



**Waygate
Technologies™**
a Baker Hughes business



SUCCESS STORY

Driving Safety and Efficiency on the Rails

How Waygate Technologies supports Deutsche Bahn

The Challenge of Rail Maintenance

Rail transport is at the heart of sustainable mobility. It is fast, safe, and energy-efficient, making it a cornerstone of global efforts to reduce carbon emissions while keeping people and goods moving. But with rising demands for higher capacity and speed, maintenance facilities face mounting pressure: trains must stay operational with minimal downtime, and safety cannot be compromised.

Among the most critical components of any train are its wheels. Wheels are

exposed to wear and hence must be inspected regularly to ensure they remain safe for use. If a wheel shows signs of damage or wear, it must be reprofiled or replaced immediately. For maintenance personnel, this makes wheel inspection one of the most vital and time-sensitive tasks.

Deutsche Bahn (DB), one of the world's leading railway operators, required a solution that could deliver fast, reliable, and highly accurate wheel inspections, while reducing service times and keeping its large and diverse fleet moving.

Inspection Starts With Us

Through its Krautkrämer heritage, Waygate Technologies has **partnered with Deutsche Bahn since the 1950s**. At a lecture in Düsseldorf, the brothers Josef and Herbert Krautkrämer introduced their groundbreaking ultrasonic testing technology. Among the captivated audience was the head of quality assurance at DB, and they soon became one of the company's first and most important customers.

Building on **decades of collaboration**, Waygate Technologies introduced **Krautkrämer WheelStar UFPE**, an automated ultrasonic inspection system designed specifically for wheelsets.

The UFPE system inspects wheels without dismantling parts, directly under the train. Each wheelset is examined in just 20 minutes, delivering precise data for maintenance, repair, and overhaul (MRO) decision-making.

WHAT MAKES IT UNIQUE ?

It's Krautkrämer WheelStar UFPE's flexibility: **Installed across seven DB sites**, the system has been adapted to four different train types and diverse depot layouts:

- Under-train pit systems or autonomous carriages moving along elevated service lines
- Long or short configurations to reach all wheelsets without moving the train
- Smart adaptations to avoid collisions with structural elements in older depots
- Custom access options to handle different wheel designs and auxiliary components like brakes, antennas, or sand pipes

Through modular design and close teamwork with DB engineers, Waygate Technologies has consistently delivered tailored solutions that meet operational challenges. The impact of the UFPE solution has been significant:

- **High availability:** 96% system uptime across DB sites
- **Rapid service response:** 95% of issues resolved on the same day by specialists
- **Increased productivity:** Parallel inspection workflows have reduced inspection time by 10%, enabling faster turnaround
- **Speed upgrades:** Newer UFPE carriages improve speed up to 310% compared with earlier models, critical for inspecting entire trains up to 374 meters in length

Waygate Technologies helps DB minimize downtime, maximize safety, and extend fleet performance by combining cutting-edge automation with continuous upgrades.

Safe, Efficient and Green

As rail transport continues to grow in importance for a sustainable future, the collaboration between Waygate Technologies and Deutsche Bahn stands as a model of long-term partnership, innovation, and trust. Together, they are not only keeping trains safe and efficient but also advance the role of rail as a backbone of green mobility.

TRUST THE LEGACY. 
Krautkrämer
Ultrasound Solutions

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Waygate Technologies'
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