LSA for FAIR
Jan-Paul Alexander Hucka
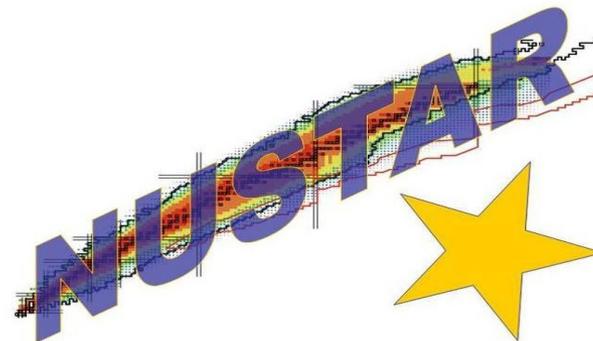
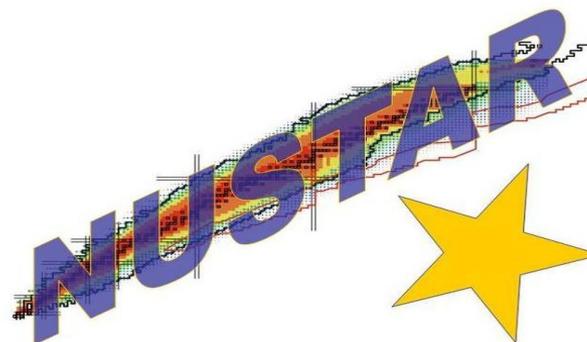# LHC Software Architecture for the Facility of Antiproton and Ion Research

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GSI

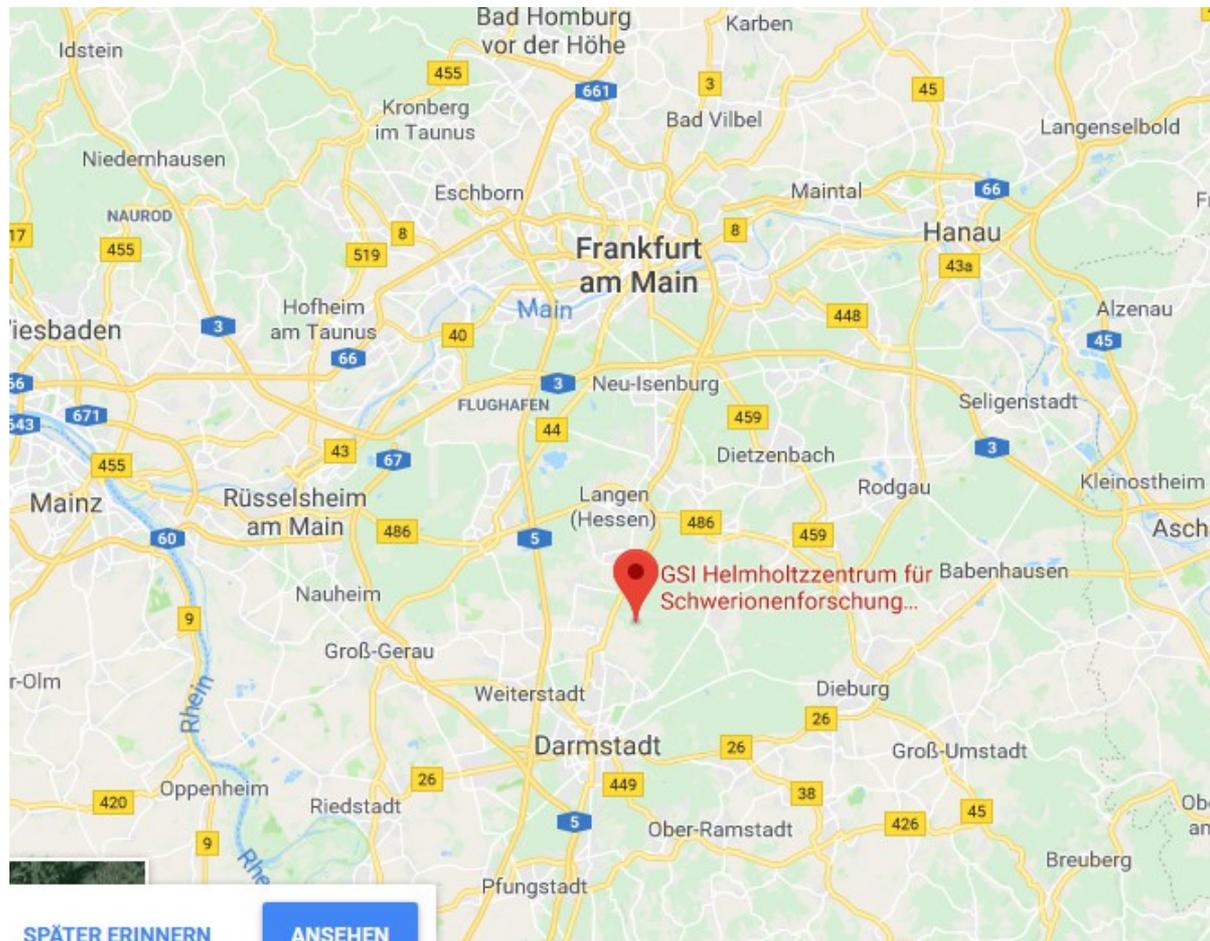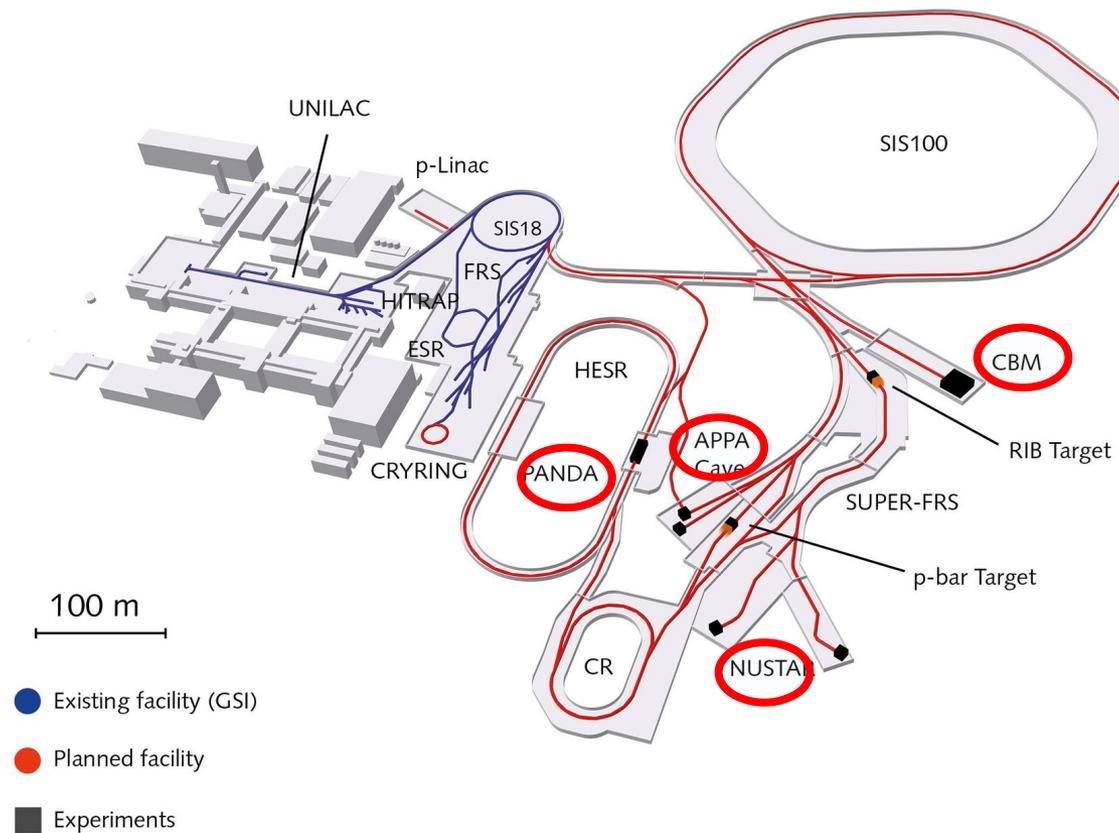FAIR
Facility for Antiproton
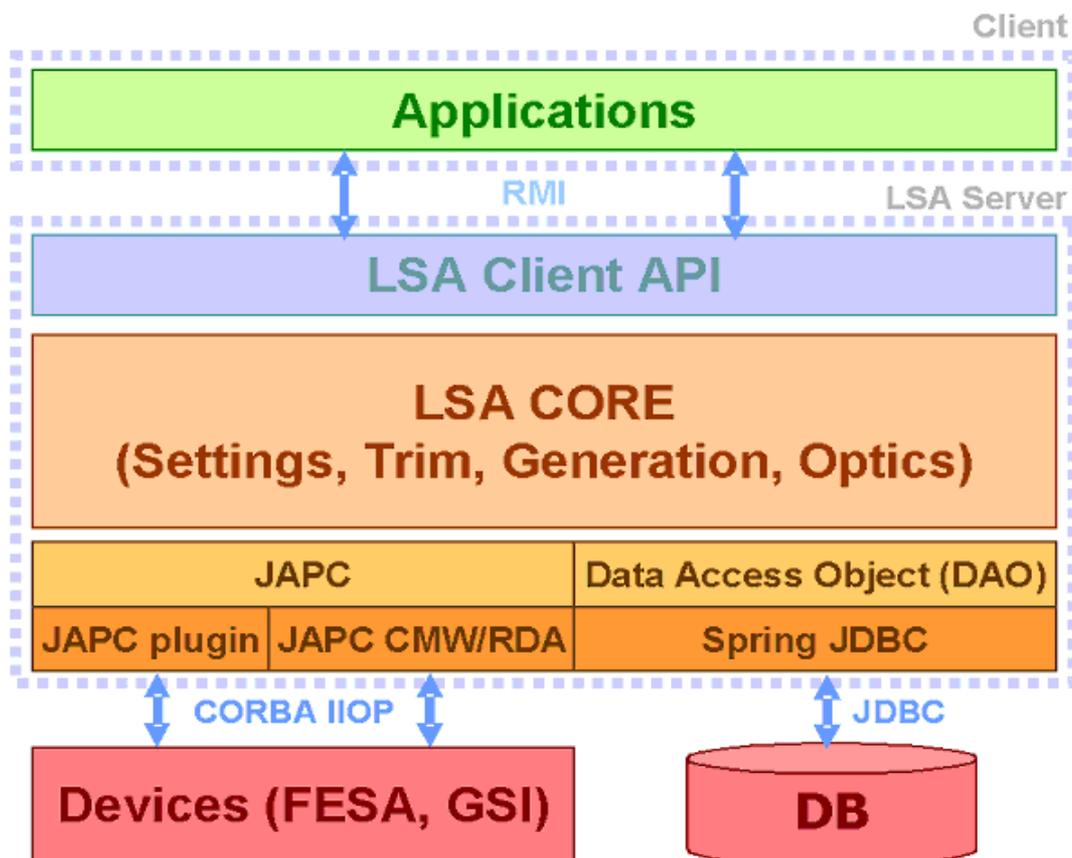and Ion Research
in Europe GmbH

NUSTAR

GSI – Helmholtzzentrum für Schwerionenforschung (What's that?)

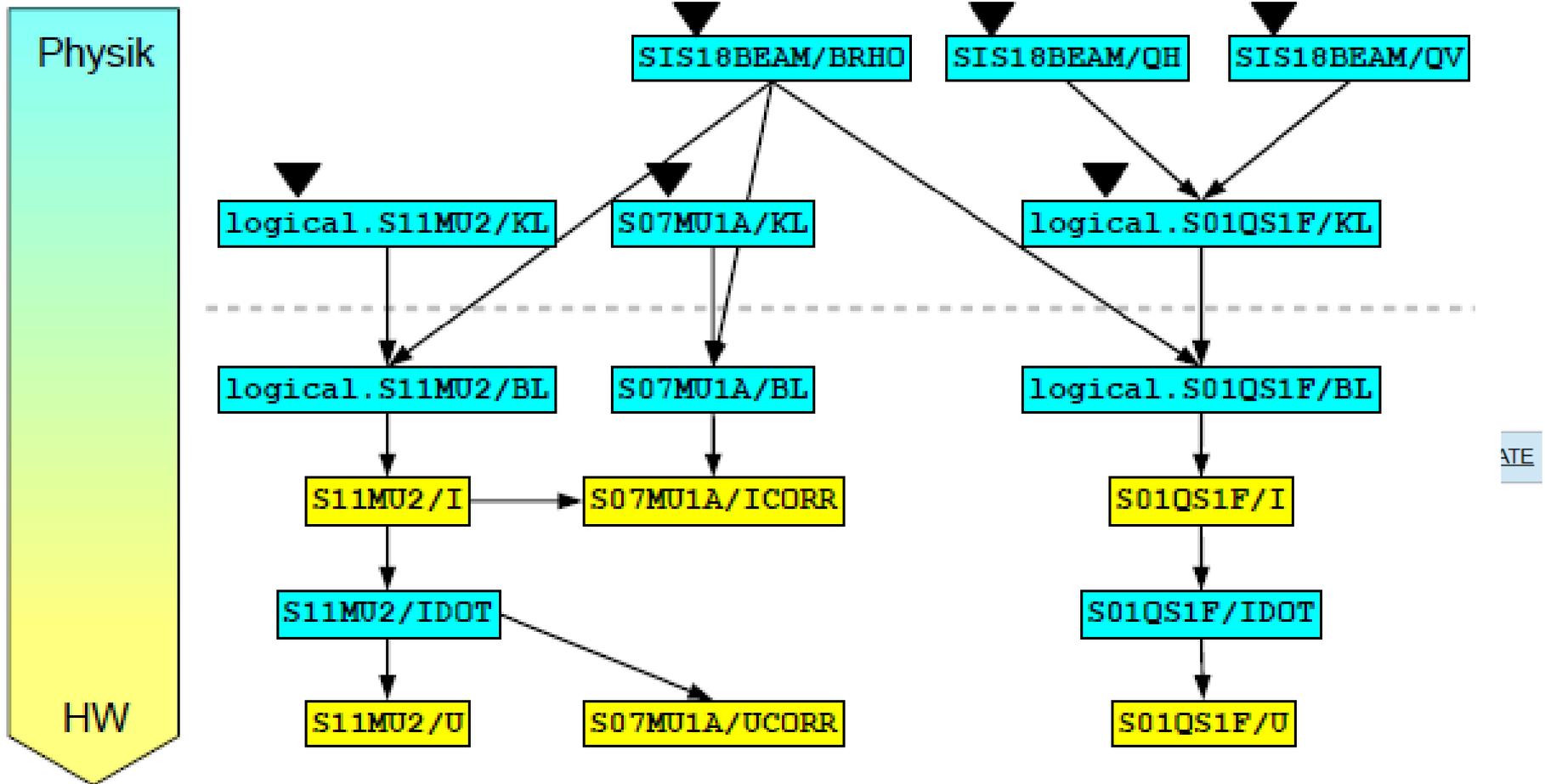# FAIR – Facility for Antiproton and Ion Research

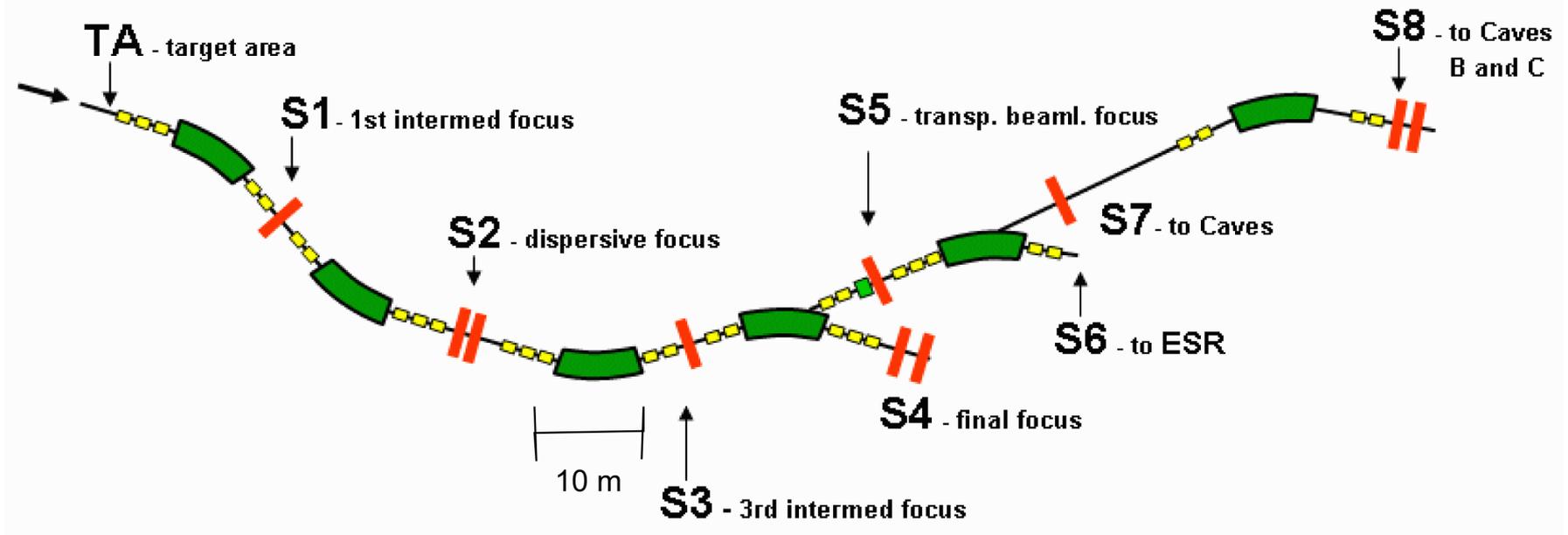# LSA – LHC Software Architecture

D. Ondreka, Präsentation: "Die Zukunft der Datenversorgung für GSI und FAIR" (2009)

LSA – Machine Model

FRS – Fragment Separator and Isotope Search (FAIR Phase 0)

# Thank you very much for your attention!

Backup LSA - Concepts

- Parameter: settable or measurable variable

- Cycle: Beam in accelerator from injection to extraction

- Supercycle: a series of cycles

- Beamprocess: specific process in a cycle

- Beam Production Chain: lifetime of a beam from source till target or dump

- Pattern: similar to Supercycle

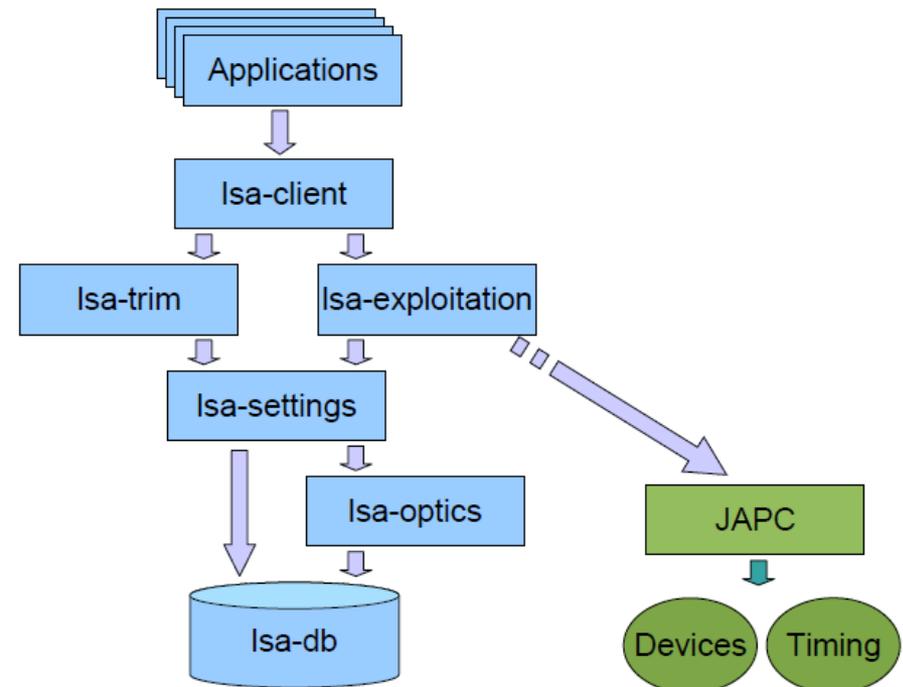- Setting: Value of a parameter for given context
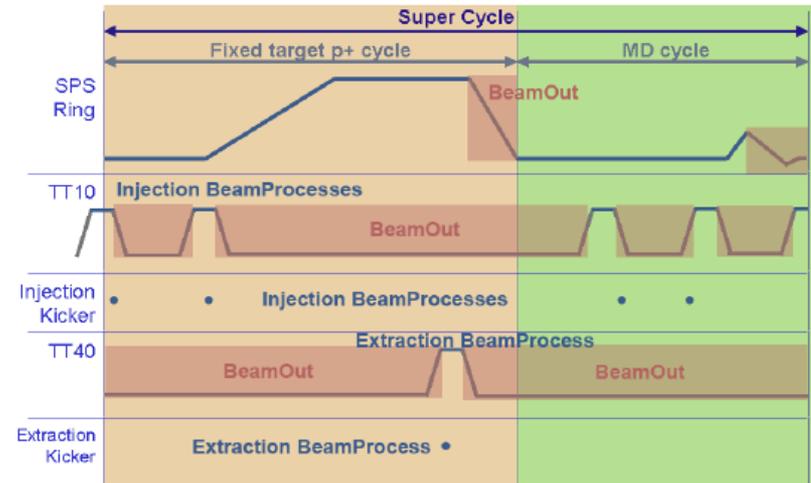
J. Netzel \& R. Müller, Presentation: "LSA Course part 3: Context and rules" (2009)
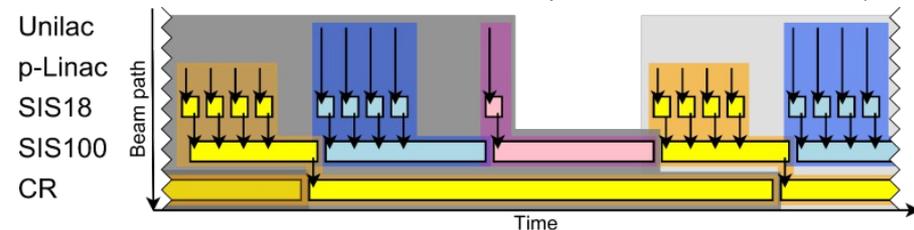
Beam production chain for anti-proton production

Beam production chain for RIB production

Beam production chain for atomic physics

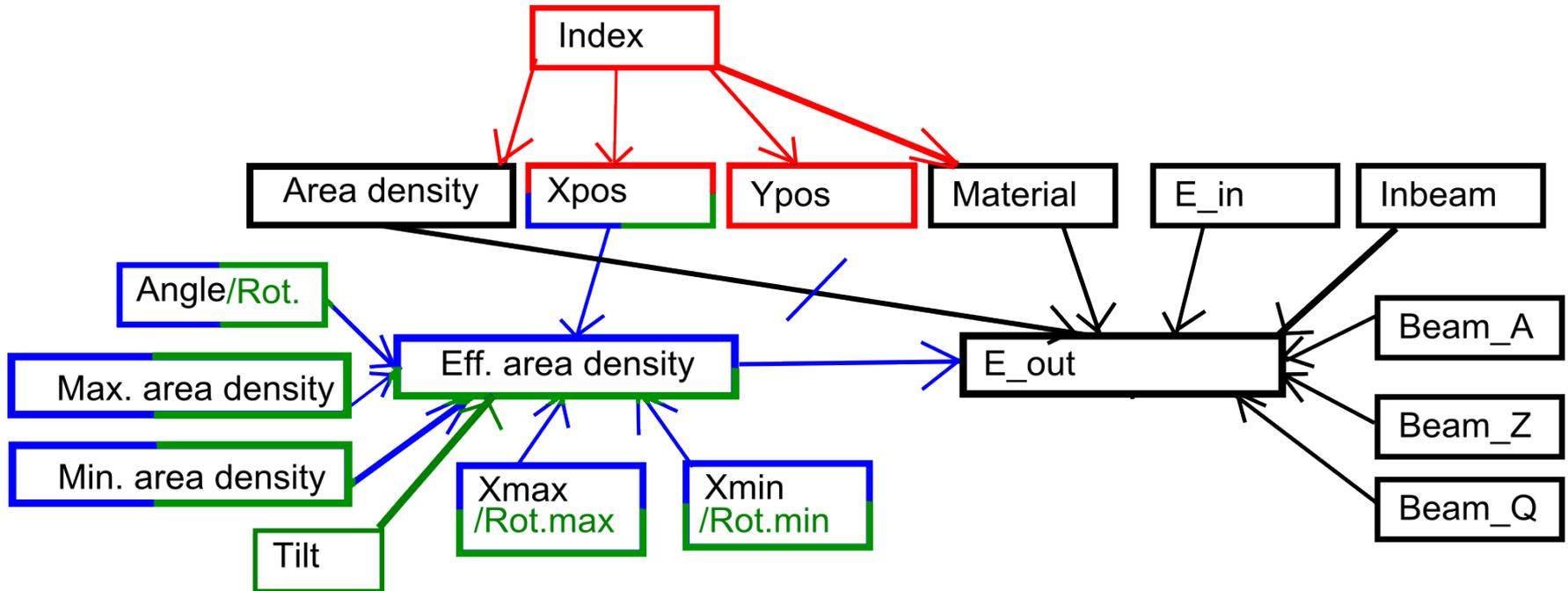Pattern containing these beam production chains, being executed repeatedly

LSA - Architecture

J. Netzel \& R.Müller, Präsentation: "CERN Control System at a glance" (2007)

LSA SQL-Database
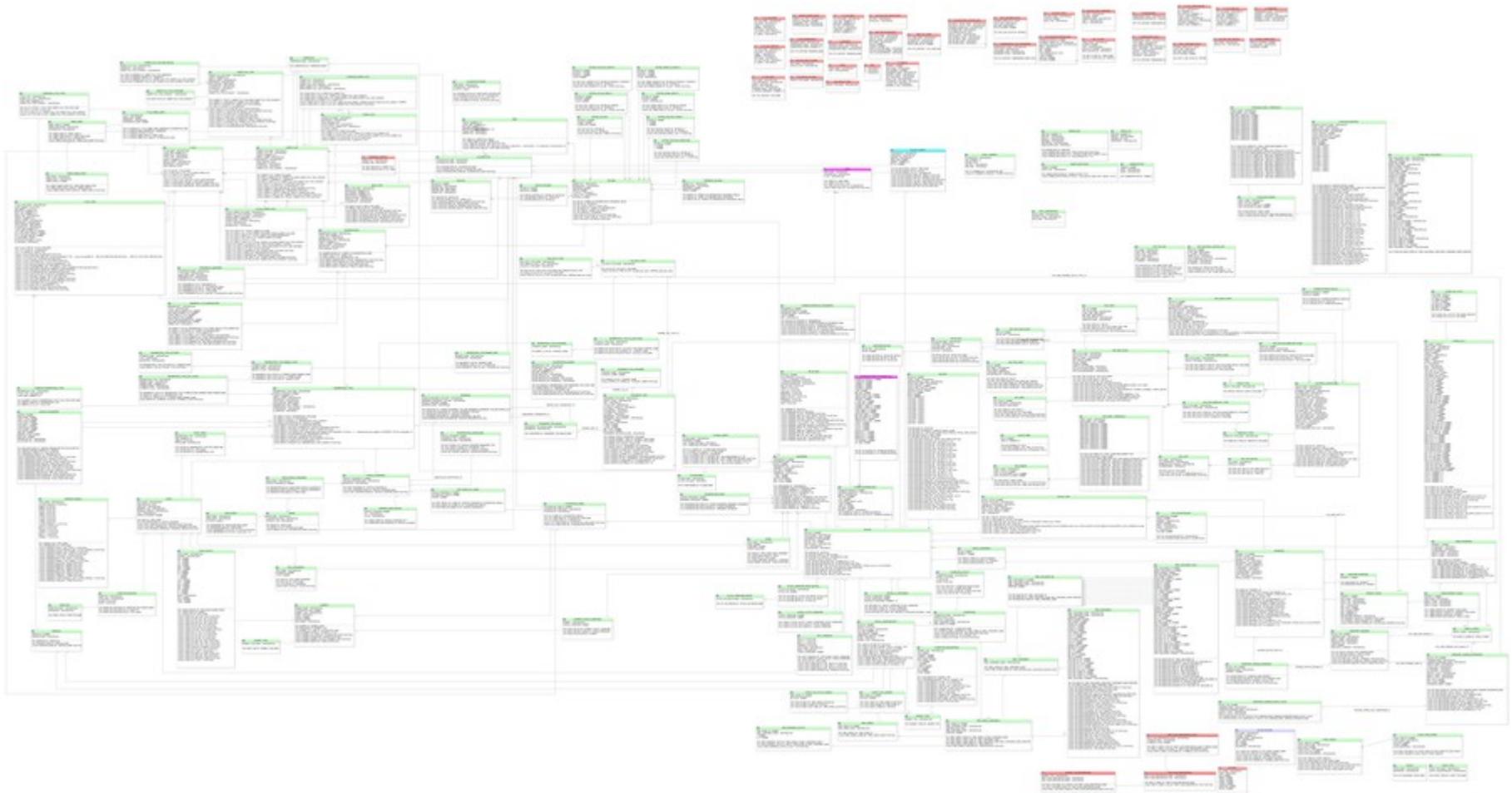
Implementation – Hierarchy (old)

LSA exemplary SIS18-Hierarchy