THE DIGITAL FREIGHT TRAIN
Transforming the Rail Freight

IBS Congress, October 12th and 13th, Lissabon

FORWARDIS
RAIL AND MORE

TRAXENS
real data for logistics excellence

SNCF
LOGISTICS

TRANSFORMING THE RAIL FREIGHT
A NECESSITY

A unanimous recognition, the rail freight business has to reinvent itself

+ Shippers are interested by rail transportation, but :

  + Loss of competitiveness vs. road

  + Difficult economic perspectives

  + Manual and painful operations and processes, in a complex production environment

  + Increase of basic requirements

  + Future competition of autonomous road vehicles

Transform the rail freight by reinventing the business model, using breakthrough innovations and installing an innovation culture

WHY DID SNCF CHOOSE TRAXENS ?
BECAUSE…

Their solution is already implemented in the sea shipping industry

+ Thousand of containers already equipped.
+ Critical mass for components (boxes, IT, …).
+ Technical requirements similar to railway: no energy on-board, difficult telecoms cover, hard environment for electronics devices, ...
+ Monitoring and management interfaces already existing and easily usable for railway assets (Track&Trace, fleet management, …).

Our solution is a revolutionary IOT (Internet of Things) network, which makes the freight train becoming intelligent

+ Current systems connect each wagon individually, which means that each device on-board a wagon monitor and communicate only for itself.

+ With TraxensNet^{TM}, the overall train is "connected", because wagons communicate and interact between themselves directly, inside the train. That means it with this "virtual train", it is possible to digitalize railway operations (braking tests, composition list, brake sheet, …) and to command electric or electropneumatic devices (couplers, tank domes, …).

+ The energy autonomy is increased due to their "Energy sharing" concept.

+ The telecom access is rather better due to their intelligent concept, able to find the best way at every moment and one device can communicate for others.

+ Wagons communicate individually but not directly with other wagons

+ TraxensNet^{TM} technology
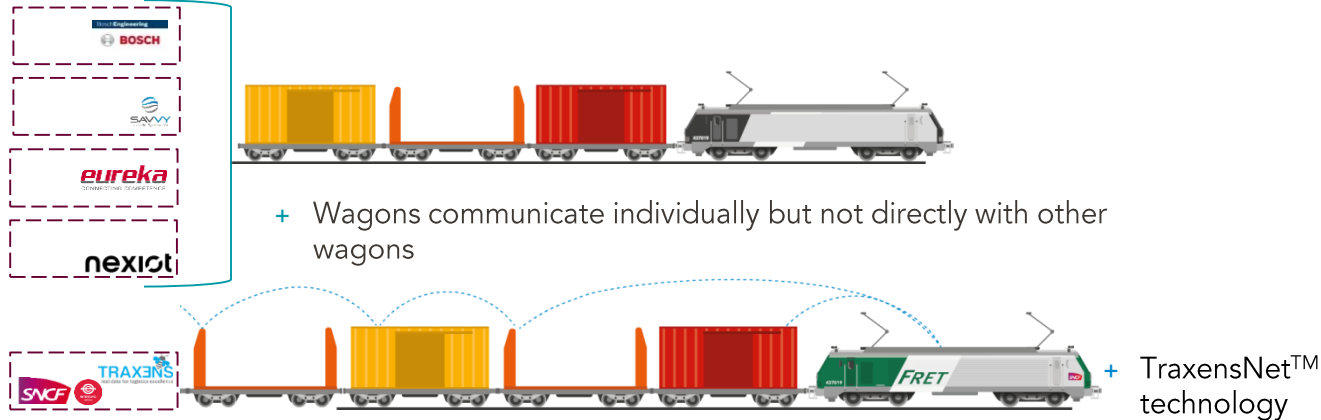
+ Wagons communicate between them, the TraxensNet^{TM} become a « virtual » train, able to communicate with the locomotive

THE DIGITAL FREIGHT TRAIN
A SYSTEMIC APPROACH, BASED ON EQUIPMENTS MUTUALISATION

Creation of an IT network
« Wireless train »

Towards databases
and users

TRAXBOX

BRAKE SENSOR

OTHER SPECIFIC
DEVICES
(e.g. load…)

+ A digital technology, based on remotely programmable connected objects, creating a wireless network on the train (IoT).
+ New services for all the players of the rail freight ecosystem.
+ An improvement of safety with automated brake tests and on-line monitoring of wagons (brakes, axles, doors, load…).
+ An evolution of economic model with the automation & optimisation of current manual production tasks.
+ An important evolution of wagon maintenance engineering and rail production activities.

THE DIGITAL FREIGHT TRAIN : A SYSTEMIC APPROACH
AN ANSWER FOR ALL PLAYERS OF THE RAIL SECTOR

Available for business in 2017

Design for 2018/2019

Costs reduction and quality & safety improvement

CLIENTS
+ Information on positioning and status of the goods
+ Automation of loading / unloading of wagons or other functions
+ Improvement of transport plan robustness (saving of 30 minutes min.)
+ Tailored services with specific sensors on wagons (dangerous goods…)

RAILWAY UNDERTAKINGS
+ Automation of production : brake test, train composition, braking sheet, shunting, coupling, train monitoring…
+ Weight measurement
+ Employee efficiency and safety
+ Automation of administrative processes

WAGON OWNERS
+ Review of maintenance engineering : precise follow-up of empty & loaded kms
+ Alarm on sensible parts
+ New wagon offers

WAGON KEEPERS
+ Optimization of the wagon fleet management

WAGON BUILDER
+ On-board automation (wagon part, coupling, …)

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