

# Introduction of Baicells

# About Baicells

Baicells is a customer-oriented high-tech company providing innovative and affordable LTE solutions, which can be used by mobile operators, fixed/wireless operators and ISPs, MNO/MVNO, governments and enterprise private networks.

With advanced innovative technology from America and precise manufacturing capability from China, Baicells focuses on wireless broadband access, operation platforms, and next generation wireless solutions. Baicells' products include indoor and outdoor Small Cells, Gateway, Cloud based EPC, Cloud based O&M, CPE, Antenna, etc.

With the vision of “**connecting more with less, driving the ultimate LTE experience**”, Baicells has introduced some real breakthrough technologies to LTE, including OpenRAN architecture, SDN network based on IT architecture as well as LTE on unlicensed spectrum (5.8GHz/CBRS etc). With Baicells' end-to-end turnkey solutions, it becomes much easier for operators and ISPs to provide wireless broadband within everyone's reach.



# Connecting More with Less, Driving the Ultimate LTE Experience

Delivering Connections That Are

- **Ubiquitous**

We aim to connect all the unconnected areas in the world. Our goal is to facilitate a connected world where all people can enjoy the internet.

- **Green**

Our base stations are smaller in size and require less power consumption, which means less carbon emission and a healthier environment.

- **Affordable**

We dream of a world where connection is accessible to everyone. Bid farewell to expensive and complicated wireless networks.





- Part 01 Market Progress
- Part 02 Products
- Part 03 Case Study
- Part 04 Innovation
- Part 05 Supply Chain



# Market performance by October of 2017



350+

Commercial Deployment



25+

Products



7

Office



260+

Patents



350+

Employees

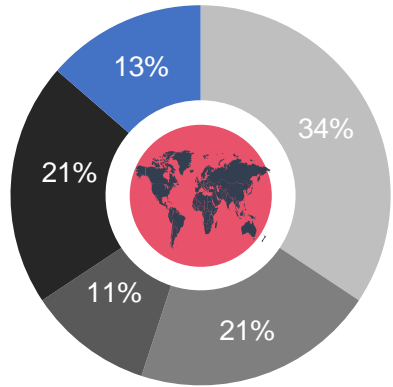


75%

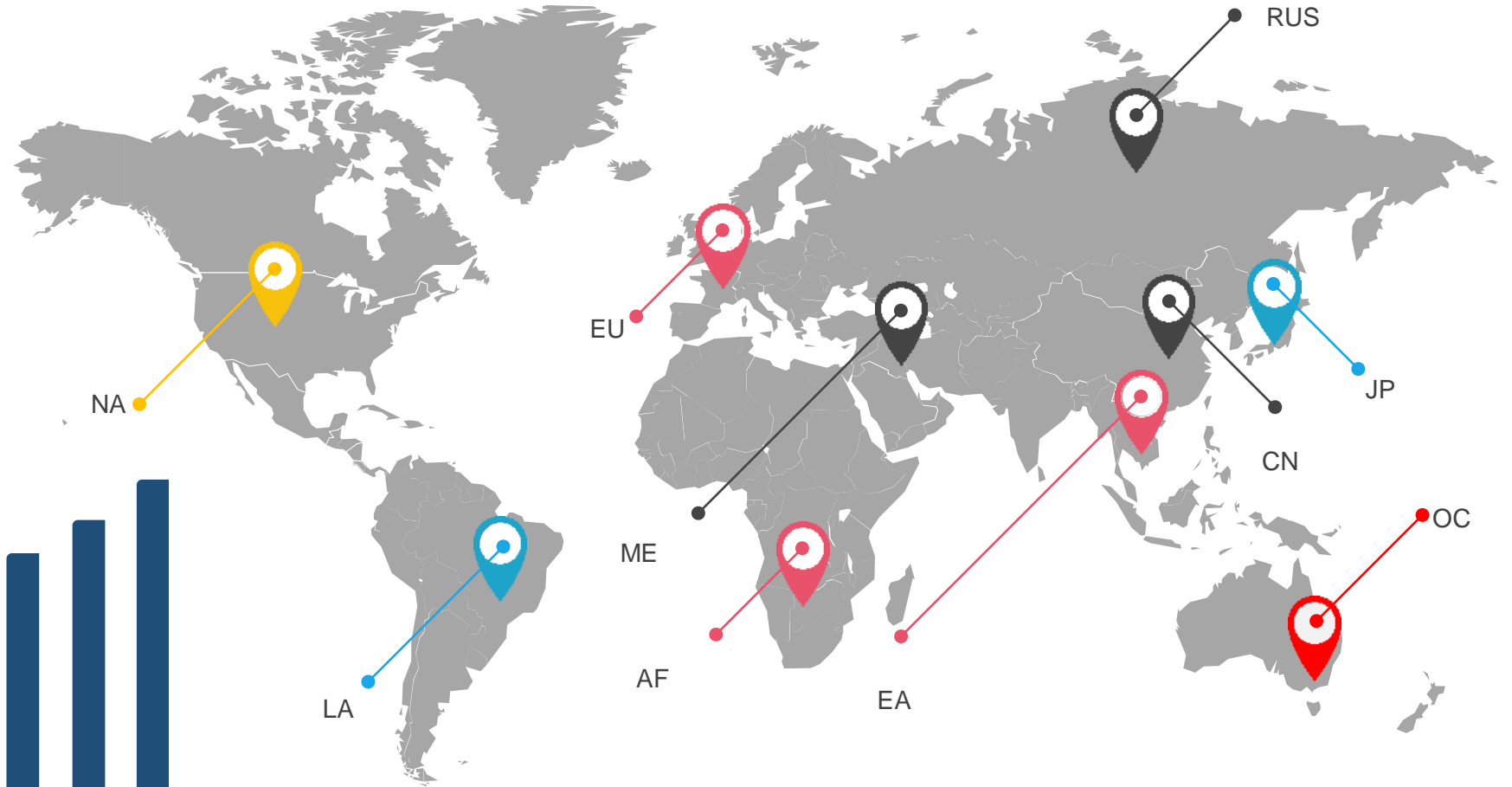
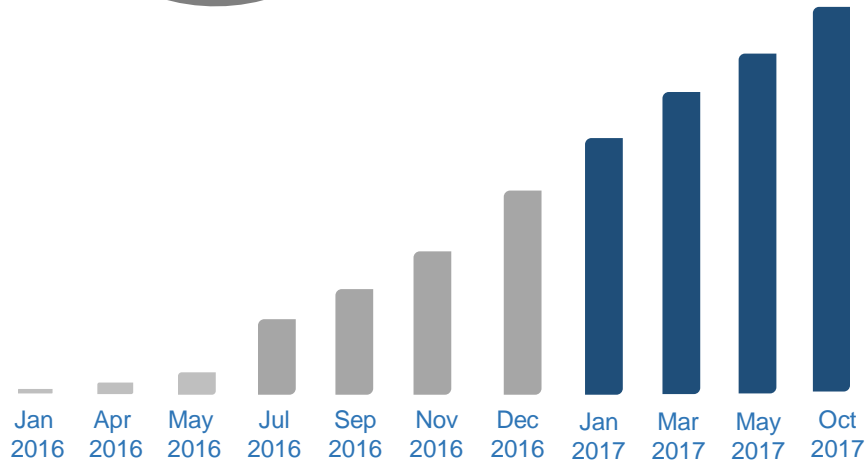
R&D Engineers



# Global Market Progress

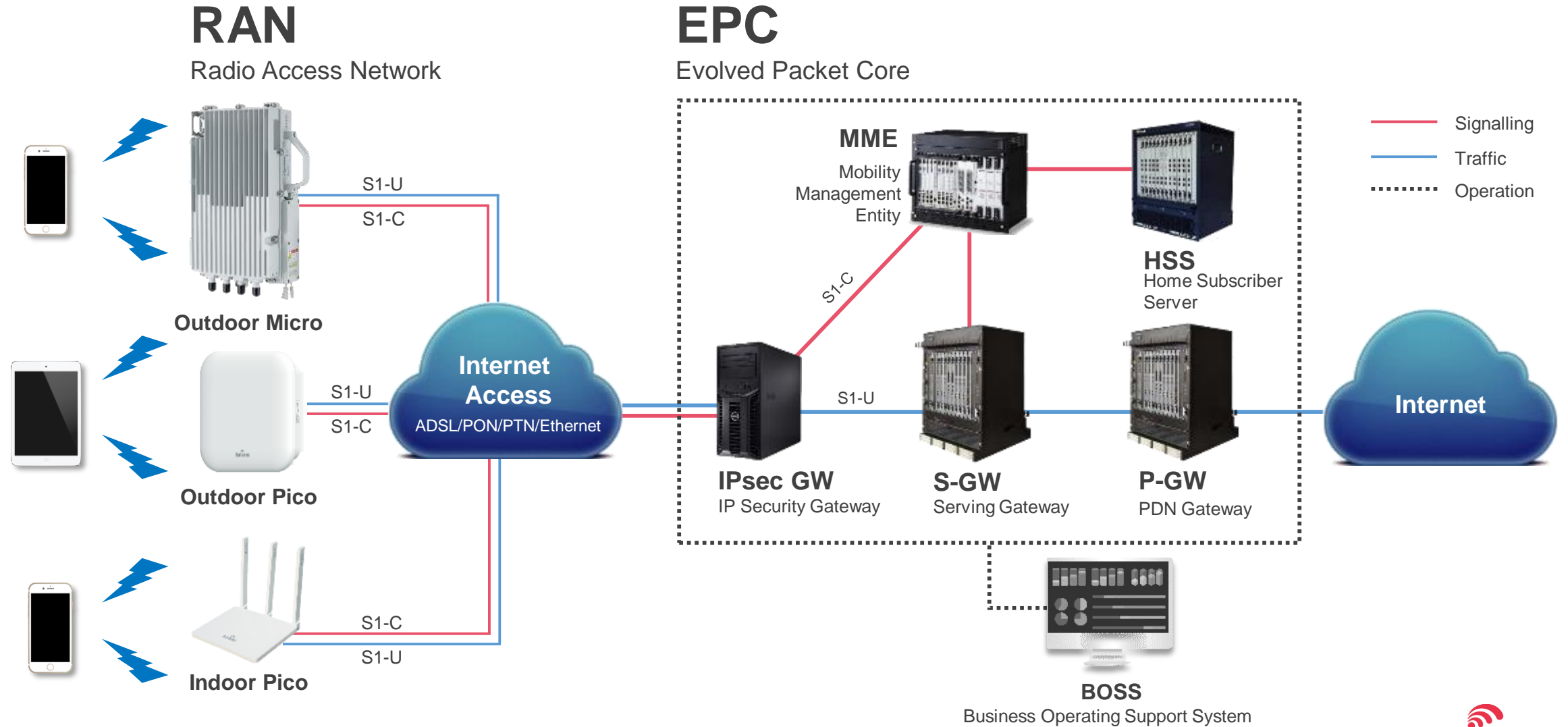


- NA
- AP
- LA
- EU
- MENA



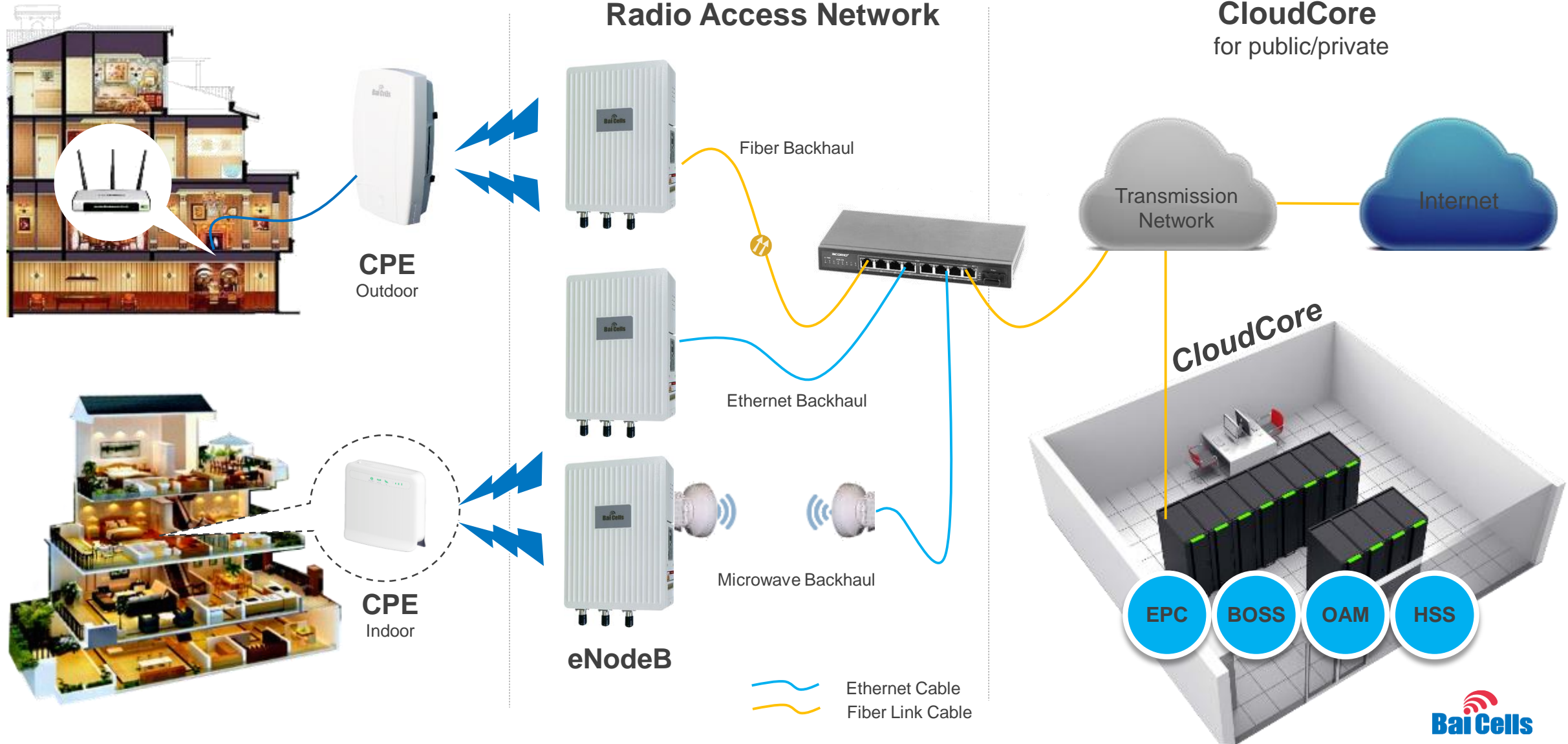


# MBB Solution for Mobile Operators



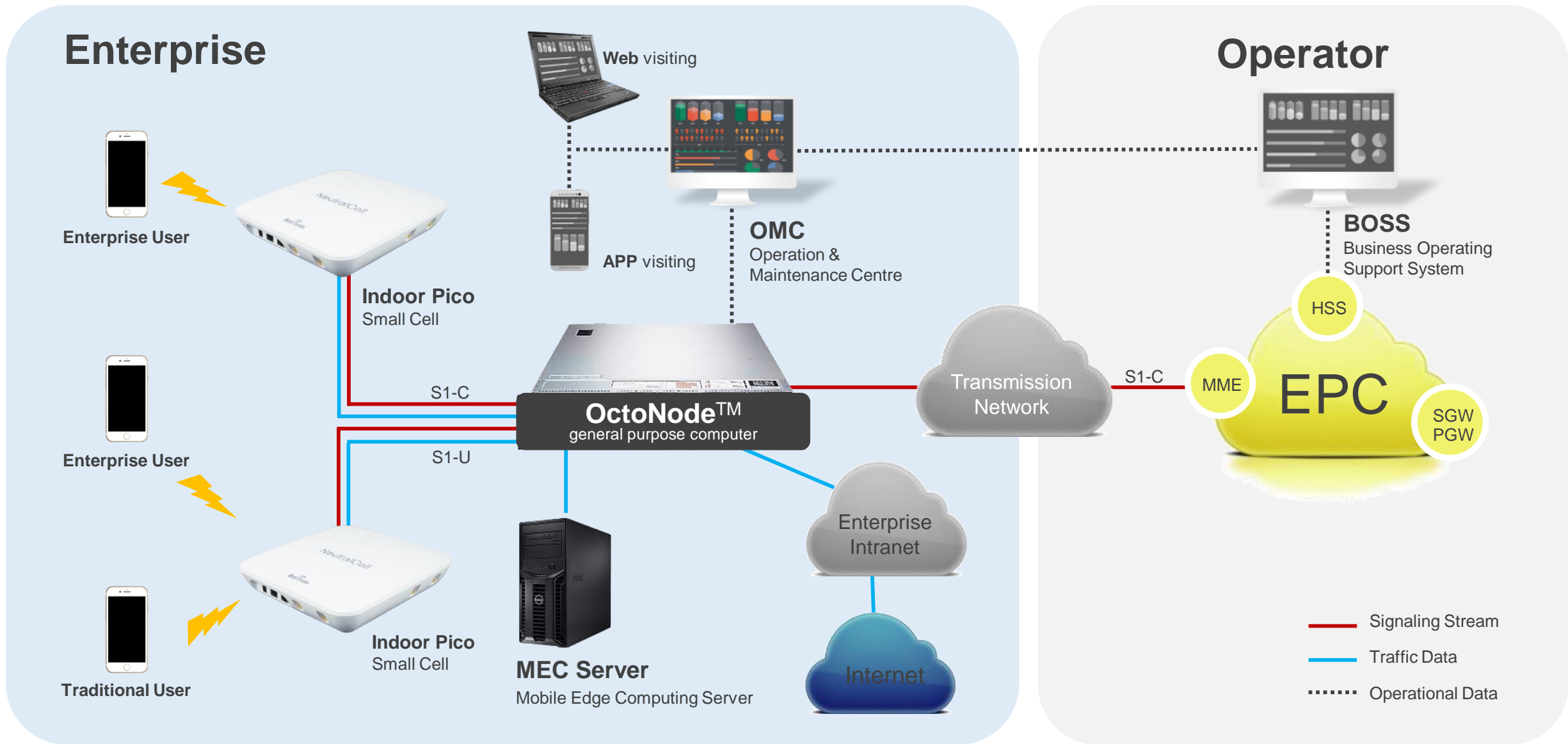


# Fixed LTE Solution for FWA operators



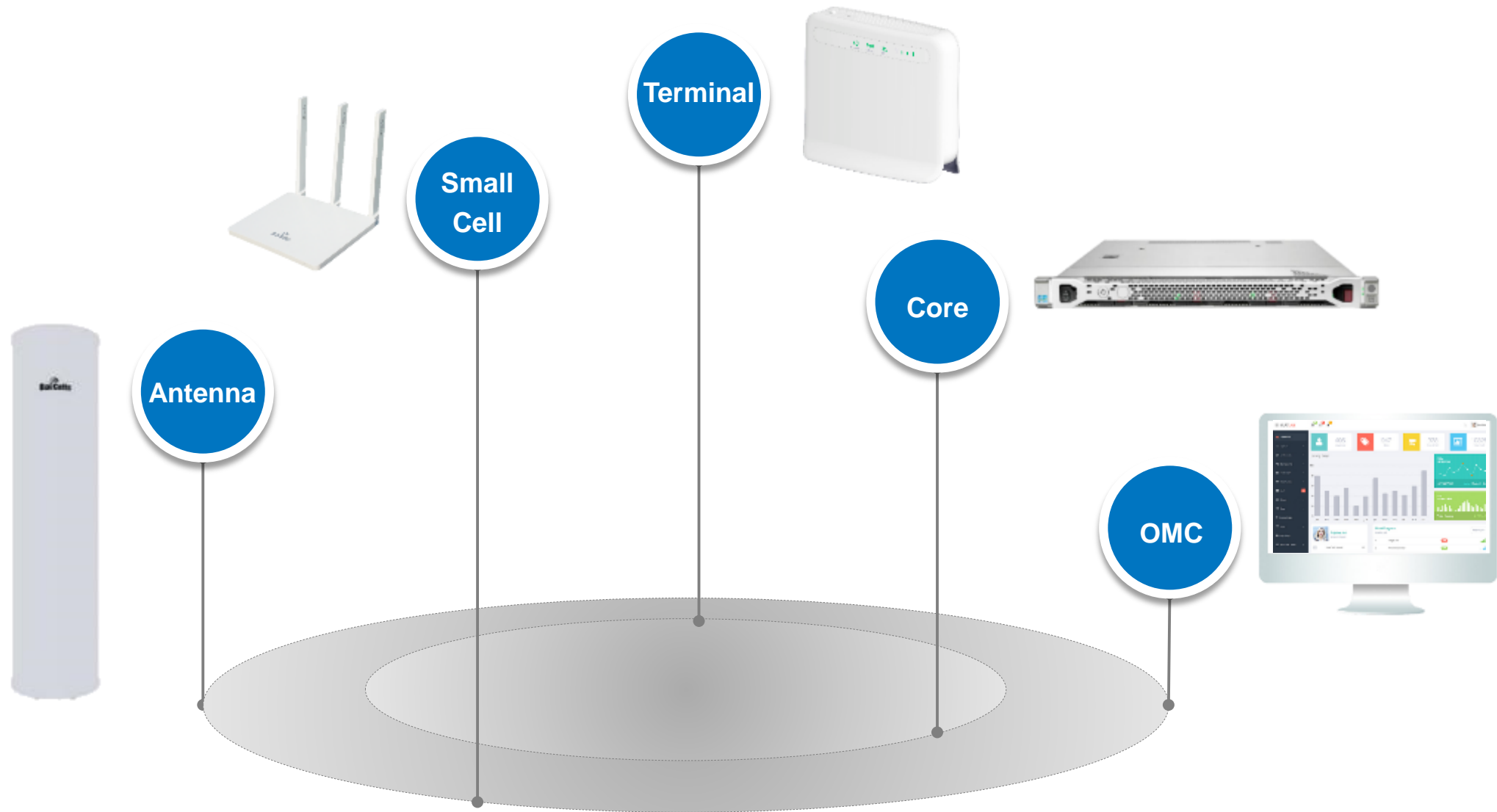


# OctoNet™ Solution for 4G Enterprise Network

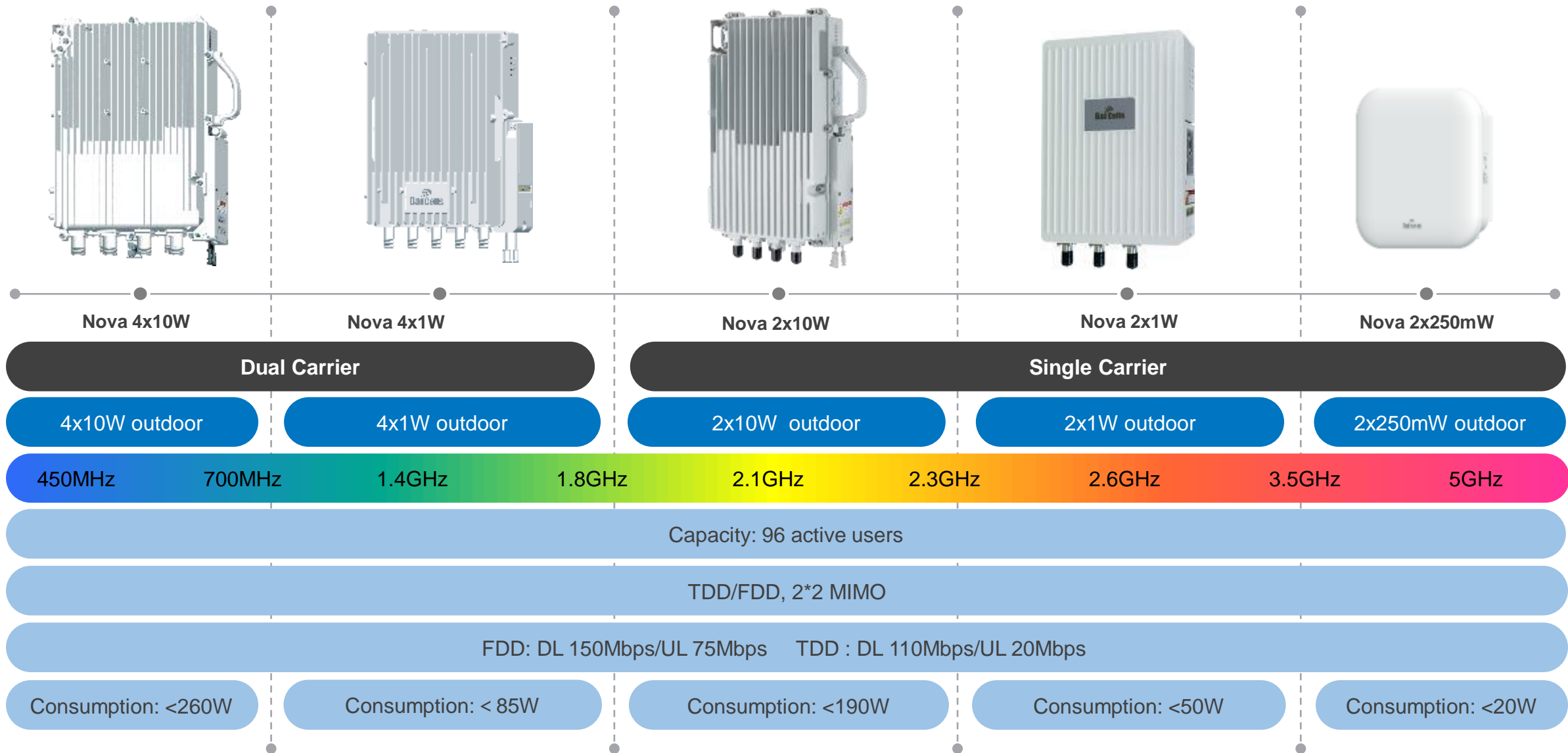




# Baicells E2E Products Portfolio

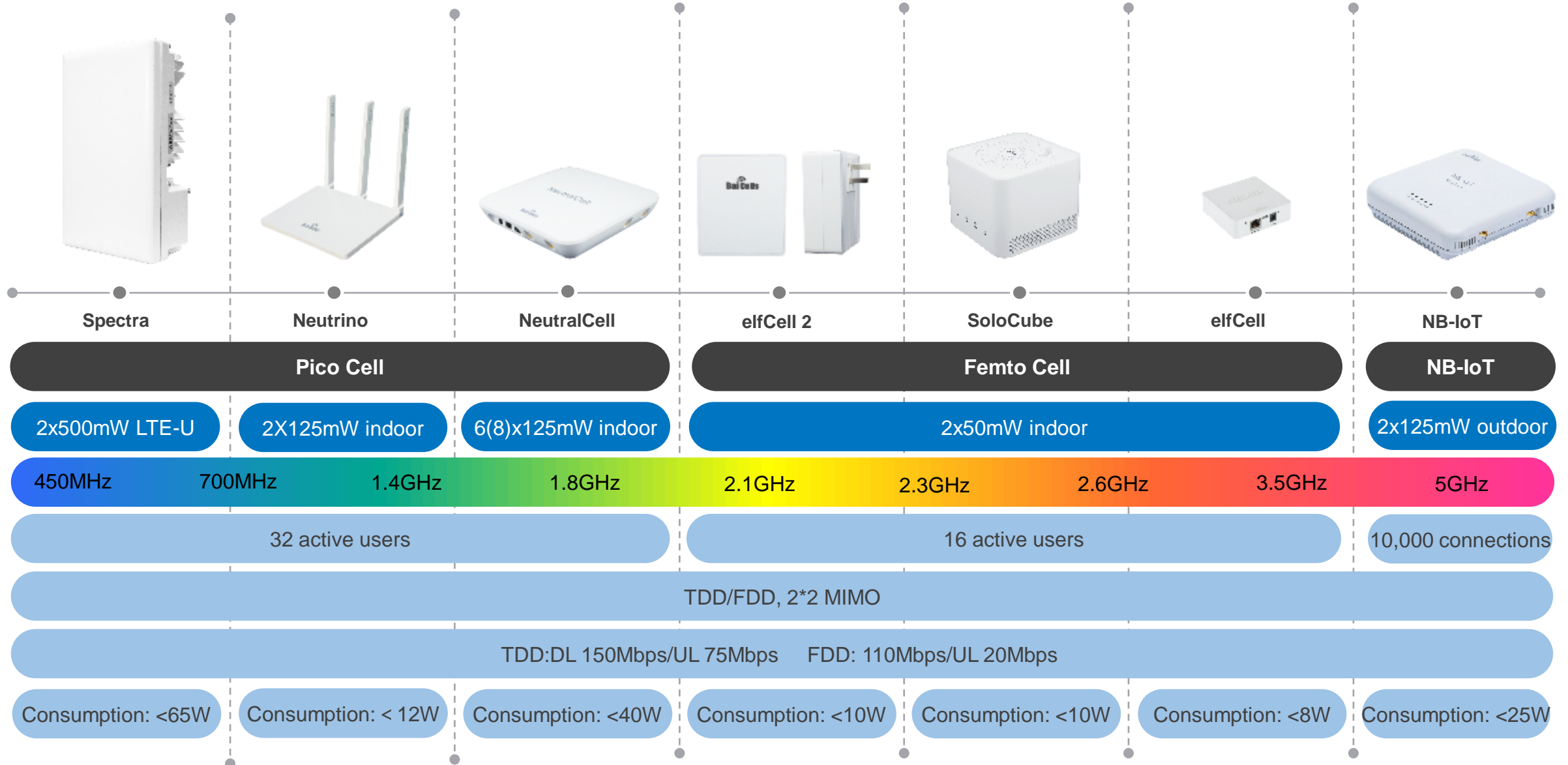


# Baicells Small Cell Series





# Baicells Small Cell Series



# Baicells LTE Terminal Series(Cat4 & Cat6)



Atom-5



Atom-6.5



Atom-11



Atom-14



Atom-19.5

## Indoor CPE

Low-gain Internal Antenna 5dBi

Low-gain Internal Antenna 6.5dBi

Wi-Fi: 802.11 b/g/n, Max. Thp:300Mbps

Power supplier: 220v AC to 12v

Weight: <0.5kg

## Outdoor CPE

Medium-gain Internal Antenna 11dBi

Medium-gain Internal Antenna 14dBi

High-gain Internal Antenna 19.5dBi

Ethernet: 1x100Mbps, Electronic

Power supplier: 220v AC to 24v PoE (Power over Ethernet)

Weight: <2kg

LTE Max. Throughput: FDD DL 150Mbps/UL 50Mbps, TDD DL 110Mbps/ UL 25Mbps



# Baicells LTE P2P Backhaul Series

**BaiLink  
2x2 Lite**

23 dBi Internal Antenna



**BaiLink  
2x2 Pro**

23 dBi Internal Antenna

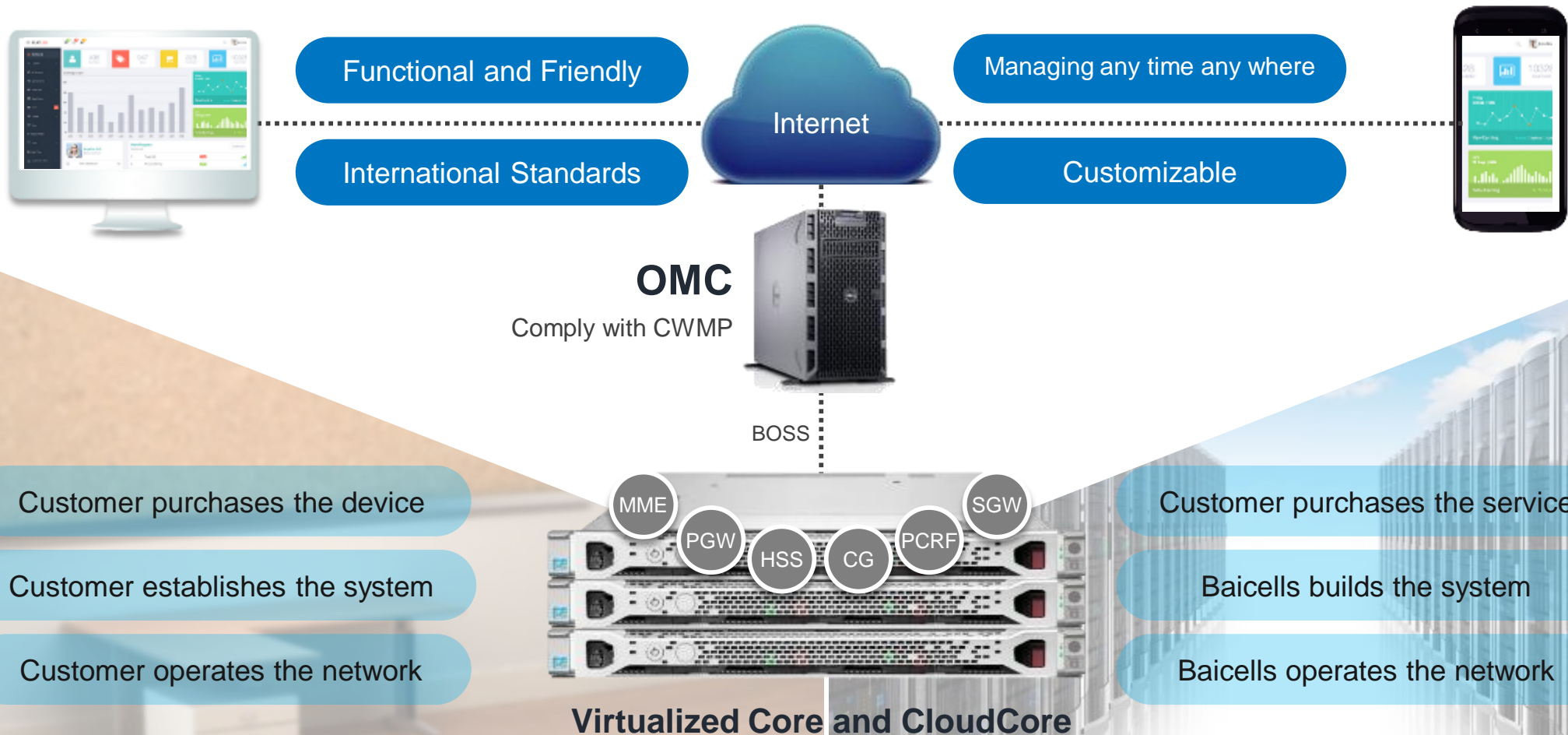


**BaiLink  
2x2 Pro**

Support external Antenna



# Baicells CloudCore & Operational Maintenance Center



By purchasing Virtualized Core Network Device and CloudCore service, the managed user number and eNodeB number can be extended infinitely

# Non-LOS Case in Rural Area — Customer A



10  
UEs

Non  
Los

60Mbps  
per Link

Distance between eNodeB and each UE

eNB    1mile    2mile    3mile    4mile

UE 1

UE 2

UE 3 , > 4miles

UE 4

UE 5

UE 6 , > 4miles

UE 7

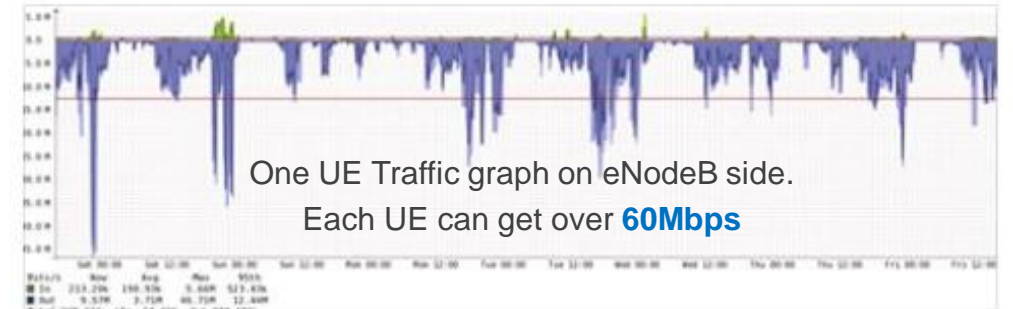
UE 8

UE 9

UE 10

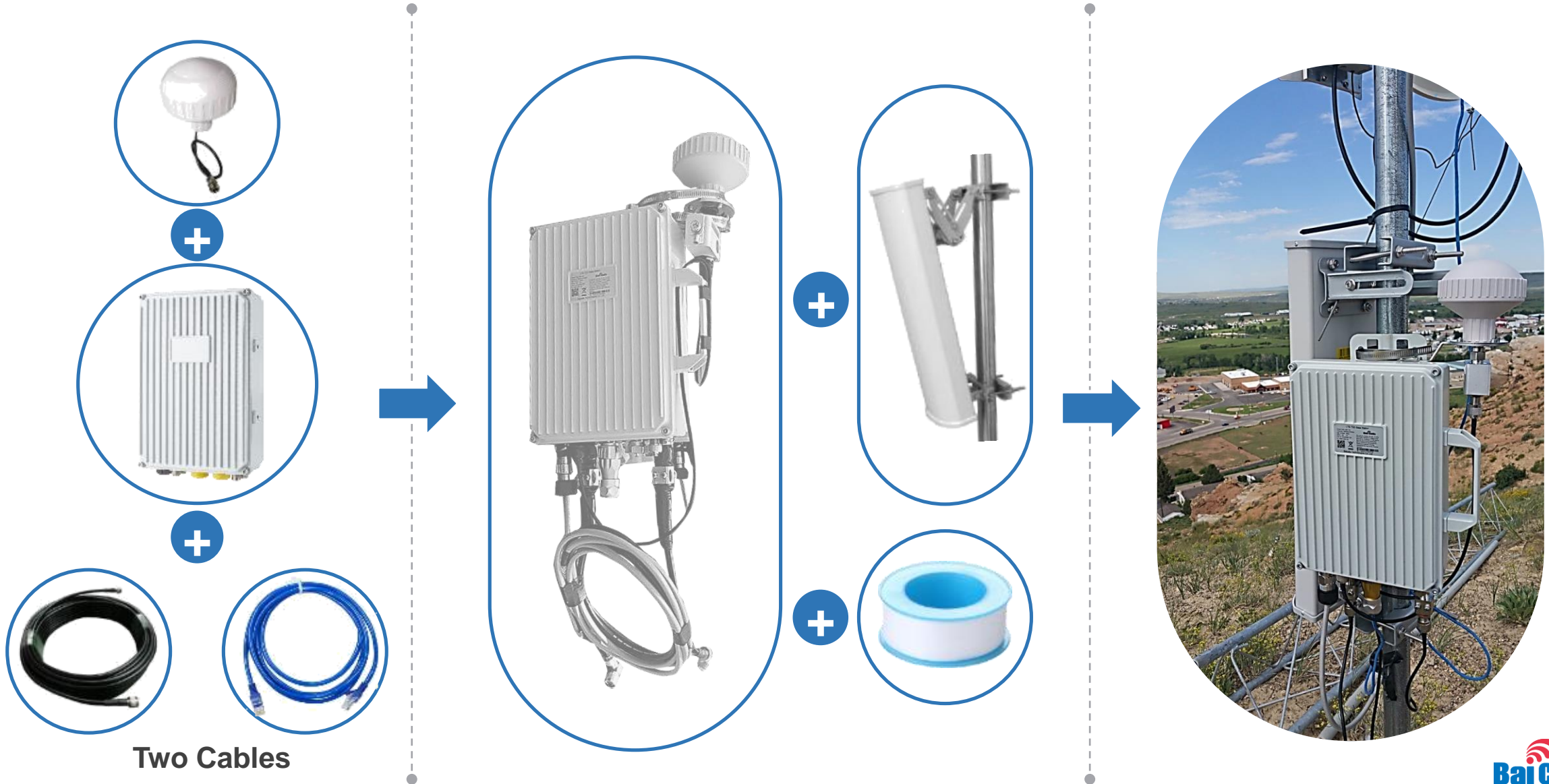
## A Customer A

Here is the traffic graph for the last week on our eNodeB. We have 10 UEs on it. We have 3-4 more going up next week. Almost every link is nlos, most within a mile and a couple at 4 miles. All links get well over 60mb except for 1. It would seem to be handling peak times very well! 😊



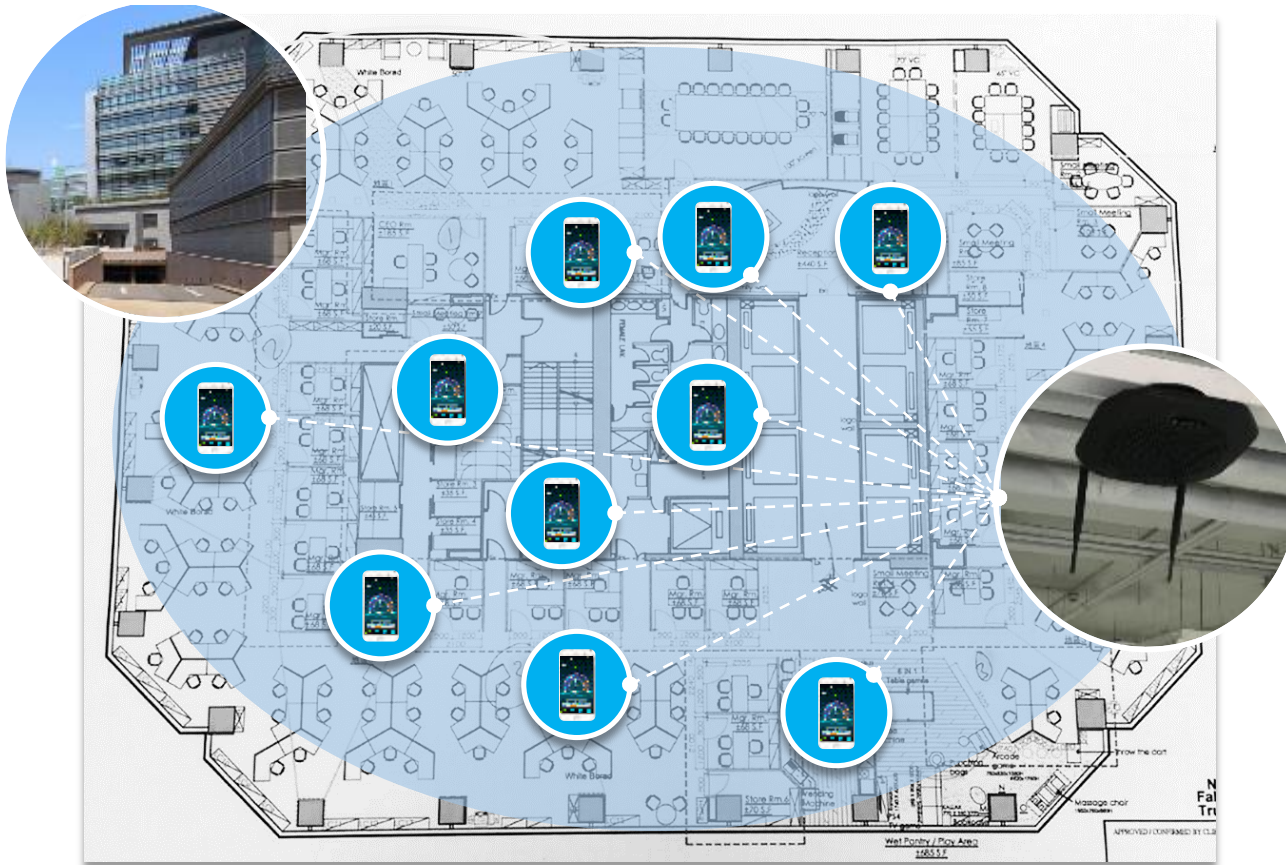


# Easy Installation — Customer B

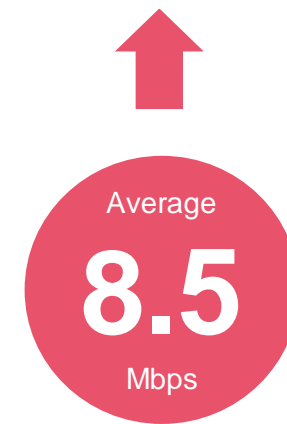


Two Cables

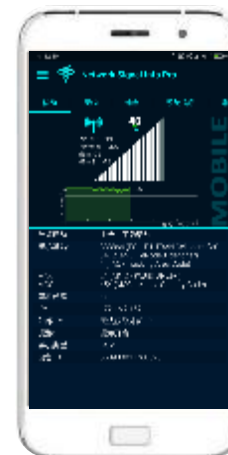
# Indoor Coverage — Customer C



In one of the customer C's office, Baicells helps on covering about **1226m<sup>2</sup>** (42.5m X 32 m) area with **one 2x125mW Small Cell**.



**Internet Speedtest:**  
Downlink Average Speed: 90.3Mbps  
Uplink Average Speed : 8.5Mbps



# Non-LOS Case in Rural Area — Customer D

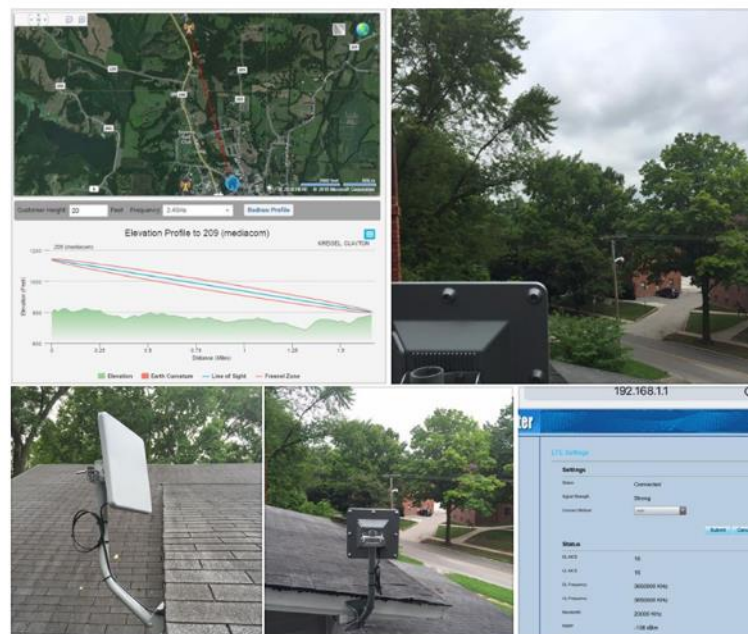
## E Customer D

This was a 2.4 customer with NanoStation M2 in a noisy environment. 5.8 is not an option. Switched to Baicells today and we see max signal across the board. Speed tests were maxing out at around 55Mbps but I suspect I have a bottleneck on my backhaul to here. So far very impressed!



## E Customer D

We installed this today! No possible way of getting any other connection in here! Trees! Trees! Trees! Oh, and a 100 year old brick building or two also!!



**Under a heavy non-Line of sight case, Baicells' product technology can penetrate brick building and work very well.**



AirLink Rural Broadband



# Technology is the driving power



## Small Cell Tech

Small cell represents a higher spectrum efficiency, especially suitable for 4G high speed data business trends, 80% of the data occurred in the indoor scene, but also can be a priority in the macro cellular expansion.

## Light Operational Tech

Light Core network and operation support system are supporting services designed for the small cell network. Fast opening and on-line, convenient for the crowdsourcing and enterprise network construction. Cloud platform based architecture can let expansion and upgrading faster.

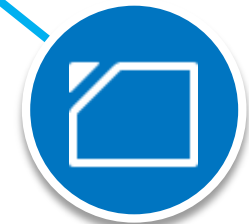


## Content Optimization and Tunnel Intelligence

Optimization of content and operation is the innovation of intelligent tunnel, which makes full use of the aggregation function of access point and gateway to provide value-added services for the Internet.

## Soft SIM Tech

Soft SIM technology can become the weapon for operator to absorb the flow. In the hot spot, for small cells' deployment, It allow users to enjoy high-speed Internet access away from security threats of WiFi.





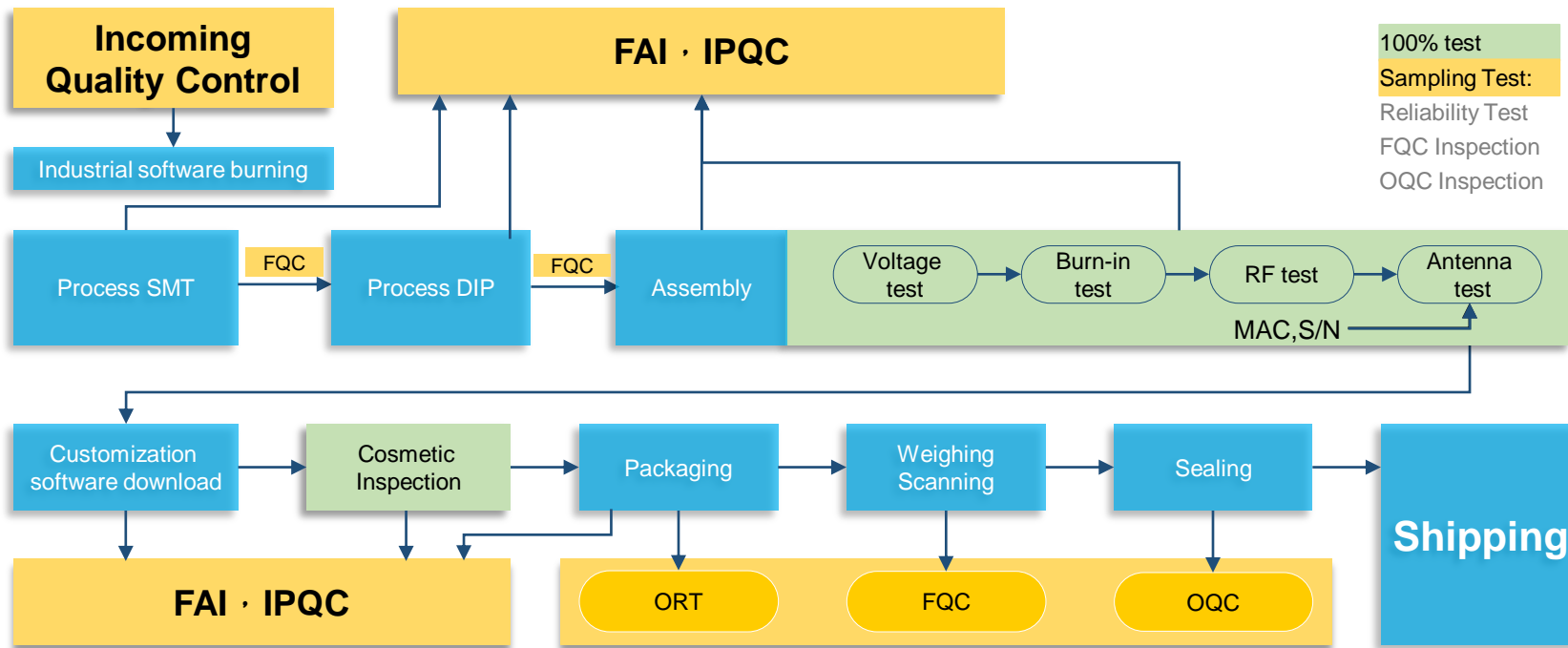
# With Giant Partners to build stable-controllable-scalable Supply Chain

- Vertical supply buffer, to fulfill customer order all-time
- Be aggressive on demand management: keep in sync with Sales and always stand by
- Monthly capacity: 10K+/m, and capacity ramp up 5times within 1 month



## Process Quality Control

Rigorous process quality control, without leaking any quality risk.



## Partner with Giant Suppliers





# Giant partners with stable relationship





**Thanks**



# Abbreviation

Abbreviation	
AMBR	Aggregate Maximum Bit Rate
APN	Access Point Name
ARP	Allocation and Retention Priority
AVP	Attribute Value Pair
BOSS	Business and Operation Support System
CBC	Cell Broadcast Centre
CBE	Cell Broadcast Entity
EPC	Evolved Packet Core
EPS	Evolved Packet System
EUTRAN	Evolved UTRAN
GBR	Guaranteed Bit Rate
GPRS	General Packet Radio Service
GUTI	Globally Unique Temporary UE Identity
GW	Gateway
HSS	Home Subscriber Server
IP-CAN	IP Connectivity Access Network
MME	Mobility Management Entity
ODB	Operator Determined Barring
UTRAN	Universal Terrestrial Radio Access Network

Abbreviation	
OMC	Operation and Maintenance Centre
OMU	Operation and Maintenance Unit
PCC	Policy and Charging Control
PCRF	Policy and Charging Rules Function
PDN GW	Packet Data Network GW or Public Data Network GW
QCI	QoS Class Identifier
QOS	Quality of Service
RAT	Radio Access Type
RAU	Router Area Update
SAE	System Architecture Evolution
SDF	Service Data Flow
SERVING GW	Serving Gate Way
SIM	Subscriber Identity Module
TAU	Tracking Area Update
TFT	Traffic Flow Template
TIN	Temporary Identity used in Next update
UE	User Equipment
URRP-MME	UE Reachability Request Parameter for MME
USIM	Umts Subscriber Identity Module