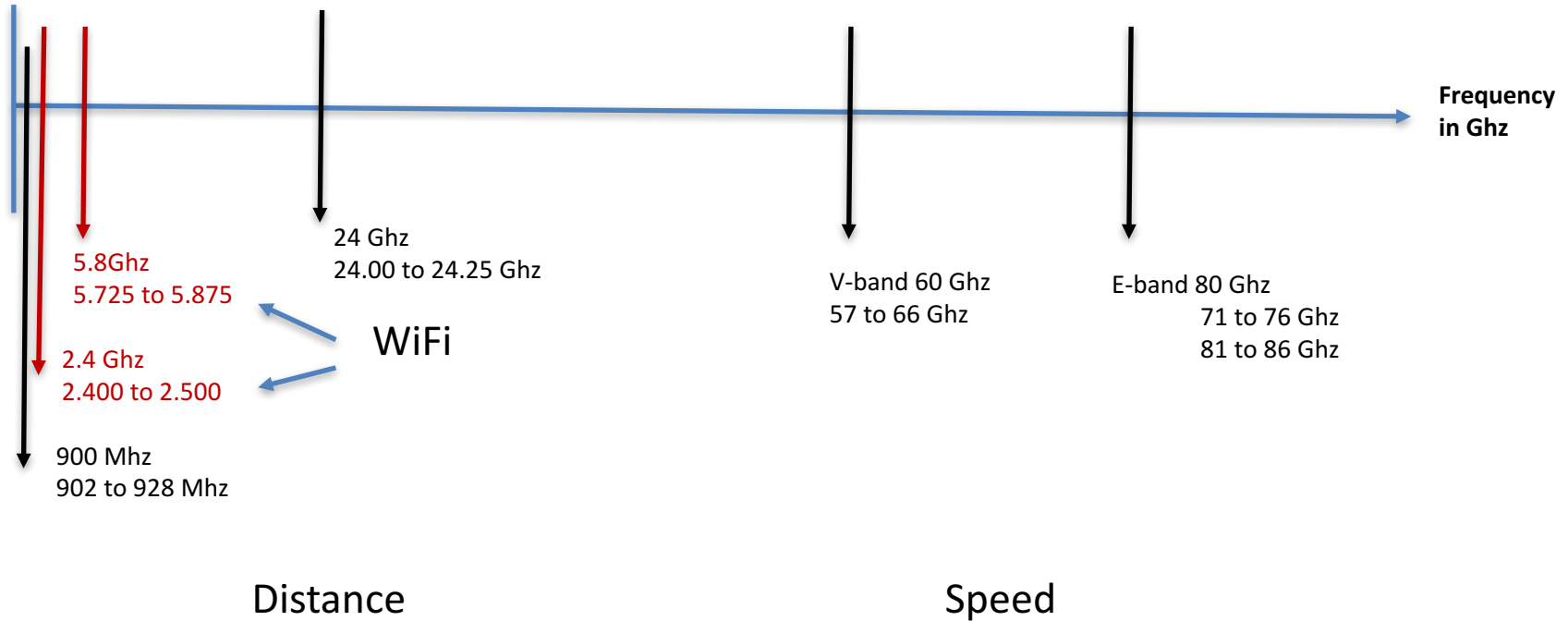


# WiFi6

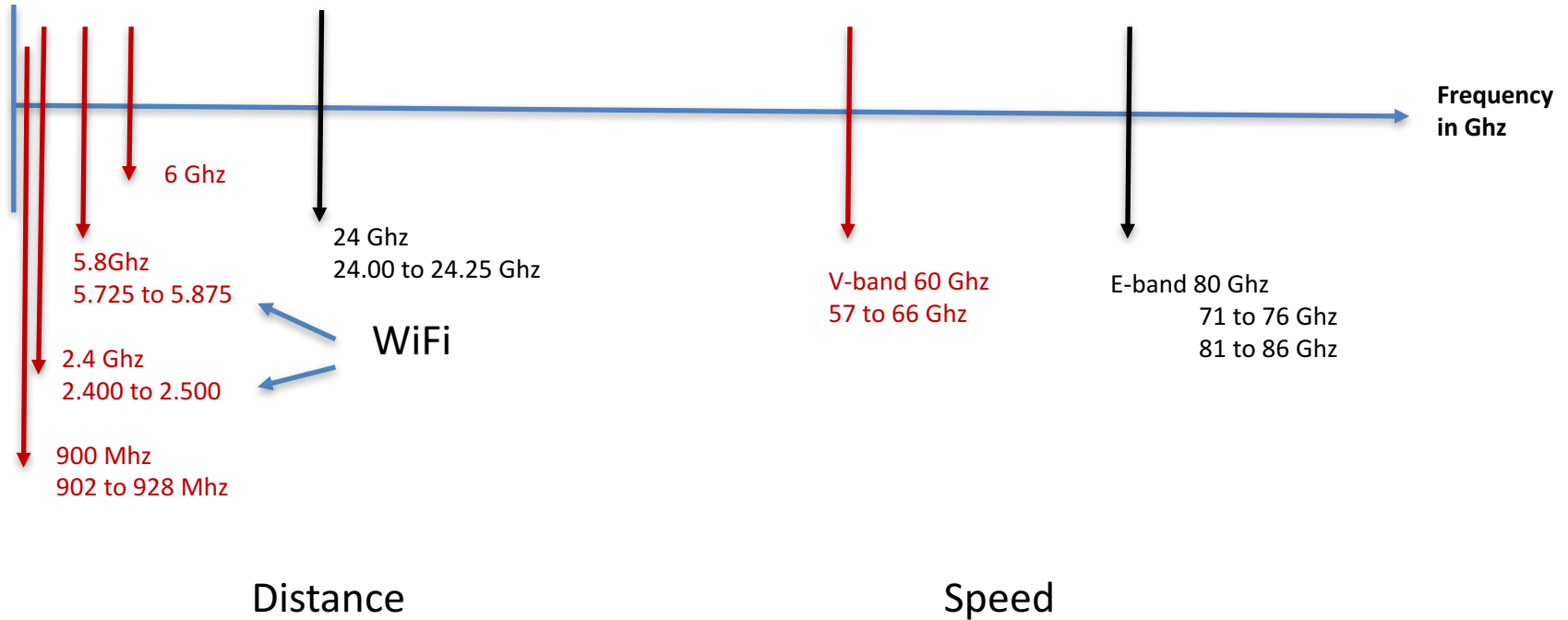
## *Evolution or Revolution*

### HaLow and WiGig

# ISM and Self Coordinated bands



# WiFi 6 Bands



# 900 Mhz band

- ☎ Australia 902 to 928 Mhz
  - Low bandwidth
  - Long distances
  - 1 WATT EIRP
- ☎ Current Use cases
  - SCADA > IoT
  - Voice comms in rural areas
  - Data PTP links



# HA-Low in the 900 Mhz band

- Ⓜ IEEE 802.11 ah standard
- Ⓜ Longer range
- Ⓜ Lower power
- Ⓜ Low data rates
  - Short & bursty

# HA-Low - 802.11 ah standard

- ⦿ Stations are grouped to minimize contention in the air
- ⦿ Stations can relay signals to increase range
- ⦿ Predefined Wake/Doze periods to reduce power
- ⦿ 26 channels of 100 kbits/second per 2 Mhz channel
- ⦿ 1Km radius
- ⦿ Thousands of devices per AP

# HA-Low 802.11 ah standard

- Modulation from BPSK to 256 QAM
- Channels Width
  - 1 Mhz, 2 Mhz, 4 Mhz, 8 Mhz and 16 Mhz
- 1,2,3 or 4 Spatial Streams
- From 100 Kbps up to 347 Mbps (*4 streams on a 16 Mhz channel*)

# HA-Low - What can we expect?

- Commercial chipsets in 2019

- Will replace Bluetooth

- o Due to higher data rates and wider and longer coverage

## **Devices**

IoT Sensors  
Wearables  
PTP links

## **Sectors**

Smart City  
Smart Agriculture  
Digital Healthcare  
Smart Water  
Smart Home  
Connected Car



# V-band 60 Ghz – Current Use

- ☎ High bandwidth
- ☎ Short distances  $< 1$  Km
- ☎ Current Use cases
  - Urban PTP and PtMP links
  - CCTV / Public WiFi



# WiGig

- IEEE 802.11 ad standard
- Very short range
- Very high data rates
  - Up to 8 Gbps transmission
- Low cost* chipsets are already available



Intel  
Facebook  
Terragraph

Mikrotik

# Wi-Gig – What can we expect?

- ⦿ IP-based P2P > Kiosk sync data exchange
- ⦿ PtP links (2 Gbps)
- ⦿ PtmP links
- ⦿ Wireless docking
  - smartphones, laptops, projectors, tablets
- ⦿ Multiple wireless UHD video streaming
- ⦿ *Very cost effective*





At Easyweb we believe that technology can create stronger, more engaged communities by enabling people to collaborate, socialise, trade, transact, play, and work smarter. We enable our clients to transform visitors, customers and citizens into smart connected communities by building innovative, reliable and simple to manage networks that provide insights about the people using them.



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Screens, sensors, devices talking to each other via wire or wireless and putting you in control.



#### INTELLIGENT WIRELESS

WiFi and more, that connects securely, helps you understand and engage with visitors, and realise value.



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