SIRI TRAINING SESSION

June 2021

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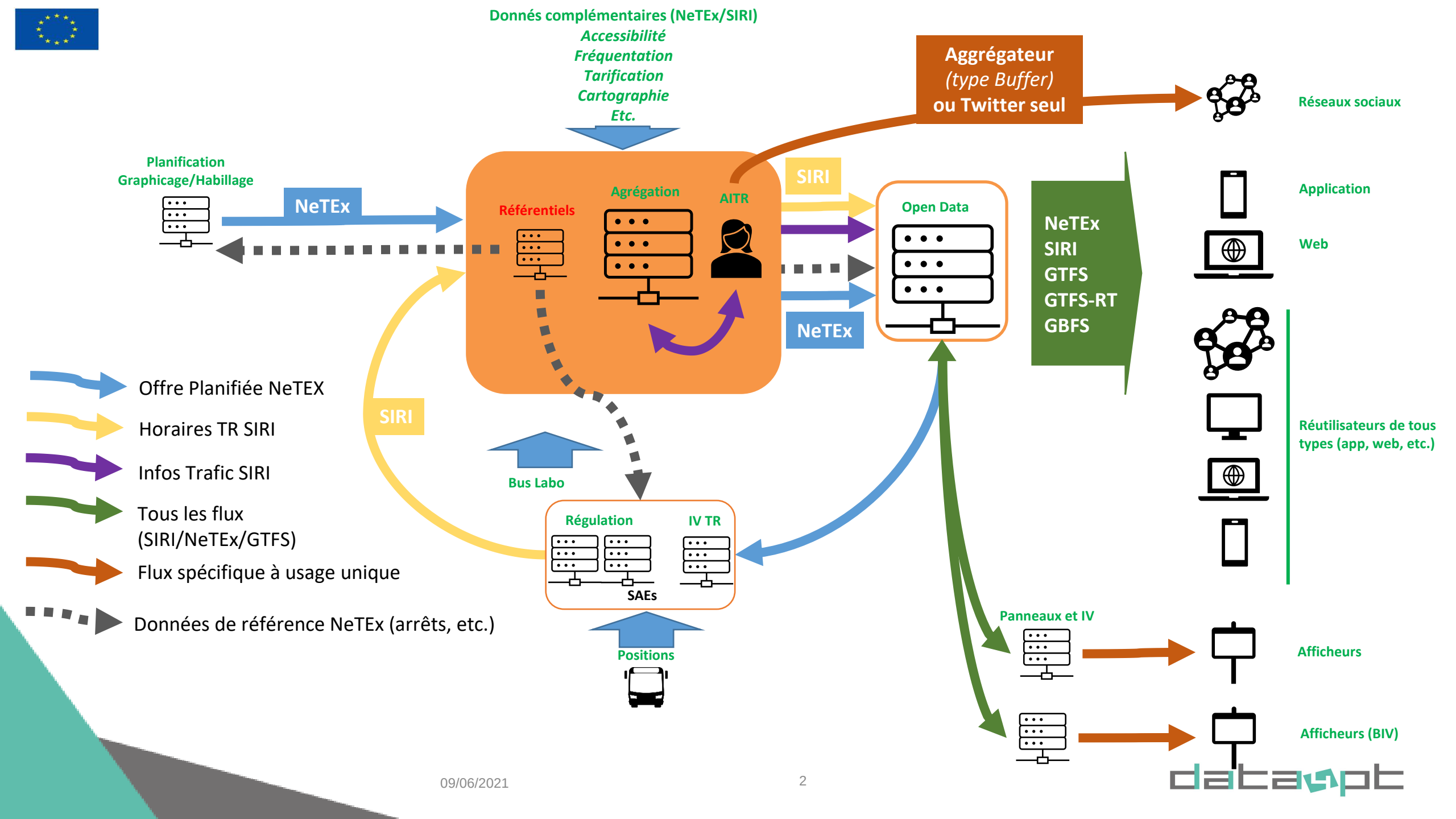
Data4PT has received funding from the European Union's DG for Mobility and Transport under grant agreement No MOVE/B4/SUB/2019-104/CEF/PSA/SI2.821136


Donnés complémentaires (NeTEx/SIRI)
Accessibilité
Fréquentation
Tarification
Cartographie
Etc.
Aggrégateur
(type Buffer)
ou Twitter seul
Réseaux sociaux
Planification
Graphicage/Habillage
NeTEx
Référentiels
Agrégation
AITR
SIRI
Open Data
NeTEx
SIRI
GTFS
GTFS-RT
GBFS
Application
Web
NeTEx
Offre Planifiée NeTEX
Horaires TR SIRI
Infos Trafic SIRI
Tous les flux
(SIRI/NeTEx/GTFS)
Flux spécifique à usage unique
Données de référence NeTEx (arrêts, etc.)
SIRI
Bus Labo
Régulation
IV TR
SAEs
Positions
Réutilisateurs de tous types (app, web, etc.)
Panneaux et IV
Afficheurs
Afficheurs (BIV)

Aggregator’s role

1. Control and qualification of data flows

- Check the compliance to the expected format
- Check the consistency of the data (all referenced stops are well described, etc.)
- Check the completeness and usability of the data (no holes in the calendars, no areas not covered, routing test, etc.)

2. Flow aggregation

- Aggregation for multimodal information on Bus/Tram, Bus/Tram/SNCF, Urban/Inter-urban Bus (multimodal stop) stops
- Global real time information on area (bike, parking, PT)
- Scheduled information integrating connection information across networks (Bus/Tram/SNCF)
- Aggregation of flows from SAEs and pi providers (simple AVMS) for access via a single service
- Aggregation of disruptions and traffic info in SIRI flows
- Aggregation and formatting information for displays in SIRI feeds
- Geographic consistency of the stops from the different providers (correction of position, merging of stops if necessary, harmonization of the rules type road center / position of the vehicle, position of the waiting equipment (shelters, poles ...)

Aggregator's role (continued)

3. Enrichment of data

- Added accessibility information (qualification, path, etc.)
- Added real-time accessibility information (status, availability, etc.)
- Added occupancy information (expected statistic)
- Added real-time occupancy information
- Addition of Fare Information
- Depending on split of responsibility and contractual agreements in different aggregator contexts:
  - May have editing/enrichment tools to allow you to control/correct/enrich without need to ask to the AVMS or Scheduling system (or while waiting for their updates).
  - May instead provide a set of Transmodel-based APIs allowing and **requiring** operators to deliver corrections and updates of information related to their part of the operation in.

4. Formatting and publishing

- GTFS, GTFS-RT, GBFS
- Change in the segmentation of published flows (by operator, by line, by network)
- Production of services dedicated to publishing: SIRI Stop Monitoring (focused on stopping, while power will be focused on the line)
- Siri Lite (REST/JSON) formatting for Open Data

Aggregator’s role (continued)

5. Data Management

For statistical analysis: disruptions and events, planned/real-time comparison, etc.

For quality-of-service indicators and monitoring of the evolution of these indicators

Fine grain analysis to follow a specific issue, carry out a study, etc.

Benefit from quality control, aggregation and enrichment for statistics and indicators… and for services of course

6. Repository management

- Management of repositories that are not addressed at regional/national level
- Interaction with external repositories (provision/consumption)

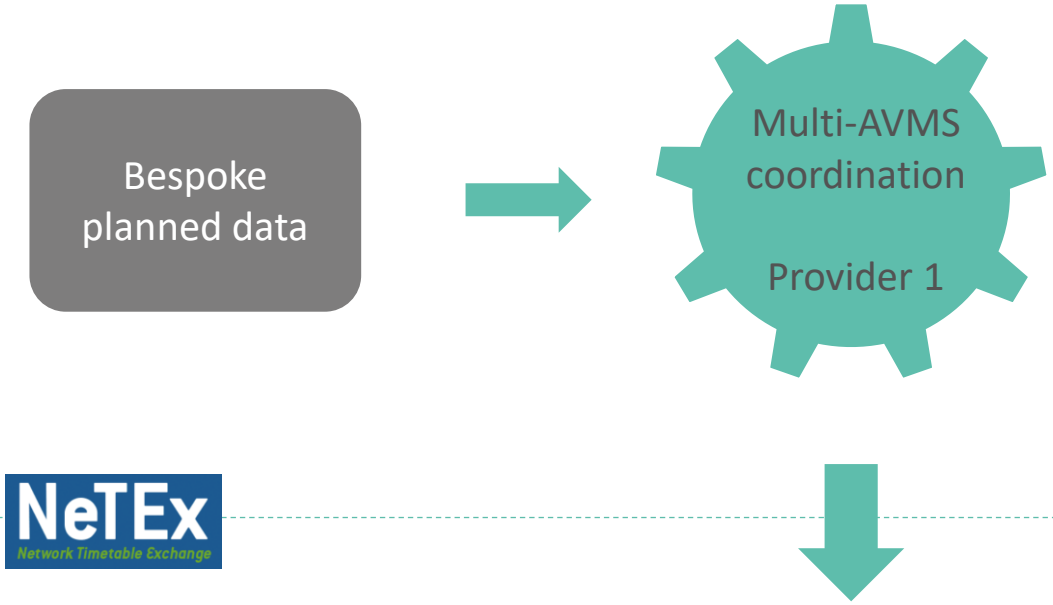
EBSF 2 experience…

Horizon 2020 - EBSF 2 project

Field test at Transport for London

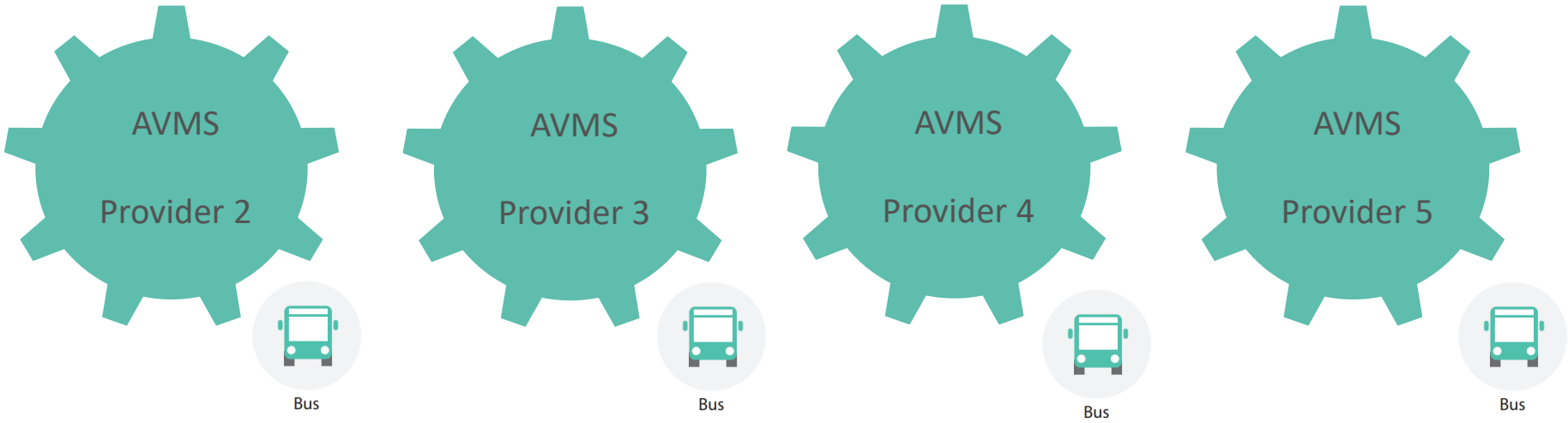
NeTEx and SIRI profiles were developed and tested as part of the European Bus System of the Future 2 project in cooperation with partners from different countries.

Planning data converted to NeTEx

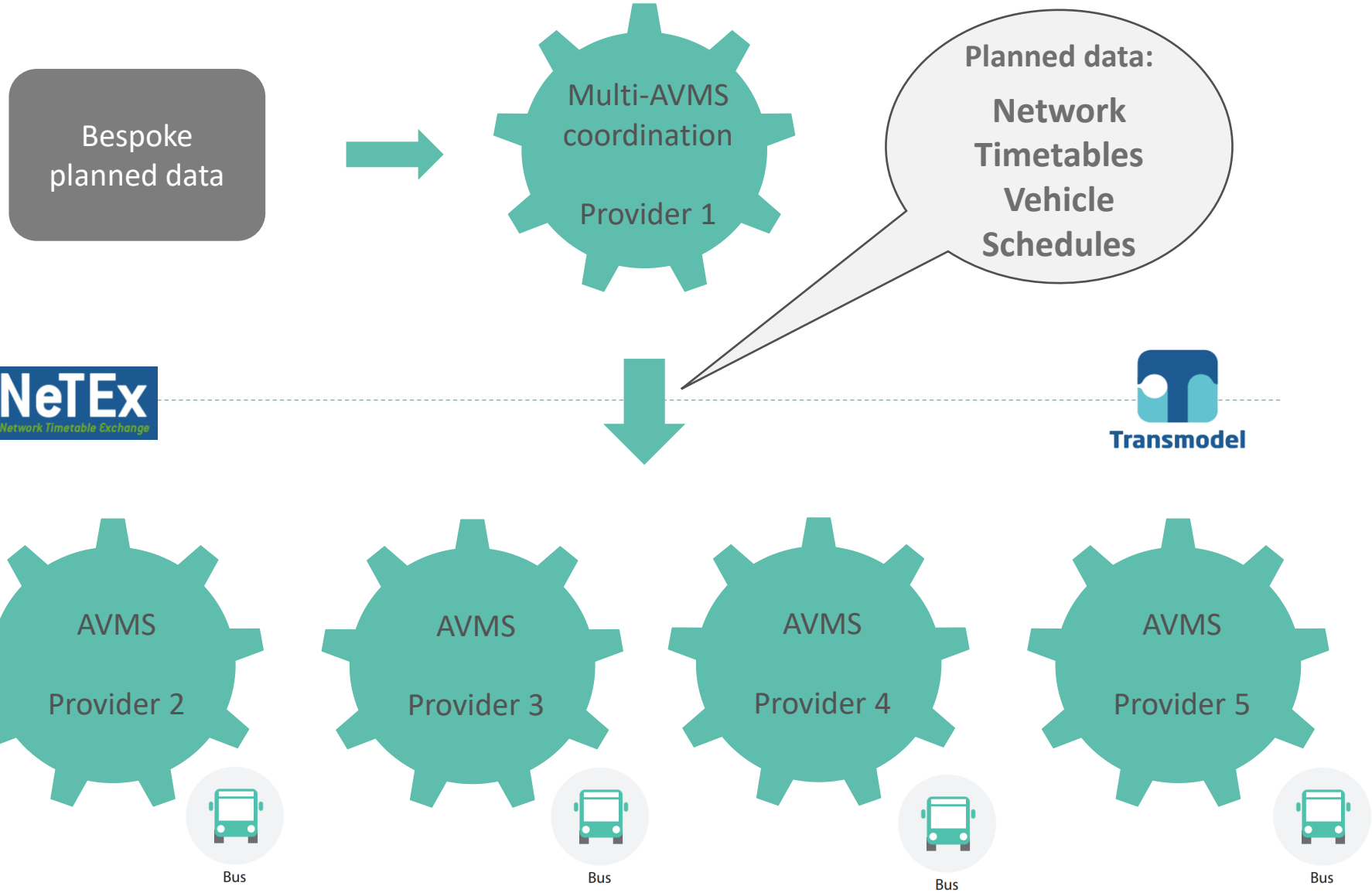


Reminder - AVMS

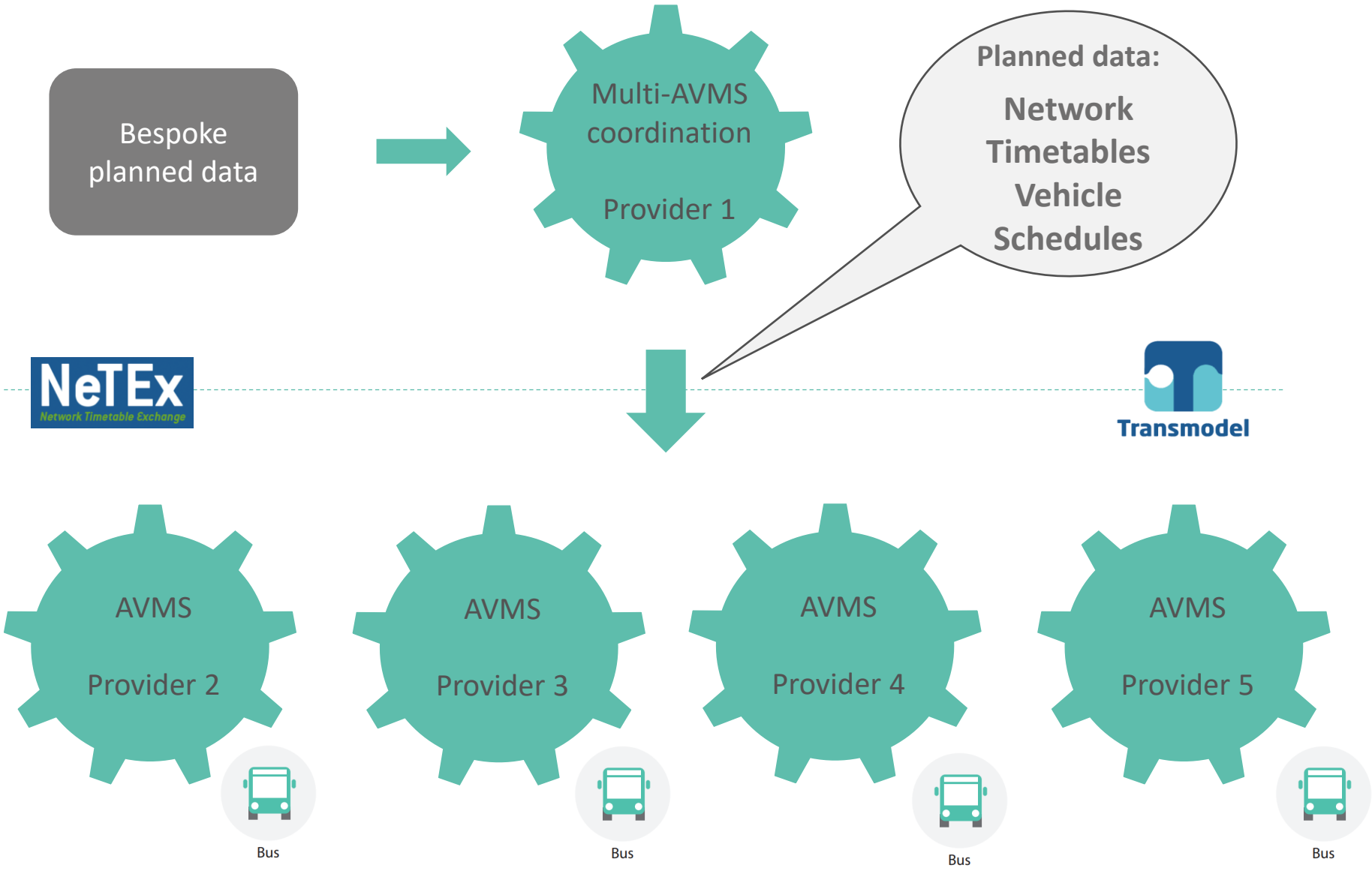
AVMS = Automatic Vehicle Monitoring Service



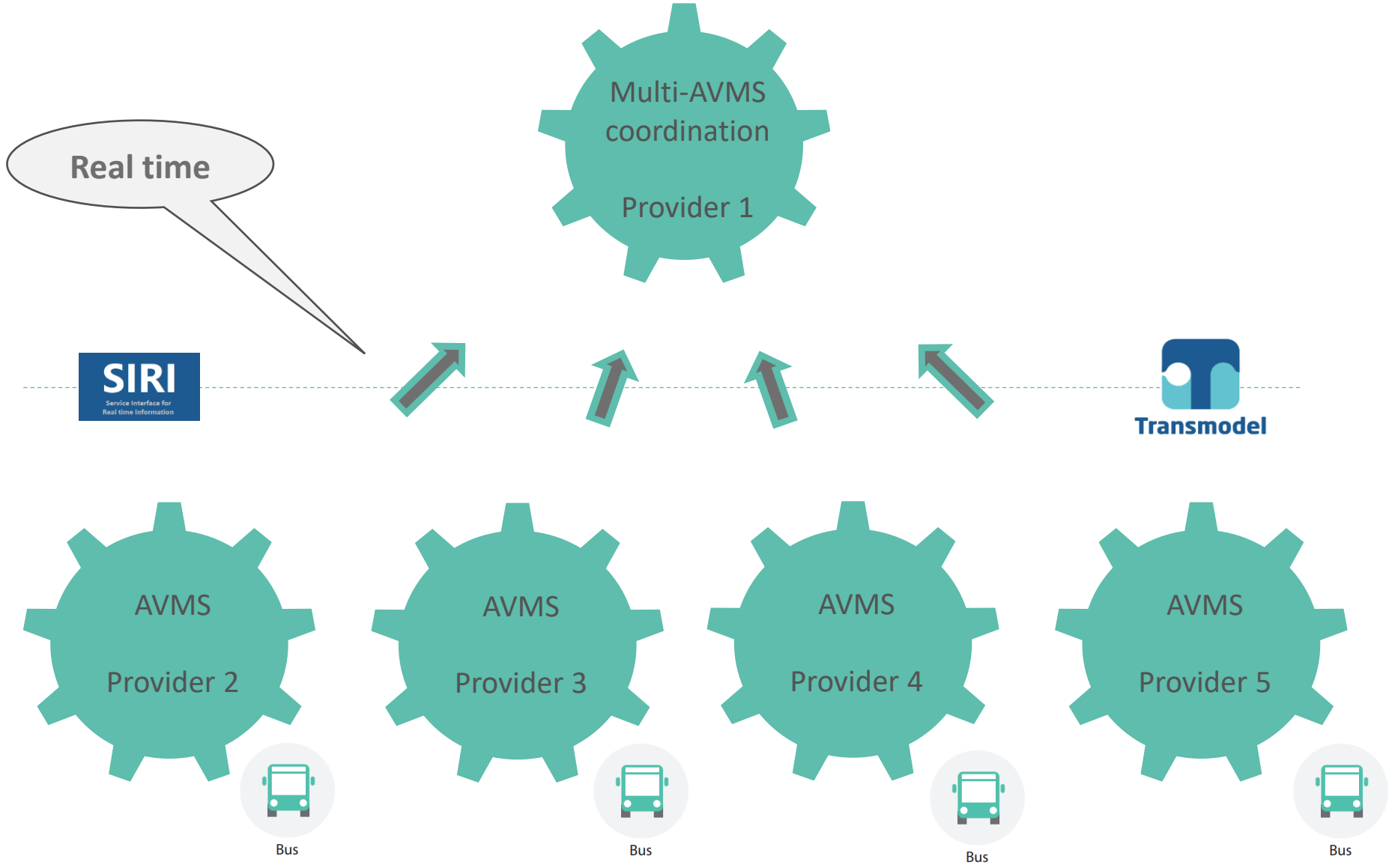
NeTEx describing planned operation



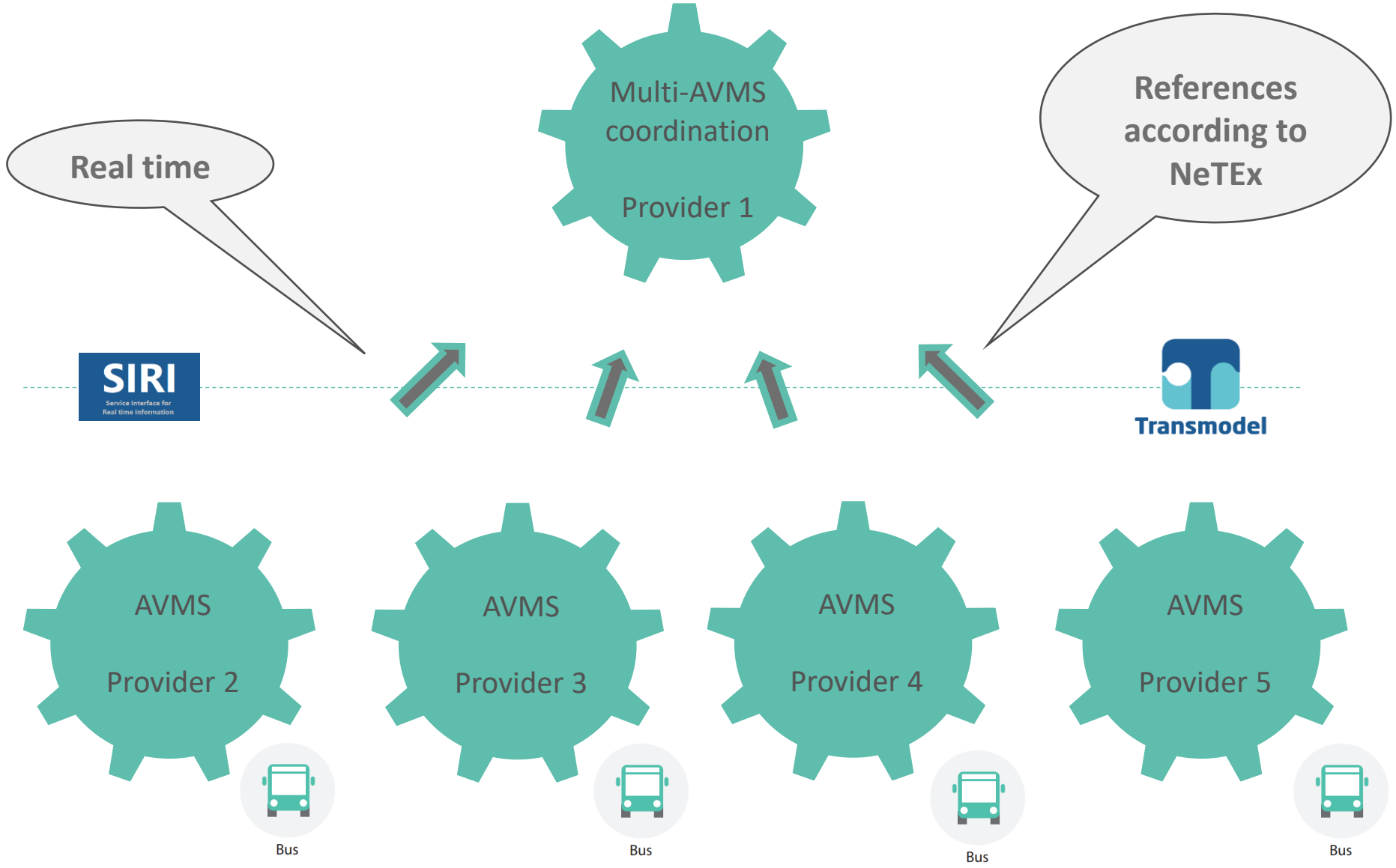
NeTEx providing common references



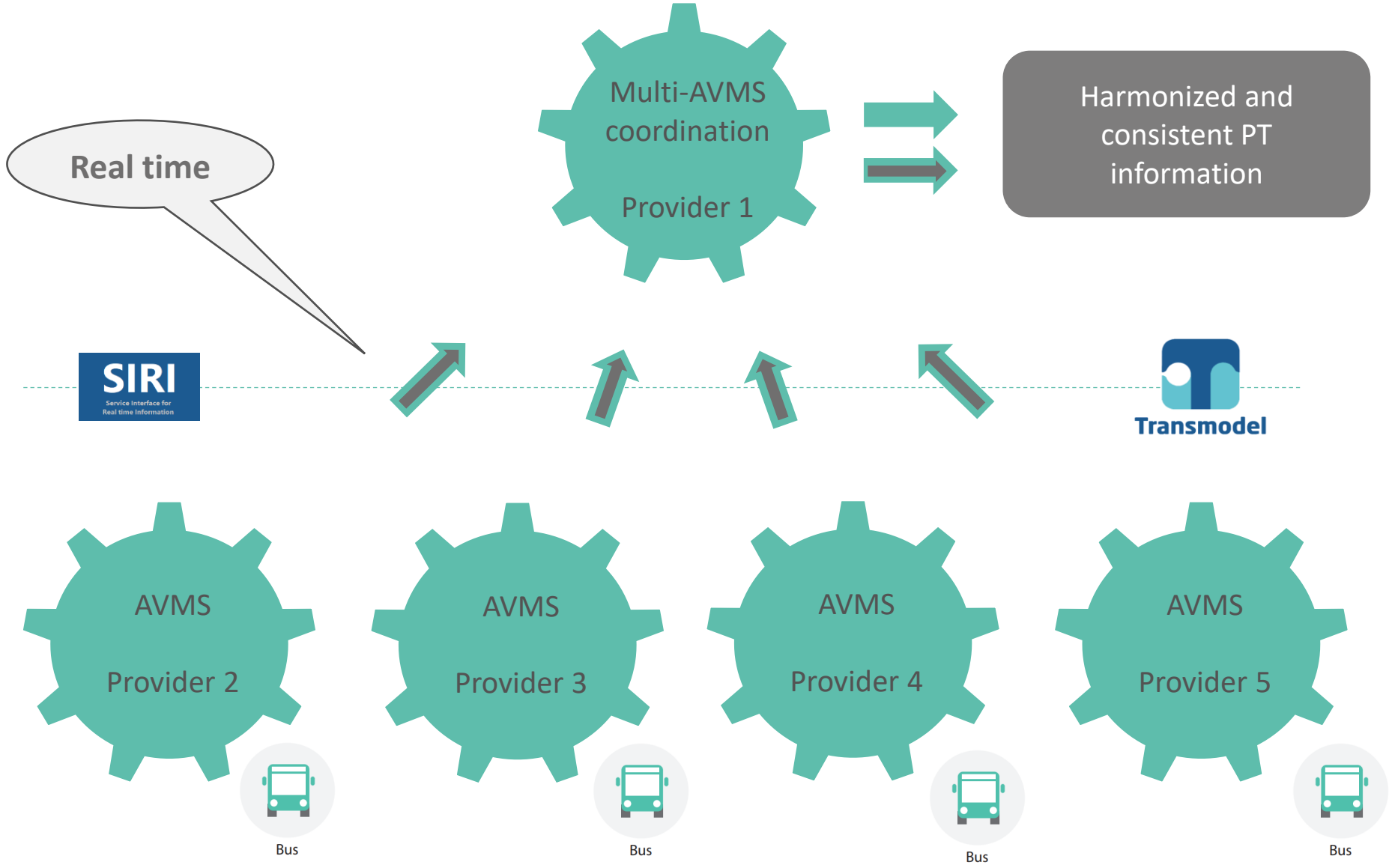
Real time in SIRI according to profile



Real time in SIRI according to profile



Transmodel used in EBSF 2 project (5)



EBSF2 London pilot SIRI VM - Reporting

Event-based:

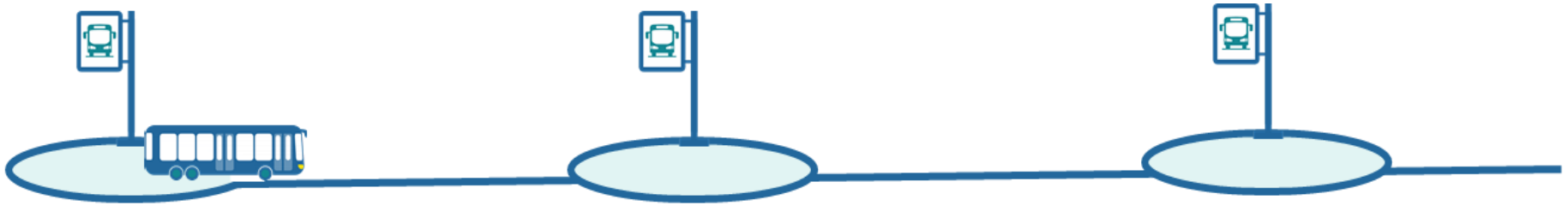
- Bus departing from stop point
- Bus arriving to stop

Periodic:

- Periodic reports from a vehicle standing at a stop
- Periodic logic position reports from a vehicle moving between stops

- Periodic physical position reports

SIRI – EBSF2 event oriented profile – SIRI VM
Only the essentials



Departure Report

```
<VehicleActivity>
      <RecordedAtTime>2012-08-30T06:01:47+01:00</RecordedAtTime>
      <ValidUntilTime>2012-08-30T06:02:17+01:00</ValidUntilTime>
      <ProgressBetweenStops>
        <Percentage>0</Percentage>
      </ProgressBetweenStops>
      <MonitoredVehicleJourney>
        <FramedVehicleJourneyRef>
          <DataFrameRef>2012-08-30</DataFrameRef>
          <DatedVehicleJourneyRef>9015001001202531</DatedVehicleJourneyRef>
        </FramedVehicleJourneyRef>
        <VehicleRef>9031001002201234</VehicleRef>
        <MonitoredCall>
          <StopPointRef>9025001000032451</StopPointRef>
          <VehicleAtStop>false</VehicleAtStop>
        </MonitoredCall>
      </MonitoredVehicleJourney>
    </VehicleActivity>
```

When the vehicle departed

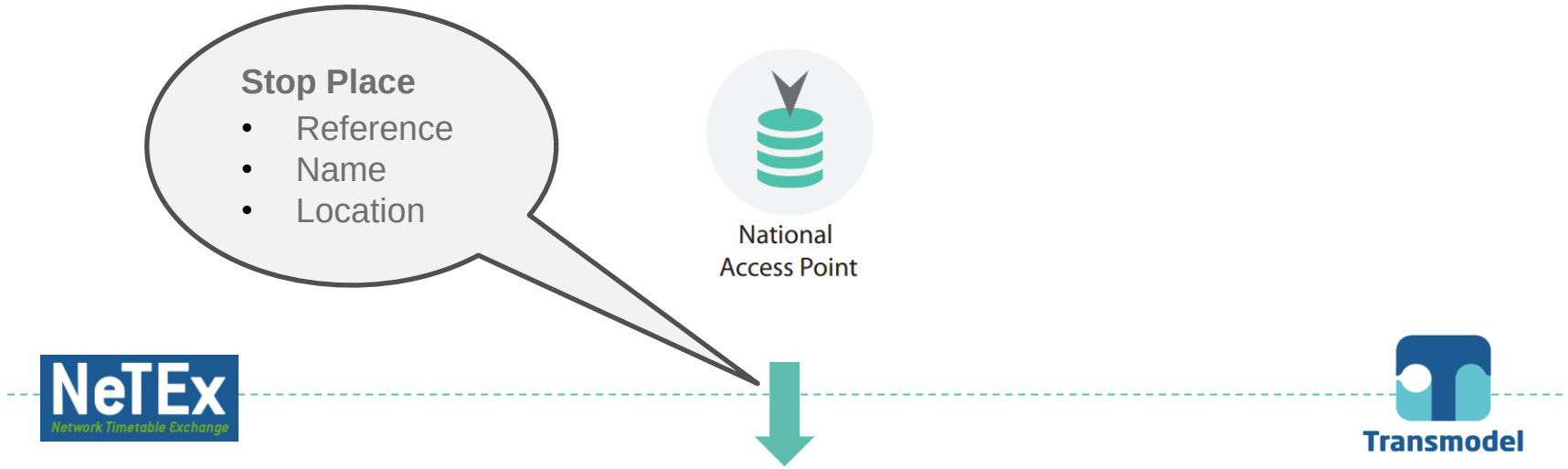
Which journey

Which vehicle

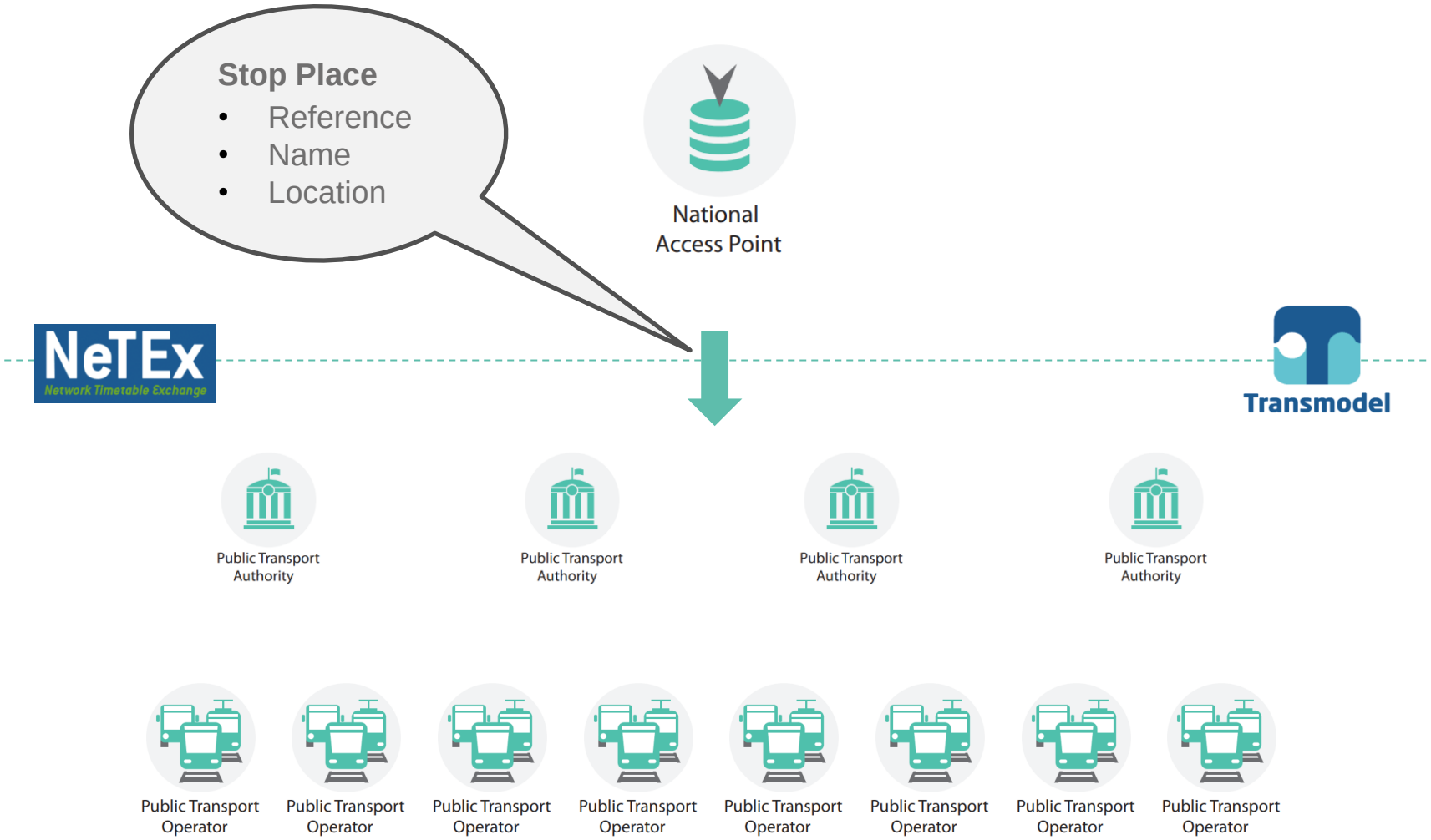
From which stop

Implementation in Norway

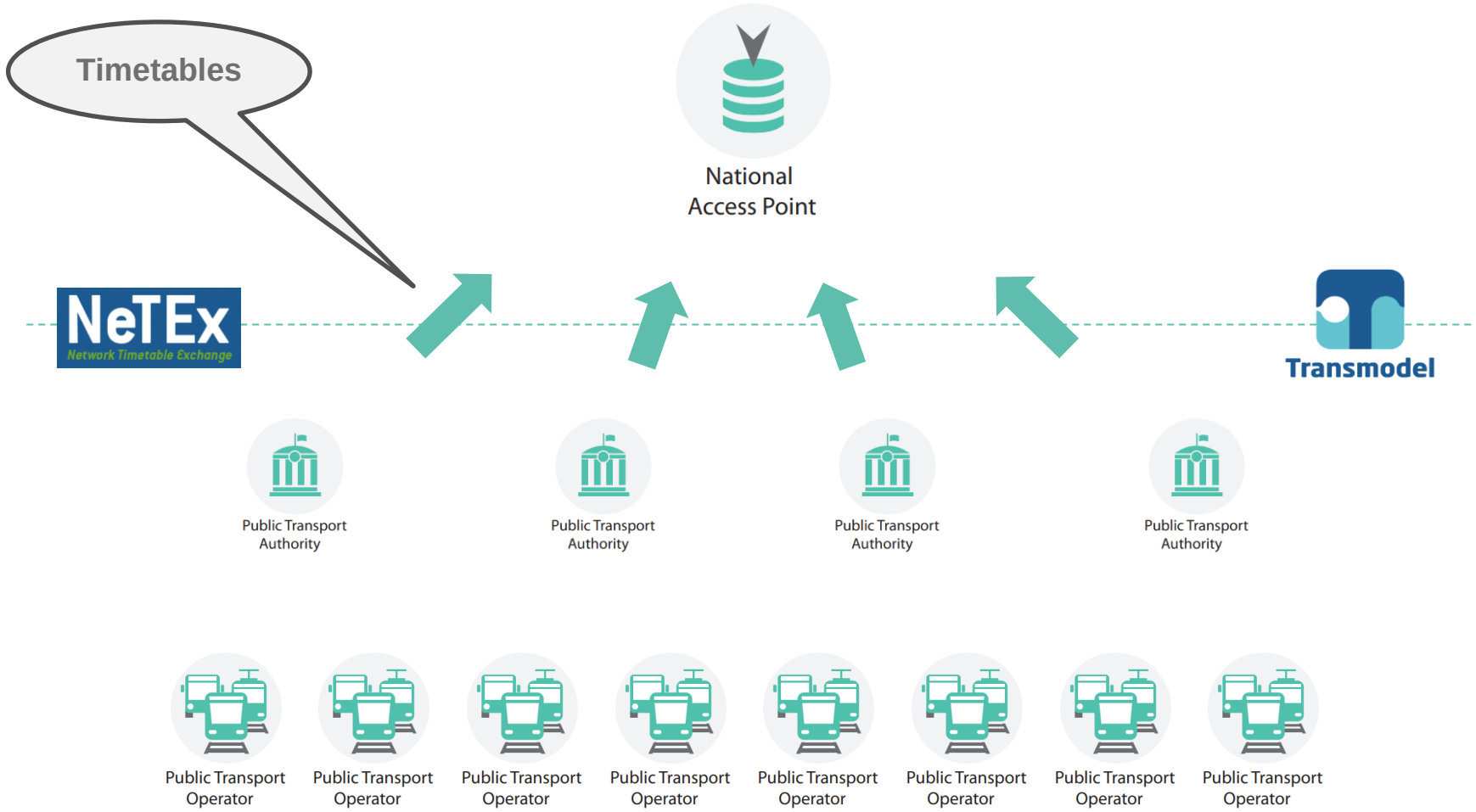
Transmodel implementation in Norway (1)



Transmodel implementation in Norway (1)



Transmodel implementation in Norway (2)



Nordic NeTEx Profile

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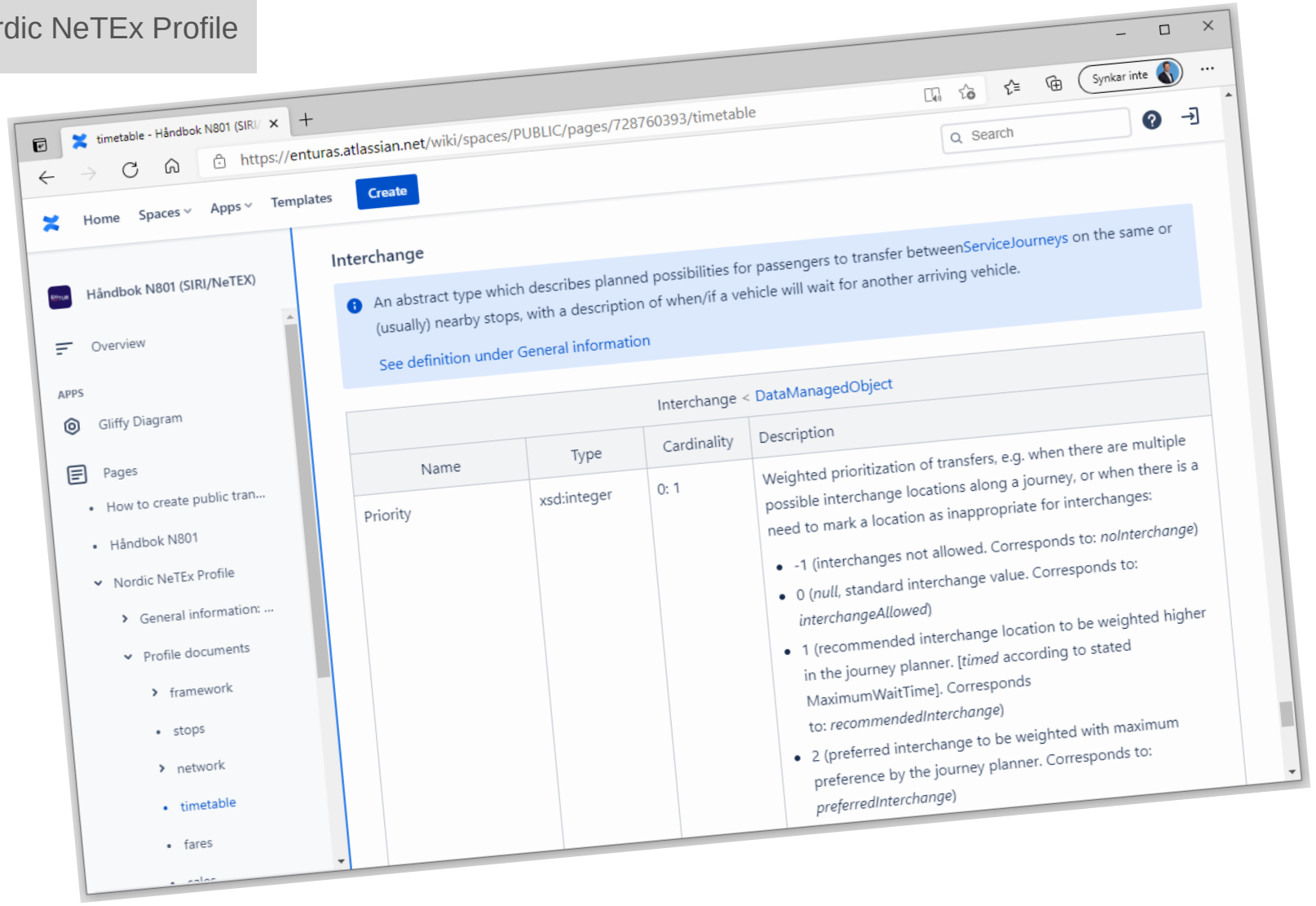
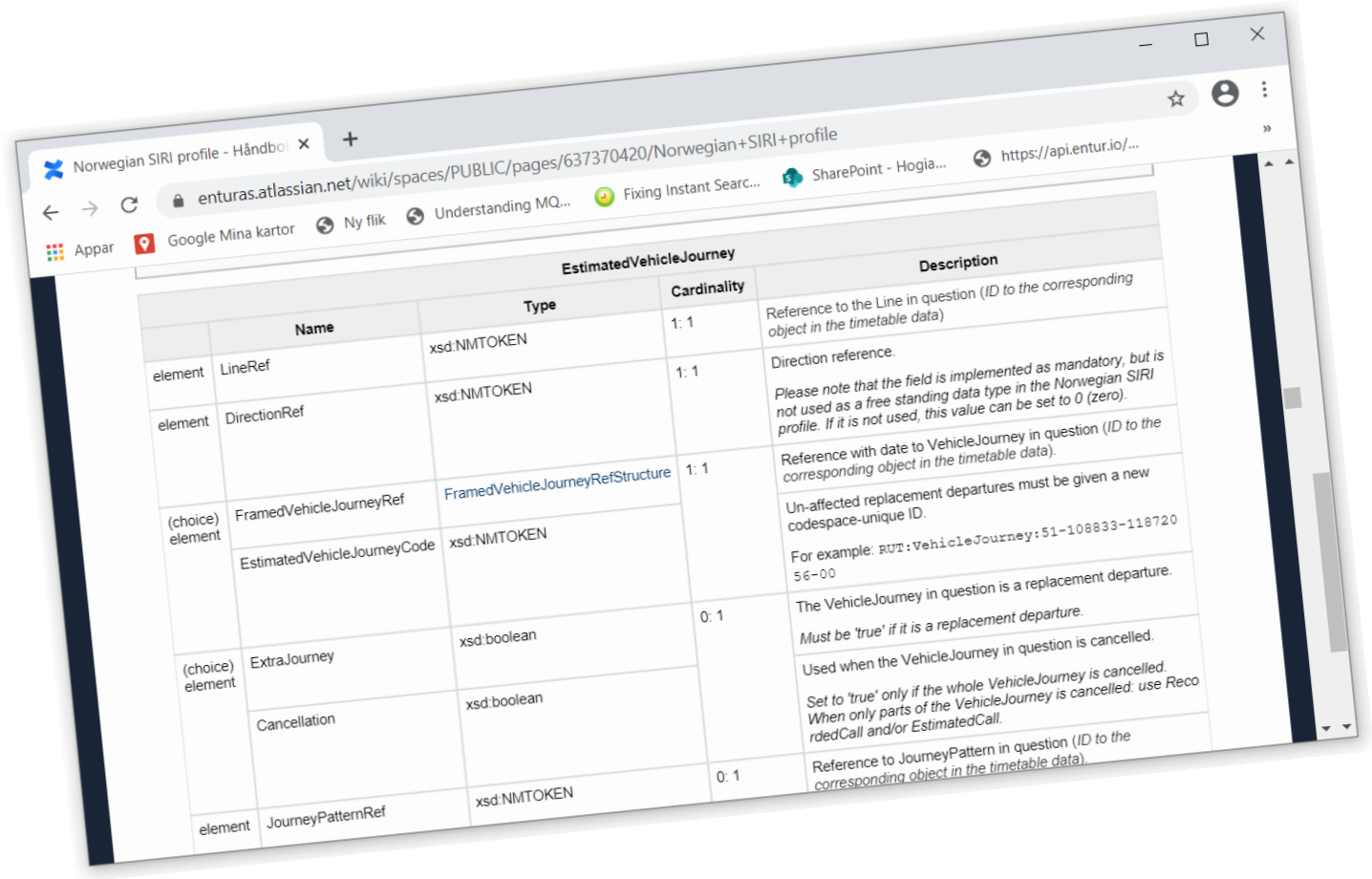
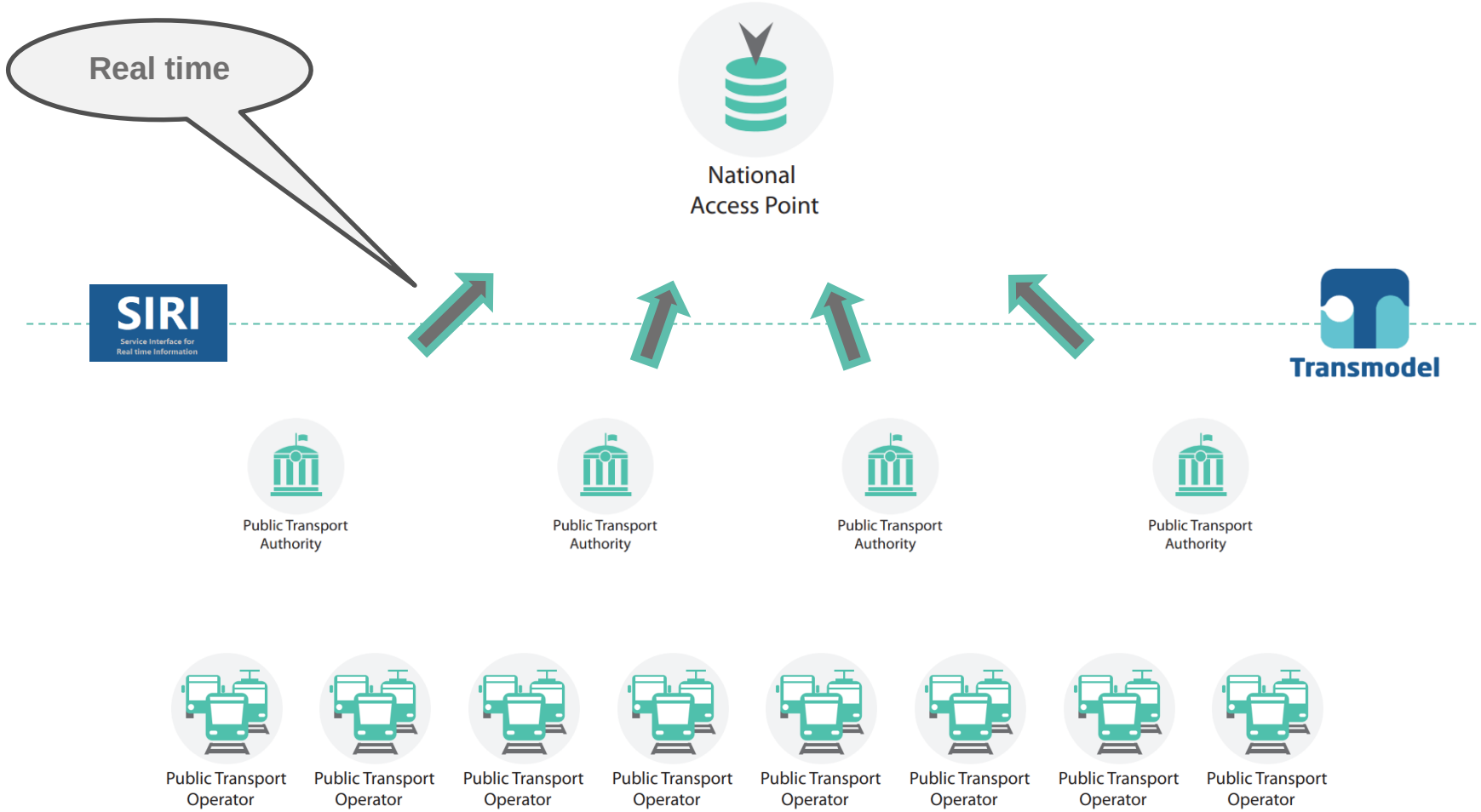


Norwegian SIRI Profile

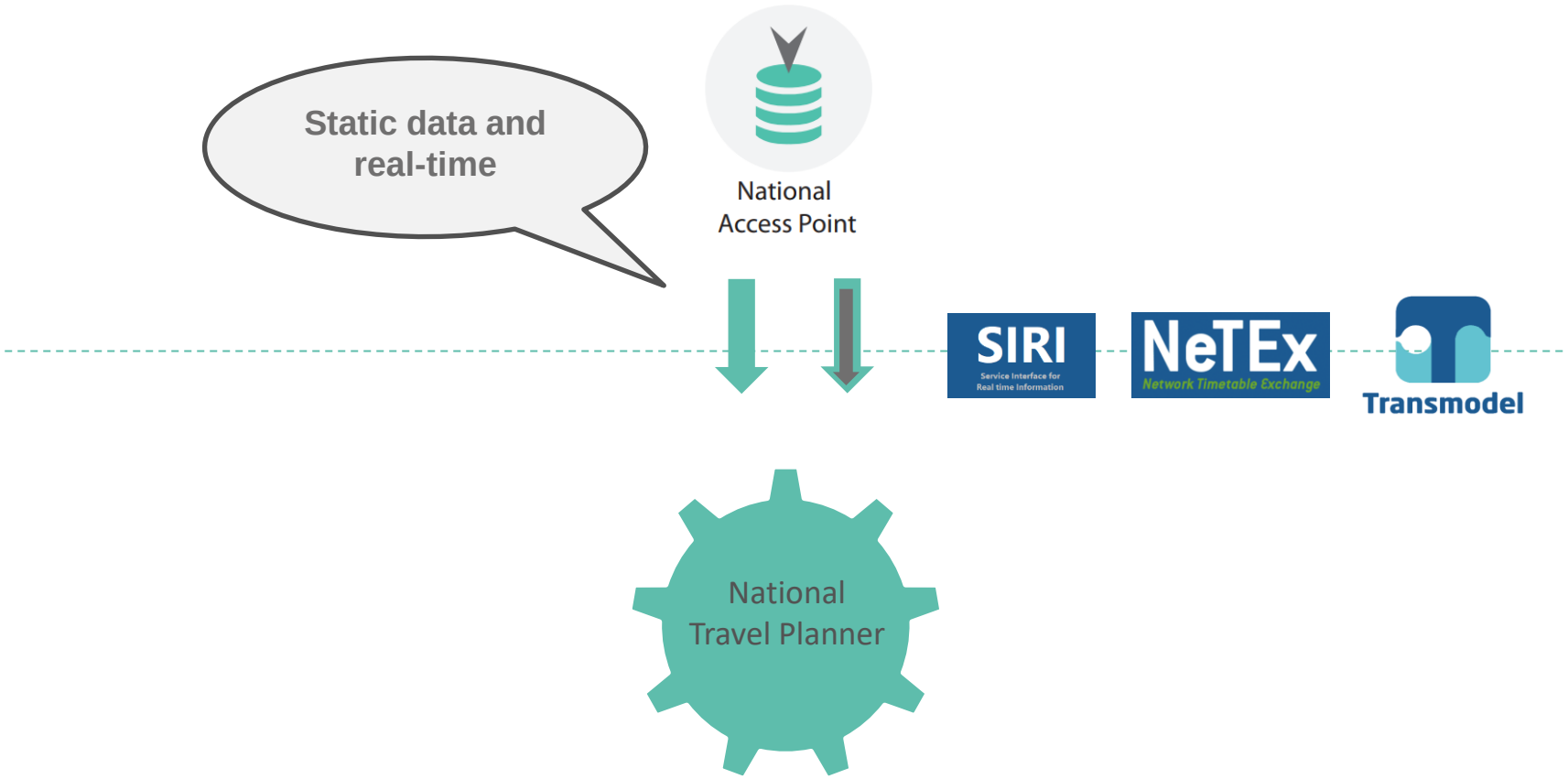


EstimatedVehicleJourney				
	Name	Type	Cardinality	Description
element	LineRef	xsd:NMTOKEN	1: 1	Reference to the Line in question (*ID to the corresponding object in the timetable data*)
element	DirectionRef	xsd:NMTOKEN	1: 1	Direction reference. *Please note that the field is implemented as mandatory, but is not used as a free standing data type in the Norwegian SIRI profile. If it is not used, this value can be set to 0 (zero).*
(choice) element	FramedVehicleJourneyRef	FramedVehicleJourneyRefStructure	1: 1	Reference with date to VehicleJourney in question (*ID to the corresponding object in the timetable data*).
	EstimatedVehicleJourneyCode	xsd:NMTOKEN		Un-affected replacement departures must be given a new codespace-unique ID. For example: `RUT:VehicleJourney:51-108833-118720 56-00`
(choice) element	ExtraJourney	xsd:boolean	0: 1	The VehicleJourney in question is a replacement departure. *Must be 'true' if it is a replacement departure.*
	Cancellation	xsd:boolean		Used when the VehicleJourney in question is cancelled. *Set to 'true' only if the whole VehicleJourney is cancelled. When only parts of the VehicleJourney is cancelled: use Recorded Call and/or EstimatedCall.*
element	JourneyPatternRef	xsd:NMTOKEN	0: 1	Reference to JourneyPattern in question (*ID to the corresponding object in the timetable data*).

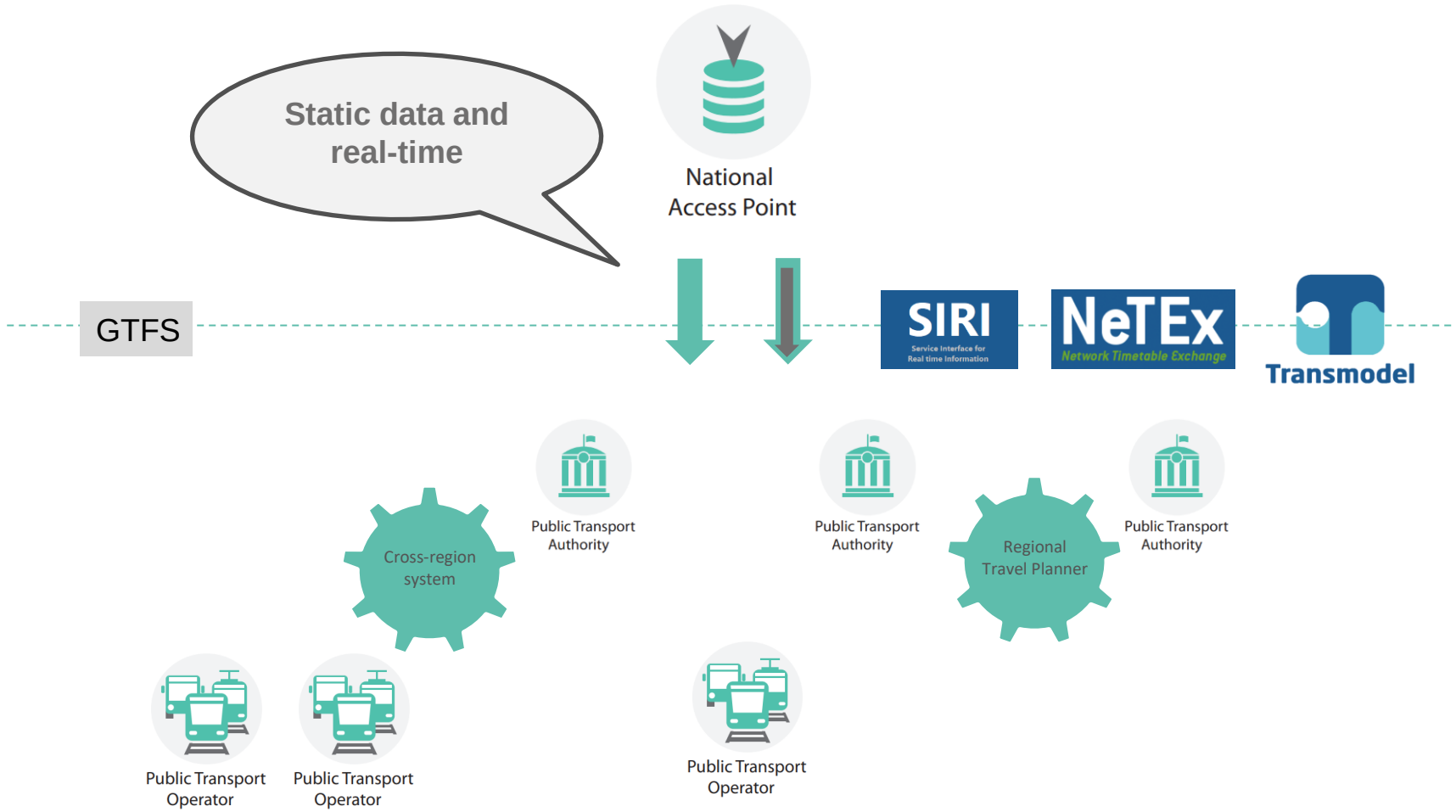
Transmodel implementation in Norway (3)



Transmodel implementation in Norway (4)



Transmodel implementation in Norway (5)



Thank you for your attention

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