案例精选

REFERENCE PROJECT

为圣马林塔尔修道院安装光纤网络

CONVENT INSTALL FIBRE OPTIC NETWORK

位于德国下劳齐茨，奥斯特里茨附近的圣马林塔尔修道院
The Convent of St. Marienthal near Ostritz in Niederlausitz.

在修复和更新数据和通信系统时，位于下劳齐茨的圣马林塔尔修道院选择了德特威勒公司的整套光纤到办公室（Fibre-to-the-Office）解决方案。

When repairing and upgrading its data and telecommunications system, the Convent of St. Marienthal in Niederlausitz opted for a complete Fibre-to-the-Office solution from Datwyler.

圣马林塔尔修道院位于萨克森州奥斯特里茨镇南部，坐落在奈塞河劳齐茨段的左岸，始建于13世纪，是德国现存最古老的西多会修道院。这座占地面积巨大的修道院建筑结构复杂，包括大修道院、修道院教堂、小修道院、十字架礼拜堂和各种附属建筑，其附属建筑包括修道院市场和历史悠久的锯木厂。自1992年以来，一些早期的农场建筑还配有一个国际会议中心，其位于德国、捷克共和国和波兰的三国交界处，致力于调和及达成国际间的相互谅解，并且，同修道院一样，该中心也设有多间客房。

2010年8月，这座斥以巨资修复重建的综合性修道院经历了自建立以来最为惨重的洪灾。洪水令所有人大为惊愕，一波接一波的洪水冲破门窗，给走廊和墙壁造成了严重损坏，毁坏了道路和公共设施，还完全损坏了屋内的大量设备和器械。洪灾造成了数百万元的经济损失。自此之后，该修道院忙于灾后处理，并组织了大规模维修、重建和修复工作，这些工作将持续几年时间。

修道院二楼的主配线房
The main distributor area on the second floor of the convent building.

The Convent of St. Marienthal is situated south of the small town of Ostritz in Saxony, on the left bank of the Lausitzer Neisse. Founded in the 13th century, it is the oldest Cistercian convent in Germany to have survived right through to the present day. The extensive convent complex comprises the convent building with the abbey, the convent church, the priory, the cross chapel and various outbuildings, including a convent market and a historic sawmill. Since 1992 some earlier farm buildings have also housed an international meeting centre which, in the three-border region of Germany, the Czech Republic and Poland, is dedicated to reconciliation and international understanding and which, like the convent itself, has several guest houses.

In August 2010 the expensively restored convent complex suffered the worst flooding since its foundation. The flash flood took everyone by surprise, the ensuing deluge bursting through doors and windows, causing severe damage to gateways and walls, destroying roads and facilities and totally demolishing the interiors together with quantities of equipment and machinery. The damage left by the flood was reckoned in millions. The convent has been busy dealing with the aftermath ever since and is involved in extensive renovation, rehabilitation and restoration work which is set to continue for years to come.

在修道院阁楼内，将光纤环网沿着线缆托架设置
The fibre optic ring is routed along cable trays in the attic of the convent buildings.

决定采用光纤网络
Decision in favour of a fibre optic network

这场洪灾还破坏了电子数据处理（EDP）基础设施。修道院计划将数据和通信系统的维修和升级作为目前重建工作的一部分，并决定采用光纤到办公室（FTTO）的解决方案。由于这些都是受保护的建筑物，在电缆布线和管理方面必须满足许多要求，因此这种能够大大降低电缆容积的光纤解决方案不失为最为正确的选择。

The flooding had also wiped out the EDP infrastructure. The plan was to repair and modernise the data and telecommunications system as part of current rehabilitation work, and the decision was made in favour of a Fibre-to-the-Office (FTTO) system. This type of fibre optic solution with a substantially lower cable volume seemed to be the right choice since these are listed buildings, and therefore have to meet a plethora of requirements relating to cable routing and management.

圣马林塔尔修道院指定了位于多伊纳的Werner Vaterodt - ibwv KG公司（一家工程咨询公司）来负责规划及现场管理等事宜。修道院进行了合同招标，并最终将合同授予了德特威勒公司，公司为新的数据和通信系统提交了最具性价比的实施报价。

The Convent of St. Marienthal appointed Werner Vaterodt - ibwv KG, a firm of consulting engineers in Deuna, to carry out planning and site management. The contract was put out to tender and awarded to Datwyler, who submitted the most cost-effective quotation for implementing the new data and telecommunications system.

光纤环网让建筑与外界联系起来
Fibre optic ring opens buildings up

德特威勒公司在2012年9月开工，首先在修道院二楼建造了具备"防洪"功能的主配线房，该房间经过改建同时也用作服务器房。从这里开始，所有建筑，包括小修道院和修道院服务大厅，均通过光纤环网连接到一起。在光纤环网方面，德特威勒公司主要采用24芯OS2单模光缆，并端接到双工LC熔纤盒中。公司在修道院建筑内采用了星形的布线配置，将四个小尺寸分线板分别安装在每一层楼上，由光纤连接。以每层楼的这些分线板为出发点，大多数行政办公室、客房、会议室和修女生活区回廊上均安装有4芯OM3多模光缆，还有一些地方同步安装了铜缆信息点。个别光纤未接入环网线缆上，而是直接接入小修道院中的主数据配线架，从而为互联网提供商提供了直联的可能。

Datwyler made a start on the work in September 2012. First of all a "flood-proof" main distributor area which will also be used as a server room following renovation was created on the second floor of the convent building. From there all the buildings, including the priory and the convent servants' hall, were connected by a fibre optic ring. For the fibre optic ring Datwyler used mainly 24-fibre OS2 single mode cables which were terminated on LCD splice boxes. In the convent buildings themselves a star-shaped cabling configuration was installed with four small distribution boards on each floor linked by fibre optics. From these distribution boards on each floor the administrative offices, guest rooms, conference rooms and the nuns' living quarters in the cloister are for the most part supplied with 4-fibre OM3 multimode cables, some also with copper cables. Individual optical fibres were removed from the ring cable and taken to the main data distributor in the priory in order to provide direct supply points for the Internet provider.

通过微型交换机提供普通的铜缆接口
Mini switches provide the usual copper connections.

一般的终端设备连接
Usual end device connections

单独的办公室、客房和其他区域的光纤电缆均采用微型交换机。共安装了大约90个这样的小型媒体转换器，使当今的用户能够像往常一样通过铜缆接口将个人电脑、笔记本电脑和固网电话连接至新网络。同时还使用微型交换机来集成提供无线局域网（LAN）。

The fibre optic cabling in the individual offices, guest rooms and other areas terminates in mini switches. Around 90 of these little media converters allow today's users to connect their PCs, laptops and landline phones to the new network using copper connections as before. Mini switches are also used to integrate the Wireless LAN.

长距离的线缆被保护在薄壁塑料管中，通常埋入墙内安装，在此基础上，德特威勒公司的“赫尔曼夹”还支持多线缆的安装。虽然屋顶梁历史久远，不能直接使用螺钉来固定，安装人员在修道院阁楼中选择使用了线缆托架系统。

Long cable runs are routed in thin armoured plastic ducts, often underneath the plaster, as well as in Datwyler´s "Hermann clip" multi-cable supports. The installers were able to use a cable tray system in the attic of the convent building, although the historic roof beams meant that it could not be screwed on directly.

在这座几百年历史的复杂建筑上开展维修时，其他会影响到维修作业的特殊因素包括：在大约1米厚的墙上打通约30个开口，并且，地面上历史悠久的地板，在施工前全部被编上编号，必须小心移动，一旦布线完成立刻还原，所有一切需咨询萨克森州历史遗迹保护办公室。

Other special features affecting work on the centuries-old building complex included around 30 openings through walls up to one metre thick, and historic flooring where the previously defined floor slabs had to be carefully removed and faithfully re-laid once wiring was complete – all in close consultation with the State Office for the Preservation of Historic Monuments.

工程准时完成
Job completed on time

工程稳步进行。院区布线原计划于2012年圣诞节之前完成。建筑内的布线路径选择和连接工作于1月份的第二周开始，与修道院日常的工作同时进行，于2月份完工。德特威勒公司与获得了专业认证的伙伴公司紧密合作，该公司同样承担了大量的熔接工作。

Work progressed without a hitch. The campus cabling was finished before Christmas 2012 as scheduled. Routing and connection work in the buildings, begun in the second week of January and carried out in parallel with the convent's day-to-day operation. It was completed in February. Here Datwyler collaborated closely with a specialist certified partner company which also handled the bulk of the splicing.

Thomas Borg
中部地区区域销售经理
德特威勒电缆有限公司
Area Sales Manager Central Region
Dätwyler Cables GmbH
thomas.borg@datwyler.com