broader impact in terms of advancing scientific and technological progress. As a world-leading research infrastructure operating state-of-the-art high-power, ultra-fast, and high-repetition-rate laser systems, alongside cutting-edge photon and particle beam sources, **ELI is expected to maintain its global leadership in laser science and technology through the ongoing development of experimental instrumentation, which will both enhance its capabilities and advance the respective scientific and technological domains**.

	Established as a pioneering research infrastructure serving diverse R&I communities, ELI is uniquely positioned to drive significant progress across various R&I domains by broadening user access to its state-of-the-art experimental instrumentation. This enhanced access will facilitate laser-driven experimentation, empowering researchers and innovators to push the boundaries of discovery not only within traditional laser-based disciplines, but also across other R&I sectors that have yet to fully explore the potential of these resources. In turn, this will open avenues for transformative experimentation and the generation of novel insights, catalysing scientific and technological advancement. **Considering the resource-intensive nature of its operations, ELI is expected to assume a leadership role in optimising operational efficiency, reducing environmental footprint, and promoting long-term sustainability**. Through these efforts, ELI is anticipated to not only enhance its own operational practices, but also to impact the broader research infrastructure landscape, providing a benchmark for sustainable practices within the R&I sector and driving progress across scientific and technological fields.
ELI ERIC Policy Reference Framework	**N/A**
Data Collection Responsibility	**Consistent with the responsibilities outlined in the PM Reference Sheets, which guide the collection of primary data and contextual information within the relevant PM Areas, laying the foundation for the assessment within this SEIM Area**.
Data Parameters	**Consistent with the data parameters outlined in the PM Reference Sheets, which guide the collection of primary data and contextual information within the relevant PM Areas, laying the foundation for the assessment within this SEIM Area**.
Performance Targets	**N/A**

SOCIO-ECONOMIC IMPACT MONITORING AREA # 18	HUMAN RESOURCES DEVELOPMENT Fostering the Advancement of a Knowledge-Based Society
Definition	**SEIM Area No. 18 is devoted to monitoring and evaluating ELI ERIC's contribution to advancing human capital development. This objective is pursued through the systematic aggregation and analysis of data on the diverse groups engaging with the Organisation in various capacities. Central to this assessment are ELI ERIC staff, recognised as a key asset. The analysis also addresses the participation of R&I communities in the ELI User Programme and the involvement of other R&I professionals in collaborative activities with ELI. Furthermore, engagement in ELI ERIC's education and training initiatives is examined, along with participation in public outreach activities. Through these efforts, the SEIM Area supports the synthesis of data reflecting the breadth of engagement with ELI – encompassing students, researchers, industry professionals, and the general public. This holistic approach provides critical insights into the communities interacting with the Organisation and the ways in which these interactions contribute to their professional advancement and future career trajectories.**
	As a publicly funded research infrastructure, ELI is committed to supporting R&I communities, fostering the development of future R&I professionals, and disseminating knowledge on R&I advancements. In this regard, it engages with a broad range of stakeholders across academia, industry, and the general public. Building on this framework, this SEIM Area is designed to monitor **ELI ERIC's contribution to human resources development**, while evaluating its impact on the diverse communities interacting with ELI and assessing the level of their engagement. This encompasses ELI ERIC staff, ELI users, other R&I collaborators and partners from the academic and industrial sectors, as well as the broader society. To achieve these objectives, the SEIM Area focuses on **ELI ERIC's workforce** dynamics, with particular emphasis on aspects such as the evolution of the total personnel, changes in their profiles and composition, shifts in their distribution across job clusters, and transitions within the career grids of these clusters over the course of their tenure at the Organisation.

	Furthermore, priority is placed on assessing the composition of **the ELI user community** through the aggregation of data on individual applicants and users granted beamtime. This analysis focuses on identifying the career stages of participants in the ELI User Programme, with particular emphasis on the proportions of established researchers, postdoctoral researchers, and doctoral, postgraduate, and undergraduate students. Special attention is given to the latter groups, as they represent emerging talent, whose professional trajectories may be influenced by their involvement in the programme. Additionally, factors such as gender balance, national diversity, the academia-industry split, and affiliations with countries hosting Principal Investigator and Co-Investigator institutions are considered to provide additional insights into the programme's impact. The total number of participants is also tracked to indicate the programme's overall reach and level of engagement. Concurrently, the SEIM Area addresses the participation in **ELI ERIC's education and training initiatives**. This approach aims to quantify the number of individuals reached through supervision and consulting for Bachelor's, Master's, and Ph.D. theses, as well as participation in the ELI Summer School, internship programmes, and specialised training. Detailed breakdowns by gender, nationality, and institutional affiliation contribute to a thorough assessment of the impacted communities. In parallel, the SEIM Area covers the evaluation of **ELI ERIC's community-building events** by synthesising participation data, including detailed breakdowns by career stage, gender balance, national diversity, and institutional country affiliations, thereby providing further qualitative insights into the impacted groups. Finally, the SEIM Area entails the examination of engagement in **ELI ERIC's public outreach events**, although detailed profiles of impacted cohorts are not available, as participation in these events typically does not require registration.
	This SEIM Area is closely linked to PM Areas No. 1, 2, 3, and 14, which track the engagement of R&I communities with ELI ERIC, both as users and as participants in community-building events. Additionally, the SEIM Area is closely associated with PM Areas No. 12, 13, and 16, which evaluate ELI ERIC's role as an employer and its contribution to advancing human capital through diverse

	educational, training, and public outreach initiatives. Collectively, these PM Areas establish the groundwork for analysing ELI ERIC's impact on human resources development, as delineated within this SEIM Area.
Rationale	**The primary objective of the efforts under this SEIM Area is to aggregate primary data and contextual information collected under the relevant PM Areas, which provide the foundation for monitoring and evaluating ELI ERIC's impact on human resources development. The detailed rationales for collecting this data and information are clarified in the respective PM Reference Sheets. This SEIM Area is designed to leverage this data and information, analyse it in a synthesised form, and draw conclusions on ELI ERIC's overall contribution to human resources development.**
Assumptions	**The assumptions regarding the monitoring and evaluation of specific elements contributing to ELI ERIC's overall impact on human resources development are outlined in the Reference Sheets for the relevant PM Areas, which form the foundation for the assessment within this SEIM Area.**
ELI ERIC Policy Reference Framework	**ELI ERIC Employment Policy** **ELI ERIC User Access Policy** **ELI ERIC Innovation and Industry Policy** **ELI ERIC Communication Policy**
Data Collection Responsibility	**Consistent with the responsibilities outlined in the PM Reference Sheets, which guide the collection of primary data and contextual information within the relevant PM Areas, laying the foundation for the assessment within this SEIM Area.**

Data Parameters	**A. <u>ELI ERIC Workforce</u>**
	Employees (totals)
	▪ Organisational Division
	  ▪ Director General's Office
	  ▪ Office of Science
	  ▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	▪ Job Cluster
	  ▪ Management

	▪ Manager ▪ Senior Officer ▪ Scientific ▪ Scientific Career Path Stage ▪ Engineering ▪ Senior Engineer ▪ Engineer ▪ Associate Engineer ▪ Technical ▪ Senior Technician ▪ Technician ▪ Worker ▪ Administration/Specialist ▪ Senior Specialist/Officer ▪ Specialist ▪ Associate Specialist ▪ Support Specialist ▪ Specific Category ▪ Ph.D. Students ▪ Interns ▪ Salary Grade ▪ Range: 10 to 20 ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Nationalities **Former Employers of Current Staff (totals)** ▪ Public Sector Organisation ▪ Higher Education Institution ▪ Research Institute ▪ Hospital ▪ International Organisation ▪ Intergovernmental Organisation ▪ Non-Governmental Organisation ▪ Private Sector Organisation ▪ Higher Education Institution ▪ Small- and Medium-Sized Enterprise ▪ Large Enterprise

Subsequent Employers of Former Staff (totals)

- Public Sector Organisation
  - Higher Education Institution
  - Research Institute
  - Hospital
  - International Organisation
    - Intergovernmental Organisation
    - Non-Governmental Organisation
- Private Sector Organisation
  - Higher Education Institution
  - Small- and Medium-Sized Enterprise
  - Large Enterprise

B. <u>ELI User Community</u>

Applicants (totals)

- ELI Facility
  - ELI ALPS
  - ELI Beamlines
  - ELI NP
- Sector
  - Academia
  - Industry
- Career Stage
  - Established Researcher
  - Postdoctoral Researcher
  - Doctoral Student
  - Postgraduate Student
  - Undergraduate Student
- Gender
  - Male
  - Female
  - Other
- Country Affiliation
  - Principal Investigator Institutions
  - Co-Investigator Institutions
- Nationalities

Users (totals)

- ELI Facility
  - ELI ALPS
  - ELI Beamlines

	▪ ELI NP ▪ Sector ▪ Academia ▪ Industry ▪ Career Stage ▪ Established Researcher ▪ Postdoctoral Researcher ▪ Doctoral Student ▪ Postgraduate Student ▪ Undergraduate Student ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Country Affiliation ▪ Principal Investigator Institutions ▪ Co-Investigator Institutions ▪ Nationalities **C. <u>Participants in Education and Training Initiatives</u>** **Participants (totals)** ▪ ELI Facility ▪ ELI ALPS ▪ ELI Beamlines ▪ ELI NP ▪ Sector ▪ Academia ▪ Industry ▪ Career Stage ▪ Established Researcher ▪ Postdoctoral Researcher ▪ Doctoral Student ▪ Postgraduate Student ▪ Undergraduate Student ▪ Gender ▪ Male ▪ Female ▪ Other ▪ Institutional Country Affiliations ▪ Nationalities

	Students Benefiting from Diploma Thesis Supervision and Consulting (totals)
	▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	▪ Sector
	  ▪ Academia
	  ▪ Industry
	▪ Thesis
	  ▪ Bachelor's
	  ▪ Master's
	  ▪ Ph.D.
	▪ Gender
	  ▪ Male
	  ▪ Female
	  ▪ Other
	▪ Institutional Country Affiliations
	▪ Nationalities
	D. <u>Participants in Community-Building Events</u>
	Participants (totals)
	▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP
	▪ Sector
	  ▪ Academia
	  ▪ Industry
	▪ Career Stage
	  ▪ Established Researcher
	  ▪ Postdoctoral Researcher
	  ▪ Doctoral Student
	  ▪ Postgraduate Student
	  ▪ Undergraduate Student
	▪ Gender
	  ▪ Male
	  ▪ Female
	  ▪ Other
	▪ Institutional Country Affiliations
	▪ Nationalities

	E. <u>Participants in Public Outreach Events</u>
	Participants (totals)
	▪ ELI Facility
	  ▪ ELI ALPS
	  ▪ ELI Beamlines
	  ▪ ELI NP

Performance Targets	**N/A**

SOCIO-ECONOMIC IMPACT MONITORING AREA # 19	ECONOMIC DEVELOPMENT Fostering the Advancement of a Knowledge-Based Economy
Definition	**SEIM Area No. 19 is designed to monitor and evaluate ELI ERIC's contribution to economic development. It focuses on the Organisation's economic impact in its capacity as a research infrastructure operator, encompassing its roles as an employer, a procurer of goods and services essential for ELI's operations, and a provider of R&I and other complementary services. The assessment is structured to employ an input/output analytical approach, tracing how resources invested in ELI ERIC (≈ inputs), such as financial investments and human capital, translate into measurable outputs, including employment, contracts awarded, and the production and valorisation of knowledge. These outputs are subsequently analysed to determine their direct and indirect contributions to economic growth. Taken together, these efforts aim to provide a comprehensive overview of ELI ERIC's broader economic influence and its role in catalysing economic progress.**
	Although ELI ERIC's economic activities are inherently limited by the legal framework that governs its operations, the Organisation makes significant contribution to economic development through its diverse roles and functions, both directly and indirectly. This SEIM Area is therefore dedicated to monitoring and evaluating **ELI ERIC's contribution to economic growth**. Firstly, this contribution stems from ELI ERIC's role as the operator of cutting-edge research infrastructure, which necessitates a highly skilled workforce in knowledge-intensive domains and a substantial supply of goods and services, many of which demand advanced R&I and high-tech solutions. Building on this framework, the SEIM Area seeks to evaluate **the economic impact of ELI ERIC as an employer, driving job creation** across highly skilled roles in scientific, engineering, technical, and administrative sectors. Furthermore, it aims to examine **ELI ERIC's economic impact as a customer, procuring a wide range of goods and services** essential for the seamless operations of the ELI Facilities, thereby influencing the turnover, profitability, and business development of its suppliers.

	In this context, particular emphasis is placed on monitoring the impact of developing tailored experimental instruments and specialised technical resources – custom-designed goods and services that, while meeting ELI's specific requirements, also stimulate market development by enhancing the diversity and sophistication of available technological solutions, thereby strengthening the broader innovation landscape. Beyond its fundamental operational roles, ELI ERIC's contribution to economic development is rooted in its function as a knowledge and innovation hub, where new scientific insights are generated and intellectual property assets are valorised and commercialised. In this regard, the SEIM Area plans to study **ELI ERIC's economic impact in its capacity as an innovation driver, focusing on how effectively it translates scientific discoveries into market-ready solutions** and supports their commercialisation for market entry. Additionally, given that a significant proportion of ELI's scientific output is produced by its external users, another key focus of this SEIM Area is to evaluate how these R&I communities employ the new findings facilitated by ELI to promote business development. To this end, the SEIM Area tracks **ELI ERIC's economic impact by monitoring how scientific discoveries achieved by ELI users are translated into commercially viable solutions** and how these are utilised to stimulate business growth. While the specific factors outlined above capture some of the key dimensions of ELI ERIC's economic contribution, **a comprehensive assessment requires the application of a multi-method analytical approach – incorporating, among others, input/output analysis – to fully understand the Organisation's broader economic impact**. Such an approach enables a holistic assessment of how ELI ERIC's resources and activities are translated into measurable economic outputs that catalyse broader economic advancement.
	This SEIM Area is closely linked to PM Area No. 12, which focuses on ELI ERIC's role as an employer, and PM Areas No. 9, 10, and 11, which track the supply chains supporting the operations of the ELI Facilities and their development in both experimental capabilities and infrastructure. **In this context, the activities monitored under these PM Areas provide the foundation for assessing the broader economic impact of ELI ERIC, as addressed within this SEIM Area**.

	Furthermore, due to the strong connection between economic and regional development – driven by similar factors – insights from SEIM Area No. 20 offer additional context for monitoring ELI ERIC's economic impact, as assessed under this SEIM Area.
Rationale	Assessing ELI's contribution to economic development is essential for capturing its **broader socio-economic impact**, particularly given that its implementation phase was financed through public funds, with an expectation of return on investment manifested through increased economic growth and enhanced societal well-being. A favourable assessment of ELI's economic impact would establish a benchmark, demonstrating **how public investments in state-of-the-art research infrastructures and R&I more broadly can drive economic growth and advance societal well-being**. Monitoring ELI ERIC's role as an employer offers valuable insights into **the Organisation's contribution to job creation and how its salary structure aligns with broader labour market benchmarks**. Evaluating the impact of industrial partners' engagement in ELI ERIC's procurement on their turnover and profitability provides an understanding of **the Organisation's role in driving business development of its suppliers**. Investigating the impact of developing ELI's tailored scientific equipment and other technical resources on broader market growth underscores **the Organisation's role in advancing the wider innovation ecosystem and high-value manufacturing**. Analysing the results of the commercialisation of intellectual property assets generated at ELI and their catalytic effect on business development, reveals **ELI ERIC's impact on shaping existing markets and creating new market opportunities**.
Assumptions	As a world-leading research infrastructure in laser science, dedicated to developing cutting-edge scientific equipment, and as a resource-demanding facility, strongly committed to optimising operational efficiency, **ELI is uniquely positioned to drive innovation, delivering significant economic impact**. **A comprehensive assessment of ELI ERIC's impact on economic development requires a customised methodological framework, underpinned by an input/output analytical model**, to effectively capture the Organisation's wider economic influence.

	In the area of procurement, **assessing the impact of participation in ELI ERIC's procurement activities on the business development of its key suppliers would facilitate a clearer understanding of the Organisation's contribution to supplier growth**. As it is unlikely that industrial companies will disclose detailed information on how their engagement in ELI ERIC's procurement influenced the advancement of their product portfolios, customer acquisition, market expansion, overall business performance, and international competitiveness, such perspectives will need to be gathered through surveys and interviews with companies that voluntarily agree to participate. **In light of the establishment of Special Purpose Vehicles (SPVs) in Czechia and Hungary as subsidiary companies supporting the Organisation's commercial activities, the evaluation of ELI ERIC's economic impact will focus particularly on the performance and contributions of these SPVs**, which have been specifically created to advance these strategic objectives.
ELI ERIC Policy Reference Framework	**ELI ERIC Employment Policy** **ELI ERIC Procurement Policy and Procurement Rules** **ELI ERIC Innovation and Industry Policy**
Data Collection Responsibility	**Consistent with the responsibilities outlined in the PM Reference Sheets, which guide the collection of primary data and contextual information within the relevant PM Areas, laying the foundation for the assessment within this SEIM Area**.
Data Parameters	**Consistent with the data parameters outlined in the PM Reference Sheets, which guide the collection of primary data and contextual information within the relevant PM Areas, laying the foundation for the assessment within this SEIM Area**.
Performance Targets	**N/A**

SOCIO-ECONOMIC IMPACT MONITORING AREA # 20	REGIONAL DEVELOPMENT Catalysing Regional Growth for Social Wellbeing and Economic Prosperity
Definition	**SEIM Area No. 20 is dedicated to monitoring and assessing ELI's impact on regional development. While the primary focus is on examining ELI's role in catalysing socio-economic progress in the regions hosting the ELI Facilities, the analysis may also extend to non-host regions that are home to key ELI collaborators, should ELI's contributions to those regions be considered significant. To achieve the assessment objectives, special emphasis is placed on analysing ELI's role in the development of civil infrastructure and business ecosystems. Moreover, the SEIM Area aims to track ELI's influence in establishing science and technology parks, attracting new investments, and driving industrial growth. Together, these efforts provide critical insights into how investments in ELI drive regional development, enhance economic prosperity, and foster societal wellbeing.**
	ELI's contribution to regional development is grounded in its status as a research infrastructure established with financial support from EU Cohesion Policy Funds. Regional development constitutes a core strategic objective of the initiative, aimed at promoting sustainable growth, reducing regional disparities across Europe, and enhancing R&I performance in the host regions of the ELI Facilities. Building on this foundation, this SEIM Area is designed to monitor **the socio-economic impact of ELI on the regions hosting the ELI Facilities in Czechia, Hungary, and Romania, while also assessing ELI's capacity to contribute to the socio-economic development of other regions**, where key R&I collaborators and partners of ELI ERIC are based, potentially catalysing growth even in the absence of a local ELI Facility. In this context, the primary objective of this SEIM Area is to assess **the societal and economic growth driven by ELI at the sites of the ELI Facilities and in their surrounding regions**. This encompasses the development of civil infrastructure and business ecosystems, such as energy supply, public transportation, residential housing, education, healthcare, consumer services, and recreational and entertainment sectors.

	In addition, the SEIM Area aims to analyse **ELI's role in attracting investments for new business ventures** in the vicinity of the ELI Facilities, thereby supporting the establishment of new industrial sites, as well as **ELI's contribution to the development of regional science and technology clusters**, engaging both public and private R&I stakeholders in knowledge and innovation hubs. In summary, the overarching objective of this SEIM Area is to study **the role of ELI in driving transformative socio-economic progress within the regions hosting the ELI Facilities**. This includes analysing how ELI's activities affect the structural dynamics of local economies and promote societal wellbeing and economic prosperity. In addition, considering the potential for these impacts to extend beyond host regions of the ELI Facilities, this SEIM Area may also assess **ELI's socio-economic contributions in other geographical locations**.
	This SEIM Area is closely linked to SEIM Area No. 19, which is focused on monitoring ELI's broader contributions to economic development. **While SEIM Area No. 19 adopts a general approach, this SEIM Area specifically evaluates the regional dimensions of ELI's impact**. **It prioritises the assessment of ELI's role in regional growth within the framework of EU Cohesion Policy, analysing the effectiveness with which ELI addresses regional disparities and promotes more balanced and inclusive development across Europe**. **Collectively, these SEIM Areas provide a comprehensive analysis of ELI's economic impact, integrating both regional and broader perspectives**.
Rationale	Monitoring ELI's contributions to regional development is essential for assessing its broader socio-economic impact, particularly in light of ELI's implementation that was primarily supported by investment through EU Cohesion Policy Funds. Accordingly, advancing regional development remains a key strategic objective of ELI, reflecting its commitment to enhancing societal wellbeing, fostering economic prosperity, and elevating the standard of living in the host regions of the ELI Facilities. In this context, analysing ELI's contributions to regional development provides critical insights into its **capacity to support the broader objectives of EU Cohesion Policy, extending beyond the primary focus of ELI's R&I mission and reinforcing its role as a driving force for regional growth and transformation**.

	Evaluating ELI's impact on socio-economic growth at the sites of the ELI Facilities and in their surrounding regions is essential for gaining a comprehensive understanding of **the effectiveness of public investment in research infrastructure as a catalyst for regional development**. A positive evaluation of ELI's impact could serve as a benchmark, demonstrating how such R&I initiatives can effectively drive regional growth by fostering a knowledge-based society and economy, firmly anchored in the establishment and operation of state-of-the-art research infrastructure.
Assumptions	With a significant investment totalling hundreds of millions of euros for the establishment of the ELI Facilities, complemented by annual operating costs in the tens of millions, the ELI initiative is set to rank among the leading – if not the foremost – public R&I investments in the regions hosting the ELI Facilities. Consequently, **the ELI Facilities are expected to serve as a primary driving force – if not the leading one – behind societal and economic development in their locations**. **Given the scientific and technological scope of ELI, it is expected to play a central and unifying role in the development of regional science and technology clusters**, bringing together both public and private R&I stakeholders, and facilitating their collaboration within knowledge and innovation hubs. **Considering ELI's status as a world-leading research infrastructure in laser science, its collaboration with international suppliers, and its service to global user communities, its impact is anticipated to extend well beyond the immediate geographical locations of the ELI Facilities and their host regions**. Consequently, assessing ELI's role as a catalyst for socio-economic development in the regions hosting key R&I collaborators and partners of ELI ERIC may be of particular interest, even in the absence of a local ELI Facility. **This consideration is of particular importance for the Organisation's non-Host Member Countries, seeking to ensure a substantive socio-economic return on their investment in ELI**. **The analysis of ELI's impact on regional development requires a tailored methodological approach**. This approach should focus on examining both the direct and indirect contributions of ELI to various dimensions of socio-economic growth at the ELI Facility sites and their surrounding regions. This necessitates integrating internal data on ELI ERIC's operations with relevant information from local and regional authorities and macro-economic data.

ELI ERIC Policy Reference Framework	**N/A**
Data Collection Responsibility	**Consistent with the responsibilities outlined in the PM Reference Sheets, which guide the collection of primary data and contextual information within the relevant PM Areas, laying the foundation for the assessment within this SEIM Area**.
Data Parameters	**Assessing ELI's Impact on Regional Development** ▪ Primary data and contextual information required for assessing ELI's contribution to regional development will be derived from databases and supplementary information sources established within the framework of the relevant PM Areas, which support the monitoring and evaluation under this SEIM Area ▪ Additionally, contributions from local and regional public authorities at the ELI Facility locations will be integrated, providing additional insights to support the assessment ▪ To complement this, relevant macro-economic data will also be integrated to ensure a comprehensive analytical approach that captures the diverse dimensions of regional development driven by ELI
Performance Targets	**N/A**