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## Ensuring azure cloud services with Microsoft on-premise solution for ELI ERIC

**TP24\_027**

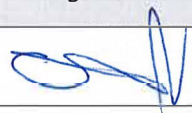


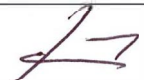

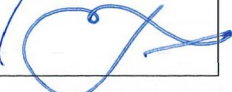



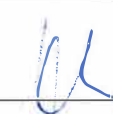
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## 1. Introduction

ELI ERIC (Extreme Light Infrastructure ERIC) is an international research consortium that focuses on the development and exploitation of the world's most intense laser technologies. ELI ERIC provides scientific teams from around the world with access to unique laser facilities and supports pioneering research in a variety of fields including physics, materials science, biomedicine and laboratory astrophysics.

ELI Beamlines is one of the main centres of ELI ERIC, located in Dolní Břežany near Prague. ELI Beamlines specializes in the development and operation of the most intense laser systems that enable scientists to conduct research at the cutting edge. The centre employs more than 330 experts from more than 30 countries around the world.

ELI ERIC needs to improve the efficiency, availability and scalability of IT systems by moving to a hybrid infrastructure. Emphasis is also placed on cyber security in line with current legislation and the forthcoming changes resulting from the NIS2 directive, including measures and recommendations issued by the National Cyber and Information Security Agency (Národní úřad pro kybernetickou a informační bezpečnost).

### Current IT infrastructure:

- On-premise servers and data centres: Currently, key IT systems and services are primarily run on physical servers located in data centres managed by in-house IT teams. These servers run applications, databases and critical systems for scientific research, data processing and management of the organization.
- Virtualization: part of the infrastructure is virtualized using traditional hypervisors, allowing multiple systems to run on the same physical hardware. This approach provides some flexibility but does not allow for dynamic scaling based on actual needs.
- Security measures: Current security measures include firewalls, antivirus programs and data encryption, but are not centralized and automated. Data backups and restores are performed using local backup solutions, which do not always provide sufficient protection in case of catastrophic events.
- Connectivity and network infrastructure: Connectivity between servers, data centres and users is provided by local area networks (LANs) and dedicated Internet lines. Remote access to systems and services is enabled through VPN solutions.
- Application layers and tools: The applications and scientific tools used are often installed natively on local servers or on researchers' personal computers. This approach limits the ability to share computing resources and remotely access applications.
- Management and maintenance: Internal IT teams provide all management and maintenance of the IT infrastructure, which requires significant human resources and time, especially when it comes to performance monitoring, deploying updates and dealing with outages.

### 1.1. Overview of the project objectives and expected benefits

- **Improved service availability:** Cloud-based solutions enable better system availability even during peak usage and critical events.
- **Scalability:** Dynamic ability to scale IT resources according to actual need.
- **Security:** Ensuring a higher level of data and system security than is possible with an on-premises solution.
- **Cost-effectiveness:** Cost optimization through the ability to pay only for services used.
- **Simplify administration:** Centralize and automate the management of the IT environment.

## 1.2. Purpose

This Requirements Specification Document (hereafter RSD) lists the technical requirements and constraints for the required service under the ELI Beamlines facility. The RSD also acts as the parent document for the documentation listed in the Reference Documents in Reference Directory **RD-01**.

## 1.3. Subject

The subject matter of the contract is **the transition of ELI ERIC and ELI Beamlines infrastructure to a hybrid cloud solution** (hereinafter referred to as "**Service**"). The requirements for the required service are specified in the subsequent text of this RSD and the documentation listed in the reference directory **RD-01**. The internal tender number is **TP24\_027**.

## 1.4. Terms, Definitions and Abbreviations

For the purpose of this document, the following abbreviated terms are applied:

| Abbreviation   | Meaning   |
|----------------|---|
| Client         | The Extreme Light Infrastructure ERIC                               |
| ELI            | Extreme Light Infrastructure  |
| IaaS           | Infrastructure as a Service   |
| IT (ICT)       | Information Technology (Information and Communication Technologies) |
| MECM           | Microsoft Endpoint Configuration Manager                            |
| NCR            | Nonconformity Report  |
| NIS2 directive | Network and Information Systems (2022) directive                    |
| PaaS           | Platform as a Service   |
| RAP            | Risk Assessment Program   |
| RD             | Reference Document  |
| RSD            | Requirements Specification Document                                 |
| SaaS           | Software as a Service   |
| SLA            | Service-Level Agreement   |
| VDI            | Virtual Desktop Infrastructure                                      |

## 1.5. Reference documents

| Reference Directory | Contained documents               |
|---------------------|-----------------------------------|
| <b>RD-01</b>        | 40271107-A_Azure_RACI_matrix.xlsx |



## 2. General requirements

REQ-402701/A

Implementation of cloud services (IaaS, PaaS, SaaS) according to the Client's needs and activities defined in the RACI matrix (see **RD-01** in chapter 1.4).

*NOTE: The detailed list of activities and technical solutions will be prepared by the Provider jointly with the Client during the analysis and design stage of the respective contact phase (see Chapter 5.2).*

REQ-402702/A

The Provider shall perform the migration of existing IT infrastructure and applications to the cloud solution, ensuring measurable improvements in IT systems performance (e.g., response time, scalability), resource efficiency (e.g., optimized costs, lower resource usage), and operational productivity (e.g., faster deployment cycles, enhanced automation and system capabilities).

REQ-402703/A

The Provider shall ensure the security of the provided service and compliance with EU legislation (e.g. GDPR, NIS2).

REQ-402704/A

The Provider shall support and maintain the cloud solution after its implementation.

## 3. Technical requirements for the implementation of services

REQ-402705/A

The Provider shall design and configure the EntraID for the **eli-laser.eu** domain:

- EntraID (Provider);
- Active directory (internal team in collaboration with the Provider);
- AD/EntraID synchronization (internal team in collaboration with the vendor).

REQ-402706/A

The Provider shall conduct modification and configuration of EntraID on the **eli-beams.eu** domain:

- EntraID (Provider);
- Active directory (internal team in cooperation with the Provider);
- AD/EntraID synchronization (internal team in cooperation with the Provider).

REQ-402707/A

The Provider shall perform the M365 integration for the **eli-laser.eu** domain.

REQ-402708/A

The Provider shall perform modification of the M365 for the **eli-beams.eu** domain.

REQ-402709/A

The Provider shall set up networking for tenant **eli-laser.eu** by conducting the following activities:

- Analysis, design, plan, preparation;
- Connecting to Azure;
- Security Policy and Integration.

REQ-402710/A

The Provider shall set up networking for tenant **eli-beams.eu** by conducting the following activities:

- Analysis, design, plan, preparation;
- Connecting to Azure;
- Security Policy and Integration.

REQ-402711/A

The Provider shall ensure the integration of Monitoring into the environment.

REQ-402712/A

The Provider shall ensure integration of Logging into the environment.

REQ-402713/A

The Provider shall design and configure the Azure VDI (Azure Virtual desktop) for the **eli-laser.eu** environment.

REQ-402714/A

The Provider shall design and configure the Azure VDI (Azure Virtual desktop) for the **eli-beams.eu** environment.

REQ-402715/A

The implemented solution (environment) shall comply with current EU and CZ legislation, especially in the area of cyber security and GDPR and the measures issued by NUKIB (Czech National Cyber and Information Security Agency), including preparation for new legislation related to NIS2 and the upcoming Cyber Law.

REQ-402716/A

The Provider shall set up multi-factor authentication, including the use of existing third-party solutions.

REQ-402717/A

The Provider shall elaborate on the Concept of Environmental Governance and propose the governance model of the environment.

REQ-402718/A

The Provider shall elaborate on the Exit Strategy.

REQ-402719/A

The Provider shall conduct deployment of the Intune tool in cooperative mode with the existing MECM for management of domain and non-domain devices and mobiles on Android and Apple platforms with their full and partial management.

REQ-402720/A

The Provider shall set up Defender for deploying and centrally managing non-domain devices and mobiles.

## 4. Support and Maintenance requirements

REQ-402721/A

As a part of the delivered service, the Provider shall ensure the provision of service and technical support of the solution, regular prophylaxis, operation and development of the Education Portal and regular consultations for 3 (+1) years from the launch of the first stage into production operation (deployment of the first tool):

- a) guarantee of response time and incident resolution up to the level of restoring functionality to its original state;
- b) reporting of requests in the Provider's ServiceDesk in 5 x 8 mode (see also REQ-402722/A);
- c) regular administrator consultations of 3 hours per quarter;
- d) regular key user consultations of 3 hours per quarter;
- e) unused hours within the period can be used up within one year of the period;
- f) regular monthly prophylaxis of the solution, prophylaxis immediately after a significant change in the solution;
- g) SLA response: A critical - 2 hrs / B severe - 4 hrs / C low- 8 hrs;
- h) in case of A criticality or in case of product error, the Provider shall immediately arrange escalation to the manufacturer's support (Microsoft) and provide the Client with the request number as proof of escalation;
- i) operation, development and service support;
- j) regular quarterly report of support usage and incidents resolved (part of the invoice);
- k) modification of the Actual Implementation Documentation in case of significant changes.

REQ-402722/A

The Provider shall be able to provide the ServiceDesk for:

- a) reactive technical support with the possibility of escalation to Microsoft;
- b) orders for proactive services from Microsoft's catalogue of proactive services (Risk Assessments RAP as a Service for AD and RAP as a Service for Security, WorkshopPlus training);
- c) expert advice;
- d) professional and licensing consultancy support related to the Microsoft environment;
- e) technical support usage reporting.

## 5. Quality requirements of delivered services

### 5.1. General quality requirements

REQ-402723/A

For monitoring and controlling the progress of the Service, the Provider shall provide the final binding implementation schedule to the Client within 2 weeks from the conclusion of the contract. The final implementation schedule shall be drawn up to such an extent that it shows when all activities will be carried out, including the date of their completion (see REQ-402701/A).



## REQ-402724/A

The Provider shall supply documentation for the handover of the service in the following scope:

- presentation and training materials;
- technical documentation for each contract phase specified in milestones below (see Chapter 5.2).

The documentation shall contain all necessary instructions and descriptions regarding the procedures for the deployment, safe operation and maintenance of the implemented solution (e.g. monitoring, control, managing, troubleshooting and recovery).

*NOTE: The scope and content of the documentation shall be agreed with the CA.*

## REQ-402725/A

The Provider shall provide a Declaration of Conformity for the implemented solution (see REQ-402715/A). This declaration shall declare compliance in part with:

- Regulation EU No. 2016/679 (zákon No. 110/2019 Sb.), on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, as amended.
- Directive EU No. 2016/1148 and Regulation EU No. 2019/881 (zákon č. 181/2014 Sb.), on Cybersecurity, as amended.
- The other relevant EU/EC regulations and ISO standards if applicable or required by the relevant regulations and this RSD.

*NOTE: The Client reserves the right to verify, if necessary, the Provider's methods and processes within the scope of the provided service for compliance with the laws above.*

## REQ-402726/A

The Provider shall have an established non-conformance process compatible with ISO 9001. The basic application shall contain defining and identifying the non-conformance and its root cause and defining and managing the corrective actions.

*NOTE: This requirement doesn't require ISO 9001 certification.*

## 5.2. Phasing of the delivery

This chapter is intended to briefly summarize the basic milestones of three contract phases: **EntraID** (Phase 1), **Landing zone** (Phase 2) and **VDI** (Phase 3). These milestones represent gates (checkpoints) where the quality of the delivered service for each contract phase is to be evaluated.

The delivered service shall not proceed past these gates unless their satisfactory accomplishment is approved by the Client. Therefore, the delivery lifecycle shall contain at least the following stages (quality gates):

1. Service work addressing to fulfil requirements of the relevant milestone;
2. Verification of the completed stage jointly by the Contactor and Client;
3. Validation and Approval of the completed stage by the Client;
4. Acceptance of the phase by the Client (in case of successful fulfilment of all stages/ milestones).

REQ-402727/A

Each Contract phase shall be progressively fulfilled by the Provider in the following milestones:

- i. Analysis and creation of the Implementation Documentation of the respective phase, inclusion of data and identity lifecycle issues (the Client uses an identity management system), process setup, security assessment (technical and process measures),
- ii. implementation of the relevant phase in pilot operation,
- iii. successful execution of acceptance tests of the relevant phase,
- iv. implementation of the relevant phase in full operation,
- v. submission of the Documentation of the actual implementation of the relevant phase according to the document structure of the ICT Project Implementation Documentation, Administrator's Guide, and Disaster Recovery Plan.

REQ-402728/A

The results of the functional and performance acceptance tests executed on the Service during the realisation of each contract phase shall be documented by the Provider in the appropriate Acceptance Test Reports.

### 5.3. Acceptance of the delivered service (phase)

Acceptance is carried out by the Client. In case of successful acceptance (fulfilment of the requirement REQ-402729/A), the Client will provide the Provider with a signed acceptance protocol. In the event of an unsuccessful acceptance of the phase or approval of the completed stage (milestone), the Client will provide a Nonconformity Report (NCR) to the Provider and the process in accordance with REQ-402726/A shall be applied.

REQ-402729/A

The Client signs the handover (acceptance) protocol for the relevant contract phase if:

- 1) The conducted Service conforms to all requirements specified hereinbefore;
- 2) The Service has been successfully verified by the Provider and the results of this process have been documented properly in the Acceptance Test Report (REQ-402728/A);
- 3) All milestones defined in REQ-402727/A are met;
- 4) All detected nonconformities have been solved in accordance with REQ-402726/A;
- 5) The delivered service is free of production errors and is ready for the intended operational use.