For FAIR, there are many transfers involving the B2B transfer:
- From the SIS18 to the SIS100
- From the SIS18 to the ESR
- From the SIS100 to the CR
- From the CR to the HESR and later to RESR

**Bucket**: Stable phase space area where beam may be captured and accelerated ⇒ stationary bucket

**Bunch**: A group of particles captured in a phase space bucket

« Bunch-to-Bucket transfer »
One bunch, circulating inside the source synchrotron, is transferred into the center of a bucket of the target synchrotron.

**Methods of Synchronization Two Synchrotrons**

**Phase shift method**

**Frequency beating method**

**Functional blocks for the B2B Transfer System**

**Standard Procedures for the B2B Transfer System**

- RF Phase Measurement Module
- Phase Advance Prediction Module
- Synchronization Window Calculation Module
- Phase Correction Module
- Signal Reproduction Module