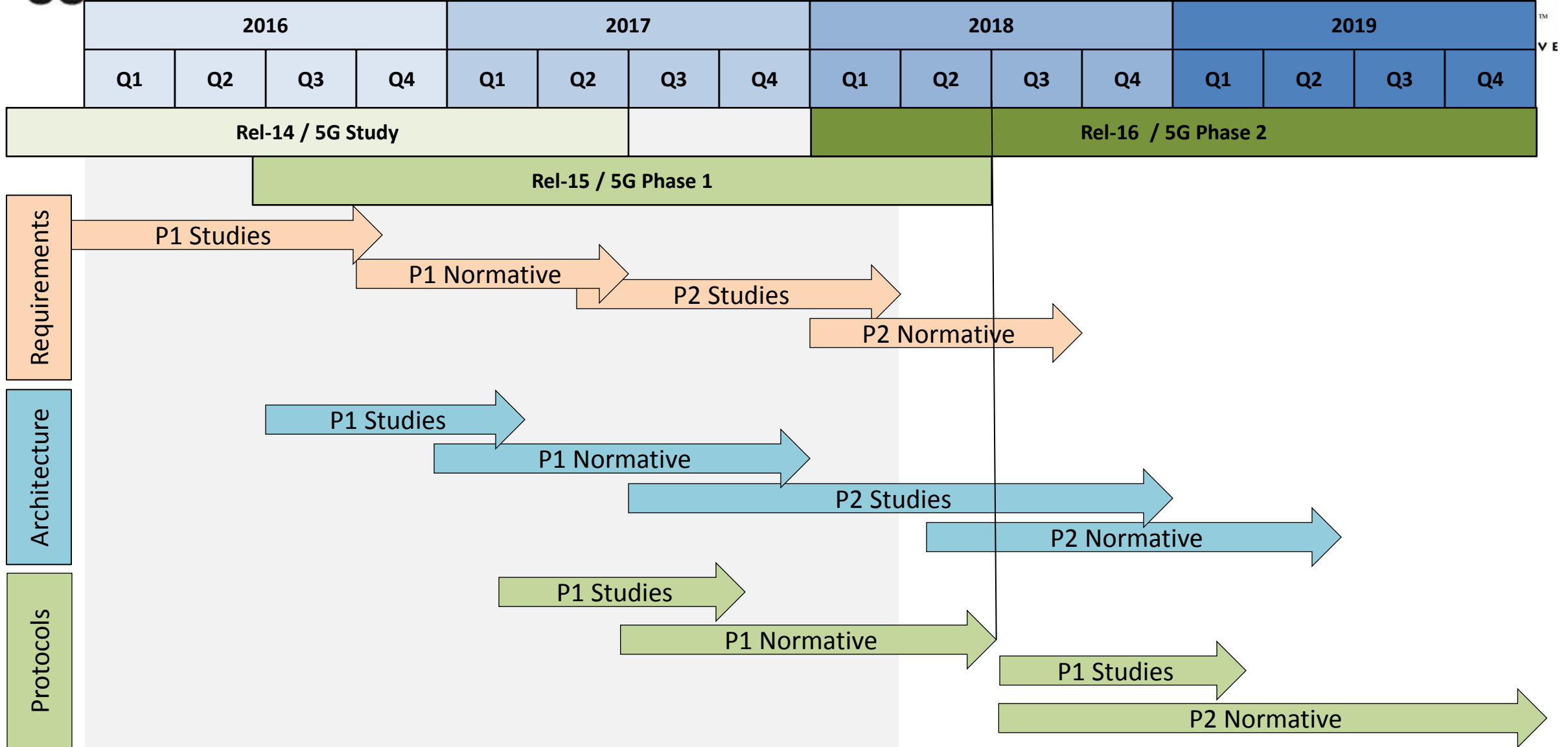





# 5G CoreNetwork in 3GPP CT: Enabling Integration & Transformation

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# 5G Timeline



## 3GPP CoreNetwork & Terminals (CT) Technical Specification Group (TSG)

-  End-to-End, End-to-Core, Core-internal protocols and APIs, SmartCard Applications
-  UE to Network protocols for 3GPP access & Non-3GPP access
-  Network Slicing, Northbound APIs, Service Based Interfaces

## Status of 5G in 3GPP CT – March 2018

-  Rel-15 Completion Date: **June 2018**
-  **5G Work in CT Working Groups: on track**
-  No critical issues or warning signs determined.
-  CT work on Phase 2 / Rel-16 will immediately start in June 2018

# Participation in 3GPP

- 5G is developed with a huge variety of requirements in mind
- 3GPP opened up more and more to views and requirements both from new companies (verticals) as well as new regions.
- 3GPP is contribution driven
  - To get your voice heard you need to participate in the meeting
  - Various ways to trigger 3GPP: Discussion papers, Study Items, Work Items
  - New topics need time, delegates need to be active over several months and topics need to be driven in more than one working group.

## New Stakeholders ...

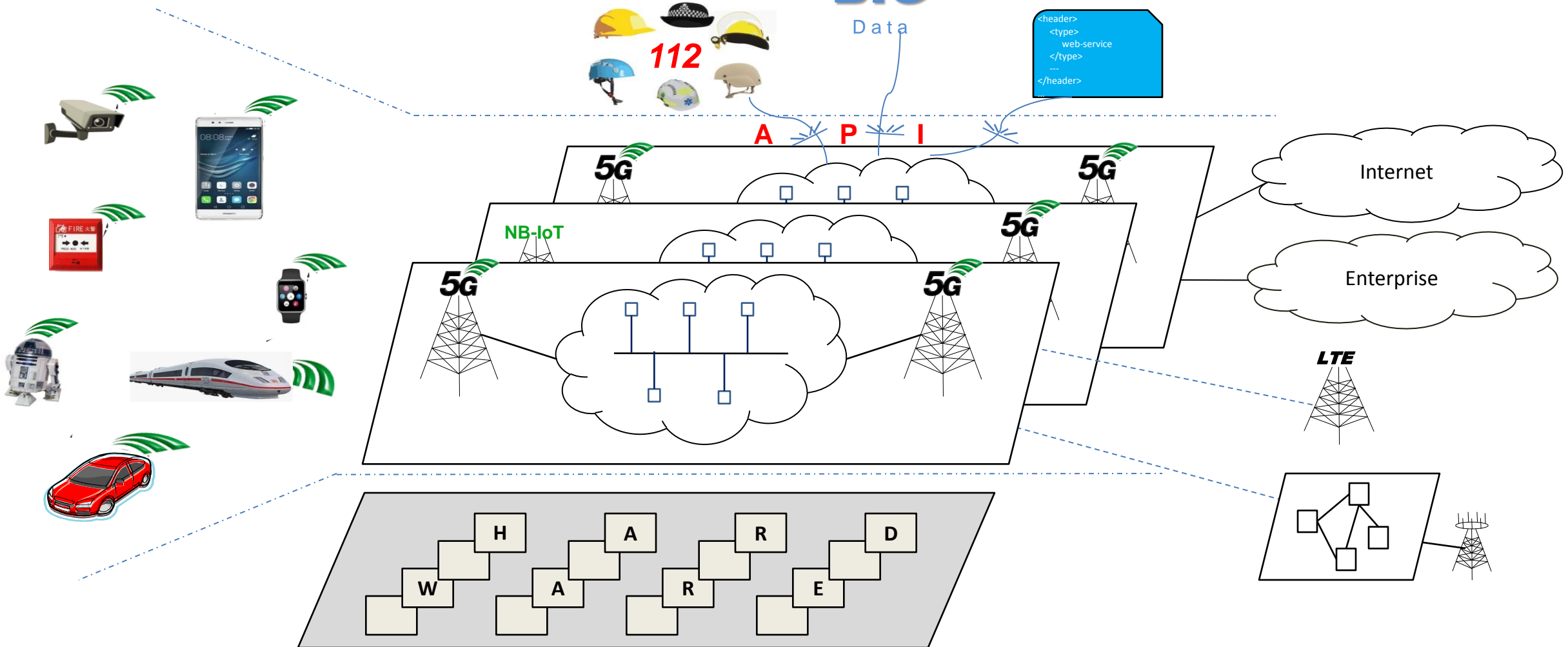
- 📶 Critical Communications, Public Safety
- 📶 Internet of Things (IoT)
- 📶 Automotive,
- 📶 Railways, Maritime, ...
- 📶 Autonomous Systems (robots, drones, ...)
- 📶 Smart Cities, Smart Factories, ...
- 📶 Energy Providers, Broadcast Agencies
- 📶 Satellites

## ... require a flexible enabler platform

- 📶 Open up the Core – capability exposure, APIs
- 📶 On-demand resource allocation – NFV & Orchestration
- 📶 Service Based Core
- 📶 Tailor networks for service needs – network slicing
- 📶 Ultra low latency & high reliability

# 5G Landscape

3<sup>rd</sup> Party Service Providers

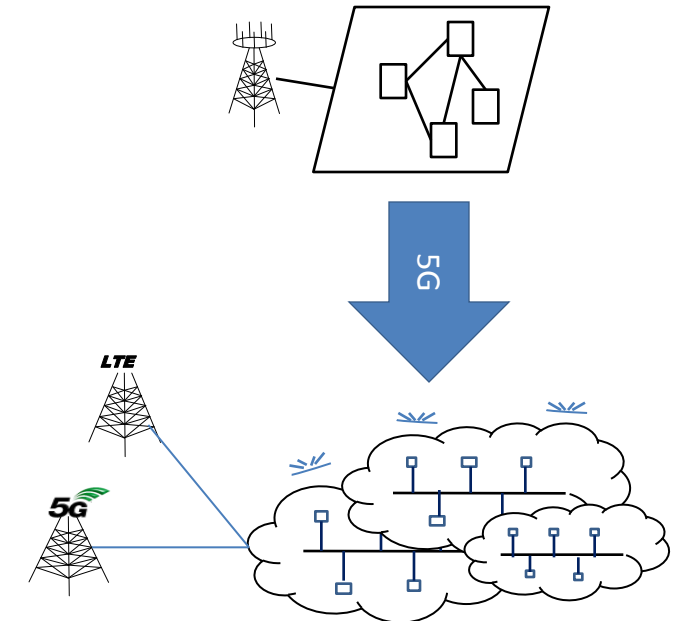


# Service Centric Transformation

➤ Goal: *Make 5G the connectivity platform of the 2020s and beyond*

➤ This requires first of all a transformation of the mind-set

- Phones -> Things
- Procedures -> Services
- Protocols -> APIs
- One Network fits all -> Open & Flexible Enabler
- Telecom Operators -> Multiple Stakeholders
- Dedicated Hardware -> Orchestrated Resources
  - Network Function -> Virtualization
  - Single Network -> Slice

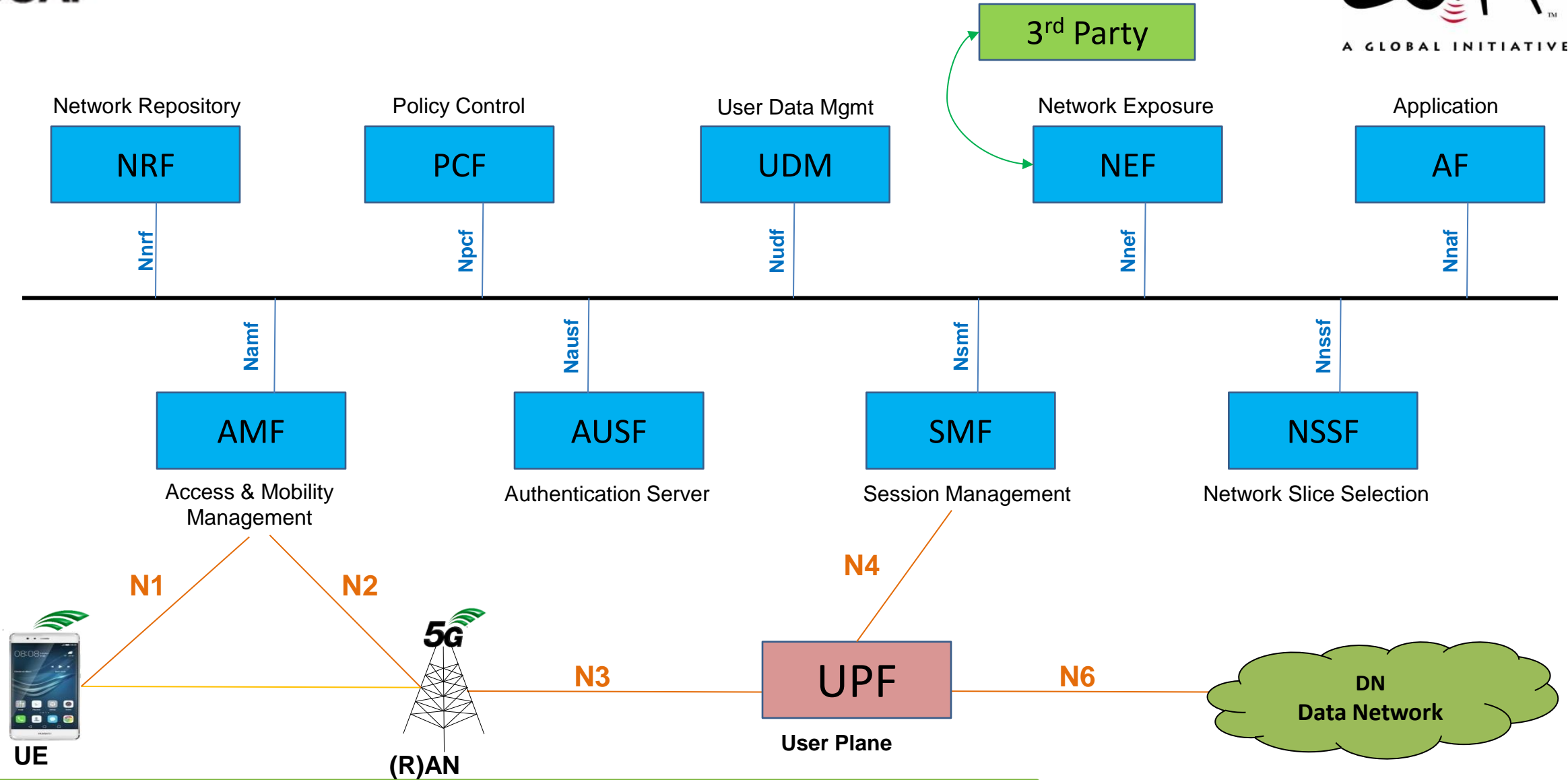


- Integration of Multiple Industries
  - 5G will fulfill the connectivity requirements of multiple different industries
  - Required technology rests on a number of generic services and principles.
  - → different verticals will make use of common 5G functionality.
  
- Integration into Technological Landscape of the 2020s
  - Virtualization & Slicing
  - Self-organized Networks – orchestration of hardware to meet the ad-hoc requirements of services
  - Exposure of 5G functionality to 3rd Parties via state-of-the-art interfaces
  - Web-Services – developed based on RESTful APIs, HTTP, ...
  - 5G technological landscape needs to be future proof, i.e. save to assume it develops into the future

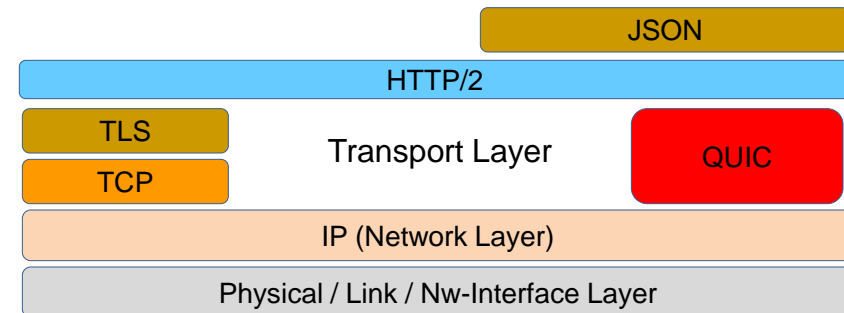


- 5G puts focus on e.g. virtualization, RESTful APIs, slicing
- Benefits of introducing these new technologies:
  - Tight integration into technological landscape of 2020s
  - Already widely deployed & accepted
  - Existing developer & expert community
  - Accepted by 3rd parties & customers
  - Development will continue (W3C, IETF, OpenSource, ...)

# Service Based Architecture



- REST-style service design whenever possible
- Open-API based specification
- HTTP/2 adopted as the application layer protocol
- TCP adopted as the transport layer protocol
- QUIC will be evaluated in Rel-16
- JSON adopted as the serialization protocol





# Thank You!

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