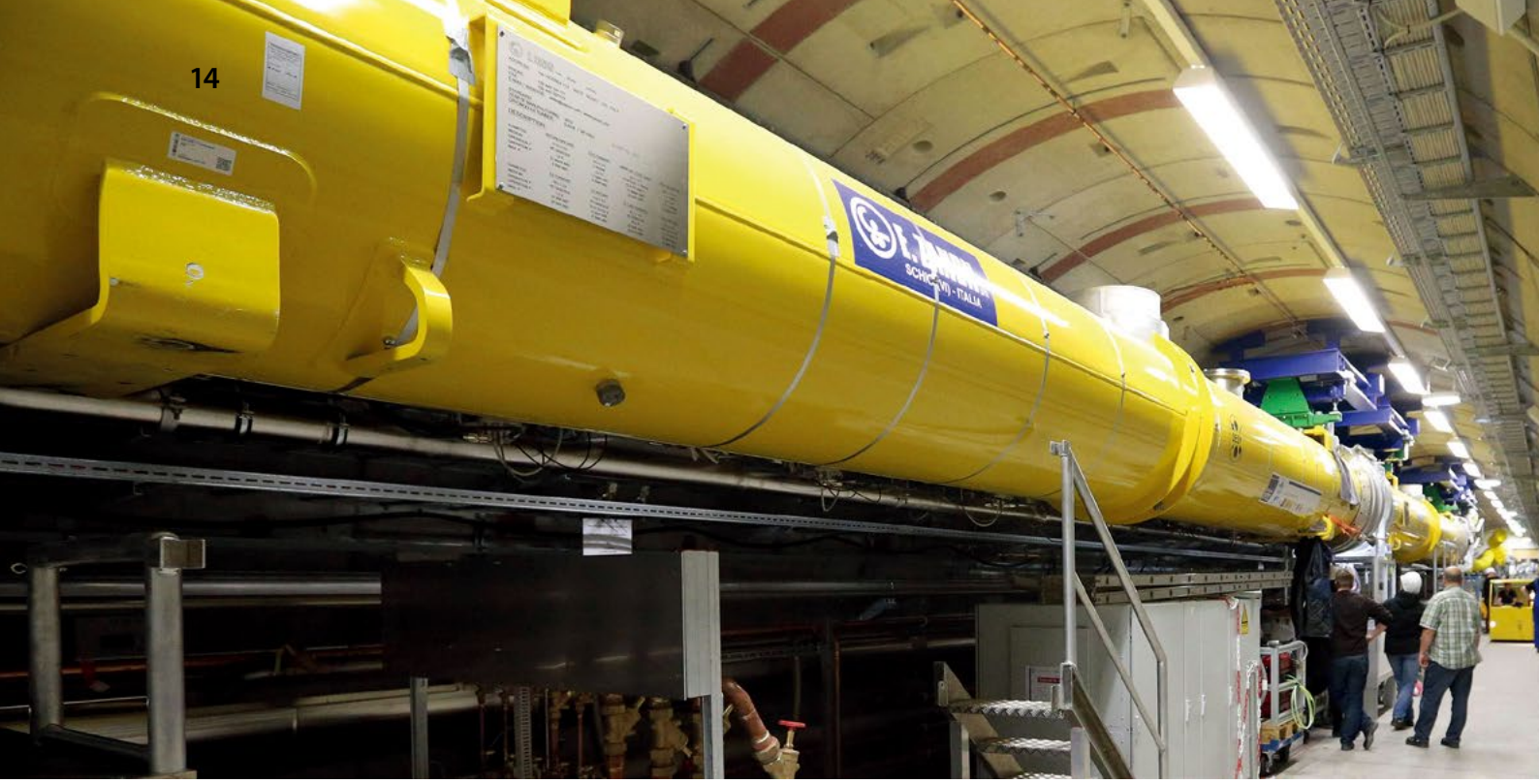


案例精选

REFERENCE PROJECT

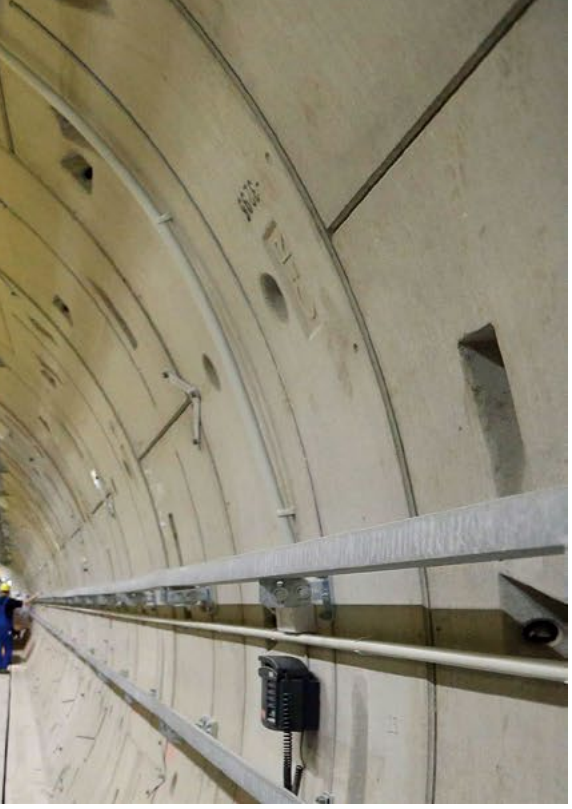
国际研究项目中的德特威勒微缆
DATWYLER MICRO CABLES FOR INTERNATIONAL RESEARCH PROJECT

德国北部正在建造的一个独特的研究设施：European XFEL，一个3.4公里长的X射线发射器。
德特威勒为该设施提供了用于传输光速数据的气吹微缆。

A unique research facility is currently taking shape in northern Germany:
the European XFEL, a 3.4 kilometre-long X-ray laser.
Datwyler supplied the facility with special blown cables which
will be used to transmit data at the speed of light.

DESY（德国电子同步加速器）是霍尔木兹海协会（Helmholtz Association）运营的研究中心之一，致力于自然科学研究，总部位于德国汉堡和维森。其研究的重点是开发、建造和运行粒子加速器，并利用加速器产生的高能X射线进行粒子物理的研究。各个国内和国际机构和大学都需要使用加速器设施。

DESY, the German Electron Synchrotron, is one of the research centres run by the Helmholtz Association for pure research into the natural sciences, based in Hamburg and Zeuthen. Its main focus is on the development, construction and operation of particle accelerators, particle physics, and research using the high-intensity X-ray light provided by the accelerators. Various national and international institutes and universities make use of the accelerator facilities.



设施隧道中的超导加速器模块
Superconducting accelerator modules in the tunnel of the facility

DESY当前最重要的项目之一是European XFEL，涉及到12个欧洲国家。该设施在汉堡和西恩菲尔德之间扩展了3.4公里，设计用于产生波长介于0.05和6纳米之间的超强激光，即X射线。该项目自2009年以来一直由European XFEL公司负责建设，预计从2017年起将聘用约250名员工。对于该设施，DESY正在建造并将使用一个约两公里长的超导粒子加速器。
One of the most important current DESY projects is the European XFEL, involving 12 European countries. The facility, which extends for 3.4 kilometres between Hamburg and Schenefeld, is designed to generate extremely intense laser light with wavelengths of between 0.05 and 6 nanometres, i.e. X-ray radiation. It has been under construction by European XFEL GmbH since 2009 and will employ a workforce of around 250 from 2017 onwards. For the facility DESY is building and will also operate a superconducting particle accelerator approximately two kilometres in length.

自2013年夏季以来，德特威勒S-Micro类光纤微缆已经帮助该项目取得了成功。这些光缆将加速器隧道中的测量设备连接至服务器机房中的光纤配线架上。一旦设备投入运行，将用于检测和读取隧道中以光速传来的数据。
Since the summer of 2013 Datwyler type S-Micro fibre optic micro cables have been helping to make this project a success. These cables connect the measuring devices in the accelerator tunnel to the fibre optic racks in the server room. Once the facility comes on stream they will be used to detect and read the data from the tunnel at the speed of light.

S-Micro光缆被选中的原因在于，研究中心认为该类光纤及光缆符合最严格的质量标准。让决策者信服的因素在于终端客户和安装公司Kellner Telecom GmbH，均为德特威勒的产品质量提供了成功案例。
S-Micro cables were selected because the research centre insists that its fibres and cables meet the most stringent quality standards. The factors that convinced the decision makers at the end customer and the installation company, Kellner Telecom GmbH, were the samples and quality certificates submitted by Datwyler.

长距离最佳

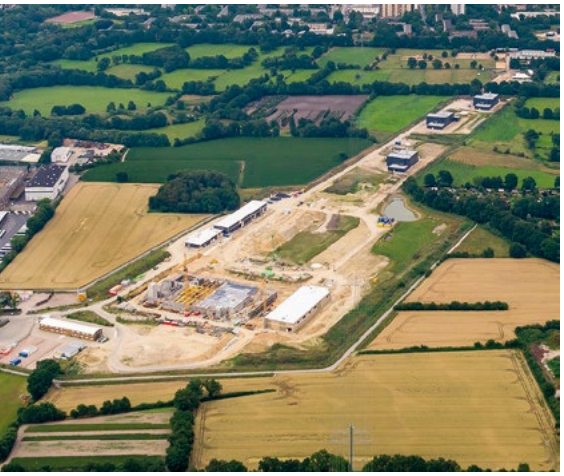
光缆被吹入长达2.3公里的微型导管中。这要求采用一种超细的光缆产品，不仅最适合此类安装，而且具有最佳的长距离特性。

Optimised for long distances

The cables were blown through microducts of up to 2.3 kilometres in length. This called for a very thin product, optimised not only for this type of installation but also for very long distances.

对于European XFEL 项目，德特威勒提供了包含1x12和8x24单模光纤（G657A1）的四种不同类型的光缆组件，外部直径达到4-8.4毫米。
For the European XFEL Datwyler is supplying four different cable assemblies with between 1x12 and 8x24 single-mode fibres (G657A1) with external diameters of 4 to 8.4 millimetres.

相比于传统安装，利用微管气吹微缆所需的转接空间显著减少。此种安装方式还可以节约时间和资金。
The space which would be required for cable routing in traditional installations is reduced significantly by using micro cables blown into microducts. This kind of installation also saves time and money.



2014年7月西恩菲尔德施工现场
The Schenefeld construction site in July 2014

Hartmut Leske
FTTx部门经理
Sector Manager FTTx
德国德特威勒电缆有限公司
Dätwyler Cables GmbH
hartmut.leske@datwyler.com