

RP-161266

# 5G ARCHITECTURE OPTIONS – FULL SET

JOINT RAN/SA MEETING | JUNE 14TH 2016, BUSAN  
DEUTSCHE TELEKOM AG



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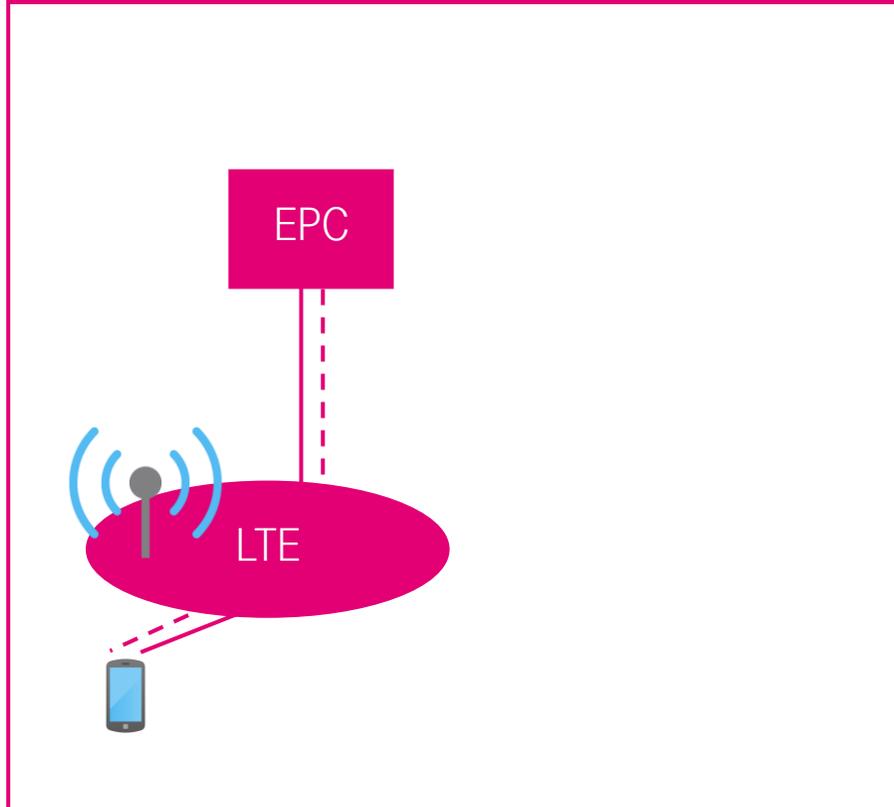
# OUTLINE OF ARCHITECTURE OPTIONS IN THE LIGHT OF 5G AND “ACCELERATION” DISCUSSION

- **TWO RADIO TECHNOLOGIES HAVE TO BE CONSIDERED IN THE 5G DISCUSSIONS**
  - **LTE** (IN ITS REL-15 VERSION) AKA “ELTE” IN SA2
  - **NEXT GENERATION RADIO** (“NR”)
- **PLUS RADIO LEVEL AGGREGATION OF BOTH RADIO TECHNOLOGIES IN 2 VARIANTS**
- **TWO CORE NETWORK CONCEPTS HAVE TO BE CONSIDERED IN THE 5G DISCUSSIONS**
  - **EPC** (WITH POTENTIAL EVOLUTIONS)
  - **NEXT GENERATION CORE** („NGCN“)
- **THIS RESULTS IN 12 OPTIONS (NEXT SLIDES)**

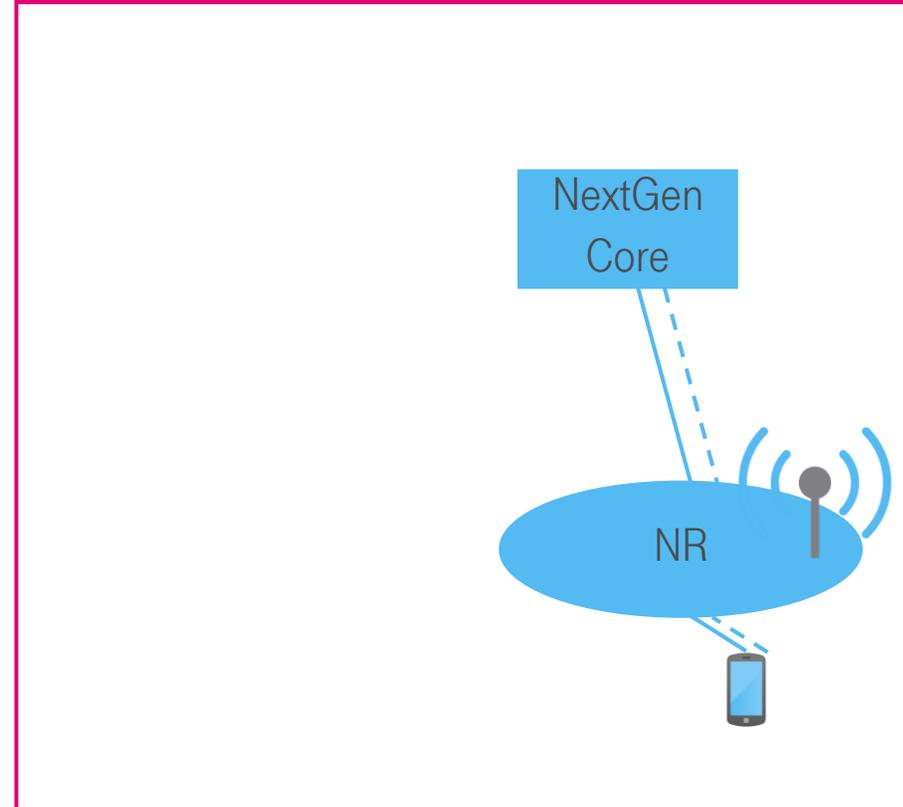


# 5G SCENARIOS IN 3GPP NR & NEXTGENCORE (1/6)

1) Standalone LTE, EPC connected - legacy

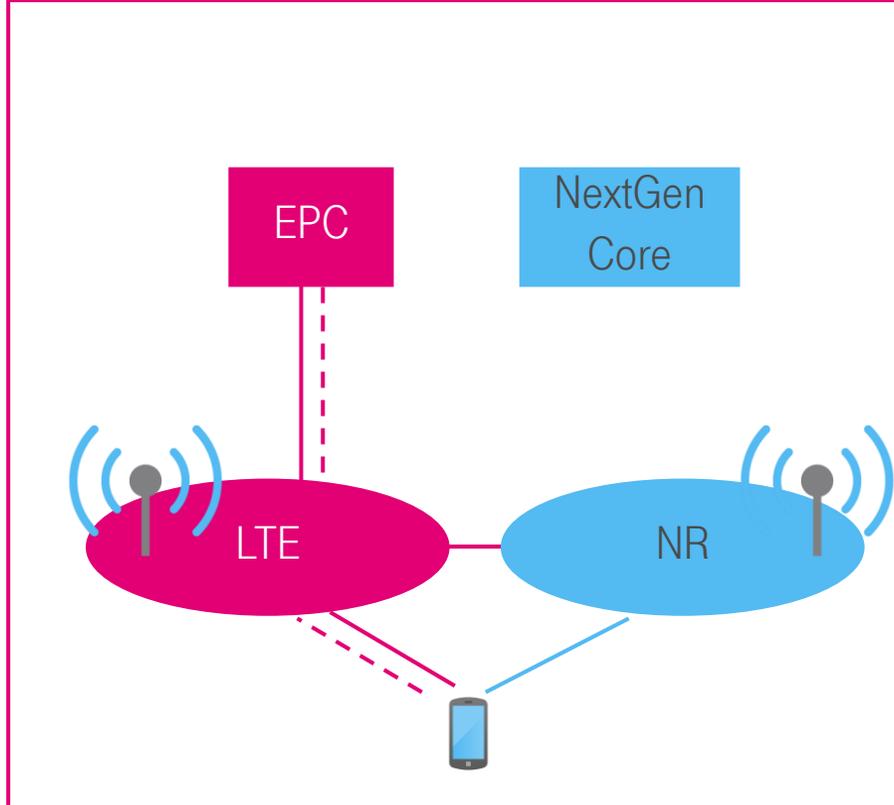


2) Standalone NR, NGCN connected

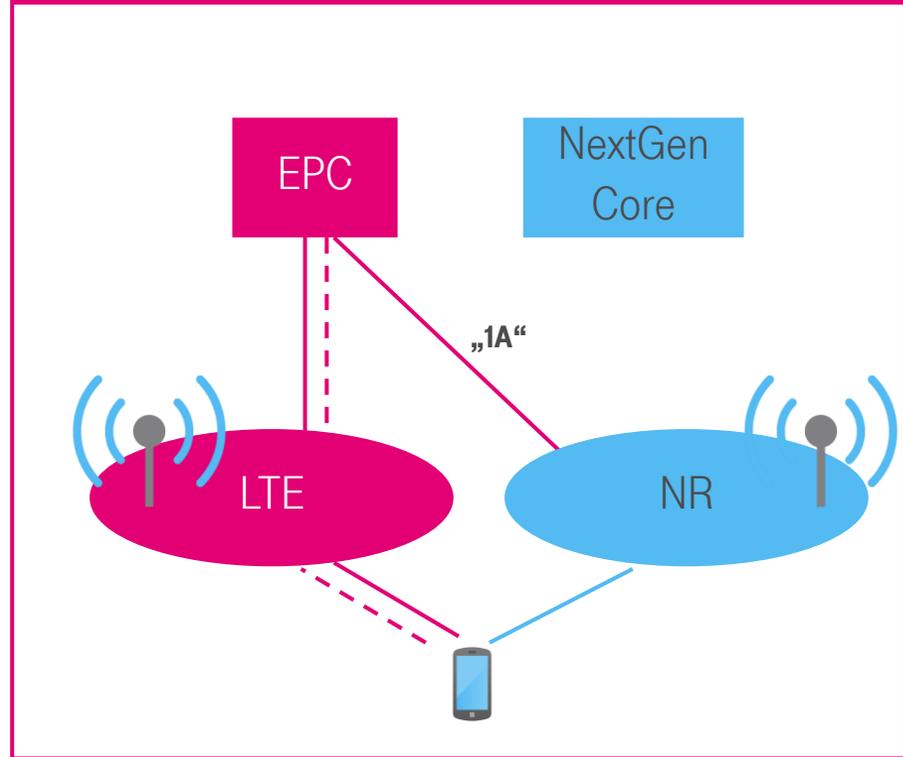


# 5G SCENARIOS IN 3GPP NR & NEXTGENCORE (2/6)

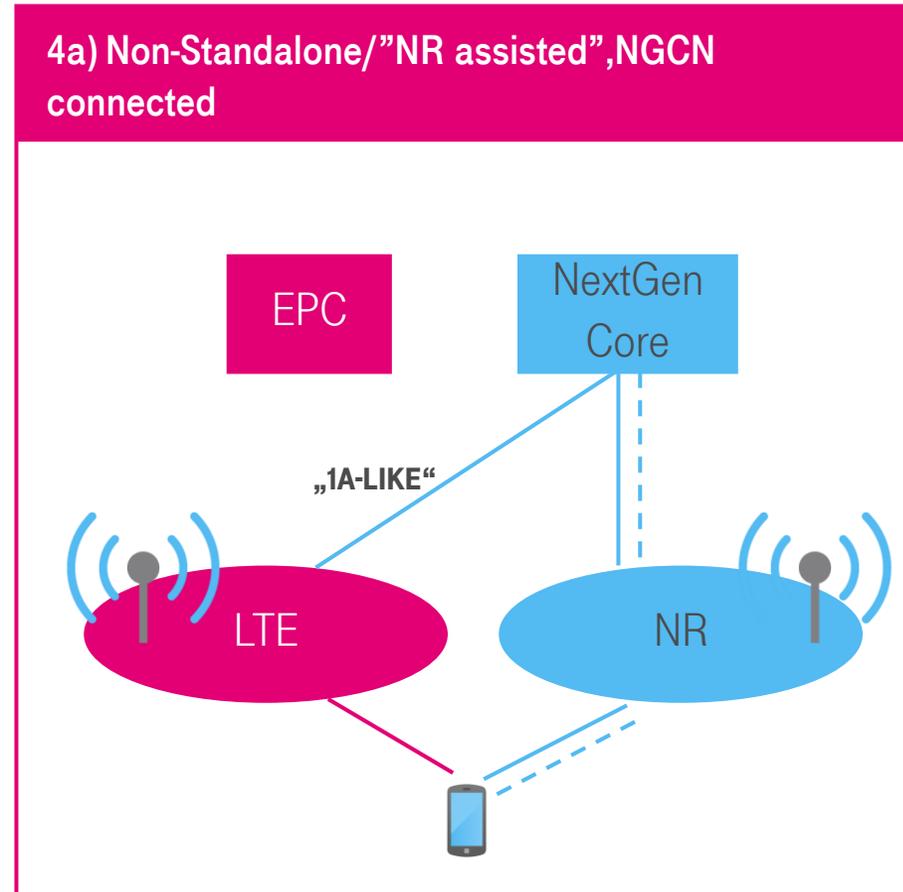
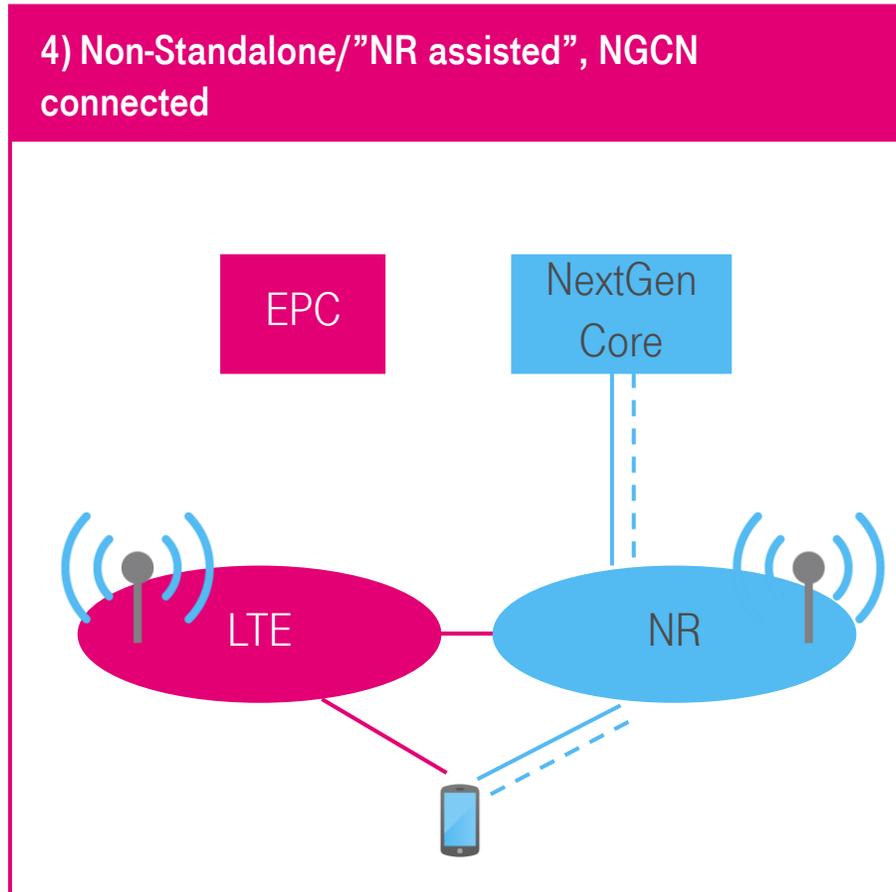
3) Non-Standalone/"LTE assisted", EPC connected



3a) Non-Standalone/"LTE assisted", EPC connected

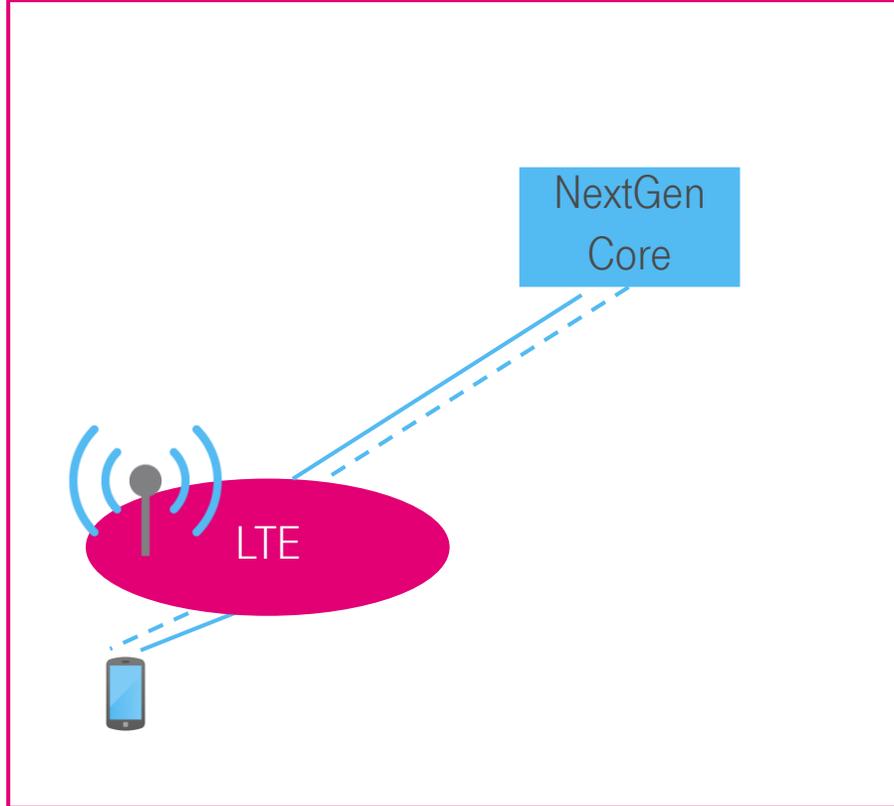


# 5G SCENARIOS IN 3GPP NR & NEXTGENCORE (3/6)

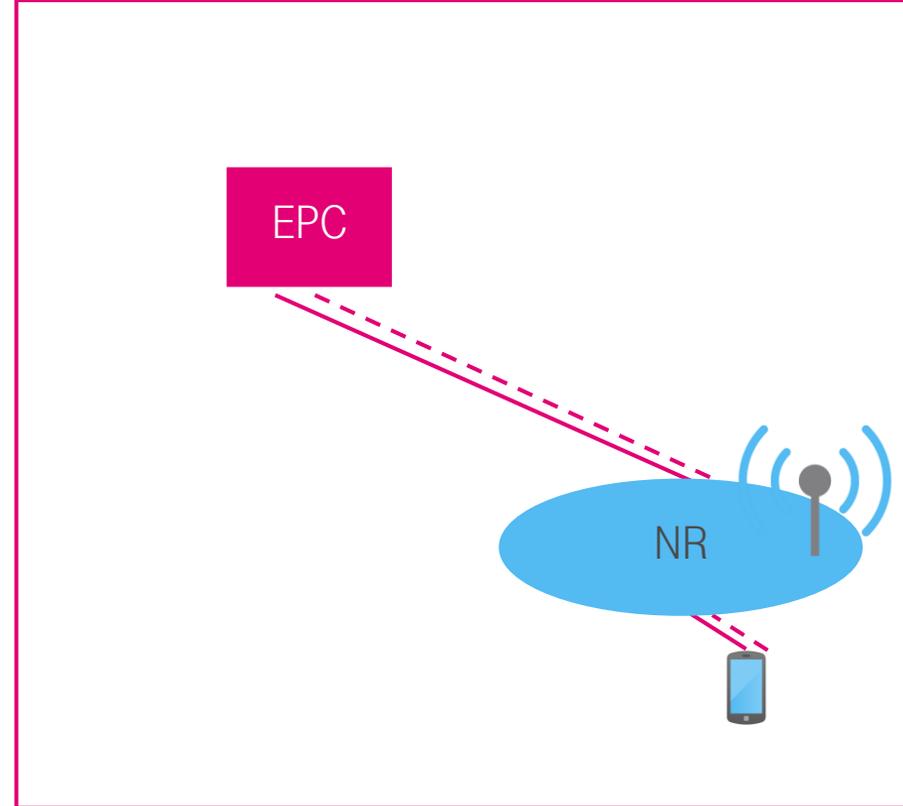


# 5G SCENARIOS IN 3GPP NR & NEXTGENCORE (4/6)

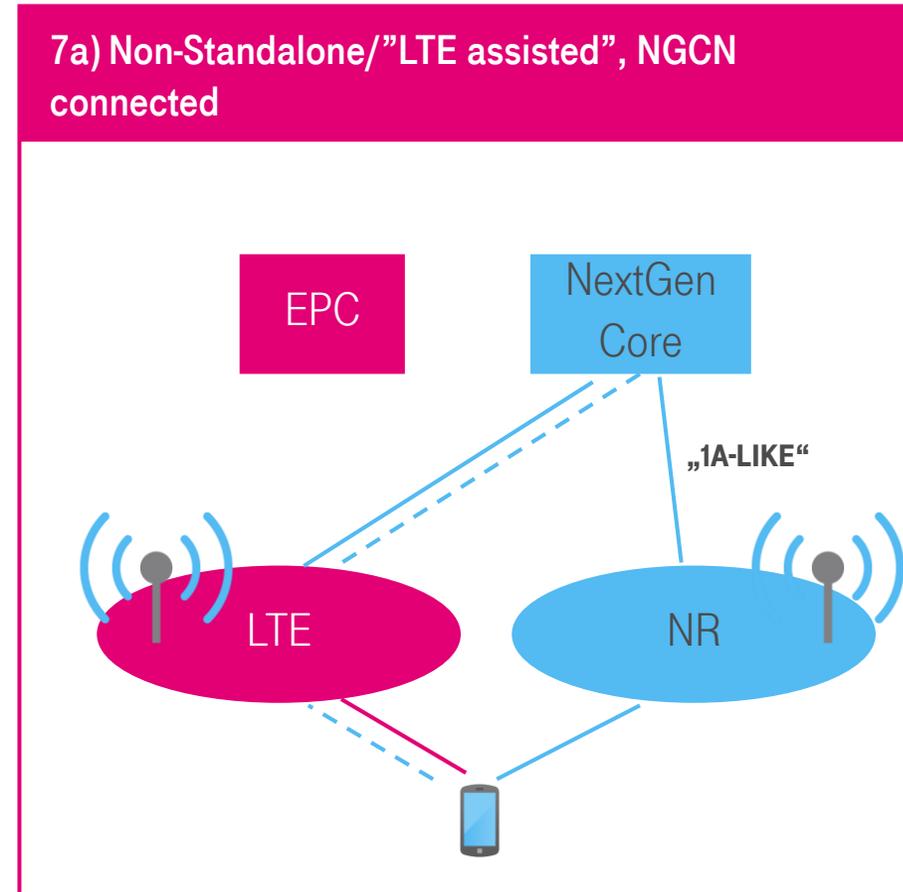
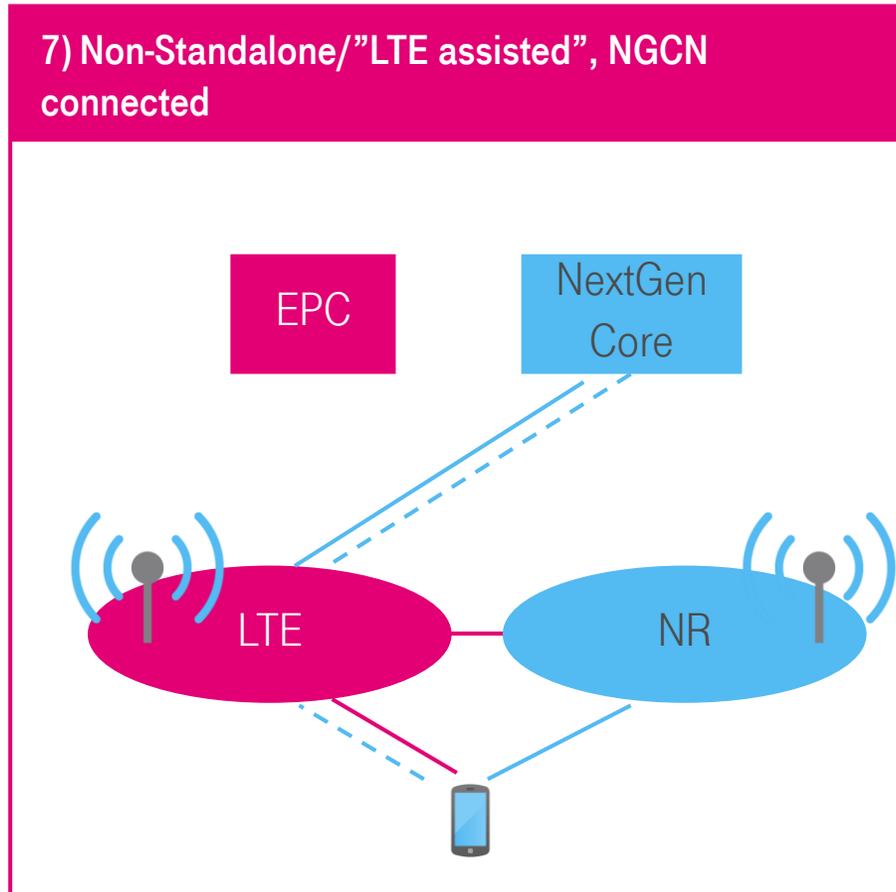
5) Standalone LTE Rel-15, NGCN connected



6) Standalone 5G NR, EPC connected

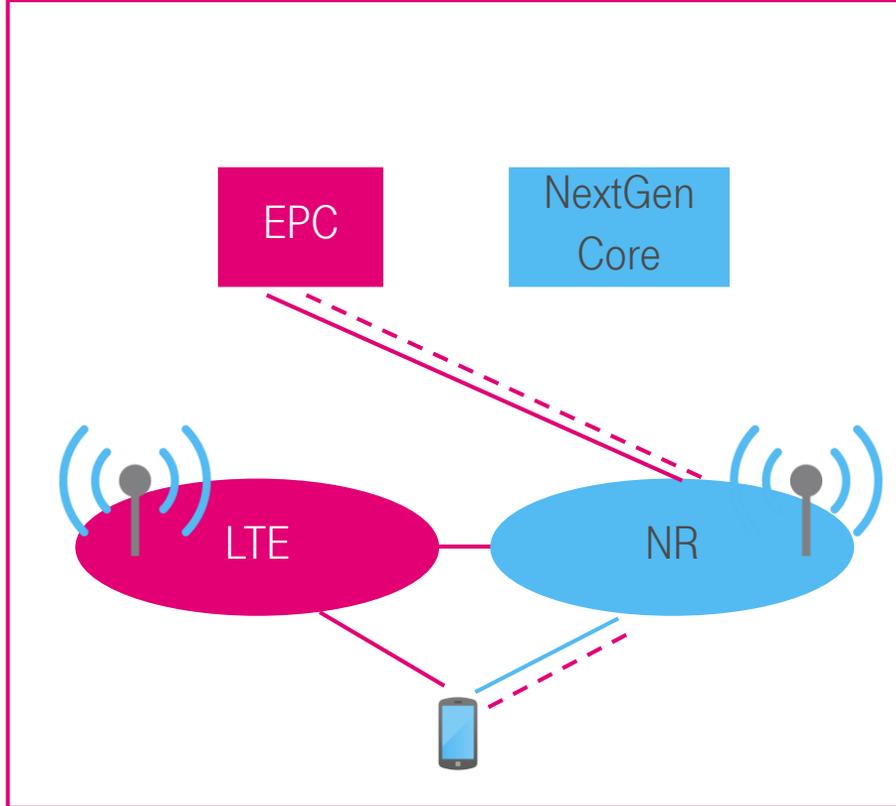


# 5G SCENARIOS IN 3GPP NR & NEXTGENCORE (5/6)

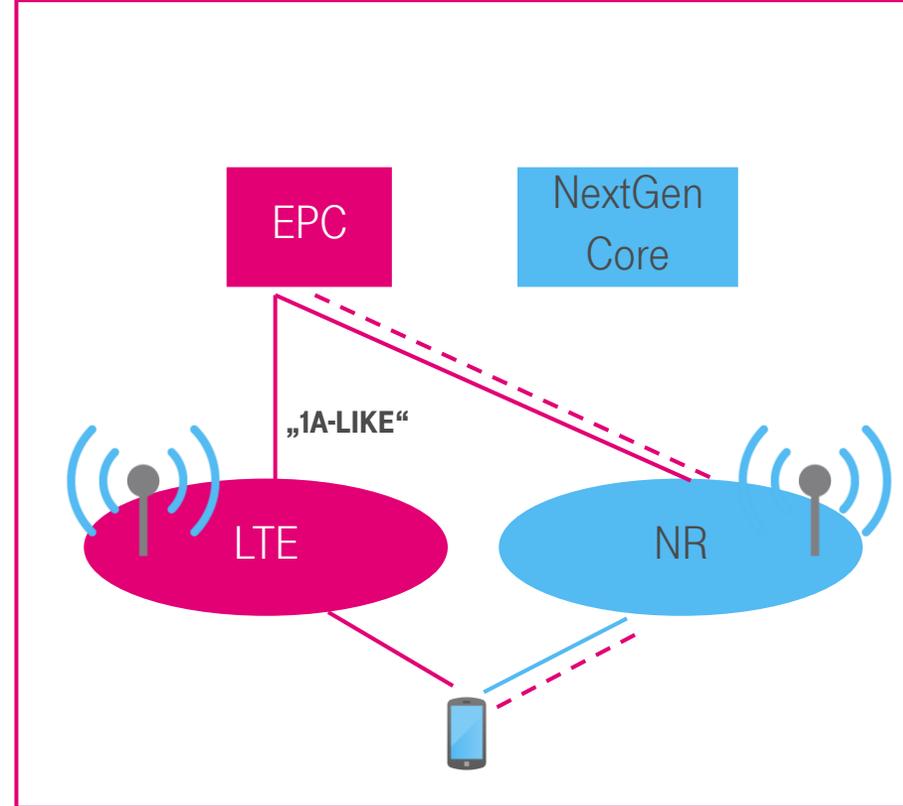


# 5G SCENARIOS IN 3GPP NR & NEXTGENCORE (6/6)

8) Non-Standalone/"NR assisted", EPC connected



8a) Non-Standalone/"NR assisted", EPC connected



# QUESTIONS AND CONCLUSIONS

- **SCENARIO 1) IS LEGACY → 11 OPTIONS REMAIN**
- **DOES 3GPP NEED TO SUPPORT ALL REMAINING 11 ARCHITECTURE OPTIONS ?**
- **IS THERE A PHASING POSSIBLE / DESIRABLE ?**
- **HOW TO ENSURE FORWARD COMPATIBILITY IN ORDER TO AVOID GLOBAL FRAGMENTATION, ESPECIALLY CONSIDERING ROAMING ?**

# STATUS OF RAN2 / RAN3 DISCUSSIONS PER OPTION (KINDLY PROVIDED BY HIDEAKI-SAN)

	RAN2	RAN3
Scenario 1	-	-
Scenario 2	YES	YES
Scenario 3 / 3a	YES	YES
Scenario 4 / 4a	YES	YES
Scenario 5	NO	YES
Scenario 6	NO	NO ?
Scenario 7 / 7a	YES	YES
Scenario 8 / 8a	NO	NO



**QUESTIONS ?**  
**LIFE IS FOR SHARING.**



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