Project: Wave-Suite Optimizer (W-SO)

Client: Nokia (Telecom Industry)

Purpose:

W-SO (Wave-Suite Optimizer) is a software solution designed to optimize the performance of optical fiber networks, specifically for telecom companies. In an optical fiber network, data can sometimes get lost during transmission. The W-SO application helps identify how much data is being transmitted, how much is lost, and how much can be recovered.

How it Works:

- Data is transferred between two points using optical fibers. However, there is a chance that some of this data may be lost along the way.
- The W-SO application gathers data from **Network Elements (NEs)**, which are devices placed at both ends of the stations where data is being transferred. The NEs store information in a structured way.
- Using algorithms, the W-SO system calculates how much data is lost and how much can be retrieved.
- The application then presents this information to the user, showing how much data has been lost and what portion is recoverable.
- The user can select recovery options based on their specific needs.

Technologies Used:

- **Backend:** Java, Spring Boot, Hibernate
- **Frontend:** ReactJS
- **DevOps:** Jenkins, Docker
- **Operating System:** Linux

Use Cases:

1. **Job Creation For All Functionalities:** To maintain record for user performed operation.
2. **Upload Network Topology:** Facilitates uploading network details from NE for analysis.
3. **Channel Optimization:** Provides API to improve data flow through optical channels.

4. **Database Migration:** Manages database changes and migrations.
5. **Performance Optimization:** Resolved issues where channel optimization was slow and improved response times.

Customers:

This system is used by major telecom providers like Vodafone, Airtel, and Jio.