



这一新的城市图书馆提供给读者多媒体学习设施以及高端计算机站。
The new City Library offers to its visitors multi-media learning facilities and high-end computer stations.

参考项目

REFERENCE PROJECT

现代化的
高效与安全并存
**MODERN
EFFICIENT AND
SAFE**

从此建筑的外面看来给人一种发光立方体的感觉。
From the outside the newbuild gives the impression of a shining cube.



自从2011年10月斯图加特市拥有了一座新的极其现代化的城市图书馆。产生这座在建筑上很震撼的大厦的“活力的来源”的一部分是它的强大的通讯布线以及一个可靠的消防安全的电缆系统，这两者都源自于德特威勒。

Since October 2011 the City of Stuttgart has a new, ultra-modern city library. Generating some of the “lifeblood” of this architecturally striking building are its powerful communications cabling and a reliable fire safety cable system, both of which owe their origins to Datwyler.



不含卤素的CU 7080型7类数据电缆。
Halogen-free Category 7 type CU 7080 data cable.

在2011年10月24日，斯图加特市在MailänderPlatz 开放了它的新的市图书馆。这座大厦的特点是它的引人入胜的建筑，此建筑是基于韩国建筑师Eun Young Yi的设计。从外部看，此建筑的walk-on双正面由混凝土、玻璃砖和玻璃制成，给人以闪耀的立方体的感觉，并且在夜晚它有明亮的照明。在大厦的中心，也有一个立方型的房间，围绕着它安排了各种主题区域，包括阅读和学习位置、一个儿童图书馆、一个音乐图书馆、一个艺术印刷图书馆、一个画廊、一个艺术室以及一个“文学咖啡厅”。在图书馆中，访问者能使用带有内部网络书籍的多媒体学习设施，除此之外，他们还能够通过WLAN来使用最现代化的媒体。某些高端计算机站甚至提供了使用3D或虚拟现实节目的机会。

On 24th October 2011 the City of Stuttgart opened its new City Library on the Mailänder Platz. Its striking architecture which characterises the building is based on a design by the South Korean architect, Eun Young Yi. From the outside the new-build, with its walk-on double facade made from concrete, glass blocks and glass, gives the impression of a shining cube, and it is also brightly lit at night. In the centre of the building there is also a cube-shaped room around which various themed areas including reading and learning stations, a children's library, a music library, an art print library, a gallery, an art room and a 'literature café' are arranged. In the library visitors have access to multi-media learning facilities with in-house networks, in addition to which they are able to access the most modern media via WLAN. Some high-end computer stations even offer the chance to use 3D or virtual reality programs.

城市图书馆之所以能同时为众多来访者提供数量如此巨大的并发数据服务，完全归功于其所拥有的一个强大的数据网络，该网络在垂直主干布线区域采用了光纤(FO)布线系统，而在每个楼层的水平布线上则采用了高质量铜缆布线技术。该通讯布线系统是由西门子楼宇技术公司根据城市规划指导方针施工完成的。

The physical basis for the large number of communication possibilities offered by the City Library to its visitors is a powerful data network using fibre optics (FO) in the riser area and high-quality copper technology at individual floor level. Construction of the communications cabling system was carried out by Siemens Building Technologies based on City planning guidelines.



铜缆和光缆的系统解决方案

System solution in copper and fibre optics

这个网络项目的成功实施，离不开项目经理 Achim Matzka 以及每个相关现场管理人员的辛勤工作，更要归功于一套由德特威勒公司提供的完整系统解决方案。地下室的服务器机房通过紧套光缆与每个楼层上的配线架连接，每一根光缆带有12或24芯的OM 3多模光纤。需求中所有光缆软跳线和预连接光缆均由德特威勒提供，两端预装SC连接器。在每个楼层，安装工程将不含卤素的7080型7类线缆置入阻燃的桥架、管路中。同时安装的还有RJ 45型MS-K模块以及相应的配线架及终端面板。通过以上的施工，西门子为大楼布置了一套带宽达到500MHz的Class E_A通讯网络，并符合当前的ISO/IEC标准。It was Project Manager Achim Matzka and the responsible site managers who made the network a reality, complete with a system solution from Datwyler. The server room in the basement was connected with the distributors on the individual floors via tight buffered (TB) fibre optic cables, each with 12 or 24 OM 3 multimode fibres. The required optical fibre pigtails and connection cables were supplied by Datwyler, complete with pre-assembled SC connectors on both sides. On the individual floors the installation engineers laid halogen-free Category 7 type CU 7080 cable in flame-retardant construction. Together with the RJ45 MS-K modules and the corresponding patch panels and data outlets, Siemens laid a Class E_A communications network up to 500 megahertz capacity which is in line with the current ISO/IEC Standard.

总的来说，在Martin Jakob, Thomas Kyll和Ralf Kohl的指导下，项目共安装了126公里的数据铜缆（单工或双工），144个24口配线架，6,400个MS-K模块以及3,200个终端信息点（如果没有被使用的话，它们会被防尘盖保护起来）。在光缆布线中，则有超过3,200米的室内光缆以33个光纤配线架被安装在系统中，每一个光配架预装带有12个双通道接头。

Overall the teams, under the direction of Martin Jakob, Thomas Kyll and Ralf Kohl, installed 126 kilometres of copper data cables in Simplex and Duplex construction together with 144 patch panels, each with 24 ports, as well as 6,400 MS-K modules and 3,200 data outlets which are protected by dust covers if not used. In the fibre optic cabling, there are a further 3,200 metres of FO Indoor cable and 33 FO patch panels, each with 12 pre-assembled Duplex connections.

现在，不仅仅是个人电脑、笔记本电脑、电话以及无线网络接入点被连接到新的网络中，还有大量的其他系统可以连接进来，譬如说VA/PA系统、书籍目录分类以及书籍安全装置和电子书籍借阅归还系统。内部管理网络和其他网络（例如可连接大众网络的数据点）之间必须保持严格的物理层隔离。

Today, it is not only the PCs, netbooks, telephones and WLAN access points that are connected to the new network, but also a number of other systems, for example, the VA/PA system, the book cataloguing and book security installations and the electronic book issue and return systems. Physically, strict separation is maintained between the internal administration network and other networks, e.g. the connections accessible to the public.



安全电缆提供了火灾时的电路完整性。
Safety cable offering circuit integrity in case of a fire.

安全并且可靠的电源供应

Safe and secure power supply

甚至在安全照明和紧急电源的提供（两个系统都与中央楼宇服务相联系）这两个倍受关注的地方，西门子也采用了德特威勒提供的解决方案。安装工程安装了大约14公里的安全电缆，大约1,000个Hermann夹头和单夹子（更包括数不清的特殊销子），以满足系统完整性（系统耐火等级）E30/E90等级的要求。当然，所有的部件均通过了测试认证以确保整个电缆安装的可靠性，并可在发生火灾时能为整个安全系统持续供电超过30/90分钟。

Even where security lighting and the provision of an emergency power supply – both disciplines associated with central building services – are concerned, Siemens have made use of solutions from Datwyler. Here the installation engineers have fitted around 14 kilometres of safety cables, around 1,000 Hermann clamps and single clips as well as countless special pins – offering system circuit integrity E30 / E90. Naturally, all the components have the necessary test certificates. These confirm that entire cable installation can be relied upon to continue to supply the connected safety systems with power for up to 30/90 minutes in the event of a fire.

面向未来的保证

Future-proof to a major extent

安装工作在2010年8月和2011年5月间实施，总体而言，工程进行得十分顺利。在2011年9月的通讯网络验收之前，西门子公司对已安装的所有的铜缆和光纤信息点进行了全面、彻底的测试。在全部3,200个连接点中，仅仅只发现了4个问题——对于类似规模的安装工程而言，这样的比例可以说是非常完美。

The installation took place between August 2010 and May 2011 and, in the main, things went smoothly. Prior to acceptance tests for the communications network in September 2011, Siemens carried out extensive and very thorough measurements and tests on all copper and FO links installed. Only four faults were identified out of a total of 3,200 links – an excellent proportionate score for installations of this magnitude.

正如项目经理Achim Matzka确信的那样，“德特威勒通讯网络符合了最新的技术水平；它提供了很高的性能预留并且可以在任何时候进行扩展。对于这点，可以这样说：这次安装为未来提供了极高的可靠性。”

As Project Manager Achim Matzka is able to state with some conviction: “The Datwyler communications network is in accordance with the latest state-of-the-art technology; it offers high power reserves and can be extended at any time. To this extent, it may be said that the installation offers high levels of reliability for the future”.



带有预端接接头的光配架。
FO patch panels with pre-assembled connectors.

