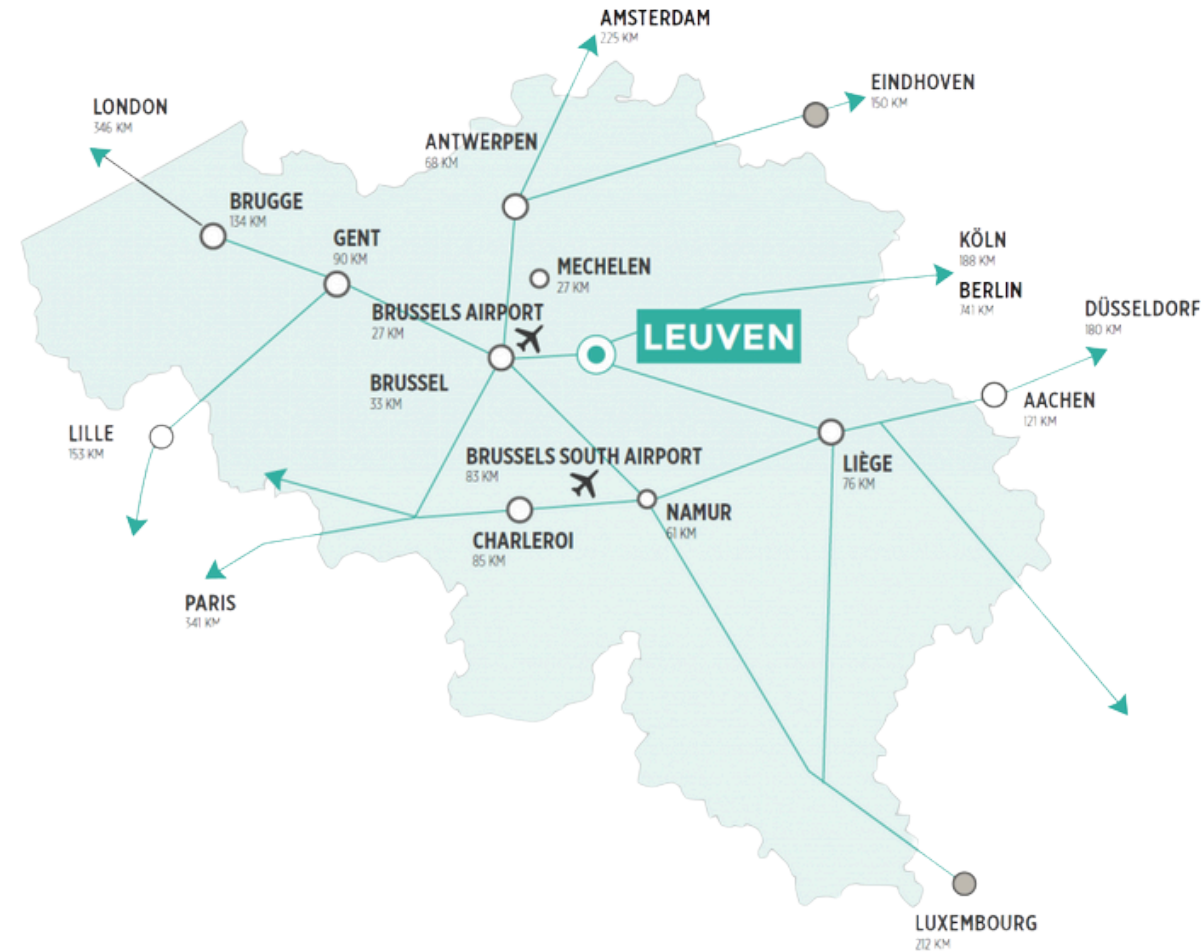
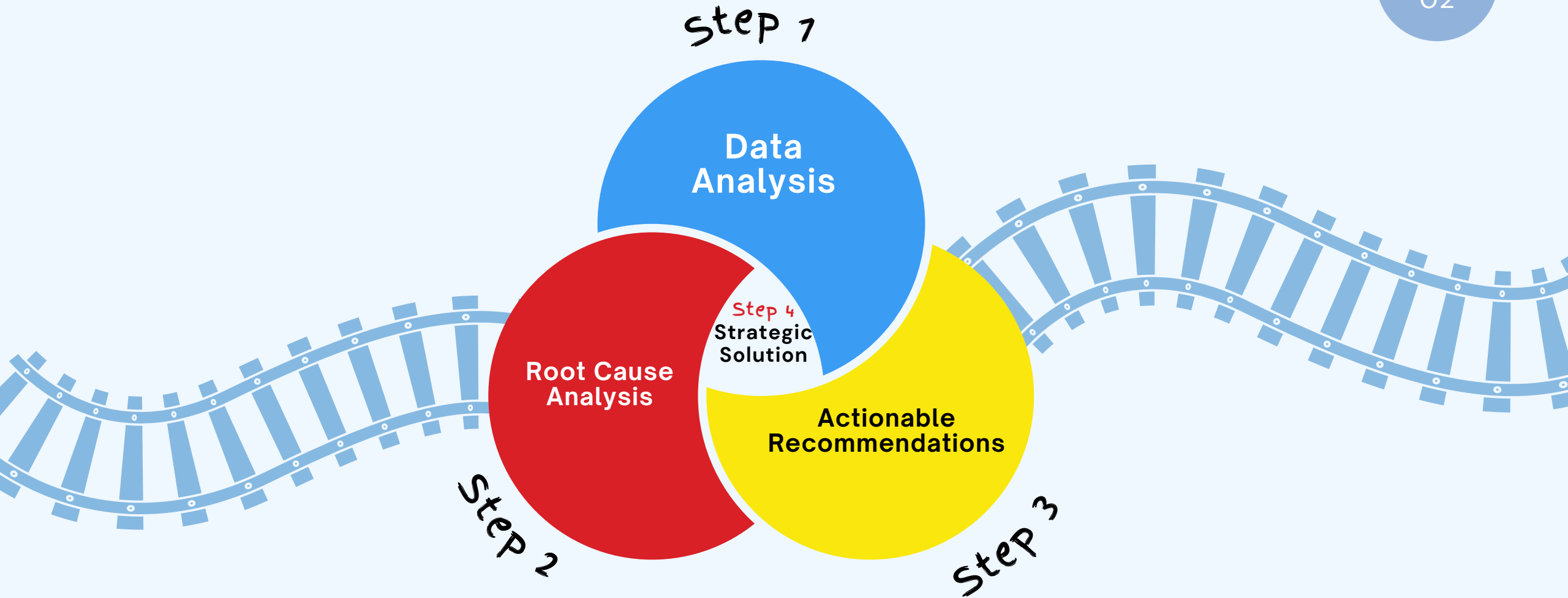


# Enhancing Belgian Train Service Quality Through

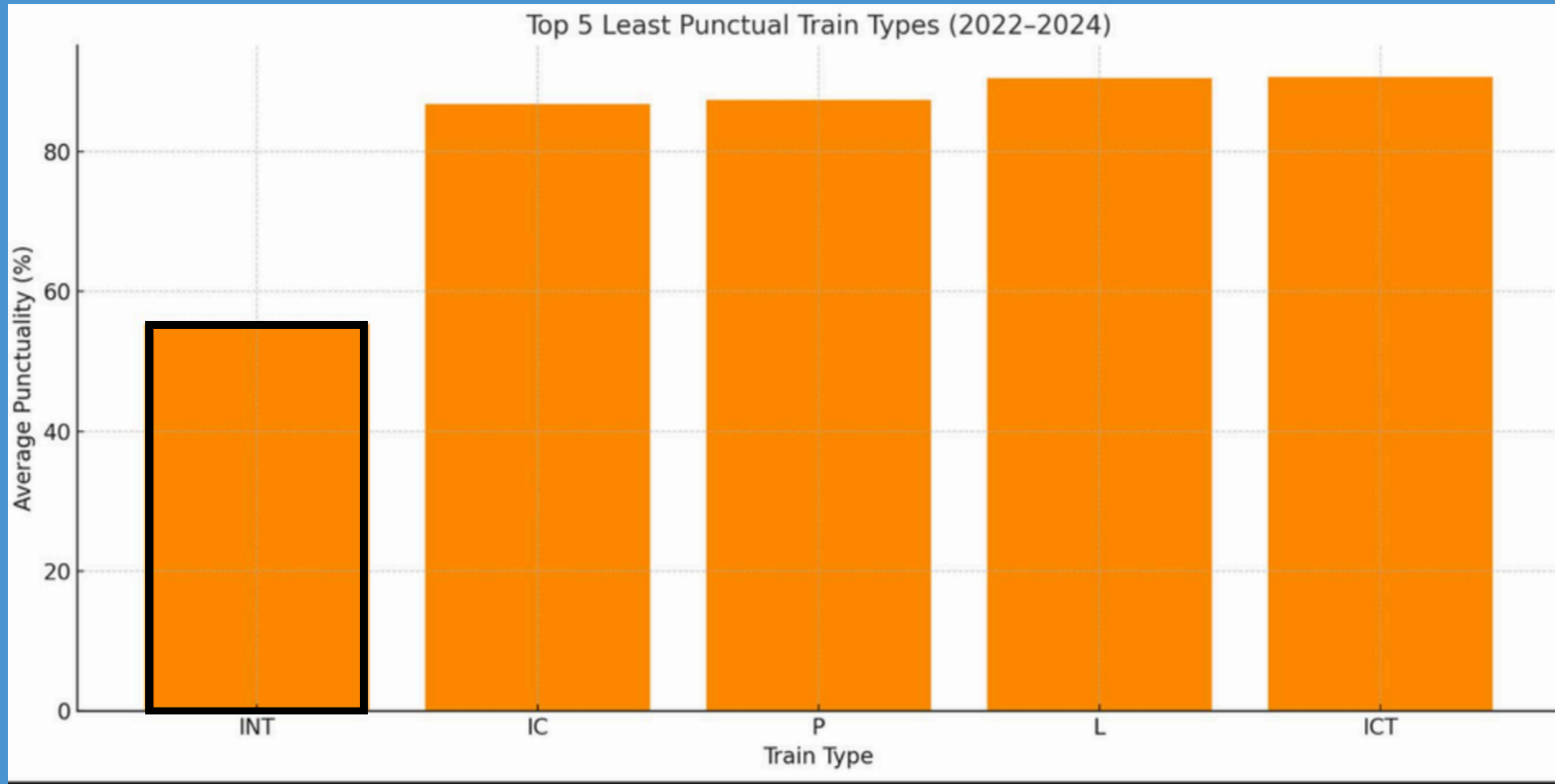
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# Our team's Approach

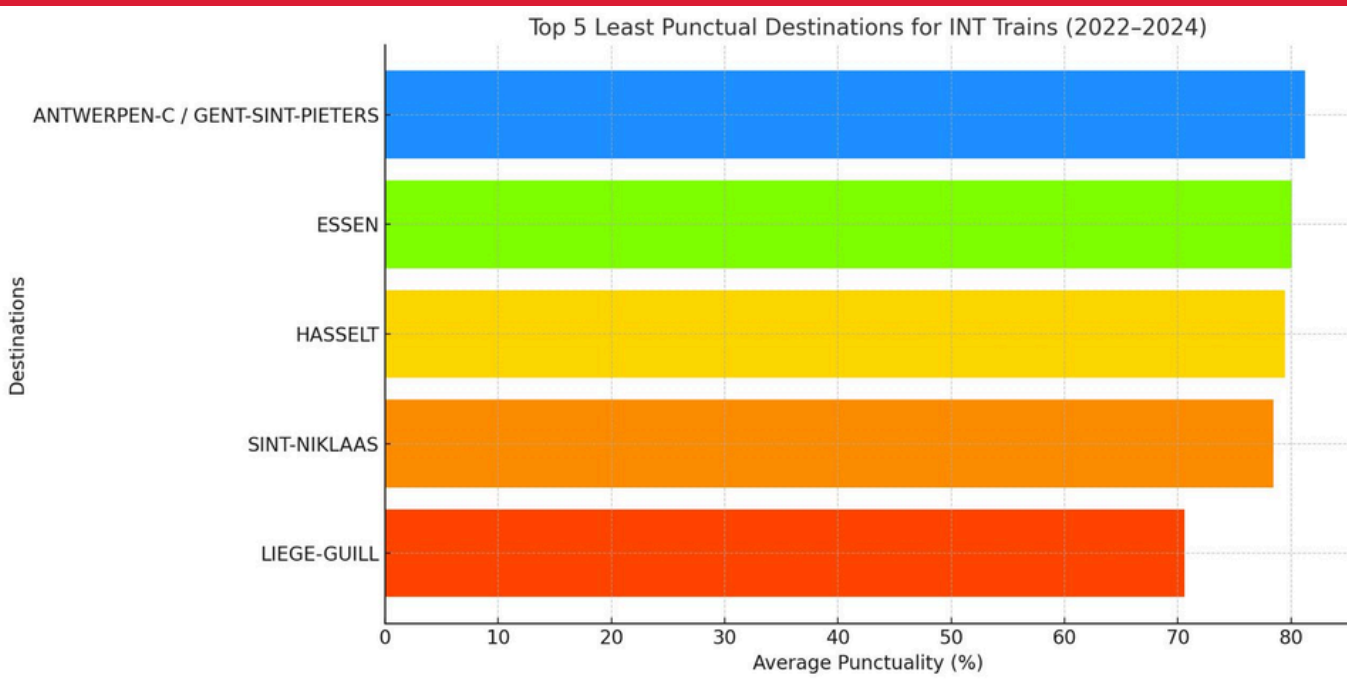


# Data Analysis



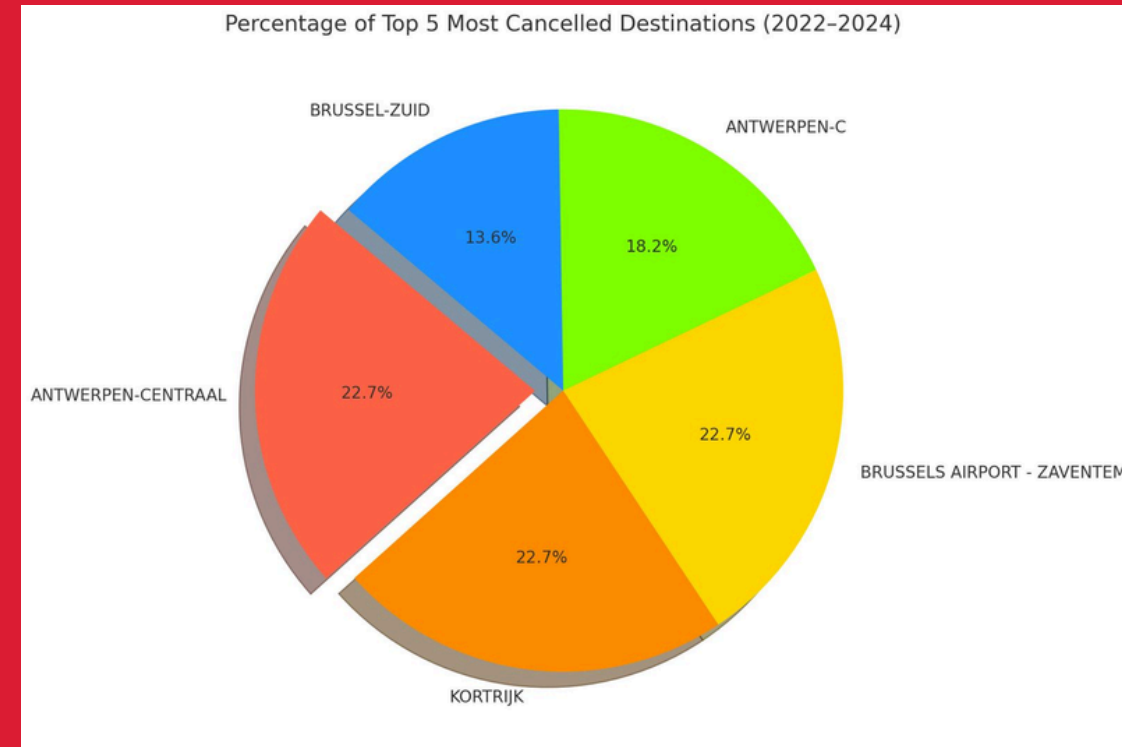
Delving into factors contributing to delays in underperforming train types, our analysis finds that peak hours, weather conditions, and operational bottlenecks are significant. Notably, INT trains are notably troubled because they are the least punctual.

# Root Cause Analysis



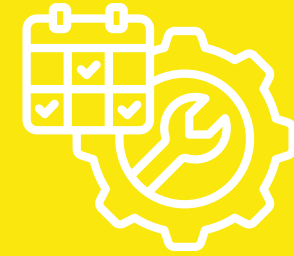
Least punctual destination for international trains is Liege-Guilliemans

Analyzing cancellation trends, Antwerpen Centraal, Kortrijk, and Brussels Airport Zaventem emerge as stations with high cancellation rates. These stations are critical areas of concern due to their operational inefficiencies and high passenger volumes.



Top destinations with cancelled trips are Antwerpen-Centraal, Kortrijk and Brussels Airport-Zaventem

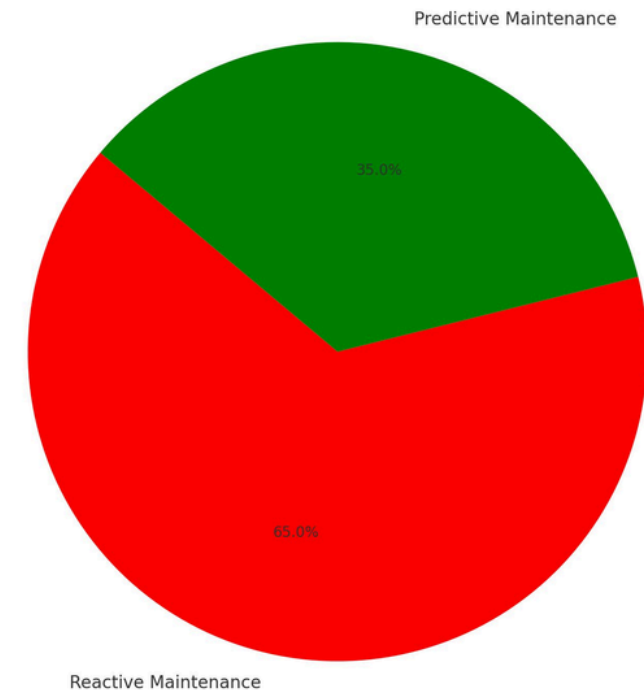
# Actionable Recommendations



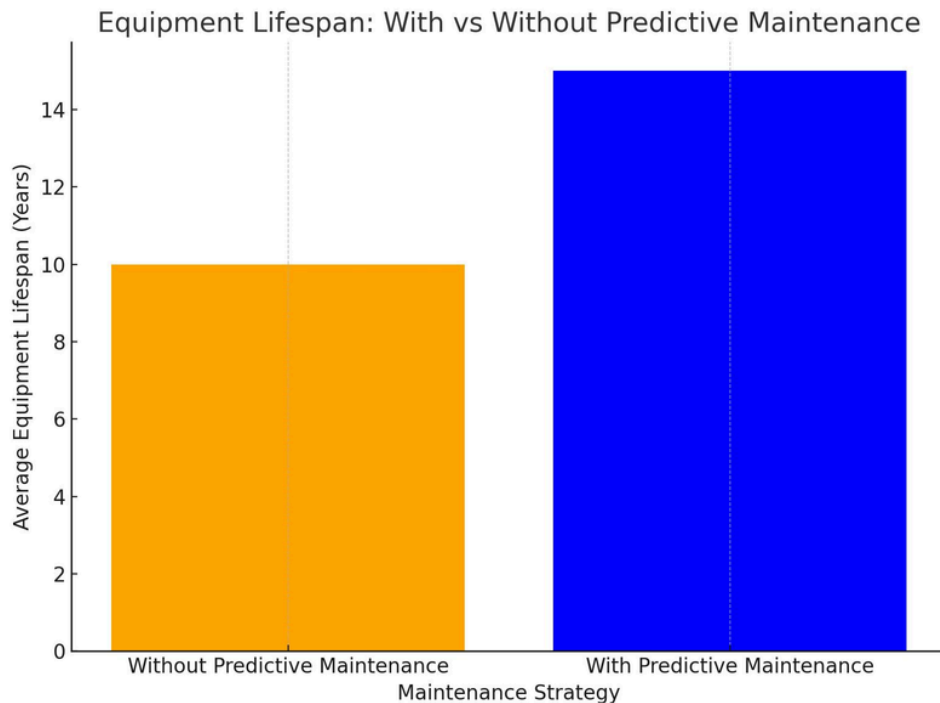
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05

- **Install IoT (Internet of Things) sensors on the most critical equipment to begin monitoring for potential issues.**
- **Provide basic training for maintenance teams on how to use real-time monitoring tools effectively.**
- **Upgrade systems at locations with frequent disruptions to maximize early impact.**
- **Break investments into smaller phases to make securing funding easier and more manageable.**
- **Regularly review the system's performance and make tweaks as needed to optimize results.**

Maintenance Cost Savings: Reactive vs Predictive Maintenance



# Strategic Solution



**The Belgian government should invest in predictive maintenance and data analytics to improve train services. The R&D department should lead further investigation to ensure effective implementation.**