

KEY INSIGHTS · INNOTRANS 2026

Survey on digital solutions for rail infrastructure

With 110 completed responses, the survey provides a clear and credible view of market needs in digital rail infrastructure solutions.

110

participants from the rail industry

such as rail operators, rail contractors / construction companies, public authorities, industrial / manufacturing companies and engineering / consulting firms

What the rail industry is telling us

Respondents see the biggest near-term pressures in:

60% Aging infrastructure

51% Maintenance backlogs

50% Workforce shortages

46% Digitalization challenges

This confirms a strong market need for solutions that improve asset visibility, reduce manual effort, and increase maintenance efficiency.

Most wanted digital solutions

Demand is strongest for:

Automated defect detection and classification **61%**

Real-time condition monitoring for track and turnout assets **53%**

Integrated end-to-end asset management solutions **41%**

Predictive maintenance tools with automated workflows **40%**

AI-supported maintenance planning **37%**

Where demand is strongest

The clearest signal is around inspection, monitoring, and predictive maintenance:

>90% rate advanced inspection technologies as important

~90% want detailed, automated inspection data

Continuous monitoring and the shift from preventive to predictive maintenance are also top priorities

The technologies expected to have the greatest impact are:

AI / machine learning for predictive maintenance **65%**

Autonomous or semi-autonomous inspection systems **52%**

Mobile and automated field data collection **51%**

Advanced sensors and real-time condition monitoring **48%**

What will determine buying decisions

Respondents are not only evaluating technology performance. Adoption will depend heavily on:

Proven references / track record **88%**

Seamless integration into existing systems **86%**

Scalability **79%**

Cybersecurity and data sovereignty **78%**

Data ownership is strategic

Respondents place very high importance on:

Clear ownership of generated data **88%**

Long-term access to their data independent of vendor relationships **86%**

At the same time, they remain cautious about sharing their own data, even where value creation is evident. This underlines the importance of governance, compliance, and security.

Agreement by topic

All values in % of respondents (base: 110). Agreement = Top-2-Boxes (4 = agree, 5 = strongly agree) on a scale from 1 (strongly disagree) to 5 (strongly agree).

110
respondents –
base of all values

Inspection

Q7

To what extent do you agree with the following statements about inspections?

It is important for us to have access to advanced technologies and services for comprehensive track and turnout inspection, covering aspects like rail profile, defect detection, and vertical height.

93.6%

Receiving detailed and automated data from inspections is crucial for us to accurately assess the condition of our railway infrastructure.

88.2%

Monitoring

Q8

To what extent do you agree with the following statements about monitoring?

Continuously monitoring track conditions to detect anomalies, such as voiding or ballast issues at an early stage, is a priority for us.

82.7%

Using monitoring data to transition from a preventive to a predictive maintenance schedule would bring significant value to our organization.

80.0%

The ability to monitor turnouts in real-time, including key components such as crossings, switch machines, and ballast, is highly relevant to our operations.

77.3%

Asset management

Q9

To what extent do you agree with the following statements about asset management?

Utilizing digital tools for maintenance management and resource planning is important for optimizing our workflow.

80.9%

Integrating various data sources, such as BIM, and inspection data, into a single, unified asset management system is a key objective for us.

68.2%

Having a comprehensive digital solution to manage all our railway assets, including both infrastructure and rolling stock, is essential for our business.

67.3%

Data decisions

Q10

To what extent do you agree with the following statements about data decisions?

Applying advanced data analytics to support critical decisions, for instance through Life Cycle Costing (LCC) and track stability analysis, is important for our long-term strategy.

80.0%

Having access to data engineering and analytics experts to help us gain deeper insights from our own data would be very beneficial.

75.5%

Trackwork

Q11

To what extent do you agree with the following statements about trackwork?

Implementing solutions that are specifically designed to improve the efficiency and safety of our trackwork operations is a high priority.

89.1%

Using digital tools to better support our shunting yard operations and turnout maintenance processes is relevant to our needs.

74.5%

Accessories

Q12

To what extent do you agree with the following statements about accessories?

It is important that any new accessories can be easily integrated with our existing infrastructure management systems.

80.9%

Having access to auxiliary tools and solutions for specific monitoring tasks, such as rail temperature monitoring, is valuable for our daily work.

73.6%

Buying drivers & decision criteria

Q13

To what extent do you agree with the following statements about buying drivers & decision criteria?

Proven track record and references are critical when selecting solutions.

88.2%

Integration into existing systems is a key decision factor.

86.4%

Ease of deployment and scalability strongly influence our decisions.

79.1%

Cybersecurity and data sovereignty are major concerns.

78.2%

Total cost of ownership (TCO) is more important than upfront cost.

65.5%

Data & trust

Q14

To what extent do you agree with the following statements about data & trust?

Clear ownership of data generated by monitoring systems is essential.

88.2%

Compliance with regulations (e.g., EU Data Act, cybersecurity standards) is critical.

85.5%

We expect long-term access to our data independent of vendors.

85.5%

We are open to sharing data if it creates measurable added value.

66.4%

Exhibitions

Q6

To what extent do you agree with the following statements about exhibitions?

Speaking to technical experts on-site is important to me.

94.5%

I visit exhibition stands primarily to discover new technologies and innovations.

85.5%

I value live demonstrations and real use cases over brochures or presentations.

83.6%

I prefer hands-on or interactive experiences at exhibition stands.

82.7%

I expect clear business value (ROI, savings, safety impact) to be communicated quickly.

80.0%

About the survey

Method	Online questionnaire in English, German and French
Institute	INNOFACT AG, on behalf of Vossloh AG
Sample	110 participants from the rail industry
Data status	July 2026

Challenges and solutions

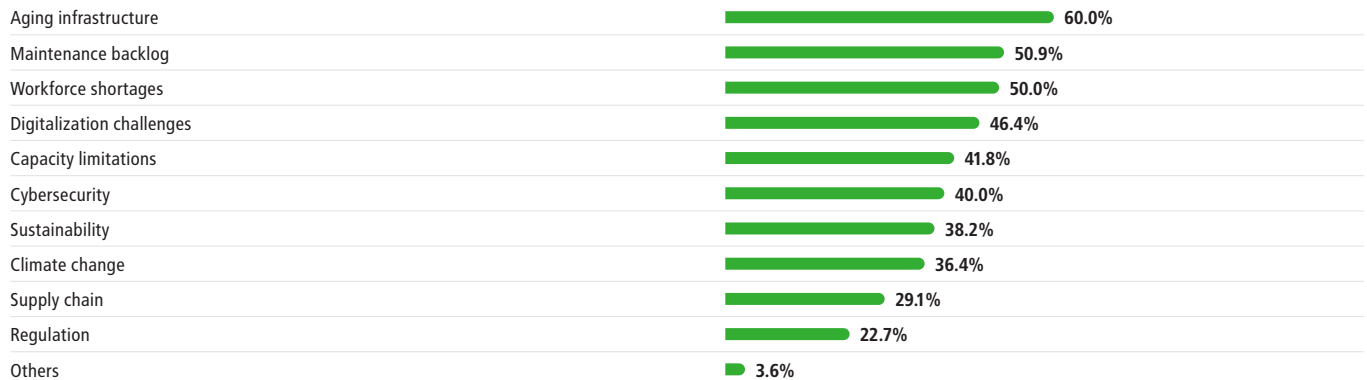
All values in % of respondents (base: 110). Multiple answers possible, therefore totals exceed 100%.

110
respondents –
base of all values

Biggest challenges for rail infrastructure management

Q15

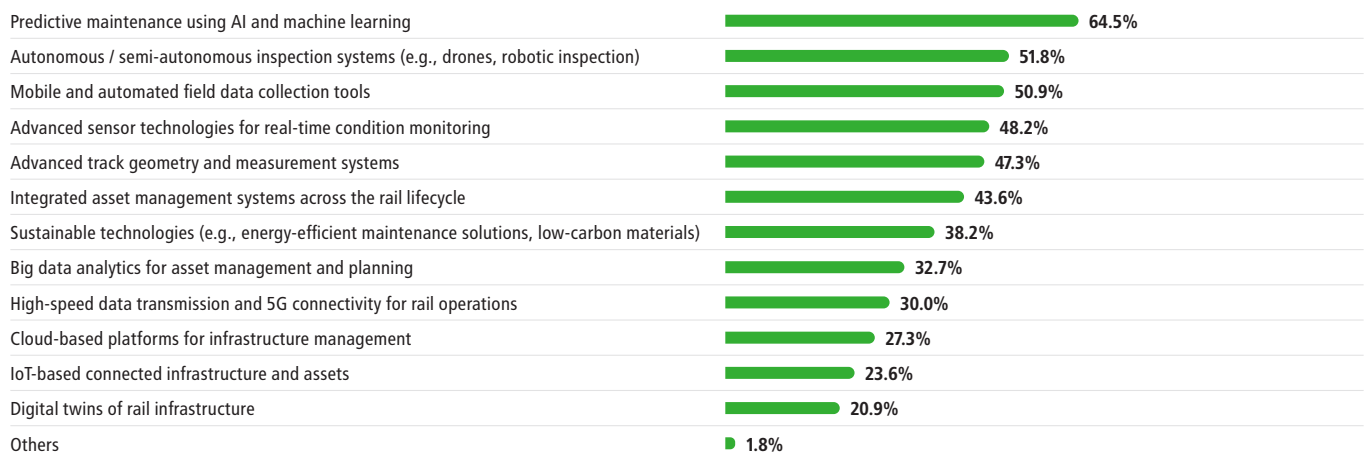
What are the biggest challenges you foresee for rail infrastructure management in the next 5–10 years? (multiple answers possible)



Technologies with the most significant impact

Q16

What innovative solutions or technologies do you believe will have the most significant impact on the rail industry in the coming years? (multiple answers possible)



Most wanted digital solutions and services

Q17

Are there any specific digital solutions or services that you wish were available to improve your operations? (multiple answers possible)

