HiGrade Kick-off

Welcome to DESY

Deutsches Elektronen-Synchrotron

Member of the Helmholtz Association

Exp. & Theor. Particle Physics ⟷ Accelerator development ⟷ Photon Research SR & FEL

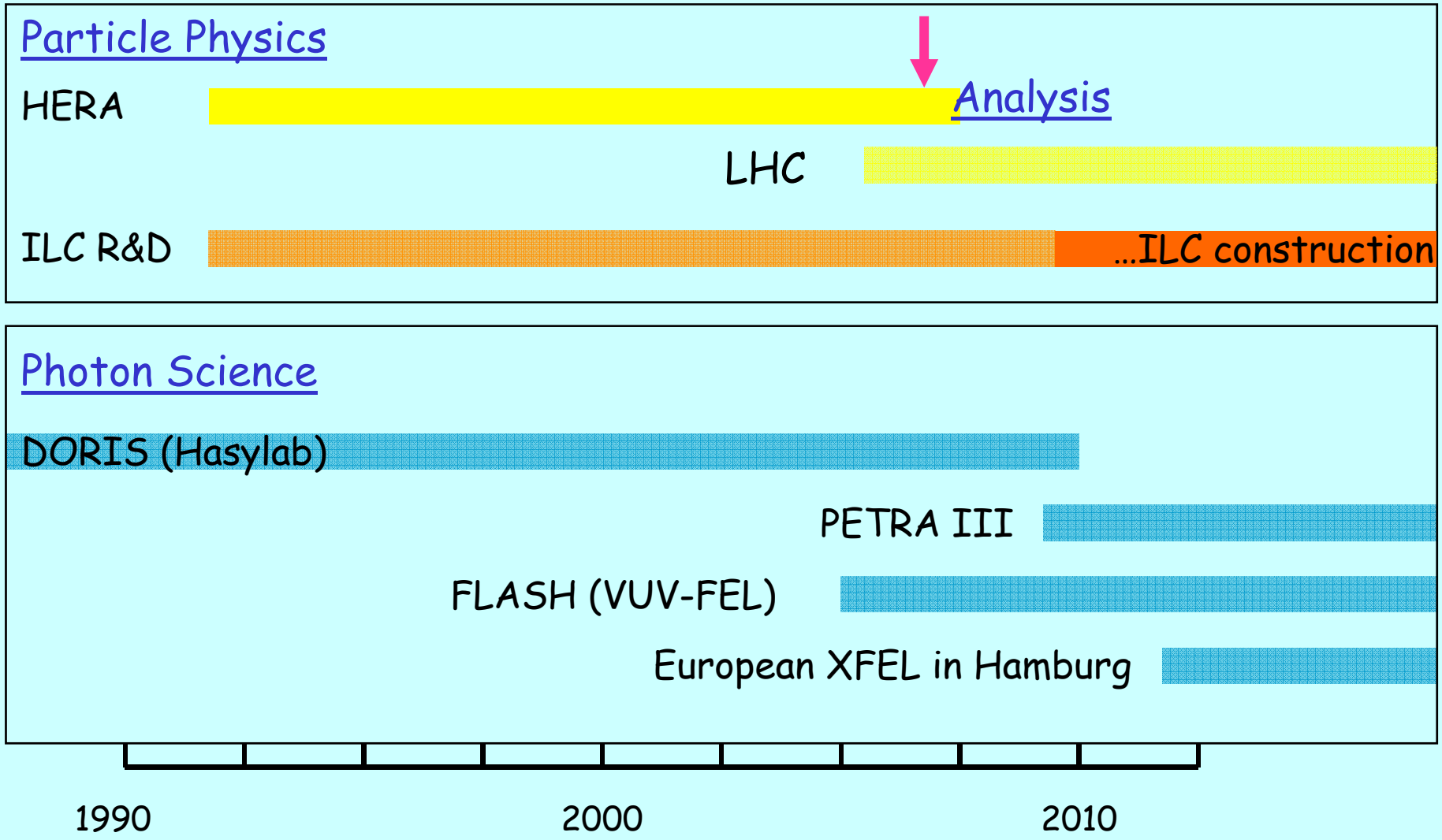
Mission: Development, construction, operation and scientific exploitation of accelerators

Provide access for national and international users

Internationally used, nationally funded Research Institute

Budget:	165 MEuro (2005)
Staff:	~ 1600 in Hamburg and Zeuthen
Users:	~ 3000 (1500 from abroad)

Research Facilities at/with Involvement of DESY



Strategy for Research with Photons

Strategy:

- Make leading edge research possible in physics, chemistry, material science, biology etc. through unique light sources:
  - VUV-FEL - FLASH
  - PETRA III
  - Participation in European XFEL
  - DORIS (Evaluation in 2008/9)
- FLASH, PETRA and the XFEL are or will be unique facilities on a world scale

Strategy for Particle Physics

Strategy:

- remain a leading and attractive particle physics lab
- maintain a strong theory group in particle physics

- HERA running until mid 2007
  data analysis beyond 2010

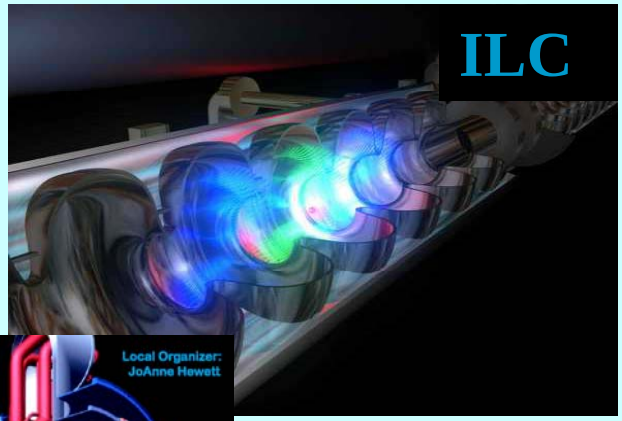
- strong participation in LHC (ATLAS & CMS)

- keep central role in all phases of ILC
  accelerator and detector

- networking with German Universities in particle physics
  Helmholtz Alliance "Physics at the Terascale"

Strategy for Particle Physics

- Exciting physics prospects
- Natural continuation of HERA programme
- Ideal connection to ILC physics



TIER2
Analysis Centre
for
ATLAS and
CMS

Active
participation
in
ATLAS and
CMS

LHC Programme

Participation in ATLAS and CMS ≈ 25 Physicists / Experiment

Tasks within the resp. experiments:

- Trigger - Software - Coordination, Physics
- Close collaboration with German University groups
- Close collaboration with international partners
- Participation in Hardware-Projects (e.g. sLHC) starting

TIER2 centre for ATLAS and CMS
Location: Hamburg and Zeuthen
Close collaboration with CERN, GridKa and TIER2 facilities

Analysis Centre (Experiments and Theory)

ILC Activities

ILC Project group comprises
- Accelerator
  - Synergy with XFEL-Project →
- Detector Development
- Physics

Support from EU within FP6
DESY coordinates EUROTeV (with CERN) and EUDET

DESY partner in the Global Design Effort

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Feature Story

XFEL and ILC: Accelerating in the Family

Artist's impression of the experiment buildings of the future European XFEL project at DESY in Germany.

High-energy physics is a lot like family. At university you are born into it, your thesis supervisor parents have a great influence on you, you always stay close to your brothers and sisters, even though they annoy you sometimes. It's always there with you, it's in your blood, you can never forget it completely. You get partner-institute in-laws, go to family reunion meetings and see your summer student children grow up. The particles you study have their own little mysterious families. And even accelerators have big and small brothers, cousins, parents and grandchildren.
Read more...

-- Barbara Warmbein

Strategy for Particle Physics

Create strong network between German University groups and DESY:

- establish DESY as analysis centre in Germany
  for LHC analysis and ILC preparation
- DESY as partner in a Grid backbone
  TIER2 centres – Grid development – Computing for photon science
- DESY as partner in detector infrastructure
  for (s)LHC and ILC
- DESY as partner in ILC developments (within GDE)
- DESY helping to establish accelerator physics courses at Universities

Close collaboration with all experimental and theoretical groups in Germany and internationally working at the high energy frontier