RunEL
NGMT-Next Generation Mobile Technology

RunEL
Sparq-2020

RunEL- Revolutionizing

Company Profile

Strategic collaboration- 2020

Disclaimer: The information in this presentation is RunEL's property and might be changed by company without prior notice

RunEL
NGMT-Next Generation Mobile Technology

RunEL
NGMT-Next Generation Mobile Technology

Imagine perceived Zero Latency

V2X

CONNECTED CARS

RunEL

NGMT-Next Generation Mobile Technology

Imagine perceived Zero Latency

DRONES

COMMUNICATION

RunEL
NGMT-Next Generation Mobile Technology

Imagine perceived Zero Latency

REMOTE SURGERY

RunEL
NGMT-Next Generation Mobile Technology

Imagine perceived Zero Latency

AUTOMATED FACTORY

RunEL
NGMT-Next Generation Mobile Technology

Imagine perceived Zero Latency

VIRTUAL REALITY

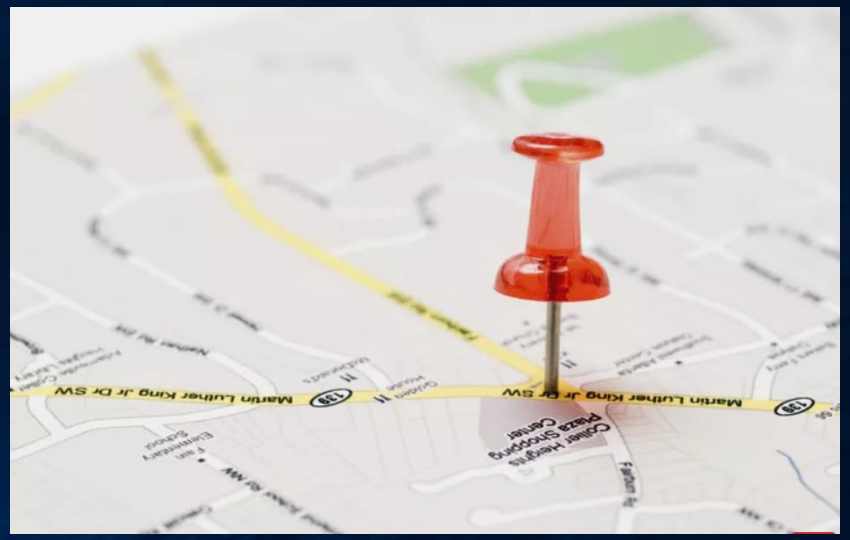
RunEL
NGMT-Next Generation Mobile Technology

Imagine perceived Zero Latency

On-Line Gaming

RunEL
NGMT-Next Generation Mobile Technology

Location



RunEL
Sparq-2020

RunEL
NGMT-Next Generation Mobile Technology

Imagine 1 cm location accuracy

Robotics

RunEL
NGMT-Next Generation Mobile Technology

Imagine 1 cm location accuracy

Tactile Internet

RunEL
NGMT-Next Generation Mobile Technology

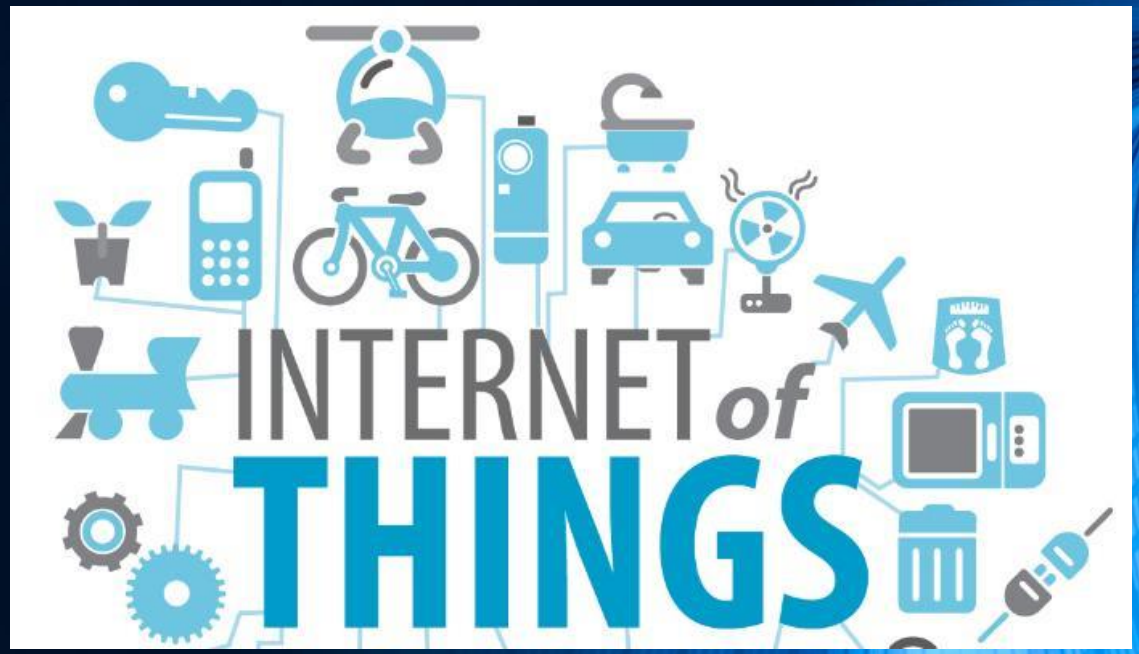
Imagine 1 cm location accuracy

Autonomous Warehouse

RunEL
NGMT-Next Generation Mobile Technology

Imagine 1 cm location accuracy

IOT



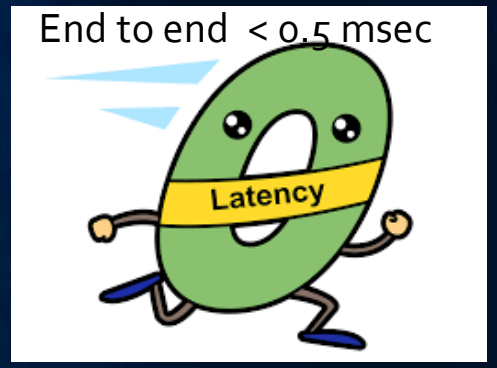
RunEL Offering

RUNEL IS INTRODUCING THE Sparq-2020 SoC

- 5G 3GPP STANDARD COMPLIANT (REL-15, REL-16 READY)
- INCLUDES 5G PHYSICAL AND MAC LAYER (L1, L2)
- SoC (FPGA) BASED (16 NM TECHNOLOGY)
- MAIN FEATURES:
  - 4 x 200 MHz BW
  - > 10 Gbps Capacity (with carrier aggregation)
  - Round trip Latency < 0.5 msec
  - 1 cm UE location Accuracy
  - PHY split with O-RAN Interface
  - MU-MIMO; Beam Forming, CoMP

RunEL
NGMT-Next Generation Mobile Technology

Sparq-2020 Main Competitive Advantage



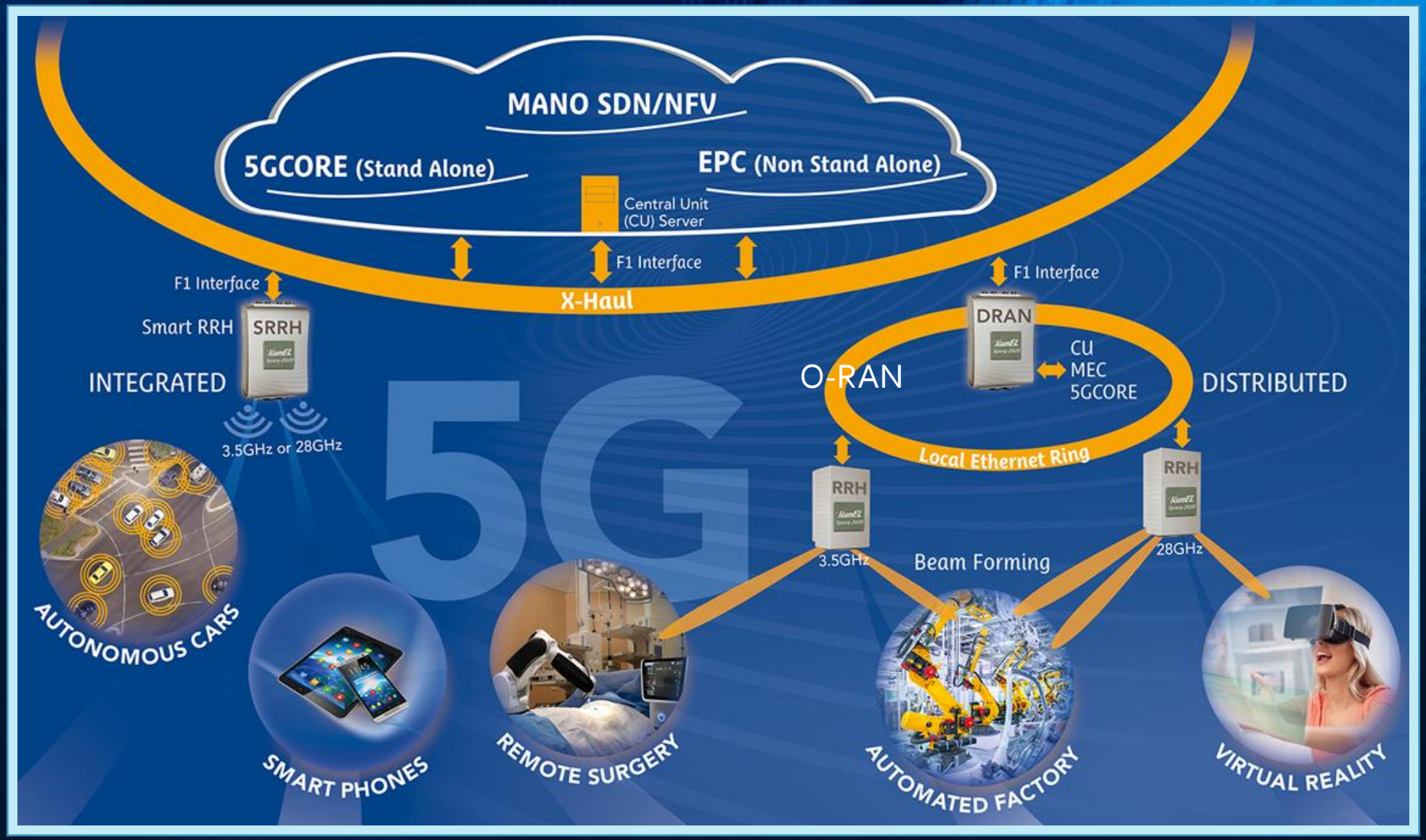
ROUND TRIP LATENCY < 0.5 MILLISECONDS DUE TO:

- USE OF MINISLOTS
- SHORT TTI
- DISTRIBUTED ARCHITECTURE
- HW BASED MAC WITH AI SCHEDULER
- EDGE CLOUD WITH MEC
-

1-CENTIMETER UE LOCATION ACCURACY DUE TO :

- PATENT PENDING ALGORITHM TO MEASURE **DIFFERENTIAL TIME OF ARRIVAL** OF OFDMA SIGNALS WITH ACCURACY OF SUB NANOSECONDS

The RunEL 5G Architecture



Sparq Family

Distributed O-DU

Sparq-2020-DRAN

Using Sparq-2020-2 SoC

O-RU

Sparq-2020-RRH

Using Sparq-2020-3 SoC

RunEL

NGMT-Next Generation Mobile Technology

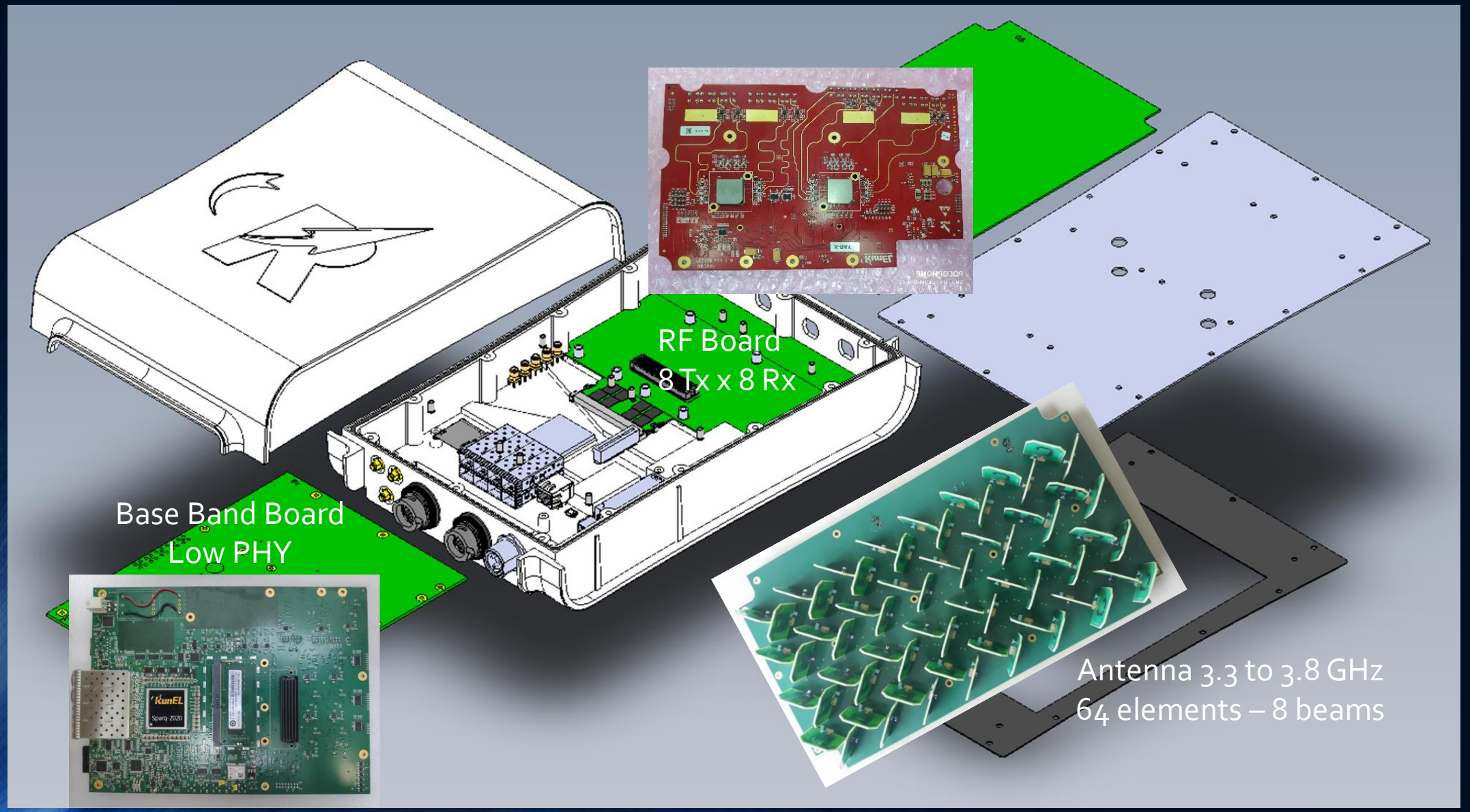
The RunEL Team

THE TEAM IS BASED ON 20 EXPERIENCED RESEARCHERS, LEADED BY DR. ZION HADAD, OFDMA TECHNOLOGY INVENTOR WHICH BECAME THE BASIS FOR THE 4G NETWORKS (LTE AND WIMAX) DEPLOYED TODAY.

RunEL
NGMT-Next Generation Mobile Technology

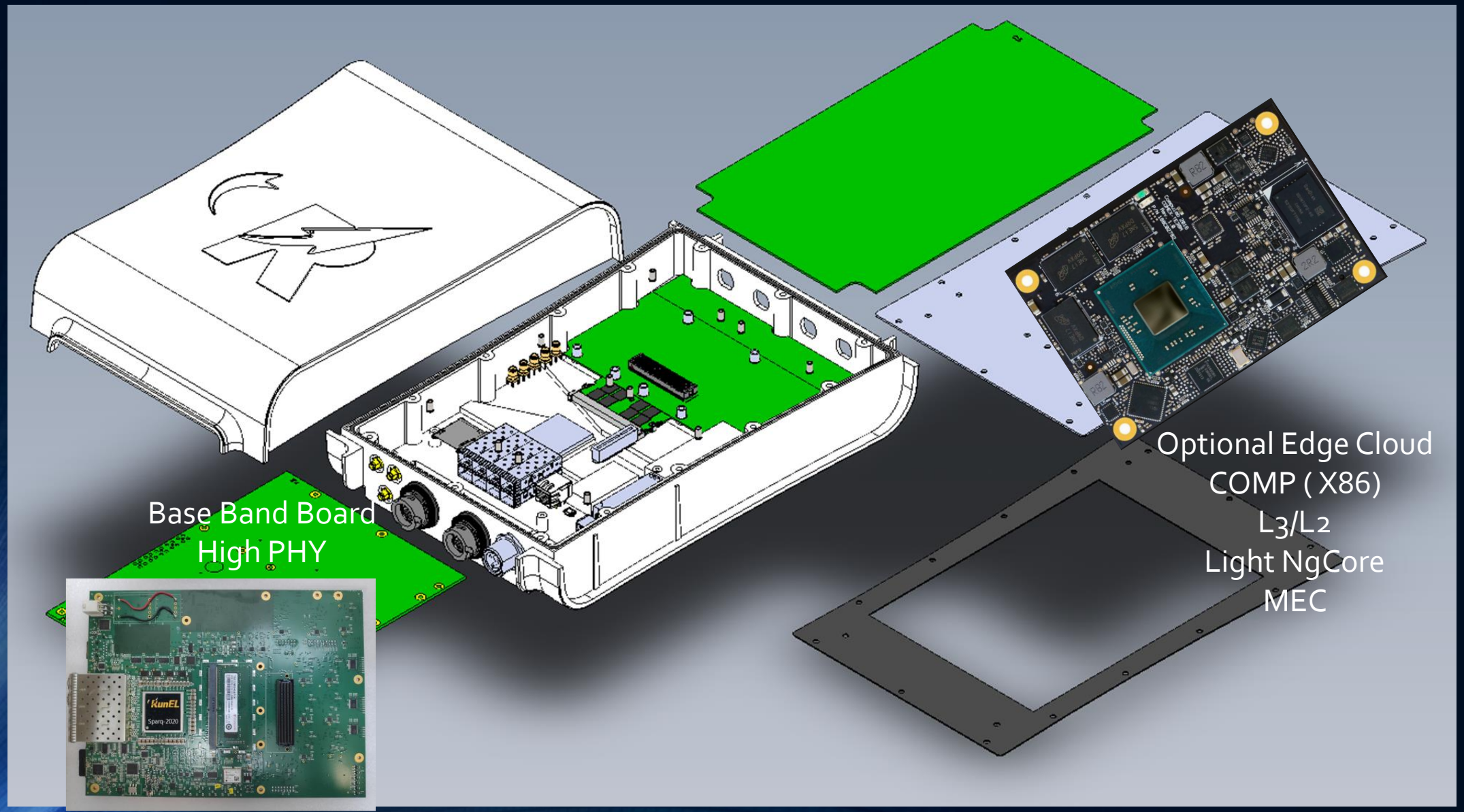
RunEL- RRH Reference Design- O-RU

Demonstrating a 3.5 GHz RRH



RunEL- DRAN Reference Design –O-DU

Demonstrating a 3.5 GHz RRH



Collaboration proposal

RUNEL WILL DELIVER COMPLETE O-DU AND O-RU REFERENCE DESIGN:

- O-DU and O-RU complete manufacturing files with: Gerber files, Part List, Manufacturing and Testing Instructions , APIs and Execution SW files that will enable customer Independent Manufacturing
- O-DU and 4 X O-RU working samples
- 2 x Sparq-2020-2 SoC and 10 x Sparq-2020-3 RFSoC
- O-DU and O-RU on site Bring Up Support
- 1 Year of Remote Support via email and phone
- 1 Year of Bug fix and Remote SW upgrades (RELEASE -15)
- Delivery Q2 2020

RunEL
NGMT-Next Generation Mobile Technology

RunEL
NGMT-Next Generation Mobile Technology

Thank you

Israel Koffman
israelk@runel.net
www.runel.net
972 54 5303110