

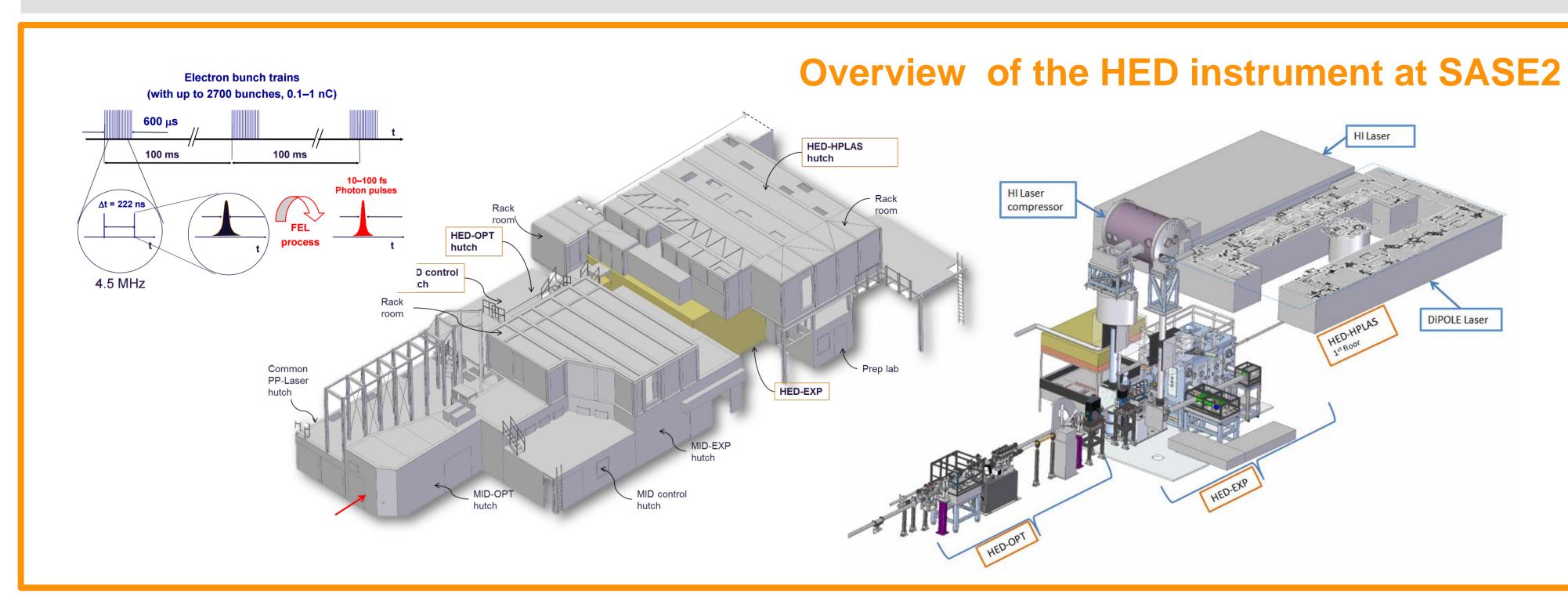
Realisation of the Infrastructure to fulfil the Scientific Requirements of the HED instrument

A. Schmidt, E. Boyd, K. Appel, S. Cunis, M. Nakatsutsumi, G. Priebe, I. Thorpe, G. Wellenreuther, U. Zastrau European XFEL GmbH, Schenefeld, Germany

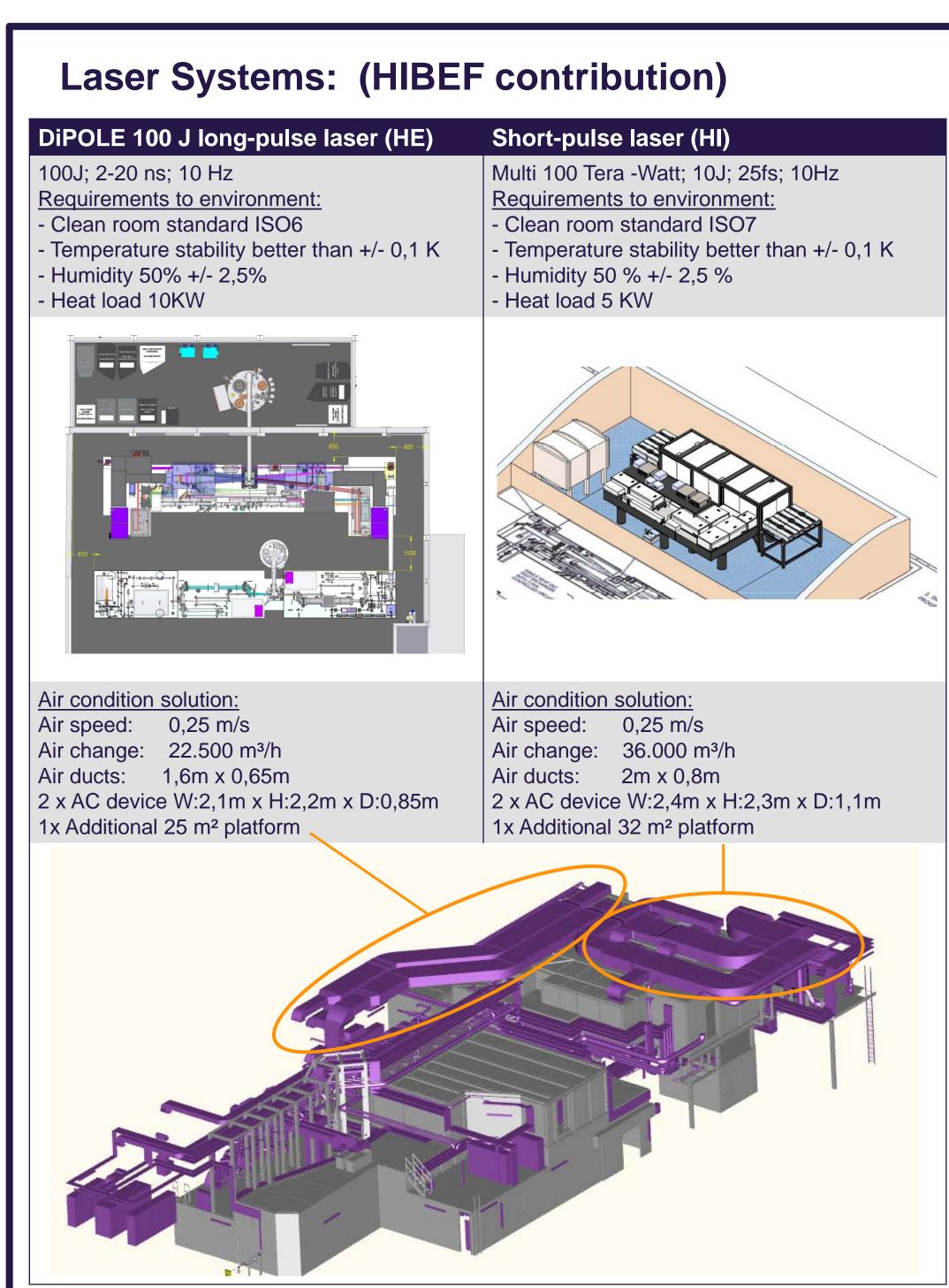
C. Baehtz, A. Ferrari

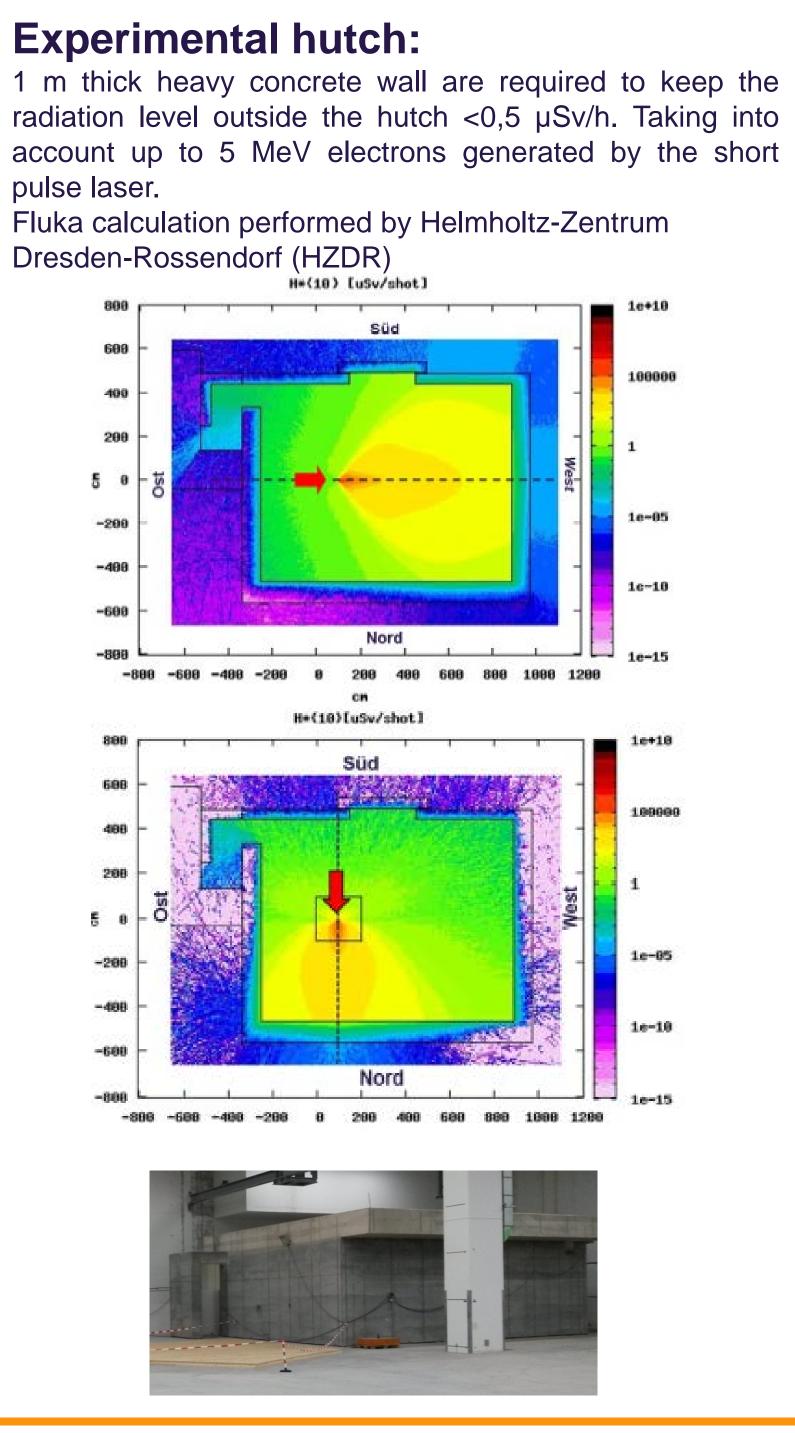
Helmholtz-Zentrum Dresden-Rossendorf, Germany

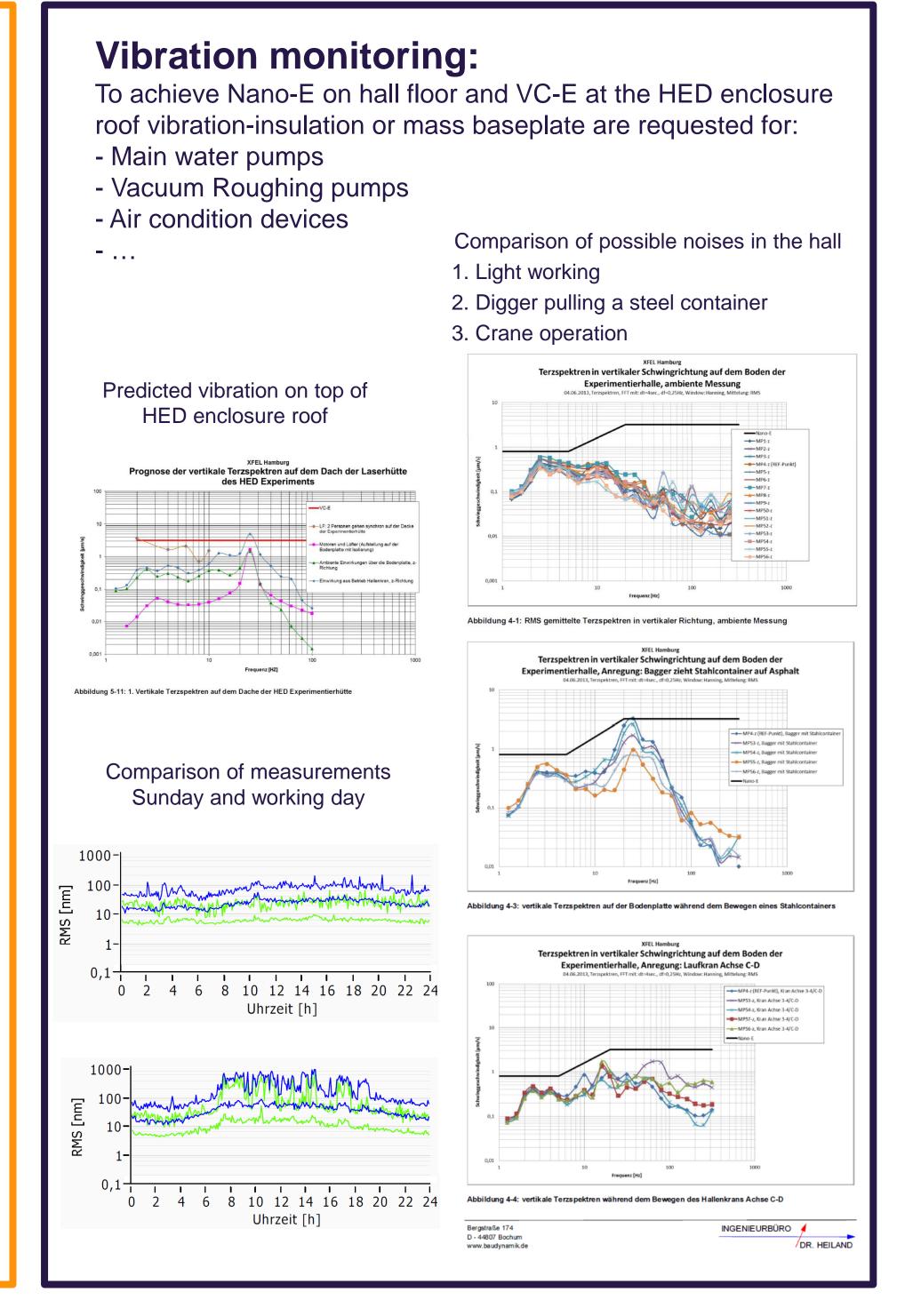
Abstract The High Energy Density (HED) instrument is one out of six end-stations currently being constructed at the European XFEL GmbH. One of the scientific fields is the investigation of extreme high energy density states driven by high-energy and high-intensity lasers at a repetition rate of up to 10 Hz. To operate the laser systems and align the laser pulses with the X-ray pulses strong requirements to the environment like temperature stability and low vibrations are requested. The laser induced radiation requires heavy concrete shielding and also has influences to the layout of the interaction chamber. A second interaction area is prepared for further scientific set-ups that cannot be hosted in the main interaction chamber provided by external scientific groups e.g. the HIBEF user consortium.

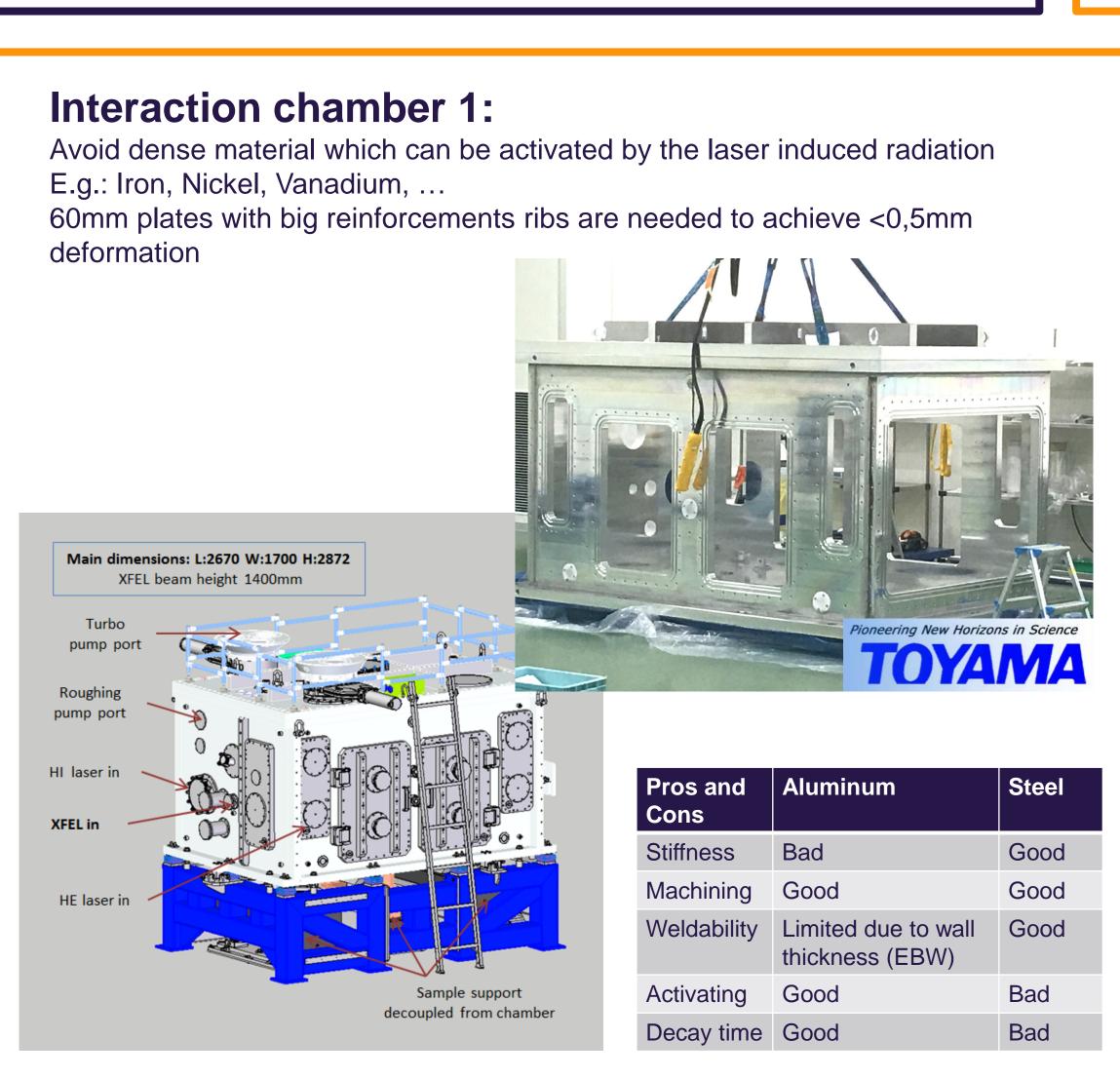


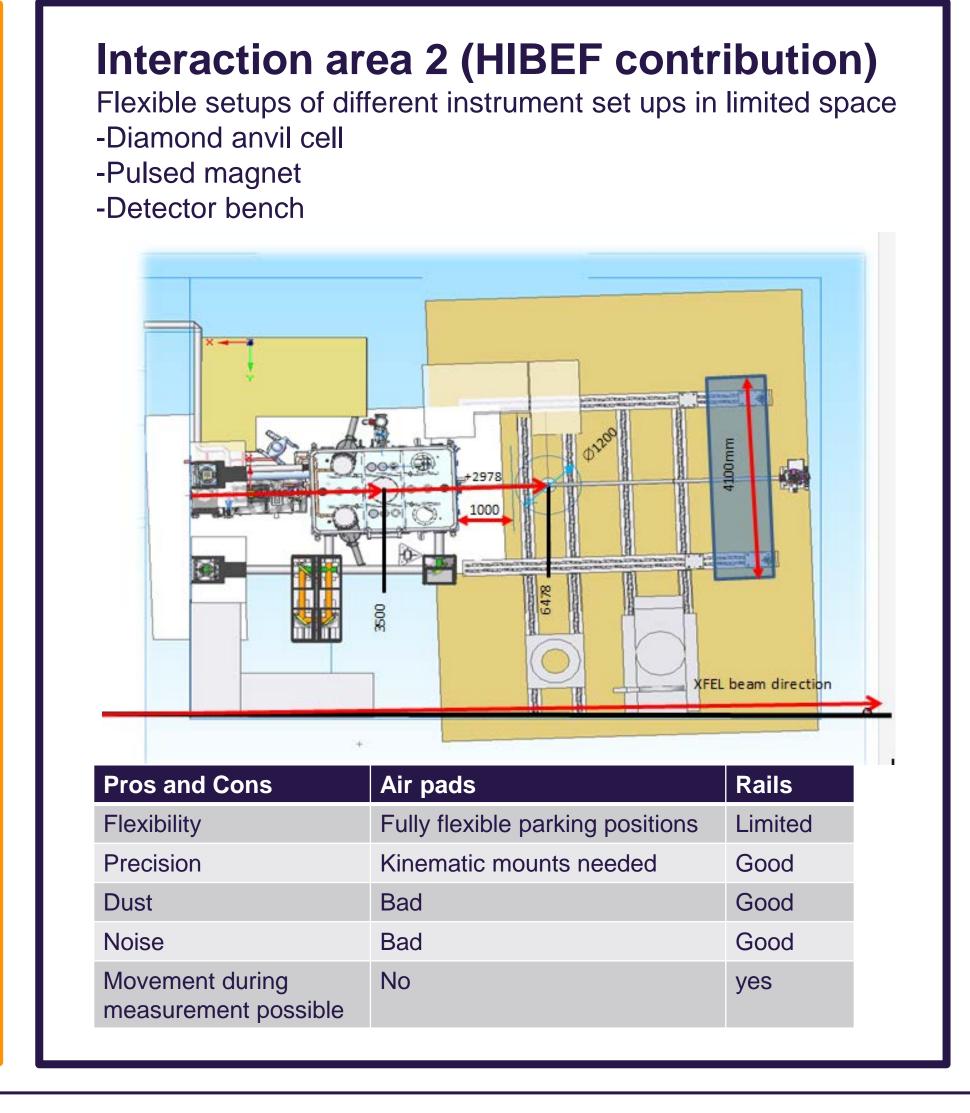


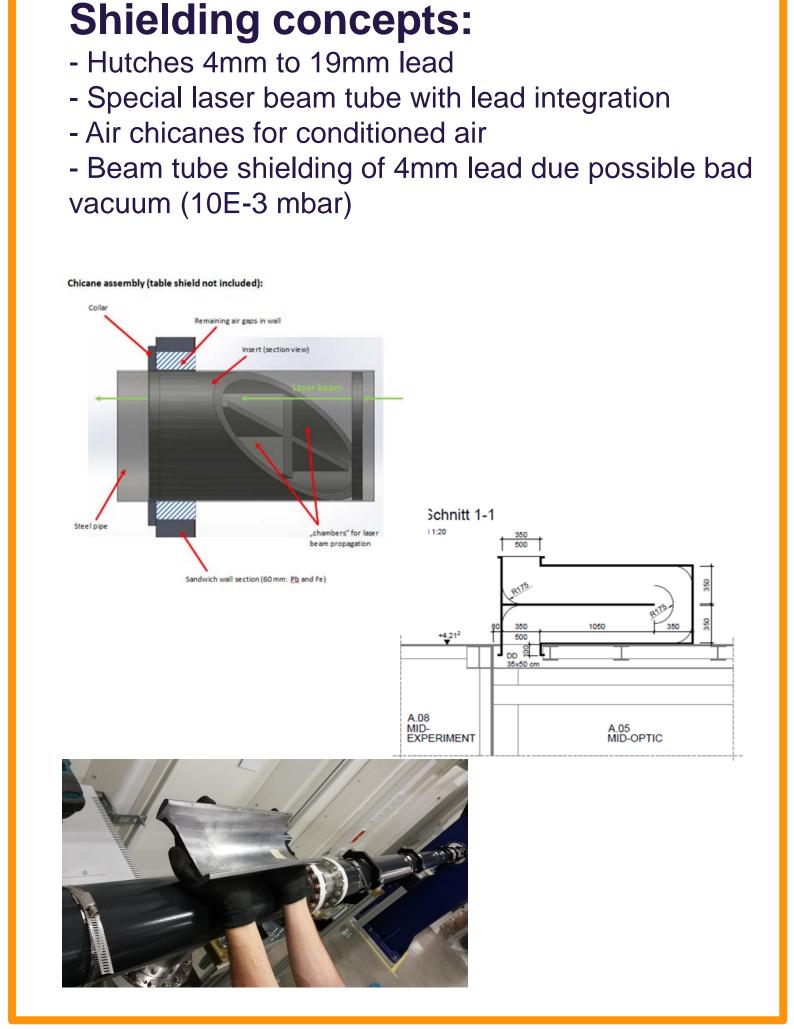












RADIATION EQUIPMENT AND INSTRUMENTATION

