

**Rural Broadband  
Solutions  
by  
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# The WiBE

No broadband?

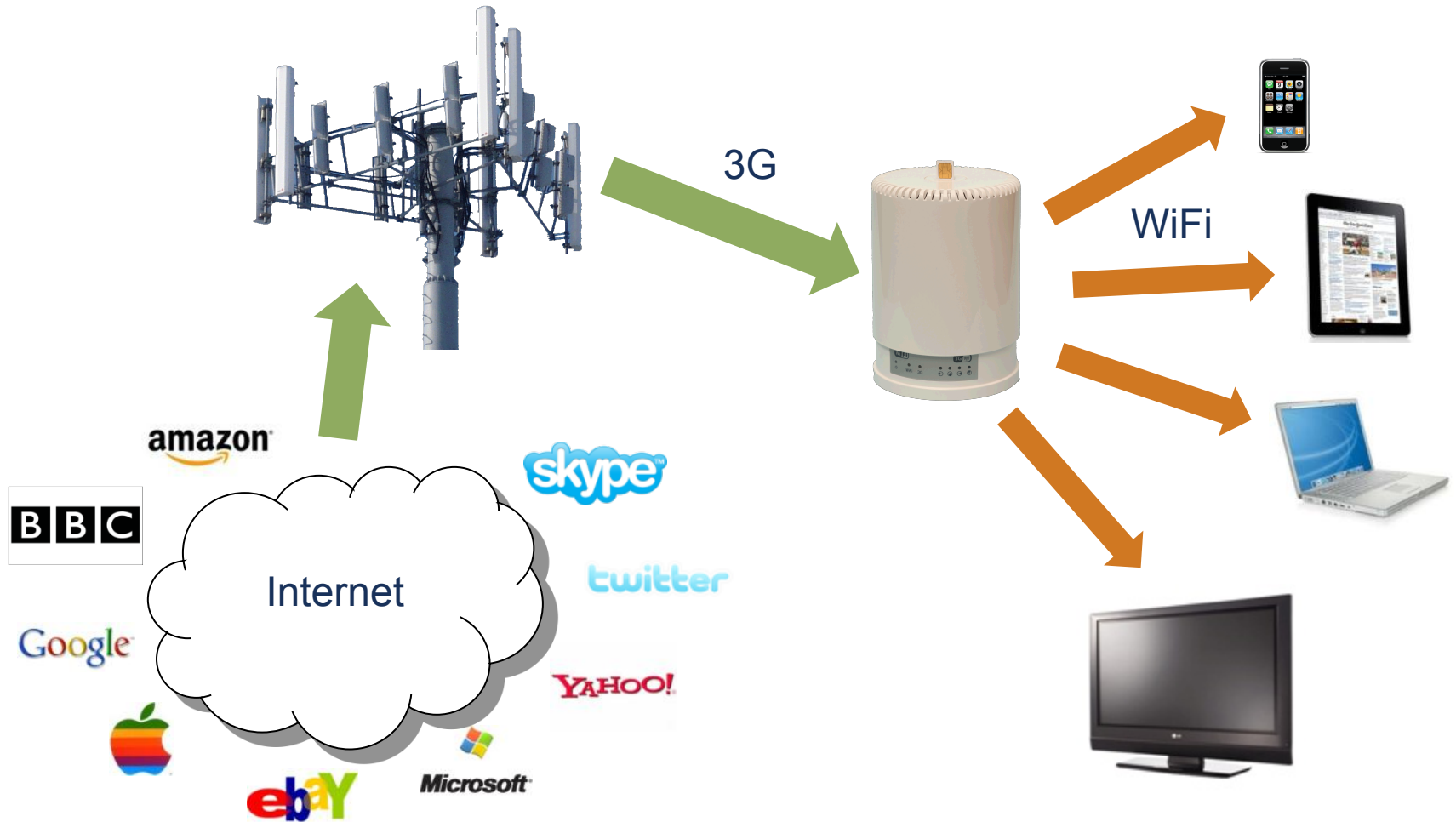
Slow broadband?



You need a WiBE<sup>®</sup> - fast, reliable 3G broadband

# The WiBE connects users to the Internet ...

... using the 3G network



# The WiBE - designed for fixed broadband



- All these devices are designed for mobile use
- Low performance antennas
  - Small
  - Omni-directional
  - Low gain
- Leads to
  - Limited range from 3G base station
  - Limited data throughput

- For fixed broadband this is not necessary
  - Because mobility is not required
- The WiBE is optimized for performance



# The WiBE - Optimized for performance

## Wireless Broadband Extender – WiBE®

- 3G-WiFi router with optimized 3G antennas
  - High gain
  - Directional
- Small form-factor
- Completely self-configuring
  - Place near a window
  - Plug in
  - Start using



# How does the WiBE work?

- The same principle as pointing a TV aerial
- Uses electronic multi-beam smart antennas



Selected  
base station

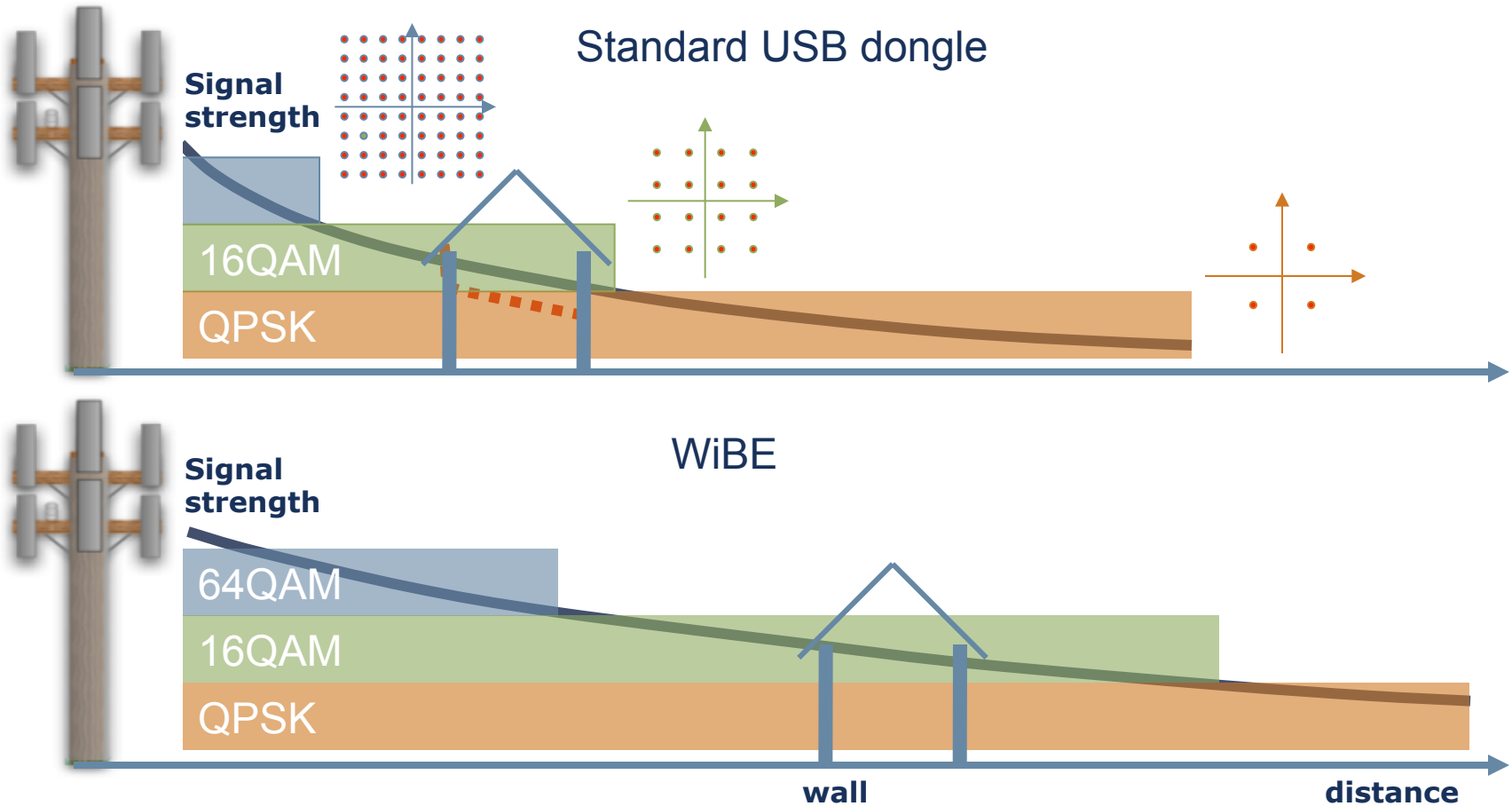
High gain in direction  
of wanted signal gives  
improved signal  
strength at receiver



High rejection of  
interfering signals from  
other base stations gives  
greatly improved  
performance at cell edge



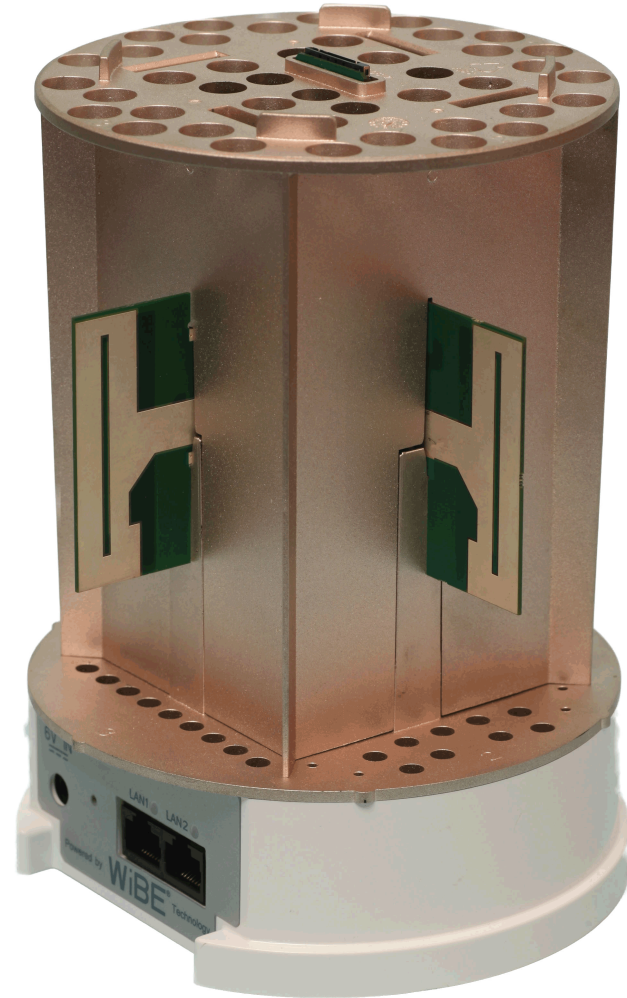
# Improved data throughput at any range



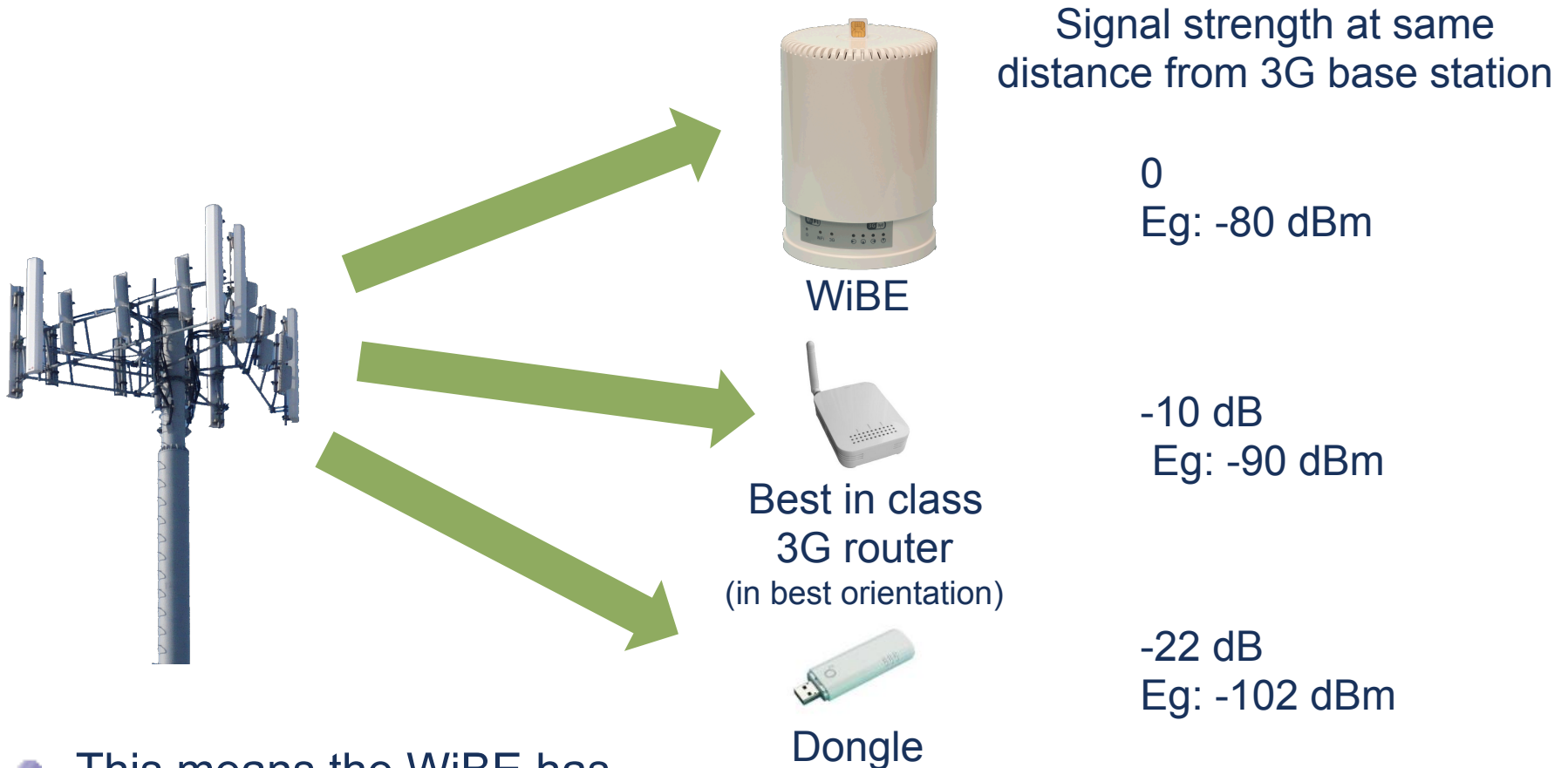
The signal strength at the WiBE receiver is over 20 dB better than in a typical dongle allowing the base station to use higher order modulations and less channel coding bits

# What's inside a WiBE?

- A 3G modem
- An IEEE802.11bgn router
- But mainly antennas



# How much better does the WiBE perform?

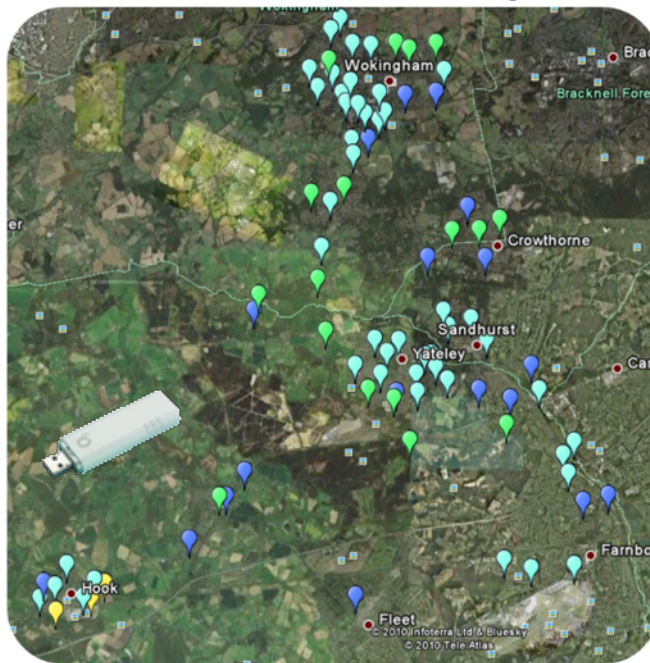


- This means the WiBE has
  - 3x range of best in class 3G router
  - 10x range of dongle

# WiBE gives better throughput at any distance

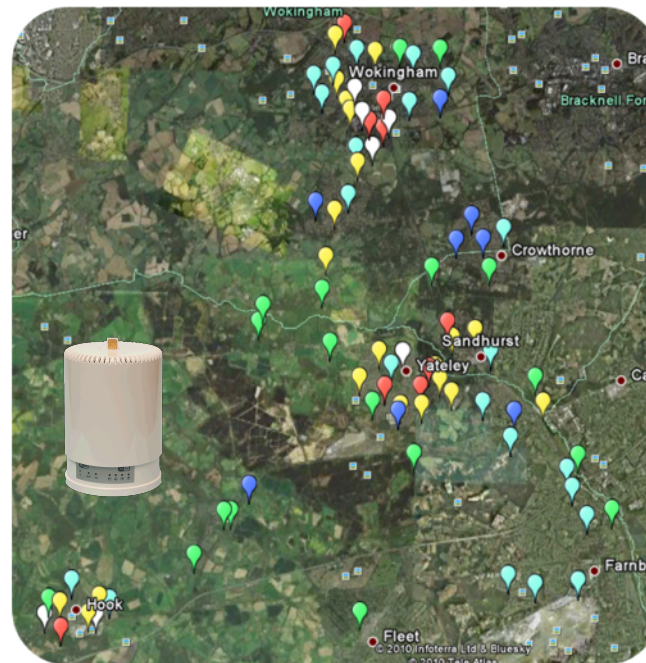
- UK field survey results
- 100 locations where both dongle and WiBE can connect

7.2 Mbps USB dongle

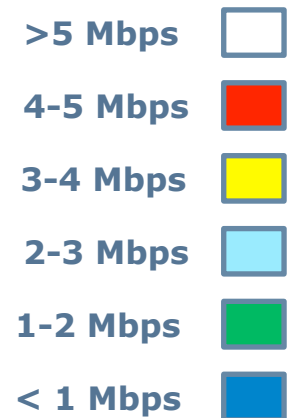


Mean Dongle: 1.9 Mbps

7.2 Mbps WiBE



WiBE: 2.85 Mbps  
**1.5x Improvement**



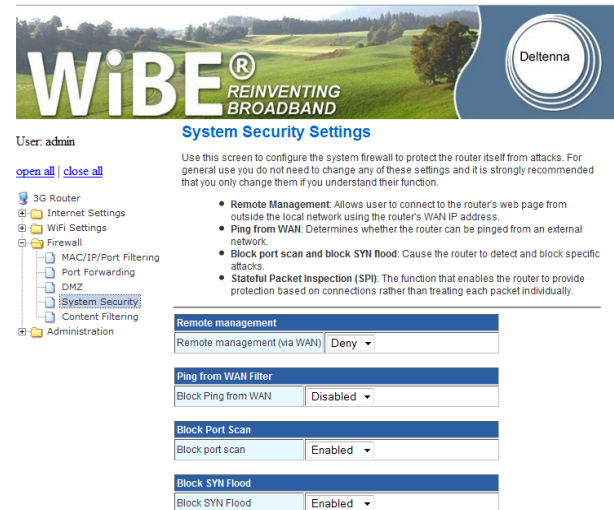
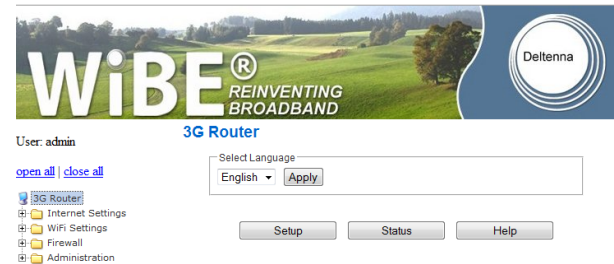
# WiBE-HS7 3G specification

- Frequency range
  - UMTS 2100 MHz (1710 – 2170 MHz)
- Signal Gain (at 2000 MHz)
  - >20 dB relative to USB Dongle
  - >10 dB relative to best 3G router
- Front-to-back antenna ratio
  - > 20 dB
- Technical standard HSPA/UMTS 3GPP
- Maximum transmission rates
  - HSDPA 7.2 Mbps, Categories 1-8, 11, 12
  - HSUPA 5.76 Mbps, Category 6
- Security
  - EAP-SIM
- Power class 3 (+24 dBm)



# WiBE-HS7 router - main features

- Self-configuring
  - SIM detection
  - APN recognition
- Web-based user interface
  - No software to install on PC
- Fully featured for advanced users
- Router
  - DHCP
  - VPN passthrough, Static routing
- WiFi IEEE802.11bgn
  - Extended range
  - Security: WEP, WPA, WPA2 options
- Firewall
  - MAC/IP port filtering
  - Port forwarding, Virtual Server
  - DMZ
  - Content filtering



# Designed for the real world

- Uses standard HSPA networks
- Simple installation
- Thermal design
  - Works in direct sunlight behind glass
  - Unlike battery-powered devices



# What people are saying about the WiBE

“Overall the WiBE is an absolutely wonderful piece of kit, although we wouldn't go so far as to call it a miracle but it does come very close”.



”The ultimate MiFi unit known to man”.



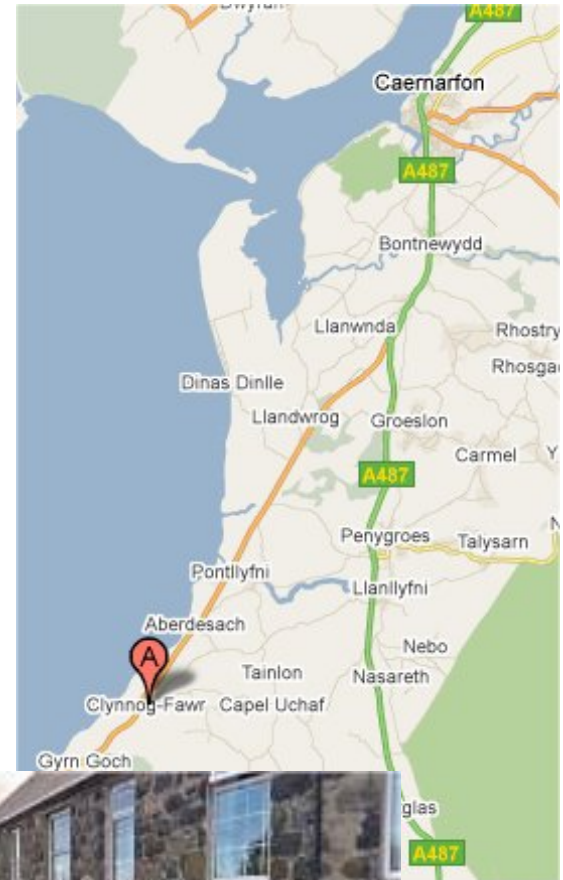
“We've heard whispers of rural broadband expansion, thrown from halls of politicians for months on end, but it looks like these guys are cutting through the red tape and getting down to business”.



# Who Needs a WiBE<sup>®</sup>?

# Geoff Does

- Geoff lives in a remote corner of Wales
  - Clynnog Fawr – 15Km from Caernafon
- Difficult coverage area
  - Mobiles only work hanging out the window
  - Dongle was getting 32Kbps
- WiBE<sup>®</sup> achieved 792Kbps
- The BBC iPlayer<sup>®</sup> worked with the WiBE<sup>®</sup>



# Broadcasters do

- In Cumbria area ISDN is declining and 3G is patchy at best.
- For Radio the options are then a VSAT van (expensive) or a dongle
- Here in Whinlatter the broadcaster achieved 136Kbps – enough for a broadcast quality live insert
- WiBE<sup>®</sup> for significant cost savings



# Construction companies/ Builders

- Building sites don't usually have ADSL
- It is something BT will fit when there are customers there
- So to get started a WiBE<sup>®</sup> offers instant internet at most locations



# Surveyors

- Working at various locations
- Can't always guarantee an ADSL connection
- Can't guarantee a WiFi hotspot
- Can't always get a dongle to connect
- Much higher probability a WiBE<sup>®</sup> will connect as it has 10 times the range of a Dongle



# New Office/ Temporary office

- New Office – you need to contact BT and order ADSL – can take a while and can be expensive
- WiBE<sup>®</sup> is an instant start up, plug and play
- Locally



# What about Voice?

- Skype works well
  - (Other Sip clients are available)
- WiBE<sup>®</sup> is an instant start up, plug and play
- Can have fixed IP SIMS and Specific QoS for VoIP.



# Apartment/ New House

- New House – you need to contact BT and order ADSL – can take a while and can be expensive
- WiBE<sup>®</sup> is an instant start up, plug and play



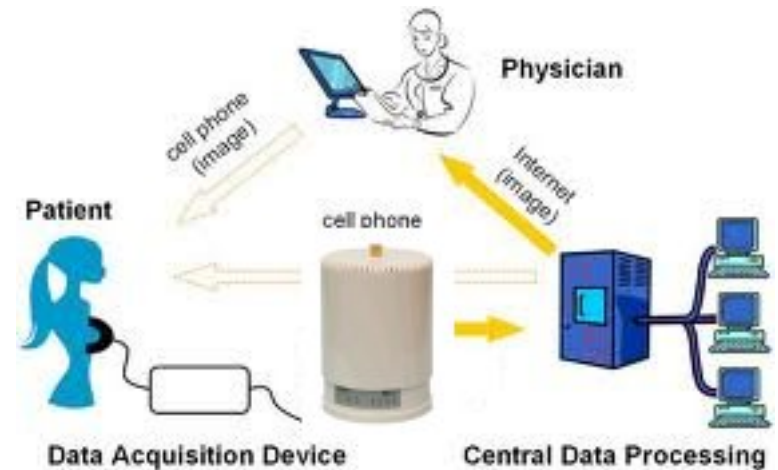
# Remote Monitoring

- Locate IP WiFi web cam at surveillance point
- WiBE<sup>®</sup> is an instant start up, plug and play
- Web Cam sends via the WiBE
- Just add Power



# Remote Patient Monitoring

- WiBE<sup>®</sup> can be used for back hauling the data if patient does not already have ADSL



# Business Continuity

- What do you do if the ADSL goes down?
- Its rare, but not unusual,
- BT went down across the whole of the North of England in 2010 one Friday evening
- WiBE<sup>®</sup> is an instant start up, plug and play



# Business To Business

- Business Continuity – Emergency back up connection.
  - Saves you when the Internet fails
- Initial connection in New Offices
  - Temporary set up to get going when moving, can be used to guarantee service on day 1, Hour 1 of an office move, then becomes the Emergency backup connection when BT finally install the main line.
- Remote Workers
  - All those employees stuck at home in the snow
- Poor to no connections with a Dongle
  - Full service with a WiBE®



# Business To Retailers

- Business Continuity – Emergency back up connection.
  - Saves you when the Internet fails
  - Keeps your credit card machine working
- Poor to no connections with a Dongle
  - Full service with a WiBE®



# Retailer to Consumer

- Poor to no connections with a Dongle
  - Full service with a WiBE®
- Longer range than a Dongle or MiFi
- Ideal for Rented accommodation
  - No wires, no cables, easy set up
  - Plug and Play
- Ideal for remote locations



# Summary

# WiBE<sup>®</sup> benefits summary

## For the user

- Internet connection
  - Where there is no DSL
  - Out of range of other cellular devices
  - Temporary locations
  - Mobile users
- Improved data throughput
  - Offers higher throughput than a dongle
  - Finds an uncongested cell for better throughput,



# WiBE<sup>®</sup> benefits summary

## For the business

- Internet connection
  - When the ADSL dies.
  - Emergency backup
- Temporary locations
- Mobile employees
- Employees stuck at home in the snow
- Improved data throughput
  - Offers higher throughput than a dongle
  - Finds an uncongested cell for better throughput,



## The biggest benefit ...

- The WiBE<sup>®</sup> reaches places other devices cannot reach
- 5-10x greater range

Thank you for your  
time



ADSL • SATELLITE • WIRELESS  
FIBRE • ANYWHERE