

DESY. Deutsches Elektronensynchrotron

Introduction of DESY and MKK group

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Asset and Maintenance Management Workshop 2013

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- New High Brilliance X-ray Sources
- Research Labs/ Inhouse
- Application Labs



PETRA III

FLASH

CFEL



DESY. Organization

DESY – Deutsches Elektronen Synchrotron

- founded 1959 –



Member of Helmholtz Association



Hamburg

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

Provide access and services for national and international users



Zeuthen

Internationally used, nationally funded Research Institute

Research Infrastructures: PETRA III, FLASH (II), XFEL, TIER-2, Testbeams

Sites:	Hamburg and Zeuthen
Base-Budget:	180 MEuro
Funding source:	90% federal, 10% state
Staff:	~1900 FTE in Hamburg and Zeuthen
Users:	~3000 (1500 from abroad) from 45 nations



DESY. Organization

DESY Hamburg has 4 divisions

- M division: operation and construction of machines like LINAC, DESY, PETRA, FLASH, XFEL, REGAE
- V division: administration, central services, civil construction
- FS division: research with photons at PETRA, FLASH
- FH division: high energy physics research at HERA, LHC

M division is divided in groups

- MKK: AC power supply, water cooling, heating, ventilation, air conditioning, magnet power supply, XFEL modulators, rf power supply, process control and data archiving
- MPY: machine physics, accelerator R&D
- MVS: vacuum systems
- MHF: RF systems and cavities
- MIN: injector and LINACs
- MKS: cryogenics and super conducting
- MCS: control systems for machine operation
- MDI: diagnostic and instrumentation
- MSK: beam control systems
- MEA: accelerator and experimental construction support



MKK. Asset and Maintenance Management

Responsibility for asset and maintenance management

DESY policy:

- Each group is responsible for his own equipment
- Each group manages the operation, maintenance, examination periods

DESY strategy

- Reliability for PETRA and FLASH must be better than 95 %
- M division leader takes action, if the reliability is less
- The accelerators run 24 h and 7 days/week
- Wednesday day shift there is time for repair and machine studies
- After 6 weeks there is a service week from Monday to Friday
 - but tests and machine studies during the night
- 10 month operation a year



DESY. Asset and Maintenance Management

Quality assurance

Tools:

There are different tools at DESY in operation

I can report from the MKK group:

- MKK has implemented an “assessment and instruction manager” (PU manager)
- SQL-Forms, ORACLE data base
- Responsible person for the equipment gets an information 4 weeks in advance via e-mail
- If he overruns the date, the “PU manager” informs his boss
- After another 4 weeks it escalates to MKK group leader
- That means a question or a date in my office
- This underlines the importance



Outlook

Main challenge of the organization in asset and maintenance management

- Time and available staff
- MKK works on several projects:
 - XFEL construction until 2015
 - FLASH II construction and commissioning 2014
 - PETRA extension 2014, 2 additional experimental halls with new undulator sections
 - CSSB Lab.-building, construction 2014 until 2015
 - Photo Science building, postponed until mid 2015
- It was a big change in 2007 after 18 years of HERA operation to convert to the construction of PETRA III and XFEL
- It will be a challenge in 2016 after 9 years of construction to start up the new machines and come to a reliable operation
- We will adapt our asset and maintenance management system to ensure a high reliability of the technical infrastructure

