

# **Freight Railway Solution**

# What's the solution?

Technology for the autonomous operation of iron ore trains.

- Dynamic business-drive train / fleet scheduling
- Profit-oriented traffic management.
- Throughput-efficient operations management

# How it works? 1,500 km of track in the Pilbara fitted with AutoHaul\* software as littled with AutoHaul\* software and have been upgraded to the highest safety standards. World's first driverless freight train World's first about 300 kilometres with the average journey room. Pit to Port Trae average return distance of these trains is about 300 kilometres with the average former yorke, including loading and dumping, taking about 40 hours.

# What problems to be solved?

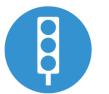
Dangerous for drivers traveling long distances rail, deserts

Low productivity (just a little trips)

High cost

# **Progression Towards Autonomous**

### **Passive**



Trains are driven manually using the signalling systems as well as the communications network.

### **Driver Assist**



Trains are driven manually using prompts from a Driver Assist system, using the signalling systems and communications network.

### **ATO Attended**



Trains are operated by the autonomous system with a supervising driver on board who will intervene if necessary.

### **Autonomous**



There is no driver on board the train and the system controls the train completely.



Who can apply?

Ore mining company

### **Benefits**



**Enhance communications** availability and optimize costs by selection of the most reliable, efficient and cost effective IP capable wireless network



Enables users to implement staged cost-effective solutions that can be enhanced and expanded over time



Allows Optional simple migration to a fully automated system if required

# **Technologies**

Java Core, JBoss, EAP, EJB, Hibernate, Corosync/Pacemaker

SNMP, GPS, 3G, Wireless 802.11 and Satellite

### **CONTACT**





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