



Ministry of Infrastructure  
and Water Management

# Towards open MaaS and optimisation: impact on (future) policy

MaaS Scotland Annual Conference 2019

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20 June 2019

 **MaaS**  
Mobility as a Service







# MaaS: Definition and scale

## Harmonised definition/harmonised scope

The offer of **multimodal, demand-driven** mobility services, with **customised** travel options being offered to **customers** via a **digital platform** (e.g. mobile app) with **real-time information**, including **payment and finalisation** of transactions

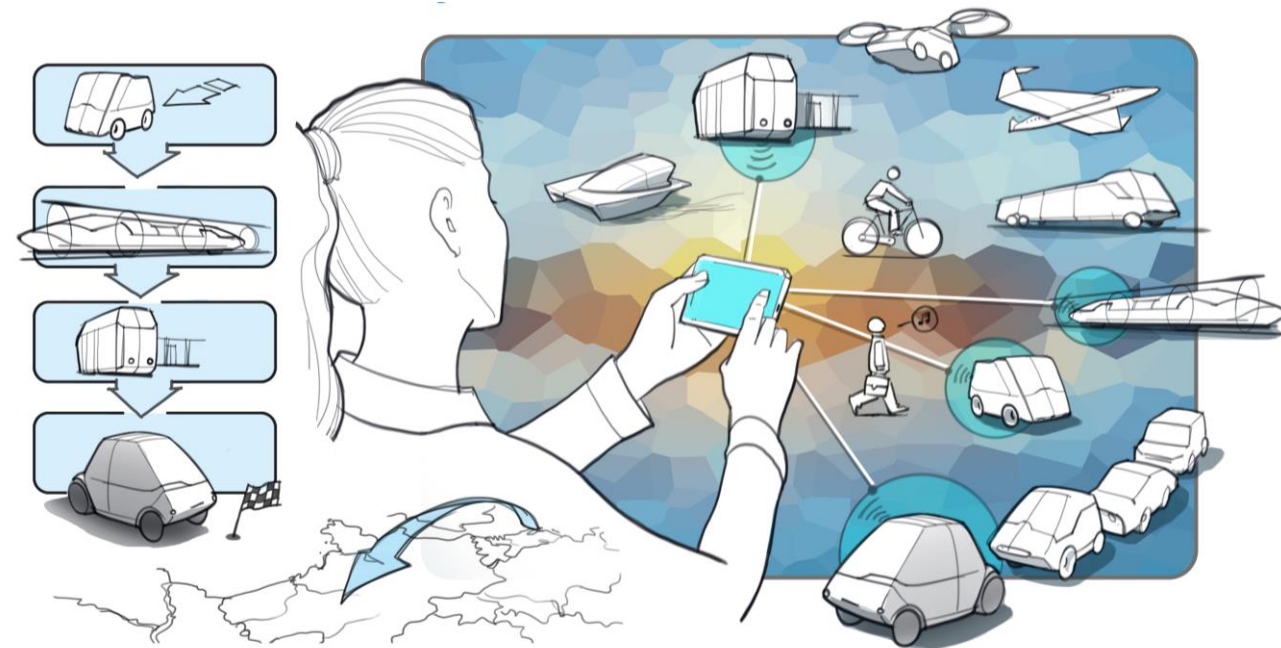
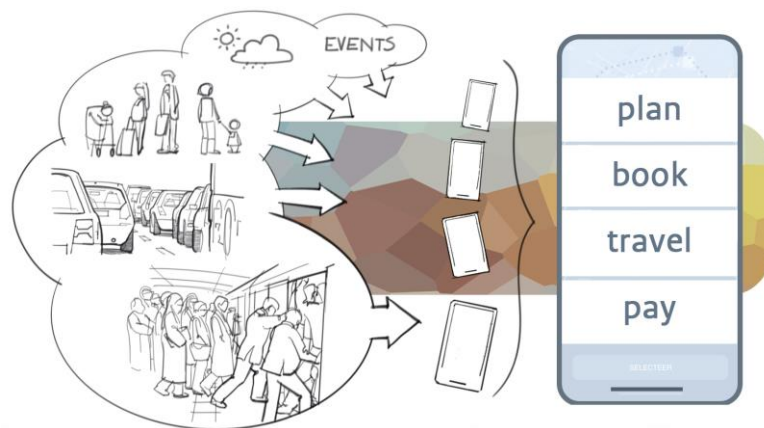
## Importance of scale and public private cooperation

**Scale** is necessary to study **policy impact** or to achieve feasible **business cases** for MaaS



# 7 functions of MaaS

1. Personal aspects and preferences
2. **Plan**
3. **Book**
4. **Travel**
5. Support
6. Modify
7. **Pay**





# 7 National pilots, different regions and policy issues



## **Limburg**

*Achieving sustainable mobility by offering multimodal, cross-border and door-to-door transport solutions.*

## **Groningen-Drenthe**

*Improving mobility towards the Drenthe and Groningen countryside and the affordability of the transport system, including by combining target group transportation and regular public transport.*

## **Utrecht Leidsche Rijn**

*Tempting Leidsche Rijn residents to use alternative transport options in order to reduce traffic and congestion volumes in the area.*

## **Twente**

*Introducing better and cheaper target group transportation and small-scale public transport by cleverly combining traffic flows.*

## **Amsterdam**

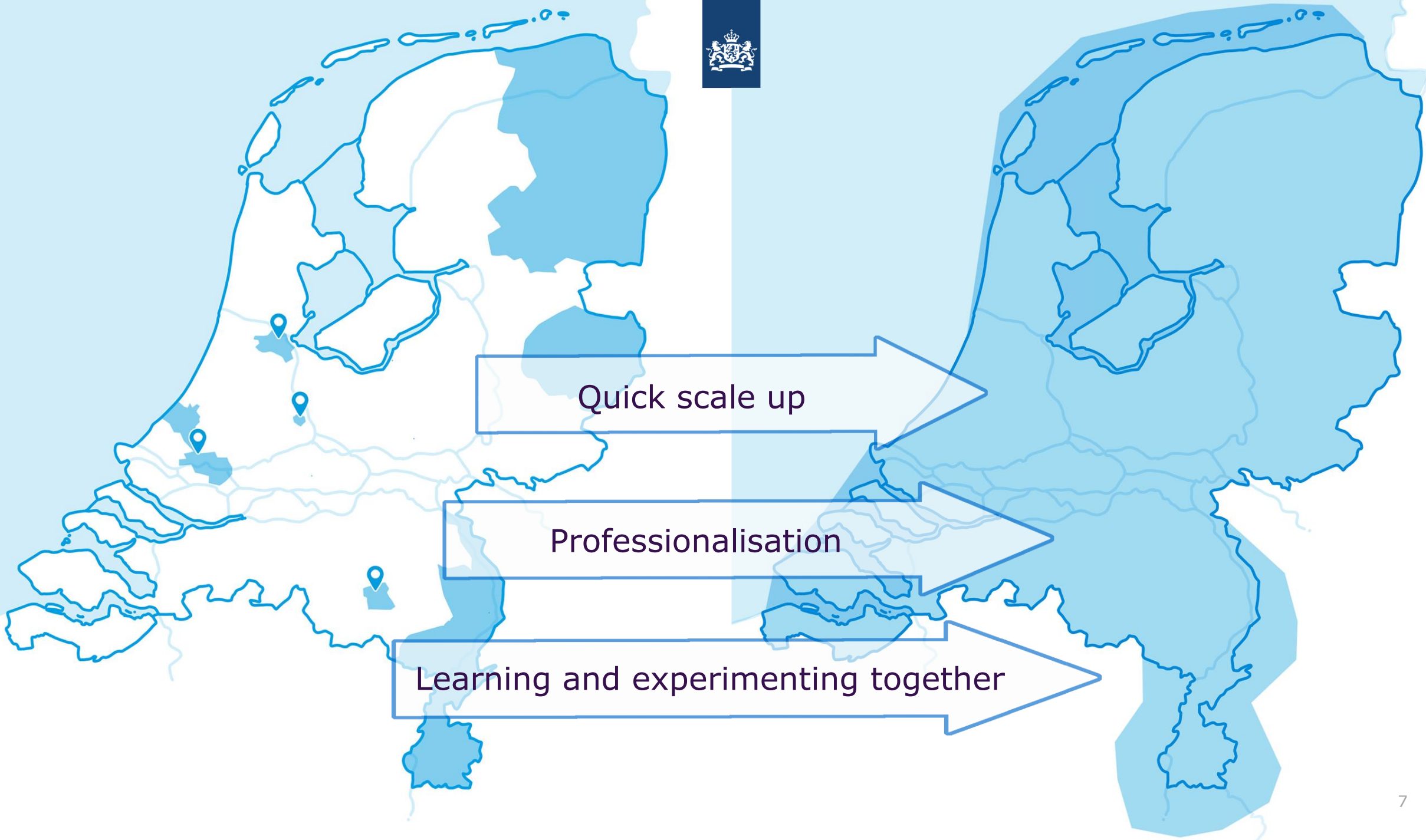
*Improving mobility towards the Zuidas and making better use of the public urban space by offering alternative transport options.*

## **Rotterdam-The Hague & Airport**

*Improving the land-side accessibility of Rotterdam The Hague Airport for travellers and employees by improving access to the airport in a sustainable and multimodal way using door-to-door solutions.*

## **Eindhoven**

*Sustainable and emission-free mobility for employees of the municipality of Eindhoven. The city of Eindhoven wants to become a carbon-neutral city.*



Quick scale up

Professionalisation

Learning and experimenting together



options Booking

|       |                    |
|-------|--------------------|
| 12:01 | Startstreet 5      |
|       | 26 min. ride-share |
| 12:27 | Metrostation 1     |
|       | 12 min. metro      |
| 12:39 | Metrostation 2     |
|       | 8 min. cycling     |
| 12:47 | Endstreet 8        |

plan book travel pay

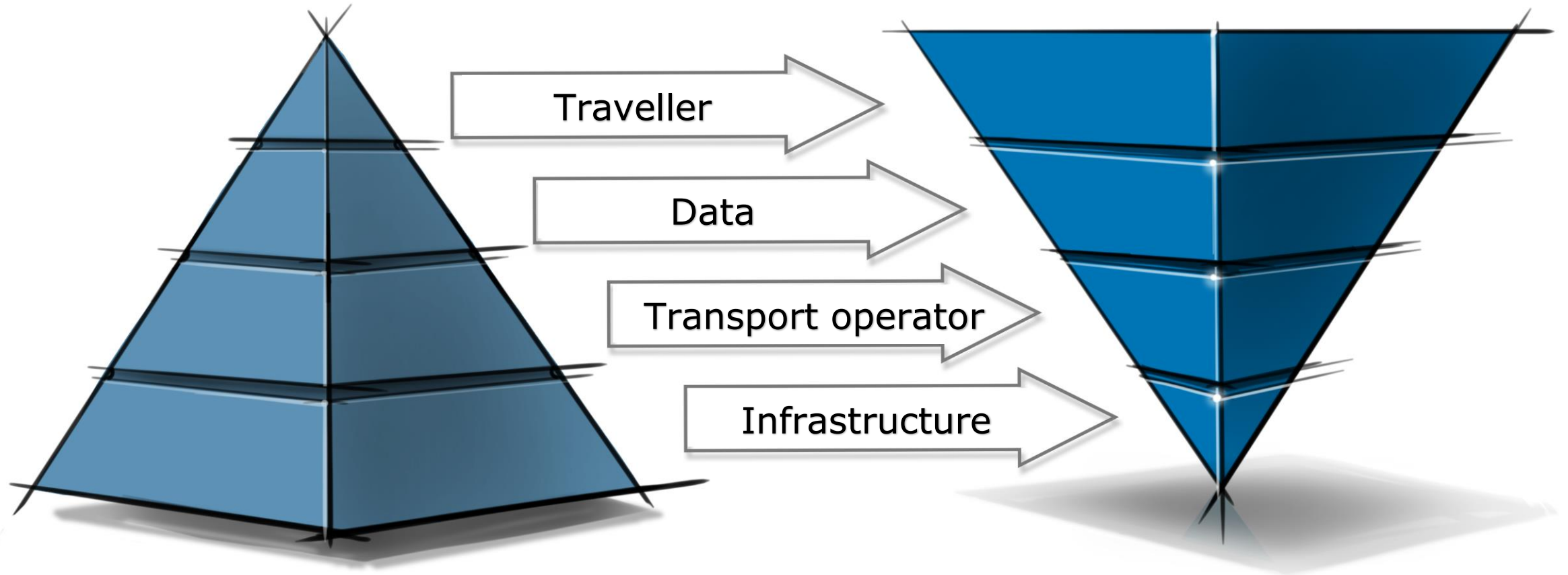




MaaS requires direction from governments



# New approach for mobility





# Blueprint for open API standard for (shared) mobility

(success of PPP, possibly also standard for international ticketing in public transport, personal data vaults, etc.)

```
1 openapi: 3.0.0
2 # Added by API Auto Mocking Plugin
3 servers:
4 - description: SwaggerHub API Auto Mocking
5   url: https://virtserver.swaggerhub.com/efel85/GBFS/1.0.0
6 info:
7   description: General Transport Operator API Specification
8   version: "1.0.2"
9   title: General Transport Operator API Specification
10  contact:
11    email: edoardo.felici@ndw.nu
12  license:
13    name: Apache 2.0
14    url: 'http://www.apache.org/licenses/LICENSE-2.0.html'
15
16 tags:
17 - name: general information
18   description: Information about the system
19 - name: asset availability
20   description: gives information about the availability of assets
21 - name: pricing
22   description: gives pricing information
23 - name: booking
24   description: gives information about the booking process
25
26 GET /bookings/
27
28 POST /bookings/
29
30 GET /bookings/{id}
31
32 security:
33   oauth2:
34     - transport_operator_api:
35       - read: true
36
37 get:
38   tags:
39     - general information
40     - summary: describes the system
41     - description: Describes the system including System operator,
42       contact info, time zone
43
44 responses:
45   200:
46     $ref: '#/components/schemas/system_information'
47   400:
48     description: bad input parameter
49
50 /information/station_information:
51 get:
```



# International adoption of blueprint for API...



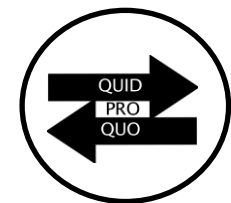
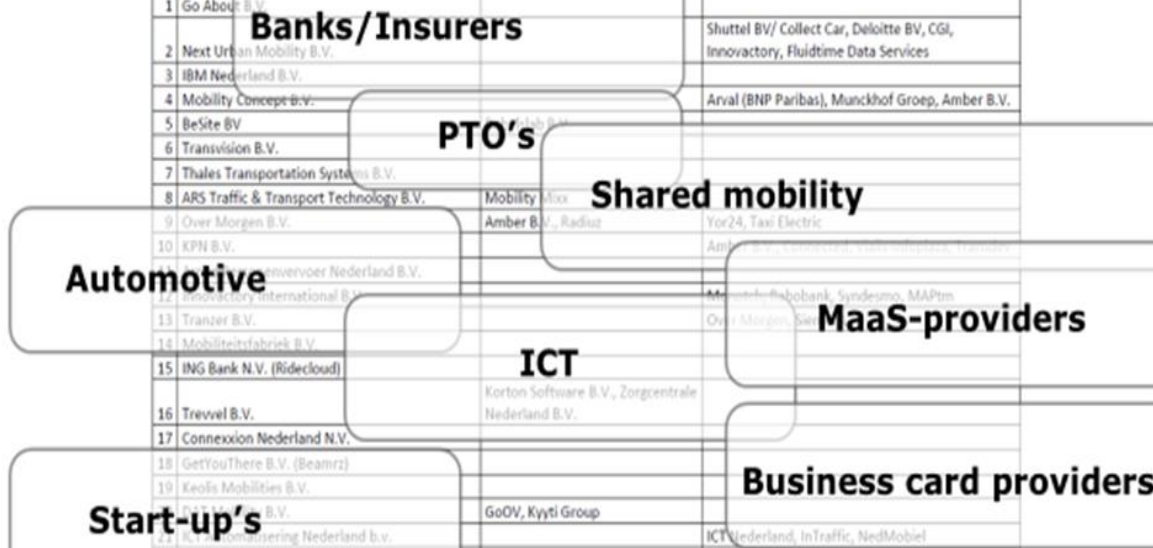


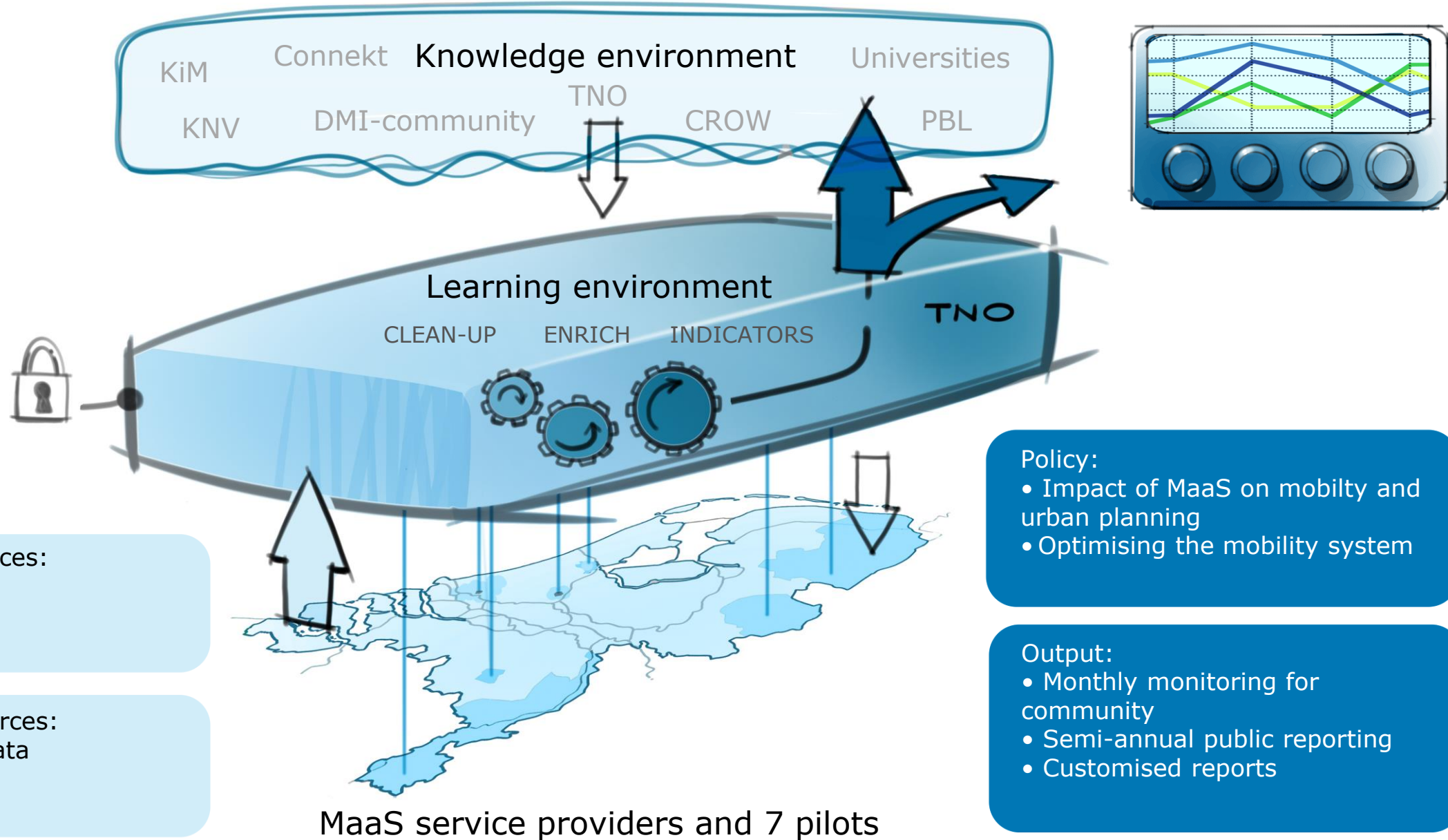
# 24 MaaS-providers in Framework agreement for MaaS-pilots

For 7 national pilots to be awarded after mini-competitions

| hoofdinstructeur                          | consortiumpartners                                | genoemde onderaannemers   |
|---|---|---|
| 1 Go About B.V.                           |   |   |
| 2 Next Urban Mobility B.V.                |   | Shuttel BV/ Collect Car, Deloitte BV, CGI, Innovactory, Fluidtime Data Services |
| 3 IBM Nederland B.V.                      |   |   |
| 4 Mobility Concept B.V.                   |   | Arval (BNP Paribas), Munckhof Groep, Amber B.V.                                 |
| 5 BeSite BV                               |   |   |
| 6 Transvision B.V.                        |   |   |
| 7 Thales Transportation Systems B.V.      |   |   |
| 8 ARS Traffic & Transport Technology B.V. | Mobility Mixx                                     |   |
| 9 Over Morgen B.V.                        | Amber B.V., Radius                                | Yor24, Taxi Electric  |
| 10 KPN B.V.                               |   | Amber B.V., Connexxion, Connexxion Transport                                    |
| 11 Connexxion vervoer Nederland B.V.      |   |   |
| 12 Connexxion International B.V.          |   | Mobility, Rabobank, Sudoesmo, MAPtm   |
| 13 Tranzer B.V.                           |   | Over Morgen, Sudoesmo   |
| 14 Mobiliteitsfabriek B.V.                |   |   |
| 15 ING Bank N.V. (Ridecloud)              |   |   |
| 16 Treveil B.V.                           | Korton Software B.V., Zorgcentrale Nederland B.V. |   |
| 17 Connexion Nederland N.V.               |   |   |
| 18 GetYouThere B.V. (Beamr2)              |   |   |
| 19 Keolis Mobilities B.V.                 |   |   |
| 20 P&O Group B.V.                         | GoOV, Kyyti Group                                 |   |
| 21 Tenax Innovisering Nederland b.v.      |   | ICT Nederland, InTraffic, NedMobiel   |
| 22 moovel Group GmbH (Daimler)            |   |   |
| 23 BNV Mobility                           |   |   |
| 24 West Tech Solutions B.V.               |   |   |

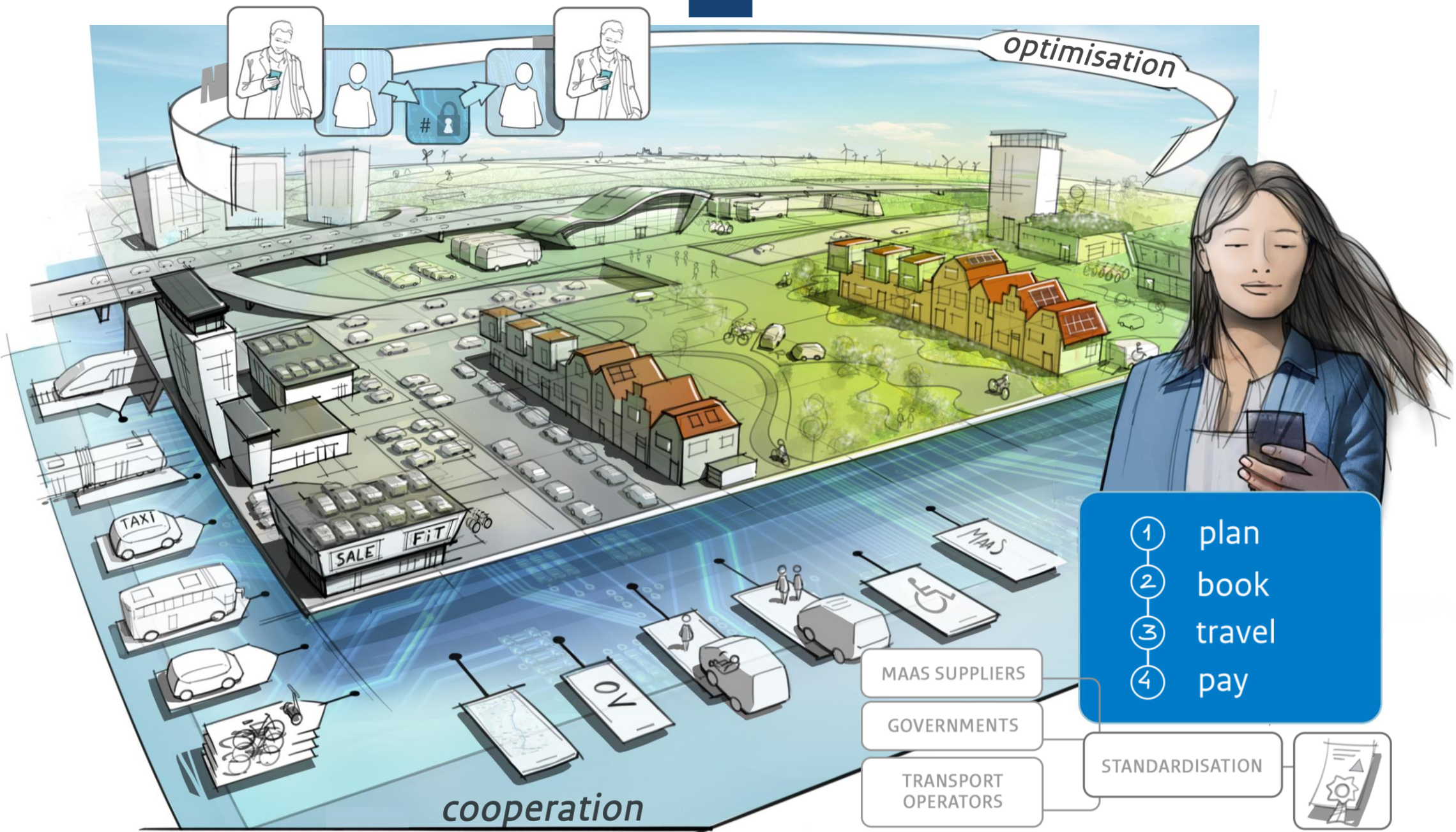
NB: de volgorde van deze lijst is bepaald op basis van het tijdstip van indienen van de inschrijving en niet op basis van de beoordeling







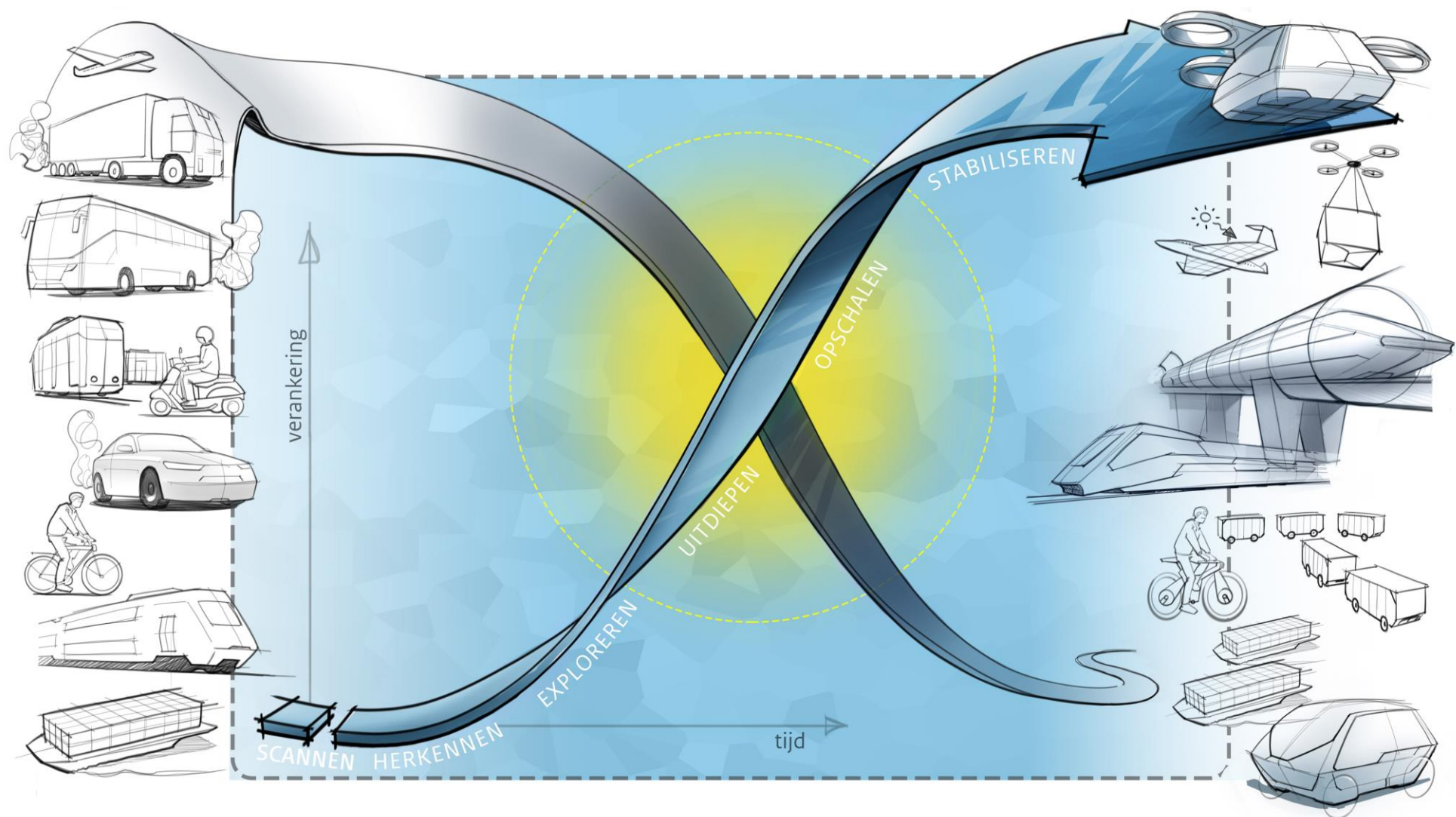
Optimising future policy requires co-operation





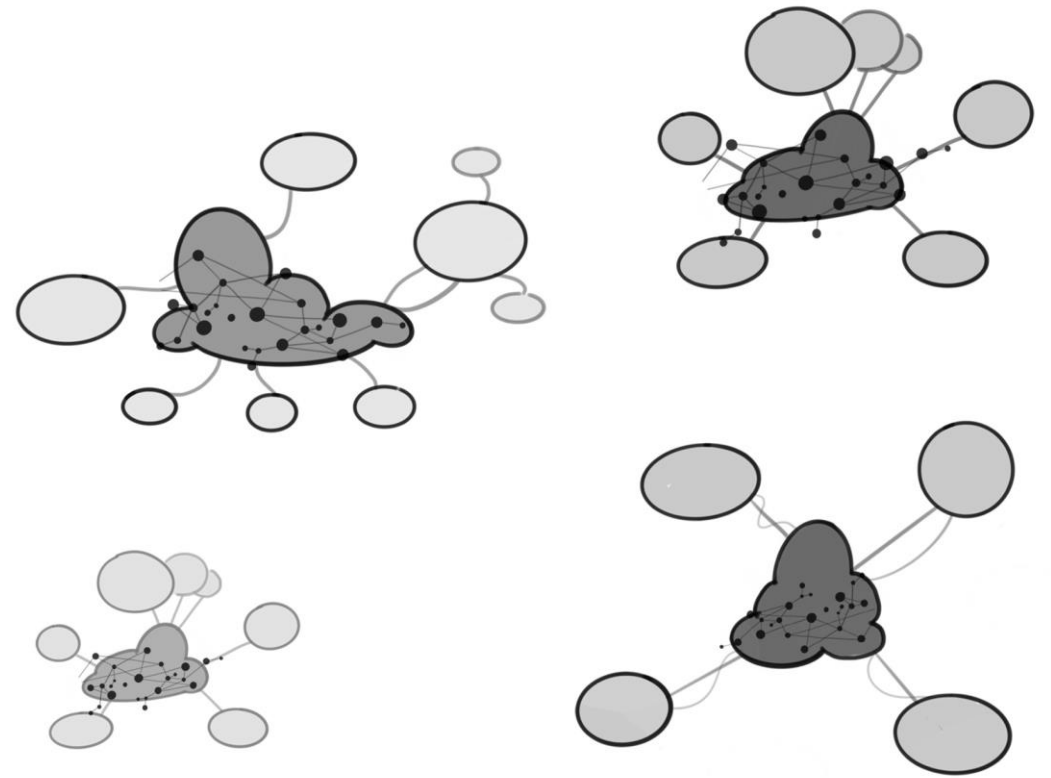
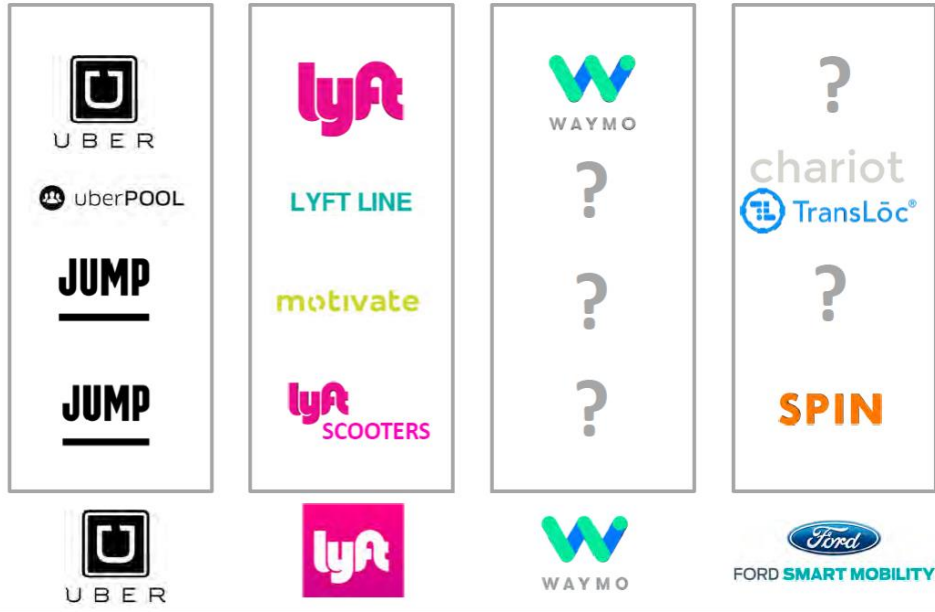


# MaaS accelerates transition and requires new policy



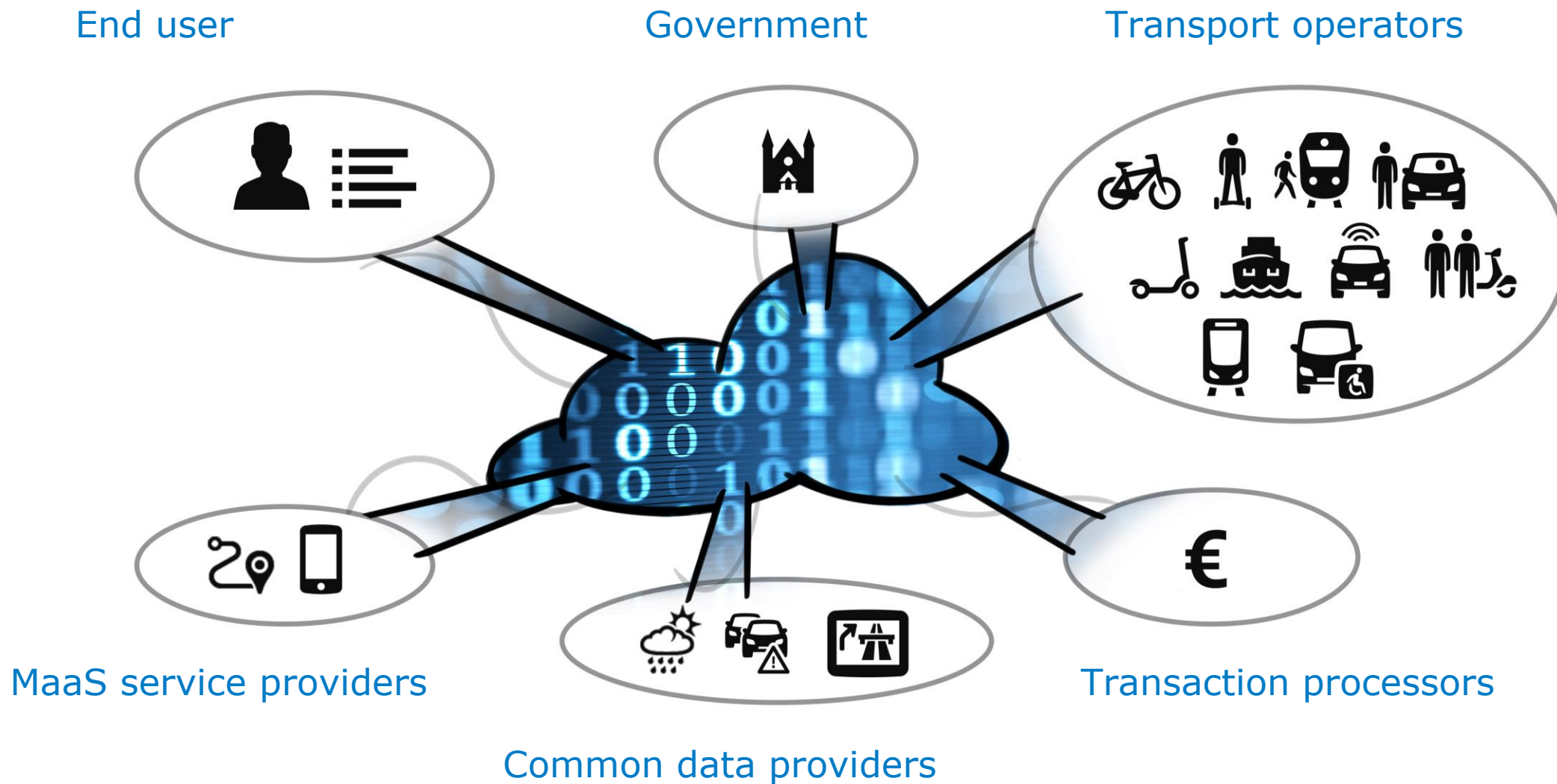


# Integrated platforms/monopolies?



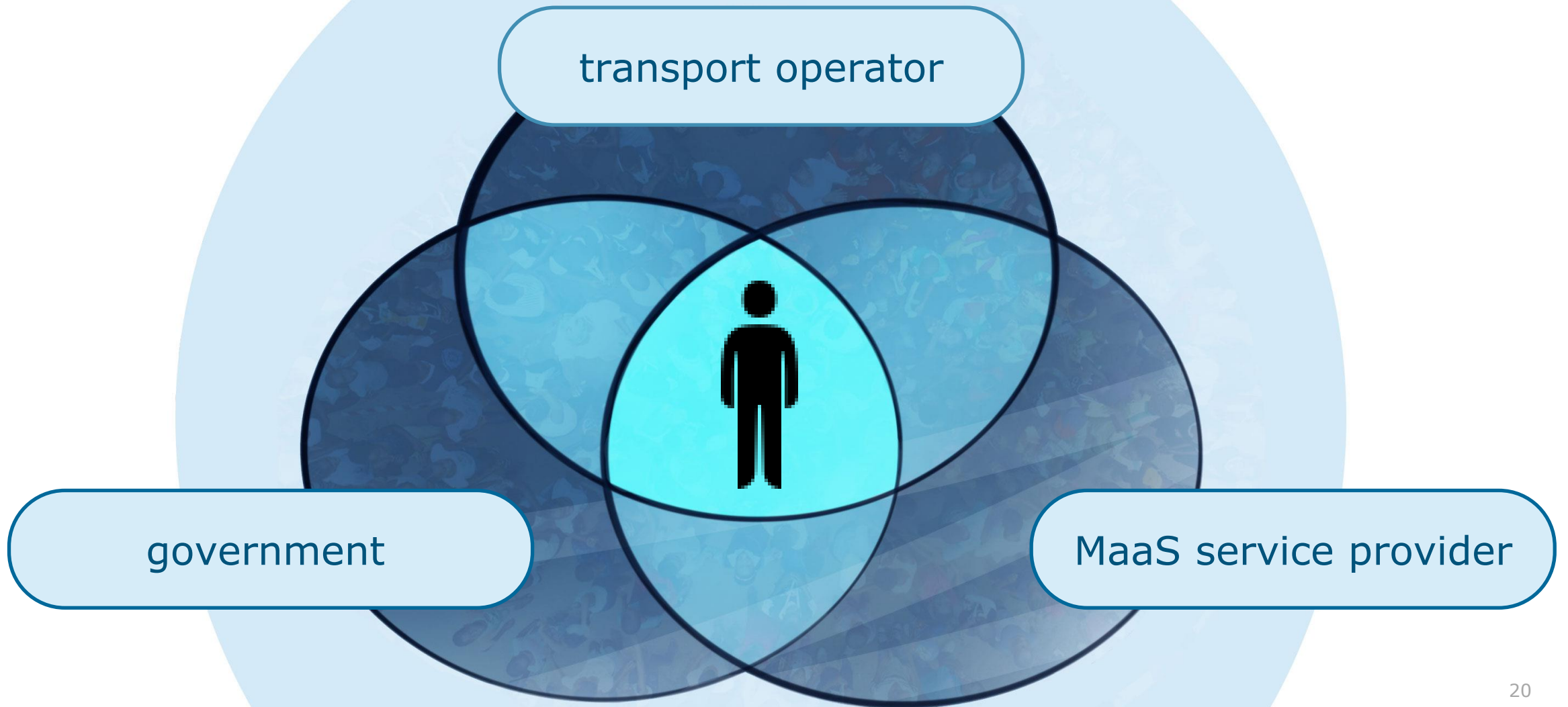


# API's/standardization results in (efficient) ecosystem

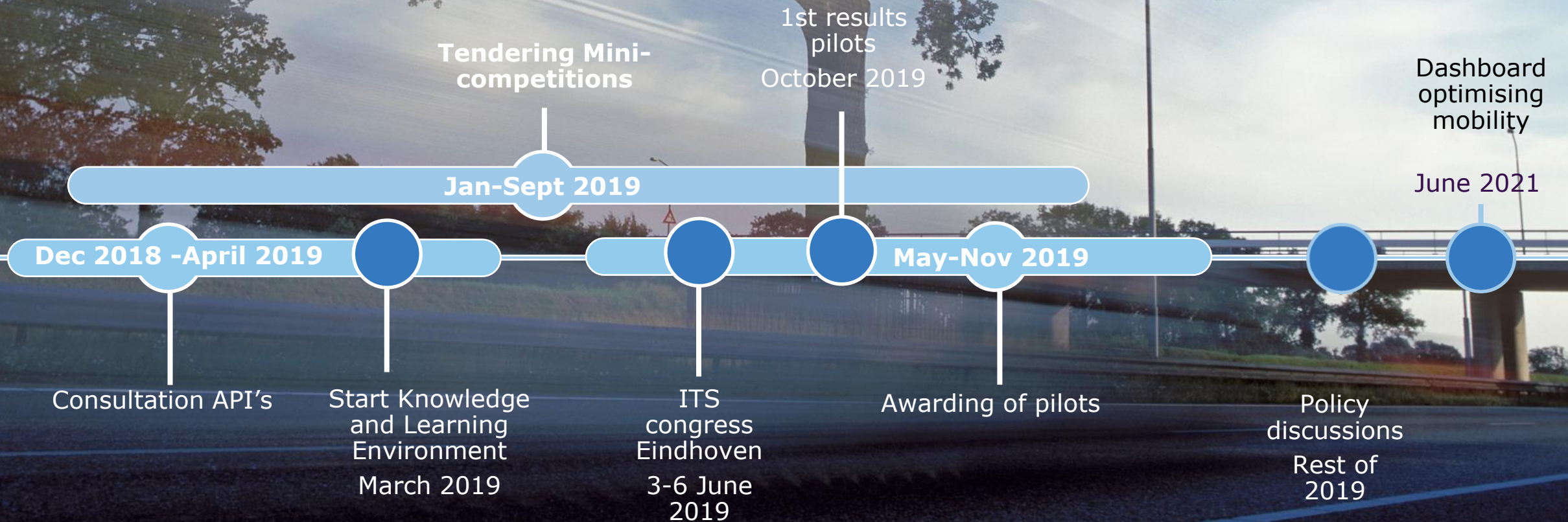




# Win-win-win



# Next steps





options Booking

|       |                    |
|-------|--------------------|
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|       | 12 min. metro      |
| 12:39 | Metrostation 2     |
|       | 8 min. cycling     |
| 12:47 | Endstreet 8        |

plan book travel pay



# Discussion



Further information:

[www.dutchmobilityinnovations.com](http://www.dutchmobilityinnovations.com)

[eric.mink@minienw.nl](mailto:eric.mink@minienw.nl)

@MaaSMinIenW



# Annexes





# 7 functions of MaaS

## 1 personal settings

age



licence



walking distance



cycling distance

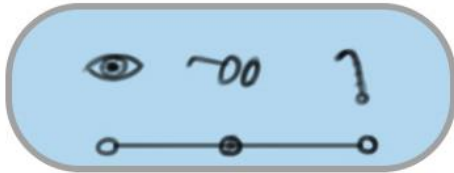


solitary - social

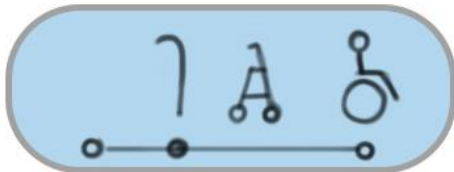


comfortable - active

appliances/tools



sight



mobility



sustainability



travel time

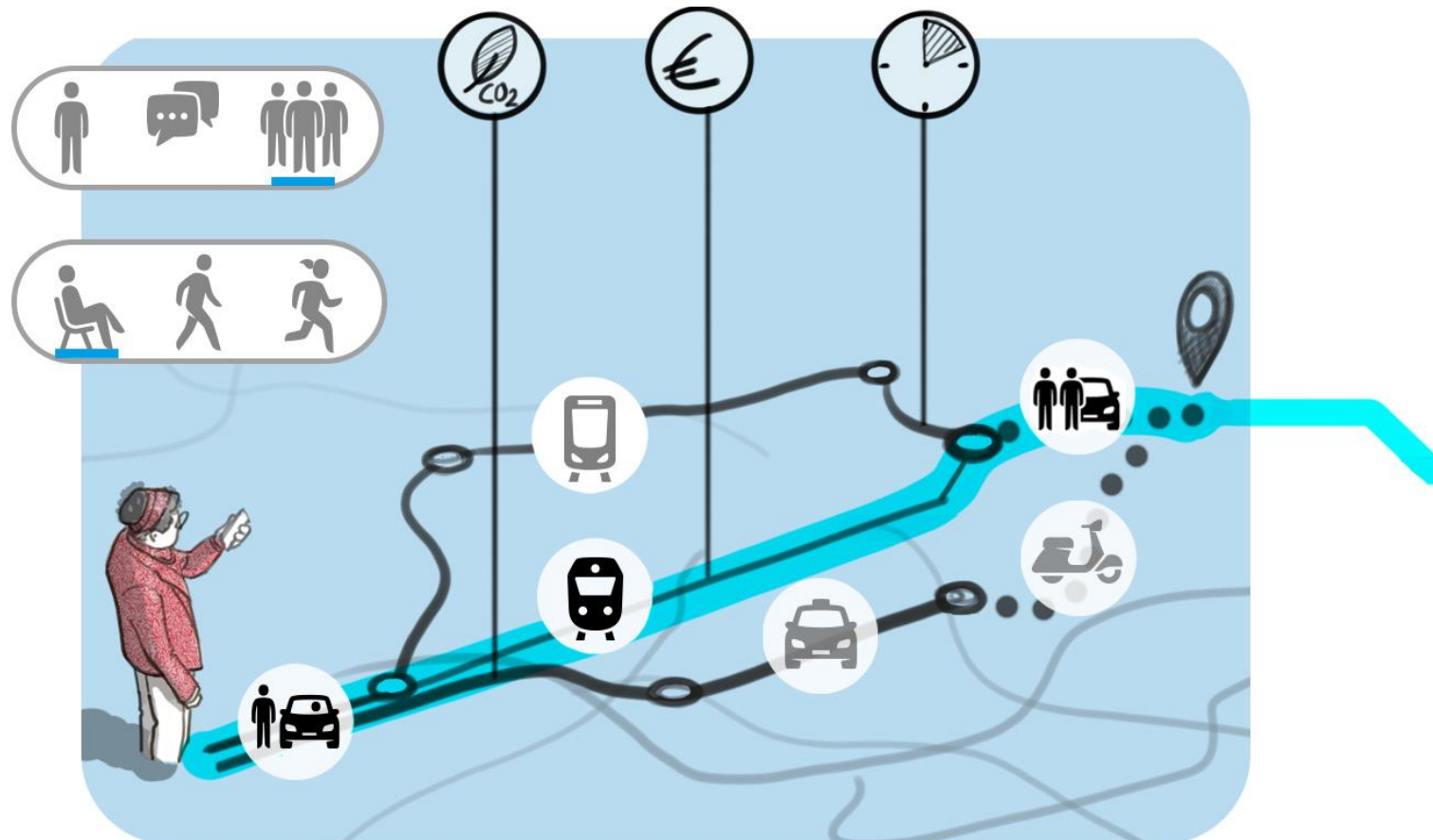


price



# 7 functions of MaaS

2 plan

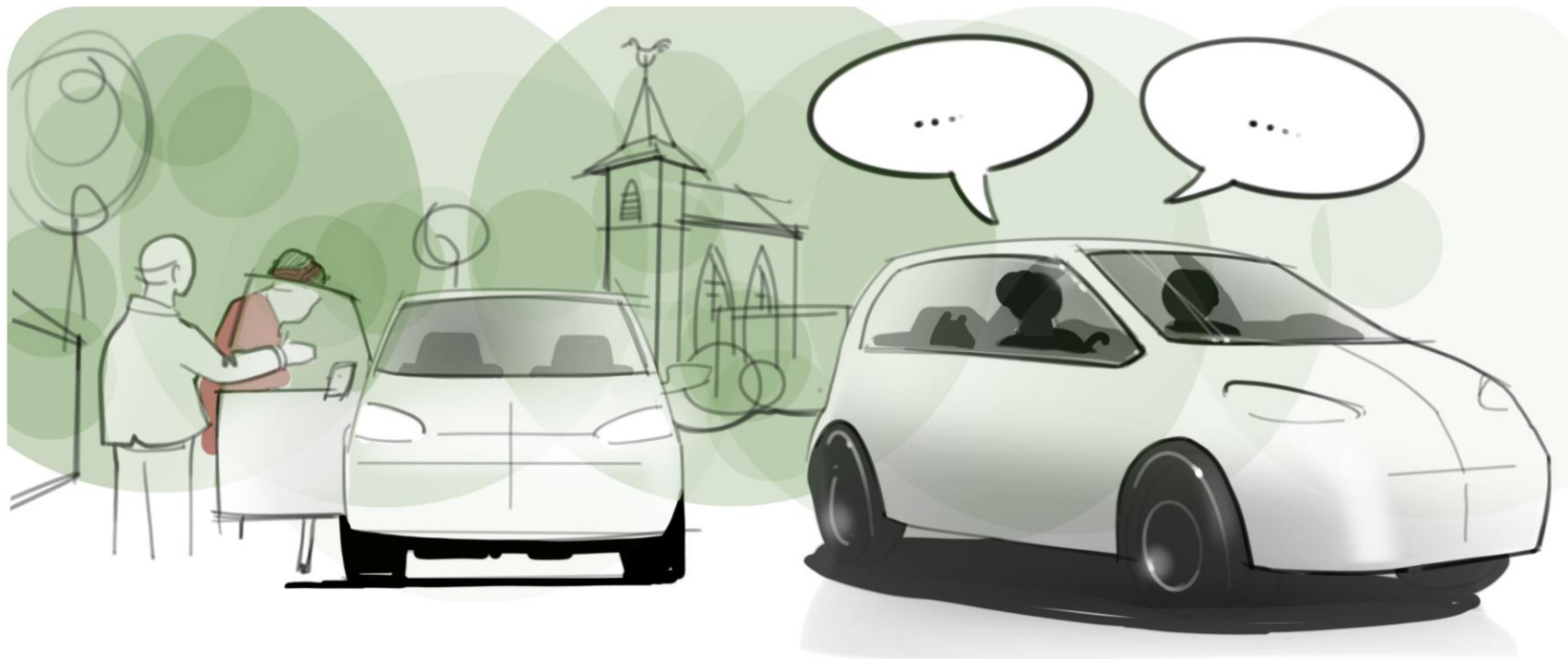




# 7 functions of MaaS

## 4 travel

### rideshare



### check-in





# 7 functions of MaaS

5 assist

alert: dearrangement

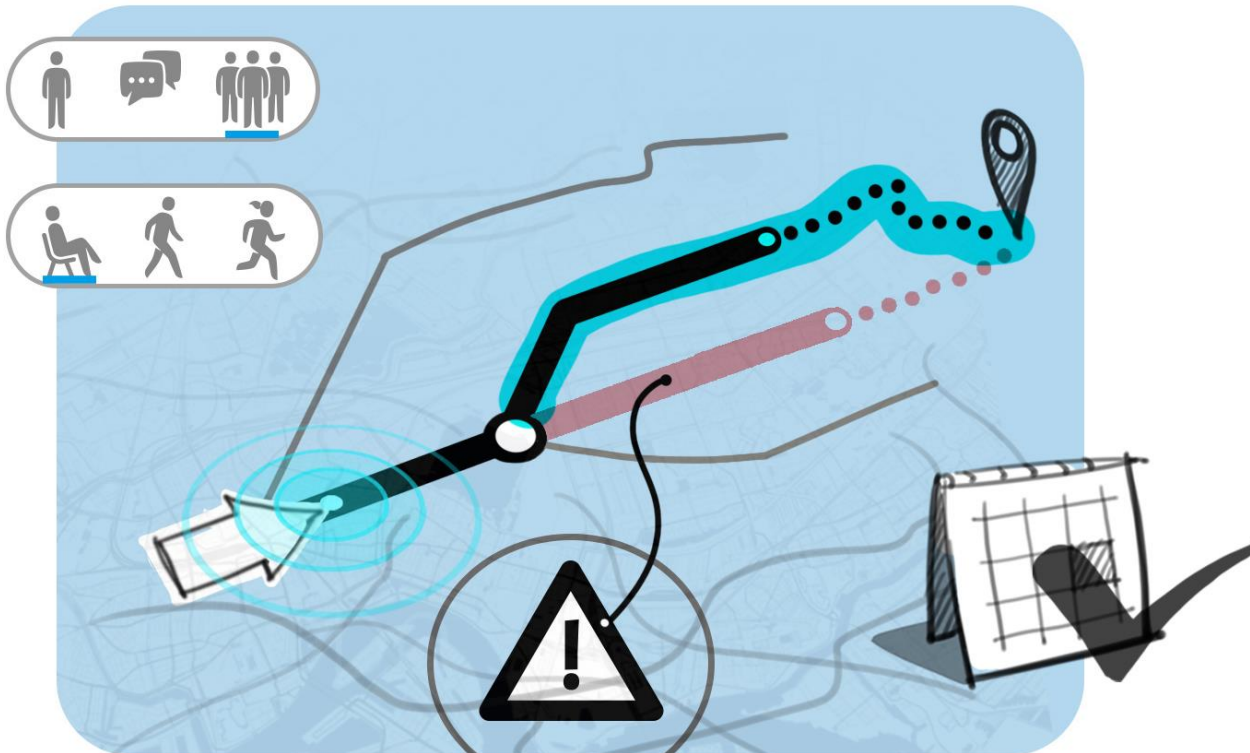




# 7 functions of MaaS

6 adapt

booking an alternative route





# 7 functions of MaaS

7 payment

