

Excavators and lorries – full speed ahead!

Activities on the three European XFEL construction sites

by Petra Folkerts

Three construction sites with a total area of 185 000 square metres, 640 000 cubic metres of soil to move, 5777 metres of tunnel to bore at depths between 6 and 38 metres, six multi-storey underground halls with access shafts to build... For the next five years, the 3.4-kilometre-long European XFEL will without doubt count among the largest building projects in the Hamburg area. The official – and much longed for – start of construction was on 8 January, and the lorries and excavators drove up right away. Even the frost could not prevent them from clearing the first spaces on the sites for office containers or access ways.

It was a construction start without ground-breaking ceremony featuring VIPs in front of running cameras (this will be made up for later), but with many “real” activities taking place on the three sites DESY-Bahrenfeld, Osdorfer Born and Schenefeld. All the areas are being surveyed once more, fenced in, searched for old weapons with the help of metal detectors and equipped with the necessary infrastructure. This includes office containers, storage areas, construction roads as well as water and power supplies. Tyre washing facilities through which every lorry has to pass before leaving the construction sites are being set up near the entrances of the sites.

In Schenefeld, these activities will take two months, so that excavation will begin



View of the construction site DESY-Bahrenfeld behind Building 2, where the soil of part of the Lise Meitner park is being removed.

in March. With its area of 15 hectares, Schenefeld is not only the largest construction site, it will also be the busiest. All the tunnels will be bored from here, for instance, with two tunnel boring machines operating round the clock for two years. They will start next year.

The preparation of the 20 000-square-metre site DESY-Bahrenfeld started right after the awarding of the building contracts in December 2008, as half of the site is located on the DESY premises and can be accessed from the DESY site. Here, first activities included fencing in the part of the neighbouring Lise Meitner park which forms the other half of the European XFEL site. Since this area is

around ten metres higher, 120 000 cubic metres of soil have to be removed in order to bring the two surfaces onto the same level. Up to 80 lorries will be in action every day for the next six months to drive the soil away. They will use the temporary passage to the street Flottbeker Drift (see news on page 4).

By the way: the Internet provides a range of information on the construction project and the possibility to watch the work in real time via webcam (see info box).

INFO

www.xfel.eu → “Construction”

Yes to the Structural Biology Centre

The proposal to build a Centre for Structural Systems Biology (CSSB) for research into infectious diseases is highly supported by Hamburg, Lower Saxony and Schleswig Holstein. The ministers of science of these federal states released a declaration of intent in favour of the Centre. About ten institutions will contribute to run it.

Highlights!

The HASYLAB Annual Report has been reduced from the size of a phone book to a 112-page brochure containing projects and highlights of photon science in 2008. “Photon Science 2008 – Highlights and HASYLAB Annual Report” is released on time at the Users’ Meeting on 30 January and can later be picked up at the HASYLAB secretary’s office.



DIRECTOR'S CORNER

I am glad to be able to begin my last Director's Corner for DESY inForm with good news for DESY, at a time where the credit crunch is still on everyone's lips. However, there is also a chance in every crisis. In the current economic crisis, stimulus packages have been put together which will be a benefit for DESY's investments this year. We plan to use these funds for the much required upgrade of our infrastructure.

At the staff meeting in November I took stock and was happy to report that the results for our laboratory were very positive. In the large team that is DESY everyone fulfils their tasks, and the outcome shows that all of you are doing a very successful job.

Under the leadership of Helmut Dosch who assumes office on 1 March, DESY will surely continue on its successful path. I am glad to

welcome an internationally highly renowned scientist as my successor to lead DESY. I would like to wish him and you a lot of success and the fortune that favours the bold.

Above all, I'd like to thank all of you for your excellent cooperation in the past 18 years – and for your long-lasting applause at the end of my address to the staff. I was deeply moved.

After all these years in the directorate I will withdraw a little, but I will never lose sight of DESY and all of you. I wish you all the best for work and at home!

Sincerely yours,
Albrecht Wagner

Sponsoring makes for additional revenues

Industrial exhibition at the HASYLAB Users' Meeting 2009 according to new regulations

by Karsten Wurr

On 30 January, about 50 experimental supply contractors presented their products to DESY employees and HASYLAB users at the HASYLAB Users' Meeting. This so far largest industrial exhibition at DESY was the first one to be carried out according to the new DESY regulations for sponsoring and promotional campaigns.

Motivated by the "Open Space" process, DESY tries to get additional revenues since 2008 with activities like these exhibitions, in cooperation with companies. They are actively informed of the possibility to present themselves

via DESY. Generally, DESY contractors and other firms could be considered to be possible sponsors. In addition to industrial exhibitions, services that DESY could offer for a fee are in-house exhibitions, advertisements in newsletters and poster programmes, contributions and advertising space at events or logos on websites of events and projects.

As the central contact for all sponsoring and advertising projects, DESY's technology transfer section (TT) makes a preliminary check to avoid possible problems, especially concerning corruption, tax and revenue laws and public image. After all aspects have been

clarified, a contract is to be concluded with the sponsors and advertising partners.

INFO

More information on sponsoring at DESY-TT: <http://tt.desy.de/>

DESY is involved in new Research Training Group

The German Research Foundation (DFG) will establish the Research Training Group "Mass, Spectrum, Symmetry: Particle Physics in the Era of the Large Hadron Collider" on 1 April in cooperation with the Humboldt University in Berlin and the Dresden University of Technology, and with the participation of DESY in Zeuthen.

The experimental research topics in physics beyond the Standard Model of elementary particles are closely connected with theoretical fields of work. Apart from special lectures and seminars at Humboldt University and Dresden University, there will be block seminars twice a year dealing with current topics of particle physics.

Back in the olden days...

DESY inForm collects anniversary anecdotes

DESY is going to be half a century old this year. In last month's issue of DESY inForm we told you all about the events taking place during this anniversary year. Now we need you: please share your memories with us! Any old photographs or historic documents you kept for exactly this reason? Any exciting stories or favourite anecdotes? Or maybe you still have your first brick-size mobile phone in your office or overalls with bell-bottoms in your wardrobe? Please share them with us! We are looking for all these things and more for our anniversary brochures, exhibitions and celebrations – things that have characterised and had an impact on DESY for 50 years.

We will happily scan your pictures or take photographs of you and your memorabilia – for this purpose please call 1847 or 3613 to make an appointment with the PR department. Or send an email with your story to inform@desy.de. We are not sure yet if and how we will include your memories into the anniversary year but we would not want to miss the opportunity to get the best out of you – as usual. We, the DESY inForm team, say thank you in advance for all contributions. (baw)



Do you have pictures like this one?

All aboard!

The largest machines of mankind are built by physicists, the largest moving objects by shipbuilders. On 25 February at 7 p.m. in the auditorium, Eigel Wiese will show pictures and lecture (in German) on "Giants of the Sea", the largest passenger liners of the world.

For his photo reportage, photographer and journalist Eigel Wiese from Hamburg had access to off-limit areas on ships like "Queen Mary 2". Let him take you away on a trip through the history of seafaring.



The test crew in the main control room.

FLASH on the outside, ILC within

Getting a flash of the full potential of superconducting acceleration

In the eventful lifetime of FLASH as a TESLA test, SASE pilot and X-ray laser facility there is still one piece of evidence missing: will it be possible to shoot a huge number of densely packed electron bunches through the accelerator – as defined by the design engineers? The ILC needs the high beam current for a high particle collision hit rate, the European XFEL and FLASH need it for a flexible delivery of X-ray light to experimenters. If it works, the strength of superconducting acceleration will have been pushed to its current upper limit. This evidence can only be obtained at FLASH, making it necessary to push the accelerator to the extreme. An international team attempts to accelerate "trains" of up to 2400 bunches with a length of 800 microseconds, at the highest gradient and with the highest possible reliability.

"We get a lot of support from DESY for our tests, from both the accelerator sector and the photon scientists," says DESY's Nick Walker. He and John

Carwardine from ANL are in charge of the project that is done as R&D for the International Linear Collider ILC.

After the team carried out first tests, shooting three times as many electrons into the FLASH accelerator as usual, a breakthrough was achieved in September: "The FLASH operating crew had prepared the accelerator perfectly," Walker beams. "We were able to shoot up to 550 electron bunches in one train through the whole accelerator!" Unfortunately, the vacuum system was damaged right in front of the beam absorber and the tests had to be terminated prematurely.

In January, the investigations continued – with half the power, because the FLASH vacuum leak could only be fixed temporarily. After the repair and after installing an improved beam monitor, the team hopes for another two weeks beam time in September to finally prove that the superconducting accelerator is able to accelerate bunches at such a high rate. (tz)



DESY's new research director Joachim Mnich

Full of high energy ...

Introducing Joachim Mnich as new research director

"I return to Hamburg every twenty years," says Joachim Mnich, new research director for high-energy physics and astroparticle physics, with a smile. He was born in Hamburg, but a few months after his birth his parents moved to the Rhineland. After studying in Aachen, he returned to Hamburg in 1984 for the first time to do his PhD at DESY. He then spent many years at CERN and became a professor at RWTH Aachen University – and in 2005 returned again to Hamburg to become leading senior scientist for CMS and the EUDET project. After being deputy for Rolf Heuer for a year, he officially assumed his office on 1 January.

Since the end of HERA, DESY may not operate its own particle accelerator for high-energy physics, but Mnich sees

DESY as a strong partner in the scientific landscape of the world. "Our strength is based on our ability to carry out particle physics experiments from the planning, construction and testing all the way to the analysis and evaluation. This is why this research field will always play a prominent role at DESY," says Mnich. The strategy: building on HERA results, DESY will play central roles at the LHC at CERN and "with full energy" lead the way to the next planned accelerator ILC. Moreover, DESY will pursue the ideas of the Helmholtz Alliance "Physics at the Terascale" with the goal to carry on with the new structures even after the funding period. (baw)

Souvenirs

DESY is not only on a quest to answer the great questions of humanity but also tries to help in everyday life. Three useful things (in the new corporate design) might make your life a little easier: a letter opener for your mail, DESY pens and new DESY shopping trolley chips to save the trouble of searching for the right coin. The new DESY souvenirs are available at PR (foyer, bldg.1). These can also be used as giveaways for conferences and similar events. We also plan to offer mugs and cotton bags in the new look. We still have T shirts, lanyards and umbrellas in the old (but still valid) look. (uw)



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New gate at Flottbeker Drift – but not for DESY staff!

Behind the canteen the lorry passage to the street Flottbeker Drift, which serves as the connection between the European XFEL construction site and the Osdorfer Landstrasse, has now been opened. For a year, this entrance will be used by around 160 lorries a day (80 in each direction) to carry away the 200 000 cubic metres of soil that

have to be removed on the construction site behind Building 2. The guarded passage is reserved for specially authorised construction lorries. Other lorries or cars as well as pedestrians and cyclists cannot pass and have to continue using the main entrance.