The Workshops at Atelier Néerlandais

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Stations as Nodes

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exploring the role of stations in future metropolitan areas from a French and Dutch perspective

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The Workshops at Atelier Néerlandais

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During the event at the Atelier Néerlandais in Paris, and in line with the considerations on the scope of the « Grand Paris Express » and the « Randstad » in the Netherlands, all the themes mentioned in the previous articles on Stations of the Future have been addressed. A selected group of professionals, stakeholders, experts, designers and scientists from both France and the Netherlands were invited to share their experience, knowledge, and expertise. We had lectures and debates on exemplary case studies in both countries in order to understand the different roles that stations are playing and will play in these metropolitan areas. In working sessions, the participants focused on: the intermodal character of the station, as 'node' and as an 'urban place', the catalyst role it plays in the city becoming a 'destination' by itself, and last but not least the potential of the ICT technology to make stations user-centric. Several research questions and definitions were developed in these sessions on the following topics: business cases of rail-metro stations, public space and architecture, densification and programming of station areas, crowd sensing, way-finding and navigation systems, pedestrian flows management and security systems (waiting zones and retail), and the integration of data.

The workshops aimed at defining the role of the Station of the Future as being: an intermodal node (in French gare comme nœud intermodal**), a City destination (in French** gare comme destination**) and a data center (in French** gare intelligente comme centre de donnees**).**

A special thank goes to

—Carolien van Tilburg and Joannette Polo for hosting the participants at Atelier Néerlandais;

—Tom Kuipers, Ebru Isguzarer-Onder and Maartje Meesterberends for reporting the workshops;

—Niels van Oort, Ton Venhoeven and Winnie Daamen for moderating the workshops;

—Yo Kaminagai, Jeroen van der Hoevel, Sebastiaan de Wilde, Ute Schneider for their interventions and all attendees for their active participation to the three workshops.

How would you define a station as an intermodal node?

The word cloud is the result displayed in real-time during the workshop, created with Mentimeter presentation software, by asking the participants '**how to define the station as a node?**'.
A multitute of keywords and concepts get the conversation started and three main points were defined:

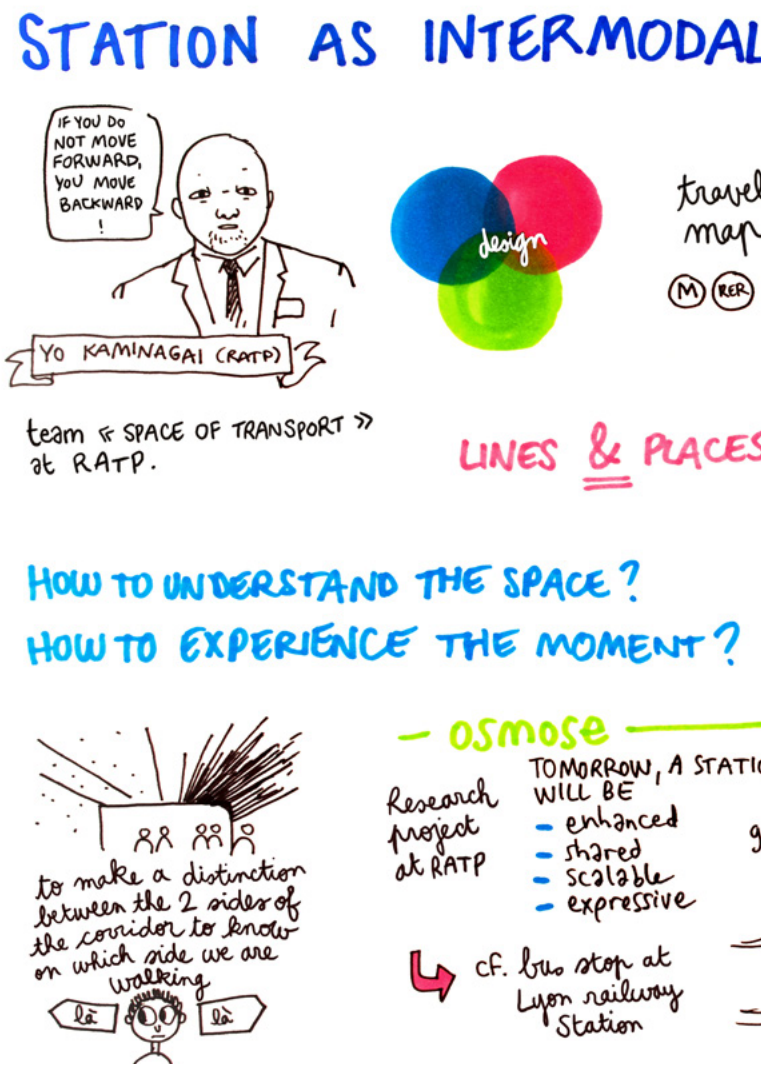
1.Concept: consider the hubs not as a consequence of stops but as an asset to identify, to enhance, to promote.

2. Design: how to make scalable hubs, open to changing new modes of transportation?

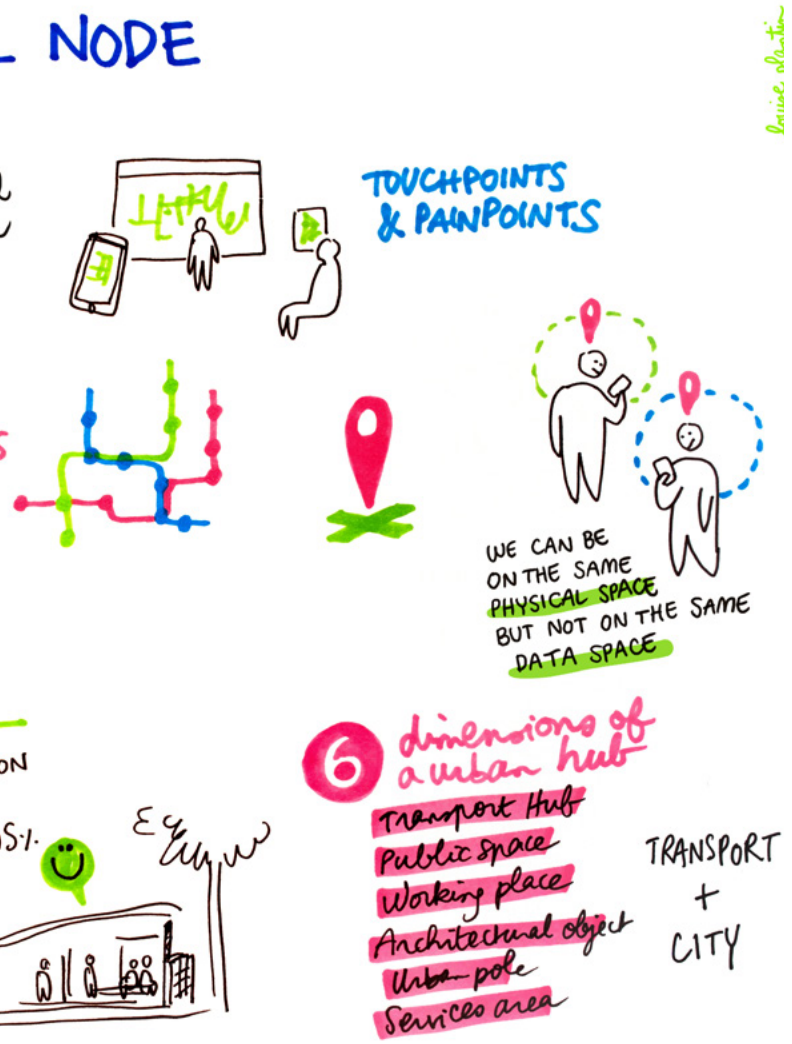
3. Policy: how to invest radically in nodes?

Station as Intermodal Node

The development of a rail network is often associated to the most ambitious of objectives: a tool of economic development, in spatial planning, but also of social and urban innovation. The intermodal node does not only connect different modes of transport but also several scale levels (local, regional, (inter) national). Finding an optimal mix of transport modes for each situation and making it as seamless as possible for the user, are the main goals to achieve. The workshop was introduced and moderated by Niels van Oort (Assistant professor at TU Delft). "To conceive stations as intermodal nodes, we will have to focus on their spatial organization, and not just combine buildings, as is often the case in France "says Yo Kaminagai during the session, Head of the Design department at RATP. During the workshop he described Stations as Urban Places; a new places culture is needed in urban mobility planning. Stations have to be a mix between a transport-object and an urban-object. Thinking of stations this way calls for a shared governance and a better articulation between public and transport authorities. Design oriented approach links the following aspects: Aesthetics (image perception) Functionalities (uses) and Durability (feasibility, maintainability, economy). He also defines 6 dimensions of an urban hub: -transport hub -public space -working place -architectural object -urban pole -service area.



▼ *Station as Intermodal Node* by Louise Plantin, visual note made in at the 'Gares du Futur/Stations of the Future' event in March 2018



"Public space is the support for all urban exchanges. It becomes a central issue of development and innovation, a place of encounters and socialization, and a new environment that is much more than mere operations targeting functional or connective surfaces" says Julien Peyron responsible for the public space and intermodality for the Grand Paris Express (GPE) project at the Société du Grand Paris (SGP). Through its program in favor of intermodality, the SGP is a key stakeholder, along with its partners, in the conception of efficient intermodal nodes that also provide quality, evolutionary public spaces. Intermodal nodes should be evolutional and flexible in their development and governance/management. Main features are Flexibility and Governance (multi layering, policy and design). How to design and govern flexibility? How to build the governances for the hubs projects and for the hubs operations? How new mobilities will be integrated into the station/hub? New challenges include providing answers to autonomous vehicles, demand responsive transport, electric vehicles, information technology, societal changes (aging population). However, we need to take into account that intermodal nodes are very situation-specific and thus choices per location should be made, while we also need to rethink the intermodal node as an urban place and look for new design solutions.

How would you define a station as a destination?

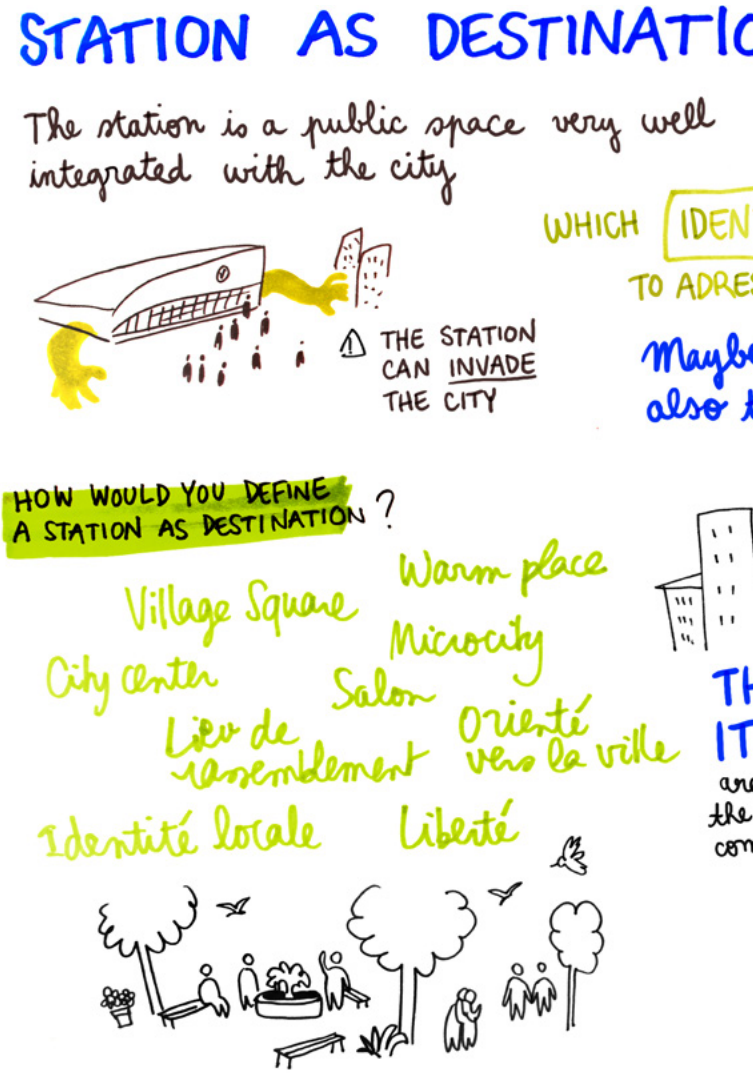
▲
This word cloud is the result displayed in real-time during the workshop, created with Mentimeter presentation software, by asking the participants how they would define the station as a destination. A series of 'challenges' were identifyied:

1. How to provide attractive pedestrian networks in the station area?

2. How to make an attractive area?

3. How dense do we build around stations?

4. Which kind of governance would suit these type of stations?



Station as Destination by Louise Plantin, visual note made in at the 'Gares du Futur/Stations of the Future' event in March 2018

Station as City Destination

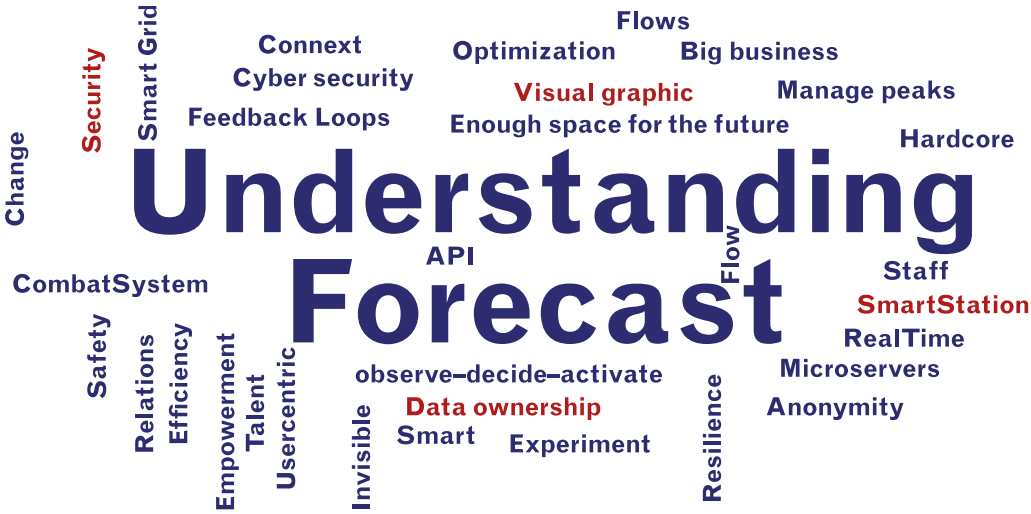
Railway stations have become much more than just a place to get on and off trains. Instead, they are places to work, do business, meet, shop and relax. Cities began seeing them as a 'Grand Projects' to boost their image, to serve as a symbol and eye-catching entrance into the city. The development of a station project can be used to promote a high level of architecture and the revitalization of city areas.[1] A basic function that a station should provide is transfering to other means of transport. But the best stations are important places as well, with attractive public spaces and a range of vibrant destinations in the station area, according to Ton Venhoeven, founder of VenhoevenCS, who introduced and moderated the session. Yet, "Stations should attract people with a program mix, next to offering transfer to other means of transport", he mentioned. Sebastiaan de Wilde, Director of Station Development and Maintenance of the Dutch Railway company NS Stations, showcased the renewal plans for Station Zuid in Amsterdam, in which he focused on value models and the added value of public and

Note

1 The railway station becomes as a centerpiece of urban design, see the case of Rotterdam Central Station in: Manuela Triggianese, 9 September 2015, full interview available online in RailTech: https://www.railtech.com/all/2015/09/09/the-railway-station-as-a-centrepiece-of-urban-design/

private industry in the development of stations. Finally, Ute Schneider, architect and urban planner at KCAP, glanced through the recent phenomena of urbanization processes in relation to the question "How do networks of transport inform our cities?". She focused on public transport as an urban generator, the station is both a connector and a destination, and on transport-oriented developments including master-plans for station, harbor areas and airports like Europaallee in Zürich and the area around the future Gare TGV Montpellier. During an interactive session that followed, the participants discussed, among other topics, on their perspectives about stations being destinations, and on which financial mechanisms work best for a station as destination. Impressions from the audience included terms like "People place, meeting place, desti-station." Statements included "The station can invade the city", "The station is a public space well-integrated", "Which identity do we want to give to the station?", "There are different notions of stations", "The importance of urban planning", and "Healthy city".

How would you define a station as data center?



This word cloud is the result displayed in real-time during the workshop, created with Mentimeter presentation software, by asking the participants how to define the station as a data center. Some research questions were developed during this session, such as:

1. What type of data we could collect in stations?

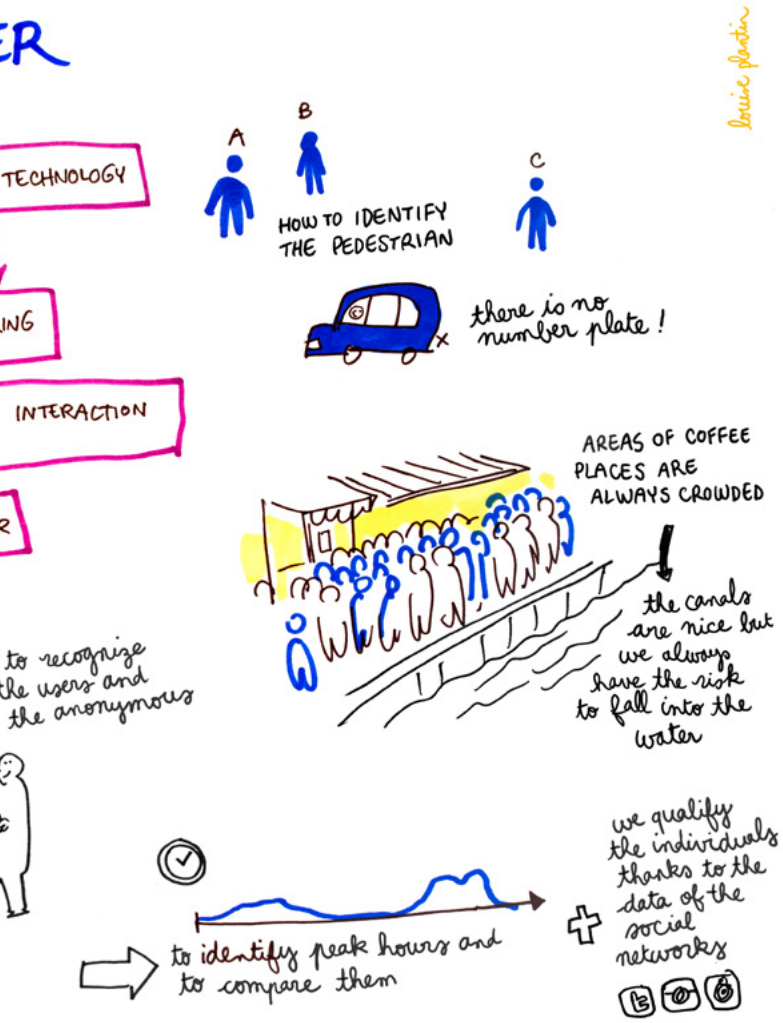
2. How do you make value of the data you have?

3. How do you detect a case that will lead to savings/efficiency/new businesscase?

Station as Data Center

The use of information and communication technology (ICT) has revolutionized the travel process for those using not just the train but also other means of transport. Technology is contributing to enhancing the experience of station users, but also is creating new demands from passengers using the rail network, and the managing new services need to be provided. The topic of ICT technology and the use of data, was introduced during the plenary session by Gaelle Pinson, responsible for the valorization of data for the Grand Paris Express (GPE) project at Société du Grand Paris (SGP). She defines stations as 'datacenters' at the heart of the smart-city concept. The SGP is installing digital infrastructures in the civil engineering infrastructure of the GPE metro capable of enhancing the digital offer for the Greater Paris territories and bringing new revenue to the SGP. Among these infrastructures, the datacenters, installed along the Grand Paris Express and interconnected by optical fiber, will be a key resource. Small captures and well distributed in the heart of the urban fabric, they will be an essential link in the data processing of smart-city and edge computing. During the working session, participants from SNCF (French Railway Company) defined the concept of station as a 'data center' as follow: it is about understating behavior, changing flows and being able to forecast. The data is used to support the design and decision-making process.

Station as Data Center by Louise Plantin, visual note made in at the 'Gares du Futur/Stations of the Future' event in March 2018



Winnie Daamen (Associate professor at TU Delft) and Jeroen van den Heuvel (Station Development at NS Stations) introduced in the working session how and which kinds of data has been collected at Dutch stations on crowds and pedestrian flows: real-time crowd-monitoring through counting camera's, Wifi and Bluetooth-tracking and public transport chip card data; and measuring sentiments through the use of social media data and surveys. According to the participants, data can mainly be used to understand crowds and pedestrian flows and to forecast future situations in relation to safety, but also to understand customer satisfaction and comfort, in order to improve the design of stations. NS Stations collects data from pedestrian flows in stations from three data sources: 1-Sensors (human shape is detected by sensors, Bluetooth and Wifi sensors at 6 stations in the Netherlands), 2-OV-chipcard (creating a flow data out of OV-chipcard data by linking check-ins to train schedule then an algorithm matches the swipes with trains), 3-Survey (every three months a survey on satisfaction among passengers is held at 50 large stations, two per year in smaller stations). All participants agreed that challenges lie in the integration and cross-fertilization of data from different operators of the different modalities that come together in a station (an ecosystem approach would be preferable) and in integrating stations in their surroundings, creating new and optimal user experience and designs based on data, better understanding causality within the data and researching privacy issues related to the data.