

Next Generation Technologies: Supply Chain Digitalization and Green Solutions

Milan Karunaratne

Sr Director, Advanced Technology Group

Greg Wright

Sr Program Manager, Advanced Technology Group

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WABTEC

Wabtec operates its business in two segments

50+ COUNTRIES

~27K EMPLOYEES

FREIGHT: 72%

TRANSIT: 28%

34%
Services

18%
Equipment

11%
Components

9%
Digital Intelligence



28%
Transit

GLOBAL LEADER IN FREIGHT AND TRANSIT RAIL TECHNOLOGIES

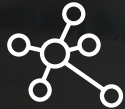
WABTEC ADVANCED TECHNOLOGY LABS

Wabtec Advanced Technologies Group

OUR MISSION

De-risk innovation and drive scalable solutions using advanced technologies to help our business grow to move and improve the world.

EXPERTISE



AI/ML, ROBOTICS &
AUTOMATION



MECHANICAL
SYSTEMS & ADDITIVE
MANUFACTURING



CYBERSECURITY
SYSTEMS



DECARBONIZATION
TECHNOLOGIES

+ 3

YEAR PRODUCT
OUTLOOK

+ 50

DATA SCIENTISTS, ENGINEERS,
SW DEVELOPERS, ARCHITECTS

+ 6

STRATEGIC
PARTNERSHIPS

PROJECT CLASSIFICATION:

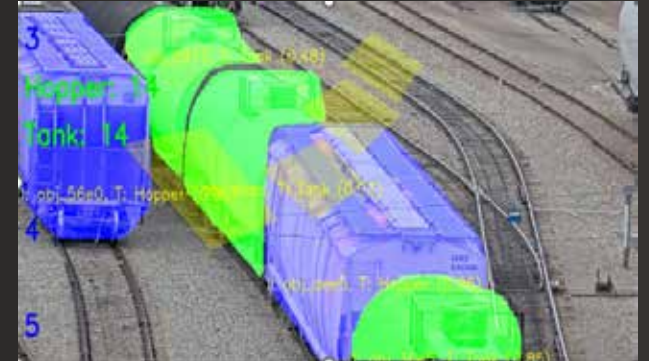
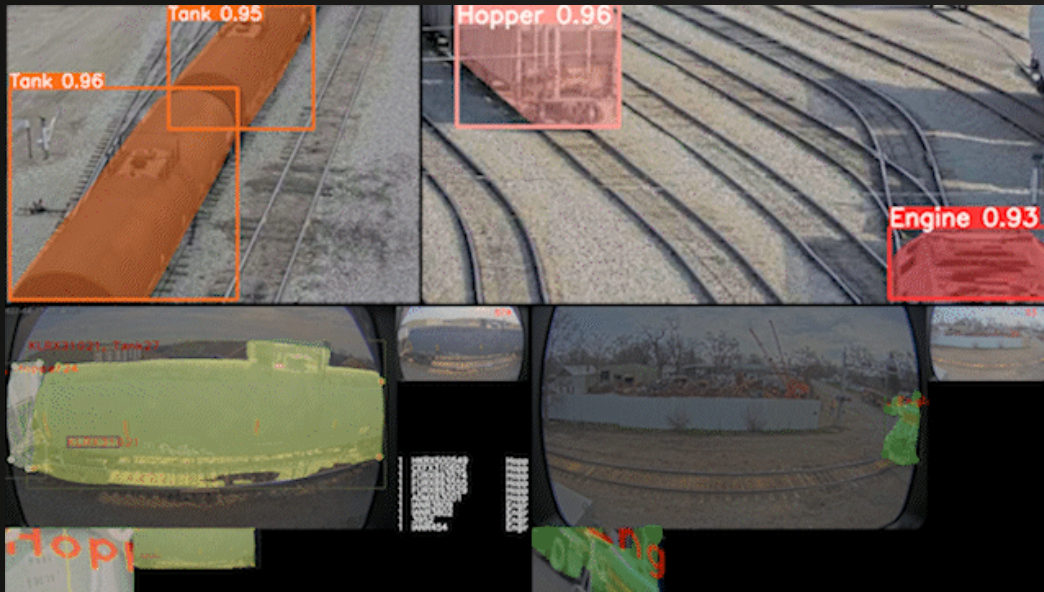
- GRADUATED
- IN DEVELOPMENT
- DISCONTINUED

ADVANCED TECHNOLOGY LABS

Wabtec Innovation

COMPUTER VISION DEVELOPMENT

Brining Visual Intelligence to Yards for Automated Inventory Management



REAL-TIME, LOW COST
YARD INVENTORY TRACKING SYSTEM

Wabtec Innovation

GENERATIVE AI

Leveraging large language models (LLM's) to drive intelligence and interaction is large textual data

Disclaimer: This proof of concept app uses unmoderated GPT technology. Responses may be inaccurate. This app is provided as-is and without any warranties or guarantees. Use this app at your own risk. Dialogue history is stored in your local browser until you clear browser data. We are tracking token usage by user email.

How it works
OneBot is equipped with advanced natural language processing algorithms that enable it to understand and respond to your messages, providing a ChatGPT-like experience with equivalent functionality. Every new chat is saved on the right for later reference.

Limitations
OneBot cannot access Wabtec internal data sources and cannot provide meaningful answers to questions about specific Wabtec information. Chat history is limited to a specific device and will not carry over between separate devices. OneBot is only accessible from a Wabtec network or VPN.

Future improvements
Although it currently does not have access to any Wabtec data beyond what you input, it may include specific internal data in the future pending Cyber Security approval. Additionally, OneBot may offer other AI services as they become available.

History (sort: updated)
What is a stack?

OneBot
Hello, how can I help you?

Type a new message

Include last 2 prompts | Stop Generating | Give Us Feedback!

Market Research

Company	Market Share (%)	Revenue (\$B)	Growth (%)	Innovation Index	Customer Satisfaction	Employee Retention	ESG Score
ABC Company	22.1	15.5	12.3	85	4.2	92	78
XYZ Corporation	18.7	12.8	9.8	72	3.8	88	65
Global Innovations	15.3	10.2	15.1	90	4.5	95	82
FutureTech Solutions	12.9	8.7	18.4	95	4.7	98	88
Quantum Leap	10.5	7.1	20.2	98	4.9	100	92
Stellar Dynamics	8.2	5.6	22.5	100	5.0	100	95
Orion Systems	7.1	4.9	24.1	102	5.1	100	97
Phoenix Labs	6.3	4.2	25.8	105	5.2	100	98
Apex Industries	5.8	3.9	27.3	108	5.3	100	100

Please note that the total operating revenue represents the revenue earned from the company's transportation services, including freight and passenger transport.

Interaction w/Data

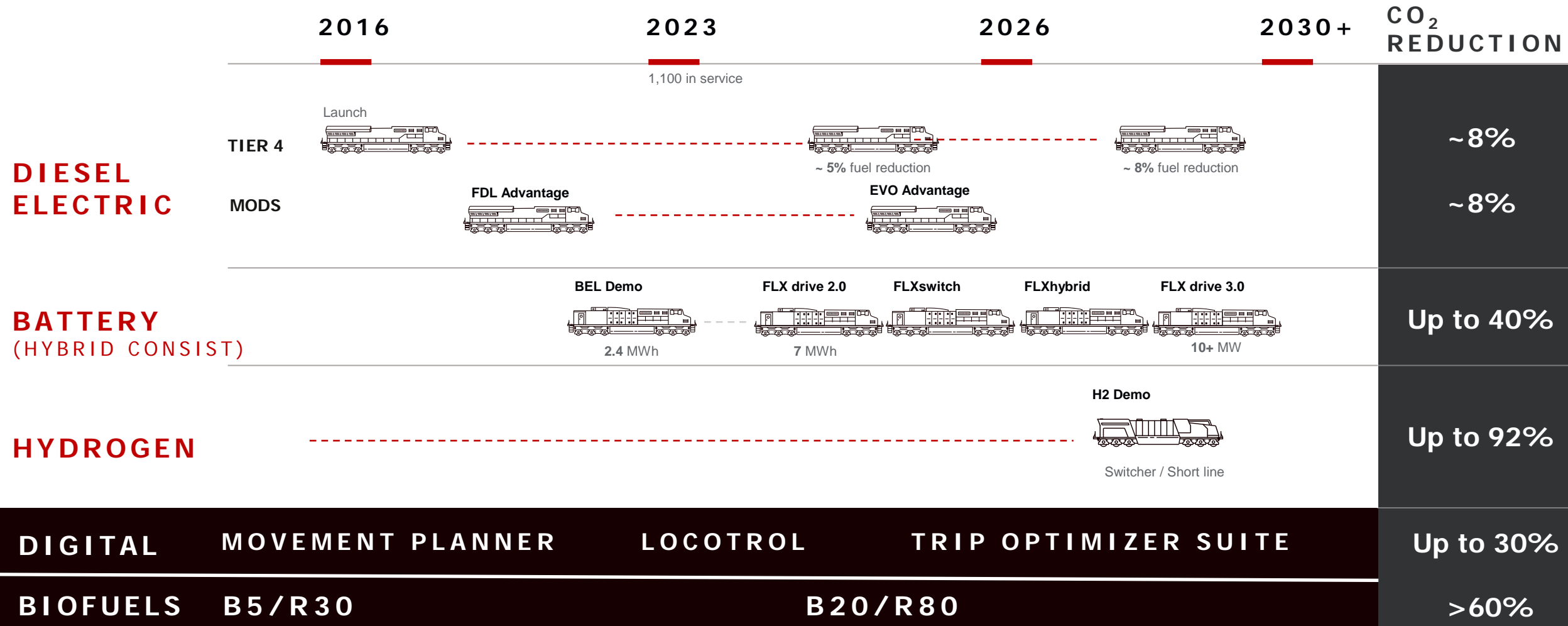
User: Hello, how can I help you?

OneBot: I can help you with market research. I have generated a report for you. The report title is 'Market Research: How are regulatory programs being...'. The report includes a table with columns for 'Company', 'Market Share (%)', 'Revenue (\$B)', 'Growth (%)', 'Innovation Index', 'Customer Satisfaction', 'Employee Retention', and 'ESG Score'. The table lists various companies and their performance metrics.

User: Can you provide more details on the market research data?

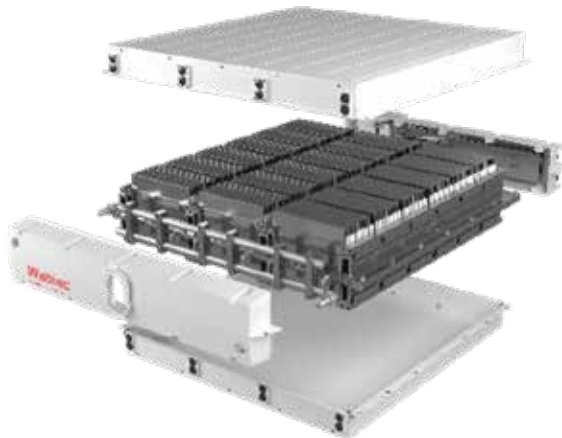
OneBot: I can provide more details on the market research data. The data shows that the market is highly competitive, with several companies showing strong growth. The top performers are ABC Company, XYZ Corporation, and Global Innovations. The market is expected to continue to grow, with several companies showing strong potential for future success.

Locomotive technology road map for sustainability



FLEXIBLE PORTFOLIO TO SUPPORT CUSTOMER SUSTAINABILITY GOALS

Delivering Value through Next Gen Battery Tech



Rail Purpose Battery

- **Safety**... comprehensive loco specific system and pack design
- **Reliability & serviceability**... designed for heavy haul application duty cycles
- **Future proof**... modular design

Train Performance & Automation

- **Modular Control Architecture**... next generation locomotive control system
- **FLX optimizer**... train-level energy management... up to 30% fuel savings on hybrid train consist

FLX ecosystem

- **Recharging solutions**... smart control with maintenance, stationary, and future moving charge options
- **Service**... in use battery pack monitoring, service & remanufacturing

Grant overview



What

Public-Private Partnership to demonstrate Hydrogen Fuel Cell Locomotive

Who

CalSTA – *Grantor*
South Coast AQMD – *Recipient*
Wabtec – *Supplier*

When

3 year development of new vital organs and demo locomotive.
1 year trial period

Why

Develop hydrogen fuel cell technology to deliver zero emissions solutions to our customers

Where

In and around POLA & POLB in Los Angeles, California

High Level Requirements



HYDROGEN
DEMO
PHASE 1

- Demonstrate the safe Operation of a hydrogen ecosystem (locomotive and wayside)
- Increased tractive effort compared to current locomotive fleet
- Zero Emissions
- Hydrogen providing power
- AC traction system
- 100's of kg of H₂ onboard
- 12-month demonstration
- Teardown of key components after demo
- Remote monitoring for continuous data analysis
- Demonstration will be supported full time with on the ground support
- Ability to grow to phase 2 long haul demonstration



THANK YOU