

Smart (Railway) Station

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Railways in Europe



Railways in the United States



Question: Do we have a positive experience in railway stations?

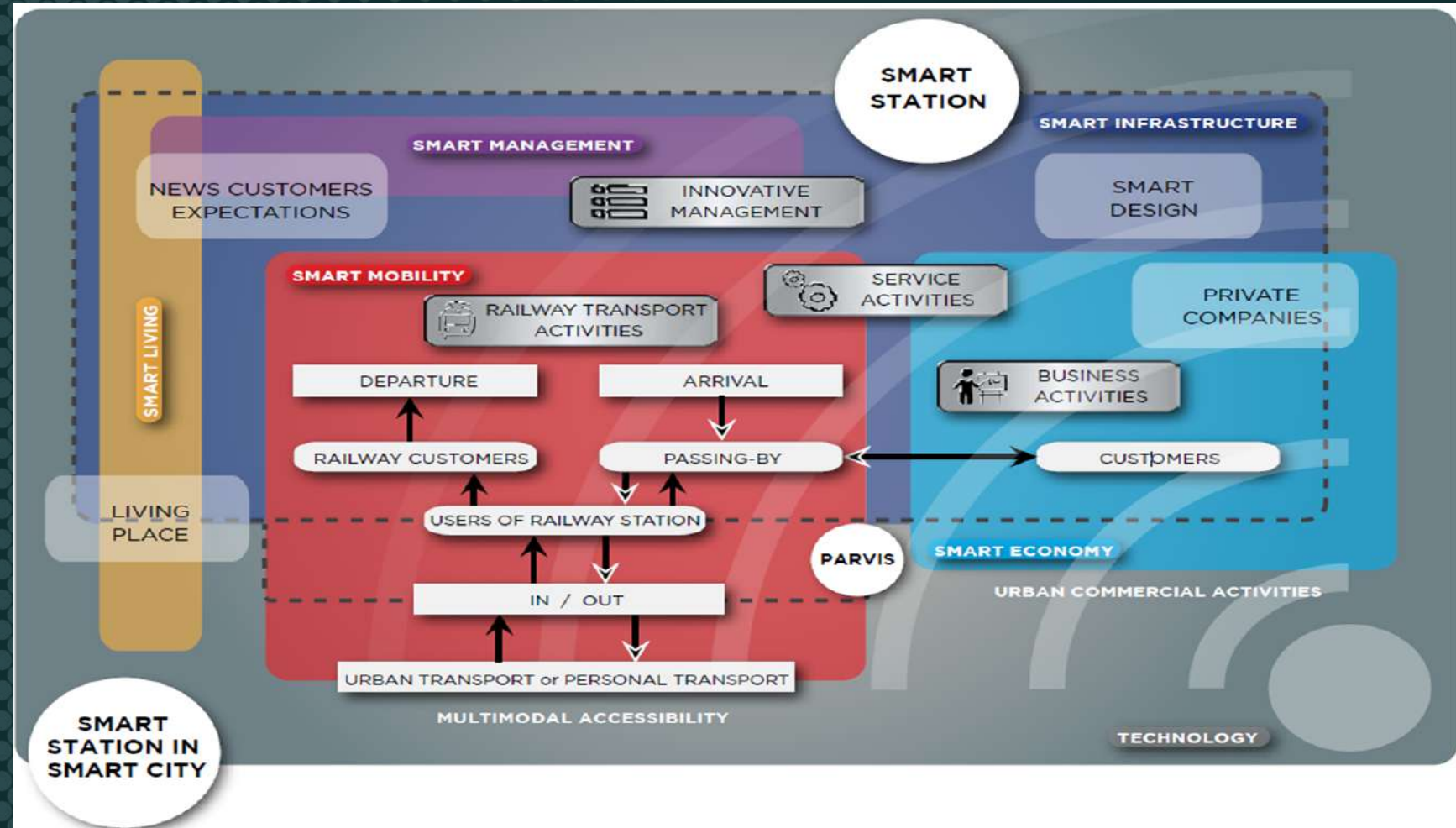
- **Study* used cases related to Railway Smart Station Services and deduced requirements from those. For example:**
 - Use cases of station operation monitoring and control
 - Use cases of passenger supporting services (e.g. Smart Ticket Services)
 - Evolution use cases of business and performance applications currently included in TR22.889

*Study on Supporting of Railway Smart Station Services (FS_RAILSS)

Smart (Railway) Station

A smart railway station is a station area that uses different types of electronic Internet of things (IOT) sensors to collect data and using that data to better improve efficiency, mobility and sustainability.

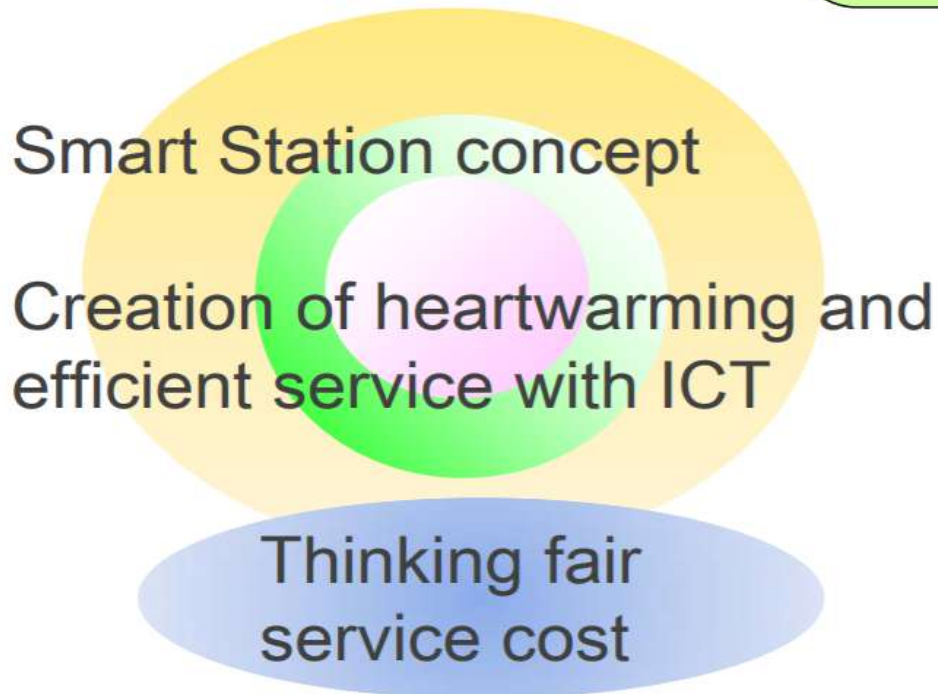
It mainly includes smart management, smart infrastructure, and smart mobility.



Keyword for station design at 202X

Premise : Safety and Security

- A. Barrier-free and stress-free for every passenger
- B. Personal information and service for each passenger
- C. Eco-friendly and energy saving operation
- D. Foster interaction with the community
- E. Improvement of operational efficiency



Exceed passenger's expectation

Sustainability

Management

1. Passing pleasant time without staff support for every passenger

2. Carbon-free and living together regional community

3. Balance service level and operation efficiency

Mr.Sakairi - East Japan Railway Company – Smart Station Vision



Smart management

How to manage the rail station to make it more convenient, more efficient, more comfortable to the passengers?

With 750,000 visitors every day, Grand Central Terminal is one of the most-visited destinations in New York City, second only to Times Square.

The good business model of the rail station results in increasing visitors and higher revenue.



Smart Service in Seoul Station - South Korea

Since 2010, KORAIL has been working in association with Incheon International Airport to handle passenger luggage. The service is managed by a KORAIL subsidiary, KORAIL Airport Railroad. Passengers only have to drop their luggage off in a station before taking the shuttle service to the airport, where they can collect their luggage.

Shuttle services are very frequent, and offer an express service which takes 43 minutes, or an omnibus service which takes about an hour.

Passengers have the choice of buying their ticket to the airport at the same time as buying their train ticket.

The price depends on the journey selected: 9329 won (7 euros / 8.25 dollars / 903.34 yens / 55.04 yuan) for the express service and only 2665 won (2 euros / 2.36 dollars / 258 yens / 15.73 yuan) for the other option.



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New tools for station managers

The idea is very simple, and yet extremely effective. Given the growing interest in drones, station managers may be interested in using them. Drones make it possible to quickly and regularly inspect the outside and inside state of buildings.

Of course, this type of application would only serve to make observations and cannot replace professional inspections. What this does show however is that this type of tools has undoubtable potential to add value.

The next sections will describe further uses for drones and nano-drones.



Question: What is the blue LED panel used for?

Answer: to calm agitated passengers, as the blue light has a calming effect on one's mood.



Smart Architecture

The architecture of the station should be unique and attractive.



Lyon railway station (Paris)



Central station (Milan)



Kazinsky station (Moscow)



A railway station in Porto, Portugal.

Smart Mobility

The station is a hub for transport. Smart mobility means easier to access to the railways and the railway station, and a better quality of services.



The information of the station and railways is key to achieve the Smart mobility.

Information on stations



Station maps



Platform maps

JR EAST App provides detailed information about the railway station.

Information point in British railway stations - © UIC



Information point in Japanese railway stations - © UIC



Information point in French railway stations - © UIC



Artificial Intelligence (AI) has also been used for smart station.

For example, face recognition has been used for security check in.

Face recognition has also been used to apply for a temporary ID.



Smart glasses are used to identify criminals.



Smart restroom is also used in smart station.



Smart robot
delivery
under 5G
network.



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