Global Smart Railway Market Research Report: by Type (Station Type, On-board Trains), Component (Networking & Connectivity Devices,) Services (Consulting Services, System Integration) Solution (Smart Ticketing System, Passenger Information System), and Region (North America, Europe, Asia-Pacific, Rest of the World)—Forecast to 2024

Market Snapshot
The global smart railway market is expected to expand at 16.5% CAGR during the forecast period 2017–2024.

Smart railways integrate information and communication technology to the railway infrastructure to offer new-generation solutions and services for rail transportation and operations. Smart railways offer advanced and reliable services to passengers to meet the increasing consumer demand for efficient and safer services. This helps in enhancing operational efficiency, passenger experience, and provides high returns on investments.

The demand for smart railway is attributed to the increased adoption of IoT technology and the growing demand for cloud-based services. The emergence of the Internet of Things has propelled technological advancements in the fields across the network, radio access, sensors, and other systems. Radio-based communication network offers Bluetooth, Wi-Fi, and 3G, and 4G services to deploy smart railways projects. The market also seeks opportunities due to the emerging trend of smart cities. However, the lack of ICT infrastructure is expected to limit market growth.

Global Smart Railways Market, by Type, 2017–2024 (USD Million)

Source: - MRFR analysis

The smart railway infrastructure comprises various components including multimedia infotainment displays, video surveillance cameras, and networking and connectivity devices at stations. The multimedia infotainment displays are used at stations to display train schedules, number of passengers, and also for entertainment. The demand for smart railways services is growing with increasing adoption of smart amenities and safety, due to rising demand for smart ticketing, smart maintenance & control, and others. The smart railways solution includes advanced security monitoring systems which allow the station staff to monitor the premises. Passenger information system offers real-time information related to train routes and schedules. Similarly, rail communication and networking systems allow the operator to track and control train traffic adherence to schedules and speed, all in real time.

The onboard infrastructure of smart railways is equipped with multimedia infotainment displays, video surveillance cameras. The smart railways are also integrated with sensors, advanced technologies which provides additional security to the passengers, keeps a record of the activities during the commute, and monitors and identifies suspicious activities. Onboard railway services are essential for passengers; they comprise system integration & deployment, support & maintenance, consulting services. The smart railways solutions on the train are gaining momentum due to the increasing need for safety and security solutions; these include advanced security monitoring systems, passenger information systems, rail communication & networking systems, freight information systems, rail analytics systems, and smart ticketing systems

Regional Analysis
Global Smart Railways Market, by Region, 2017 (%)
The smart railway market, by region, has been segmented into North America, Europe, Asia-Pacific, the Middle East & Africa, and South America. Europe accounted for the largest market share of 54.5% in 2017, with a market value of USD 6,301.7 million; the market is expected to register a CAGR of 15.8% during the forecast period. North America was the second largest market in 2017, valued at USD 2,776.6 million; the market is projected to exhibit a CAGR of 16.7%. However, the market in Asia-Pacific is expected to register the highest CAGR of 19.7%.

The adoption of IoT technology, fast economic growth, and significant investments on smart railways projects by the government are expected to drive the growth of the smart railway market in the region. Moreover, smart rail received a funding of USD 6.6 million from the European Union’s Horizon 2020 research and innovation program.

Companies Covered
The key players of global smart railways market are Alstom SA (France), Cisco Systems, Inc. (US), General Electric Inc. (US), International Business Machines Corporation (US), Hitachi Limited (Japan), Huawei Technologies Co. Ltd (China), Siemens AG (Germany), Bombardier, Inc. (Canada), Indra Sistemas SA (Spain), Teleste (Finland), and Thales Group (France).

Key Developments
- September 2018, Thales launched the new generation of automatic train control system named SelTrac Generation 7 (G7). This control system is based on the latest technology that helps to reduce maintenance and operation costs while maintaining passenger safety.
- April 2018, Teleste introduced a smart platform—S-AWARE. This platform includes advanced intelligence system and data analytics tool which has upgraded the traditional video surveillance systems. Also, this platform provides operating personnel with a powerful tool for the decision-making process.
- April 2018, Indra developed a smart gate for rail vehicles which can detect cars and loading units transported in railroad terminals. These smart gates are equipped with electronic tags such as RFID technology, and specific algorithms to identify rolling stocks. This smart rail gate is expected to improve 10% capacity, punctuality, and reliability of the goods transport.
- January 2019, Alstom collaborated with Eversholt Rail, a rolling stock company, to launch the design of hydrogen train for the UK. This train will be equipped with fuel cells and hydrogen tanks and release water as waste with no harmful emission.

Market Segmentation
- By Type—Station and Onboard Type.
- By Component—Networking & Connectivity Devices, Control and Maintenance, Video Surveillance Cameras, Multimedia Infotainment Devices, and Others
- By Services—Consulting Services, System Integration & Deployment, and Support & Maintenance.
- By Solution—Smart Ticketing System, Rail Communication

Key questions addressed by the report
- What was the historic market size (2017)?
- Which segmentation (Type / Component / Services / Solution) is driving market?
- What will be the growth rate by 2024?
- Who are the key players in this market?
- What are the strategies adopted by key players?

Infographic Summary:

Global Smart Railways market is expected to reach market value of USD 32,489.2 million by 2024

Geographical overview

Drivers
- Increasing adoption of IoT
- Growing demand for cloud-based services
- Increasing growth of hyper-urbanization

Restraints
- Lack of ICT infrastructure

Opportunity
- Emerging trend of smart cities

Key Players
- Siemens
- Alstom
- Hitachi
- ABB
- Huawei
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