



## Hamilton Sets Standards

«We drive innovation to improve people's lives.» With this mission, Hamilton has been developing and manufacturing high-tech solutions for labs and medicine for almost 70 years now. Hamilton sets standards.

Like a lot of fascinating companies, Hamilton was born in a garage. Clark Hamilton, a chemical engineer who had studied at MIT, set himself a major goal at the end of the 1940s. He wanted to develop a precision tool that could handle the smallest liquid samples and invented the legendary microliter syringe.

In 1953, the pioneer started producing them in his own workshop in Whittier, near Los Angeles, and his precision syringes have been shaping analytical processes in chemistry and diagnostics ever since. Today they continue to sell for the same price as they did when the company was founded.

### Market leadership

The company grew quickly and was relocated to Reno, Nevada, in 1960. Six years later Clark Hamilton founded a hub outside America, in Bonaduz, Switzerland. He had fallen in love with the region and the Swiss mountains. Here he wanted to drive forward product development in the spirit of «Made in Switzerland». It also helped to boost sales in Europe.

Today, the family-owned company is the global market leader in the automated handling of the smallest amounts of liquid. The pipettes, miniature laboratories and sensors

set standards in medical technology as well as in the chemical, pharmaceutical, life science and food industries. Hamilton's innovations enabled the first automated screening of whole blood for AIDS and hepatitis.

### Deployment in the pandemic

The intelligent ventilators are just as useful. They were developed and have been manufactured since 1983 in Bonaduz by affiliate Hamilton Medical. They provide safer care for critically ill patients. Demand for these quality products has risen sharply during the current pandemic.



Thanks to the dedication of the Hamilton employees, countless additional hospitals around the world and even the army can be supplied with the equipment and consumables within a very short time. Standardized and highly automated manufacturing processes enable ventilators to be assembled every 40 minutes.

### Investments on site

The Hamilton companies develop their locations as dynamically and single-mindedly as their innovations and growth. The most recent key project was the construction of a new production plant with an automated small parts warehouse in Domat/Ems in the Swiss canton of Graubünden.

Hamilton always implements cabling systems by R&M. Under great time pressure, the experts from Elektro Rhyner AG, based in Glarus, installed the extensive LAN and server room cabling in the new building in Domat/Ems. Naturally it was imperative to adhere to the strict safety, compliance and hygiene standards of the medical industry.

Before that, Hamilton commissioned Schönholzer AG from Chur to connect the campus with a fiber optic network and modernize the network. A restructured data center had to be reconnected. The installation work had to be carried out during ongoing operations and at high speed.

The question of space was a challenge for the planners and installers from Schönholzer. They had to accommodate the new fiber optic and copper cabling in historically grown routes and channels of the industrial building. «That was really hard work and a leap in time for us,» says Achim Sax, facility manager at Hamilton. Furthermore, infrastructures for the use of Power over Ethernet (PoE) and the Internet of Things (IoT) had to be created. This will enable Hamilton to automate further processes in the future.

«We cannot afford any mistakes or interruptions and need absolutely secure connectivity at all sites.»

Achim Sax, Head of Facility Management, Hamilton Bonaduz AG

Achim Sax explains: «A lot has changed over the last five years. Office and production require more and more IoT, cloud, bandwidth, automation and collaboration solutions. Everything is becoming more digital and our networks have to be equipped to cope with that. Good connectivity is essential in our branch.»

### Standardization: a successful model

Despite all the dynamics, the projects succeed with utmost precision. Standardization is the key to success.

Precisely defined manuals for the data centers and cabling systems at the plants in Graubünden as well as for the plant in Romania dictate how copper and FO installations have to be carried out at Hamilton. They contain specifications for network components, nomenclatures, notes on standards, measuring methods and warranty processes.

Hamilton and R&M developed the manuals together in the interest of a holistic, modular and expandable infrastructure. Planners and installers must comply exactly with the manuals and specified installation processes. The standards also stipulate that only planners qualified by R&M are admissible.

Achim Sax and his ICT colleague Roman Janett have implicit faith in the R&M products: «They always work.» Quality, operating safety, reliability and the warranties are part of the offers. R&M accompanies each project closely with expertise, project support, logistics and, in the area of fiber optic cabling, also with measurements.

«We cannot afford any mistakes or interruptions and need absolutely secure connectivity at all sites,» Achim Sax says explaining the consistent standardization and the high demands made of project partners. Because network technology should also contribute to improving people's lives.



### R&M cabling solution for the Hamilton headquarters in Bonaduz

The campus development and network modernization at the Hamilton headquarters in Bonaduz is based on:

- FO backbone with OS2/OM4 cables, resources for a transmission performance of 40 Gigabit Ethernet
- Server connection to the data center with MPO connections, OS2/OM4 cables and RJ45 copper trunk cables, integration of distributed rack locations
- Vertical infrastructure up to the floor switches with fiber optic cabling
- Horizontal cabling in the office sector with Cat. 7<sub>A</sub> S/FTP AWG22 copper cabling and the R&M modules Cat. 6<sub>A</sub> EL (ISO) for the use of 10 Gigabit Ethernet



In the new building in Domat/Ems. From left to right: Achim Sax, Head of Facility Management, Hamilton Bonaduz AG; Roman Janett, ICT Network Engineer, Hamilton Bonaduz AG; René Wunderli, R&M Switzerland.



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