

# Finnish Interchange Node

NW3 information meeting

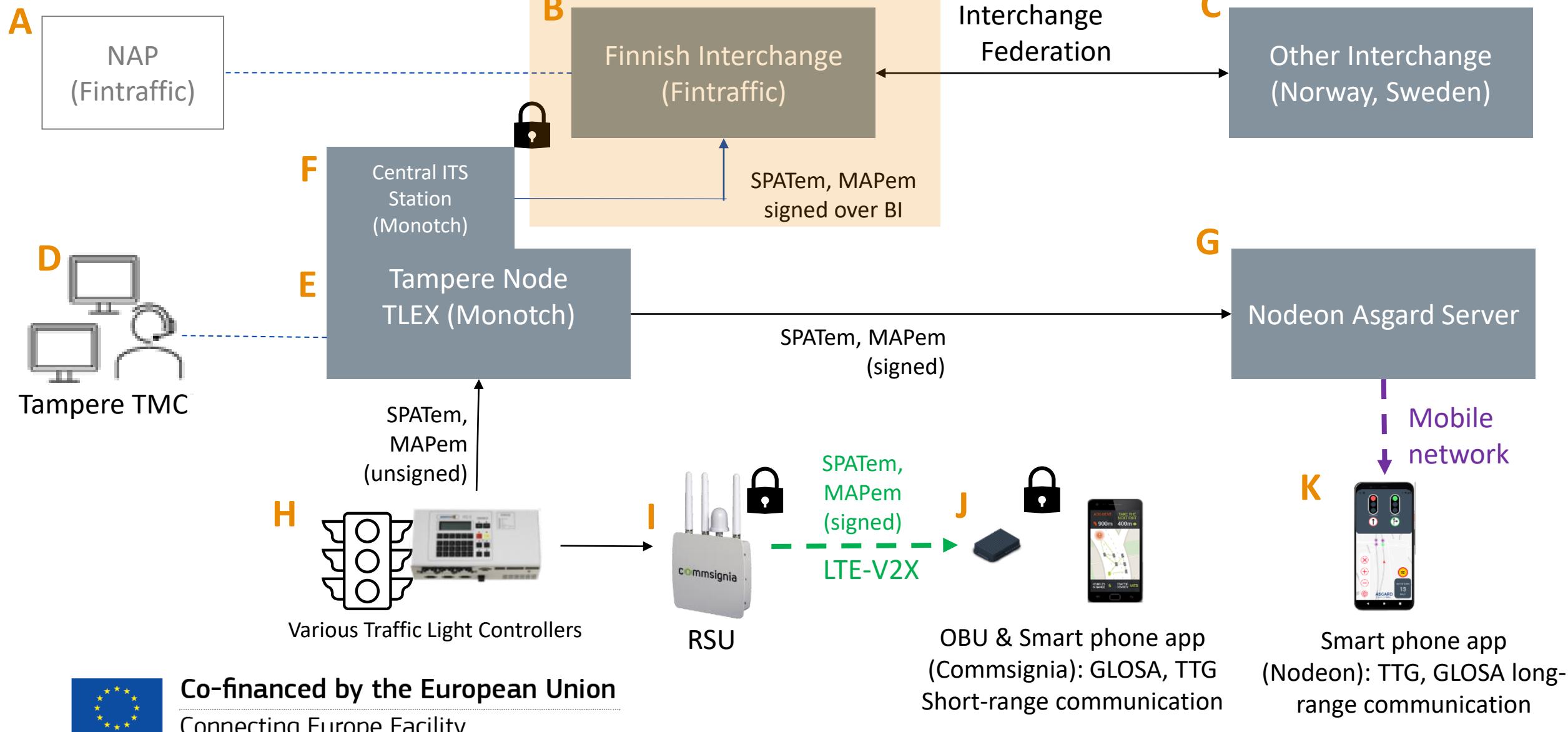
16.6.2023

Mika Ahvenainen



# C-ITS pilot in Tampere

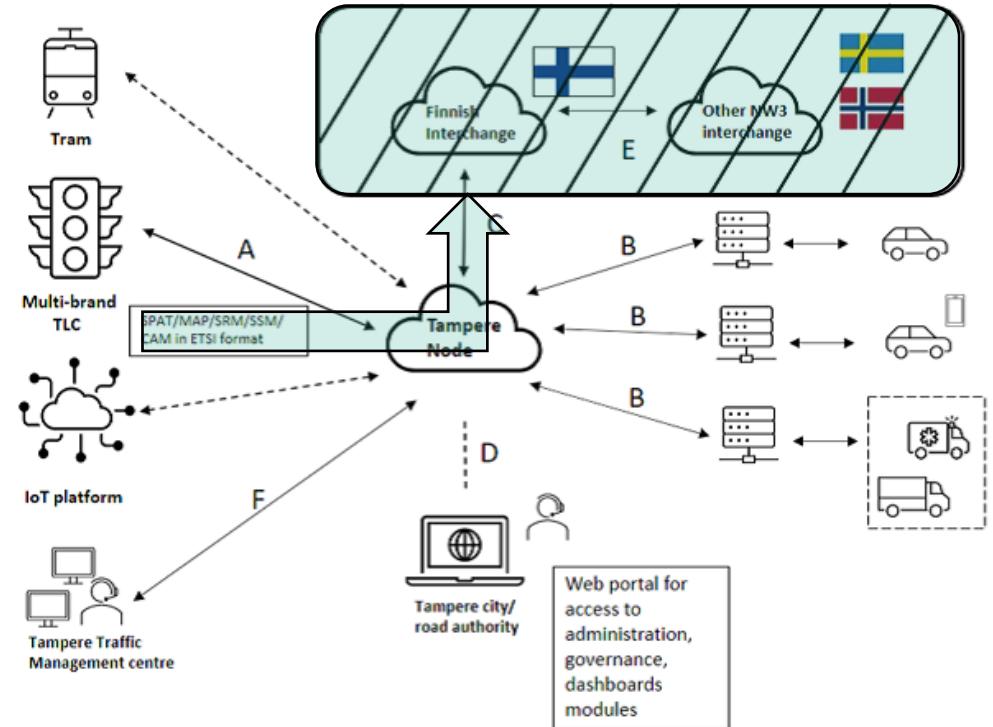
Nordic  
**WAY3**+



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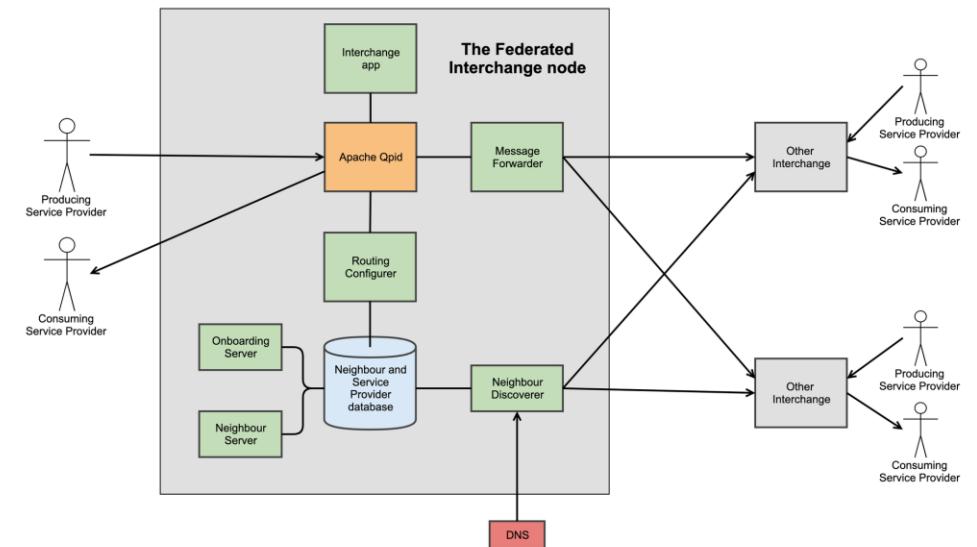
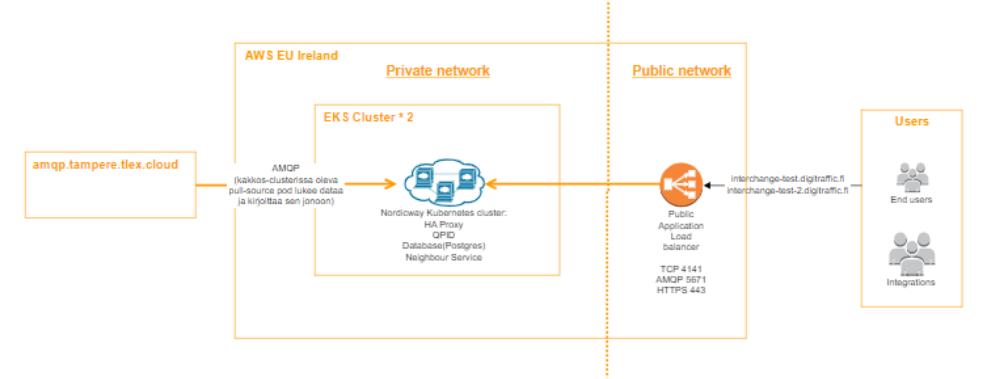
# Finnish Interchange Node pilot

- We are utilizing open source code from NW2  
<https://github.com/NordicWayInterchange/interchange>
- The purpose of the pilot is to:
  - Implement a working Interchange Node within Digitraffic architechture (AWS)
  - Relay C-ITS messages from Tampere traffic lights to other interchange nodes.
  - To establish a more permanent interchange node for future needs.
  - *In the future: provide C-ITS messages from NAP data and to sign them*



# Finnish Interchange Node - architecture

- Tampere/TLEX publishes data to a AMQP queue
- We developed a component to consume the data and publish it to the interchange



# Status of the pilot

- Test cluster is implemented on AWS EKS service – small changes were needed.
- A component to pull data from TLEX is implemented and integrated to interchange.
- Data is flowing to interchange



# To Do

- Study data/message content
- Communication with other interchange nodes
- Performance testing
- Certificate management
- Understand the whole concept ☺

1. MAP from TLEX domain "acceptance":

```
1 {
2   "originatingCountry": "FI",
3   "publisherId": "NL00002",
4   "publicationId": "NL00002:FI_TAMPERE_ACC_MAPEM_01",
5   "messageType": "MAPEM",
6   "protocolVersion": "MAPEM:1.3.1",
7   "quadTree": [
8     "120102223",
9     "120102232",
10    "120120010",
11    "120120001"
12  ]
13 }
```

1. SPAT from TLEX domain "acceptance":

```
1 {
2   "originatingCountry": "FI",
3   "publisherId": "NL00002",
4   "publicationId": "NL00002:FI_TAMPERE_ACC_SPATEM_01",
5   "messageType": "SPATEM",
6   "protocolVersion": "SPATEM:1.3.1",
7   "quadTree": [
8     "120102223",
9     "120102232",
10    "120120010",
11    "120120001"
12  ]
13 }
```

1. SSM from TLEX domain "acceptance":

```
1 {
2   "originatingCountry": "FI",
3   "publisherId": "NL00002",
4   "publicationId": "NL00002:FI_TAMPERE_ACC_SSEM_01",
5   "messageType": "SSEM",
6   "protocolVersion": "SSEM:1.3.1",
7   "quadTree": [
8     "120102223",
9     "120102232",
10    "120120010",
11    "120120001"
12  ]
13 }
```



# Thank you!

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