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Tomorrow never waits

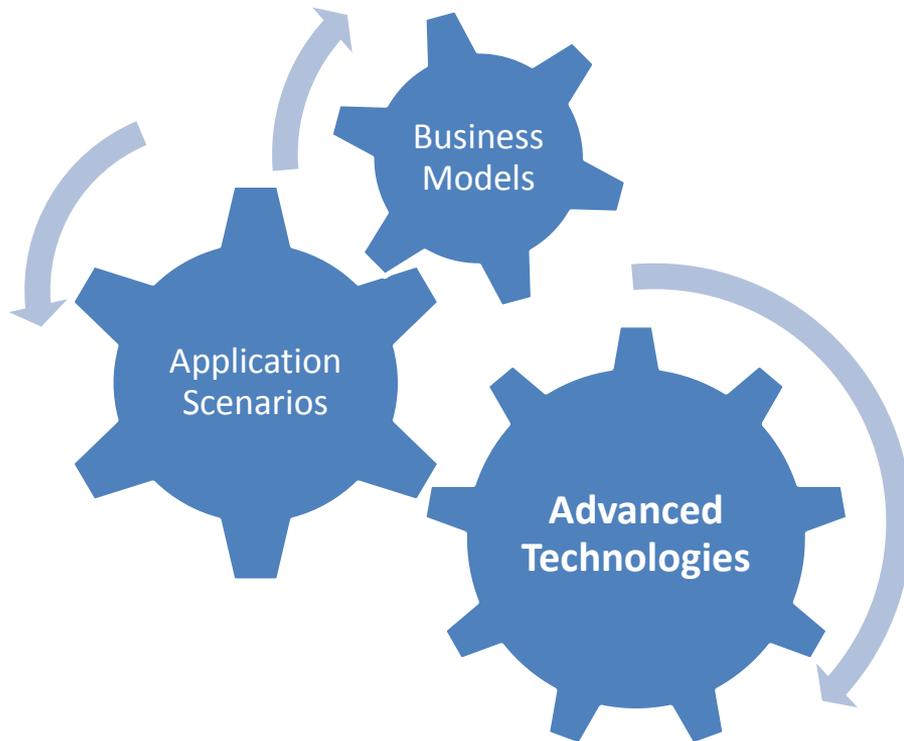
# Challenges and Innovations in 5G

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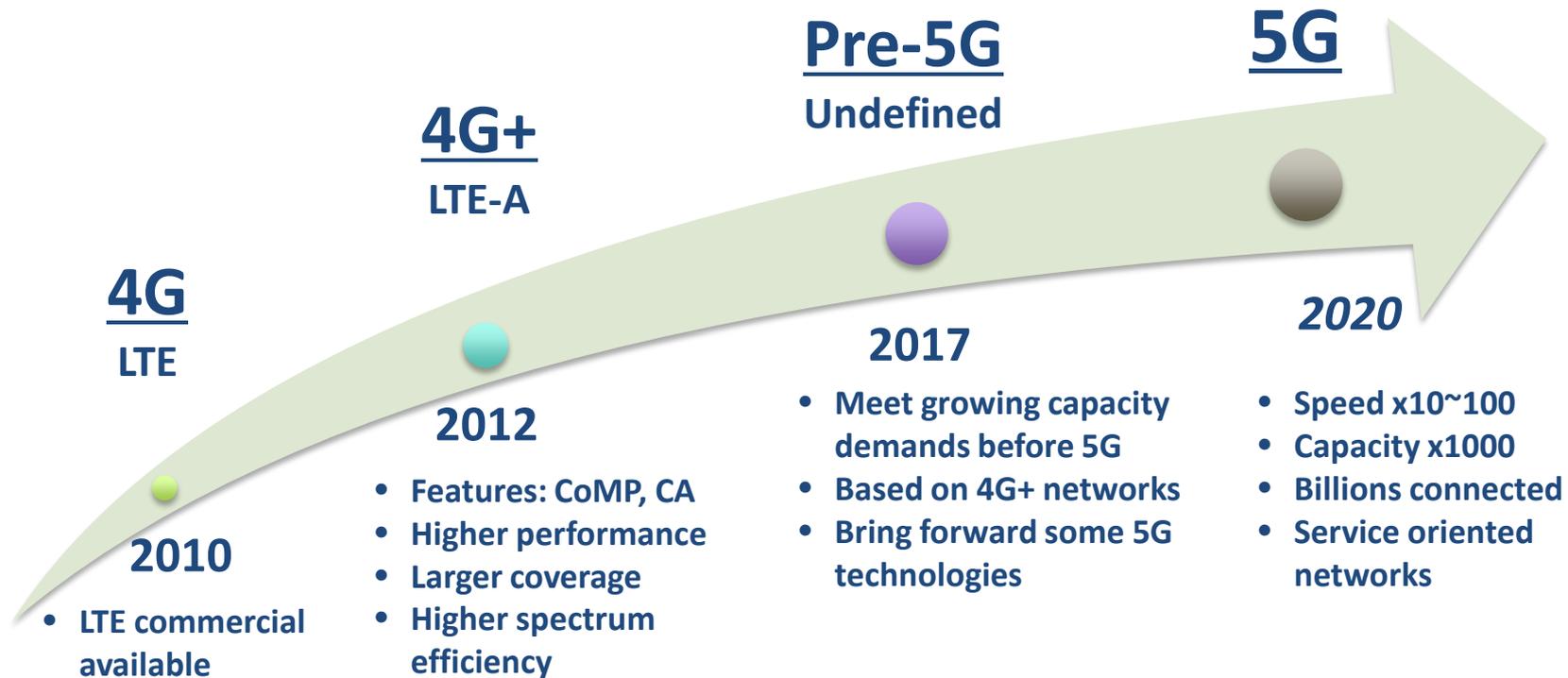
VP, CTO Group, ZTE

10 Dec 2015

# 5G Technology, Application, and Business Innovations



# Technology Innovations Towards 5G



# Technologies Enabling 5G

## 1. RAN architecture

- HetNet, CoMP, Small cells, Relay, ...

## 2. RRM & interference cancellation techniques

- Interference management, ICIC, eICIC, AI, ...

## 3. PHY technologies

- Massive MIMO, AAS, Full-duplex, ...

## 4. Spectrum usage

- FDD/TDD CA, LSA, ...

# Spectrum Challenges for 5G

## 1. Over 30 Spectrum Bands for LTE Deployment

- Major LTE frequency bands
  - 700MHz/800MHz/900MHz/1.8GHz/2.1GHz/2.3GHz/2.6GHz
  - Channel bandwidths: 10MHz/20MHz/others NB-LTE
  - Possible spectrum re-farming, potential band interference
- Smartphone design challenges
  - GSM/CDMA, UMTS, WiFi, Bluetooth and GPS radio/ band combinations
  - Challenges of ecosystem & economies of scale

## 2. FDD/TDD Challenges

- Different Carrier Aggregation proposals
- Overall ecosystem & global inter-operability between networks

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**Thank you**

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