NEXT STOP: HOLMENKOLLEN, GRÅKAMEN OR TVEITA. THE OSLO METRO – OR “T-BANE” – IS A LIFELINE FOR THE NOWEGIAN CAPITAL. IT ALSO THE SITE OF A SOLUTION FROM LAPP THAT HELPS THE “T-BANEN” OPERATE SAFELY; ONE THAT WAS CUSTOM-DEVELOPED BECAUSE THERE WASN’T AN APPROPRIATE SOLUTION IN THE LAPP PORTFOLIO. LARS NILSEN, PRODUCT MANAGER AT LAPP NORWAY, LOOKS BACK ON THE DEVELOPMENT.

With 268,000 passengers a day, the “T-bane” is Oslo’s second most popular mode of transportation. The “T” in its name stands for “tunnel”; an abbreviation which has long been established in Norwegian vocabulary. 6 lines serve a total of 101 stations. In order for them to do so reliably, the system’s operator puts its trust in a solution from LAPP for the cabling in the rectifier stations that convert alternating current to direct current.

“These cables are double-insulated, fire-resistant and highly flexible,” explains Lars Nilsen. “This is important because one of our major problems in Norway is the cold, which causes plastics to become rigid.” In other words, a cable was needed that could also maintain its bending radius in icy conditions. “If you unroll a very rigid cable in the cold, it needs to be pre-warmed, which makes installation more difficult.” This is all the trickier for installation in a tunnel.

FUNCTIONAL CAPABILITY: A MATTER OF LIFE AND DEATH

“If there is an incident, it is absolutely imperative that the trains can get out of the tunnel quickly,” says Nilsen. Among a whole range of criteria, functional capability was therefore the most important of all. “A 1000%-reliable solution was the customer’s primary concern – which made it ours as well.” To come up with such a solution, it wasn’t just necessary to reinvent the cable: the connectors splicing also required a rethink.

An equally fire-resistant cable connector splice for this application was custom-developed using technology from the offshore sector. “What that means is that both the cables and cable connectors splices can withstand a fire for up to 180 minutes while still supplying the trains with power.”

The cables themselves are halogen-free and inhibit the formation of smoke to ensure that evacuation can proceed quickly and easily. “And because they are often routed through old pipelines inhabited by rats, they even feature rodent protection,” reports Lars Nilsen, who is known as the “Cable Guy” here in Norway. “That’s probably because I’m very dedicated to what I do.”

This tunnel vision – in the best possible sense – also goes down well with customers. The second framework agreement has just been concluded with the operators of the T-bane. For Nilsen, this serves as both validation and motivation: “We need to do a damn good job.”

That also includes the ability to deliver, which is why LAPP always has the custom-developed cable in stock in Oslo Drammen. “After all, the T-bane is a lifeline for people here. We have to keep it moving.”
86 kilometres is the total length of Oslo’s T-Bane network. Of the 101 stations, 17 are situated in a tunnel. All lines pass through the inner-city “Fellesstunnelen” tunnel. “Felles” is Norwegian for “collective”. The T-bane carries 118 million passengers each year. That is almost the size of the population of Mexico.