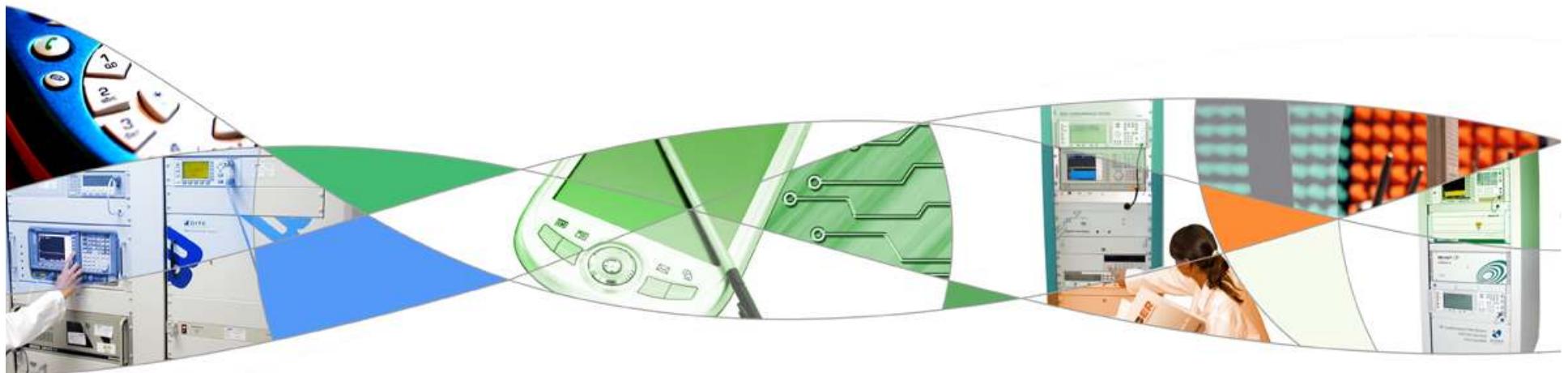


# VISIÓN SOBRE 4G

## JITEL 2007



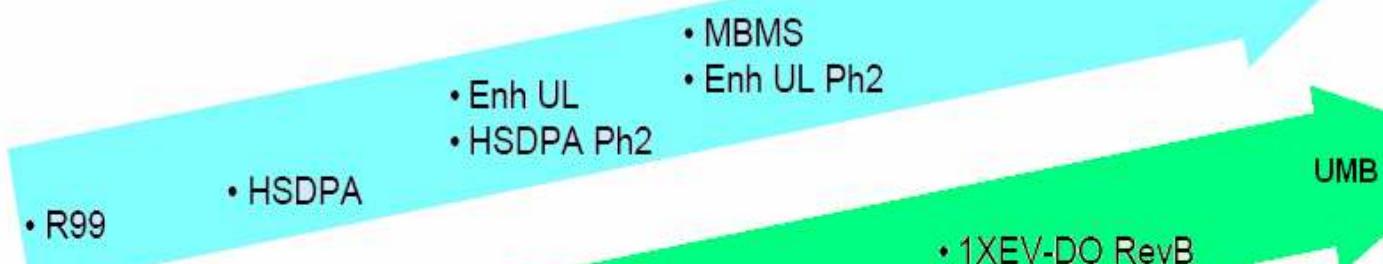
**AT4** WIRELESS  
*Advanced Technologies for Wireless*

**Málaga – Sevilla – Madrid**



# QUÉ ES 4G?

- LTE - 3GPP
- UMB - 3GPP2
- Mobile WiMAX - IEEE



• 802.16-2004

• WiBro

• Mobile WiMAX

802.16m

• 1xEV-DO RevA

• cdma2000  
• 1xEV-DO

• HSDPA

• Enh UL  
• HSDPA Ph2

• MBMS  
• Enh UL Ph2

• R99

LTE

UMB

• 1xEV-DO RevB

2004

2005

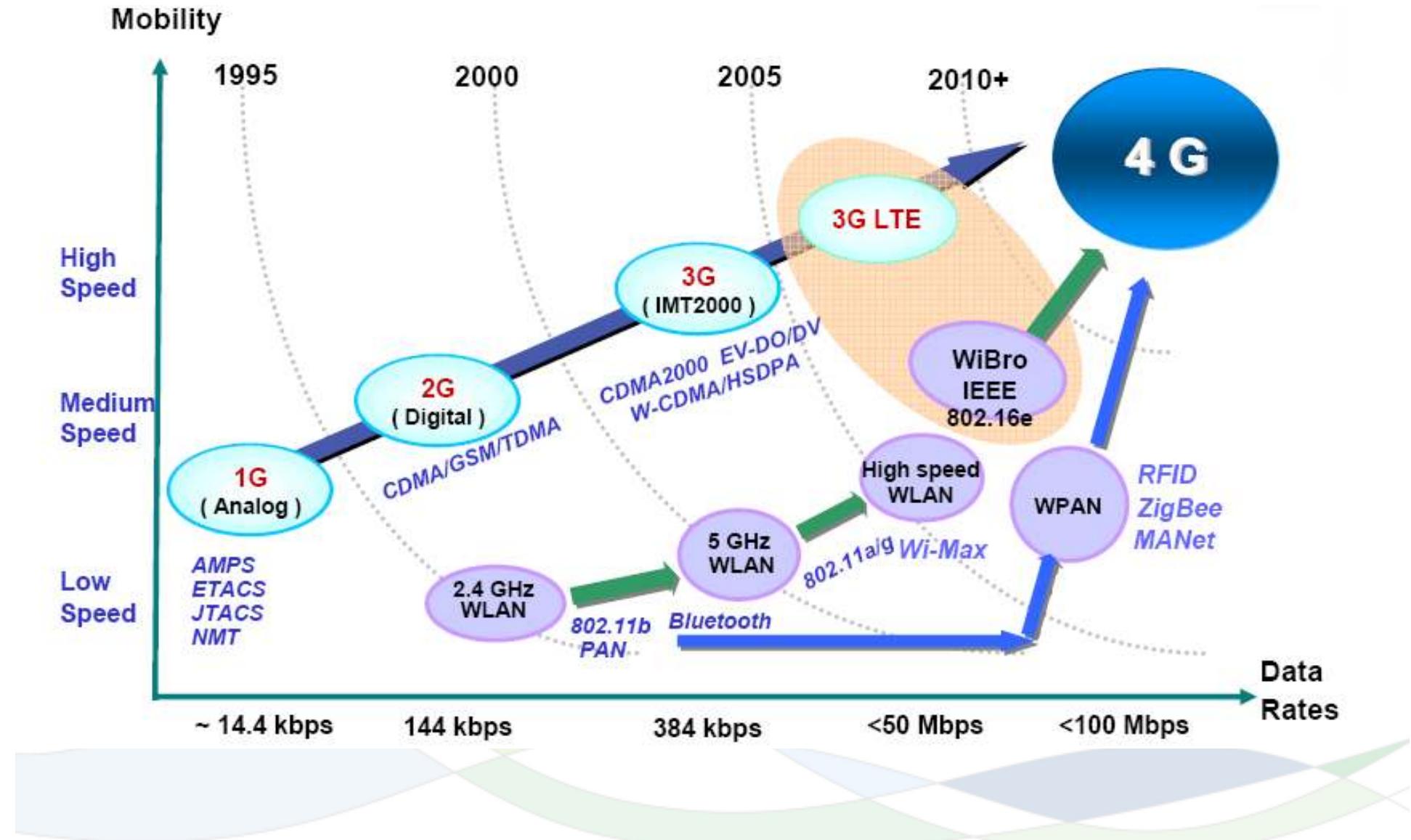
2006

2007

2008

2009

# QUÉ VA A OFRECER 4G?

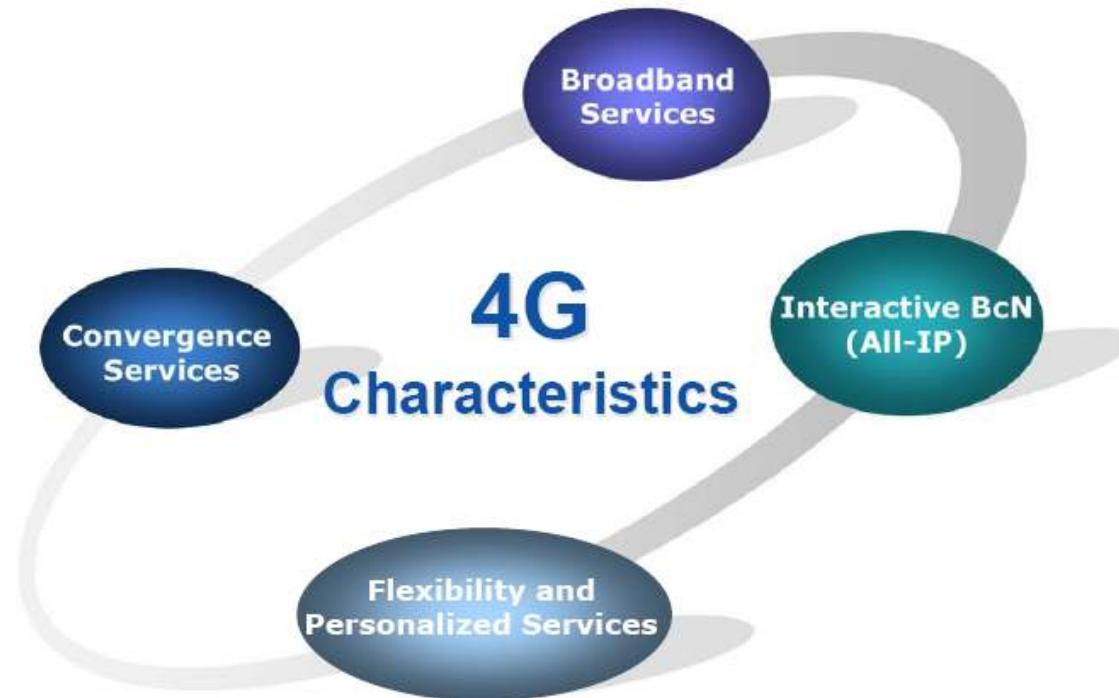


*Tres tecnologías candidatas:*

- *LTE (Long Term Evolution) – Evolución de UMTS*
- *UMB (Ultra Mobile Broadband) – Evolución de CDMA2000*
- *WiMAX – “Evolución” de Wi-Fi*

*En la mayoría de los foros internacionales 4G aparece aún como “undefined”, y muchos fabricantes/operadores ya empiezan a utilizar la nomenclatura 4G para algunas de estas tecnologías - La carrera del marketing ha comenzado*

*La UIT está definiendo las características de la siguiente generación de comunicaciones móviles dentro del marco IMT-Advanced*



- “All-IP based network – any system/anytime/anywhere”
- Servicios Personalizados de Telecomunicaciones, Datos y Multimedia – video de alta definición, VoIP, IPTV, etc.
- Broadband – ancho de banda y calidad similar a los enlaces por cable
- Precios razonables

## *La mayoría de fabricantes tradicionales van a trabajar sobre varias tecnologías (o todas)*

“NORTEL has achieved the industry's first live call over an Ultra Mobile Broadband (UMB) network delivering high-definition video and VoIP. With this demonstration, Nortel is the first in the industry to complete live calls using MIMO advanced antenna technology in each of the major 4G technologies, WiMAX, Long Term Evolution (LTE) and UMB”

“HUAWEI is technology agnostic and we plan to support all major next generation technologies: UMB, LTE and WiMAX”

Otras empresas que han declarado planes para soportar varias de estas tecnologías: Nokia, ZTE, Motorola, Samsung ...

*Aparecen sin embargo nuevos protagonistas que bien pudieran cambiar el concepto actual de las comunicaciones móviles*

## **Sprint & Clearwire Announce Mobile WiMAX TV Services**

The WiMAX network being rolled out by the combine is going live Chicago, Washington and Baltimore in the initial phase and will be nationwide by end of 2008 (have a reach of over 100 million in over 16 cities). The tie ups for the equipment, TV technology and the client devices have been made. These involve Motorola, Samsung and Nokia for the equipment and Samsung, Motorola and Intel for the chipsets and user devices. The TV technology is provided by the NDS WiMAX TV portfolio of products.

## **Google offers free services to WiMAX subscribers**

Google, the internet search and online advertising giant, is to provide fee web search, interactive communications and social networking tools to subscribers who sign up for Sprint Nextel's next generation WiMax wireless network currently under construction. The two companies said they will jointly offer the search and other tools through a new mobile portal they plan to build and will share advertising revenues it generates