

**RWS-230008**

3GPP RAN WS on Rel-19 | June 15<sup>th</sup> & 16<sup>th</sup> 2023 | Taipei, TW

**Deutsche Telekom's  
perspective on RAN Rel-19**



## Refocus I

It is all about defining the

# future of public mobile networks



## Refocus II

3GPP should deliver what is necessary for

**“human centered  
technology\*”**

– not just for the sake of defining something new!

\* <https://www.telekom.com/en/company/digital-responsibility/details/we-act-responsibly--1008362>



# It's simple:

# **We only need 4 key areas of development in Rel-19**



# Network Energy Saving



# NTN Integration

A man and a woman are standing in a server room. The woman is holding a tablet and pointing at it. The background is a server rack with a network diagram overlay. The text "Cloud optimized RAN" is written in large white letters across the center of the image.

# Cloud optimized RAN



# Full AI / ML support

# Let's start focusing...

# 4 Details

# Requirements for the 4 key areas



## Missing functionality for sustainability

Addition of missing functionality from Rel-18 NES (i.e. results from SI), such as network wake-up, SIB less cell support, clustered paging.

→ Next level of energy savings for RAN

## Future RAN architecture enhancements

Study concepts for initial migration of RAN functions and RAN-CN interfaces to support Service Based Architecture (SBA)

→ Starting with selective functions as for example SON (for NES) / MDT for automation purposes



## TN & NTN need closer integration

Optimization of TN - NTN - TN interworking & radio resource management, incl. advanced privacy & energy saving aspects

“Regenerative Payload” support for NR NTN

Store & Forward support (at least for IoT-NTN)

→ Definition of overarching functions to eventually allow “full 3D orchestration of networks”



## Automation & Efficiency improvement

→ WI: Define physical layer AI/ML support (based on Rel-18 SI)

→ Study new Use Cases for physical layer AI/ML

Study of full end-2-end AI/ML architectural framework incl. life-cycle management in 3GPP

→ SI/WI for potential additional UCs for NG-RAN



# Topics we need and don't need...

# Our Ins & Outs

## We need:

- **NETWORK ENERGY SAVING**
- **NTN INTEGRATION**
- **CLOUD OPTIMIZED RAN**
- **FULL AI/ML SUPPORT**
  
- eNRDuplex
- eMIMO:
  - Hybrid BF for Massive MIMO
  - Relaxed backhaul for CJT/R (mTRP)
  
- Sensing (only SI on channel modelling)

## Maybe:

- eXR
  - efeSON (details tbd)
  - efeMobility enhancements (details tbd)
  - Channel modelling for FRx (7.125 .. 24.25 GHz, not >71 GHz)

more left = more interest (depending on proposals)

## We don't need:

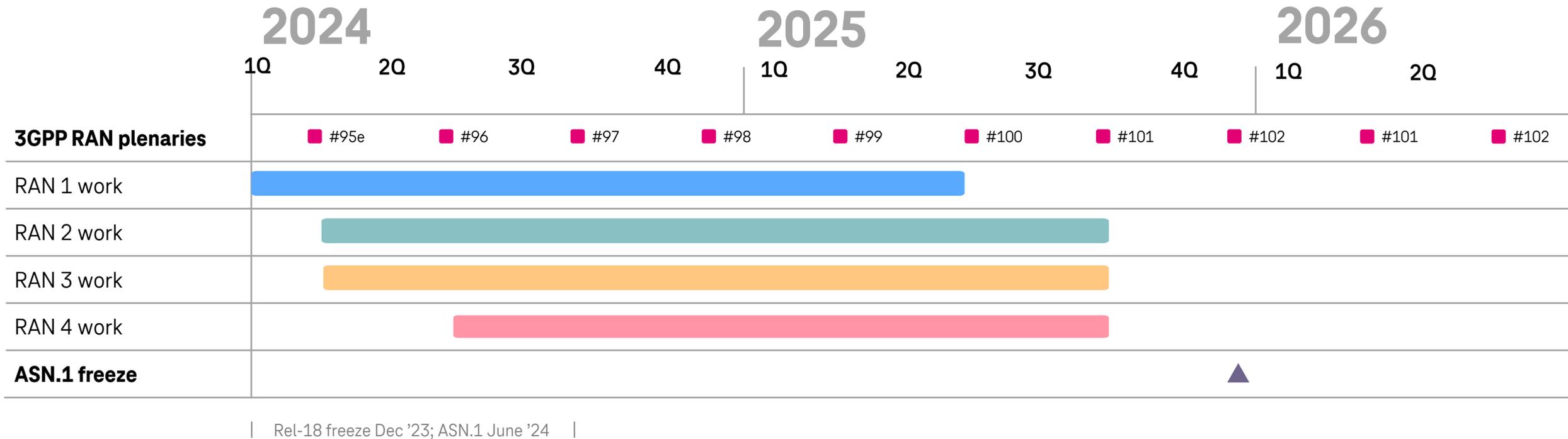
- “further evolution of ...”:  
SL/V2X, Coverage Enhancement, DSS, Pos, RedCap, RAN Slicing, SL relay, UAV, MUSIM, IDC, SDT, MBS, IAB, QoE, NCR, NetSharing, mmW evolution, ...
- Ambient-IoT
- Femto (incl. CAG)
- LP-WUS for UE
- UE aggregation concepts
- Any 6G “topic”, e.g.:
  - Integrated Sensing & Communication
  - Reconfigurable Intelligent Surfaces (“RIS”)
  - Personal-IoT Networks
  - Spectrum > 71 GHz
  - Network-Coding; Linear packet Coding
  - Blockchain / Quantum stuff
  - Visual Light Communication (“VLC”)

# Time flies

Conformation of the RAN Rel-19 timeline as an “18-months release”

# It's TIME to focus

This Rel-19 timeline is inline with [RP-230050](#)



# ...and 6G ?

(We didn't really want to talk about it in this presentation ...)

... comes:



# Let's start talking...