

Charge letter to ISAC 2021

Version: 0.1

1 INTRODUCTION

The main activities of the ELI Beamlines Facility in 2021 were to meet the following objectives: (a) improve capabilities for users on the four, L1 laser-supported experimental, stations in E1 hall with a specific focus on high-intensity experiments; (b) complete ELIMAIA and P3 commissioning using L3 HAPLS laser and make this capacity available for users; (c) start commissioning of the experimental chain using kJ laser L4n in experimental chamber P3. ELI Beamlines gained great experience during several commissioning campaigns, which enabled to verify experimental set-ups, beam transport, DAQ, control and safety system and also helped to identify issues with L3 HAPLS laser pre-pulses. These were significantly suppressed, and the commissioning campaigns restarted. In terms of readiness for the user program, there was thus a delay in the anticipated order of 3-6 months.

On the organizational side, integration into the newly formed ELI ERIC has started. With the support of the IMPULSE project, the basic processes for supporting the operation of ELI Beamlines through funding from ELI ERIC in the coming years have been kick-started, as well as cooperation with ELI ALPS and ELI NP in important areas where standardization of procedures is required.

The ISAC will be presented with the detailed status of the main experimental chains, the readiness for the user program in 2022 and the medium-term perspective of the critical activities.

2 QUESTIONS FOR ISAC

A) Facility status and user program

1. Provide recommendations on the Facility status regarding (a) L1-E1, (b) L3-ELIMAIA, (c) L3-P3 experimental chains. Consider laser performance, diagnostics, foreseen uptime, resources available to support users.
2. Provide recommendations on the staging plan for commissioning and user operation in 2022 for (a) ELIMAIA and ELIMED, (b) SFL and LFL in P3 experimental station, (c) experiments in P3 using the L4n laser beam and (d) E1 hall program.
3. Provide recommendations on the Plan of Operations with respect to beamtime allocation for user program/experiments and optimizing the performance of laser systems.

B) Mid-term Plan

4. Provide recommendations on the proposed areas and capabilities for flagship experiments design for IMPULSE project with respect to (a) the uniqueness of the proposed capabilities and (b) the potential to attract flagship experiments that will be able to demonstrate the fulfilment of the ELI Beamlines mission as the leading laser facility.
5. Provide recommendation for downselection of 2-3 topics to be supported from the IMPULSE project.

6. Provide recommendations to meet the main goals of the ADONIS and HiFi project in the perspective of the Facility priorities.
- C) Long-term strategy
7. Provide recommendations on strategic initiatives to develop new ELI Beamlines capabilities and long-term international cooperation.