COMMSCOPE®

India's fastest-growing consumer packaged goods maker relies on CommScope network infrastructure to keep production up and running

CommScope is a proven partner helping to find solutions that make a difference

Customer

Patanjali Ayurved Limited

Country

India

Challenges

To keep pace with the fast-growing demand for its products, Patanjali Ayurveda Ltd. can't afford network downtime which might disrupt its manufacturing operations. To improve reliability and keep manufacturing up and running, the company required a fail-proof network infrastructure solution that would offer high availability, failover capability and bandwidth utilization, while also reducing the overall footprint of the network.

CommScope solution

As part of the solution, Patanjali wanted LAN connectivity for all users and equipment throughout its AIDC, Balipara, Sonitpur (Tezpur)–Assam (India) plant, as well as complete connectivity for its security system and SCADA (supervisory control and data acquisition) devices from a single location, and monitoring of active devices through centralized software.

Established in 2006 to advance the ancient science of ayurved via the latest technology, Patanjali Ayurved Limited is the fastest-growing consumer packaged goods company in India, posting annual sales of 10,216 crore ($1.5 billion USD) in 2017. The company manufactures mineral and herbal products from herbs imported from the Himalayas and Nepal, with manufacturing facilities and headquarters in Haridwar, India and additional manufacturing units in Nepal under the trademark Nepal Gramudhyog.

Specific requirements included:

· Network architecture for enabling and supporting high-speed connectivity between departments and equipment

· Network architecture that can work as a platform for IP-based services like wireless, voice, video and other multimedia application across the departments and plant

· Physical network Infrastructure upgradable to 10/40 G Ethernet

· Fiber and copper backbone connectivity delivering zero failure of network availability across the plant

· "Smart factory" capability, including cyber-physical systems, Internet of things (IoT) and cloud computing

CommScope delivers a comprehensive, converged solution

Following an approach that converges network and telecom infrastructure, CommScope was able to design a complete end-to-end solution to handle all the applications and technical capabilities Patanjali required. This solution enabled Patanjali to manage its entire IT system from a central location while keeping deployment and maintenance costs down.

The plant network's 3,162 data ports are connected via two fiber configurations:

1. Master Fiber Ring: 48 core single-mode OS2 cables laid from the main server room to each building's main rack and fiber distribution rack.

2. Intra Fiber Ring: 12 core single-mode OS2 cables laid from each building main rack to all access racks, with all access switches connected directly from the core switch and no distribution switches in the network.

The system offers a 1+1 redundant pathway for access connectivity. All 48 and 12 core single-mode fiber cables are in a physical ring architecture, which reduces the fiber quantity to approximately 50 percent compared to the conventional star topology, but logically all access switches connect with star topology to avoid a network failure. This was achieved via spur joint or window cut techniques in the main fiber cable or feeder cable. The deployed network architecture will provide scalability, modularity and resiliency. The copper connectivity from access switches to users is also redundant via dual horizontal connections to the user.

By using single-mode fiber infrastructure for all of the IT-enabled racks, Patanjali was able to reduce their IT Infrastructure and service costs. Deploying a conventional star topology backbone would have increased the cost by 100 percent, as redundant paths would have to be created via different routes. Patanjali's decision to adopt a physical ring topology and logical star topology enabled them to reduce the cost of creating multiple paths and routes for the fiber backbone. The amount of civil work and services was reduced as a direct impact of the topology that was finally adopted. Another important benefit arising from the adopted topology was the reduction of distribution switches, as the access switches were now directly connected from the core switch, allowing Patanjali to manage the entire network from a central location.

Since CommScope's design reduced the number of distribution switches required in the system, the recurring maintenance and operational costs will also be reduced in addition to the initial CapEx savings.

An efficient and expandable network infrastructure

By deploying CommScope's solutions, Patanjali now has a robust, efficient and scalable network infrastructure in their Assam manufacturing plant. Besides the reduction of CapEx and OpEx, Patanjali was able to reduce their IT hiring by about 60 percent, as the passive-related problems usually encountered by Patanjali were considerably reduced. The customer was able to manage their infrastructure from a central location due to the 100 percent redundant fiber paths and connectivity, and therefore the extra manpower usually required for these activities could be reallocated to other important work.

CommScope's single-mode fiber offers a future-ready solution in which any increase in data throughput rates can be addressed without the need for infrastructure updates. By deploying CommScope's design recommendations, plant overhead costs were reduced by approximately 20 percent since environment-controlled spaces for distribution switches were no longer required.

Today's solution points to future best practices

The solution deployed by CommScope for Patanjali is a mix of both telecom and enterprise products because the specific products required to deploy the architecture were available in the telecom portfolio. These telecom products are specifically designed to withstand harsh environmental conditions such as water, moisture and dust. This converged approach gave Commscope the flexibility to optimize and deliver a robust network to Patanjali.

Converged solutions like this can provide various benefits to customers, such as:

· Easy future expandability in the event new departments or buildings are created

· Low latency

· Easy management

· Lower cost

Going forward, CommScope will consider this type of converged configuration for manufacturing plants, large education campus and other sites where network management can be centralized.

PartnerPRO®
N E T W O R K

Deployed by a certified CommScope PartnerPRO® Network provider

The CommScope network infrastructure solution for Patanjali was deployed by certified PartnerPRO Network provider Proactive Data Systems Ltd. Proactive served as system integrator, implementing the solution per CommScope's design and installation requirements. Monitored by CommScope, Proactive applied its expertise in fiber and copper structured cabling and passive component installation, deploying two paths for incoming and outgoing fiber to any location to maintain the proper redundancy. Proactive also did all of the testing of the various components using Fluke's DTX 1800 test apparatus to ensure proper installation and performance as specified by CommScope.

"CommScope was honored to partner with Patanjali Ayurved Ltd. to provide the new fiber infrastructure for its AIDC, Balipara, Sonitpur (Tezpur)—Assam plant and help manufacturing keep pace with fast-growing demand for its products. Our solution converges IT with telecom to provide a seamless and redundant system that not only ensures reliable network performance but also reduces both CapEx and OpEx costs."

Mukesh N. Kaushik, Field Application Engineer, CommScope

"Rather than viewing our engagement as a series of separate projects, CommScope saw the 'big picture' and provided a comprehensive, holistic solution. Their team understood how critical network reliability is to our manufacturing operations and designed an innovative fiber infrastructure with built-in redundancies that ensure virtually 100 percent uptime for our network while also reducing costs. With the CommScope solution, we are poised to meet the growing demand for our products not only today but for years into the future."

Manish Gaur, IT Head, Patanjali Ayurved Ltd.

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

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