



联邦民防办公室在Monbijoustrasse 51A的入口。  
Federal Office for Civil Protection, entrance at Monbijoustrasse 51A.



更新改造项目包括有Monbijoustrasse 47-51、51A及Giessereiweg 4-6的建筑物的网络。  
The refurbishment project included the network in the buildings at Monbijoustrasse 47-51 and 51A as well as at Giessereiweg 4-6.

参考项目

REFERENCE PROJECT

# 仅仅只有 短暂的打扰 BRIEF DISTURBANCE ONLY

瑞士伯尔尼的联邦民防办公室的有缺陷的  
通讯网络突然需要进行某些翻新，  
同时业务照常进行。经由一种  
“紧急解决方案”，德特威勒的Class E<sub>A</sub>系统得到安装，  
这给了运营者一种可靠的长期投资。

The faulty communications network at the Federal Office for Civil Protection in Bern was in need of some premature refurbishment – and this needed to happen against the background of ‘Business As Usual’. By way of an “emergency solution”, a Class E<sub>A</sub> system from Datwyler was installed, offering the operator a secure long-term investment.

瑞士伯尔尼的联邦民防办公室的大楼预定在2017年进行一次全面的翻新。这一翻新的一个组成部分将是安装一种新的结构化的通讯布线系统。

In 2017 the building complex at the Federal Office for Civil Protection in Bern is scheduled to undergo a general refurbishment. Forming part of this refurbishment will be the installation of a new structured communications cabling system. 然而，重新布线等不到2017年。Windows Vista的引入使得此安装提前进行，以防止任何对日常运行的打扰，如果不这样做，这些打扰预计就会发生。这意味着在2010年12月和2011年5月期间将通讯网络升级。这个项目包含按需要将位于Monbijoustrasse 47-51的大厦的现有网络延长，以及将位于51 A和Giessereiweg 4-6的大厦的网络进行全面的更换。使得这些安装变得特别的是这一事实，即这些工作都是在业务正常进行的情形下实施的。

However, rewiring could not wait until 2017. The introduction of Windows Vista made it necessary to bring the installation forward so as to prevent any disturbances to routine operations that might otherwise be anticipated. This meant bringing the communications network forward to the period between December 2010 and May 2011. The project comprised the extension of the existing network in the buildings at Monbijoustrasse 47-51 as necessary and a comprehensive programme of replacements at the buildings situated at 51 A and at Giessereiweg 4-6. What made these installations special was the fact that the work was carried out while business was proceeding normally.

**强大的Class E<sub>A</sub>系统**  
**Powerful Class E<sub>A</sub> system**

有缺陷的基础设施，连同现有的布线，将被一个现代化的、强大的Class E<sub>A</sub>系统来取代，作为未来的10 Gigabit以太网(10 GbE)传输的基础，并且提供了长期的投资保护。

The faulty infrastructure, in parallel with the existing cabling, was to be replaced by a modern, powerful Class E<sub>A</sub> system serving as a basis for future 10 Gigabit Ethernet (10 GbE) transmissions and offering long-term investment protection. 基于Telematics Management Consultancy的Robert Thommen作出的设计，在办公室区域指定了7<sub>A</sub>类铜数据电缆以及6<sub>A</sub>类RJ 45 Keystone连接技术。对于骨干布线，要求采用带OM 3类光纤的光缆(FO)。

Based on a design by Robert Thommen, Telematics Management Consultancy, Category 7<sub>A</sub> copper data cables and Category 6<sub>A</sub> RJ 45 Keystone connection technology were specified in the office area. For the backbone cabling, the requirement was for fibre optic (FO) cables with category OM3 fibres.

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安装进现有机架内的新布线。  
The new cabling fitted into the existing racks.

从联邦政府建筑和物流部门发出的各自的订单(基于德特威勒设计的解决方案)到达ARGE ElektroBurkhalter AG和Agel AG。在每一层楼安装工人安装AWG 22 CU 7150电缆，端接于19”接插板里的6<sub>A</sub>类RJ 45 Keystone模块。骨干方案保护德特威勒的FO室外电缆(带G50/125 µm OM 3光缆和随时可插接的FO接插板)。

The respective order from the Federal Office for Buildings and Logistics, based on a solution devised by Datwyler, went to ARGE Elektro Burkhalter AG and Agel AG. On each storey the fitters installed the AWG22 CU 7150 cables, terminating in category 6<sub>A</sub> RJ45 Keystone modules in 19” patch panels. The backbone solution consists of Datwyler’s FO Outdoor cables with G50/125 µm OM3 fibres and ready-to-splice FO patch panels.

新的布线依照ISO/IEC的Class E<sub>A</sub>进行检测。

The new cabling was tested in accordance with Class E<sub>A</sub> to ISO/IEC.

**在楼层并且做计划**  
**In stages and to plan**

同时，在办公区域，ARGE的安装和调试活动在一层楼一层楼地进行。这样做的好处是安装队伍满足了联邦政府部门将施工过程对员工的日常工作的打扰降低到最小的要求。这里的优点之一是这一事实，即新的RJ 45模块能够相当快速地在现场安装。另外，安装工人能够按计划将铜线系统容纳在现有的分配器机架中，并且获得很高的端口密度。在楼层和主分配器之间最大程度地继续使用现有的FO布线(62.5/125 µm OM 1)也得到证实。

Meanwhile, in the office area, ARGE’s installation and commissioning activities were proceeding floor by floor. In so doing, the installation teams came up against the Federal Office’s requirement to minimise the amount of disruption to the working practices of its employees. One of the advantages here was the fact that the new RJ45 modules could be installed relatively quickly on site. In addition, the fitters were able to accommodate the copper system in the existing distributor racks as planned – and to achieve high port densities. It also proved possible to continue using the existing FO cabling (62.5/125 µm OM 1) between the floor and the main distributors to a major extent.

“这个项目是在瑞士最先实施的采用新型Keystone Cat.6<sub>A</sub>模块的项目之一”，负责Telematics在联邦政府部门的项目经理Markus Gautschi解释道。以他的经验：“德特威勒的解决方案提供了优异的投资价值、高质量的材料(这些材料能够很快地连接到电源上，也保证了优异的价值)。这意味着安装和调试工作成为了一种非常直接和结构化的操作，完全按照客户的时间约束条件来进行。”

“This project was one of the first in Switzerland to be implemented using the new Keystone Cat.6<sub>A</sub> modules”, explained Markus Gautschi, the Project Manager responsible for Telematics at the Federal Office. In his experience: “Datwyler’s solution offers good value for money, good quality material which can be quickly connected to the supply as well as guaranteeing excellent values. This has meant that installation and commissioning have been a very straightforward and structured operation, wholly in accordance with the customer’s time constraints”.



从里面看分配器机架：最佳的电缆路线安排。  
Distributor rack from the rear: optimum cable routing.

一个进一步的但绝不是不重要的起作用的因素是这一事实，即HeinigerKabel AG的网络部门总是非常勤奋，保证了按时的交付。

A further and not insignificant contributory factor was the fact that the network department at Heiniger Kabel AG has always been ‘on the ball’ and ensured punctual deliveries.

**稳健的、可扩展的网络**  
**Robust, expandable network**

今天，通讯布线系统为所有的工作场所的数据应用提供了一个达到10 gigabits的稳健的基础。归功于AWG 22电缆，将所有的设备连接到采用Power-over-Ethernet(以太网)容量的电缆系统成为可能。

Today, the communications cabling provides a robust foundation for all workplace data applications up to 10 gigabits. Thanks to the AWG 22 cables, it is also possible to connect all the equipment supplied to the cable system using Power-over-Ethernet capability.

这个网络按计划将在最迟2017年得到扩展。在那时，联邦民防办公室计划与所有的达到10 GbE的应用一起整合Voice-over-IP电话。The network is scheduled to undergo expansion by 2017 at the latest. It is then that the Federal Office for Civil Protection is planning the integration of the Voice-over-IP telephones together with all applications up to 10 GbE.

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