Smart ways to Antwerp

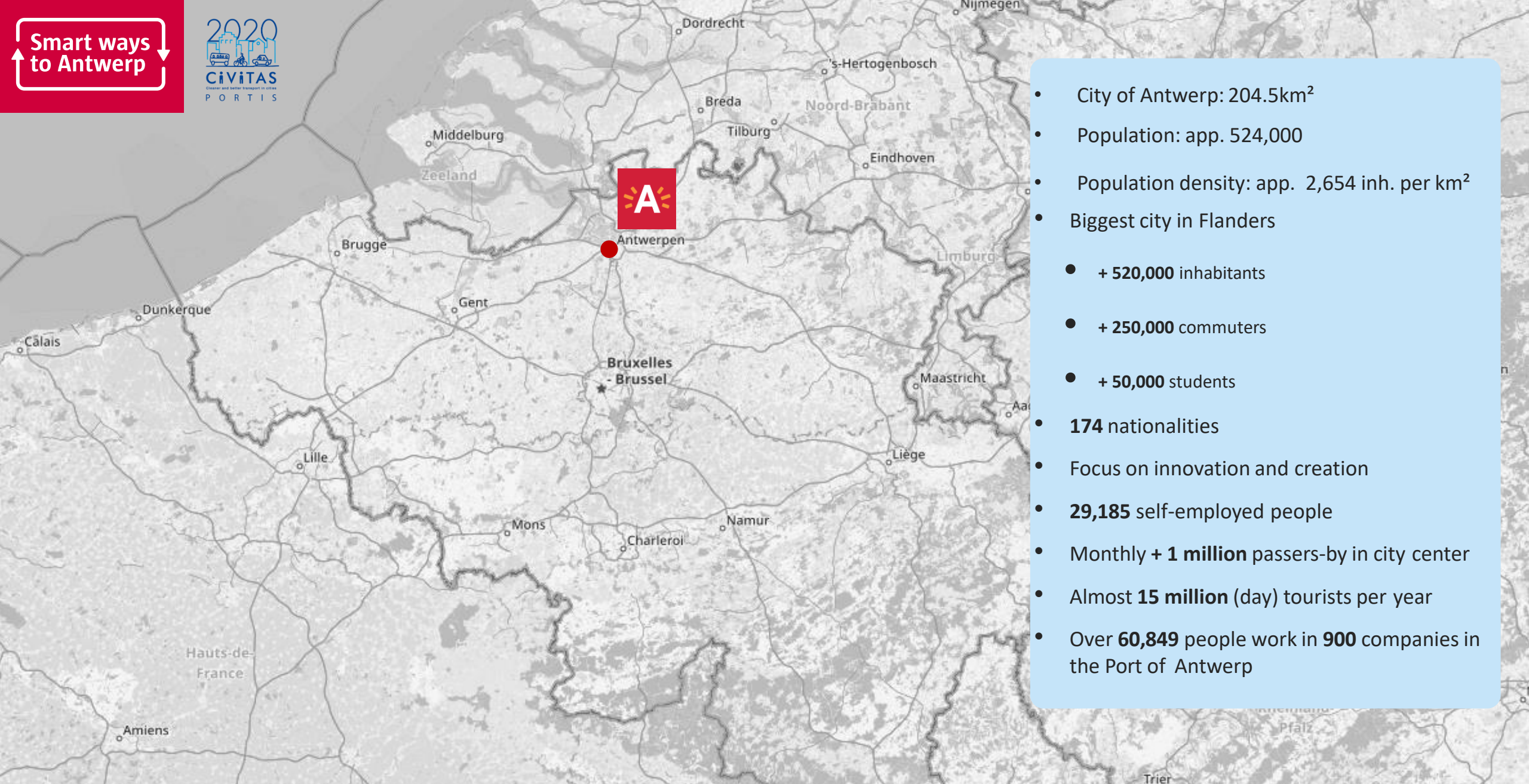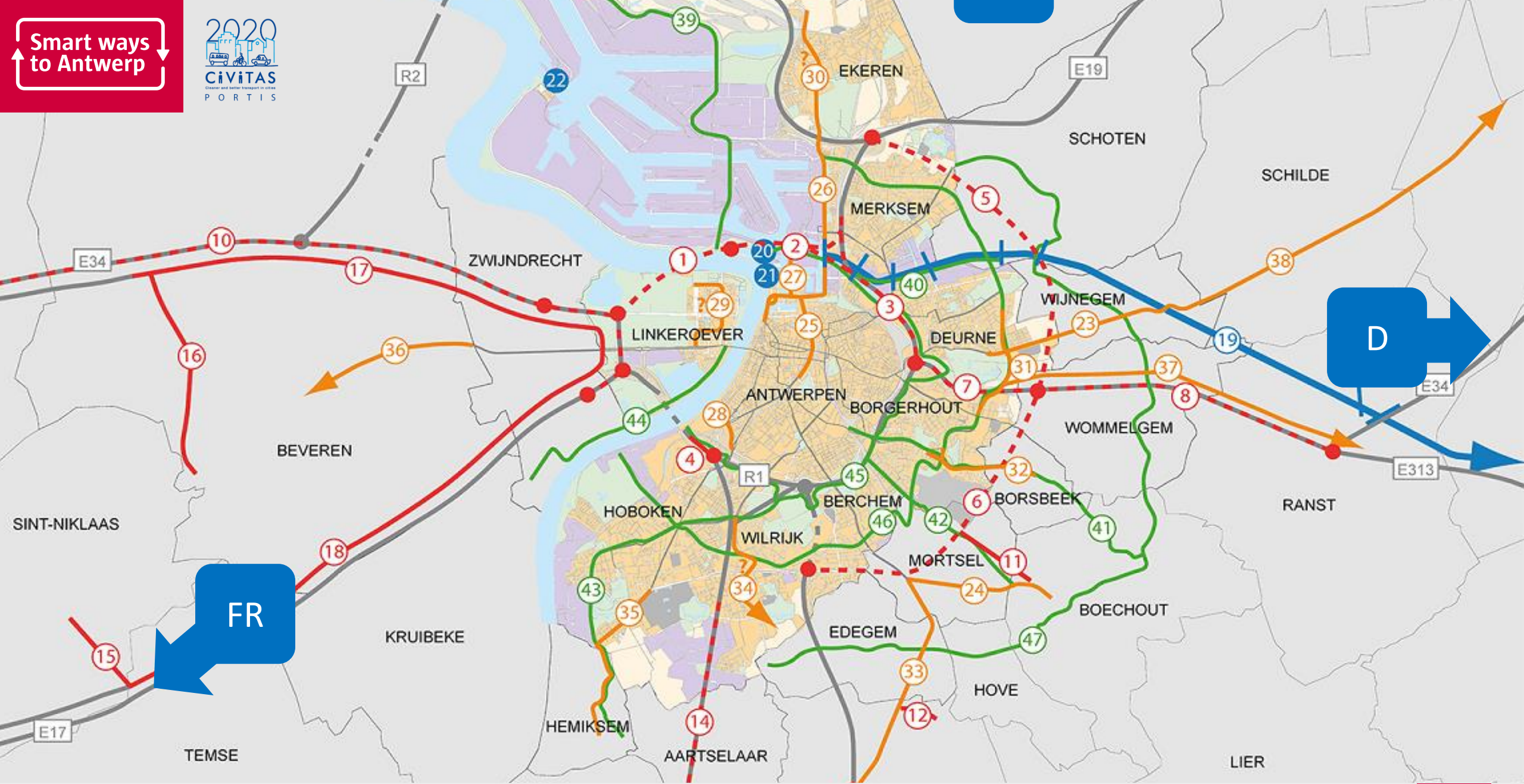# Smart Ways to Antwerp & NXTMobility

Building a next generation modular ecosystem

to support multimodal user-centric mobility.

Provincie Antwerpen · Port of Antwerp · De Lijn · B · De Vlaamse Waterweg nv · Vlaanderen is wegen en verkeer · lantis · Vervoerregio ANTWERPEN · 2020 CIVITAS

- City of Antwerp: 204.5km²
- Population: app. 524,000
- Population density: app. 2,654 inh. per km²
- Biggest city in Flanders
  - **+ 520,000** inhabitants
  - **+ 250,000** commuters
  - **+ 50,000** students
- **174** nationalities
- Focus on innovation and creation
- **29,185** self-employed people
- Monthly **+ 1 million** passers-by in city center
- Almost **15 million** (day) tourists per year
- Over **60,849** people work in **900** companies in the Port of Antwerp

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Ambitions

View and control mobility flows in the city

Travel in a sustainable and smart way

Frontrunner in the field of user-centric mobility

Layers

- Website & app
- Notification
- Mobility-as-a-Service
- Intermodal routeplanner
- Navigator
- Bike & Walk planner
- MyMobility profile

Users needs

- Routing API
- Realtime data
- Marketplace for mobility
- Support for MaaS-players
- Standardization
- Data license agreement
- Service level agreement
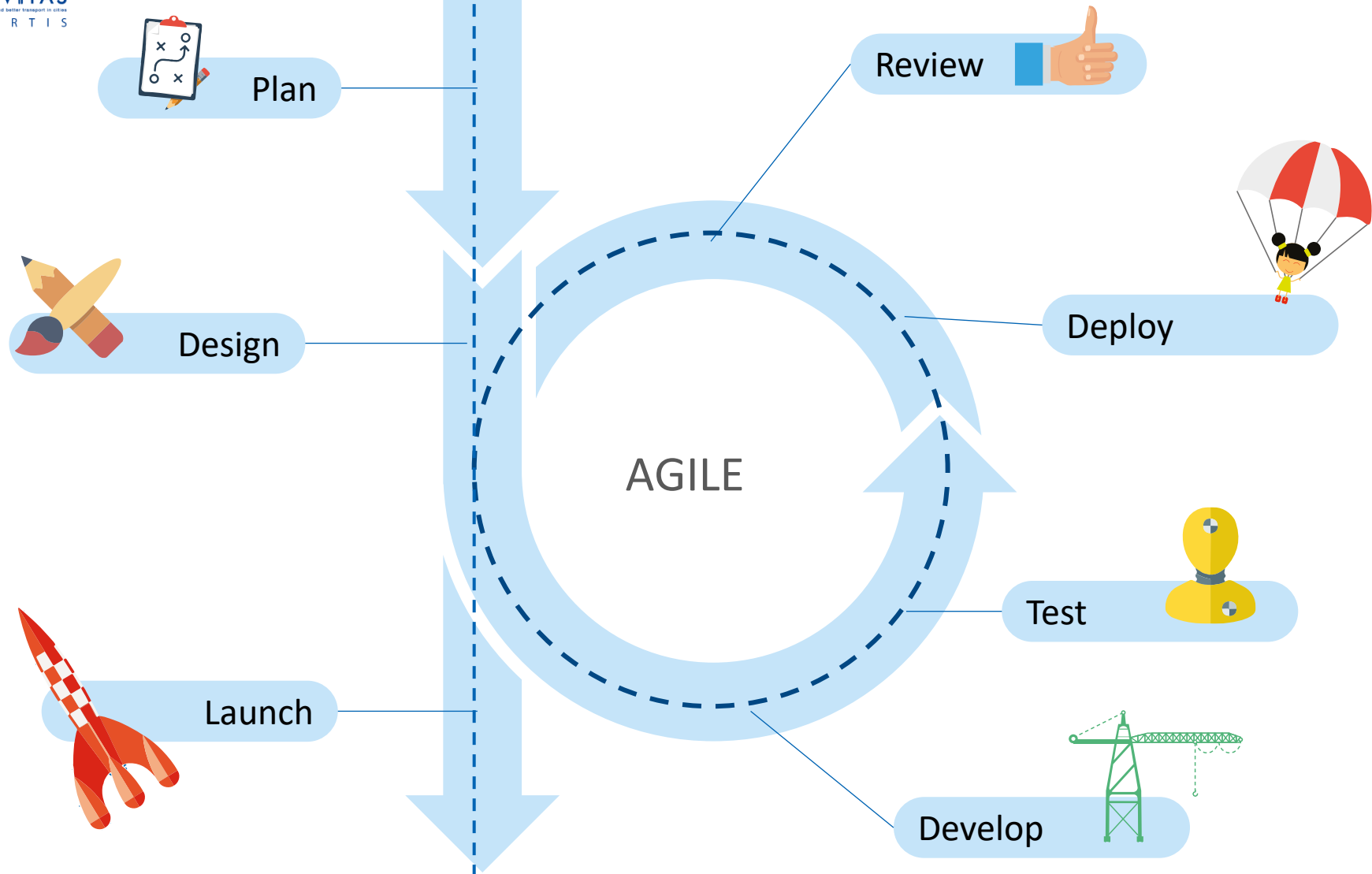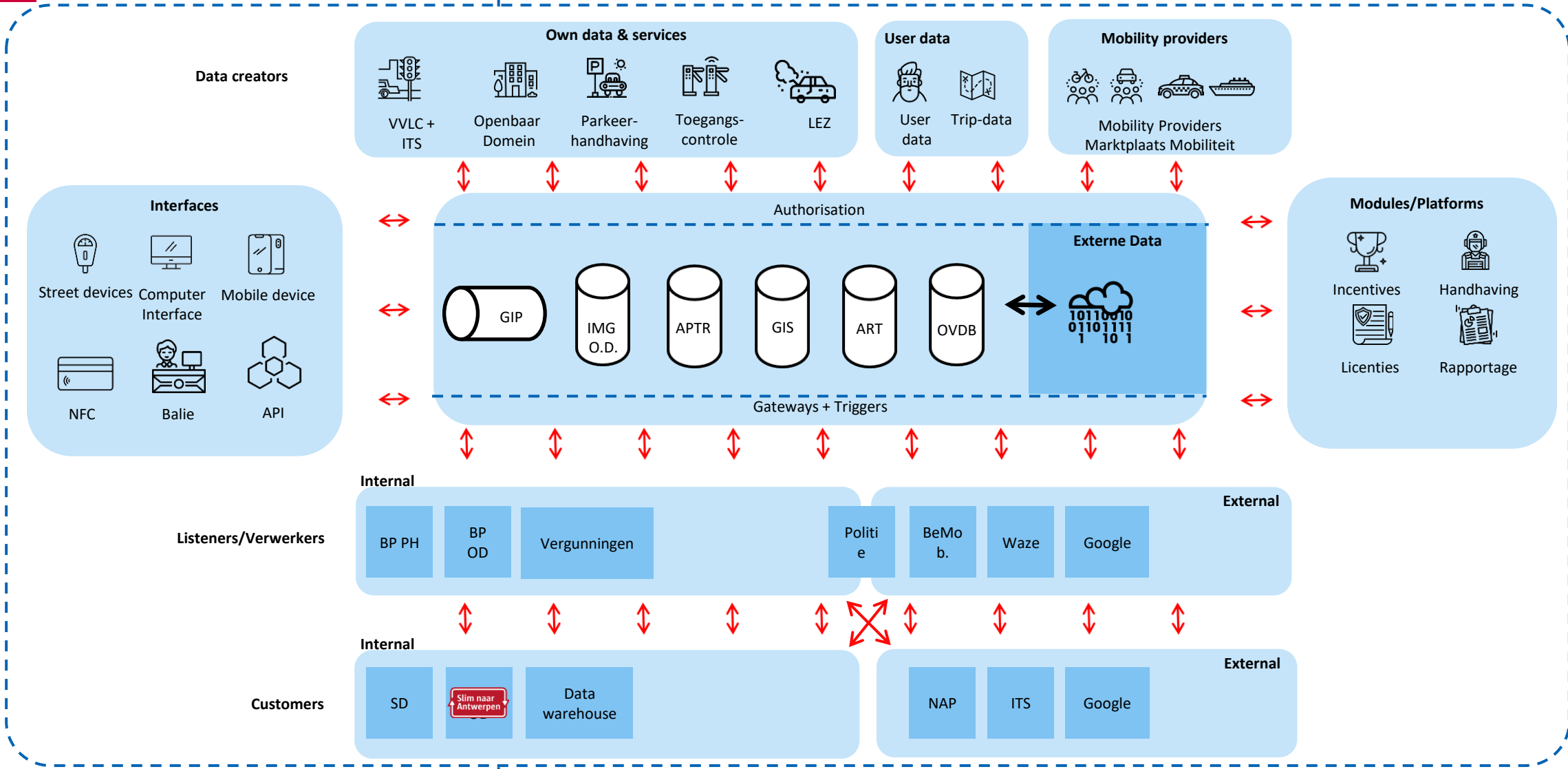- Clear procurement
- OSLO, TOMP,…

Digital services

- Operating license
- Requirement to integrate with MaaS
- Project calls
- Technical support
- Communication support
- Data collection
- Marketplace for Mobility

Mobility options

Infrastructure

- Charging infrastructure
- Smart bicycle parking
- Parking data
- Edge computing
- Digitalisation transfer points
- Dynamic traffic lights
- ISA & speed regulation
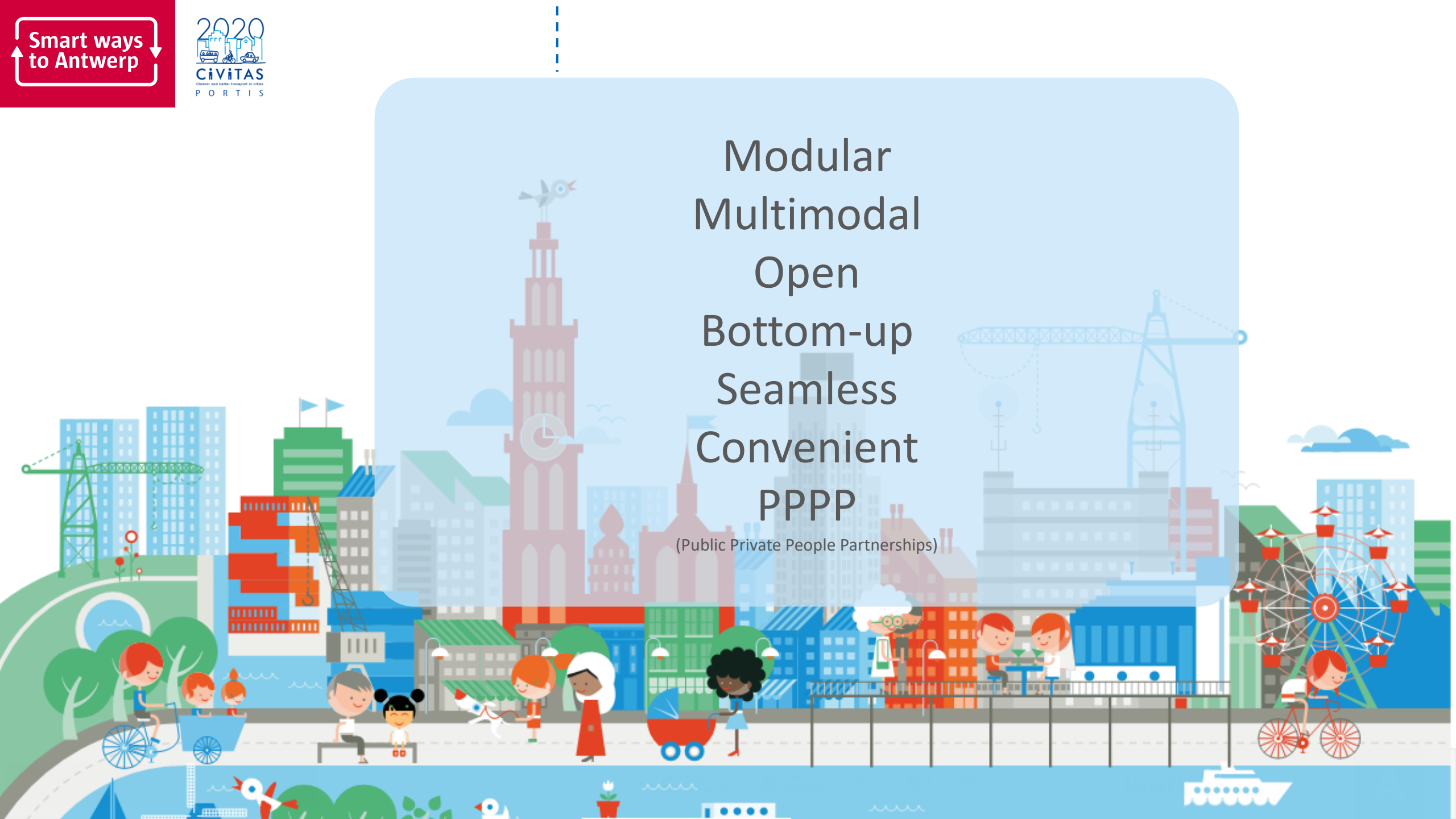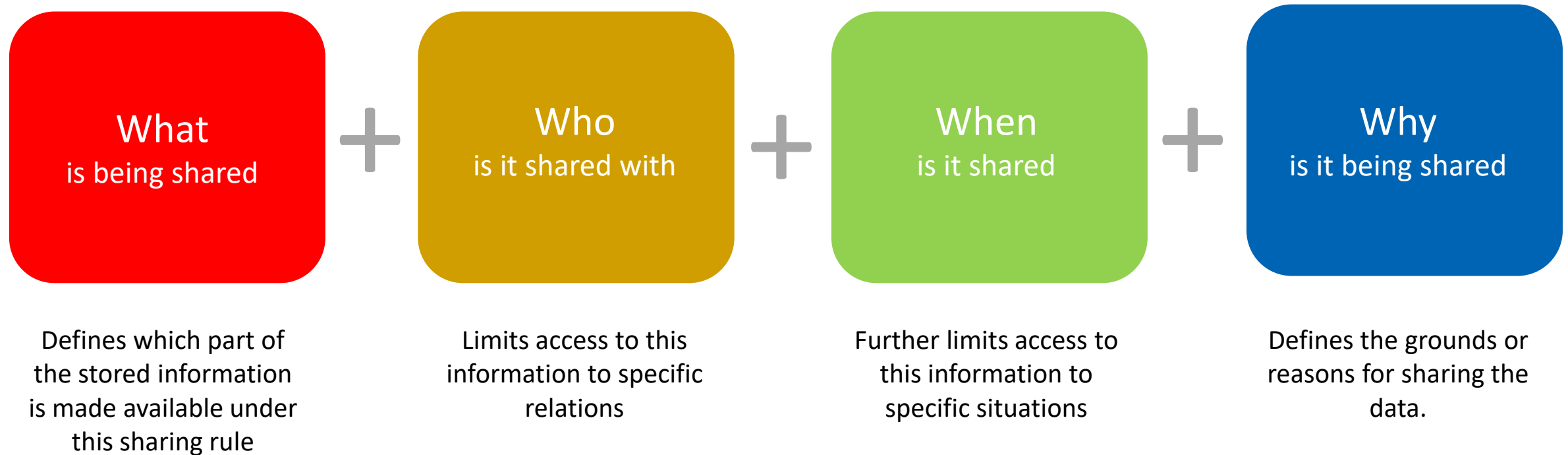
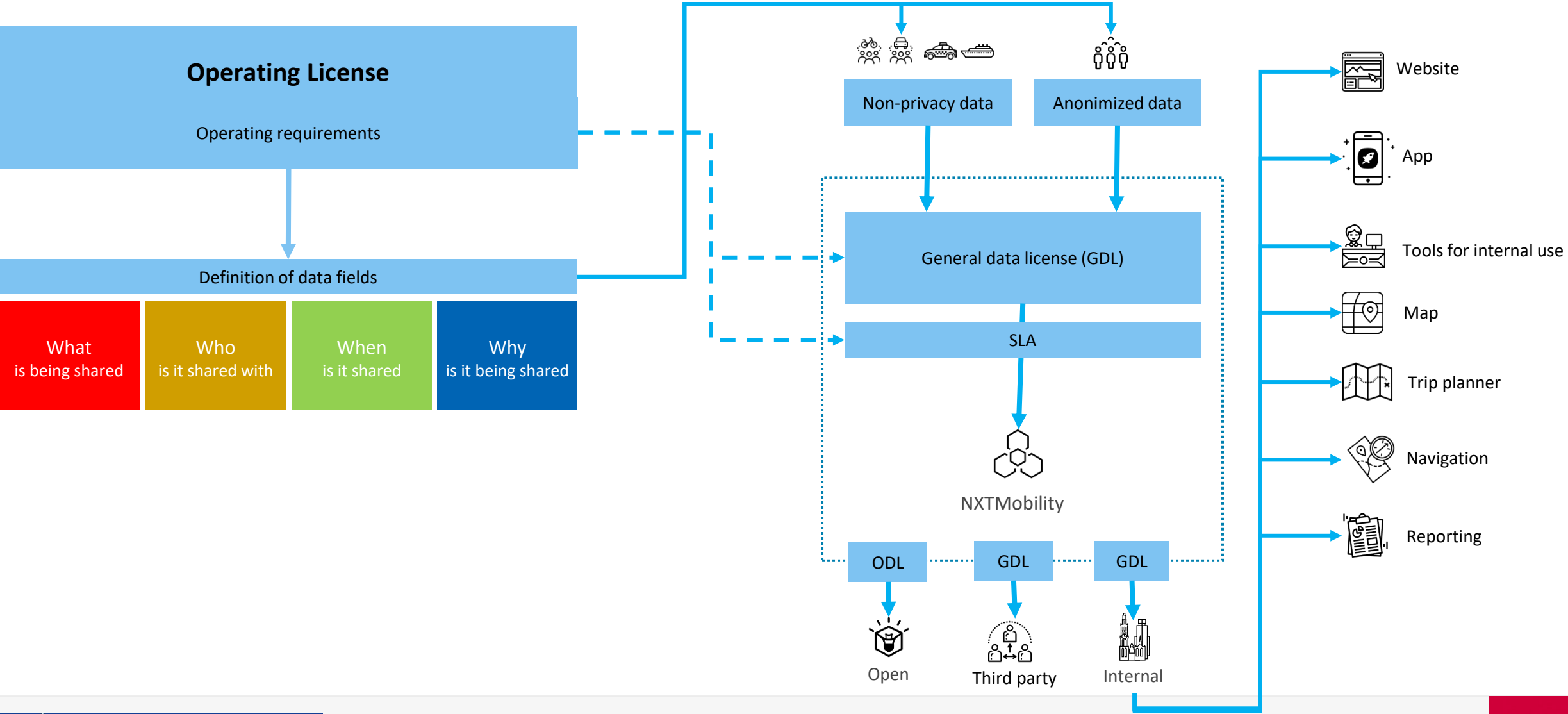- Smart cameras
- Mobility central
- Smart logistics

Network

Concept

Smart ways to Antwerp

Data creators

Own data & services
- VVLC + ITS
- Openbaar Domein
- Parkeer-handhaving
- Toegangs-controle
- LEZ

User data
- User data
- Trip-data

Mobility providers
- Mobility Providers Marktplaats Mobiliteit

Interfaces
- Street devices
- Computer Interface
- Mobile device
- NFC
- Balie
- API

Authorisation

GIP | IMG O.D. | APTR | GIS | ART | OVDB

Externe Data
1011001 0 0 1101111 1 10 1

Gateways + Triggers

Modules/Platforms
- Incentives
- Handhaving
- Licenties
- Rapportage

Listeners/Verwerkers

Internal
- BP PH
- BP OD
- Vergunningen

Politie

External
- BeMob.
- Waze
- Google

Customers

Internal
- SD
- Slim naar Antwerpen
- Data warehouse

External
- NAP
- ITS
- Google

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Modular
Multimodal
Open
Bottom-up
Seamless
Convenient
PPPP

(Public Private People Partnerships)

What is being shared	+	**Who** is it shared with	+	**When** is it shared	+	**Why** is it being shared
Defines which part of the stored information is made available under this sharing rule		Limits access to this information to specific relations		Further limits access to this information to specific situations		Defines the grounds or reasons for sharing the data.

Inspired by NxtPort

Getting the data…

Operating License

Operating requirements

Definition of data fields

| What is being shared | Who is it shared with | When is it shared | Why is it being shared |

Non-privacy data

Anonimized data

General data license (GDL)

SLA

NXTMobility

ODL   GDL   GDL

Open   Third party   Internal

Website

App

Tools for internal use

Map

Trip planner

Navigation

Reporting

Car + Train + Tram + Shared bike

Zwemdoklei 71, Brasschaat, 2930

Den Bell

Leave now

Transport options

GIVE ME TRAVEL ADVICE

17:30 → 18:03   33 min

5,5km
17:28 → 18:08   40 min

600m   730   1
17:44 → 18:39   55 min

2,2km
17:49 → 18:22   34 min

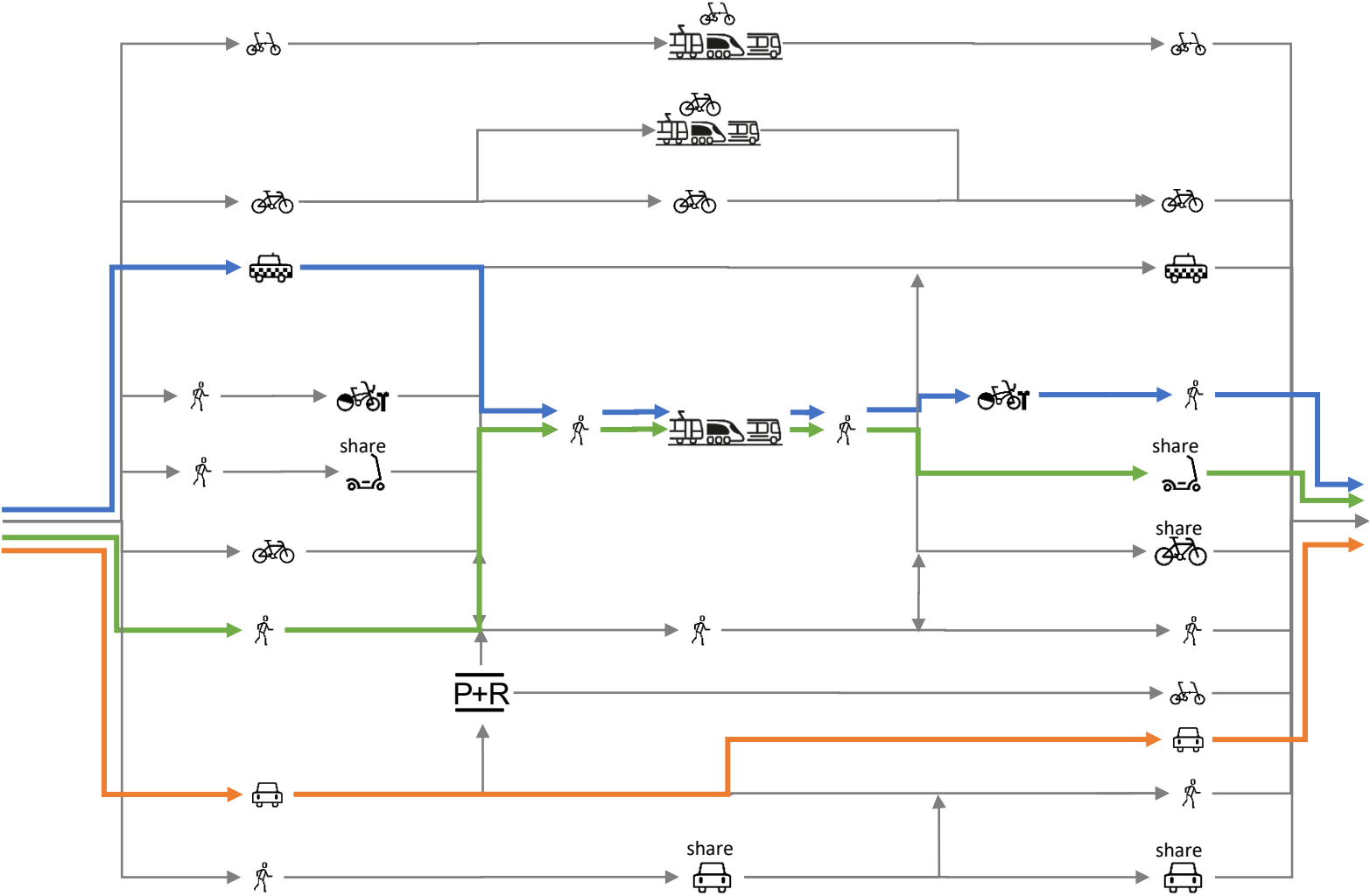414m   10
970m
17:30 → 18:14   44 min
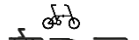
11,9km
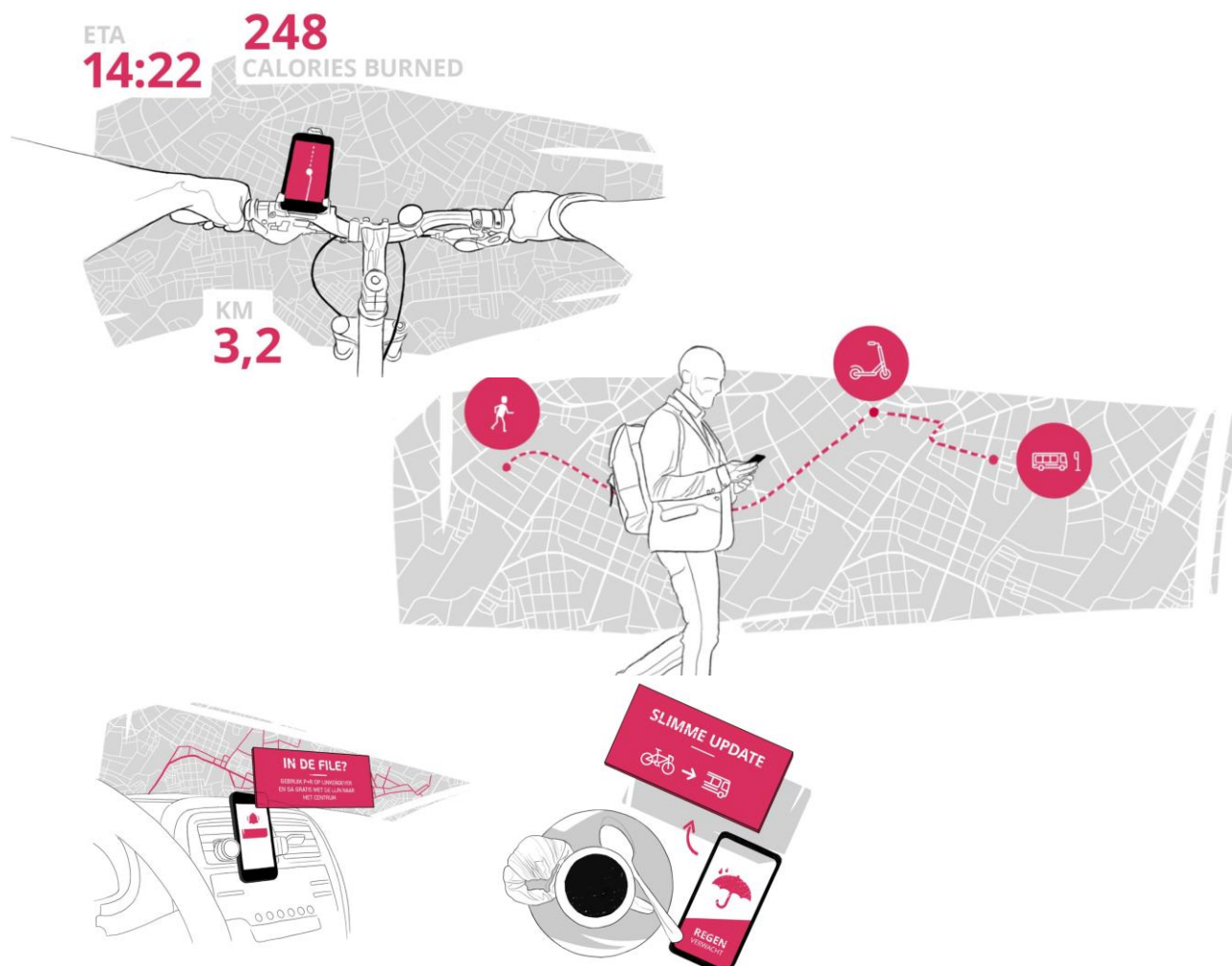17:28 → 20:02 | MOST ACTIVE ROUTE   2 hr(s) 34 min
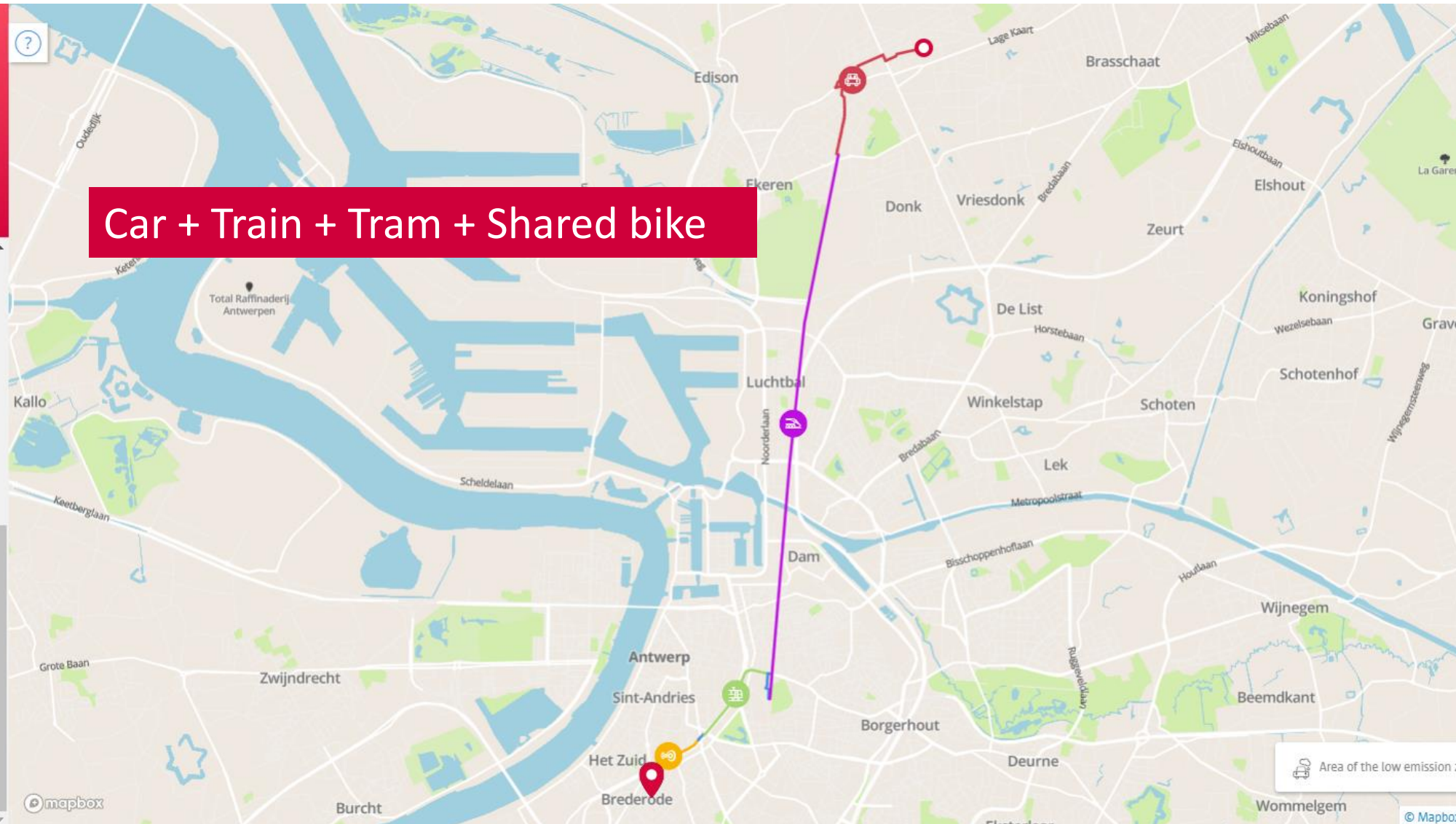
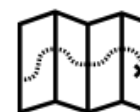# Complex posibilities

Modal Choices

- Car
- By foot
- Bike or eBike
- Foldable bike
- Public Transport
- Public Transport + foldable bike
- Public Transport + bike
- Taxi
- Shared care with fixed parking
- Station 2 Station bikesharing
- Free-floating shared micromobility
- Shared bikes with fixed parking

Future developments

Incentives

Trip planner API

Quality framework
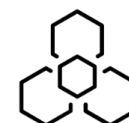
NXTMobility

SnA-profile (MyData/SOLID?)

One more thing…

Smart Ways to Antwerp

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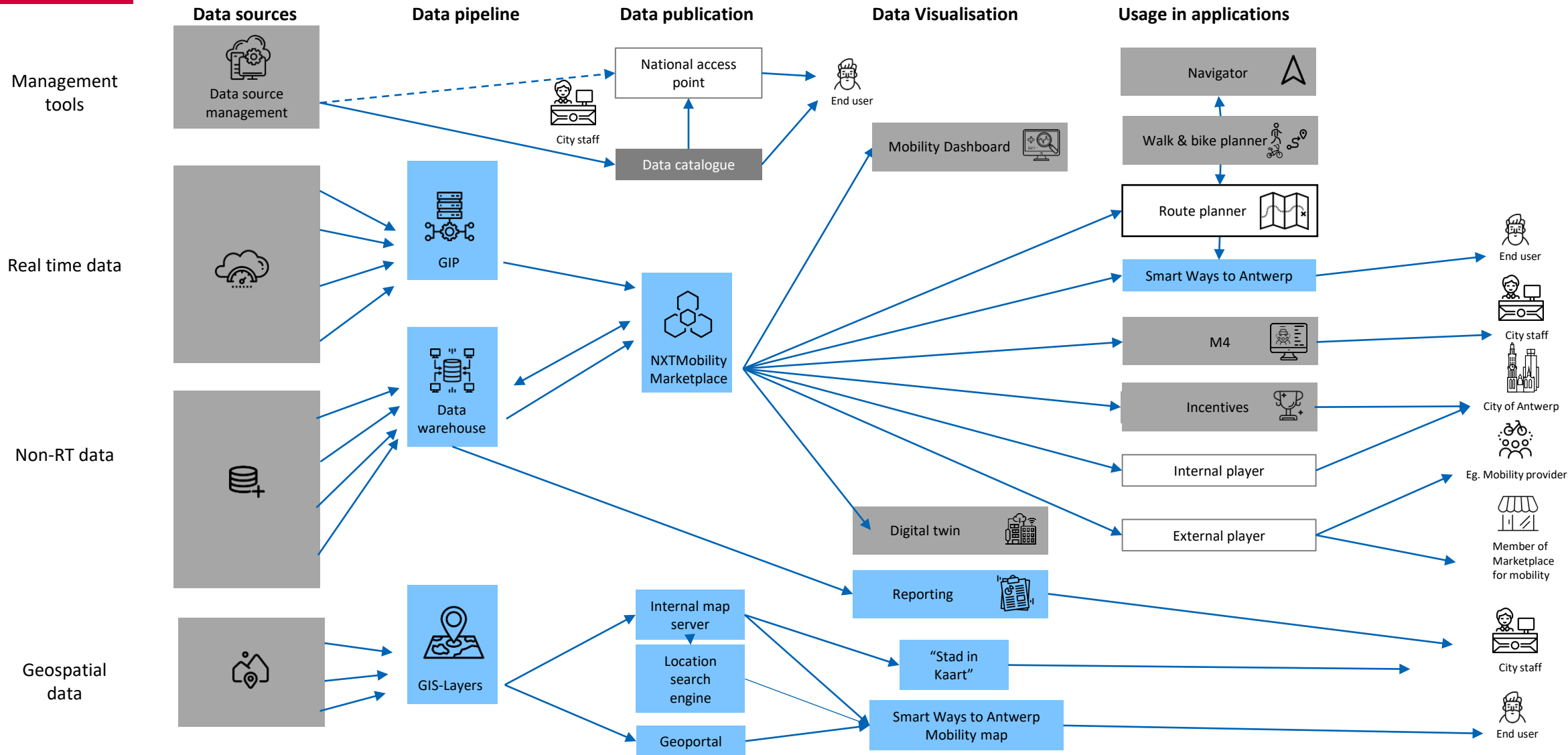
NXTMobility M4: MultiModal Mobility Management System

Mobility providers

RT-data

GIP

NRT-data

Datawarehouse

NXTMobility Marketplace

M4 - engine

City employee

Compliance and reporting

Regulation & alerting

Monitoring & visualization

Alerts & communication

Processed data

Mobility insights

★ Required component   ☆ Optional component
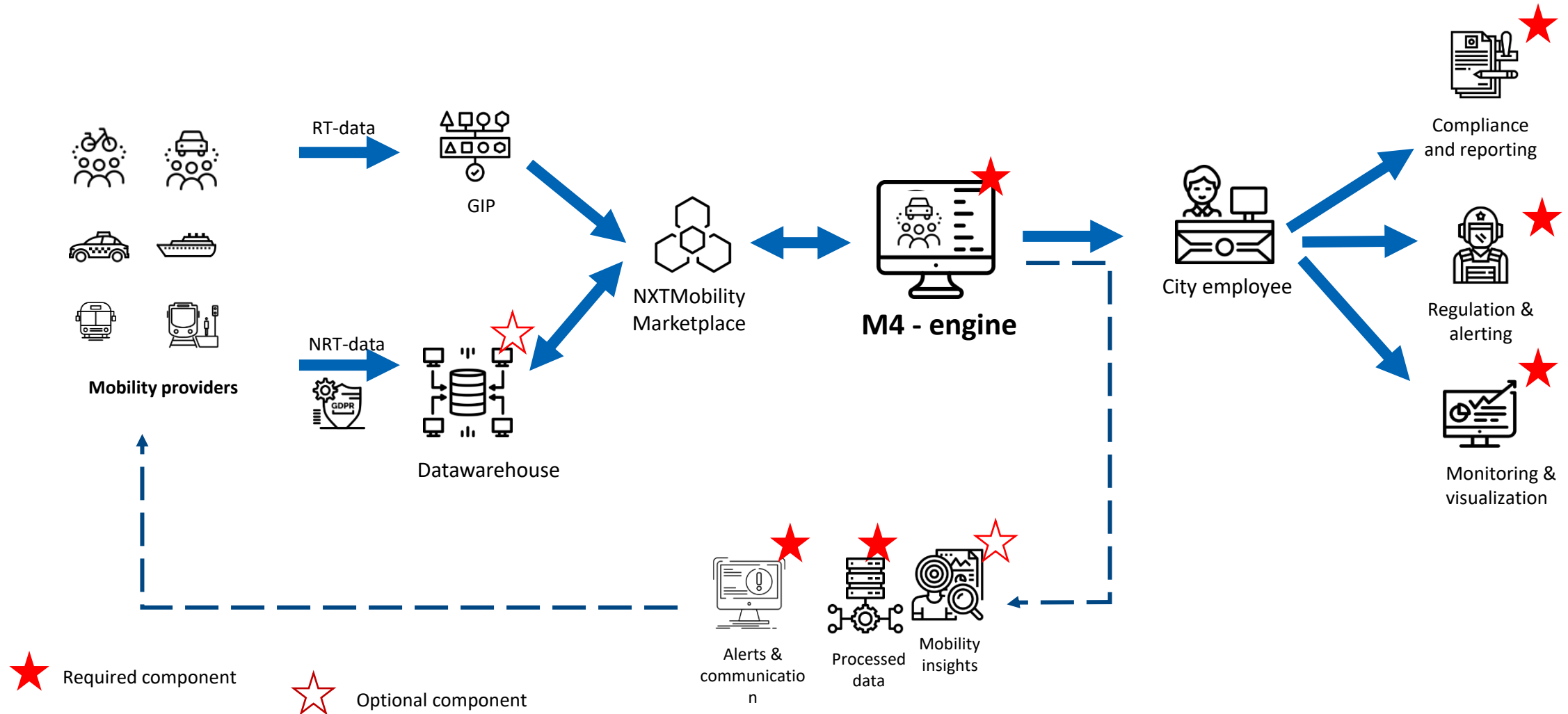
NXTMobility Incentives

- Generic Dossier Platform
- Market place for mobility
- Data processing
- Datawarehouse
- NXTMobility Marketplace
- Recognized provider
- Incentive tracking data output
- End-user
- External interface
- Incentives Service
- Mobility provider
- Payment Platform/ integration
- Incentives management platform
- Incentive policy administration
- Admin

PORTIS

Input processing

Walk/Bike planner

Intermodal route planner

Processing navigation instructions

Navigation interface inside Smart Ways to Antwerp app

iOS   android

Required component

Optional component

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NXTMobility: Smart Ways to Antwerp – integration of improved walk and bike planner

End-user input

Input processing

Walk/Bike planner

Intermodal route planner

NXTMobility Marketplace

City of Antwerp apps

Processing Visualisation

Required component

Optional component

Provincie Antwerpen

Port of Antwerp

De Vlaamse Waterweg

Vlaanderen

lantis

Vervoerregio ANTWERPEN