Last Mile Delivery Optimization

Epiroc Hackathon, Dec 3rd 2025

Epiroc

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Epiroc

Agenda

Epiroc

epi in Greek:
at, close, upon

epi + roc

rocca in Latin:
rock

Epiroc means “at rock,” reflecting our **focus on mining and rock excavation, proximity to customers** and the **strength of our partnerships**.

Epiroc in brief

We drive the productivity and sustainability transformation in our industry.

We provide

- innovative and safe equipment, such as drill rigs, rock excavation and construction equipment and tools for surface and underground applications.
- world-class service and other aftermarket support as well as solutions for automation, digitalization and electrification.


Vision
Dare to think new
CO_2
Mission
Drive the productivity and sustainability transformation in our industry

Core values

Innovation

We are creative, bold and open minded, with the imagination to develop new ideas and the initiative to bring them to market.

Commitment

We are committed to meet and exceed expectations by staying connected to our customers, technology and the environment.

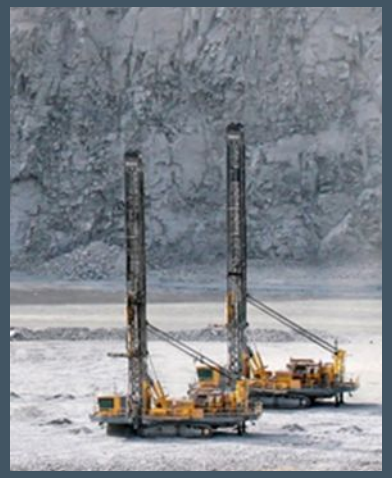
Collaboration

We believe in close cooperation with customers, colleagues, partners and other stakeholders.

Leadership in selected niches

Innovative solutions for hard-rock applications

Mining



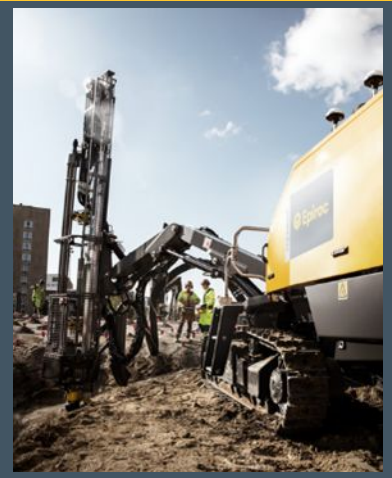
Surface mining

Underground mining

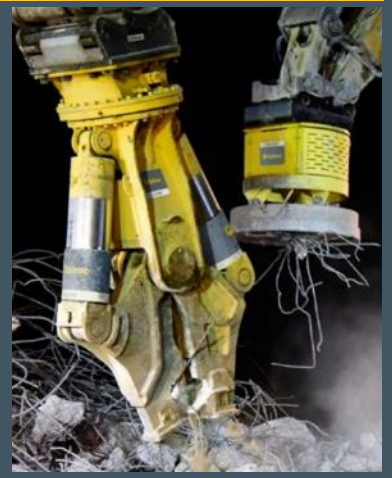
Exploration

Infrastructure

Underground civil engineering



Surface civil engineering



Deconstruction and recycling

Solutions for digitalization, automation and electrification

Service, spare parts and consumables

Hackathon Use Case Overview

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Introduction

Importance of Lead time

- Optimized lead times improve planning accuracy, order fulfillment, and strengthen trust between suppliers and customers
- Lead time optimization improves supply chain efficiency and enhances customer satisfaction through timely deliveries
- Impact on Planning & Trust throughout the system
- Promotes innovative solutions to streamline workflows and deliver benefits across regions
- Drive innovation - be proactive not reactive

Challenges

Why are we here

Inaccurate Lead Times

Unreliable or shifting lead times causing planning difficulties and increased manual work in Customer Centers.

Escalation and Disruption

Frequent escalations disrupt maintenance schedules and risk lost business due to delays an inaccurate delivery dates

Lack of Standardized Process

Absence of a standard process for updating lead times in ERP system creates other inefficiencies and reactive responses.

Need for Improvement

Addressing these challenges is vital to build trust, reduce escalations, and enable accurate supply chain planning.

Global Delivery Time Accuracy

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Improving Customer Satisfaction and SLA Compliance

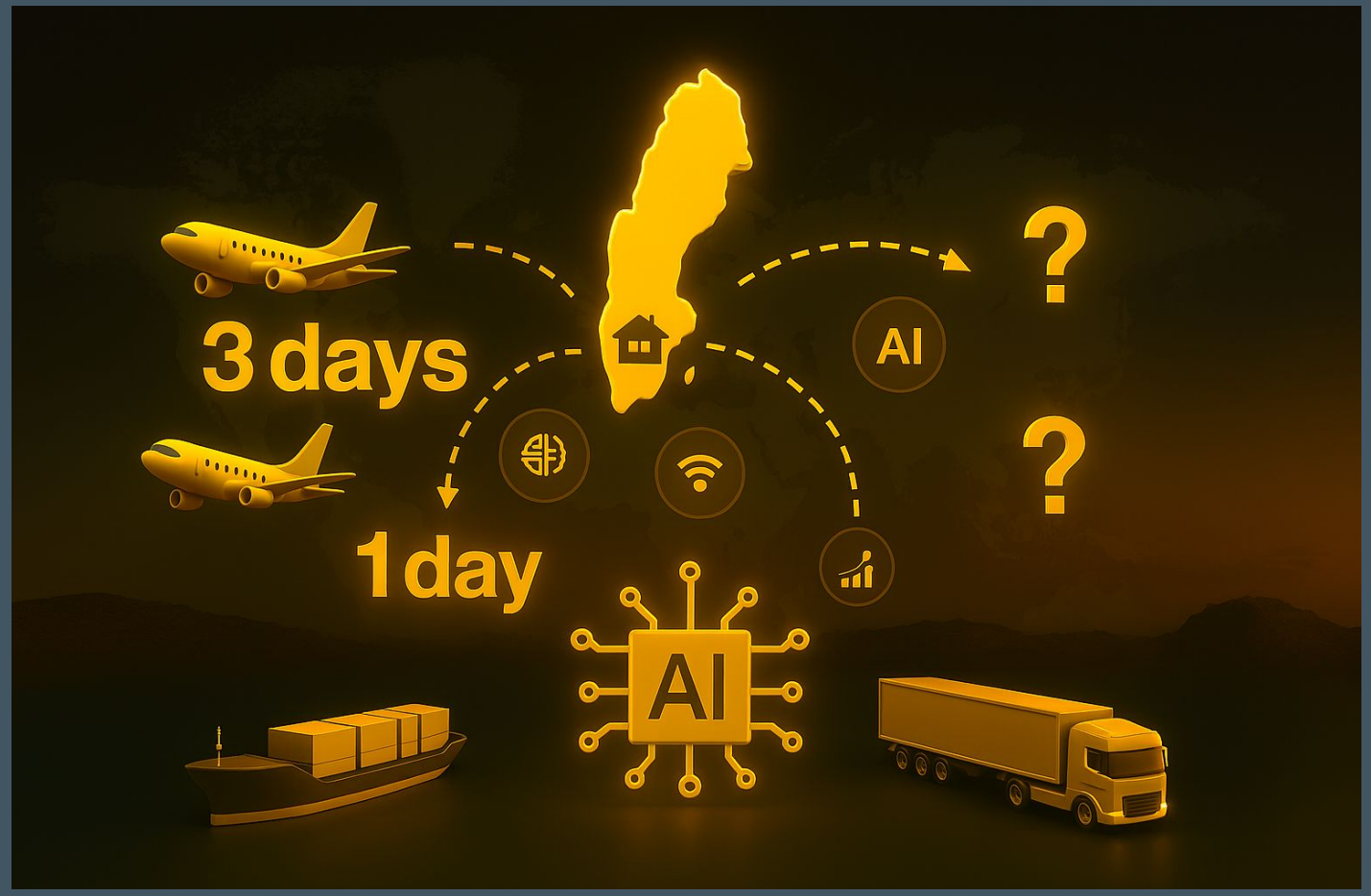
The solution aims to boost customer satisfaction and ensure compliance with service level agreements systematically

Addressing Delivery Time Inaccuracy

The solution focuses on solving inconsistent and inaccurate delivery time estimates worldwide through AI technology

AI and Real-Time Data Integration

Leveraging AI alongside real-time data integration to enhance delivery predictions and operational efficiency



Problem Slide: Variability and SLA Challenges

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Delivery Time Variability

Delivery times may vary widely across regions in delays, causing unpredictability and customer frustration

Inconsistent SLA Definitions

Lack of standardized SLA definitions across regions leads to unclear service expectations and operational inefficiencies

Need for Unified Approach

A unified delivery time estimation system is essential to balance regional nuances as well as global with accuracy and customer satisfaction

Solution Slide: AI-Powered Centralized ETA System

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Integration of Real-Time Data

The system integrates traffic, weather, operational lead time, and carrier data to enhance ETA accuracy and responsiveness

Personalized ETA Calculations

AI dynamically calculates personalized ETAs for each shipping improving delivery precision

Proactive Customer Updates

For example, customers receive timely ETA updates via email or SMS, increasing transparency and trust

Adaptable & Scalable Global Solution

The tool is adaptable and scalable for varied global logistics environments

Inspiration: Flow Diagram

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Customer Order Input

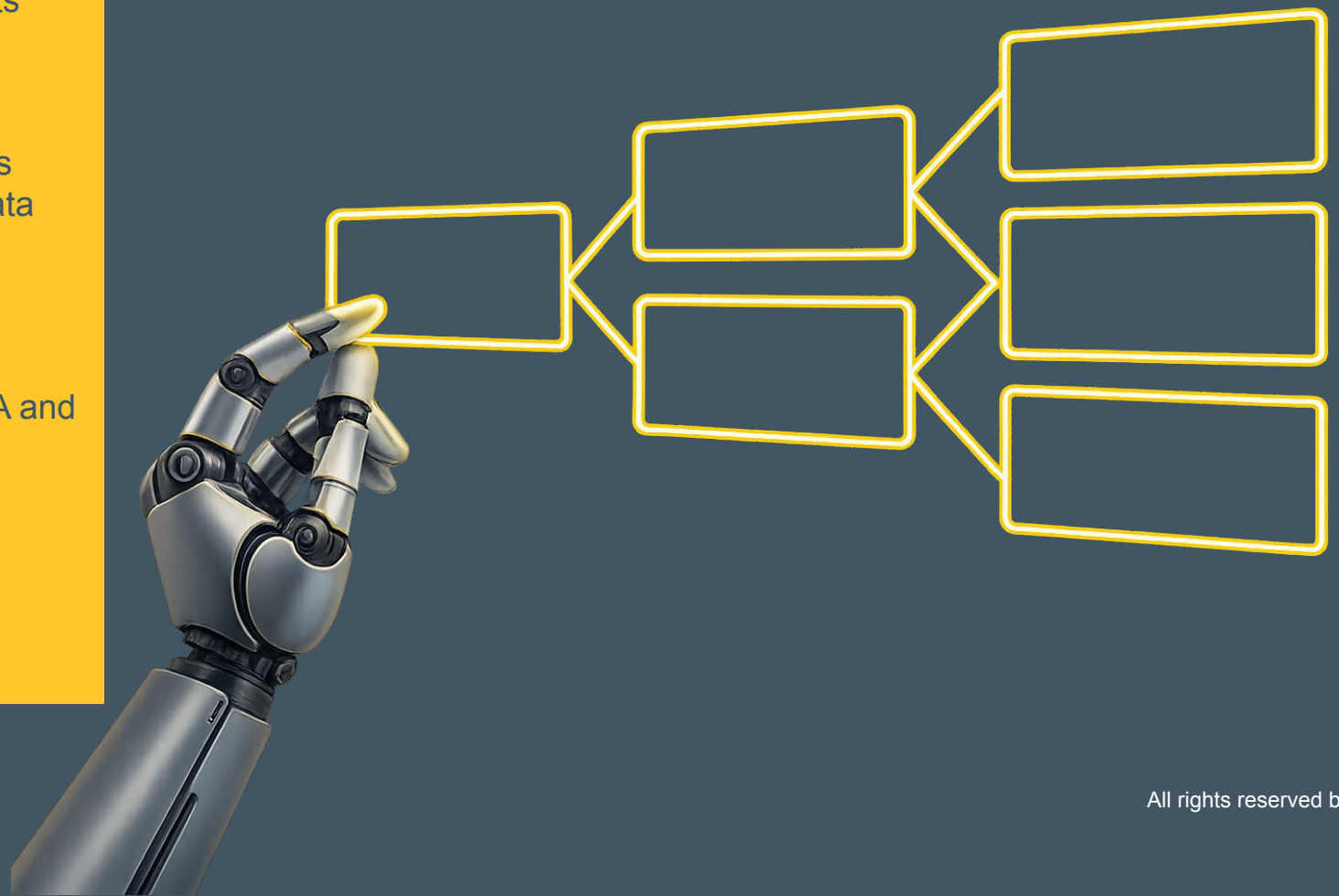
The process starts with customers submitting order details including location and products

AI Engine Processing

AI analyzes inputs using regional as well as global SLAs, cut-off times, and real-time data like traffic and load capacity

ETA Generation and Communication

The platform generates a personalized ETA and delivers it to customers via digital channels



Benefits: Key Metrics

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Improved Delivery Accuracy

AI-powered ETA tool improves delivery time accuracy, enhancing operational reliability

Enhanced SLA Compliance

The tool supports better SLA adherence and reduces customer complaints through timely updates

Operational Efficiency Gains

Lower support costs and improved resource planning drive operational efficiency with AI technology

Customer Trust and Satisfaction

Reliable delivery information and proactive updates build strong customer trust and satisfaction

Mockup: Customer ETA Solution

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Order Confirmation and ETA

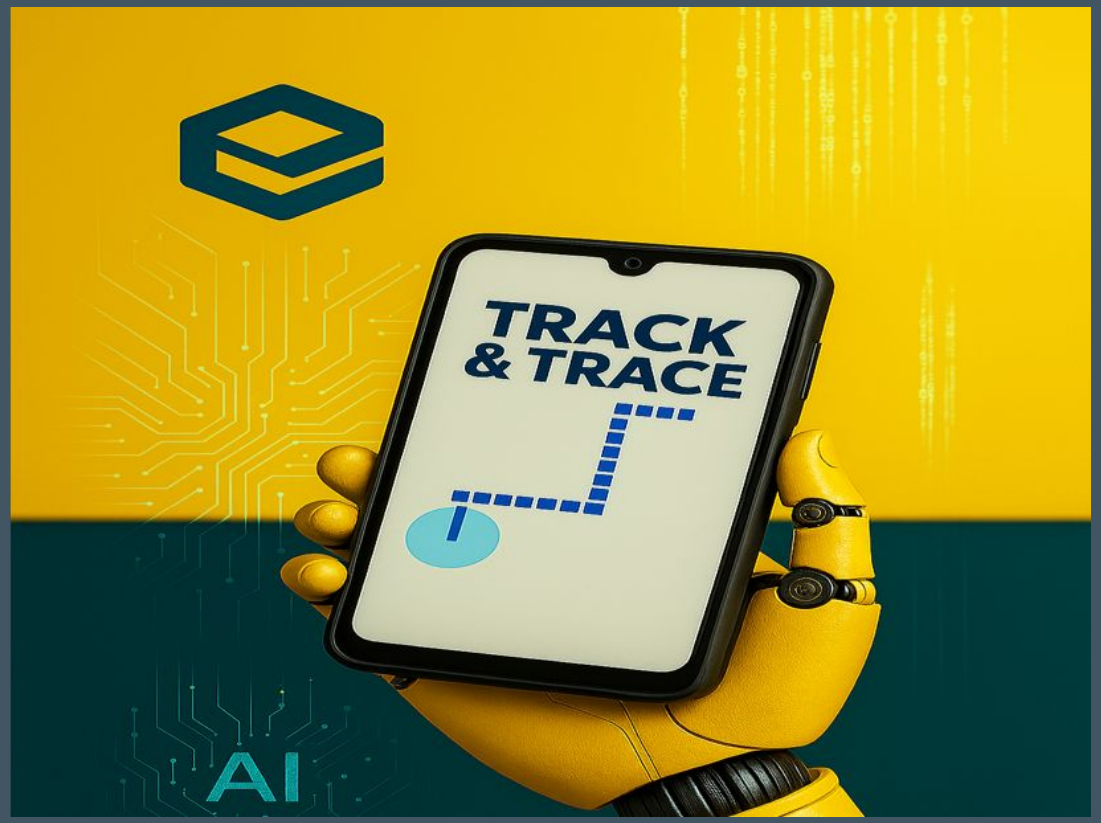
The screen displays an order confirmation message along with estimated delivery time based on customer location.

Real-Time Updates

Customers receive real-time update notifications via email and SMS to stay informed about their delivery status.

ETA Calculation Logic

The system calculates ETA considering warehouse location, cut-off times, and carrier performance for accuracy.



Dashboard: SLA Compliance Tracking

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SLA Compliance Metrics

Track order adherence to delivery time accuracy, and special request fulfillment to ensure SLA compliance

Performance Monitoring

Enable logistics managers to monitor regional performance and identify bottlenecks for improvement

Data-Driven Decision Making

Use real-time data visualization to support strategic planning and continuous service improvement

Hackathon Data

Data Dictionary

Actual Delivery: Date when the shipment was delivered.	Carrier Posted Service Days: Number of service days posted by the carrier.	Customer Distance: Distance in miles between origin and destination.	•Truckload Service Days: Expected service days for truckload shipments.
All Modes - Goal Transit Days: Target transit days for all transportation modes.	Actual Transit Days: Actual number of days taken for delivery.	OTD Designation: Indicates if the shipment was early, on time, or late.	Load ID (Pseudo): Unique identifier for the shipment.
Carrier (Pseudo): Unique identifier for the carrier.	Origin ZIP: First 3 digits of the origin ZIP code (may include state acronym).	Destination ZIP: First 3 digits of the destination ZIP code (may include state acronym).	Ship Week: Week of the year when the shipment was made.
Ship Month: Month of the year when the shipment was made.	Ship Year: Year when the shipment was made.	Ship Day: Day of the week when the shipment was made.	Lane ZIP3 Pair: Origin → Destination ZIP pair.
	Lane ID: Identifier for the lane ZIP pair.	Total Distance Bucket: Approximate distance in miles between origin and destination.	

Epiroc-Hackathon Data
Will be shared in Discord.

Questions?

Appendix


ACCELERATE
THE TRANSFORMATION
The world needs metals and minerals for the energy transition. We also need cities that can cope with a growing population in a sustainable way. To succeed we need to speed up the shift towards more sustainable mining and construction industries. We at Epiroc accelerate this transformation.

United. Inspired.

Performance unites us, innovation inspires us,
and commitment drives us to keep moving forward.
Count on Epiroc to deliver the solutions you need
to succeed today and the technology to lead tomorrow.

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