

# **How Existing 3GSM Networks can help Deliver BWA in Rural and Remote Areas**

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BWA for rural and remote areas for the Asia-Pacific Region  
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## **Outline**

- 1. BWA for Rural and Remote Areas**
- 2. Fixed BWA and Mobile BWA**
- 3. 3GSM WCDMA BWA Access Overview**
- 4. Sustainable Solutions**
- 5. GSM Technologies Evolution**
- 6. WCDMA Benefits**
- 7. Conclusions**

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## 1. BWA for Rural and Remote Areas

- **Drivers for broadband internet access in rural and remote areas**
  - Socioeconomic needs including education
  - Reducing the digital divide
  - Stimulating investment in rural areas
- **Countries and circumstances differ**
  - No 'one size fits all' solution
- **Economic development needs can be pressing**
  - Rapid deployment at low cost is a major consideration
- **Broadband access is necessary but need to consider other benefits**
  - Telecoms as well as data only solutions

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## 2. Fixed BWA and Mobile BWA

- Wide area coverage – can be a priority in sparsely populated large areas
- Clear demand for mobility in urban environments – why should rural communities differ or be disadvantaged?
- Local solutions are partial solutions – users do travel

**WCDMA can deliver mobile BWA through existing 3G operators, either retail or wholesale solutions through MVNOs**

**Opportunity: WCDMA could also deliver fixed BWA with a network solution and repackaged mobile terminals acting as low cost scaled down PCs**

WCDMA: globally coordinated spectrum at 3G core bands and future 2.6GHz Extension bands

Refarming of GSM spectrum could optimise coverage and capacity for rural areas

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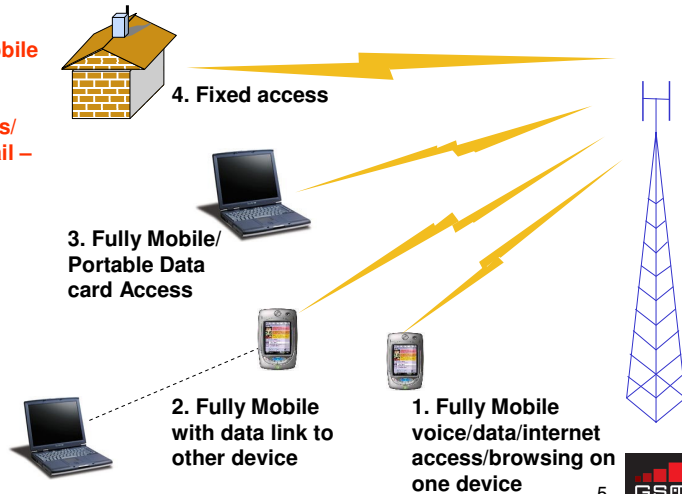
4



### 3. 3GSM WCDMA BWA Access Overview

Three Existing Configurations + Potential for Fixed Broadband Wireless Access for Rural Homes and Enterprises

**Opportunity:  
Repackage Mobile  
Phone for  
voice/data/  
Internet Access/  
browsing/ email –  
potentially no  
need for a  
Personal  
Computer!**



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### 4. Sustainable Solutions

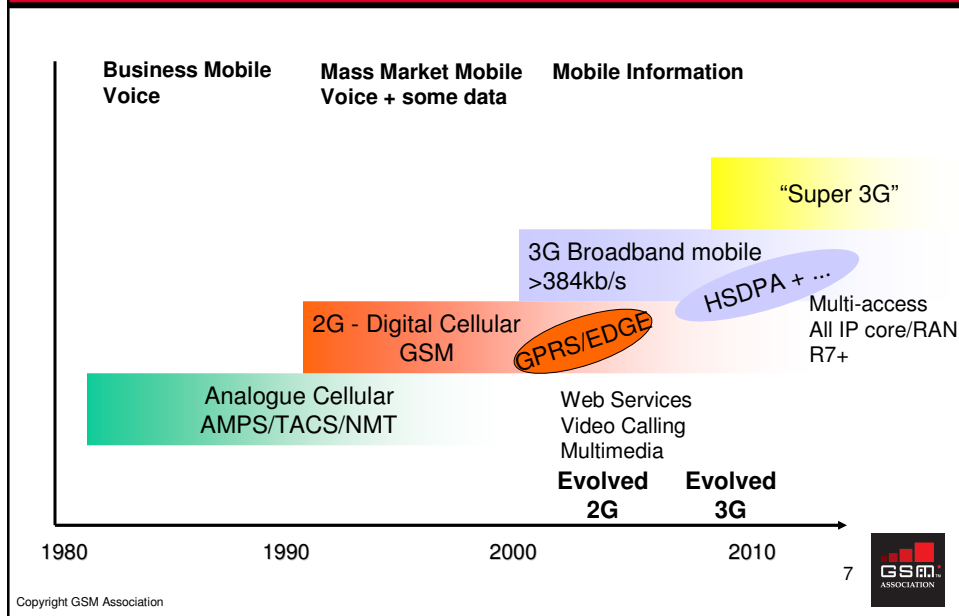
- Mobile industry has track record of delivering sustainable solutions for emerging economies
  - The GSM community pioneered prepaid – the prime enabler behind the success of sustainable mobile services in the developing world
  - 3GSM can extend the prepay concept to fixed BWA
  - Significant economies of scale allow the production of low cost GSM and 3GSM terminal devices. The GSM community has launched a low cost handsets initiative for emerging markets
- Supporting existing operators represents a potential sensible and rational use of existing spectrum and infrastructure resources
- The ability to re-use support systems and ancillary business services such as customer care and billing helps to deliver sustainable solutions
- Fixed BWA using WCDMA delivers key quality attributes such as dedicated voice and data channels that provide reliable and secure carrier class quality

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## 5. GSM Technologies Evolution



## 6. WCDMA Benefits (1)

- **End user devices**
  - Cost and usability are critical
  - For fixed BWA the 3GSM community could create low cost home based devices equivalent to scaled down PCs
  - Economies of scale crucial for achieving low costs
- **Existing 3GSM features**
  - Dedicated dynamically assigned data channels that adjust to session requirements
  - Dedicated voice channels for guaranteed end to end voice QoS
  - SMS, MMS, PTT
  - Video calling
  - Browsing and internet access
  - Data download/streaming capability
  - Email, etc.

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## 6. WCDMA Benefits (2)

- **Robust and reliable**

- Extreme environments demand proven reliability and burnt-in solutions for both infrastructure and terminals
- Established network management systems for monitoring and over-the-air remote management

- **Rational utilisation of existing resources**

- Harmonised spectrum already available
- WCDMA complementary to GSM/GPRS/EDGE
- Can utilise new and pre-existing network infrastructure
- Can utilise existing OSS and billing solutions

**New opportunity to extend into fixed BWA**

Brings all these benefits plus potential of repackaged mobile acting as scaled down, low cost PC terminal



## 7. Conclusions

- WCDMA delivers mobile and a potential flexible fixed BWA network solution
- Standards based, wide choice of suppliers and fully interoperable
- Carrier grade voice as well as dynamically assigned data capabilities
- Fallback capability through compatibility with GSM/GPRS infrastructure
- Unsurpassed economies of scale
- Carrier-grade 3GSM networks already operating in over 85 markets globally
- Upgrade path to even higher data rates, eg HSDPA available Q4 2005

Industry led initiatives have the ability to help economic growth in rural and remote areas  
GSMA invites regulators to work together with the industry to support this broadband initiative



**Thank You**

**To learn more, contact:  
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