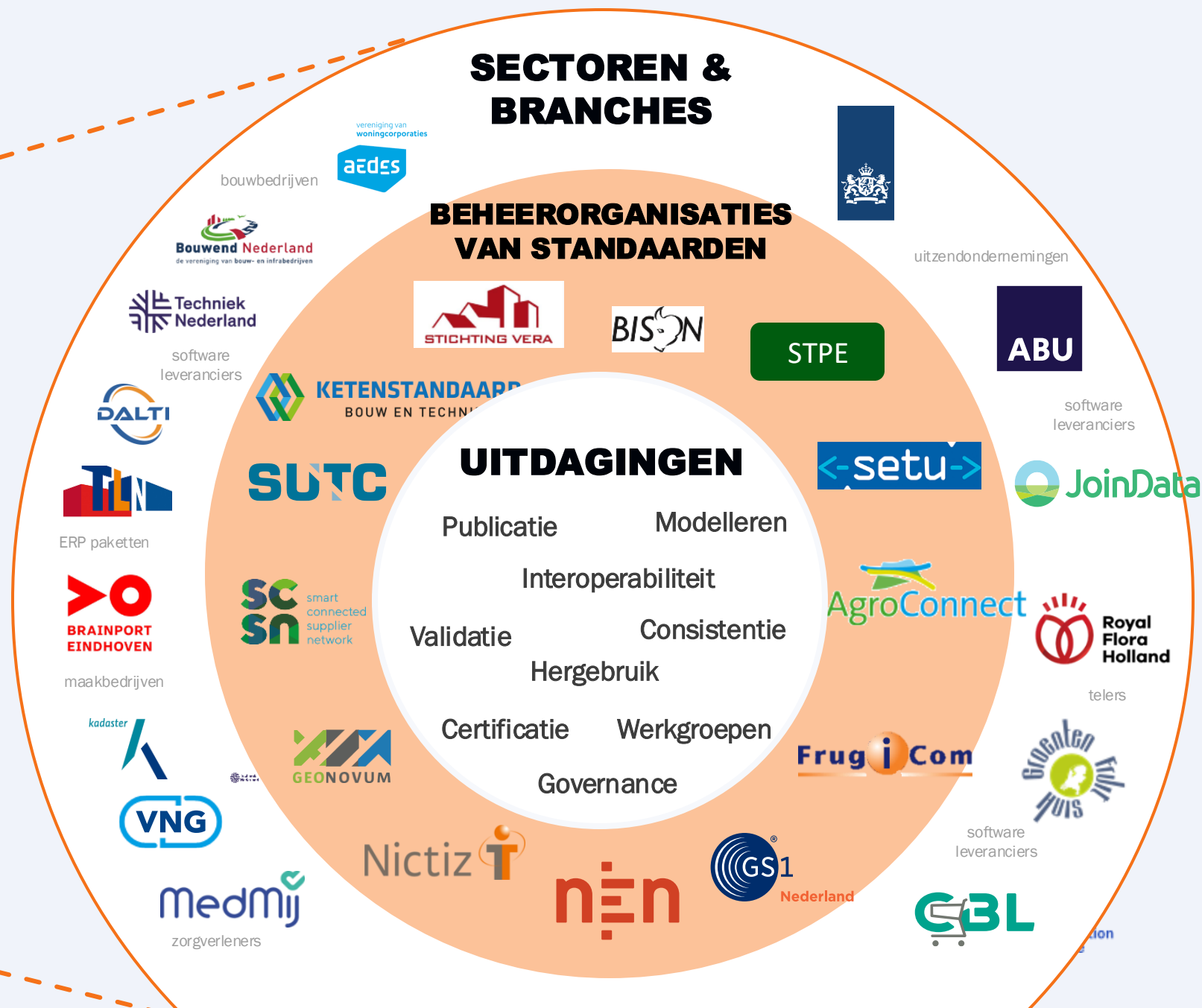




OTM & Beheer

Michiel Stornebrink | TNO

Data standaarden en beheerorganisaties



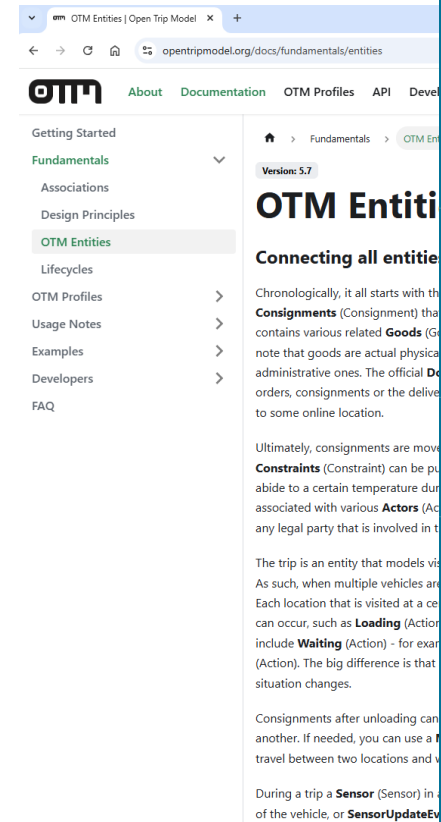
Inhoud

- **OTM 101 - Inleiding OTM standaard**
 - Kernmodel
 - Profielen
- Van idee naar implementatie met OTM
- Beheerprocessen & BOMOS

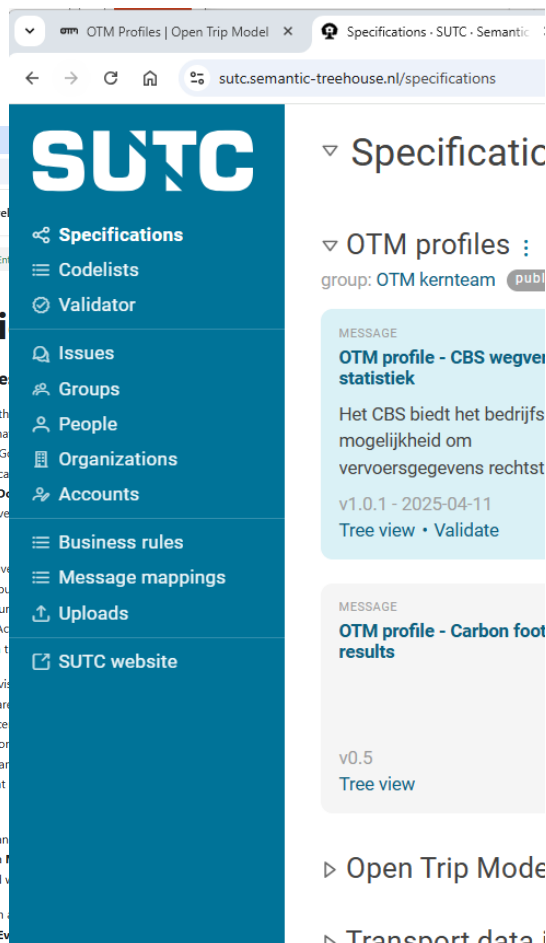


Waaruit bestaat de OTM standaard?

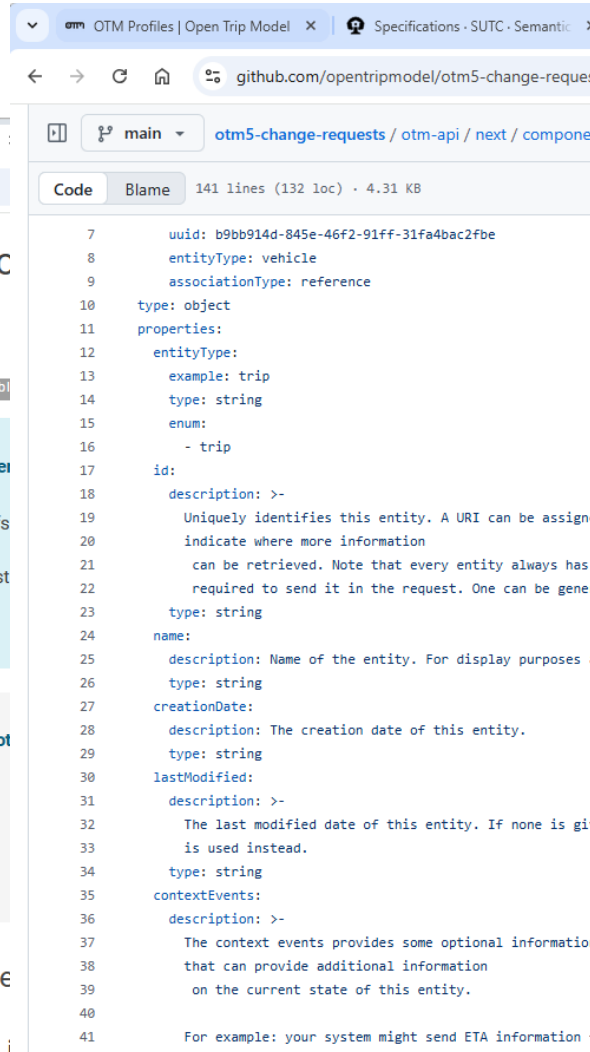
Kernmodel + documentatie



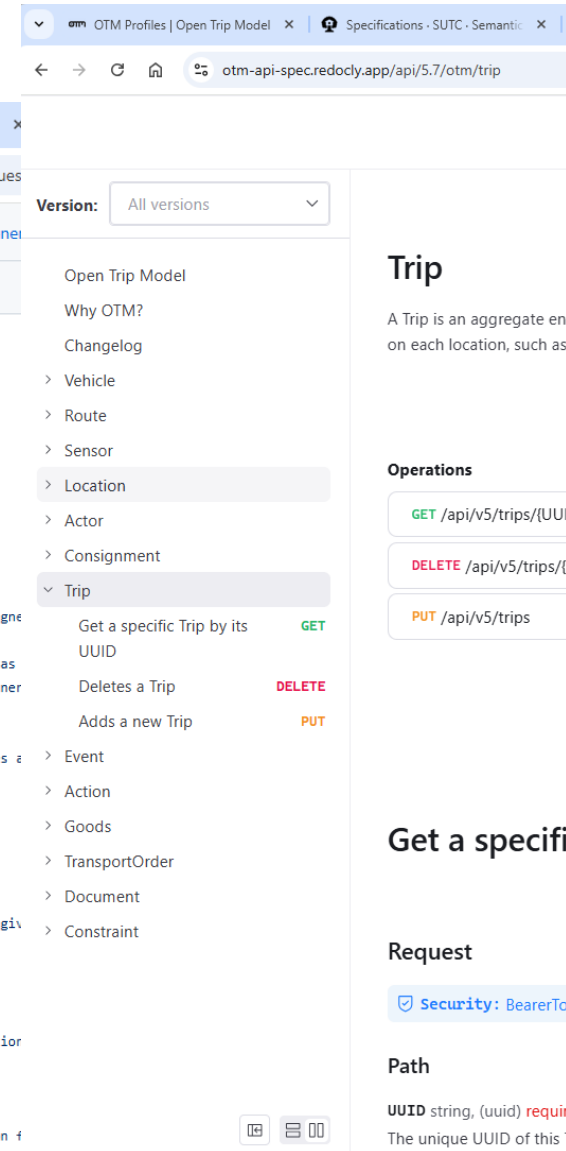
OTM profielen



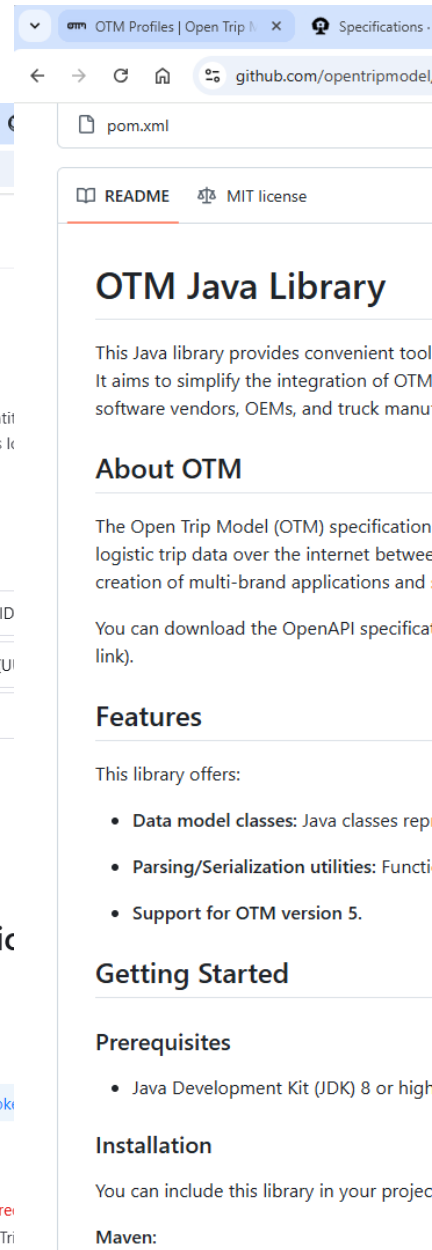
JSON Schema's



API Specificaties



Software libraries



OTM kernmodel

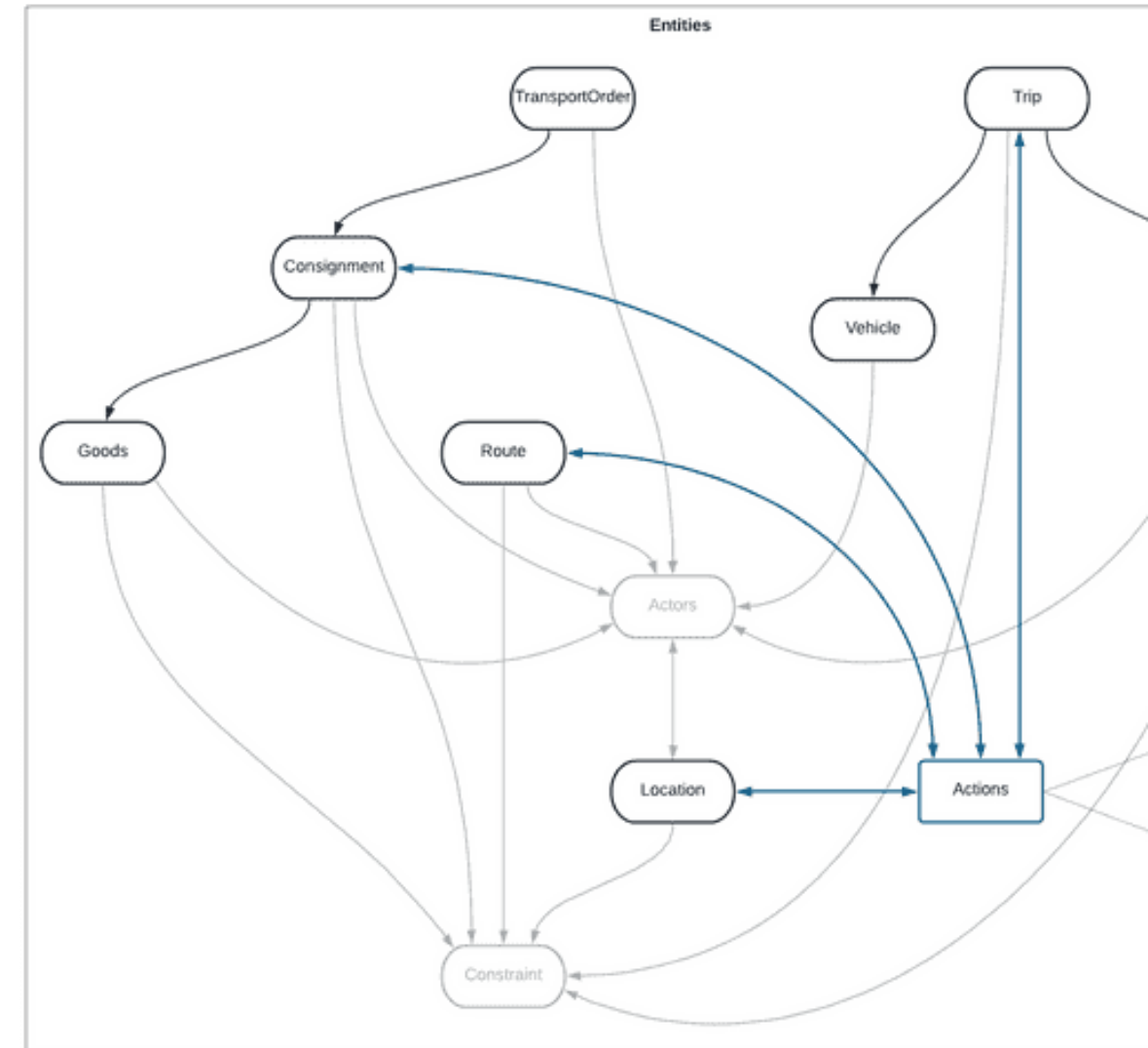
Ontwerpkeuzes

1. Ontworpen voor communicatie/uitwisseling, niet verwerking of intern applicatie model.
2. Ontworpen met voornamelijk optionele velden om veel use cases te kunnen ondersteunen.
3. Ontworpen met doel om maatwerk software te verminderen.

OTM entities

- Trip, Actions, Locations,
- Vehicle, Actors,
- TransportOrder, Consignment, Goods

Deze entities hebben of gaan gedurende hun *lifecycle* relaties (**associations**) met elkaar aan.



Associations

- OTM associations zijn relaties/links die entiteiten met elkaar hebben.
- Bijvoorbeeld: een **stop (entity: Action)** is een *bezoek aan* een bepaalde **locatie (entity: Location)**
- In de data uitwisseling kan dit middels referenties (**by reference**) of uitgekapt (**inline**)

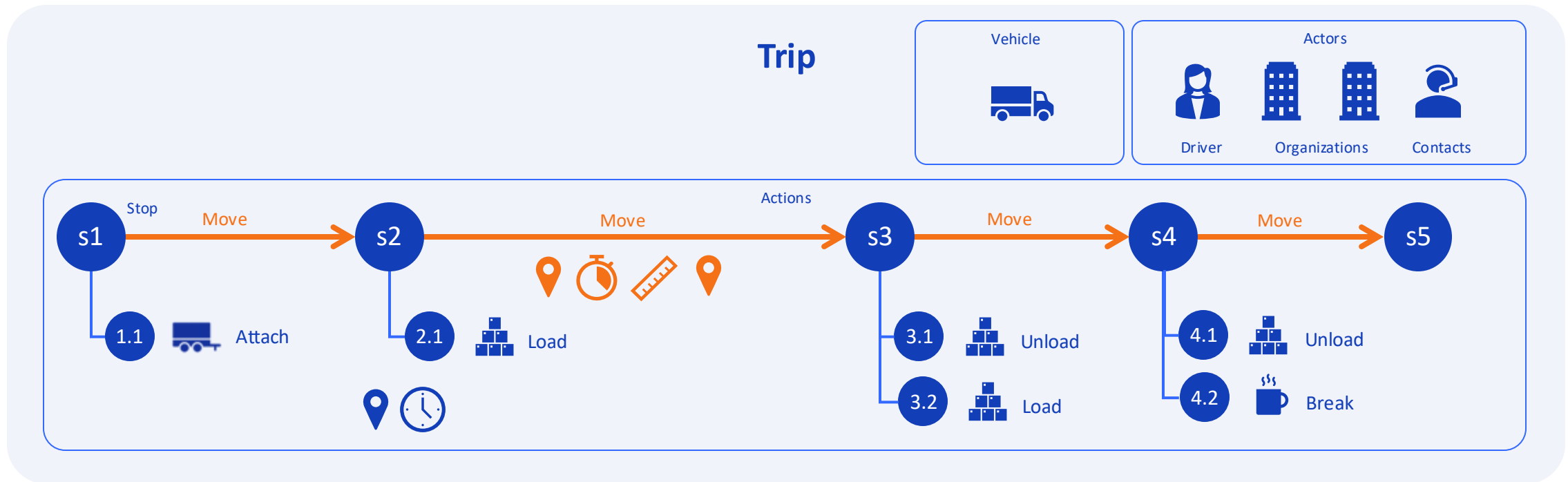


```
// A stop that is visiting a location by referencing it
{
  "actionType": "stop",
  "id": "acf8b1c9-f5fa-4f55-9f98-fc1e93cbd8b2",
  "location": {
    "associationType": "reference",
    "uuid": "11c11d75-e114-4b5f-9751-b3a4afa23ecf"
  },
  ... // Many more fields
}
```



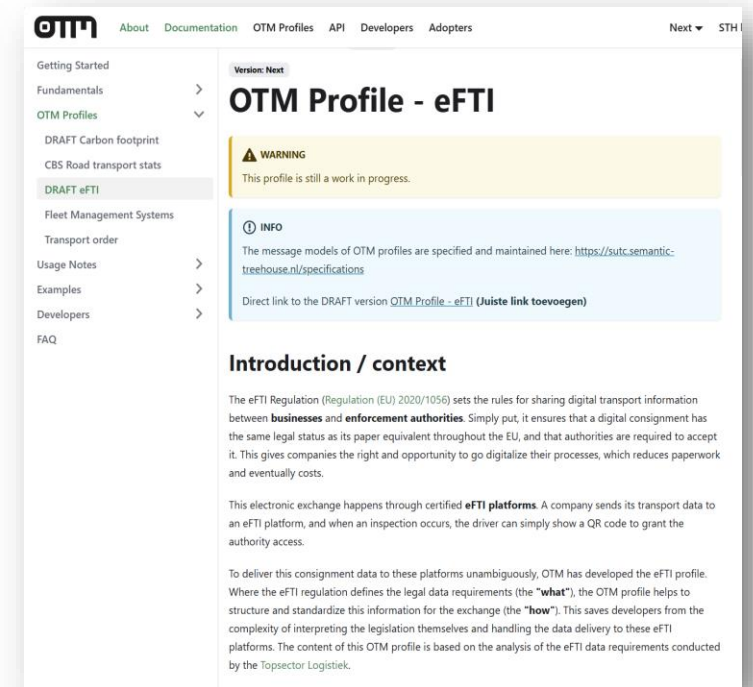
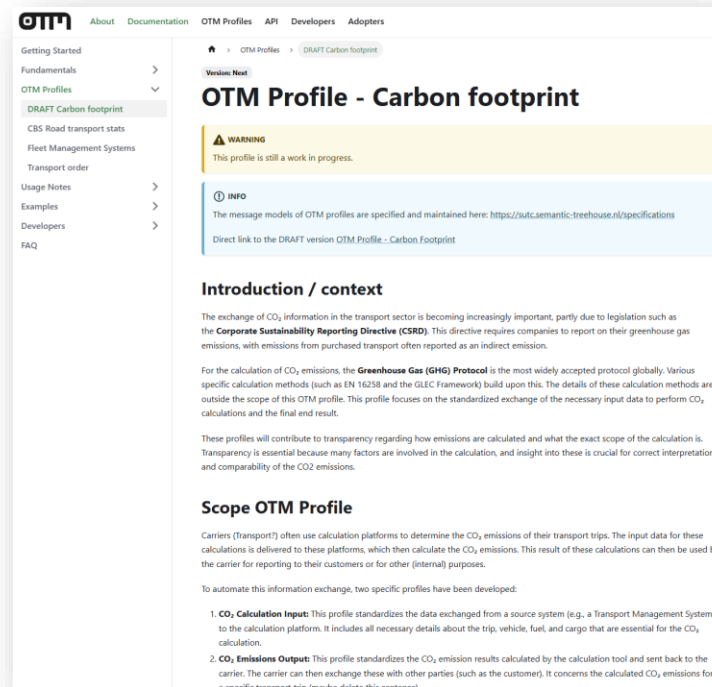
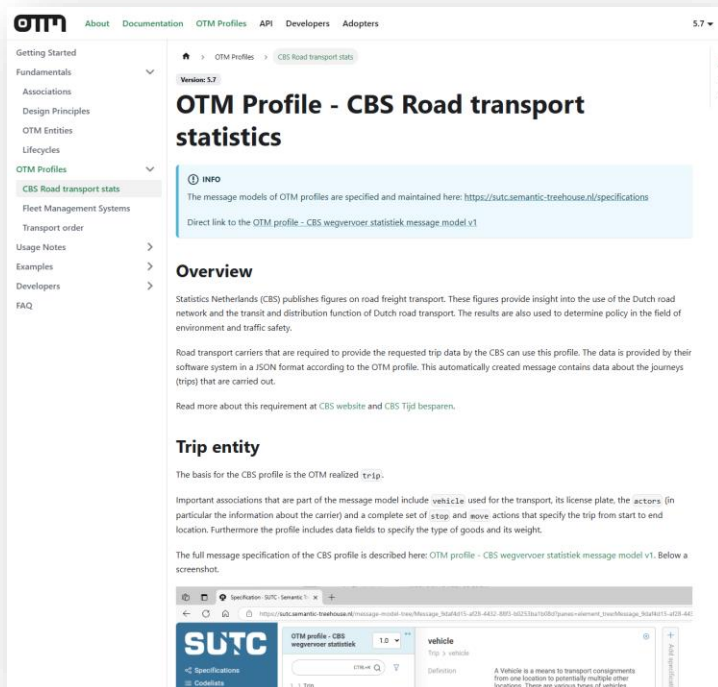
```
// A stop that is visiting a location by creating it inline
{
  "id": "acf8b1c9-f5fa-4f55-9f98-fc1e93cbd8b2",
  "location": {
    "associationType": "inline",
    "entity": {
      "id": "11c11d75-e114-4b5f-9751-b3a4afa23ecf",
      "type": "warehouse",
      "geoReference": {
        "type": "latLongPointGeoReference",
        "lat": 52.0838333,
        "lon": 5.8318803
      },
      ... // Many more fields
    }
  },
  ...
}
```

Trip = stop – move – stop – move – stop - ...



OTM profielen

- Juist vanwege het vrije karakter van OTM met voornamelijk optionele velden zijn er in de praktijk nog veel keuzes te maken wanneer systemen gekoppeld worden.
- Om dit te voorkomen kent OTM profielen.



OTM profielen catalogus

The screenshot shows a web application for SUTC (Semantic Treehouse) with a sidebar on the left and a main content area. The sidebar contains links to Specifications, Codelists, Validator, Issues, Groups, People, Organizations, Accounts, Business rules, Message mappings, Uploads, and the SUTC website. The main content area is titled 'Specifications' and shows a list of OTM profiles under the group 'OTM kernteam'. The profiles are displayed in a grid, each with a title, description, version, and a 'Tree view • Validate' link. A large, semi-transparent callout box is overlaid on the right side of the screen, showing a detailed view of the 'OTM profile - CBS wegvervoer statistiek' profile. This callout box contains the same information as the profile card in the grid, but with a larger font and a light blue background. Two orange arrows point from the bottom of the callout box towards the bottom right corner of the slide.

SUTC

Specifications

Codelists

Validator

Issues

Groups

People

Organizations

Accounts

Business rules

Message mappings

Uploads

SUTC website

Specifications

OTM profiles

group: OTM kernteam public

MESSAGE

OTM profile - CBS wegvervoer statistiek

Het CBS biedt het bedrijfsleven de mogelijkheid om vervoersgegevens rechtstreeks...

v1.0.1 - 2025-04-11

Tree view • Validate

MESSAGE

OTM profile - Transport order

The very first step of transporting goods from one place to another starts with the transport order. It ...

v1

Tree view • Validate

MESSAGE

OTM profile - Carbon footprint input

v0.5

Tree view

MESSAGE

TMS - FMS profile

WIP version to capture TMS - FMS integration.

v0.1

Tree view • Validate

MESSAGE

OTM profile - eFTI

This OTM profile specifies the subset of trip data to be provided to authorities according to eFTI...

v0.9

Tree view • Validate

MESSAGE

OTM profile - CBS wegvervoer statistiek

Het CBS biedt het bedrijfsleven de mogelijkheid om vervoersgegevens rechtstreeks...

v1.0.1 - 2025-04-11

Tree view • Validate

Profiel specificatie

OTM profile - CBS
wegvervoer statistiek

1.0.1

CTRL+K

1...1 Trip

1...1 entityType

0...1 id

0...1 status

0...1 vehicle

1...1 associationType

1...1 entity

1...1 id

0...1 externalAttributes

1...1 vehicleType

0...1 averageFuelConsumption

1...1 licensePlate

1...1 transportMode

1...n actors

1...n actions

vehicle

Trip > vehicle

Definition

A Vehicle is a means to transport consignments from one location to potentially multiple other locations. There are various types of vehicles, each with their own unique properties like size, dimensions, fuel type and means of transport (by air, on land, over sea).

Type

anyComplexType (anyComplexType)

http://www.w3.org/2001/XMLSchema#anyComplexType

Usage notes

Test

Element mapping

Trip > vehicle

Trip > vehicle

RoadTransport > motorVehicle

Trip > Vehicle

Issues

Vehicle base location

#32 Rick Brants 2025-01-10

+ Create new

Review comments

michiel.stornebrink@tno.nl

2025-02-19

Request from Wilfred (CBS) to have the base location directly linked / under the vehicle. instead of now via

Validator

Project

OTM profiles

Message model

OTM profile - CBS wegvervoer €

Version

1.0.1 RELEASE

Syntax

JSON

Schema validation

Schema specification

Additional validation rules

No additional validation rules

Validation result

1. Syntax validation

Valid syntax

2. Schema validation

Schema validation error: must have required property 'licensePlate' at instance path /vehicle/entity and at schema path #/properties/vehicle/properties/entity/required.

3. Additional validation rules

There are no additional validation rules checked

Message to validate

Select example

Dummy example 1

+ Choose

Or upload example (maximum file size: 16M)

Show message editor

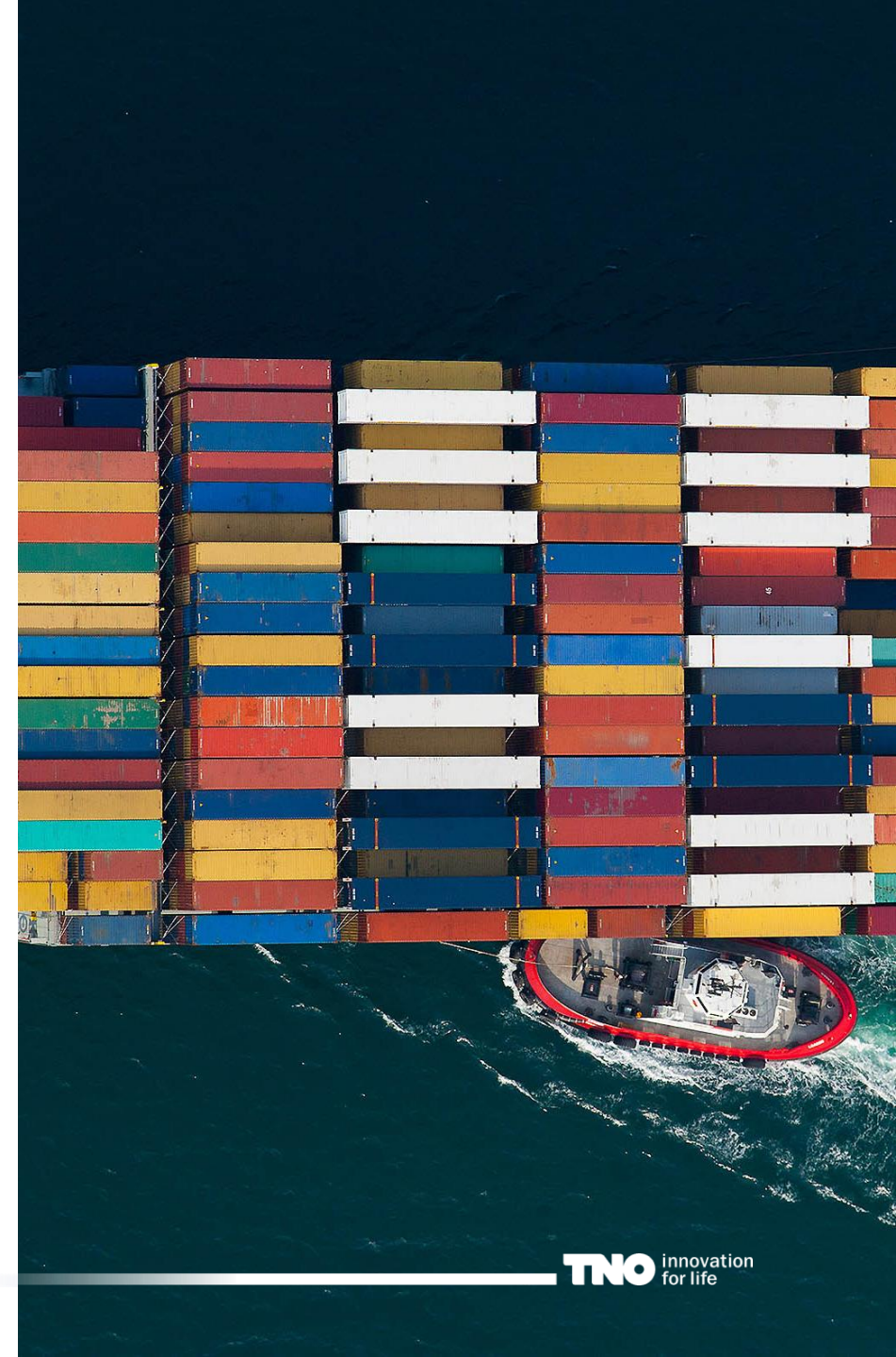
Add/edit example

```
1 {
2   "entityType": "trip",
3   "id": "9a7583 4324f",
4   "status": "accepted",
5   "vehicle": {
6     "associationType": "inline",
7     "entity": {
8       "id": "cfd6c1 1b3bc",
9       "externalAttributes": {
10        "countryCode": "1449c3 791b9"
11      },
12      "vehicleType": "d22591 15bc2",
13      "averageFuelConsumption": {
14        "value": 3.1,
15        "unit": "c8b866 48ba0"
16      }
17    }
18  }
```

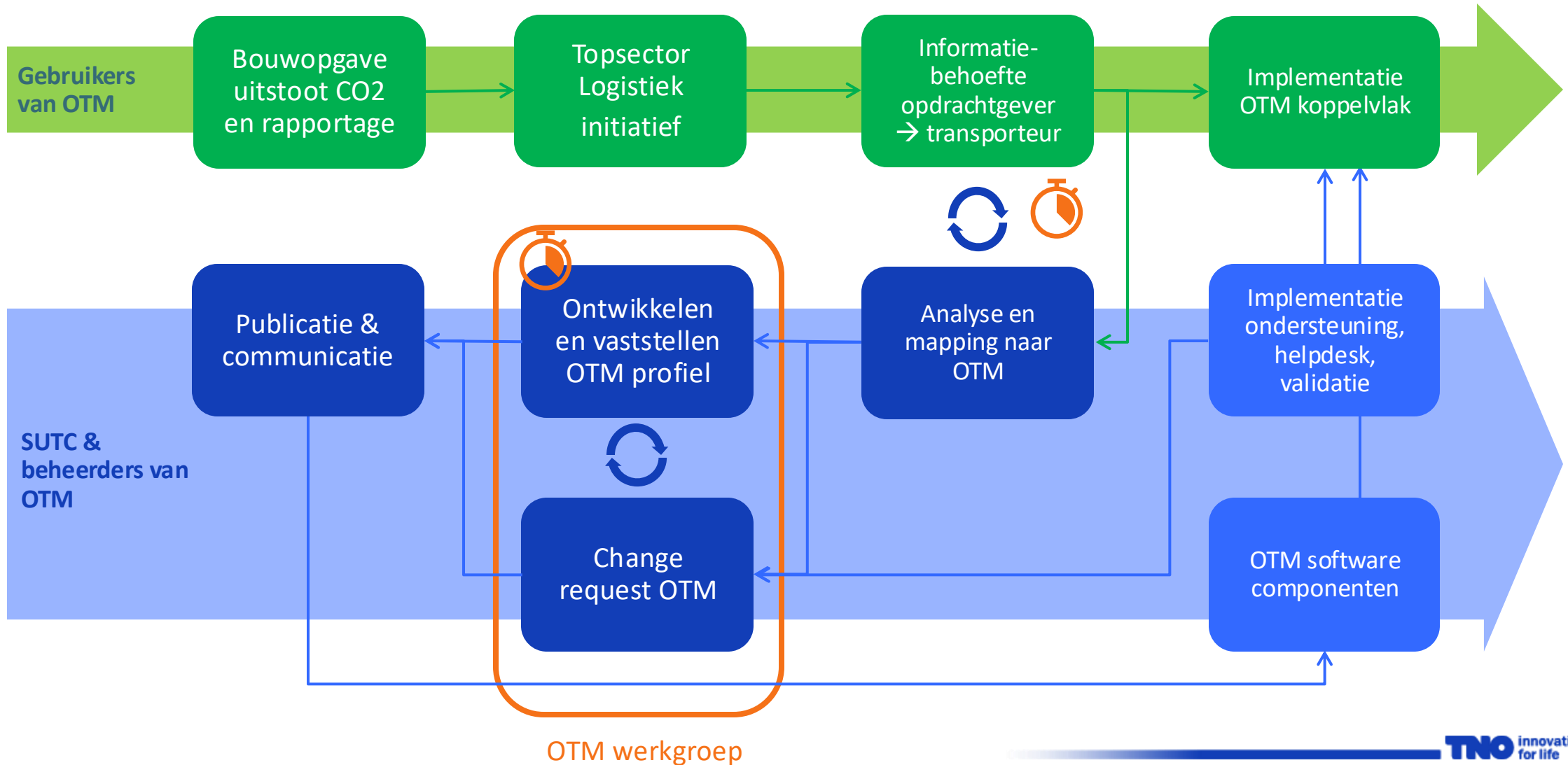
Validate message

Inhoud

- OTM 101 - Inleiding OTM standaard
- **Van idee naar implementatie met OTM**
- Beheerprocessen & BOMOS



Van idee naar implementatie met OTM



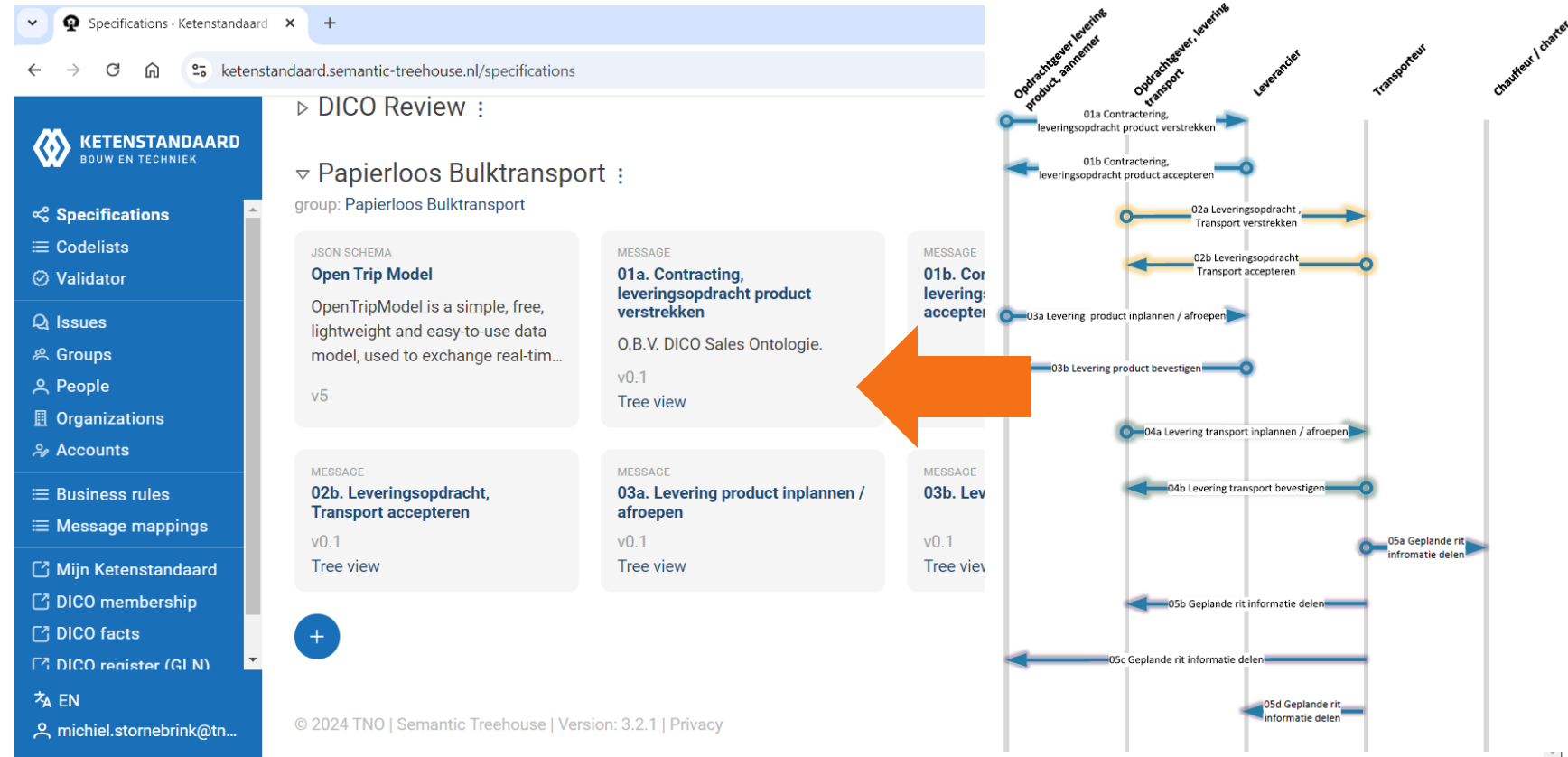
Informatie flow voor Papierloos bulktransport expliciet in catalogus

Uitgangspunten

- Eenduidige koppelvlak specificaties voor informatie-uitwisseling tussen partijen in de keten; logische datamodellen
- Hergebruik maken van bestaande standaarden.

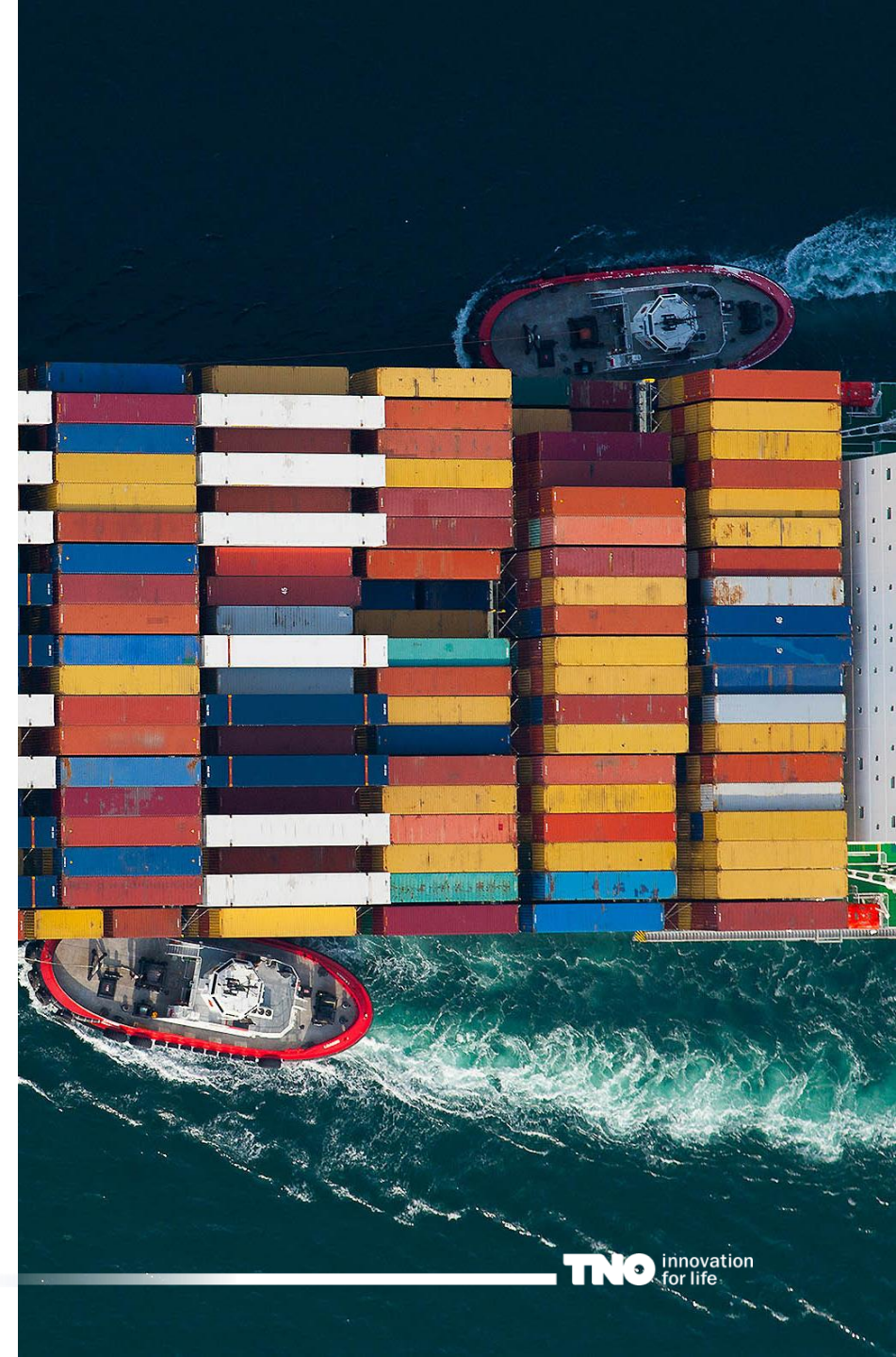
Uitdagingen

- Combineren van verschillende standaarden (DICO, OTM, EBA), die ook nog eens in type formalisatie verschillen (XML, JSON)
- Kunnen inperken van bestaande standaarden met behoud van interoperabiliteit, traceerbaarheid en onderhoudbaarheid



Inhoud

- OTM 101 - Inleiding OTM standaard
- Van idee naar implementatie met OTM
- **Beheerprocessen & BOMOS**



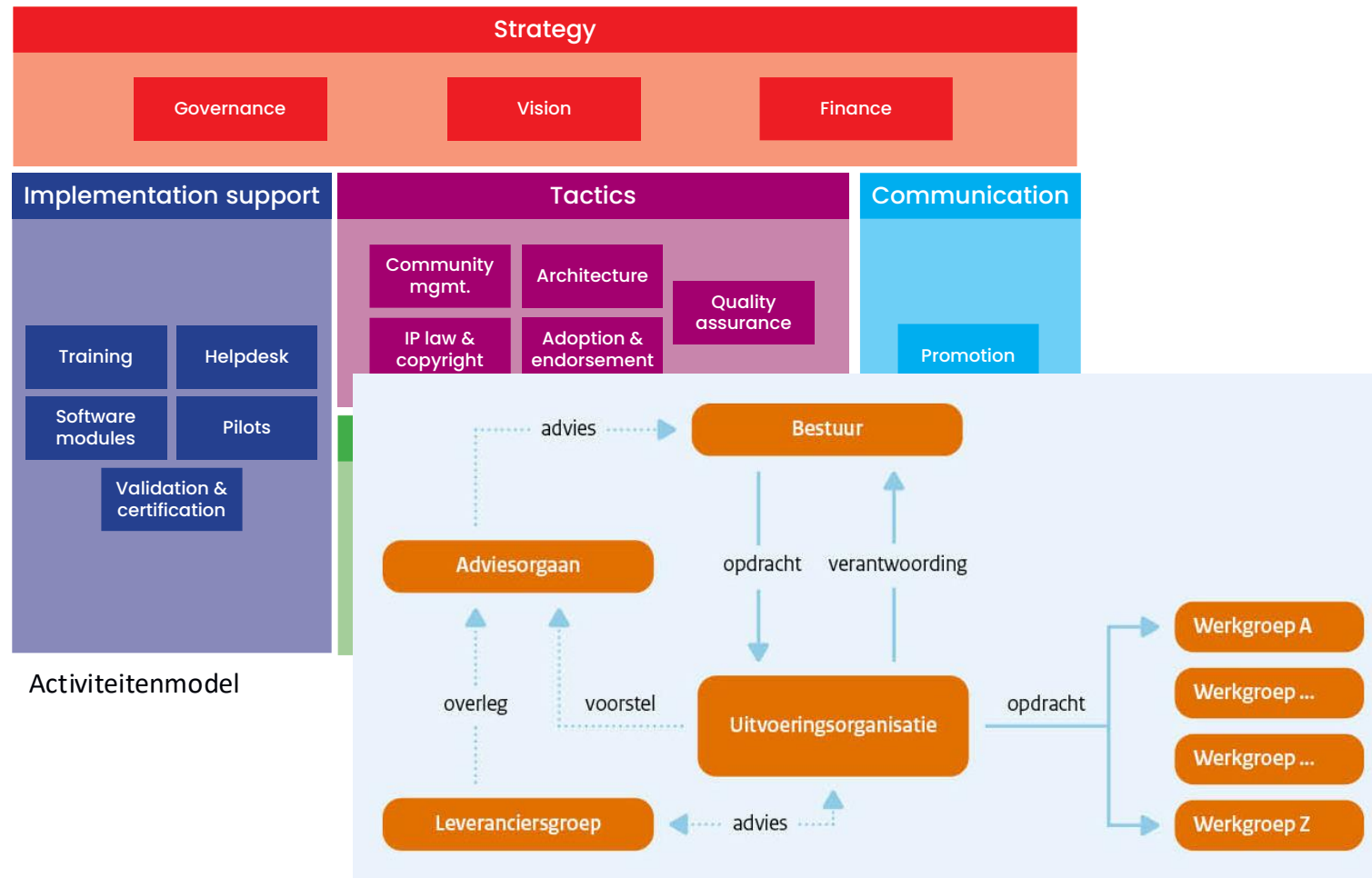
Beheer- en Ontwikkelmodel Open Standaarden (BOMOS)

Blauwdruk voor beheerorganisaties, waaronder:

- SETU (uitzenders)
- Geonovum
- Logius (overheid)
- Ketenstandaard Bouw en Techniek

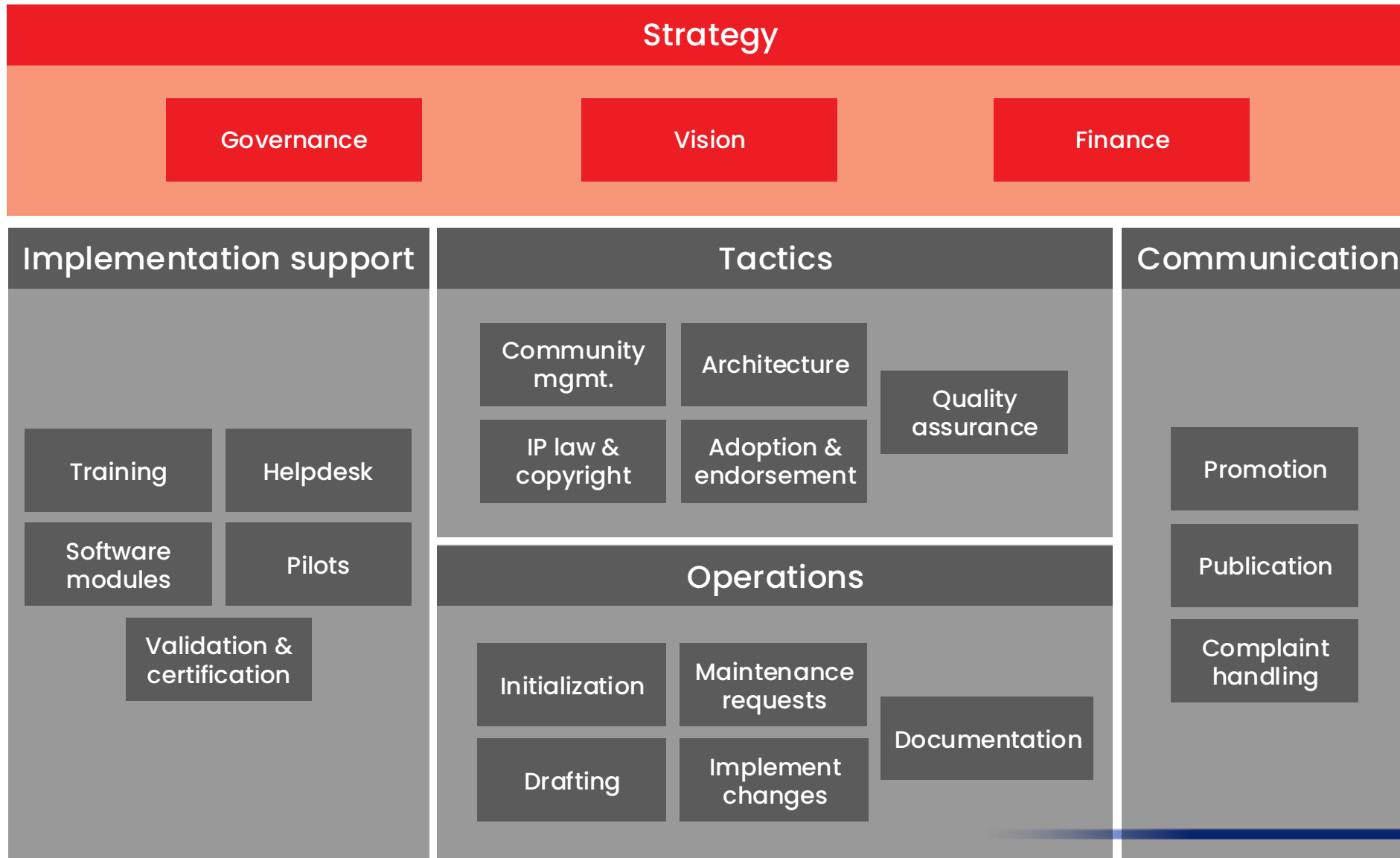
Best practices voor inrichting van:

- Governance
- Processen / activiteiten
- Open beheer
- Rollen en stakeholders

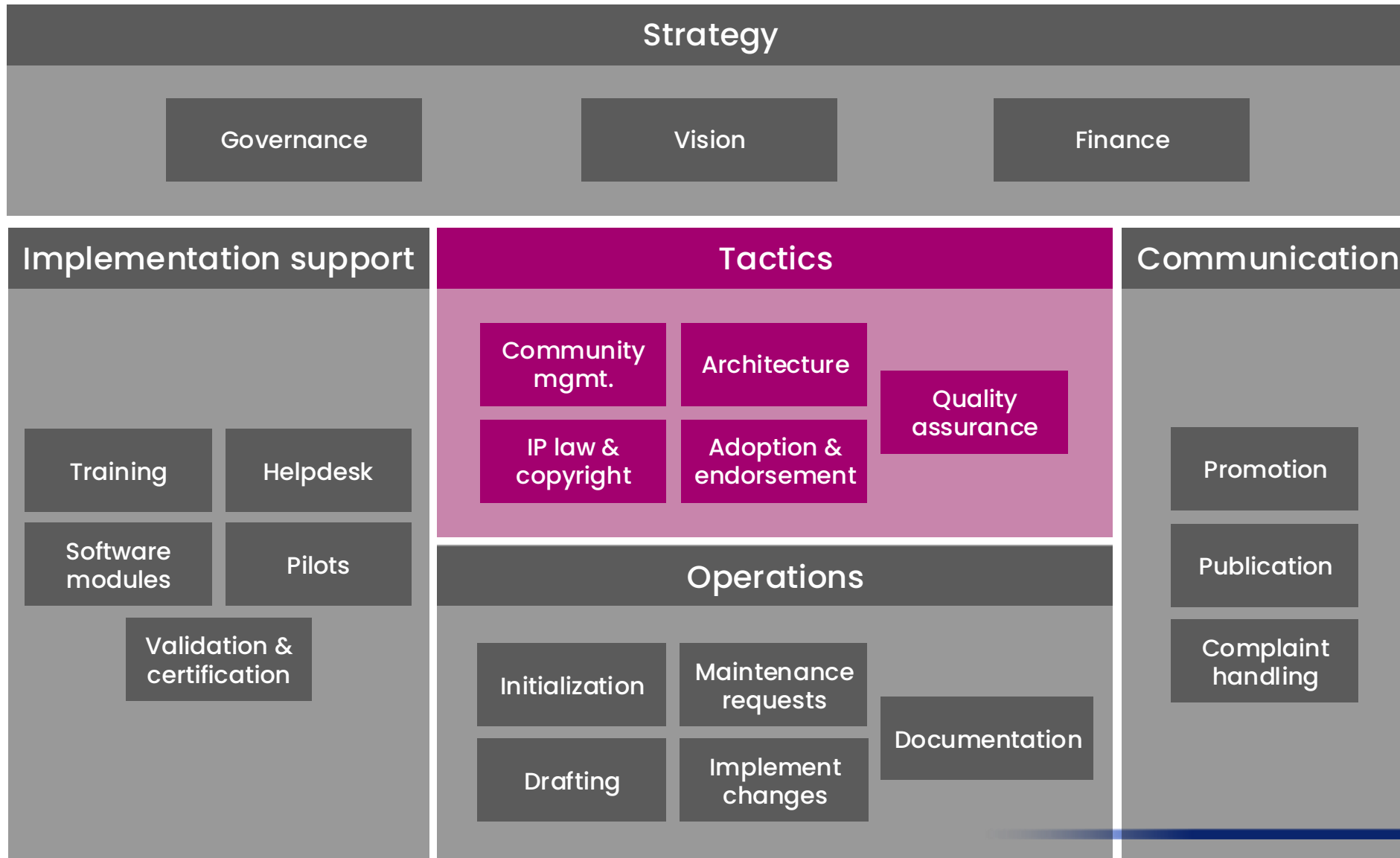


Organisatiemodel

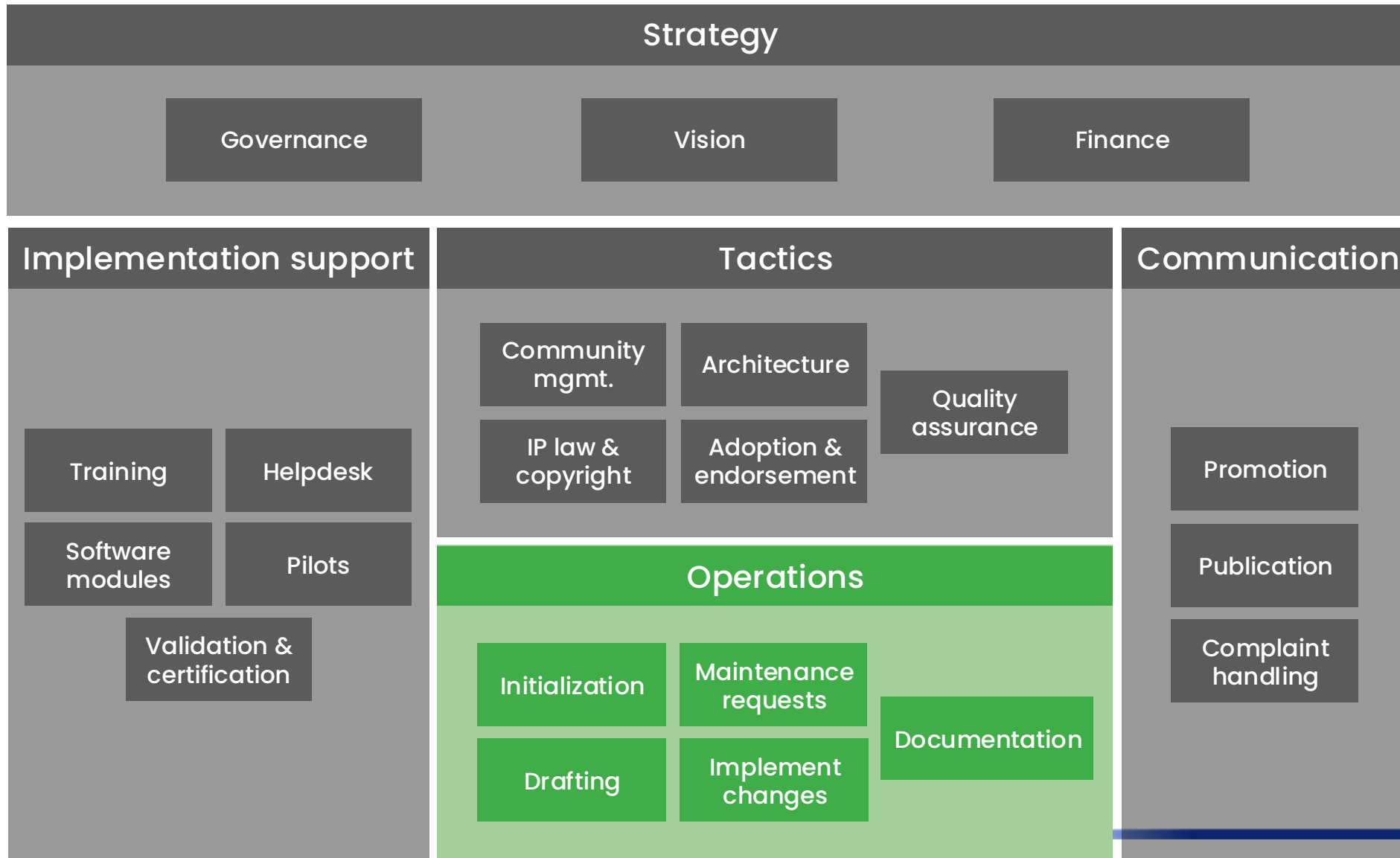
BOMOS Activiteiten



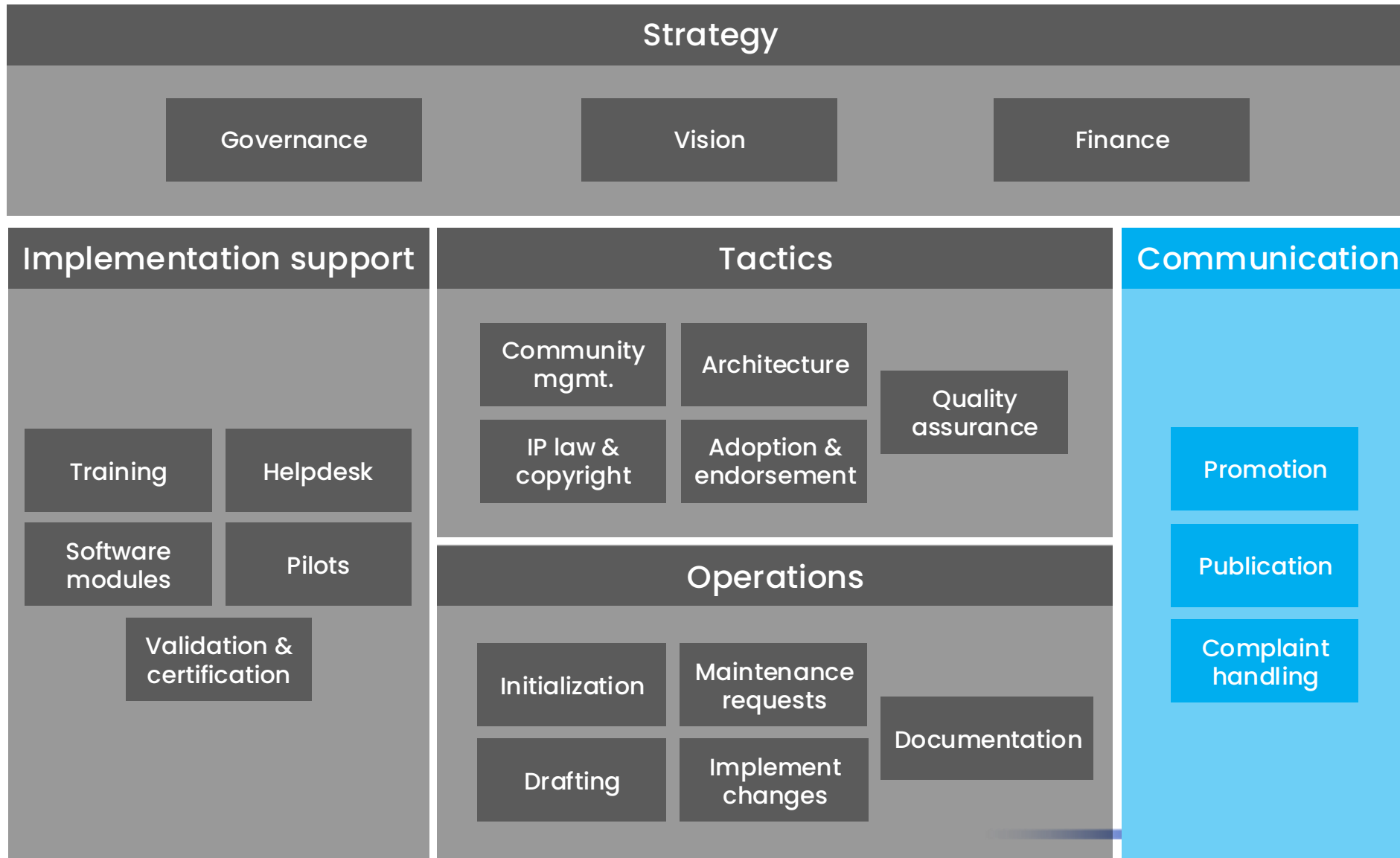
BOMOS Activiteiten



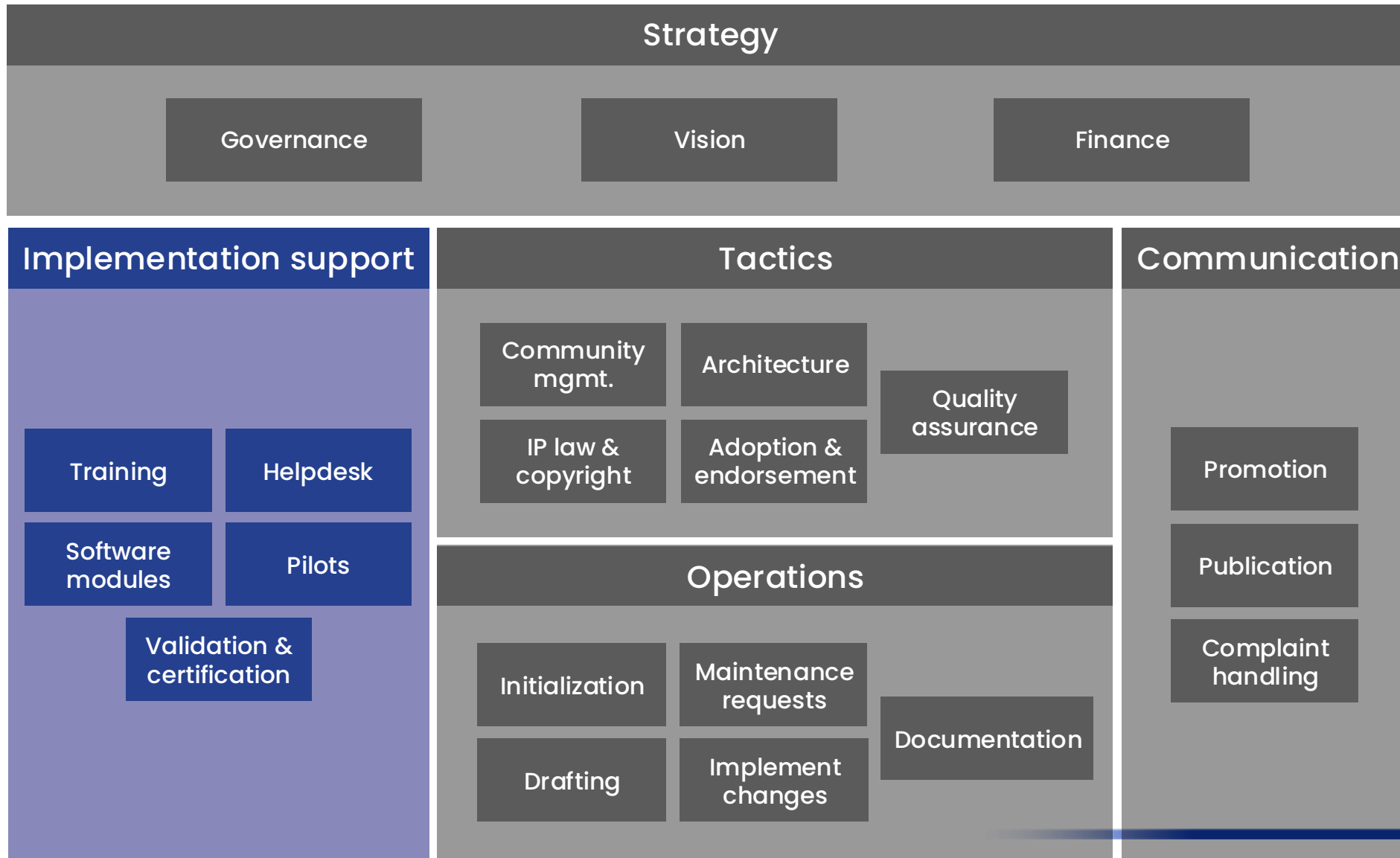
BOMOS Activiteiten



BOMOS Activiteiten



BOMOS Activiteiten



Thank you

