European XFEL

**Reference Grid**

First access to some of the XFEL tunnels was granted in January 2013. All work started in the XTL, which has already a significant tunnel section. Currently there is no access to the other sections. After the fiducial marks have been installed, the first survey run was started. For this network survey a laser tracker, a BSU in each tunnel, and a scan survey station were used. The first survey run has already been carried out and the results have been analysed. The next step will be to carry out the alignment of the cold mass into the vessel. This procedure will guarantee an assembling accuracy of better than 0.2mm. With a transfer of knowledge we supported our colleagues in China, Italy and France to do their work well.

- **3D Laser Scan**
- **Modules**
- **Undulators**

**PETRA III EXTENSION**

Several options for extension buildings along the circumference are well-suited for insertion devices. The northern straight section already east is available for additional insertion devices. The northern straight section already east is available for additional insertion devices. The northern straight section already east is available for additional insertion devices.

For a statistically good determination of the network geometry there have been observed four ring segments and four central wall survey stations in two-bounce-measurement. The laser tracker has been placed in between two rings. After finishing the measurement, all results were transferred to the reference grid and the accuracy of the network adjustment of laser tracker and wall survey stations was carried out with a free network.

- **Server 1**
- **Server 2**
- **Server 3**

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**European XFEL**

The European XFEL is being realized as a joint effort of many partners. Together with the European XFEL gGmbH, 160 partners, among them universities, research institutions, companies and several European countries, have joined forces for this project. In order to construct the XFEL, the European XFEL gGmbH is the only shareholder in the company.

**Overview**

The focus of PETRA III is on applications making optimum use of the high beam brilliance, i.e., experiments aiming at nano focusing, ultra-high resolution studies, coherence applications, etc.. Other techniques which require photon flux but not necessarily brilliance are being continued very successfully at DORIS III which is operated in parallel to PETRA III sharing its chain of pre-accelerators.

**Undulators**

Several options for extension buildings along the circumference are well-suited for insertion devices. The northern straight section already east is available for additional insertion devices.

**References**

- [European XFEL](https://www.eu-xfel.org)
- [PETRA III](https://www.desy.de/petra3)
- [DORIS III](https://www.desy.de/doris3)
- [European XFEL](https://www.eu-xfel.org)