3GPP TSG RAN#101
Bangalore, India, Sep 11 - 15, 2023
Agenda item: 8A.2.11

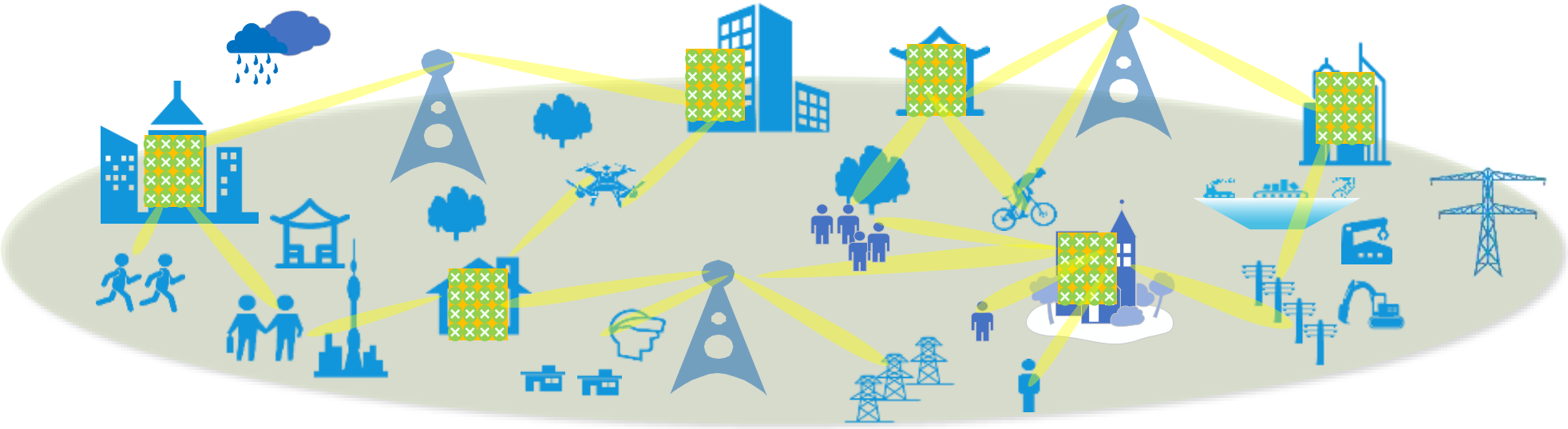
RP-232402

# Views on RIS in Rel-19

China Unicom

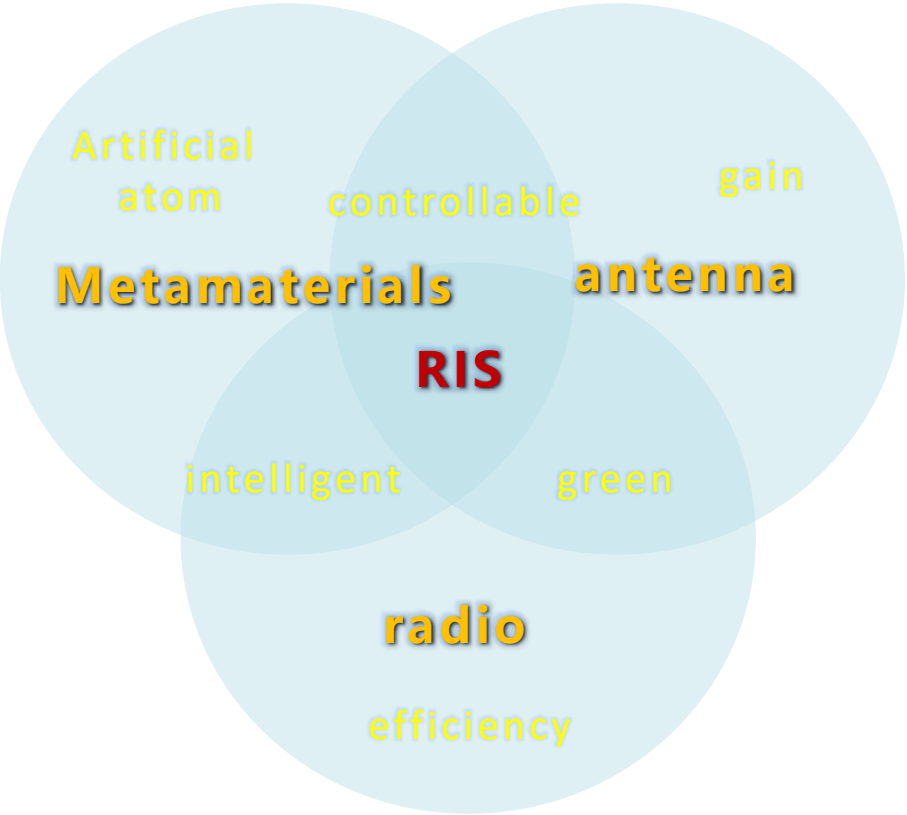
# Motivation on RIS

- According to the evolution trend of business requirements and application scenarios, mobile communication networks have a more significant demand for green energy conservation, cost reduction and efficiency enhancement, deep coverage of multi-dimensional scenarios, and improvement of network intelligence and efficiency.



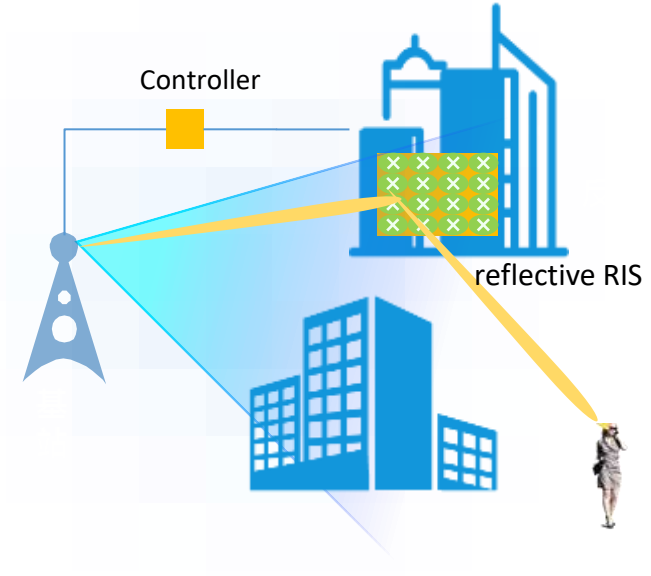
# Network challenges

- 5G network has been in commercial use, with significant investment in station construction and operation, and maintenance. However, there is still a large demand for **deep network coverage**, requiring low-cost, low-power, and easily deployable solutions for coverage enhancement and capacity expansion.



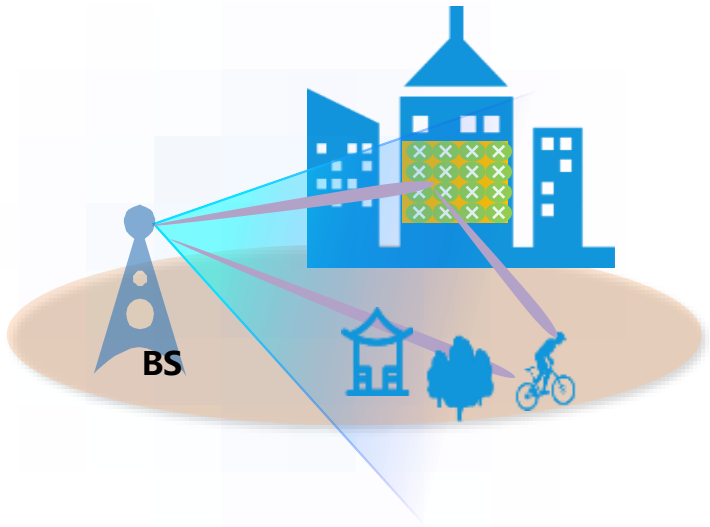
# Scenarios of RIS

## Outdoor Coverage Enhancement



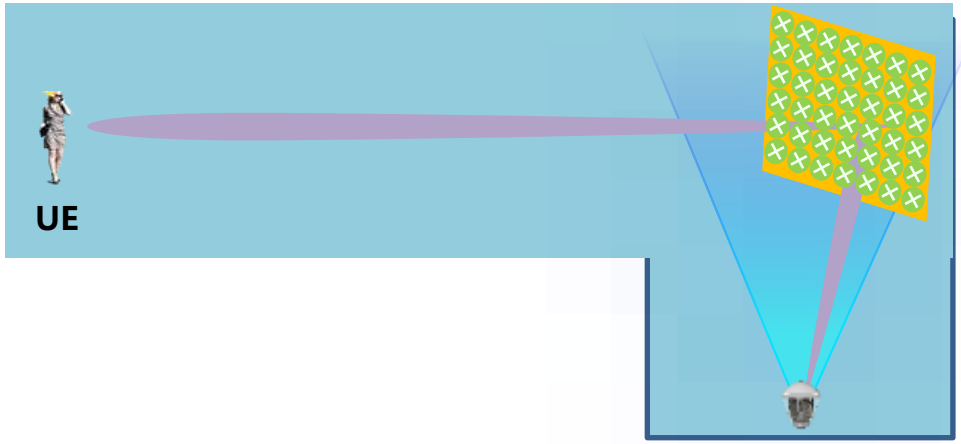

- Enhancing blind spots in outdoor coverage with reflective RIS

## Capacity Enhancement




- By improving the peak data rate through multiple streams at the edge of the cell, further enhancing the capacity of the whole cell

## Indoor Coverage Enhancement




- Enhancing indoor corner coverage with reflective RIS

# Proposals on RIS

It is proposed to consider the following P1 and P2 for further discussion.

- Proposal 1： RAN TSG decide whether to study RIS channel modelling in Rel-19.
- Proposal 2： If decided, it is proposed to study on channel modelling on RIS
  - Study on scatting pattern, reciprocity and cross polarization of RIS with GBSM and hybrid modeling methods
  - Study on large/small scale channel model

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# Thanks