TESLA

Status of the Project

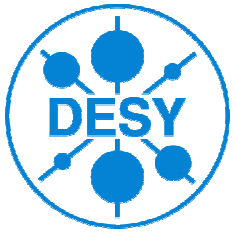
Report from DESY, Hamburg, Germany

The Status of TESLA and DESY's Communication Strategy

Governmental decision on 5 February 2003

EPOG, 12th Outreach Meeting, CERN, April 2003

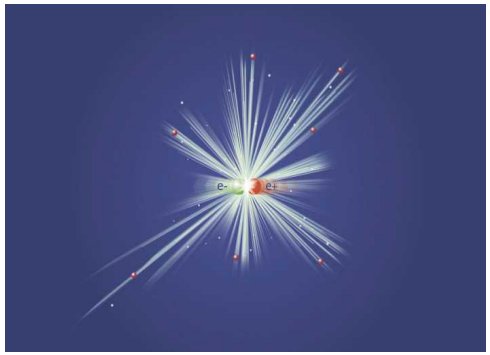
Petra Folkerts, DESY Hamburg, Germany



TESLA

Status of the Project

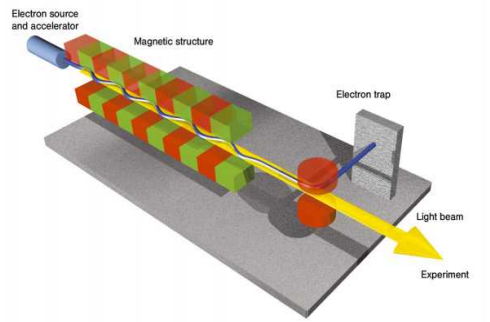
TeV-Energy Superconducting Linear Accelerator



$e^+ \rightarrow\leftarrow e^-$

500 GeV ....
800 GeV

1 detector ....
2 detectors



X-ray laser laboratory, with 10 ... 20 exp. stations

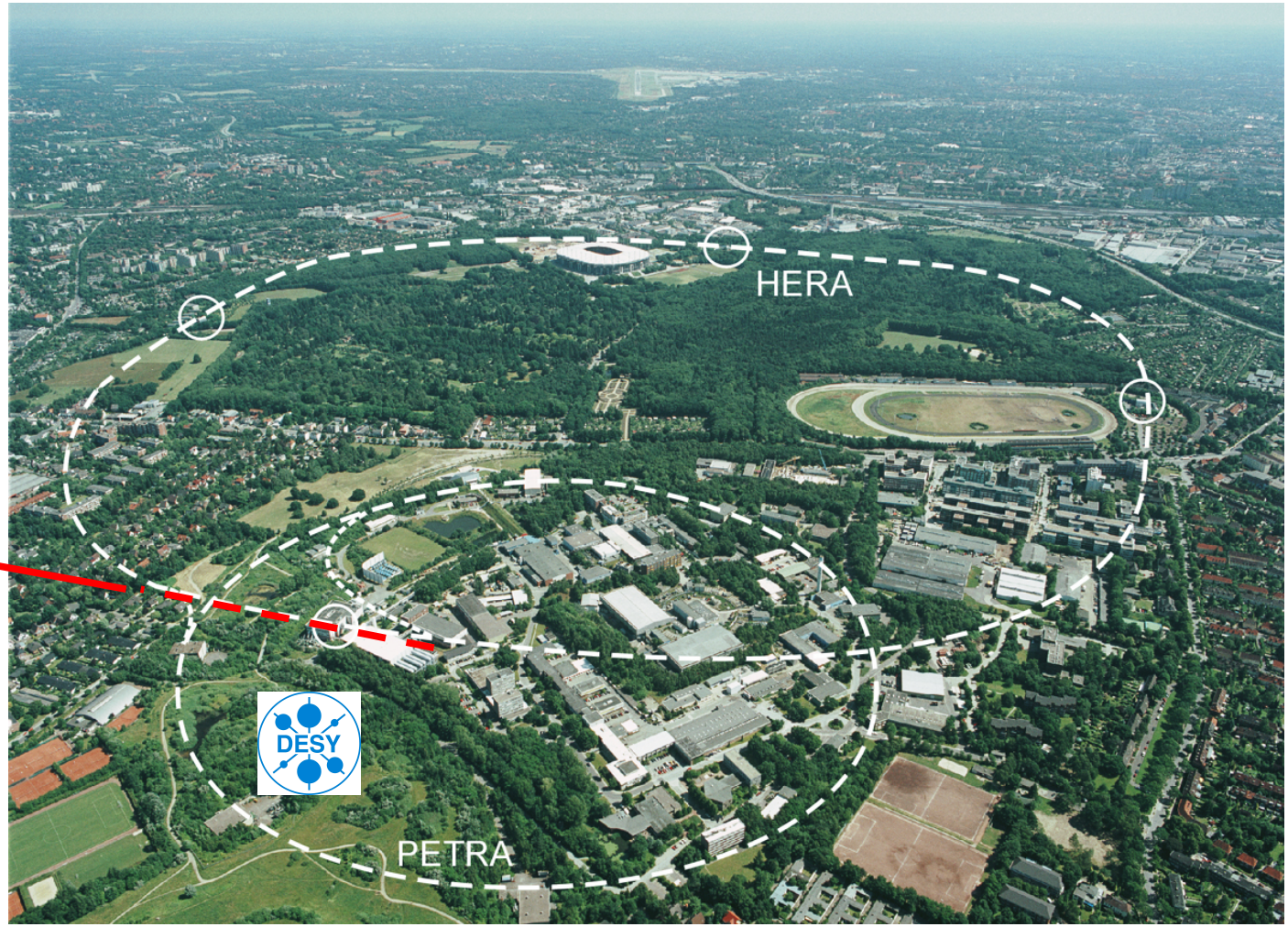
1 to 0.1 nm, with 80,000 flashes per s

- Higgs mechanism
- Supersymmetry
- Shortly after the Big Bang
- ..... ???
- Structure of bio-molecules
- 'Movies' of chemical processes
- Materials science
- .... ???

TESLA

Status of the Project

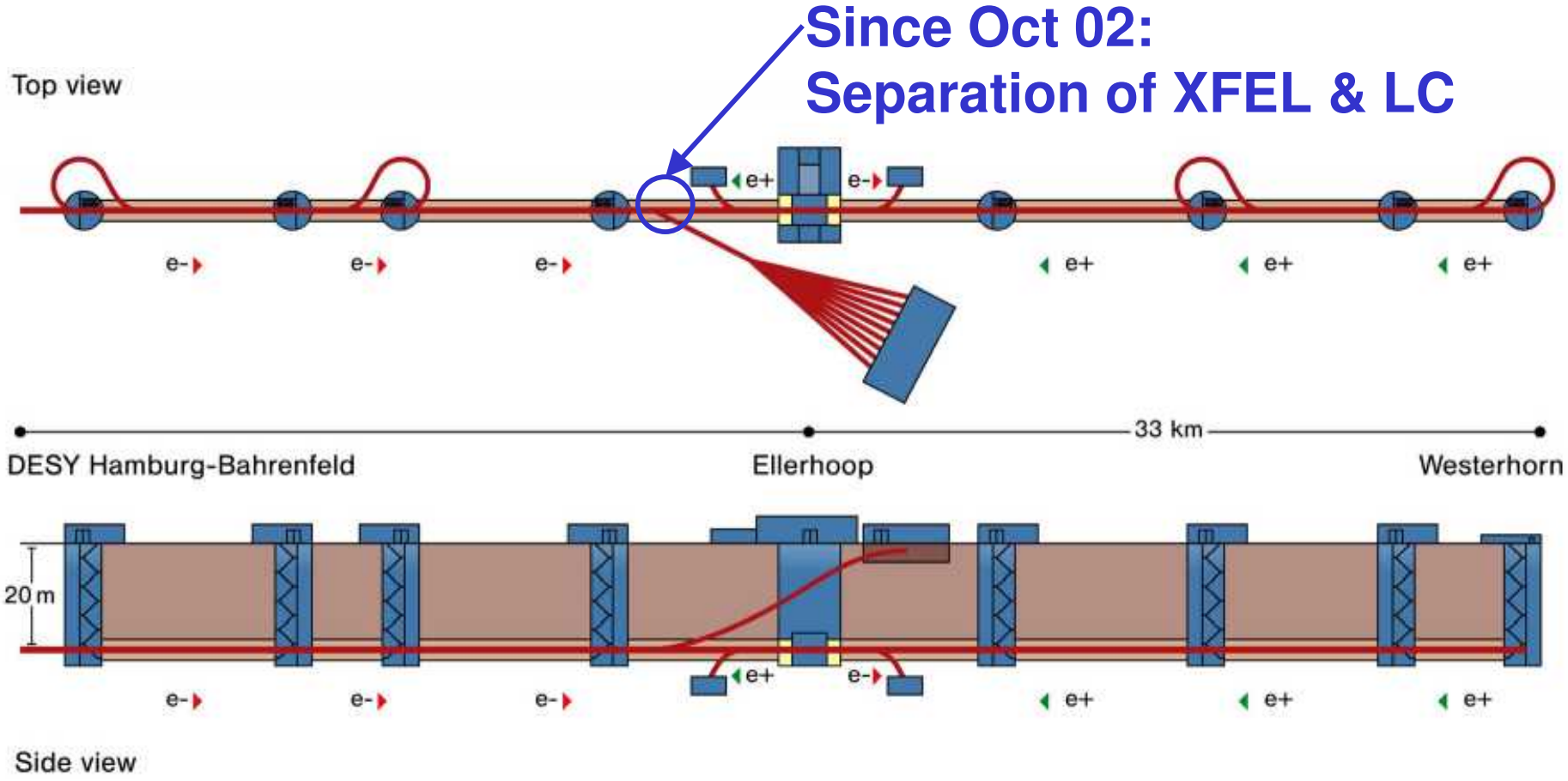
TESLA at a Glance



TESLA

Status of the Project

TESLA at a Glance



TESLA

Status of the Project

1 TESLA Project till 4 Feb 03

TESLA TTF: s.c. accler. modul

- Since 1992
  In international collaboration: R&D at DESY, construction and operation of the TTF
  13,000 hours in operation to study sc cavities, accelerator components, and the free-electron laser

TESLA TTF: undulator for the FEL

- Since 2002
  Extension of the TTF machine to a 300-m-long free-electron-laser for soft X-ray radiation (VUV-FEL)
  (pilot plant scale for TESLA)

TESLA

Status of the Project

1 TESLA Project till 4 Feb 03

02/22/2000: first laser light

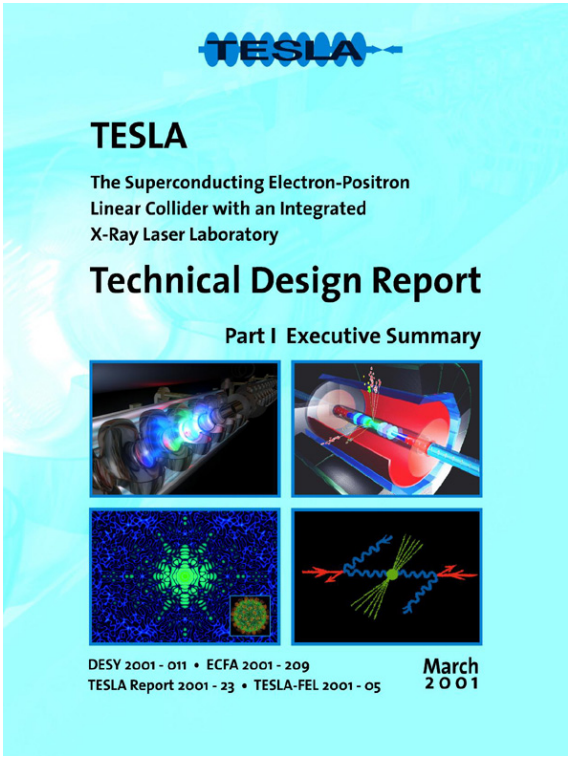
03/23+24/2001: TESLA Colloquium

- 23 March 2001
  Publishing the TESLA Technical Design Report (TDR), TESLA Colloquium
- Since May 2001
  Evaluation by the *Wissenschaftsrat* (8 large-scale projects)
  Recommendation: separated version of the XFEL

TESLA

Status of the Project

1 TESLA Project till 4 Feb 03



5-volume TESLA TDR:
1134 scientists from
304 institutes in
36 countries

- **October 2002**
  Publishing the XFEL Supplement to the TESLA TDR

- **November 2002**
  Recommendation of the *Wissenschaftsrat*
  (German Science Council)
  9 large-scale facilities
  for basic research
  (2 TESLA projects, LC + XFEL)

2 TESLA Projects since 5 Febr

5 February 2003
Decision of the German Federal Research Ministry on Large-Scale Facilities (Minister Bulmahn: „With the new concept, basic research in Germany will start from an excellent position when entering a new decade of successful work.“)

1) “YES” to the TESLA XFEL
”A new free-electron laser is to be built at the DESY research centre in Hamburg. In view of the location advantage, Germany is prepared to cover half of the investment costs amounting to 673 million. Talks on European cooperation will soon start so that it will be possible to take a decision on construction within about two years. The construction period will be appr. six years.“

2 TESLA Projects since 5 Febr

2) "NOT YET" to the TESLA LC
"No German site is at present proposed for the TESLA linear accelerator. The reason is that the accelerator project will be an international collaboration. International developments must therefore be taken into account. An independent initiative by Germany concerning the site of the accelerator is neither appropriate nor necessary. DESY will, however, be able to continue its international research work so that German participation in a future global project will be possible."

(AND 120 Mio Eur for PETRA III as a national project)

2 TESLA Projects since 5 Febr

Albrecht Wagner, DESY's Director-General:
"... extremely good: The decision provided the lab with a clear direction - build the XFEL, and keep going with the linear collider R&D. And whether or not TESLA (or more general: a linear collider) ever gets built - the XFEL secures DESY's future!"

"... given the economy in Germany - and elsewhere - it's as much as could be expected for now."

2 TESLA Projects since 5 Febr

Albrecht Wagner, DESY's Director-General:
Two roads to realize a large-scale int. facility

1. A lab develops the technique, publishes a proposal, and the government decides to host the project ⇒ international collaboration
2. An int. collaboration defines the technique and general site parameters ⇒ governments reach an agreement on a site country

Until 5 February TESLA was on the 1st road

Since 5 Febr TESLA + NLC/JLC are on the 2nd road

DESY since 6 Febr 2003

Importance for DESY and its collaborators:

- The Government‘s decision of 5 February assures DESY‘s future for the coming > 20 years (new photon sources)

- DESY as a particle physics lab:
  HERA II in operation till 2006/07, R&D for an e+e- detector for a next linear collider (technology independent), astro-particle physics, Member of the Global Accelerator Network for the next lc

- The XFEL is a large project and an enormous challenge.

- Continuation of R&D for the sc TESLA collider.
  The TESLA LC will benefit from building the XFEL sc linac.

TESLA

Status of the Project

Communication Strategy

Communication Strategy for the TESLA Project as a whole

since 1996

2 main target groups:

- **general (international) public, including decision makers in science and politics**
- **the route neighbors, especially those who will be involved directly**

TESLA

Status of the Project

Communication Strategy till 4 Feb 03

Basic conditions:
One project with 2 facilities, simultaneous realization, new quality of international collaboration (GAN)

General public:
TESLA representatives: around the world & VIPs at DESY, TESLA brochure (G. + E.), TESLA leaflet (5 languages), press releases, travel exhibition (G. + E.), teaching material, Web-based currently updated background information , ...

Neighborhood:
direct contact to all 15 TESLA communities, governmental and local representatives etc, public discussions, visits at DESY, individual reply of FAQs (hotline), 'tunnel route day', intensive contact to the local press, ... , 1 'ambassador' per kilometer !

TESLA

Status of the Project

Communication Strategy since 6 Febr 2003

Basic conditions:

- Two different projects
- Possibly 2 different sites
- Non-simultaneous realization
  - XFEL: European project in Hamburg
  - LC: International project in E, J or US

Communication Strategy:

- Fund raising for the XFEL, European collaboration
- Taxpayer & politician (decision makers) acceptance in Germany
- Neighborhood communication concerning the (new?) XFEL site
- Importance and impact of particle physics in general ↯ necessity of a next e+e- collider in complement to the LHC

Communication Strategy

Most important point:
To speak with one voice !

Future Linear Collider like TESLA

⇓

InterAction