

Synergies of the required LHeC R&D efforts with other existing projects

➤ ***LHC Upgrades and SLHC:***

→ Low beta collision optics, compact high field quadrupole magnets at IP(?), crossing angle and “crab cavities”

➤ ***Superconducting CW and Pulsed Linac R&D for SPL and ILC***

→ Gradients, cost optimization, infrastructure layout

➤ ***Polarised Electron and Positron Source development for ILC, CLIC***

➤ ***Re-evaluation of the entire injector complex of CERN (PS2, SPL, SPS) for “Robustness”, “Energy Savings” and “Re-optimized Spatial Configuration”:***

→ PS2 and SPS: superconducting, cryogenic conversion to reduce electric power bill (100MW out of 200MW installed power consumed by SPS!!!).

➤ ***Energy Recovery between RF and particles being studied at BNL (eRHIC), Cornell (ERL), JLab (CEBAF, 12 GeV, FEL), Cockcroft Institute (ALICE)***

➤ ***Super B (?) beam dynamics and IP***

➤ ***HIE-ISOLDE SC Linac development Heavy Ions for Nuclear Physics***