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Mr. Fan
IT Facilities Manager of Shanghai Tobacco Group

CommScope Solutions Satisfy Shanghai Tobacco Group

SYSTIMAX® 10G copper and 100G fiber integrated in intelligent network infrastructure supporting automated production

Summary: less human error, better quality assurance and optimum network utilization were key requirements at one of China’s leading cigarette producers. A combination of the iPatch® intelligent infrastructure solution and ruggedized SYSTIMAX high performance cabling met all these needs at a major new production plant.

The Shanghai Tobacco Group produces some of China’s most popular cigarette brands. Since it was founded in 1993, the company has grown steadily and now has more than 33,000 sales agencies. It has also extended its operations to include storage, printing, machinery and materials for the tobacco industry, and diversified into logistics, hotels and financial services.

Cigarette production, however, remains the core of the business and its new Chung Hwa facility in Shanghai is an important investment in this sector. Covering a land area of 61,500m², the new production plant has two main buildings, each with six floors.

The plant’s digitally controlled production lines are among the most advanced and efficient in China. So, to connect and manage these lines as an integral part of its business, The Shanghai Tobacco Group wanted an equally advanced network infrastructure.

The solutions the company chose came from CommScope. The copper and fiber cabling together with connectivity management solutions selected from CommScope’s SYSTIMAX portfolio are all technology and performance leaders.

The complete physical layer infrastructure incorporating these solutions was built by Changjiang Xincheng Computer System Integrations Co., Ltd., a CommScope prestige BusinessPartner. The company installed more than 1,500 network outlets throughout the production areas, connecting these via 100km of copper and 20km of multicore fiber cabling.

At the heart of the network is the iPatch intelligent infrastructure solution. This gives system managers the vision and knowledge they need to control the network physical layer and any changes made to it.

The iPatch solution maintains an up-to-the-minute map and database of network connections, and immediately alerts administrators to any changes. It also provides technicians with step-by-step guidance on required changes, via displays at the patch panels.

“iPatch helps eliminate connection errors and unauthorized changes to the network that could cause major disruption to production,” said Laura Chen, Regional Sales Director, Greater China, CommScope Enterprise Solutions Division. “Human error is virtually eliminated and network security is greatly improved – and the systems also gives important gains in the productivity of the factory’s network maintenance team.”

The iPatch solution is incorporated in SYSTIMAX 360 patch panels installed in two main computer rooms and 25 communications rooms throughout the production area. SYTIMAX 360 panels include innovative connector and cable guide designs that avoid the patch cord clutter found on traditional panels. This makes connector ports and their labels easier to see, further reducing the risk of patching errors.

For backbone connections between the computer and communications rooms, the company chose the LazrSPEED® 550 laser optimized multimode fiber solution. This fully conforms to the internationally accepted OM4 standard, delivering 10Gb/s performance over distances up to 550 meters. It also supports 40G and 100G data transmission over shorter distances.

The LazrSPEED 550 solution, the first product to meet the OM4 standard, offers high bandwidth over long distances without need for expensive electronics. Its performance ensures there will be no degradation in system response at times of peak traffic in the network backbone.

In addition to 11Km of eight-core LazrSPEED fiber, the network backbone at Chung Hwa includes 10Km of 36-core TeraSPEED® single mode fiber cabling. The TeraSPEED solution provides 50 percent more usable bandwidth than traditional single mode fiber.

For horizontal connections from automation equipment and other systems to the communications rooms, the network uses 10G GigaSPEED® X10D solutions. These enable 10G data transmission over distances up to 100m, comfortably exceeding specifications of the Category 6A /Class E_o standards. The bandwidths they offer are nearly double that of Category 6 solutions.

As well as UTP (Unshielded Twisted Pair) GigaSPEED X10D cabling, the installation also has 25Km FTP (Foiled-shielded Twist Pair) X10D cabling. Within the workshops, this copper infrastructure has ruggedized connectors meeting the IP65 and IP67 standards for tolerance of liquid and dust in the environment. The cabling is also of the Low Smoke, Zero Halogen type for fire safety.

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Installation and testing of the infrastructure was completed against tight deadlines by a team of 50 engineers and technicians. Its reliability and stability were then verified by CommScope engineers, and the installation was given the company’s industry leading 20-year warranty and application assurances.

The operational network now supports a wide variety of data, voice and IP applications in addition to connecting manufacturing systems. It also has plenty of performance headroom to support new and more demanding networked applications.

Commenting on the Chung Hwa project, Laura Chen, Regional Sales Director, Greater China, CommScope Enterprise Solutions Division said: “This is a very important facility within China’s tobacco industry. To meet its exacting requirements, we were able to offer a full range of advanced, high performance solutions designed for an industrial environment. As we have a large and global business, we could deliver material from stock, avoiding delivery delays.

“A key benefit of the iPatch solution is automatic updating of a comprehensive infrastructure database. So when there are personnel changes in system administration, new staff can immediately see accurate connectivity maps and documentation. Change tracking is automatic and infrastructure audits take a fraction of the time needed with manual methods.”



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