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## **Cryogenics for the SIS100 Synchrotron at FAIR**

*Thursday, 10 July 2014 10:30 (2h 15m)*

The cryogenic system for the superconducting SIS100 synchrotron is designed using three entry points with Feed Boxes (FBs). Each FB will supply two sextant sections, i.e. one third of the accelerator ring with liquid helium for magnet, beam pipe vacuum chamber and bus-bar cooling as well as gaseous helium for thermal shield cooling. Each sixth of the ring consists of one cold arc and a straight warm section with normal conducting accelerating cavities. The By-pass Lines (BPLs) have to bypass each of the six straight warm sections of SIS100 to supply helium and cold electrical connections to the quadrupole doublets within these sections. A detailed technical specification concerning the BPL System was prepared and approved at GSI in 2013. Based on this, the in-kind contract was signed between FAIR and Wrocław University of Technology (WUT). In conjunction with the GSI cryogenic group, the WUT is currently preparing a complete technical solution of the proposed BPL System that will be presented here.

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