

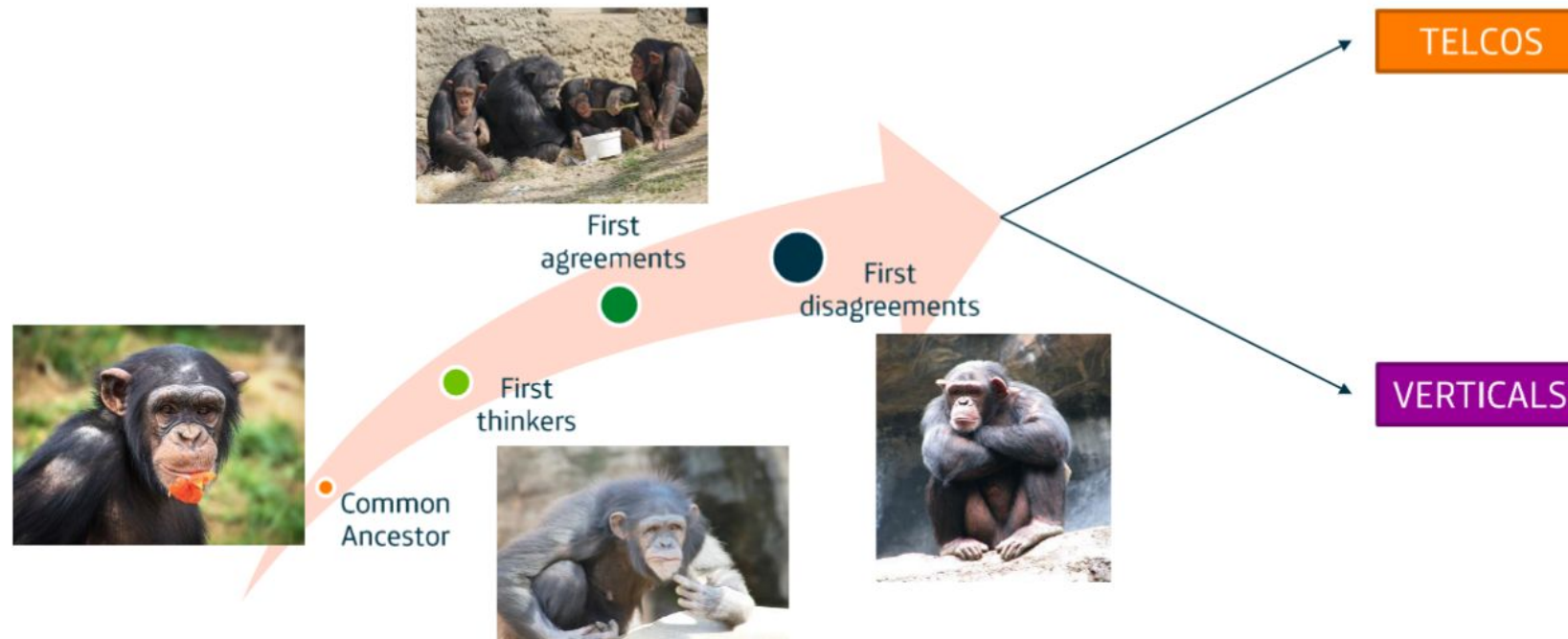
# Open Source MANO

OSM 5G Day (Lucca, Nov'19)  
5GaaS: 5G as a Service

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# Takeaway from 5G Day keynote in Patras (Juan)

## Telcos & Verticals have evolved differently...



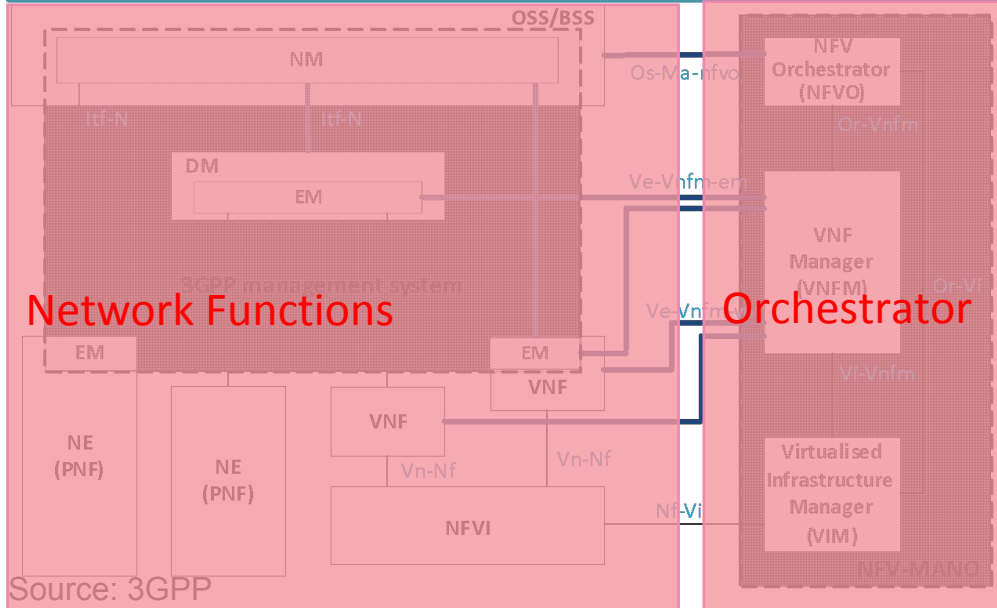
# Creative extension of takeaway

Virtual Reality  
Extended Reality  
6 Degrees of Freedom  
Point Cloud



3rd Party (Vertical/Customer with IT skills)

**You don't speak my language!**

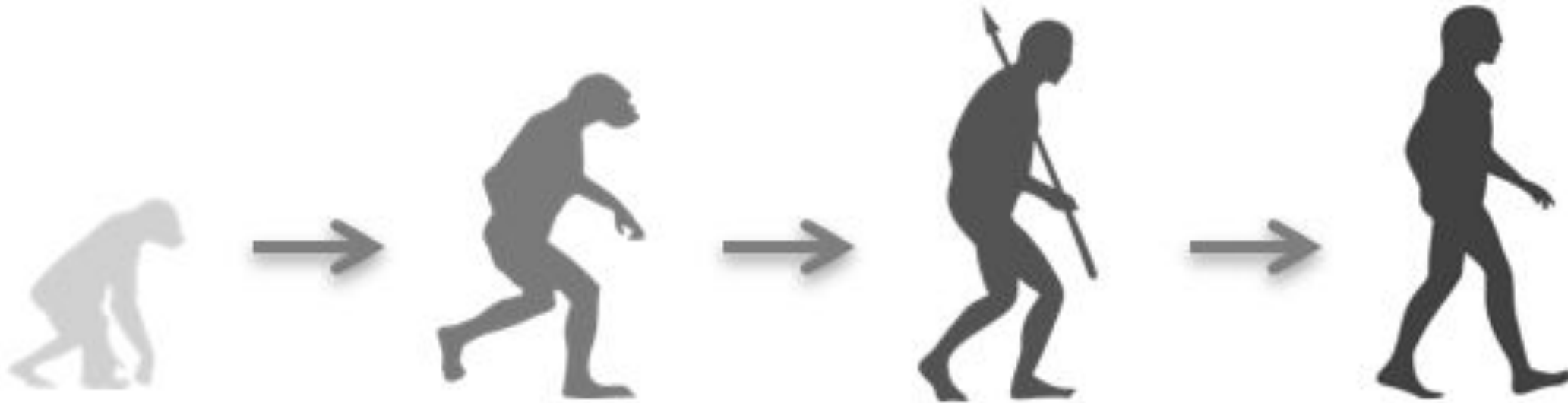


User Plane Function  
Session Management Function  
gNodeB  
Edge Cloud

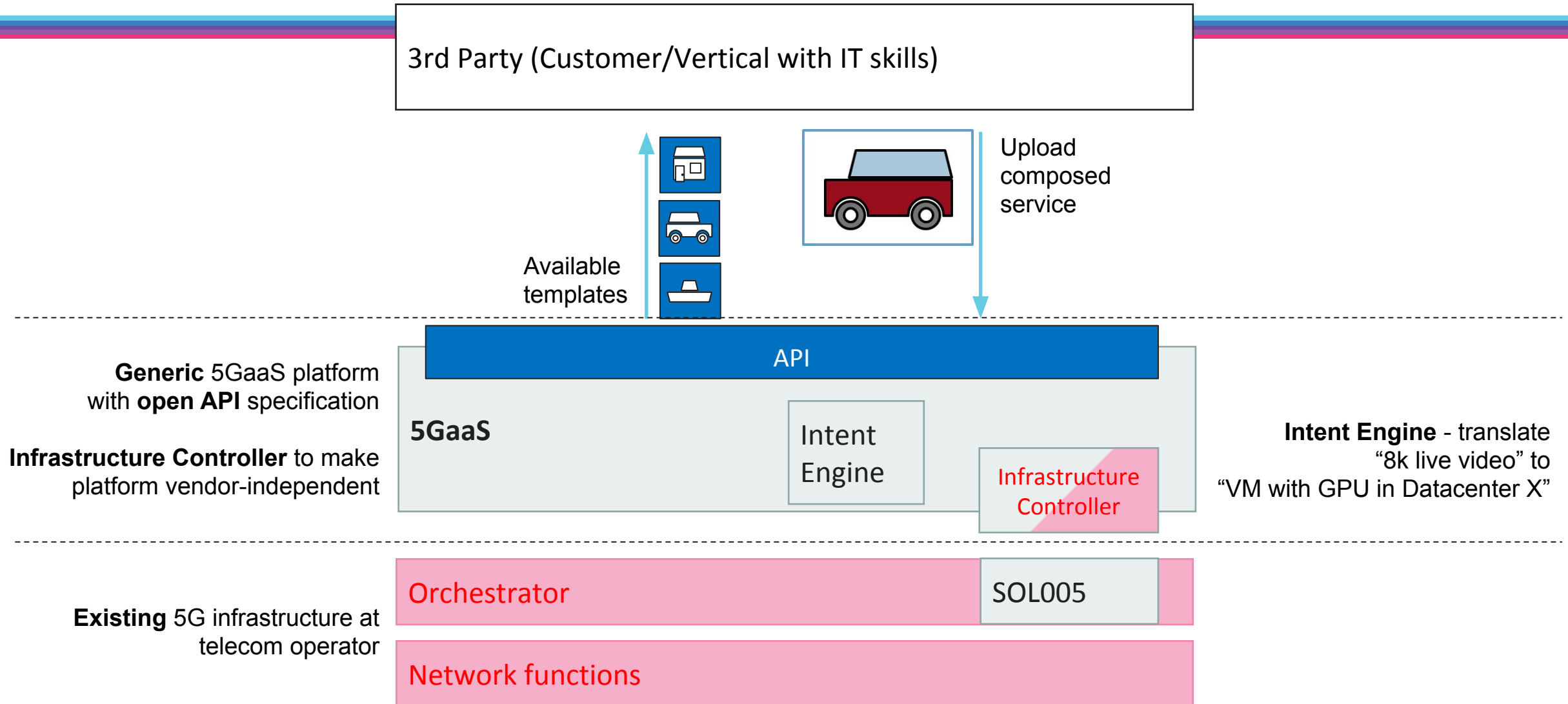


**Existing:** 5G infrastructure at telecom operator

# Serious presentation from now on



# 5GaaS is a layer on top of existing 5G infrastructure to enable simple access and 3rd party innovation



# 5GaaS enables customers to compose their own 5G services in a simple way

Operator defines elementary 5G building blocks

5G building blocks

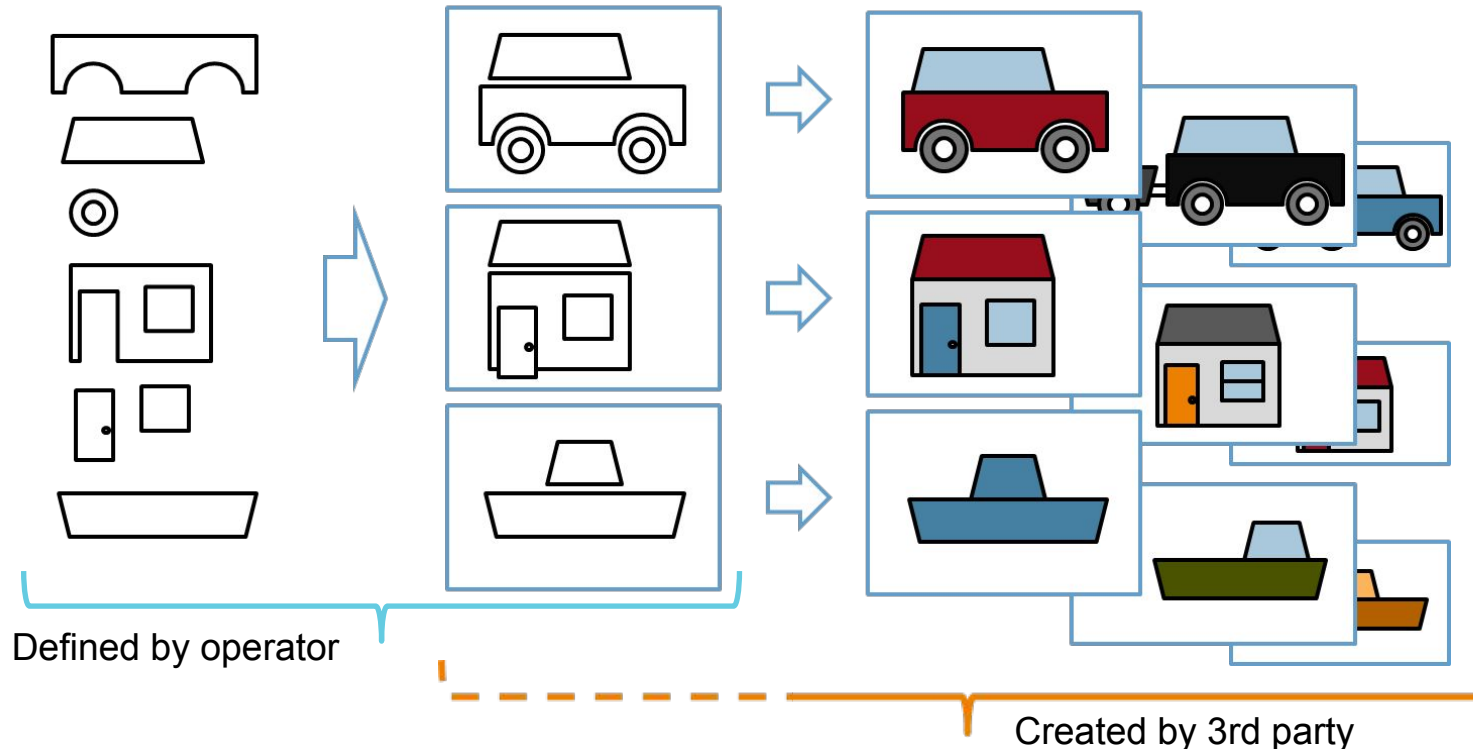
Templates are created based on pre-defined 5G building blocks by operator (or 3<sup>rd</sup> party)

5GaaS template.yml

Using the templates with some degrees of freedom, 3<sup>rd</sup> parties (with IT skills) can compose their own services

5GaaS compose.yml

Analogy from other domain





# Quick and easy service delivery

## Example: “Upstream journalist case”

- A service provider (SP) wants to provide an upstream video service on demand (“pay as you go”)
- ...also in case of an unplanned incident (e.g. “Breaking news”)
  - On the spot, live
  - Quick setup
  - Premium service (pricing: high)



# 5GaaS: Upstream Journalist example

- Service template in understandable language
- Choose video quality, latency, location,...
- 5GaaS does a heavy lifting

5GaaS Templates Compose files Infrastructures Username

## Create compose based on Upstream Journalist

Maximum number of cameras \*

The location of the mobile cameras \*

Video quality of the mobile cameras \*

Video response time of the mobile cameras \*

Number of reserved broadcast hours \*

The image of the Network Assistance Server (NASS) \*

The location of the NASS \*

Director return channel to cameras \*

Optional

Override compose name

Override compose version

4K  
8K  
4K  
FullHD  
SD

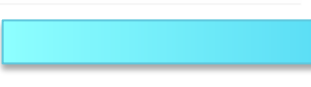


# Under the hood...

5GaaS Templates Compose files Infrastructures Username

## Create compose based on Upstream Journalist

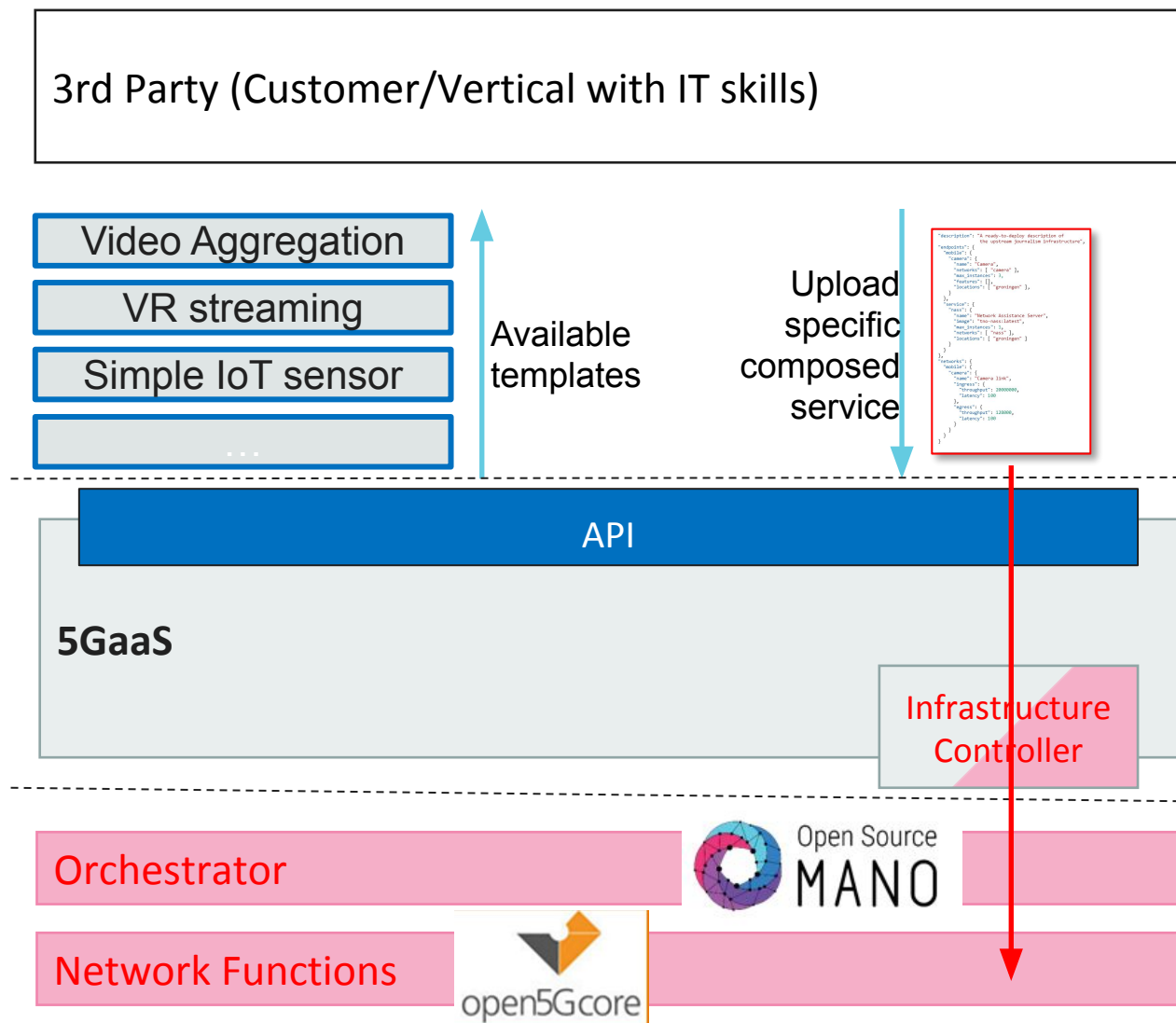
Maximum number of cameras *	<input type="text" value="3"/>
The location of the mobile cameras *	<input type="text" value="Groningen"/>
Video quality of the mobile cameras *	<input type="text" value="4K"/>
Video response time of the mobile cameras *	<input type="text" value="Live (0.1s)"/>
Number of reserved broadcast hours *	<input type="text" value="4"/>
The image of the Network Assistance Server (NASS) *	<input type="text" value="tno-nass:latest"/>
The location of the NASS *	<input type="text" value="Groningen"/>
Director return channel to cameras *	<input type="text" value="Audio"/>
Optional	
Override compose name	<input type="text" value="live-report-groningen"/>
Override compose version	<input type="text" value="(Optional)"/>



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      "max_instances": 3,
      "features": [],
      "locations": [ "Groningen" ],
    }
  },
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      "max_instances": 1,
      "networks": [ "nass" ],
      "locations": [ "Groningen" ]
    }
  }
},
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  "mobile": {
    "camera": {
      "name": "Camera link",
      "ingress": {
        "throughput": 20000000,
        "latency": 100
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        "throughput": 128000,
        "latency": 100
      }
    }
  }
}
```

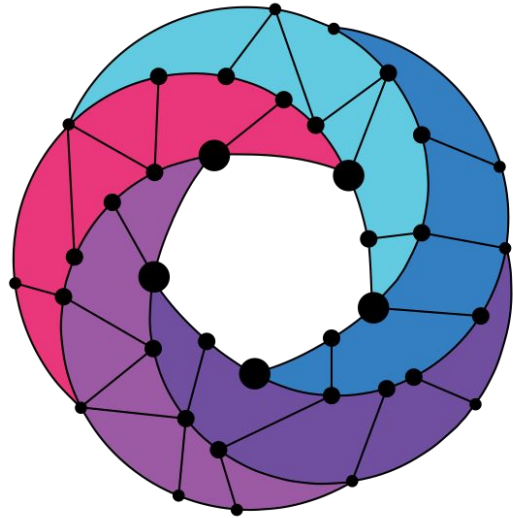
# Current status: PoC v0

- Very first implementation
  - 3 deployable templates
  - Stubs and mock-ups (no intent engine etc.)
- OSM as orchestrator
  - No connection (yet) to Service Assurance
  - new interesting Placement Module on a way
- Looking for feedback



# Summary

- 5G offers possibilities of creating new exciting services
- 5GaaS ambition: make this process quick and easy
  - Idea seems to be ‘in the air’ within (broad) community
- Feedback is welcome



# Open Source MANO

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[osm.etsi.org/wikipub](https://osm.etsi.org/wikipub)