MRF
CASE STUDY

Comprehensive IT Infrastructure Solution for MRF Limited by D-TECH

MRF Project in 2019.

Introduction

MRF Limited, a premier tire manufacturing company, sought to enhance its IT infrastructure to support its Intelligent Transportation System (ITS) Permanent Network. To meet this need, MRF partnered with D-TECH, a leading IT solutions provider, to implement a comprehensive network infrastructure solution. The project included laying optical fiber cables (OFC) and high-density polyethylene (HDPE) pipes, installing various networking components, and configuring Aruba network switches.

Objective:

- Enhance MRF's network infrastructure to support the ITS Permanent Network.
- Ensure high-speed, reliable connectivity across MRF facilities.
- Install and configure advanced networking equipment to meet current and future operational needs.

Scope:

- Laying of OFC and HDPE pipes.
- Installation of OFC splicing, LIUs, IOs, patch panels, racks, and faceplates.
- Configuration of Aruba network switches.
- Identification and tagging of cables, patch panels, LIUs, and racks..

Project Implementation

01 Laying of OFC Cable and HDPE Pipe

OFC Cable Laying

Location:

- Wheel Test Lab to LMC Zone-4: 349 meters
- LMC Zone-4 to BIAS DC: 1038 meters
- Total Length: 1387 meters

HDPE Pipe Laying

Location:

- Wheel Test Lab to LMC Zone-4
- LMC Zone-4 for OFC Laying
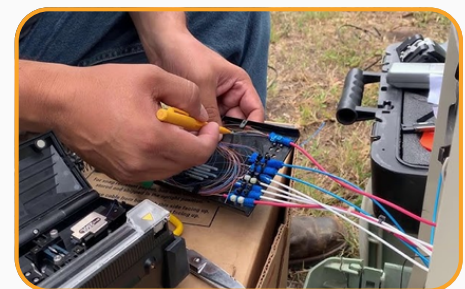- LMC Zone-4 area FTP cable laying
- Total Length: 1525 meters

02 Installation of OFC Splicing

OFC Splicing

Location:

- 12 core Trench No-4 and 12 core second end
- 12 core Trench No-5 and 12 core second end
- LMC Zone-4 new rack
- LMC Zone-4 existing rack
- Total Splices: 60

03 Installation of LIU

LIU Installation

Location:

- Trench No-4
- Trench No-5

- LMC Zone-4 new rack
- LMC Zone-4 Cubic
- Total Units: 4

Configuration of Aruba Switch

Switch Configuration

Location:

- Trench No-4
- Trench No-5
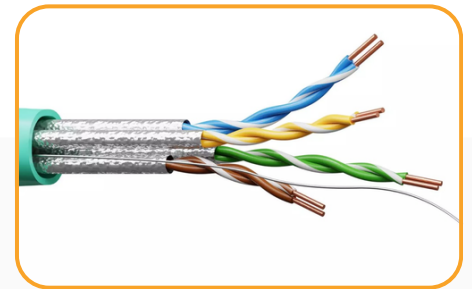- LMC Zone-4 new rack
- Total Units: 3

Laying of FTP Cable for ITS Permanent Network

FTP Cable Laying

Location:

- New Engineering Store: 210 meters
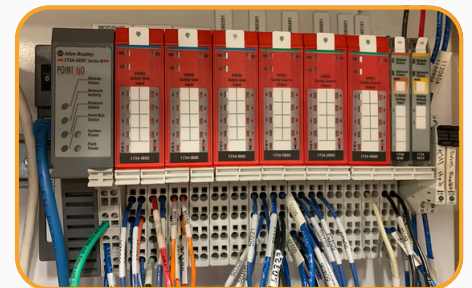- LMC Zone-4 Cubic: 1028 meters
- Total Length: 1238 meters

Installation of IO for ITS Permanent Network

IO Installation

Location:

- New Engineering Store: 7 units
- LMC Zone-4 Cubic: 5 units
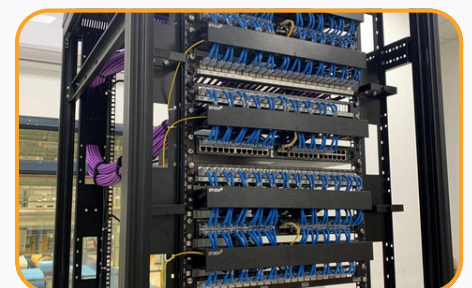- Total Units: 12

Installation of Patch Panels for ITS Permanent Network

Patch Panel Installation

Location:

- New Engineering Store: 1 unit

- LMC Zone-4 Cubic: 1 unit
- Rack Dressing and Patch IO installation (C/O Mr. Anurag Shukla): 3 units
- Total Units: 5

08   Installation of 15U Rack for ITS Permanent Network

15U Rack Installation

Location:

- LMC Zone-4 Cubic
- Total Units: 1

09   Installation of Faceplates for ITS Permanent Network

Faceplate Installation

Location:

- New Engineering Store: 7 units
- MC Zone-4 Cubic: 3 units
- Total Units: 10

10   Identification and Tagging of Network Components

Task:

Identification and tagging of cables, patch panels, LIUs, and 29 racks to ensure systematic management and troubleshooting

11   Installation and Configuration of Aruba Network Switches

Products Installed:

- Aruba 2930M 24G 1-slot Switch (Part No: JL319A)
- Aruba 3810M/2930M 4SFP+ MACsec Module (Part No: JL083A)
- Aruba X371 12VDC 250W Power Supply (Part No: JL085A)
- Aruba 2930 2-port Stacking Module (Part No: JL325A)
- Aruba 2920/2930M 1m Stacking Cable (Part No: J9735A)

- Aruba 2540 24G 4SFP+ Switch (Part No: JL354A)
- Aruba 1G SFP LC LX 10km SMF XCVR (Part No: J4859D)

■ Challenges and Solutions

Challenges

1. **Complex Cable Laying:** Laying OFC cables and HDPE pipes across diverse locations within the facility.
2. **Network Downtime:** Minimizing network downtime during installation and configuration.
3. **Coordination:** Coordinating with multiple departments and managing logistics for equipment and installation.
4. **Technical Integration:** Integrating new Aruba switches with existing network infrastructure

Solutions

1. **Detailed Planning:** Conducted comprehensive site surveys and planned cable routes meticulously to avoid disruptions and ensure efficient laying of cables and pipes.
2. **Phased Implementation:** Implemented the project in phases to minimize downtime and ensure seamless transition and integration of new components.
3. **Effective Communication:** Maintained clear and constant communication with MRF's IT and operations teams to coordinate activities and manage timelines effectively
4. **Technical Expertise:** Leveraged D-TECH's technical expertise and experience in handling Aruba switches to ensure smooth configuration and integration with existing systems.

Outcome

- **Enhanced Connectivity:** Improved network speed and reliability across MRF's facilities, supporting the ITS Permanent Network.
- **Future-Ready Infrastructure:** Established a robust and scalable IT infrastructure capable of supporting future growth and technological advancements.
- **Operational Efficiency:** Reduced network downtime and enhanced operational efficiency through systematic installation and configuration.

MRF Network Layout designed by D-Tech Solution
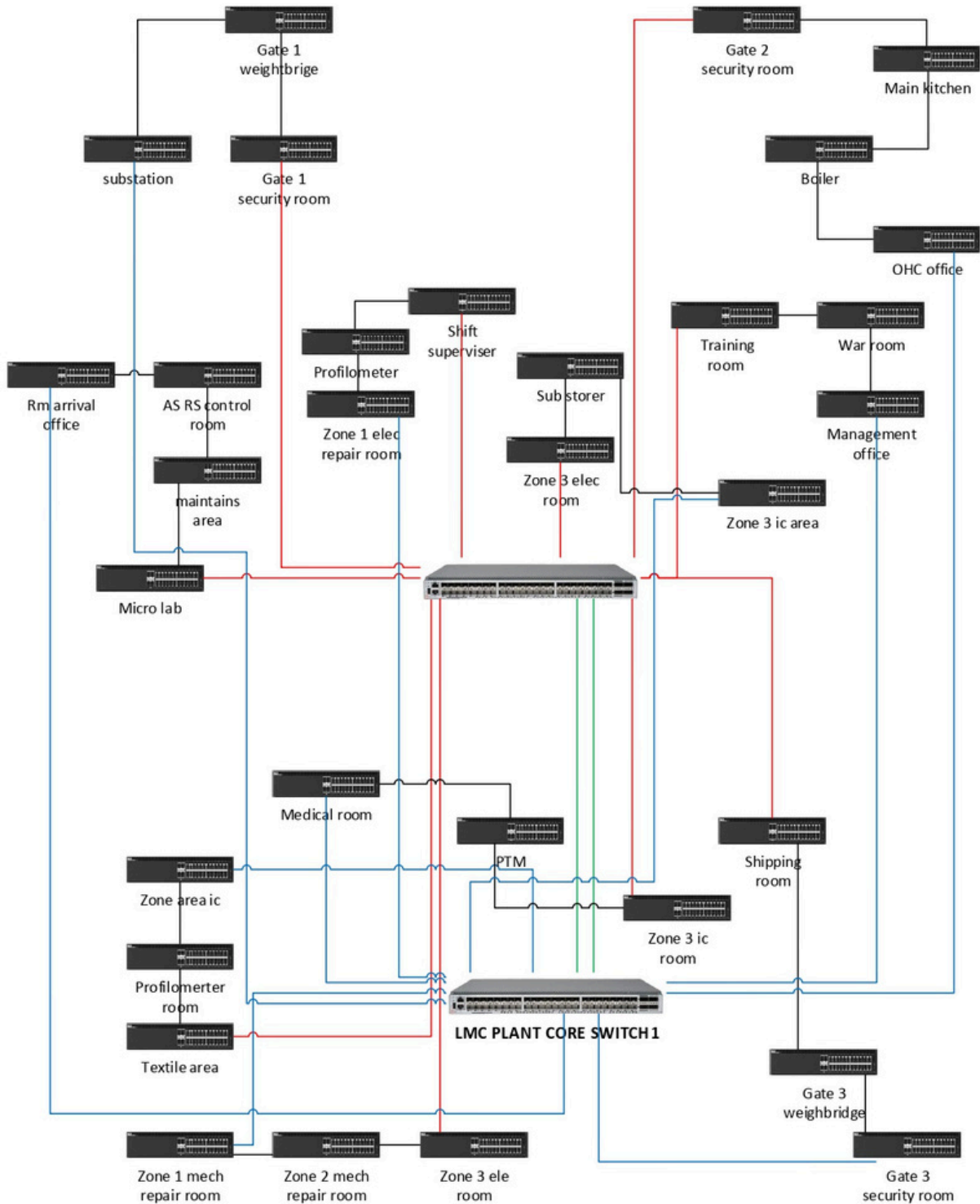
MRF Feedback

MRF Limited expressed high satisfaction with the quality of work, project management, and the resultant improvements in their IT infrastructure.

"Working with D-TECH has been a transformative experience for MRF Limited. The professionalism, expertise, and meticulous planning exhibited by the D-TECH team ensured the successful enhancement of our IT infrastructure. We are extremely satisfied with the improved network performance and reliability, which have significantly boosted our operational efficiency. We look forward to continued collaboration with D-TECH for our future IT needs."

MR. Kevin Mathew
MRF limited

Thank You!

Hopefully, we can work together and this project will be successful.

Let's Get In Touch

Contact Us

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