Artificial Intelligence in the Railway Industry

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4b. SMART FACILITY MANAGEMENT
HIGH NUMBER OF NEGATIVE NEWS IN THE MEDIA
BUT OTHERS NEWS SHOW AN AMAZING POTENTIAL OF A EMERGING TECHNOLOGIE
WHAT IS ARTIFICIAL INTELLIGENCE?

Multiple technologies that can be combined in different ways to:

- **SENSE**
- **UNDERSTAND**
- **ACT**

- Machine Learning
- NLP
- Speech
- Vision
- Expert Systems
- Robotics
- Planning & Optimization

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KEY FACTORS ARE ENABLING AI GROWTH

- Computing Power & Data storage
- Data Availability
- Real time information
In 2016, companies invest $26B to $39B

Investment in AI is growing at a high rate, but adoption in 2017 remains low

Fast emerging technology market (CAGR) 31% 2016 - 2024

By 2020, 85% of customer interactions will be managed without a human

It is considered a new factor of production

3x External investment grow since 2013

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NATURAL LANGUAGE PROCESSING

- Customer interactions:
  - Virtual assistants and chatbots: Formulating responses to questions.
  - Social media monitoring: Opinion and feedback of our services.
- Improve the accessibility in the stations.
- Applications for risk analysis and hazard identification.
- Door-to-Door Journey Planner for passengers and freights.
- Support tools for dispatches (Optimal decisions).
- Increase the Capacity & Support the liberalization.
- Energy optimisation for Vehicles & ATO.
- Optimal evacuation in real time.
SMART VISION

- Security Applications.
- Ticketing.
- User experience and crowd movements.
- Driver Assistance System.
MACHINE LEARNING

- TMS Applications: Predictive algorithm able to forecast delays.
- Retailers applications: Analytics on passenger preferences.
- Predictive maintenance.
- Building Automation.
ROBOTIC

- Assist travellers.
- Help to carry luggage.
- Creating automatons.
- Detect shoplifters.

Photo: SNCF Gares & Connexions.
THANK YOU / GRACIAS

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