

Forum of Sino French sustainable urban transport systems
Shanghai - 01 Nov 2014 – Antoine Chèvre Direction Conseil

Multiplayer Methods – The French Tramway Experience



SYSTRA

1



A multidisciplinary Design Process

French Tramways - An opportunity for cities

Transport challenge – Improvement of sustainable mobility

- Qualitative and quantitative improvement in public transport offer
- Renewal of public transport image



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Urban Fabric Challenge – New features for urban development

- Global project for innercity and suburban urban renewal
- A way to rethink public space sharing between transport modes

French tramway projects – Multidisciplinary approach

Technical approach

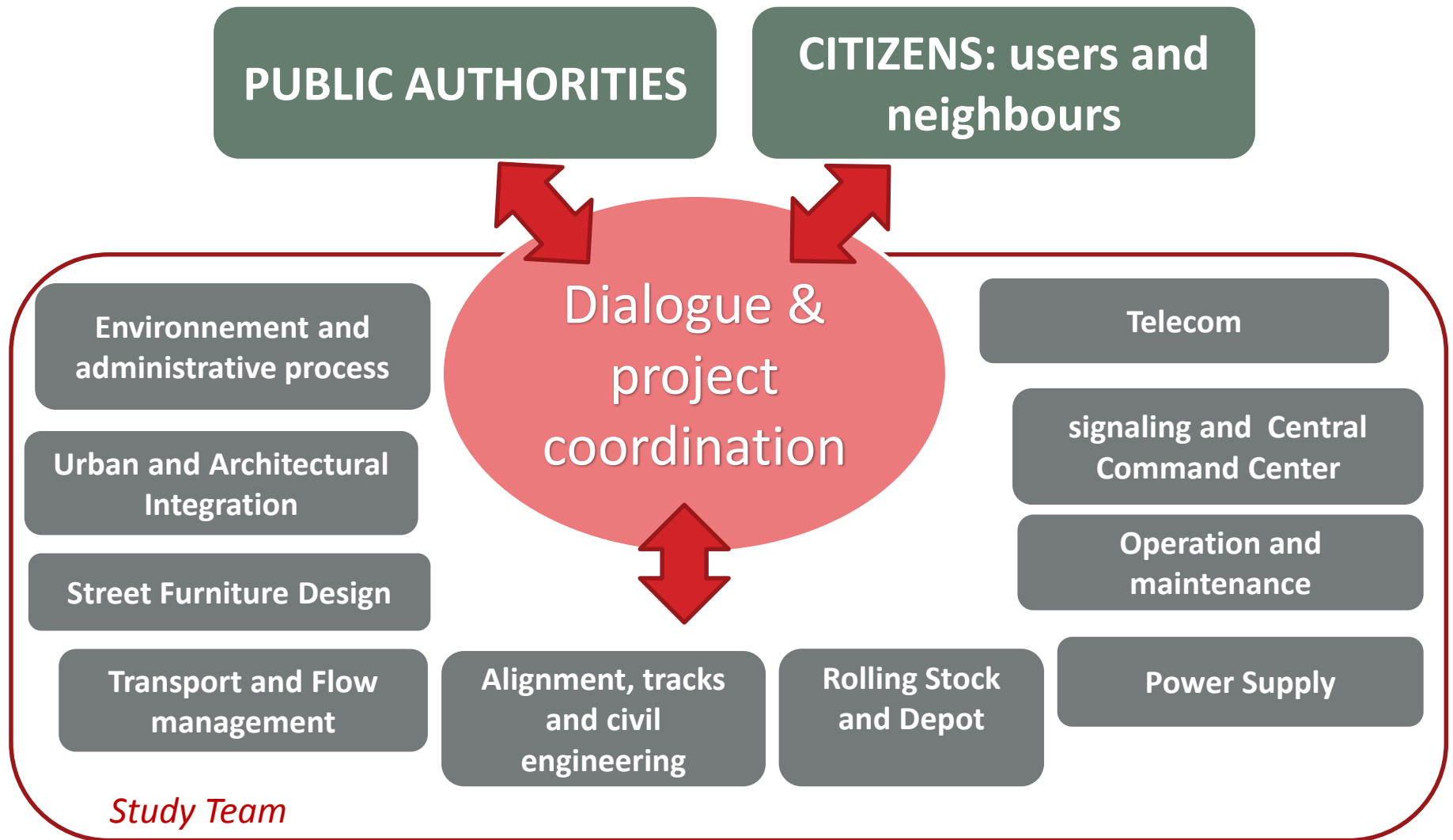
- Ensure a high level of service: operation, segregation with other modes
- Tramway is a complex system: signaling, platform, power supply, depot, etc...



Urban approach

- Rethink public space sharing and integrate a new transport system
- Ensure urban functions

DESIGN PROCESS



2



Central Issue : Integration of Tramway in Public Space

Public Space Transformation : before/after Tramway Nîmes (France)



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Public Space Transformation : before/after Tramway Nîmes (France)



Platform materials

Overhead Catenaries

Parking and freight deliveries

© ILEX [paysage urbanisme]
La graine studio

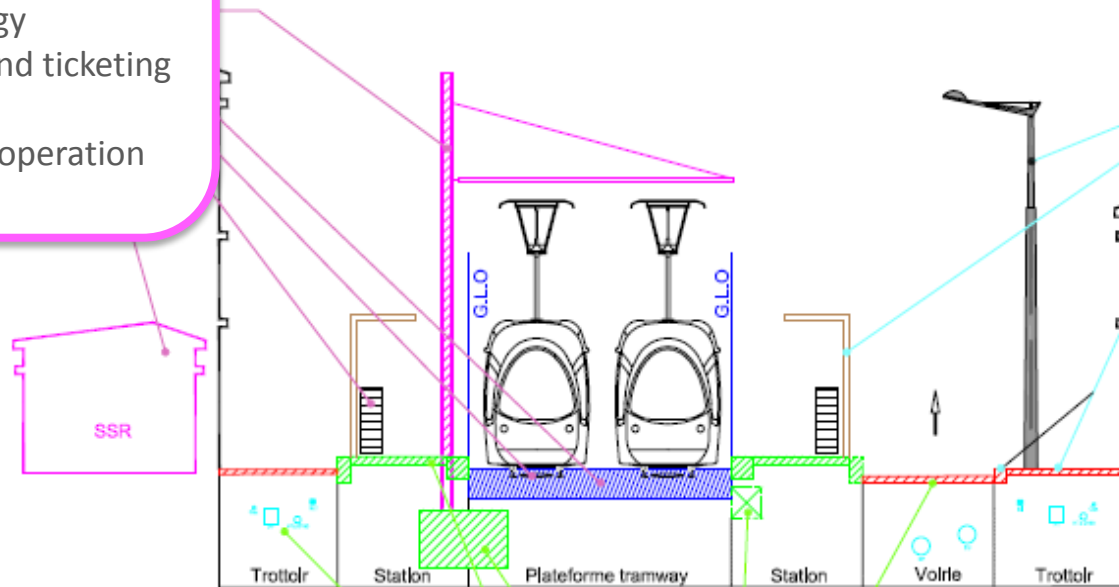
How do different technical disciplines interact ?

Rail equipment & operation systems team

- Track and platform
- OCS and energy
- Low voltage and ticketing system
- Signaling and operation

Architecture & landscape team

- Tramway alignment
- Urban features
- Design urban furniture



Infrastructures, civil works and utilities team

- Infrastructures and civil works
- Buried Utilities
- Stations

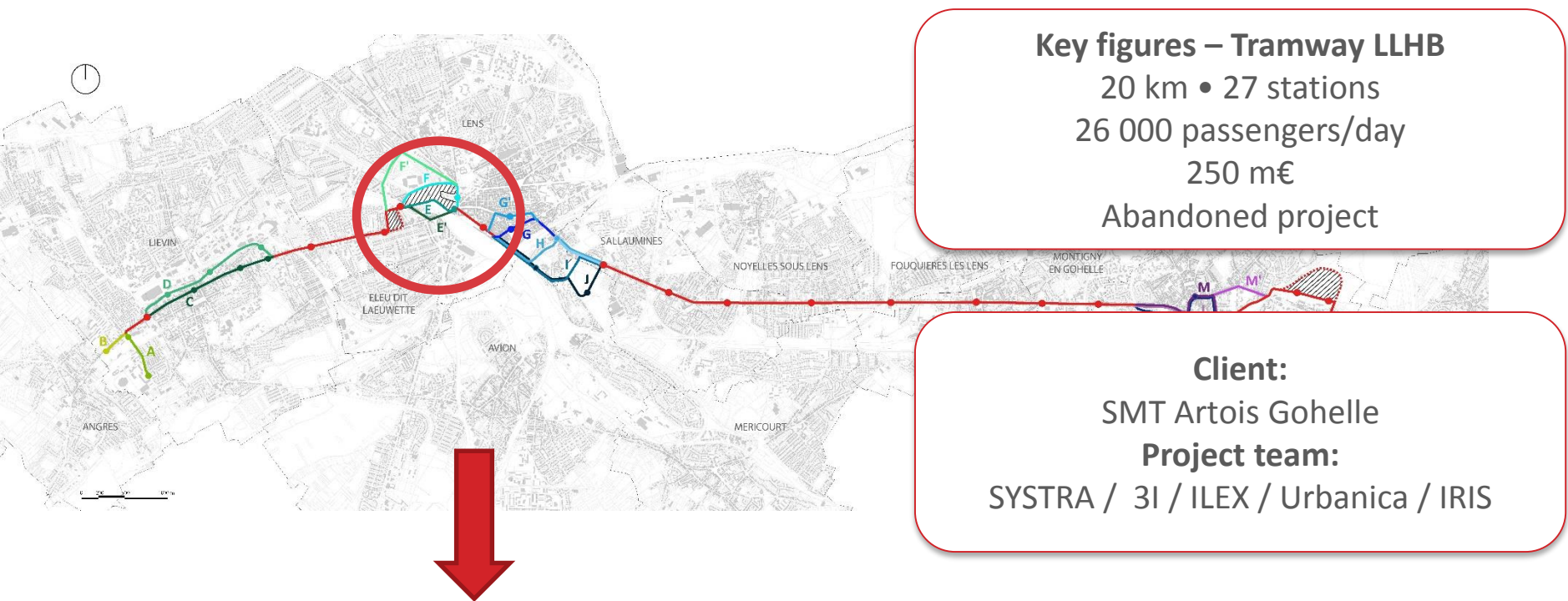
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Example – General features stage

Liévin Lens Hénin Beaumont – Around the city stadium (France)

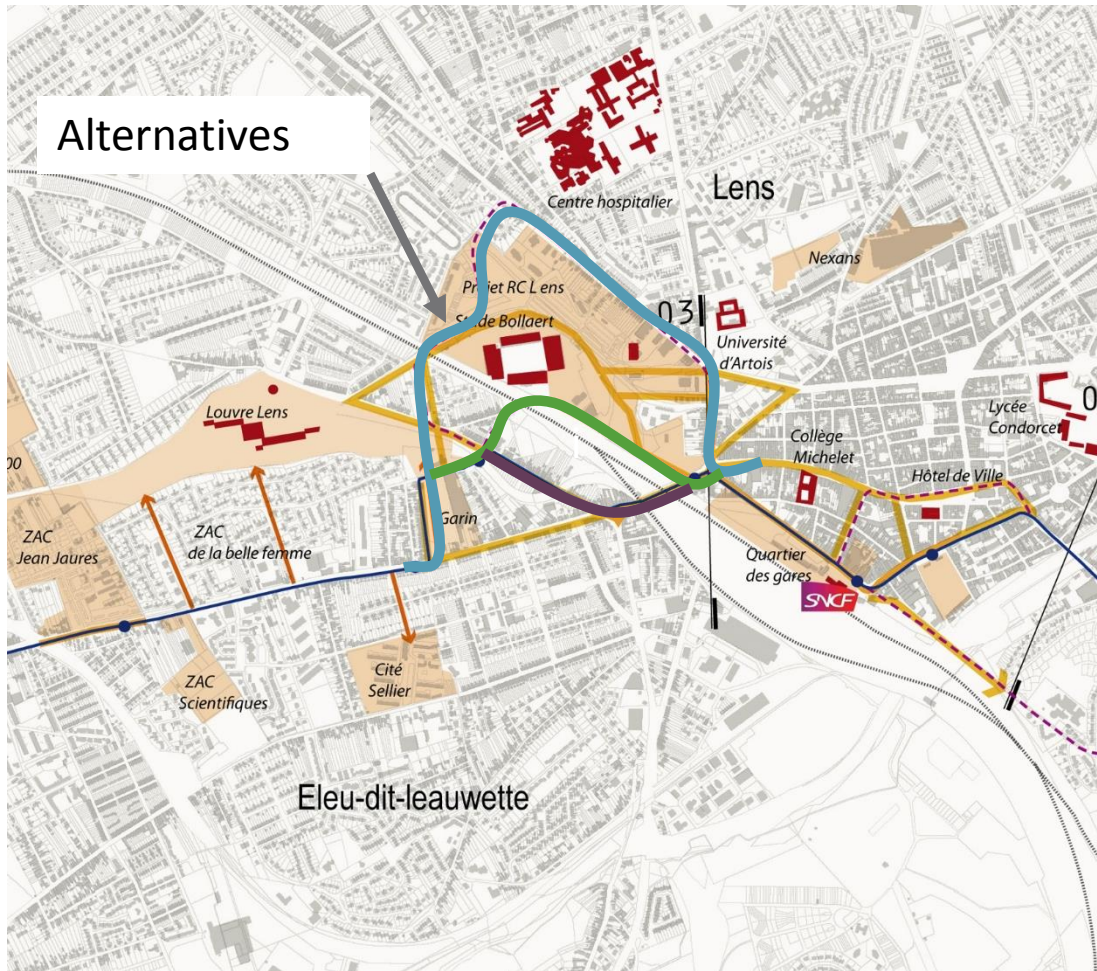
General Features



- **Constraints:** Railway Infrastructures, road traffic challenges, topography, specificity stadium, numerous ongoing urban development projects
- **Main Challenges :**
 - Reinforce urban development projects (Museum Louvre Lens, City Stadium,...)
 - Symbolic junction between east and west part of the city

Liévin Lens Hénin Beaumont – Around the city stadium (France)

General Features



Urban and technical constraint impact the program

Co construction of different alternatives

Cross analysis between different disciplines :

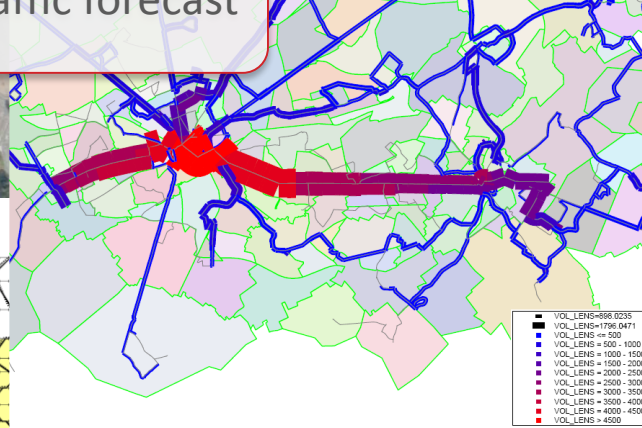
- Urban space design
- Level of service
- Road traffic and parking
- Infrastructure and railway infrastructure constraints
- Environment

Liévin Lens Hénin Beaumont– different topics studied

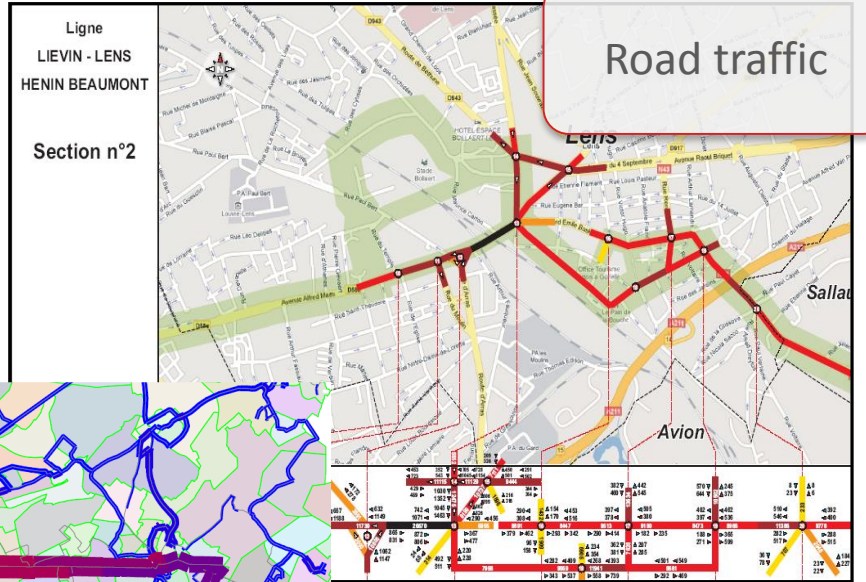
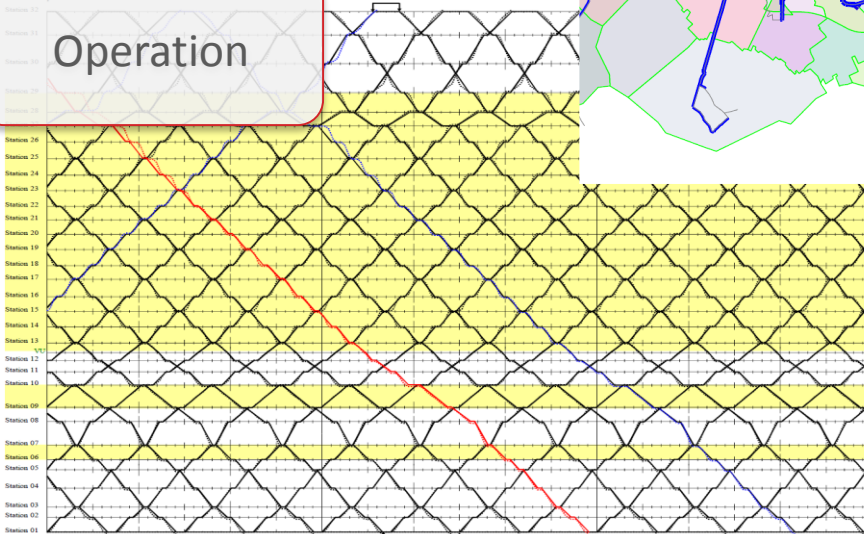
Alignment



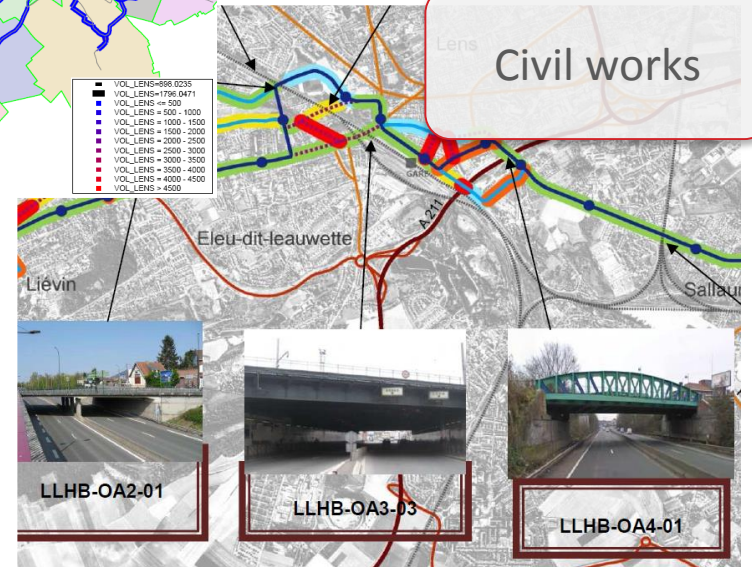
Traffic forecast



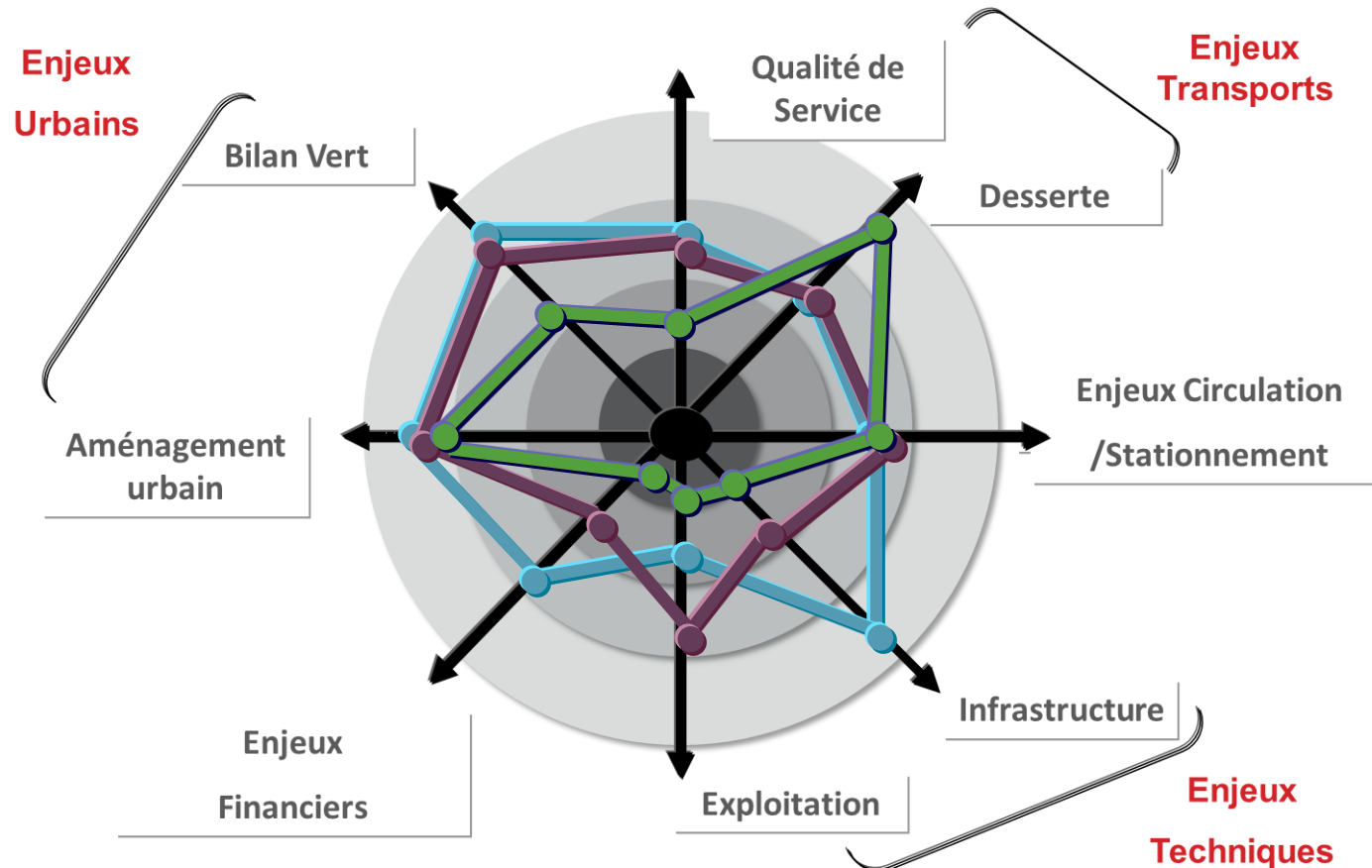
Operation



Civil works



Liévin Lens Hénin Beaumont

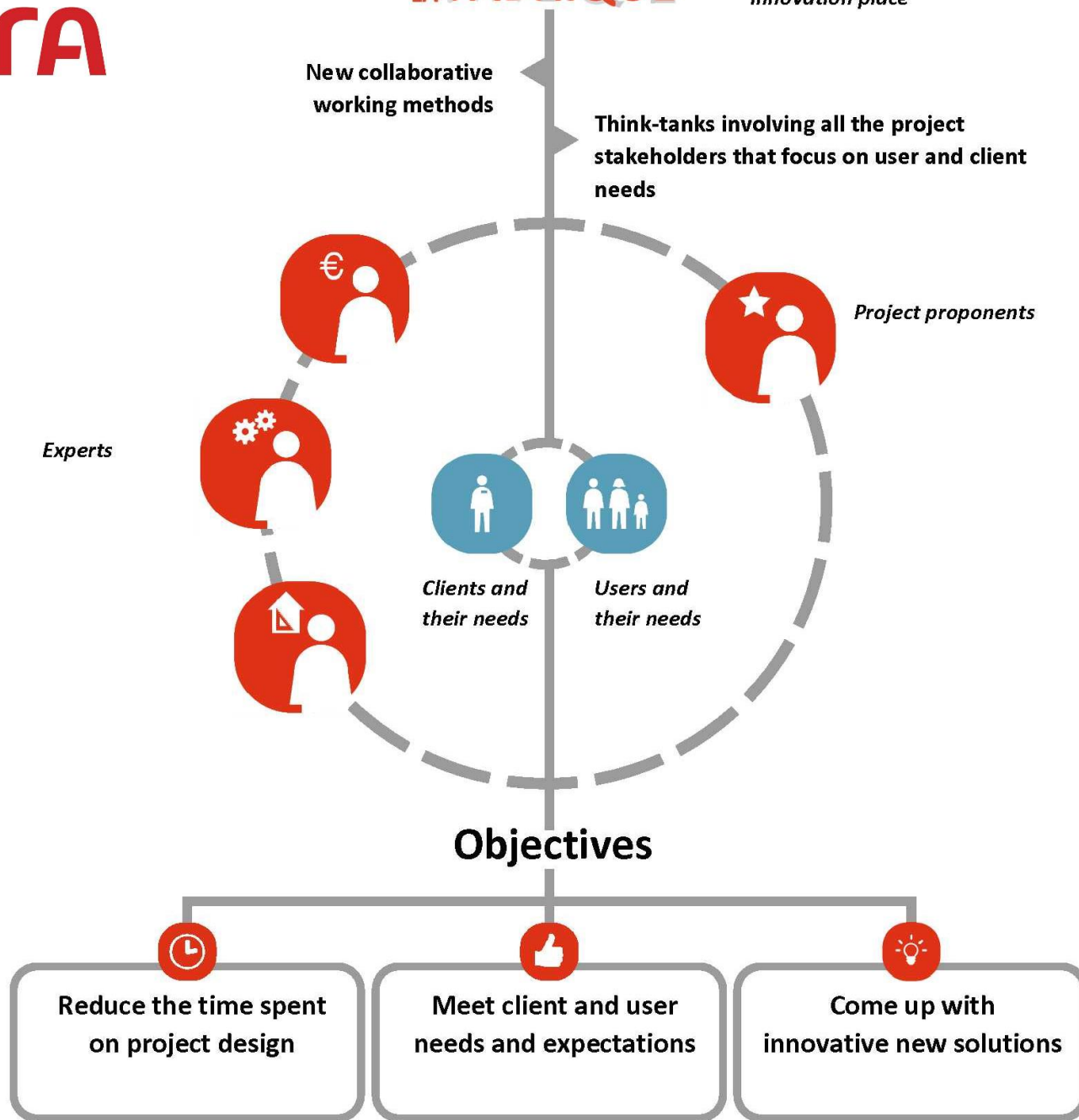


Multicriteria analysis for decision makers

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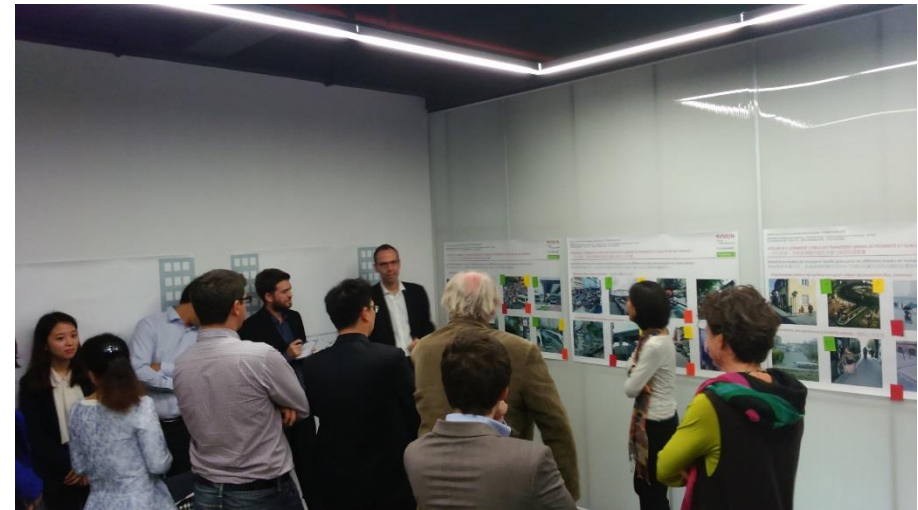
Towards Collaborative Design



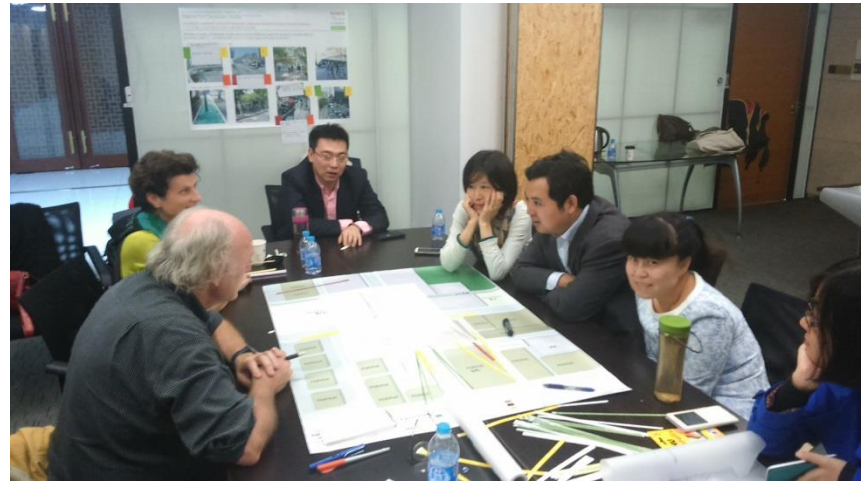
Atelier n°1 : How to combine urban proximity transports and urban quality of life ?

Participants :

- City of Strasbourg, France
- Metro Company of Nanjing, China
- Public Transports Company of Nanjing, China
- Tramways Operating Company of Nanjing
- SYSTRA
- Architecture School of Strasbourg, France



Atelier n°1 : How to combine urban proximity transports and urban quality of life ?





THANKS FOR YOUR ATTENTION

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