case study

customer:

vodafone

location:
Italian headquarters
the Vodafone Village
Milan, Italy

the brief:
This significant, sustainable and future-proof new location was officially inaugurated earlier this year by Italian Prime Minister, Mario Monti. The opening ceremony was attended by the CEO of Vodafone Italy and Southern Europe.

market:
Telecomms

products:
TERA®

"We have created a modern, interactive and flexible environment, not only for our employees, but also for customers and visitors. The choice of Siemon as our network cabling partner is fully in-line with our green philosophy. Siemon's TERA solution will support our IT applications for many years to come and we will benefit from a full system warranty that covers us for 20 years. What more could we ask for?"
Marco Lavia
IT Voice Network Operations Manager, Vodafone

Building a Sustainable Vodafone Village

With over 406 million customers around the globe, Vodafone is one of the world's leading mobile communication companies. It has an equity interest in over 30 countries across five continents and more than 50 partner networks world-wide. Focusing on its market in Italy, Vodafone first acquired operations in 2000 and, eleven years later, has a 37 per cent revenue market share. The company has become the country's largest mobile telephone operator.

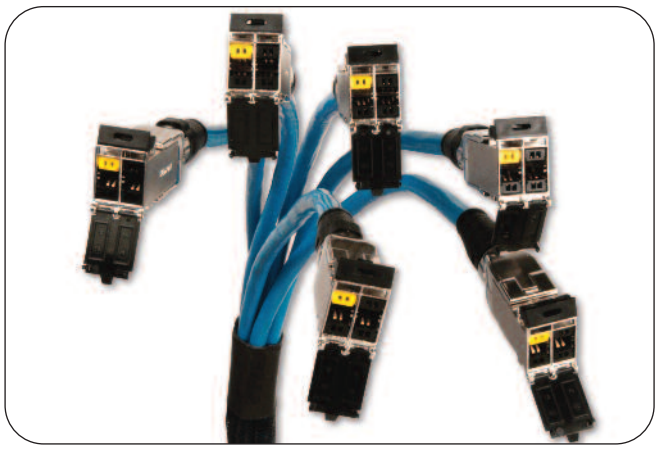
Until recently, Vodafone's 3000-strong, Milan-based workforce was spread across 15 different office locations in and around the business hub of the city. In order to bring this staff closer together and increase efficiency, Vodafone called for the consolidation of all these sites in to one single location. For this new Italian headquarters, the company chose an unoccupied industrial area in the south-west of Milan, an ideal place to create the modern 67,000 square metre office complex, now known as 'Vodafone Village'.

This significant, sustainable and future-proof new location was officially inaugurated earlier this year by Italian Prime Minister, Mario Monti. The opening ceremony was attended by the CEO of Vodafone Italy and Southern Europe, Paolo Bertoluzzo, the Vodafone Group CEO, Vittorio Colao, and the Mayor of Milan.

With such a prestigious, sustainable and high-tech development, the requirements for construction were given very careful consideration, with particular scrutiny afforded to the infrastructure which the IT network foundation would be built. Therefore, incorporating technological advancement was one of the primary imperatives of the project yet, perhaps surprisingly, choosing the highest performing cabling solution wasn't presumed upon or even initially considered.

Powering the heart of the network

Vodafone Village includes the all-important Network Operations Centre, which is responsible for managing Vodafone Italy's entire network infrastructure. It is the heart of the company's interruption-free network monitoring and Security Operations Centre, which



serves the country for emergency management, including national security and the coordination of public assistance requests.

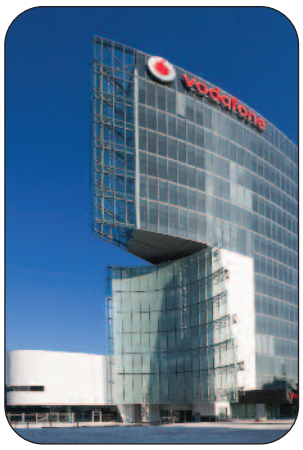
Modern IT systems were required to support all daily business operations and serve several thousand employees in offices, call centres and other locations across the campus, including a 400-seat auditorium for external events.

The IT infrastructure to support this significant development was the responsibility of Marco Lavia, Vodafone's IT voice network operations manager. For the underlying physical IT network cabling he specified a future-proof cabling solution capable of supporting Vodafone's IT systems, not only for the immediate term, but long into the future. An important condition was to deploy a network cabling system that could maximise the company's return-on-investment. This was where Siemon came in.

Finding the answer

Established relationships between Vodafone, global cabling manufacturer Siemon and cabling installers AC-LAN S.r.l. meant that Vodafone was introduced to a comprehensive portfolio of network cabling systems.

With solid return on investment being a key decision making criteria, Siemon account manager, Stefano Barin, did not only present the product portfolio, but also introduced a detailed analysis of the total cost of ownership (TCO), in which he compared several cabling systems and their product lifecycle, based upon Vodafone's project figures.

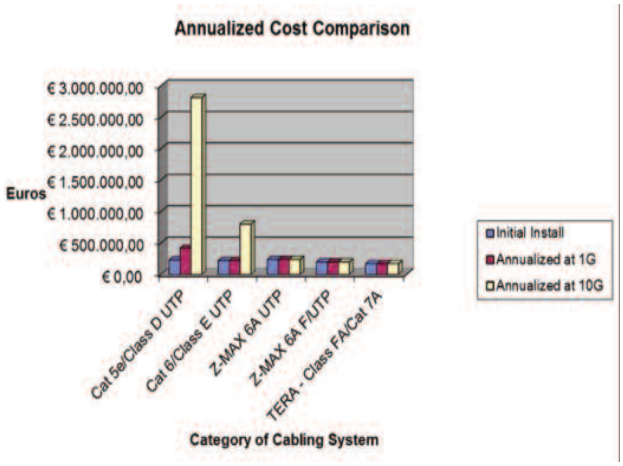


To Marco Lavia's surprise the TCO calculations presented for the category 6 copper cabling system – the solution originally specified by Vodafone - did not score as well as other, higher performing systems.

As was soon established, there are several factors that must be taken into consideration when deciding on the category or class of cabling to be installed in a network infrastructure. These include the anticipated installed lifetime of the cabling plant, the applications to be supported over its useful life, the cost of active electronics, warranty length and the term that the organisation is likely to occupy the facility for.

Understanding Total Cost of Ownership

As part of the selection process, Siemon performed TCO modelling for Vodafone to demonstrate the total cost of ownership comparison for a 15,000 channel cabling system, ranging from category 5e through to category 7A/class FA.



Initial costs shown in the model include the cost of components, installation and testing. The system total cost of ownership includes the cabling and installation components at the time of original installation and costs for remediation for each cabling plant to go from 10/100 applications, to 1Gb/s, through to those requiring 10Gb/s performance. The result is divided by the years of useful life to achieve annualised costs.

As Siemon explained, cabling systems are designed to perform for 10 years, supporting two to three generations of active electronics. However, category 6 and 5e systems have a shorter useful life so their annualised costs can be higher than systems that support faster applications over time. Category 7A/Class FA systems have the longest lifecycle, as they will support 10 Gigabit Ethernet. As performance demands on cabling infrastructures are continually increasing, it is also expected to support future applications beyond 10GBASE-T.

This comparison clearly demonstrated to Vodafone that 10 Gigabit Ethernet-ready cabling systems such as category 6A and 7A, would provide a much greater return on investment than the category 6 system originally specified.

Convincing case for performance

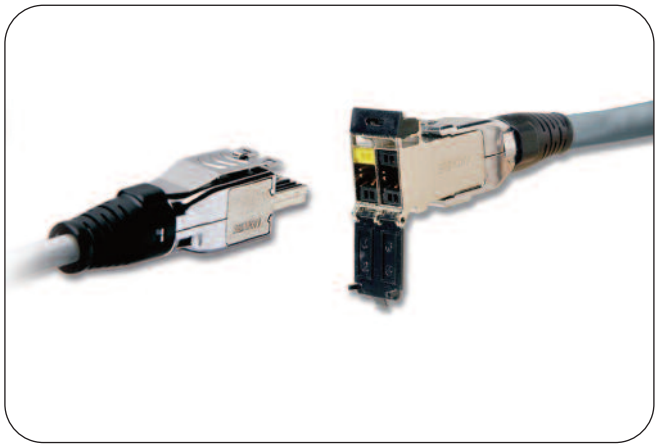
With these results, Vodafone changed the original cabling specification from category 6 to category 7A. As Marco Lavia explained,

“Considering that we wanted to deploy a solution that lasts, Siemon’s fully standards-compliant category 7A solution, TERA, with its longer estimated lifecycle, became the obvious choice to maximise our return on investment.”

"The choice of the cabling solution in this project also has a positive effect on the environment," affirmed Siemon’s Stefano Barin. "The future-proof performance of the system and its realistic extended lifecycle decreases the frequency of upgrades and limits the need for cable removal and/or disposal.”

Turning theory into reality

Cabling installation within Vodafone Village started with three office towers with 10, 12 and 14 floors respectively.



Clearly a considerable job for all concerned and, thanks to the timely supply of all cabling material by electrical contractor Milani Giovanni & C. S.r.l, installation of approximately 20,000 category 7A TERA® outlets and 1000 km of 1000MHz category 7A TERA cable, went smoothly.

With TERA, Vodafone not only eliminated the need for costly future cabling upgrades (which always translate into additional waste), it also saved on material from day one. This was due to TERA’s cable sharing capability: The fully shielded TERA cable and the non-RJ45 style quadrant connector interface, allow for one cable to deliver up to four independent 1-pair or 2-pair data or voice applications to a single work area outlet.

case study

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This feature proved particularly useful in Vodafone's call centre areas where VoIP telephones are in use. "Today a single TERA outlet serves two VoIP phones (2-pair services) through 2-pair hybrid patch cords, which reduces the number of installed outlets by approximately 12 to 15 per cent," explains Marco Lavia.

"Less cable means more efficient use of pathways and less raw materials which, in turn, helps us to protect the environment."

Meanwhile, in the office environment, standard 4-pair patch cords are in use, enabling Vodafone to take advantage of a future 10Gb/s PC connection.

With 20,000 outlets installed in total, port density was a concern for Vodafone. To solve this issue, Siemon provided a solution in the form of unique RJ45-style patch cords with their patented Blade Patch design. These cords can be inserted and removed without the need to press an external latch. The push-pull design and slim boot require less 'finger space' around each patch cord, eliminating the density problems of standards RJ45 cords.

Green and eco-friendly campus

Siemon and Vodafone share a strong commitment to environmental protection. When approaching this project energy savings, innovation and workplace quality were all crucial elements that were to be reflected in the new complex. Subsequently, the construction of Vodafone Village followed two main guidelines: eco-sustainability and technological advancement. Some of the most impressive outcomes of this approach were the 800sqm photovoltaic garden, capable of producing over 80KW of solar energy per hour and a cogeneration system able to produce the megawatts. This energy can power large proportions of the Village.

Special photocatalytic concrete used for the construction of the campus neutralised organic and inorganic pollutants in the air and the 27,000 square metres of glass, which cover 90 per cent of the buildings' surfaces, maximise the input of heat and light, thus limiting energy requirements for heating and cooling. The offices are fully illuminated by natural light. In combination, these measures achieve CO2 emission cuts of 50 per cent across the entire complex.

With Vodafone Village, the mobile communications market leader has created a modern, eco-sustainable complex, supported by an IT cabling infrastructure expected to future-proofing the site for the next 20 years. Today the cabling system supports all typical data and voice applications and at the same time accommodates higher bandwidth, ready for next generation applications.

The final word goes to Marco Lavia: "We have created a modern, interactive and flexible environment, not only for our employees, but also for customers and visitors. The choice of Siemon as our network cabling partner is fully in-line with our green philosophy. Siemon's TERA solution will support our IT applications for many years to come and we will benefit from a full system warranty that covers us for 20 years. What more could we ask for?"