

The RADWIN logo is positioned in the top right corner of the slide. It consists of the word "RADWIN" in a bold, white, sans-serif font, centered within a horizontal rectangular bar. The bar has a color gradient from red on the left to orange on the right. The background behind the logo is a dark blue and grey geometric shape that appears to be a stylized corner or a folded piece of paper.

# RADWIN JET vs. TD LTE 3.5GHz including business case analysis

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## THE WIRELESS CONNECTIVITY CHOICE

# JET Advantages over TD-LTE 3.5GHz

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- Network CapEx

- Lower initial investment

- Ideal for new greenfield areas:

- Service can be initiated through single PtP link that can be evolved into PtMP (remote PtP unit can be converted by S/W to CPE)

- Ideal for small networks and small amount of subscribers per base given area (Save EPC cost , reduced Base station cost)

- Enable fast ROI in low users density deployment

- Smaller backhaul capacity is required – uplink traffic can be redirected without reaching the EPC

- Network OpEx

- Lower Base station power consumption (100w per site vs. 500w or more )

- Save in tower space (integrated sector antenna and GPS antenna)

- Flat network- simplified operation and maintenance

# JET Advantages over TD-LTE 3.5GHz

- Service

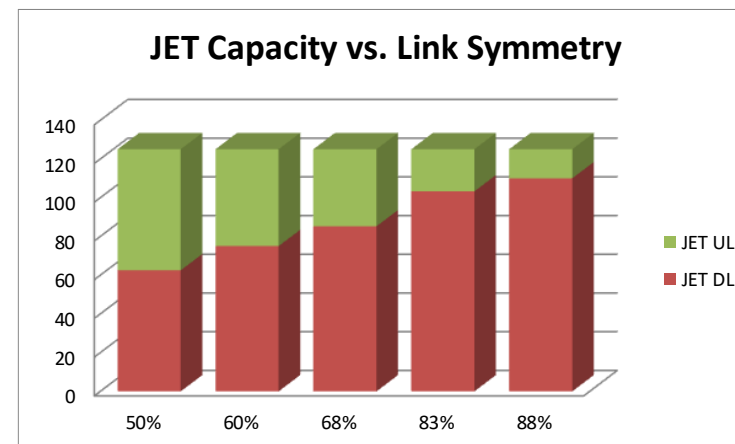
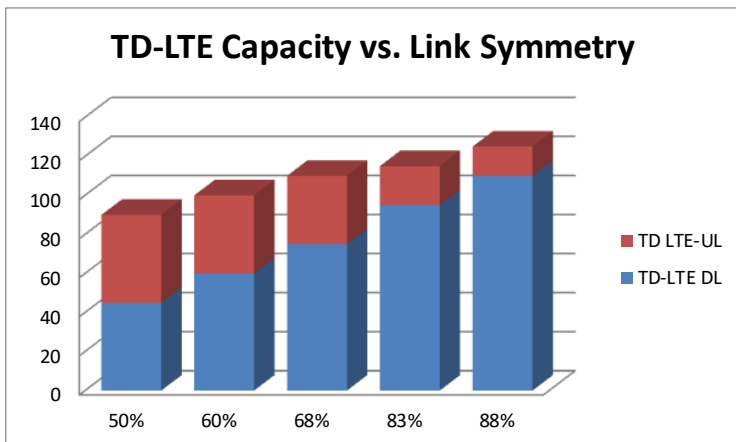
- Best supports Enterprise / SME customers

- Symmetrical traffic - aggregate capacity is maintained fix while in LTE the more symmetrical is the traffic the less is the aggregate capacity (see picture)

- Secured Committed Information Rate (CIR)

- Layer 2 support (VLAN, QinQ) – RADWIN solution is transparent to layer 2 while LTE is based on layer 3

- Better address Video Surveillance due to grater uplink capacity



# JET Advantages over TD-LTE 3.5GHz

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- Network Capacity
  - Greater up link capacity - QAM 256 or QAM 64 vs. QAM 16 , Low cost CPEs don't support Uplink MIMO (only downlink)
  - Beamforming avoids mutual interference between sectors. LTE sector capacity is reduced to half when works in reuse one.

# Business Case Assumptions

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- Operation channel: 20MHz , 3.5GHz
- LTE:
  - Sector Base station cost (including antenna) : \$8000
  - Outdoor 3.5GHz CPE cost : \$120
  - EPC cost: 0 ( it is assume that EPC is already available for mobile service)
  - For maximum capacity of sector the sector works in reuse 2 (rather than reuse 1)
- JET:
  - JET Base station including attached Beamforming antenna
  - Two CPE models for Enterprise and for residential
  - CPE with integrated 13dbi antenna

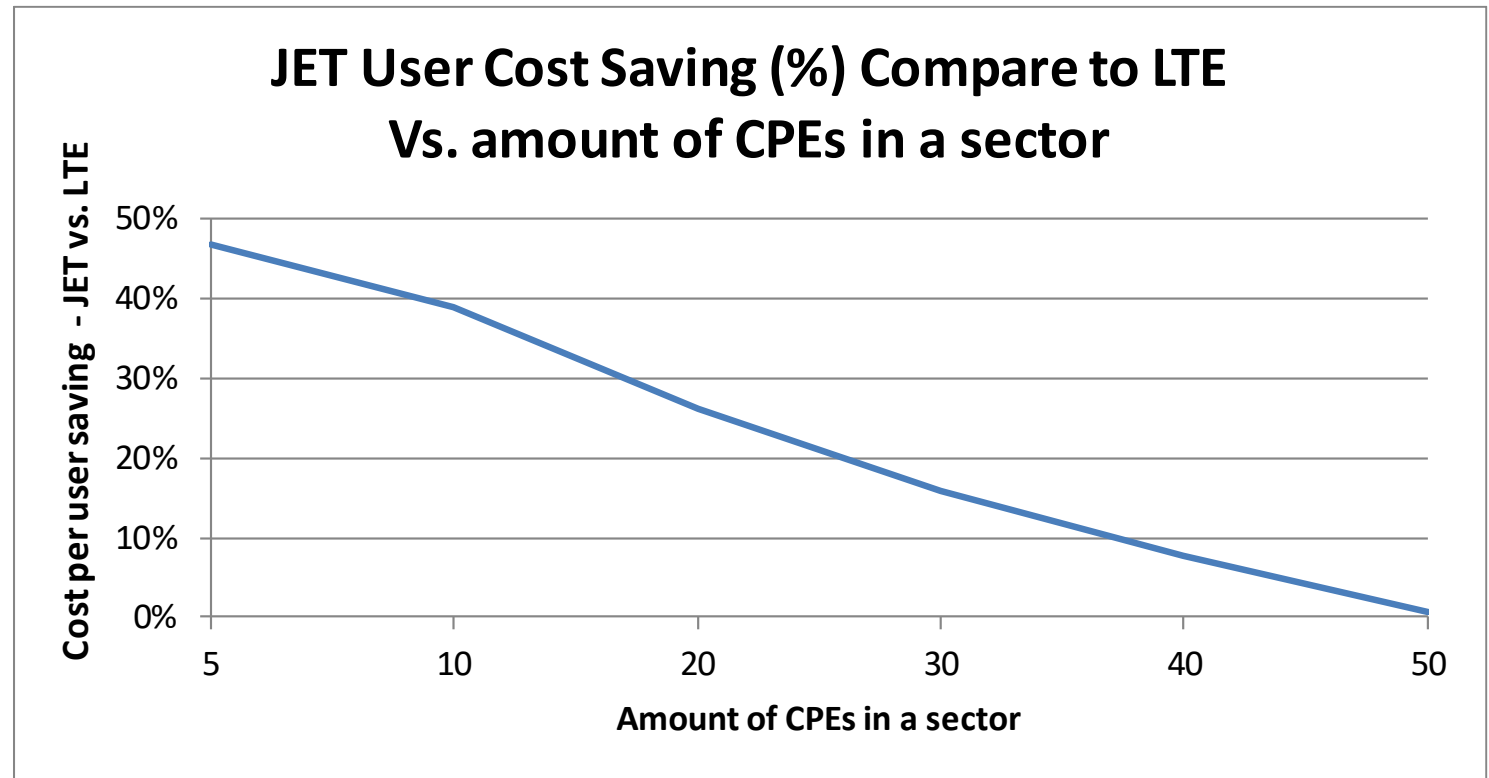
# Business Case Results Summary

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- Residential network (No SLA customers)
  - JET cost per residential user is lower than LTE by 50% to 10% when amount of users in a sector is below ~40.
- Enterprise network (SLA customers based on Committed Information Rate-CIR)
  - JET cost per enterprise user is lower than LTE by 50% to 10% when amount of users in a sector is below ~24.
  - The more symmetric is the CIR, the higher is the cost saving per user when using JET
  - The higher is the CIR , the higher is the saving of cost per user when using JET
  - JET cost per user is lower then LTE by far when DL: UL CIR ratio is 1:1
  - JET cost per user is lower than LTE by at least 20% for service of 4Mbps downlink CIR (even when DL:UL is 4:1)

# JET Vs. LTE – Residential User Cost

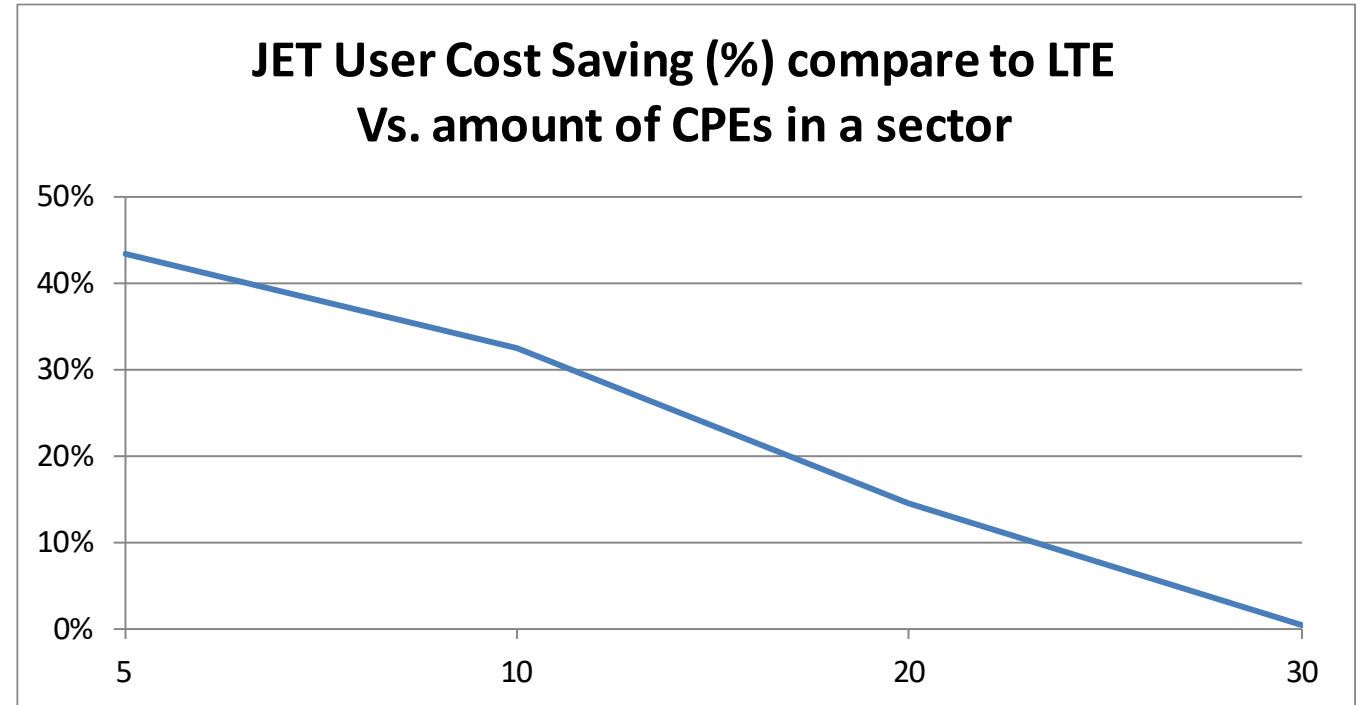
- JET cost per residential user is lower than LTE by 50% to 10% when amount of users in a sector is below ~40.



Cost per user – CPE + Base station overhead

# JET Vs. LTE User cost – Enterprise Service

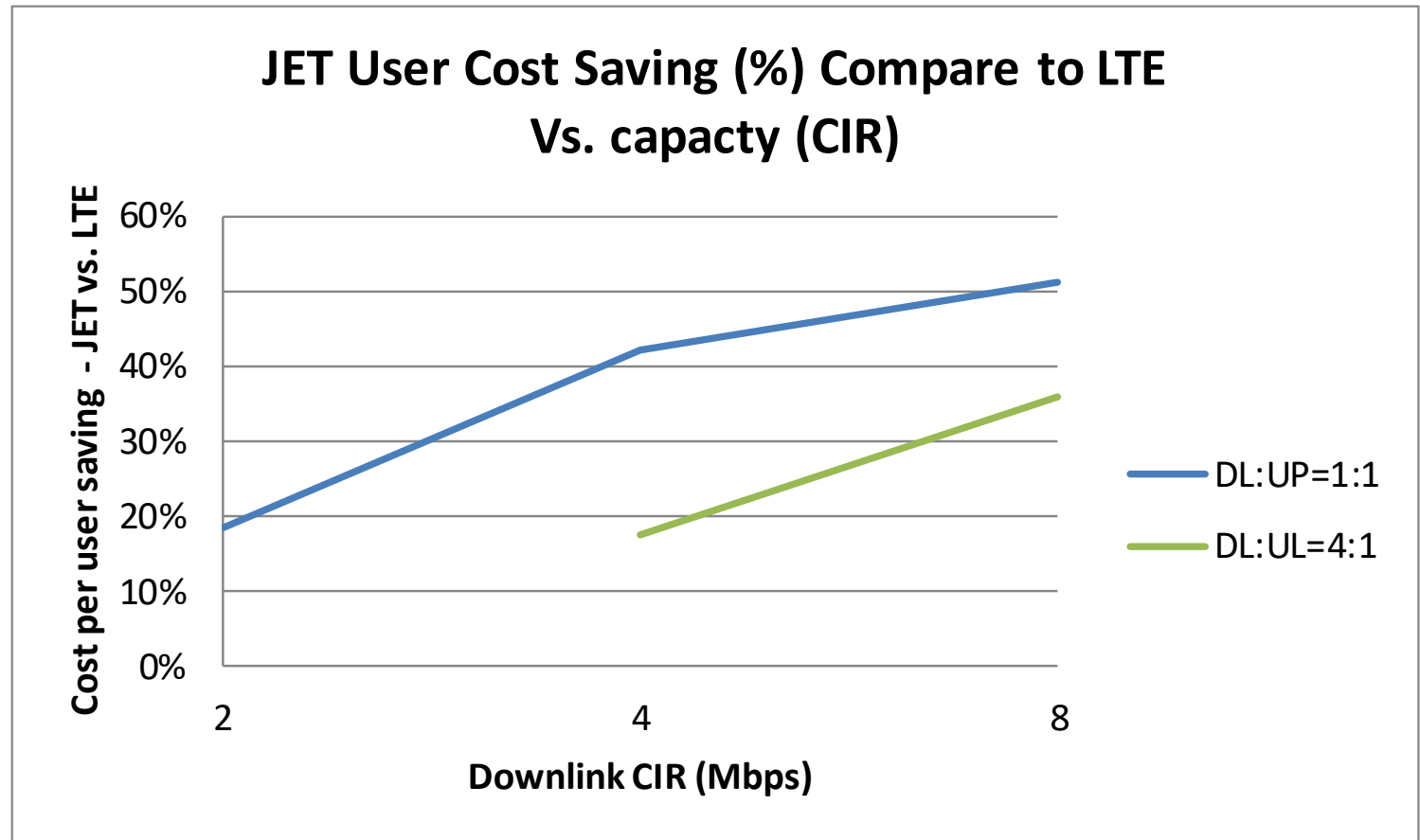
- JET cost per enterprise user is lower than LTE by 50% to 10% when amount of users in a sector is below ~24.





## JET Vs. LTE User Cost – Variety of Enterprise Service (Capacity & Symmetry)

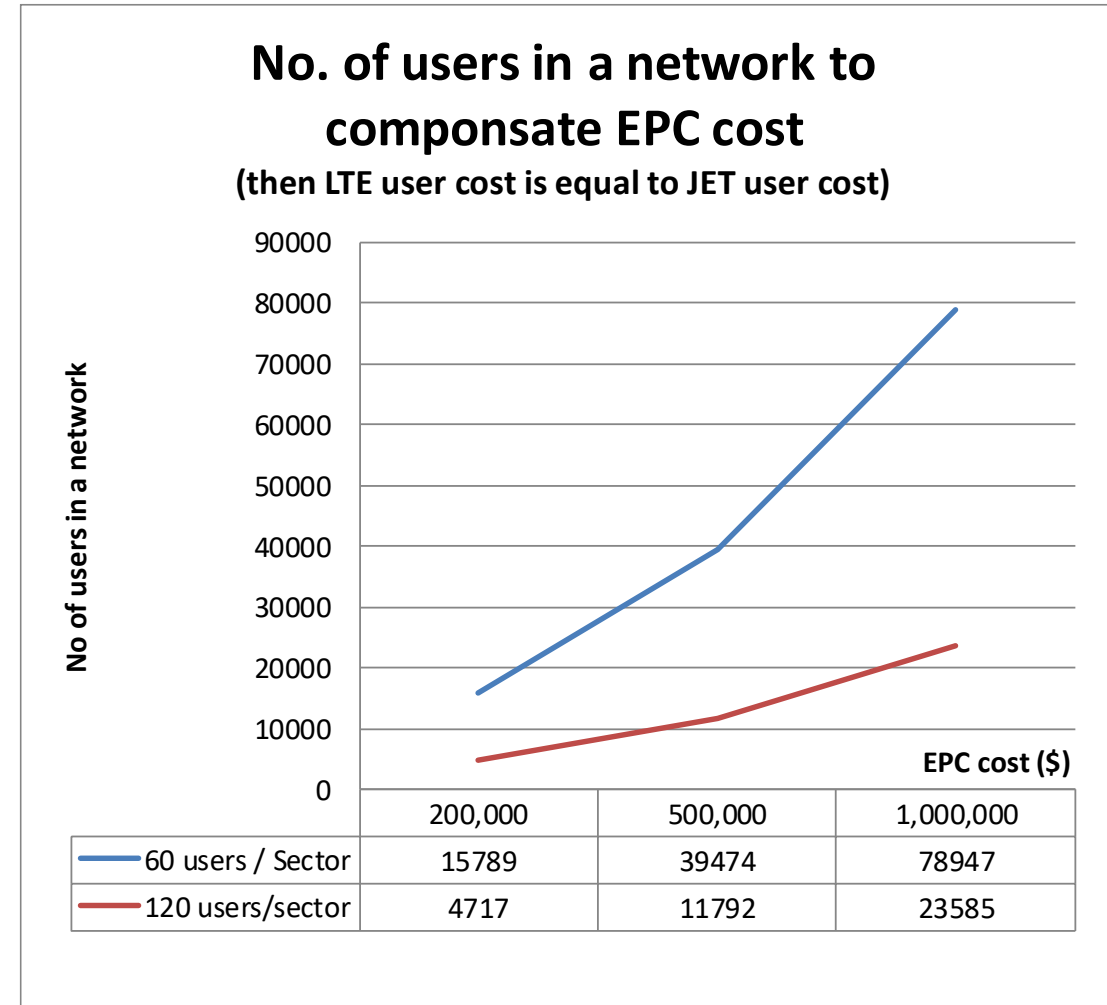
- The more symmetric is the CIR (Committed Information Rate), the higher is the cost saving per user when using JET
- The higher is the CIR, the higher is the saving of cost per user when using JET
- JET cost per user is lower than LTE by far when DL: UL CIR ratio is 1:1
- JET cost per user is lower than LTE by at least 20% for downlink CIR of 4Mbps (even when DL:UL is 4:1)



Reasoning: LTE capacity is decline when traffic become symmetry

# The LTE Need for EPC Makes JET Even More Attractive

- RADWIN JET network is a flat one, no need for specific core network
- The LTE need for EPC generates an overhead on the cost per user, both CapEx and OpEx wise
- As shown in the graph, the investment in EPC makes the LTE cost per user expensive than JET, unless the amount of users in a network are quite high.
- As for example, for \$1M EPC the cost of LTE become equal to JET only if the network is larger than 78k users.



Thank You!

Any Questions?

**RADWIN**