Leading the way to 5G

As we enter the era of 5G, rail operators now have a game-changing opportunity to modernize aging railway infrastructures, creating new applications, revenue streams and operating models based on mobile broadband capabilities. Learn more

A glimpse into the future

The European Union aims to shift 30% of road freight to rail or sea by 2030 (led by China)

Why?

It’s more energy efficient, for a start

Sea 514 miles/gallon*

Rail 202 miles/gallon*

Road 59 miles/gallon*

(50% of all travel is within three hours of an airport)

It’s cost efficient too...

According to research, rail freight is 70% cheaper than air

But it’s not just about freight

By 2050 Passenger mobility by rail will increase 200%–300%*

But, what does everyone want?

<table>
<thead>
<tr>
<th>Passenger want:</th>
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<th>Rail operation want:</th>
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Railway infrastructures are ready for an upgrade.

What is FRMCS and what can it bring?

FRMCS (Future Railway Mobile Communications System) is the single global standard for railway communications and, for the first time, the European Commission has included it in its Directive 2014/65/EU (SR1909038016EN (September) CID206738).

How do I get on board?

Learn more.

FRMCS improves:

Safety | Automation | Communications | Maintenance | Customer experience

Why 5G for FRMCS?

From now on, operators fully support the Internet critical needs of rail operators and the FRMCS framework, with ultra-reliable, high-availability, low latency networks that enable better communications, and support new technologies, like Artificial Intelligence learning.

Nokia – leading the way to 5G

Nokia is the leading railway communications solutions provider and, together with Nokia Bell Labs, is developing an innovative 5G portfolio that’s best-in-class cyber security solutions.

Railway infrastructures are ready for an upgrade. According to research, rail freight is 70% cheaper than air. But it’s not just about freight. By 2050 Passenger mobility by rail will increase 200%–300%*. Return on investment (ROI) and profitability is essential for a start. It’s more energy efficient, for a start. Sea 514 miles/gallon*, Rail 202 miles/gallon*, Road 59 miles/gallon*. (50% of all travel is within three hours of an airport). It’s cost efficient too... According to research, rail freight is 70% cheaper than air. But it’s not just about freight. By 2050 Passenger mobility by rail will increase 200%–300%*. But, what does everyone want? Passenger want: • Secondary, shared, connected journey • Align freight volume and retail operations • Real-time data • An immersive travel experience Freight transportation want: • More visibility and better timely delivery • Collaborative logistics • Better cargo tracking Rail operation want: • Improved safety • Lower operating costs • Guaranteed security • More automation and predictive systems • Happier, loyal customers

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