

# **Scheduling and Tracing of Maintenance Tasks in Long Shutdowns**

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The GSI Helmholtzzentrum für Schwerionenforschung GmbH at Darmstadt, Germany, operates three accelerators, the main linac UNILAC (UNIversal Linear ACcelerator), the heavy ion synchrotron SIS18 and the experimental storage ring ESR. The FAIR project is a major extension of this facility. It relies on the existing machines as injectors, therefore several upgrade measures are necessary to overhaul and improve the existing machines. In contrast to the regular shutdowns of 2-4 weeks, which we had before 2012, these projects need up to 2.5 years without beam operation in the ring accelerators. Furthermore, not only technical systems are concerned, but also civil construction work has to be done. The planning tools and communication structures need to be adjusted to ensure proper synchronisation of schedules and on-time realisation of the different tasks. In this contribution, we will present lessons learned from the first long shutdown in 2013, as well as an outlook to the projects in 2016/17.