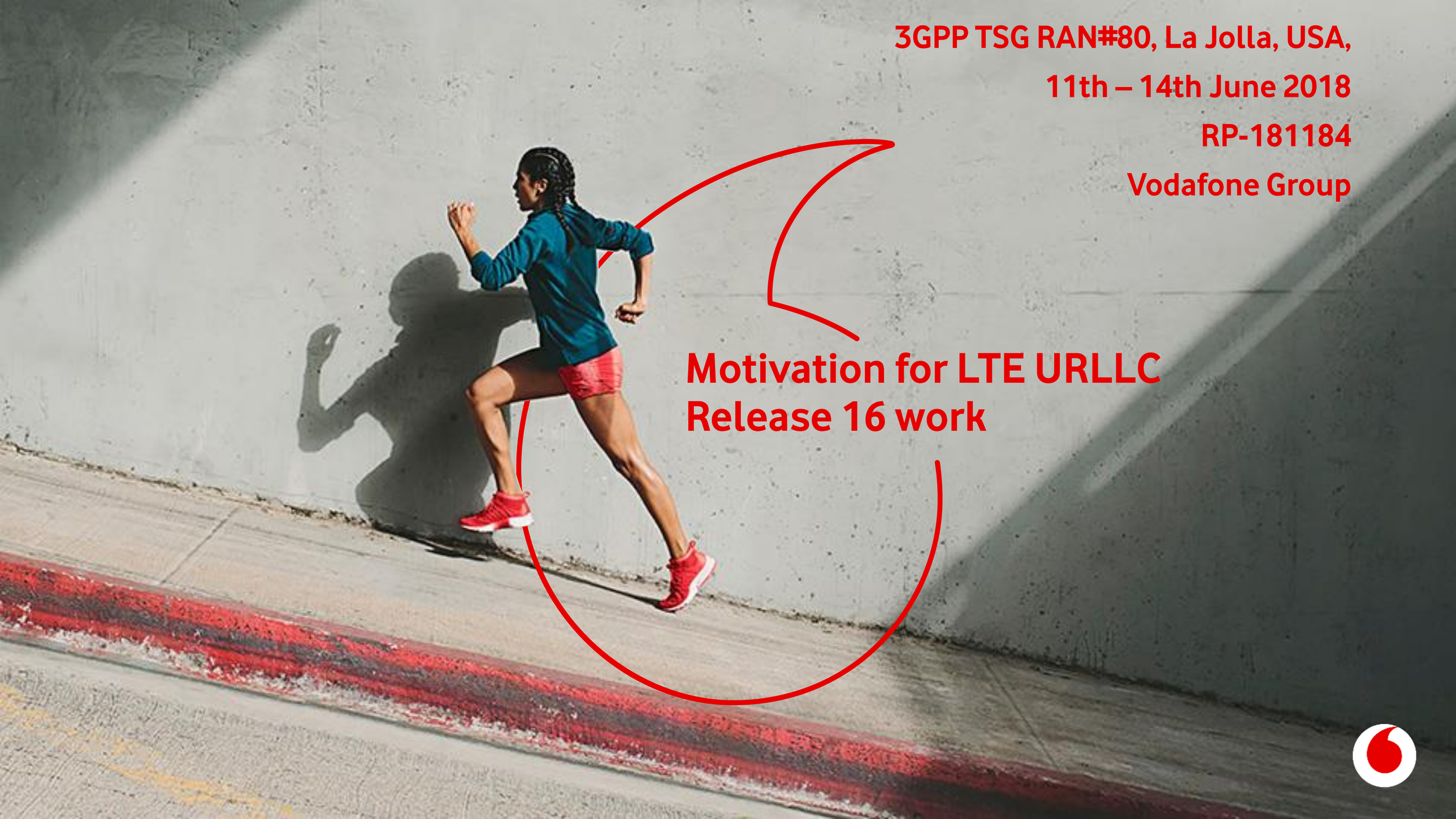

3GPP TSG RAN#80, La Jolla, USA,

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Vodafone Group

Motivation for LTE URLLC Release 16 work

Driving URLLC growth and takeup

- In Release 15 there was an initial specification of URLLC, mainly with the target of achieving IMT2020 requirements for NR and LTE

- For Release 16 there is a need to work on further URLLC improvements to
  - Target **more stringent requirements** coming from SA1 gathered from real industry sectors
  - Enhance the solutions defined in Release 15 to achieve **improved coverage and capacity**
  - **System level** features and specific capabilities

- High system availability" and "wide geographic coverage" are required from real industry sectors
  - Wide geographical coverage is provided today by LTE systems
  - "Per cell-site" operational effort and time will be needed for NR to match LTE coverage
  - To maximise early URLLC take-up, wide geographical availability of "enhanced" URLLC is beneficial

- **LTE enhancements are required to complement NR enhancements to drive URLLC growth**

What do we propose to be enhanced for LTE URLLC?

- Rel-16 LTE enhancements should include:
  - Physical layer enhancements to allow more robust control and data channel performance
  - Further Control Plane latency enhancements to allow improvements in wider practical scenarios
  - Other enhancements identified for the "NR URLLC" SI that could be beneficial to LTE
    - Low layer and higher layer (e.g. including Ethernet "Header Compression")
  - Handover interruption time reduction (targetting 0 ms)

- Timeline:
  - It would be beneficial to start an LTE URLLC work item for Release 16 at RAN#80
  - Work on the "other enhancements" can be started once the NR URLLC study has progressed