PREDICT-6G

Stream B – Stream D Workshop

May 2024

Funded by
the European Union

This project was awarded funding by the European Union's Horizon Europe Research and Innovation programme under grant agreement N° 1101095890.

The vision of PREDICT-6G

E2E deterministic services over multiple networks with different technologies

E2E RELIABILE

High availability
Low (zero) packet loss
Failure resilient

E2E TIME SENSITIVE

Time-aware
Bounded latency
Low jitter

PREDICTABLE

Use of AI to predict events, states, demands, resources;
Autonomous proactive actions

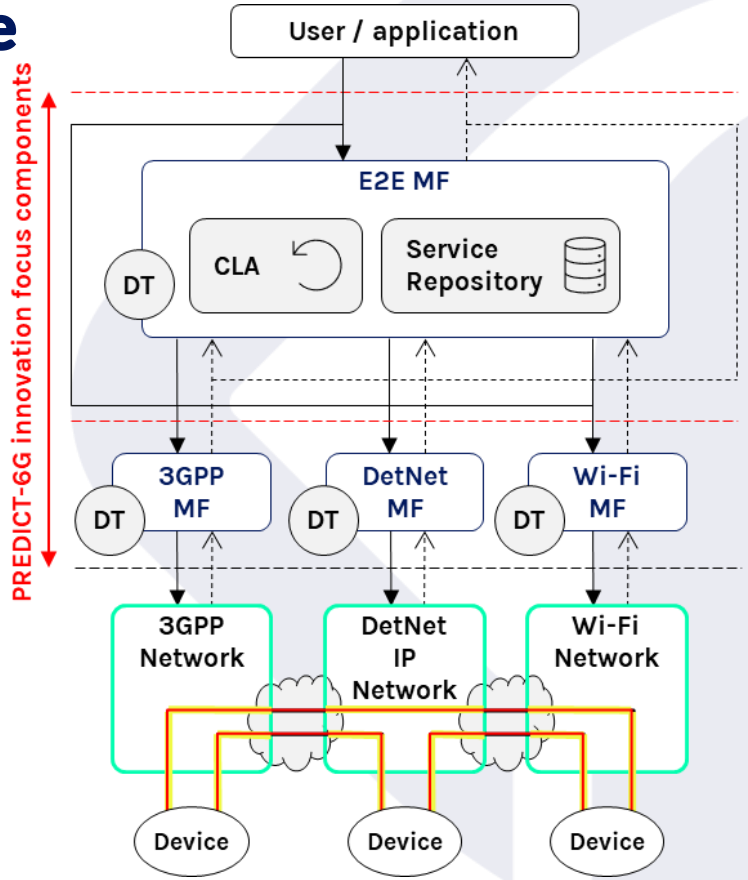
Reference Architecture

PREDICT-6G management scope

- Networks (e.g., PM/CM)
- Network services within one network (e.g., connectivity, det. SLA)
- E2E services over multiple networks (e.g., between devices attached to different networks)

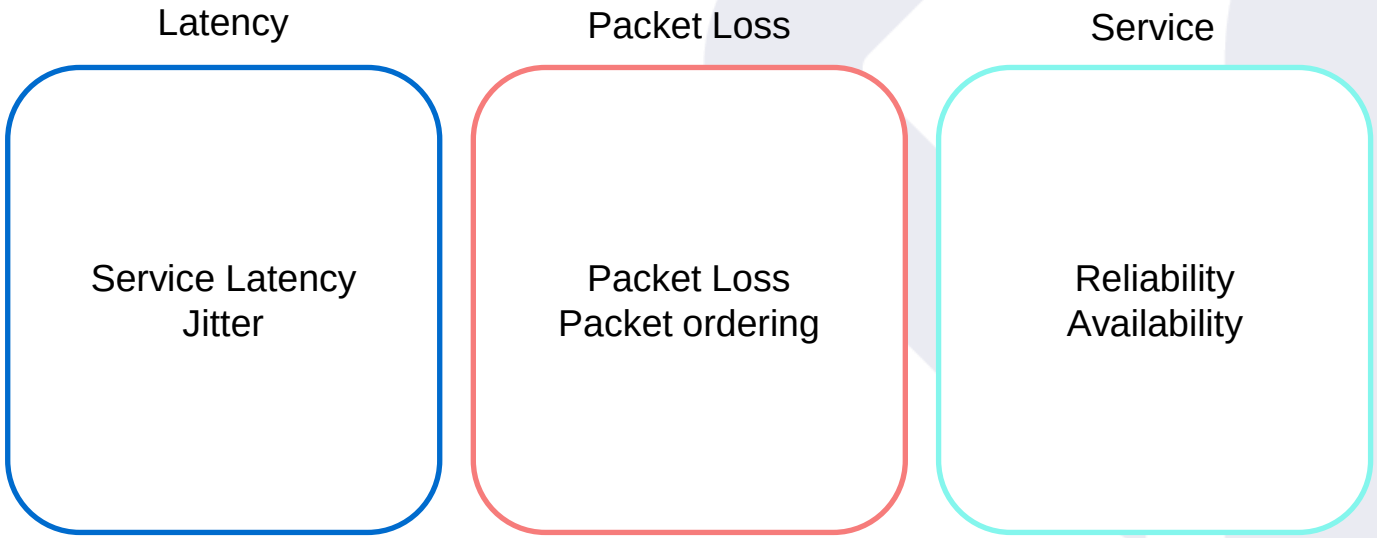
These are Managed Entities (ME) for the PREDICT-6G framework.

- E2E deterministic service flow (MDP)
- Request / configuration (AICP)
- Measurement / status / insight (AICP)



Project KPIs

- Project KPIs available at: Deliverable 1.1
- Focus on Latency (time-sensitiveness) and Service (reliability)



Project KPIs

Family	KPI	Description	Goal
Latency	Service Latency	Time required by a deterministic network to deliver an application packet when performing a specific end-to-end communication service.	[1-10] milliseconds
	Jitter	Difference in milliseconds between the 0 quantile (minimum) and the 1-10^-3 quantile of the delay variation.	1 millisecond
Packet Loss	Packet Loss	Percentage of the packets lost during a period of time	< 10^-5
	Packet Ordering	Percentage of the packets in-sequence versus the total of packets in a deterministic network.	> 99.9999%

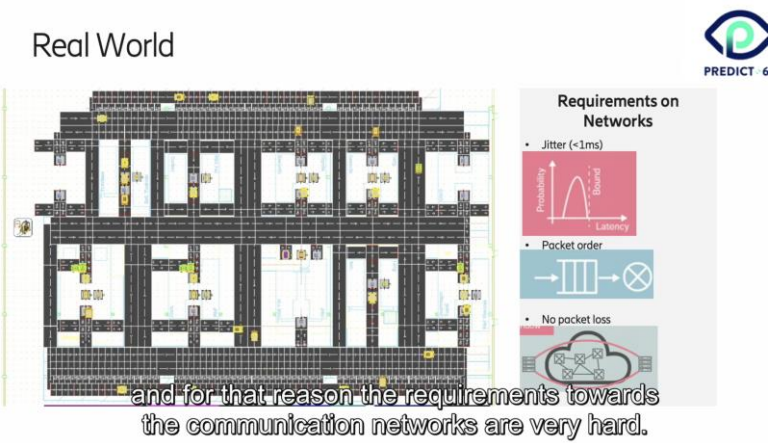
Project KPIs

Family	KPI	Description	Goal
Service	**Reliability**	Reliability is the success probability of performing a deterministic end-to-end communication service within a given time interval in the context of a defined SLA.	> 99.9999%
	Availability	Percentage of time in which deterministic networks successfully operate in the context of a defined SLA	> 99.9999%

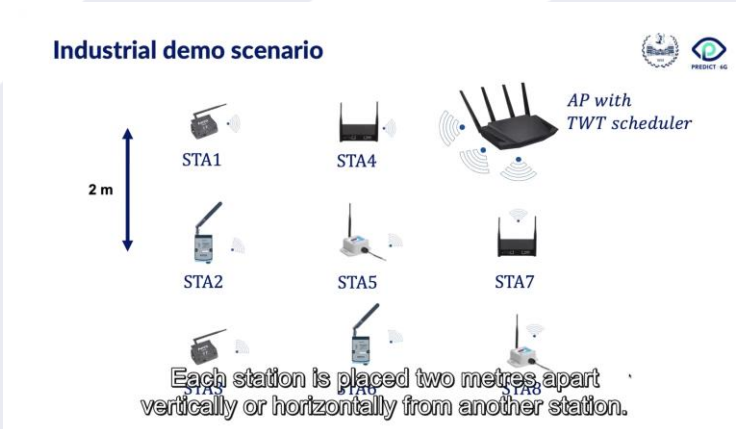
Project KVIs

Family	KPI	Ongoing Work
Ecosystem	Business Value	Ongoing ” Business impact and migration guidelines towards 6G scenarios” activity
	Economic Growth	
Innovation	Security	Security resilience defined as the ability to adapt and recover from challenging and unforeseen situations. Ongoing work: Define an expected level and metric for the security resilience key value and map the combination and relevance of the related performance indicators into a value that represents security resilience.

Results



Smart Factory



Target Wake Time

Thank you!

@Predict6G predict-6g.eu PREDICT-6G Project

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