ELI NP status and challenges

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The dual 10 PW lasers at ELI NP, supported by well-equipped experimental areas, provide the user community with privileged access to a versatile laser system capable of delivering up to 250 J of energy over 25 fs or longer pulse durations. This enables intensities of approximately 10^{23} W/cm² on target, with a repetition rate of one shot per minute. This unique European facility has been designed to support groundbreaking discoveries in nuclear physics, high-field physics, and plasma science, as well as applications in medicine, biology, and security.

I will summarize the construction phase of the facility, its transition from the commissioning of the laser and experimental areas to its opening to the user community. After reviewing the current status of the facility, I will highlight the recent breakthroughs it has enabled. This will be followed by a discussion of the scientific direction for the next two years, focusing on new opportunities in particle acceleration and the exploration of strong-field quantum electrodynamics (SF QED).