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EuPRAXIA project and the UK plan to develop a centre for applications EuPRAXIA beamlines

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EuPRAXIA is the first European project that develops a dedicated accelerator research infrastructure based on novel plasma concepts and laser technology. The aim is to construct electron accelerators with beam energy of 1 to 5 GeV, a significantly improved beam quality and demonstrated benefit in size and cost when compared to RF technology. EuPRAXIA accelerators will enable versatile applications in various domains e.g. compact FEL, compact medical imaging, a compact positron source, test beams for particle detectors and highly mobile, deeply penetrating X-ray sources for material testing, as well as development of new sources for applications such as plasma undulators and attosecond radiation.

The Central Laser Facility CLF (Rutherford Appleton Laboratory), the CLARA facility at Daresbury (Cockcroft Institute), the SCAPA facility in Glasgow (University of Strathclyde), together with several UK universities combine unique expertise in plasma accelerators. Coordinated by Plasma Wakefield Accelerator Steering Committee (<http://pwasc.org.uk>), the UK-based EuPRAXIA consortium plan to design, prototype and develop application beamlines, and play a major role in delivering them. Furthermore, if funded, Extreme Photonic Application Centre (EPAC) at CLF will transform the UK infrastructure with the focus on applications and high repetition rate accelerator operation.

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