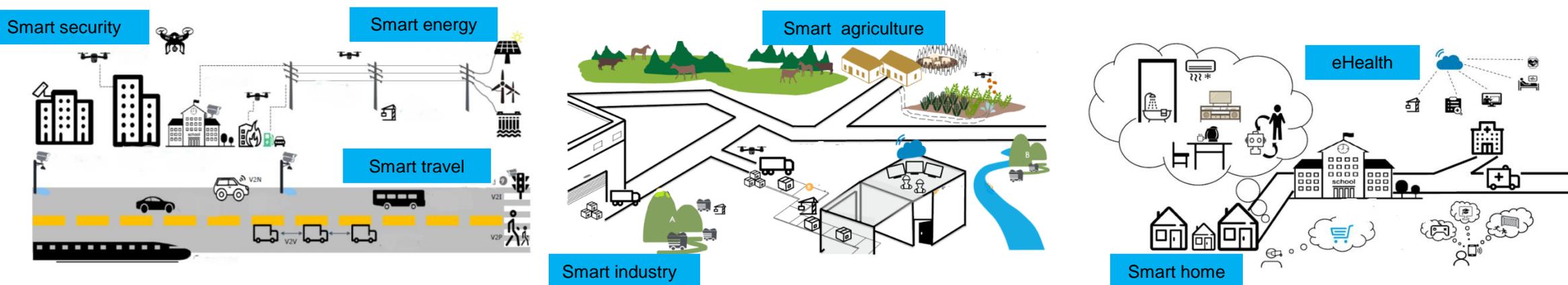


Motivation for SI on enhancement of RAN support of network slicing

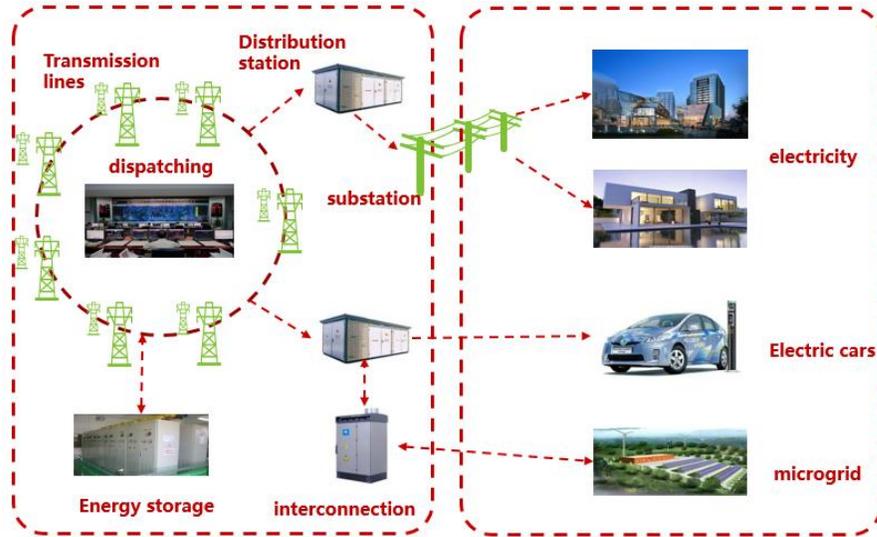


China Unicom



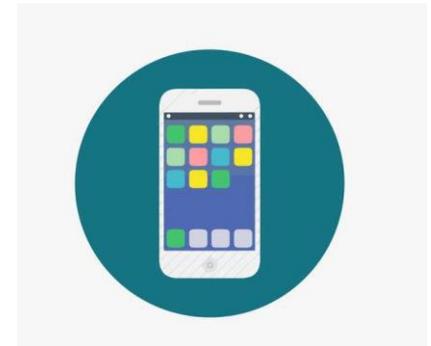
- 5G networks have been pre-commercial deployed in more and more countries.
- 5G slicing is one of the most needed features from vertical industries side. They have become more and more in-depth understanding of slicing and how to practically utilize slicing feature to satisfy the requirements of their typical services is very challenging for the operators.
- New requirements have sprung up and some of them cannot be supported by Rel-15 specifications.

- UE aware of network slice and the availability of a vertical service on NR RAN

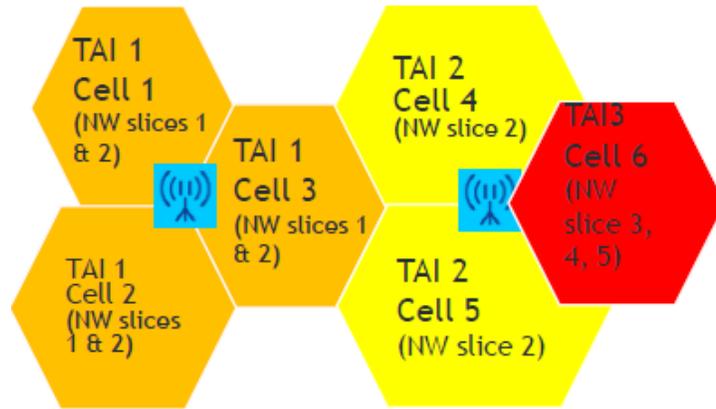


- To allow the UE to be aware of network slices will create RAN “branding” to
 - ✓ Attach vertical providers to utilize 3GPP networks;
 - ✓ Enable network operators to provide value propositions to service providers;
 - ✓ Generate monetary revenue directly from the business success of vertical services.

- To allow the UE to be aware of network slices will allow slice based cell (re)selection and network access



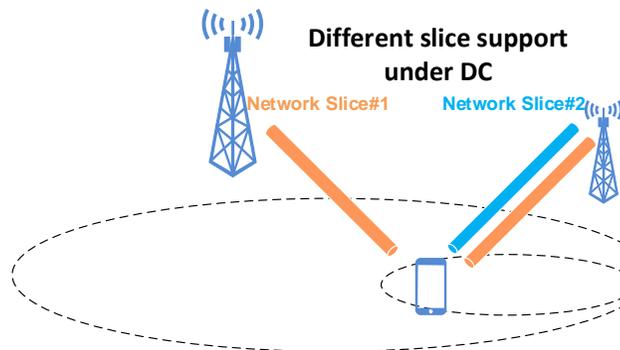
➤ **Support of on-demand and dynamic deployment of diverse and different network slices**



- Currently network slice deployment is at TA level. Smaller granularity slice deployment is anticipated.
- Network slices with different business types have different deployment ranges requirements. For example, industrial slices may only be applicable in a few cells, while game slices may be supported in the whole network.

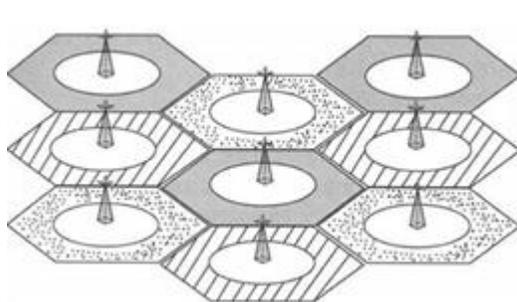
Game/Video slice

Industrial slice



- In NSA it is expected that the MN and SN can support different network slices with flexible deployment

➤ Network slicing service continuity for NSA and SA co-deployment



- High priority network slice services are interrupted when UE leaves its network slice coverage.
- For handover between NSA and SA, or inter-system handover, e.g. between standalone 5GS and EN-DC, it is required to ensure the service continuity at least for high priority network slices.

➤ Slice-specific connection management and control



- In large-scale live events, vertical customers have strong backup needs for security reasons.



- Large delay between multi-platform live may affect customer experiences.



- In scenarios, such as emergency rescue scenarios, etc., some users or devices require high priority guarantees.



- In scenarios, such as IoT, etc., networks need to support the upgrade of massive devices.

- **To enable UE awareness of network slice and the availability of a vertical service [RAN2], e.g.**
 - To study and specify broadcast and/or unicast signaling mechanisms.

- **To enable on-demand and dynamic deployment of diverse and different network slices [RAN2, RAN3], e.g.**
 - Smaller granularity slice deployment in addition to TA level deployment.
 - The support of flexible dual connectivity in which the MN and the SN support different network slices.

- **To support service continuity for NSA and SA deployment [RAN2, RAN3], e.g.**
 - To study the use cases of service continuity between NSA and SA, or inter-system handover, e.g. between standalone 5GS and EN-DC.
 - To specify the service continuity mechanisms for the above identified use cases.

- **Support of slice-specific connection management and control [RAN2, RAN3], e.g.**
 - Slice-specific idle and inactive UE access, e.g., paging, cell (re)selection, RACH configuration, access control etc.
 - Slice-aware protocol layer configuration, data path, mobility and multi-layer connection hierarchy etc.
 - Support of multicast services.

THANKS

