

# **LTE & Wi-Fi in the 5 GHz Band**

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# About DTW

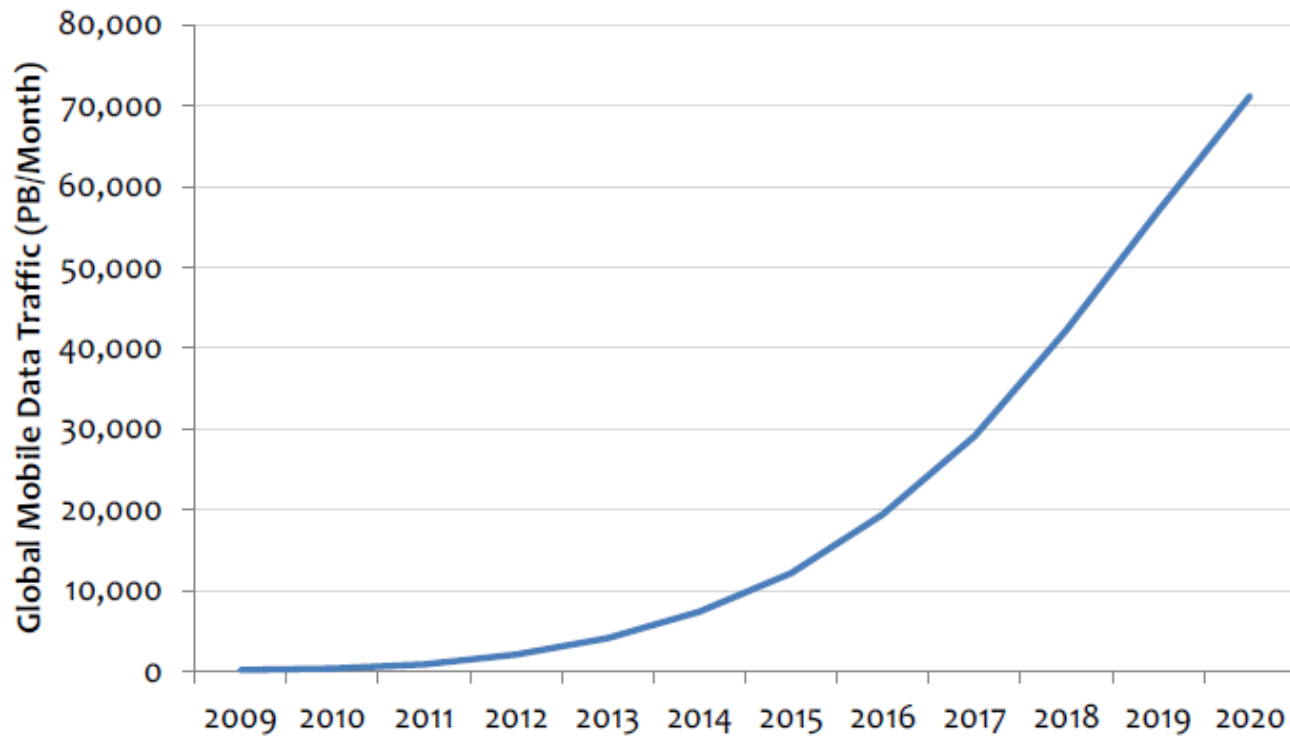
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- **Analyst, Mobile Experts LLC**
- **President, Wireless Communications Alliance**
- **Wireless Communications Initiative, JVSU**
- **CTIA Innovation Council**
- **Senior Member: IEEE**
  
- *Opinions expressed here are my own*

# Forcing Functions

- Exponential increase in mobile data use
  - Spectrum cost: AWS-3 reached record levels, almost doubling those of 700 MHz
  - Competition for 600 MHz will be higher
- Lack of viable spectrum
- Consumer pricing pressures
- 3.5 GHz CBRS is complex, unproven
- *“It’s about the spectrum – period”*

# Mobile Data Traffic Growth

Chart 3: Growth of Mobile Data Traffic



Source: Mobile Experts, Cisco, Ericsson, Mobidia

# Emerging 5 GHz Users

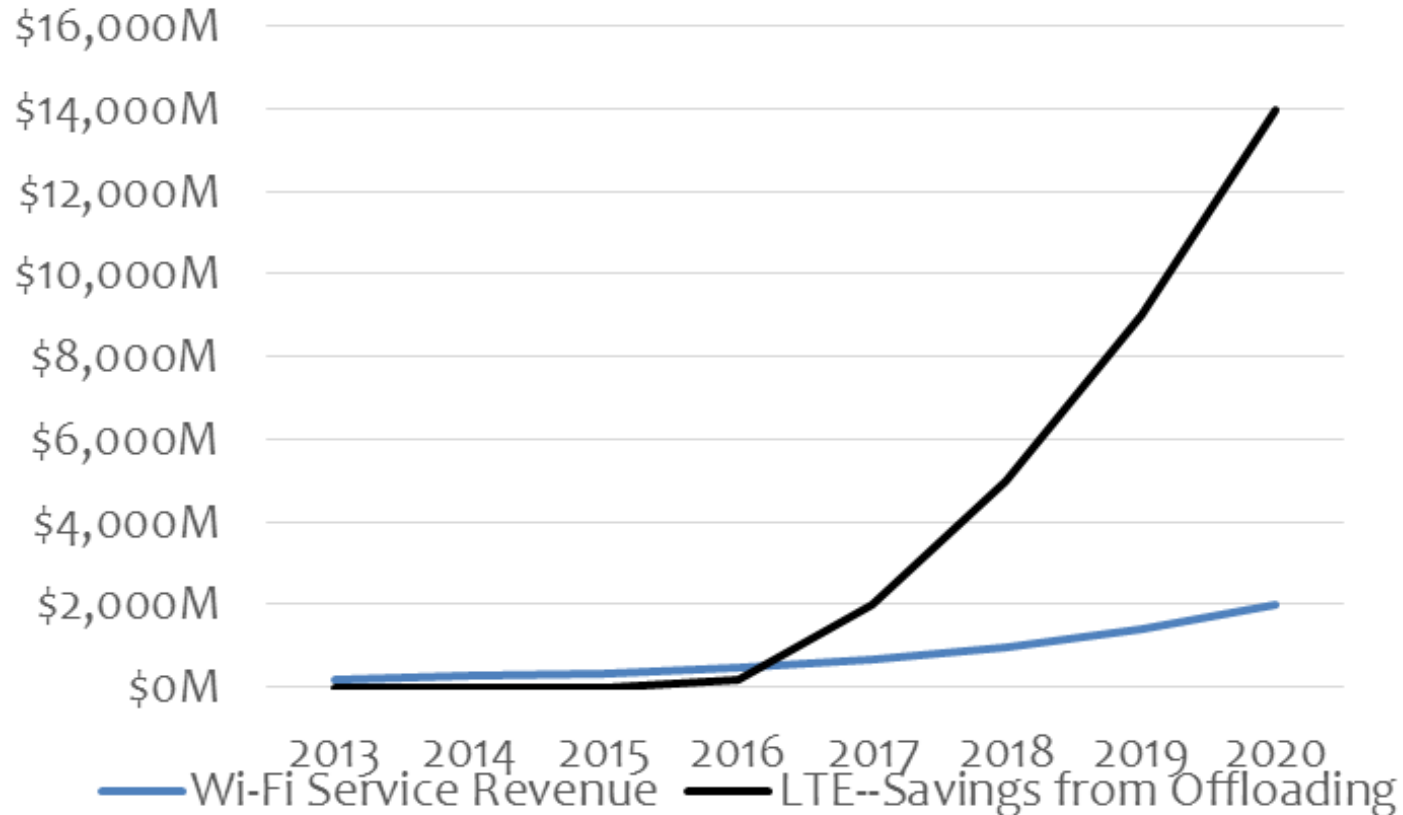
- Emerging Wi-Fi carrier models
  - Wi-Fi First (Wi-Fi calling & data w/ MNO as a backup or while highly mobile)
  - Wi-Fi Only (Wi-Fi calling & data)
- NGH / Hotspot 2.0 deals are emerging
- Cable Operators, Hotspots, Homespots
  - Comcast Xfinity, Time Warner, CableVision (Optimum Online & FreeWheel)
- *Problem: Wi-Fi is perceived as “free”*

# Emerging 5 GHz Users

| Acronym                 | LTE-U                           | LAA   | LWA   |
|-------------------------|---------------------------------|---|---|
| What does it stand for? | Long Term Evolution- Unlicensed | License-Assisted Access   | LTE/Wi-Fi Aggregation   |
| What does it mean?      | LTE waveform in unlicensed band | LTE waveform in unlicensed band, anchored to LTE in licensed band | Wi-Fi waveform in unlicensed band, anchored to LTE in licensed band |
| 3GPP standards support  | Not directly                    | RAN work items underway   | RAN work items underway   |

Source: Mobile Experts LLC

# Revenue Models



# Co-Existence?

Wi-Fi Throughput vs. Received LTE-U Power

