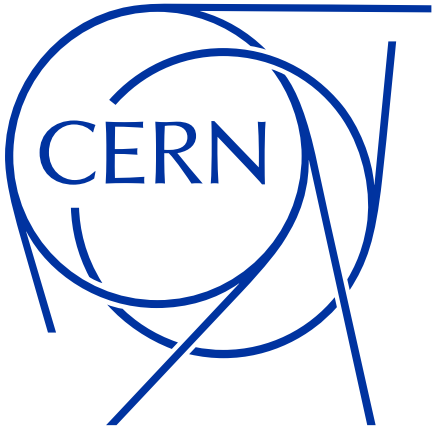
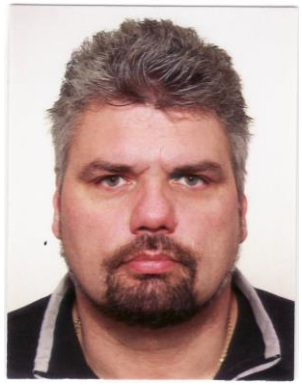


My Professional Career

(mainly at CERN…)

Klaus BARTH, CERN/EP-AIO

17.04.2026



Biographical Information

Born 2.8.1966 in Karlsruhe, Germany, Married, two children

Education:

1977 - 1983 Thomas-Mann Gymnasium (Grammar School) Stutensee, Germany
1983 - 1986 Otto-Hahn Gymnasium (Grammar School) Karlsruhe, Germany
1987 - 1993 Study of Physics at University Fridericana Karlsruhe, Germany
1991 - 1993 Diploma thesis (Fast RICH Detector)at the KIT Karlsruhe (KfK/IEKP)

Professional experience:

1991 - 1993 Supervisor (part-time) of Practical for Physicists at the Faculty of Physics, University Karlsruhe

1993 - 1994 Scientific Assistant (part-time) at Fraunhofer Institute (Fhg) for Chemical Technology (ICT)

1994 - 1997 Working as Physicist in Cryogenics at JET JOINT UNDERTAKING, UK

since 1.3.1997 at CERN

1994 - 1997 Working as Physicist in Cryogenics at JET JOINT UNDERTAKING, UK

- **JET cryo-system** consisting of large scale cryopumps, a nitrogen system (110 000 L storage capacity, daily usage of 25 000 L, and the ability to produce 1 500 m3/h gaseous nitrogen), and two helium refrigerators (with a total capacity of 1300W/4.4K or 450 L/h liquefaction).
- **1997** High performance full deuterium-tritium experiments. JET achieves world record fusion power of 16.1 MW.
- Learned basics of the operation and maintenance of cryogenic cooling plants
- Working on an integrated chevron type cryopump system for the JET pumped divertor program consisting of two independent 180° elements. The pumping speed of the pump in situ in the torus is - 200000 l/s

PERFORMANCE OF THE JET PUMPED DIVERTOR CRY OPUMPSYSTEM
W. Obert, K. Barth, L. Herblin'), C. Mayaux, G. Saibene, E. Thompson
JET Joint Undertaking, Abingdon OX14 3EA, UK, CERN Geneva CH

JET

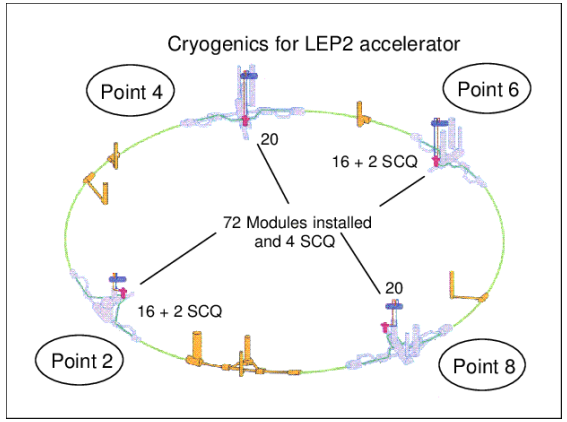
Joint European Torus

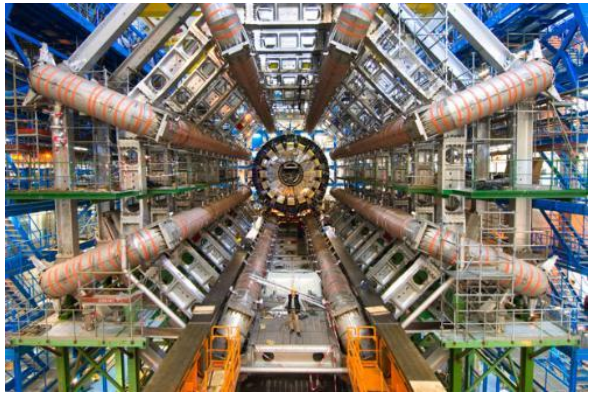
JET in 1991

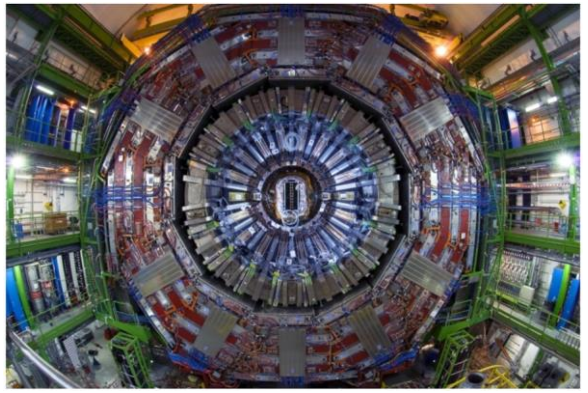
Device type	Tokamak
Location	Oxfordshire, UK
Affiliation	Culham Centre for Fusion Energy
Technical specifications	
Major radius	2.96 m (9 ft 9 in)
Minor radius	1.25 m (4 ft 1 in)
Plasma volume	100 m^3
Magnetic field	3.45 T (34,500 G) (toroidal)
Heating power	38 MW
Plasma current	3.2 MA (circular), 4.8 MA (D-shape)
History	
Year(s) of operation	1983–2023

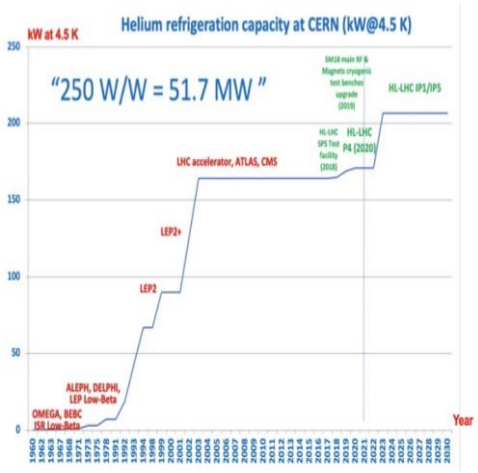
CERN Career Part 1 – Operation & Maintenance of Cryogenics for Detectors and Test Areas (TE/CRG-OD) up to 1.3.1997 - 31.7.2014

- **Section Leader for operations and maintenance of the cryogenics for detectors and test areas**









Cryogen (helium, nitrogen, argon, krypton)

Helium inventory at CERN: **170 t (today)**

- LHC (accelerator & detectors) helium full inventory: **136 t**
- Strategic permanent storage : **20 t**

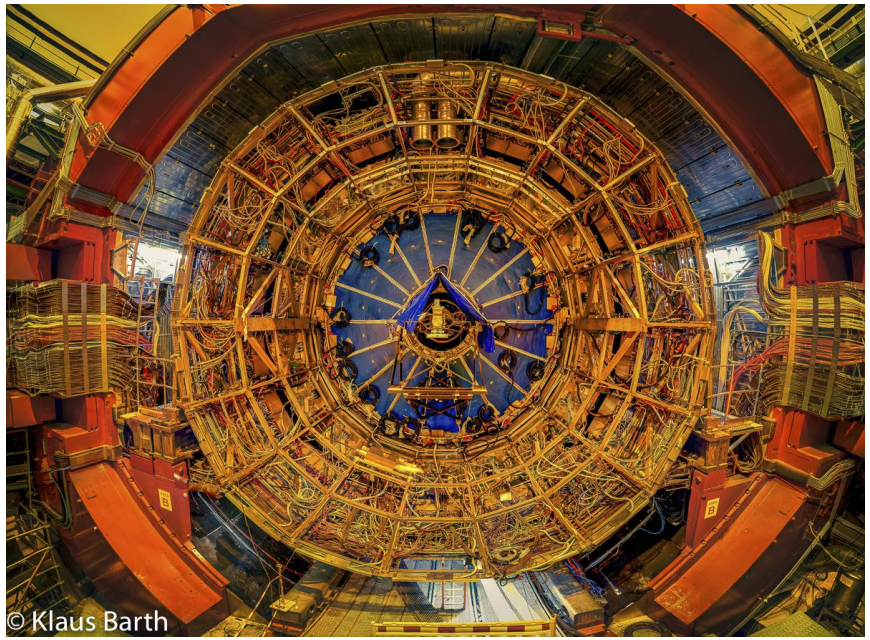
Nitrogen liquid for LHC (accelerator & detectors) full cool down: **11'500 t** (equivalent to 500 **ISO**-transportable containers delivered)

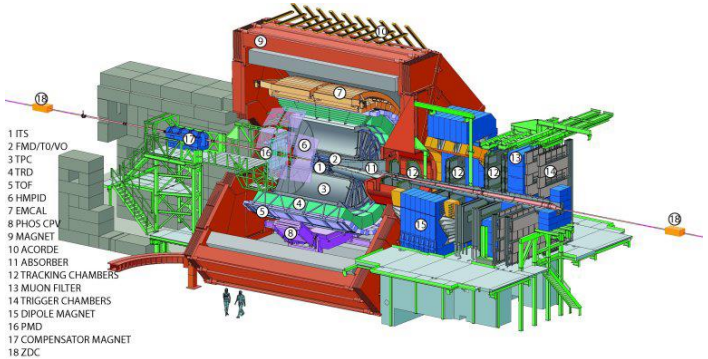
Argon liquid for Neutrino platform and ATLAS calorimeter: up to **1'800 t**

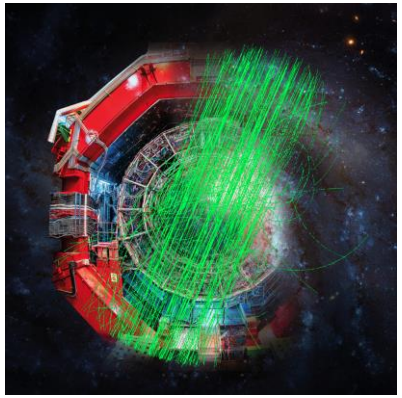
Krypton liquid for NA62 calorimeter: **24 t**

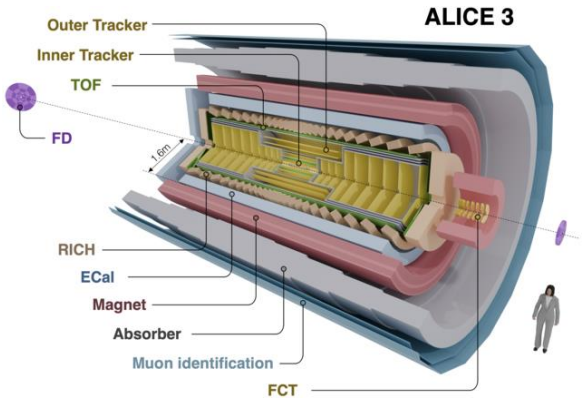
CERN Career Part 2 – ALICE Large Experiment Group Leader in Matters Of Safety LEXGLIMOS since 01.08.2014

- General Safety
- Access Control
- Fire Safety
- Radiation Protection
- Confined Space
- Safety Training
- ALICE Underground Visits
- ALICE representant for safety matters in various CERN wide committees
- ALICE LS2 major upgrade
- ALICE 3 upgrade safety









Preparing for retirement….
Thank You for your attention !
Questions ?