

BRITISH COMPUTER SOCIETY EDINBURGH BRANCH

Wireless Communications - Which Direction ??

Speakers Biography

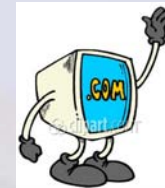


• Alisdair Gunn

- o **Wireless Programme Manager**
- o Responsible for developing Scotland's National Wireless Centre @ Hillington Park Innovation Centre
- o Working for Scottish Enterprise focussing on the economic growth of Scottish Companies developing new and existing Mobile & Wireless products
- o Advisor helping Scottish companies commercialise innovative Wireless & Mobile products
- o Former Project Manager of Agilent Technologies (re Hewlett-Packard)
- o Experienced in Project, Product Management and design of fixed and mobile communications products
- o B.Eng(Hons) EEE Strathclyde University - 1989
- o Chartered Engineer of the IEE and IEEE
- o Worked in global product development organisations - Agilent Technologies, Hewlett Packard and Philips

What will be covered

- **Intro to HPIC Wireless**
 - Overview of The Wireless Centre
- **Where did it start**
 - Maxwell to The New Economy
- **Market Recap**
 - Summary of .com
 - Who are the Titans
 - Today's Picture
- **Spearheading the Industry**
 - Success Components
 - Hype to Reality
 - Who could be the winners?
- **Welcome Questions !**



Overview -HPIC Wireless

- **Scotland's National Centre for Wireless & Mobile Communications**
- **Hosted by Hillington Park Innovation Centre**
- **Pilot Study Jan to Jun 03 – Now Completed**
- **3 Year funding received from Scottish Enterprise and European Regional Development Fund**
- **Staffed with leading expert Business, Marketing & Technology Advisors**
- **Focussed on the economic growth of Scottish Companies developing & selling products within the Wireless Space**

Objectives -HPIC Wireless

Over next 2 Years

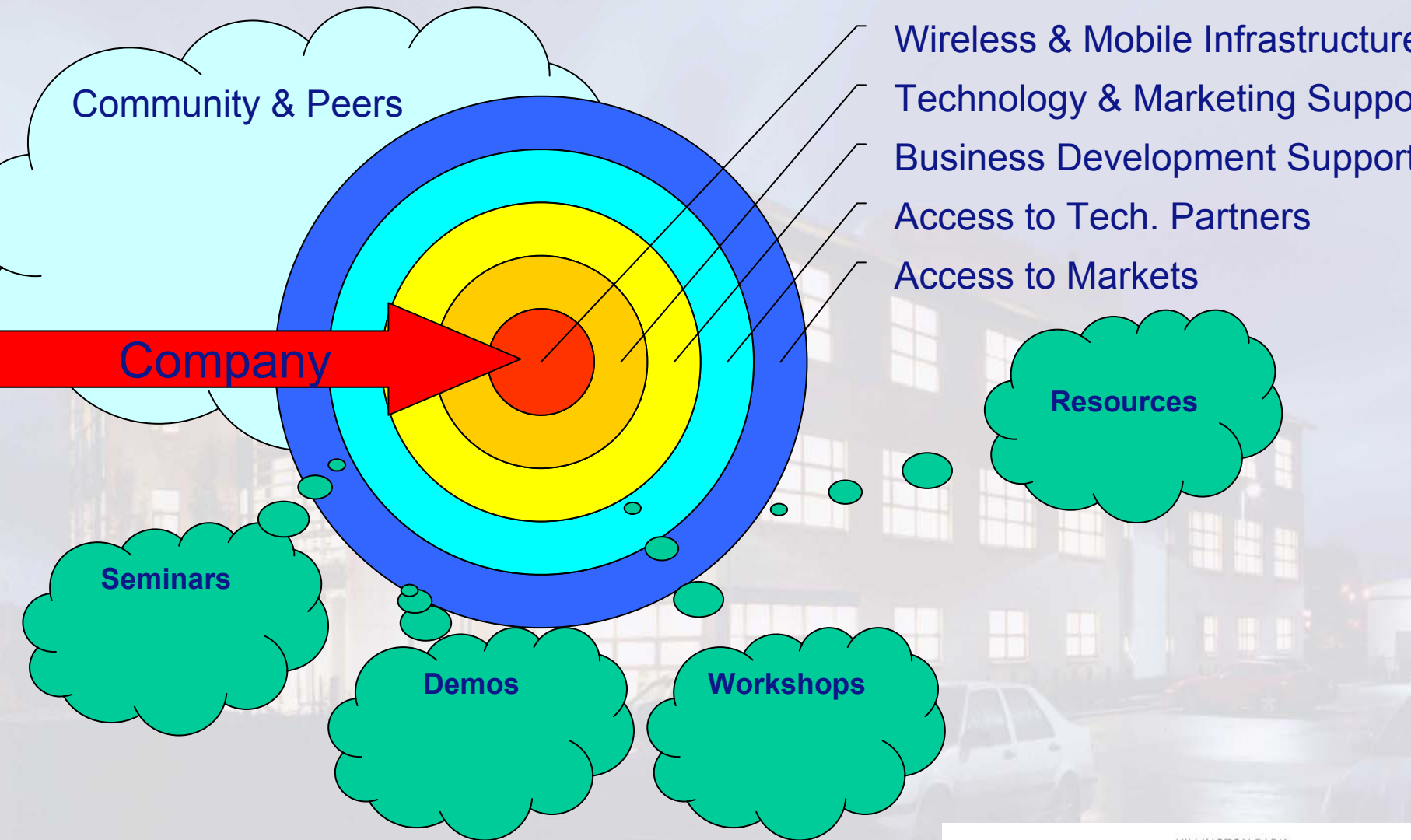
- **Help create 12 new High Growth Start-Ups**
- **Support the development of 53 existing SMEs**
- **Create 78 new jobs**
- **Support 20 new products/processes**
- **Partnership with Scottish Enterprise & other associations to build the Wireless & Mobile Industry across Scotland**
- **Provide leading expertise on issues relating to the economic growth of this industry across Scotland e.g. Wireless Broadband etc.**
- **Position Scotland on the Global Map for developing innovative Wireless Applications**
- **Develop a sustainable industry**

Offering -HPIC Wireless

The Wireless Centre provides

- **Access to leading Technical, Business & Sales Advisers**
- **Mixed technology wireless & mobile infrastructure : 802.11b/g, SMS/MMS Gateway, PDAs etc**
- **Access to Market research reports including analysts meetings**
- **Advice on regulatory Issues, Standards & Specifications**
- **High Quality environment to create & develop new products**
- **Access to Global Partners leading the Mobile & Wireless Market**
- **Access to finance, including seed capital for business development**
- **Business review sessions with key entrepreneurs, Chris Gorman, Tom Hunter, Ian Ritchie**
- **Partnerships with major component/ system/ service suppliers**
- **Developers environment**
- **Support & consultancy**

Components of HPIC Wireless



WIRELESS INNOVATION CENTRE

CENTRE CLIENTS

Kelvin Connect
Mixipix
Gladstone MRM
VVS
Contact Advantage
Asanox
Superscape
Hanon
Web Broadcast Media
Lonely Pixel
Gamma Dataware
VPM
Advanced Display Solutions
Virtual Property Market
Become Interactive
Nickleby
HotHouse World

NEW CLIENTS

Pointshift
Piccel
Darwin

END USER

BAA
RBS

PARTNERS

T-Mobile
Agilent
Cisco
Microsoft
Boston Networks
Real Time Engineering
SUN
NCR
HP
AspectsSW
Purple Patch
IBM
Strategy Analytics
Aspects
TRS
NTL
Orange
Oracle
RBS
BT OpenZone
Ingenico Fortronic
Linn Hi-Fi
O2
Hutchison3G
Vodafone
Digital Bridges

CONNECTIONS

MX
ScotlandIS
Connect
Scottish Embedded Software Centre
Scottish Enterprise e-Business
Scottish Enterprise Renfrewshire
STAC
ITI
Scottish Enterprise CommTech

•Actively Involved

- Seminars
- Demos
- user

•Potentially Involved

- Possible seminar
- Possible demo
- Possible user

•Contact Made

- Meeting arranged
- Met initially

•Target

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wireless innovation

HPIC Wireless

Reducing the barriers to enter the wirefree world

- **Helping Companies**

- Transfer applications or technology to the wireless environment
- Innovate new applications and technologies into this rapidly expanding domain

- **By**

- Reducing the cost of developing the skills and knowledge needed to develop products
- Reducing the cost of the infrastructure to develop and demonstrate products
- Assisting with the necessary interactions with suppliers, customers and intermediaries who control the market access



Maxwell to the new economy

- **Before the "Birth of Radio", 1867-1896**
 - 1867 - Maxwell predicts existence of (EM) waves
- **The Birth of Radio**
 - 1897 - Marconi awarded patent for wireless telegraph
- **Voice over Radio**
 - 1914 - First voice over radio transmission
- **Birth of Mobile Telephony**
 - 1946 - First mobile users to public telephone network
- **Cellular Mobile Telephony**
 - 1979 - First cellular communication system
- **GSM and Beyond**
 - 2000 – 3G/4G cellular system standards?



Summary of .con ?

The Service Offered

- Digital revolution took over mobile comms
- 2G offers data, fax, SMS, higher levels of encryption
- Poor usability inhibits growth
- 2.5G evolves offering faster data rates and always on

What we experienced

- 2.5G Networks miss launch
- 3G delayed due to slowdown in global economies and design
- Fails to live up to early expectations
- Recession hits key wireless players

Summary of .con?

The Excuses – ers, maybes

- Excess handset inventory (2G)
- Overoptimistic expansion plans
- Poor economic market conditions
- Expected high sales that never materialised
- Chronic delays due to regulatory constraints
- Prevailing political uncertainties
- Financial instabilities of key companies

The Outcomes

- Re-evaluated aggressive growth strategies
- Market fundamentals remain strong
- Shipments recover by the end of 2002
- 2.5G enabled devices increases average revenue per unit

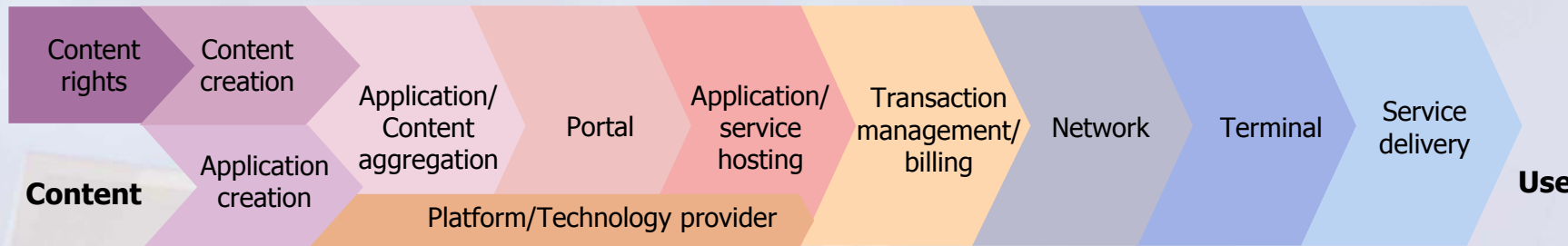
Today's Picture

- **W. Europe/Japan account for 40% of global subscribers**
- **Surge in emerging markets i.e. China, India, L. America**
- **Growth being driven by a number of factors:**
 - The roll out of next generation
 - High speed technologies & services in developed markets
 - Growth in subscriber rates in developing regions
- **Turning to next generation mobile data in mature markets**
- **Race for subscribers focuses on interim technologies (GPRS)**
- **Mobile subscribers to grow from 740m (2000) to 1.3bn (2007)**

Increase 100% !

Who are the Titans?

The Mobile Jigsaw



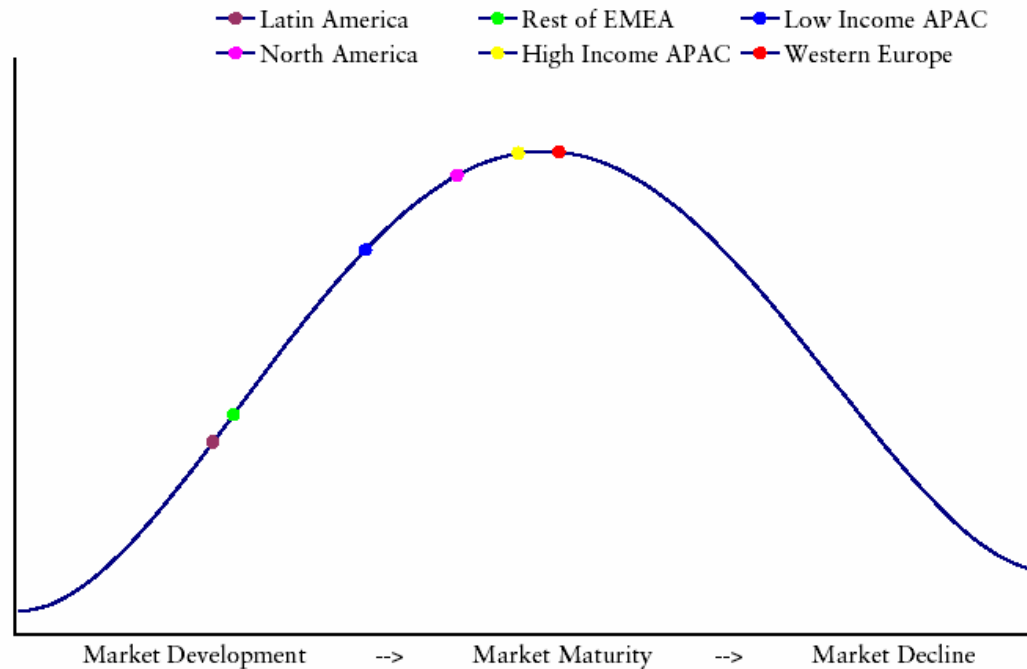
The Main Players

BBC	Codeonline	Digital Bridges	Genie	EDS	MNOs	Vodafone	Nokia	Carphone
Universal	e	In-fusio	Vizzavi	Exodus	Egg	Orange	Samsung	Warehouse
Sony	iFone	Terraplay	Zed	Logica	Visa	mm02	Sony/Ericsson	DX
BMG	Ngame	Picofun	T-Motion	CGE&Y	Mastercard	T-Mobile	Trium	Communications
Eidos	The Games Kitchen	Riot-E	Mviva	Digital Bridges		TIM	Siemens	Phones4U
Time Warner		Springtoys	Boltblue			Telefónica	NEC	Online retailers
Bloomsbury			djuice			Sonera	Panasonic	
FremantleMedia			iobox				Microsoft	
							Palm	
							Compaq	

Source: Analysys

Global Mobile Maturity Cycle

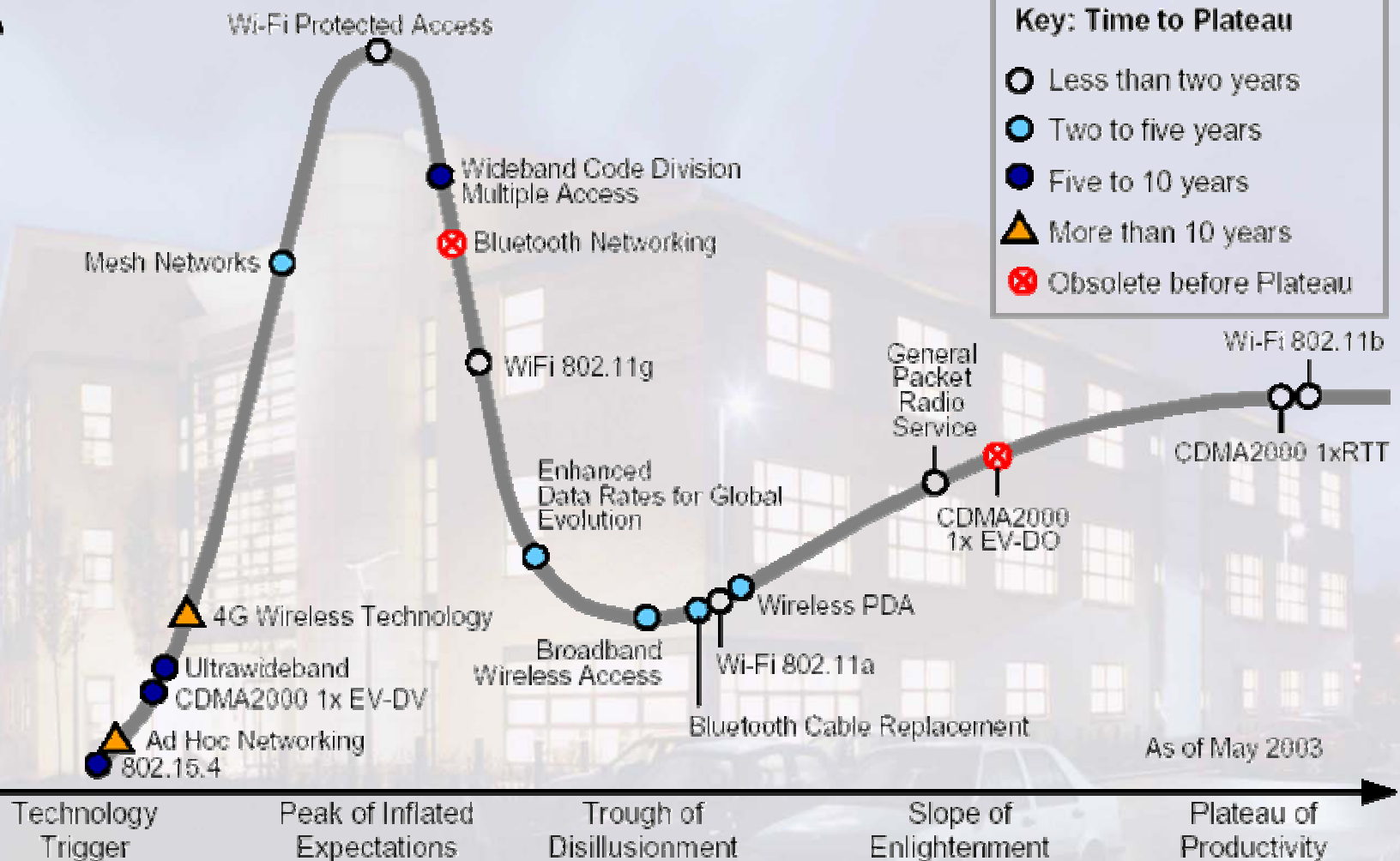
Total Mobile Networks Market: Product Life Cycle Stages by Geographic Region (World),
2001



Source: Frost & Sullivan

Success Components

Visibility



Source: Gartner

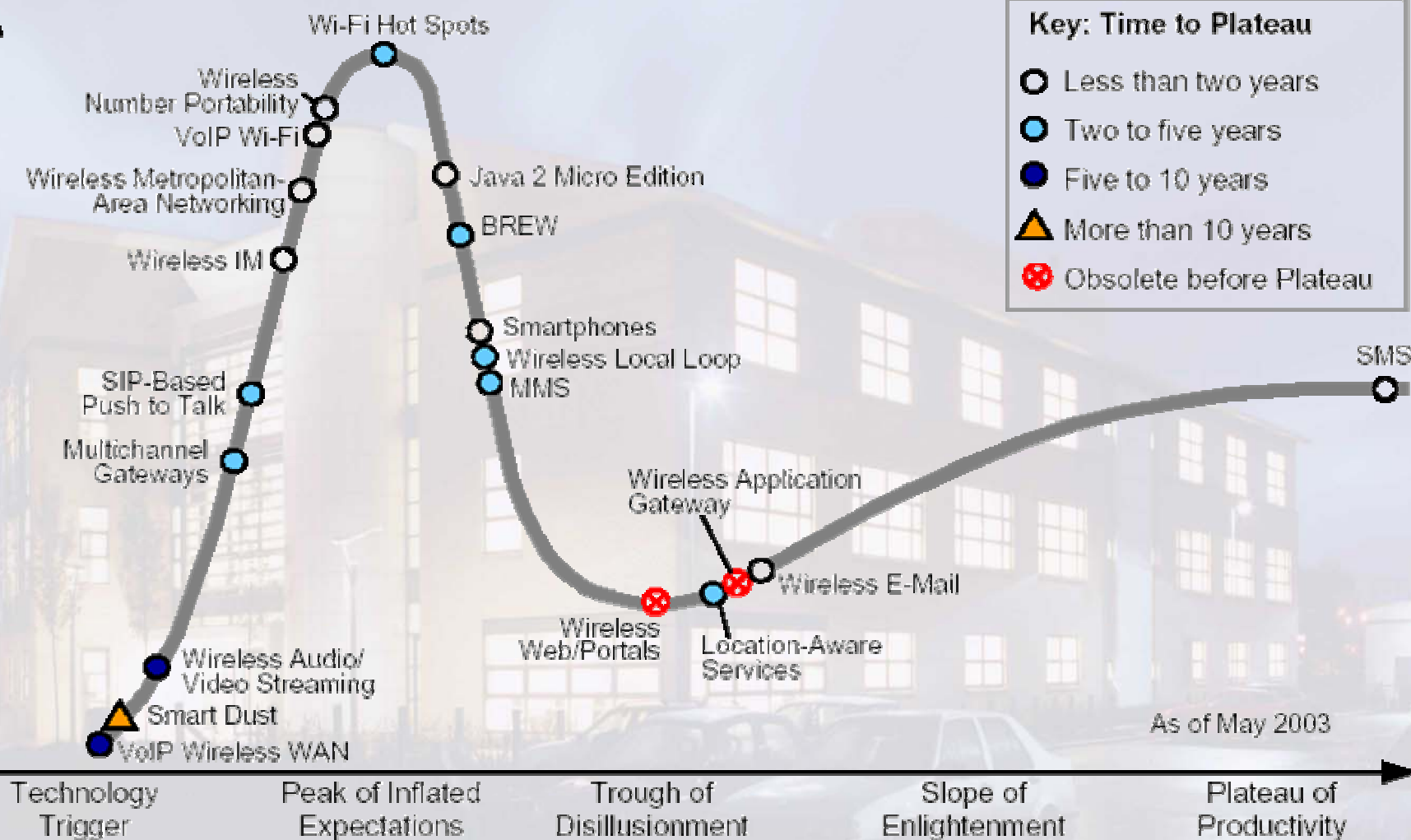
Maturity

Show me the money

- **Wireless is a strong investment area**
 - Never been out of the top 5 when measured by capital invested
 - VC's have invested £3Bn in European Wireless Companies, around 10% of total technology investment
- **VCs learned a hard lesson from .com**
 - Fingers burned due to unsustainable valuations, continual technical delays and consumer disappointment
 - EU VC Investment reduced to £400m in 2002 from £1.08bn in 2000
 - Wireless companies now looking for ROI within 2 years – no buts
- **Drop in VC, but certainly not dried up**
 - Good business case is key
 - Applications that increase efficiency and productivity are preferable
 - The storm has been weathered
 - Growth areas in India, China and APAC

Hype to Reality

Visibility



Source: Analysys

Maturity

Who could be the winners?

Location Aware Services

- **Technology**
 - GPRS and 3G evolving to make LAS viable
- **Uses**
 - E911, safety, billing, information, tracking, advertisement
- **Key Sectors**
 - Emergency services, billing, advertising
- **Market Drivers**
 - Regulation, technology, security
- **Market Barriers**
 - Privacy, poor services, missing devices

Who could be the winners?

Wi-Fi

- **Technology**
 - Radio waves penetrate physical walls & floors, transmitter reach
- **Uses**
 - Wire-free access to Internet, Consumer Electronics
- **Key Sectors**
 - Airports, hotels, cafes, libraries, homes
- **Market Drivers**
 - User interest, attractive pricing, ease of use
- **Market Barriers**
 - Billing models, roaming issues, laptop penetration

Who could be the winners?

RFID

- **Technology**
 - Allows non-contact readability; lack of standards
- **Uses**
 - Inventory, telematics
- **Key Sectors**
 - SCM, consumer packaged goods, home
- **Market Drivers**
 - Viable technology, increased control
- **Market Barriers:**
 - Interoperability, cost, power and range issues

Who could be the winners?

Smartdust




- **Technology**
 - Ad-hoc mesh network; still being developed
- **Uses**
 - Information gathering and monitoring
- **Key Sectors**
 - Military, surveillance, buildings/office space
- **Market Drivers**
 - 'hot' research area, progress
- **Market Barriers**
 - Privacy, misuse, technical obstacles

And finally...

- **Exciting area with big risks and big rewards**
 - What applications will win?
- **Focus on emerging technologies**
 - Based on winning standards
 - Providing customer value
 - Built on a solid business model
- **Growing geographies**
 - Emerging: APAC, India and China (Voice)
 - Established: US, W.Europe ahead of the curve (Data)
- **Keep one eye on the longshots**
 - E.g. SMS, Smartdust or Telepathy...

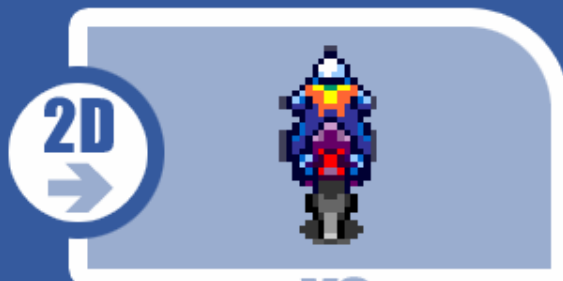
swerveTM

3D Games

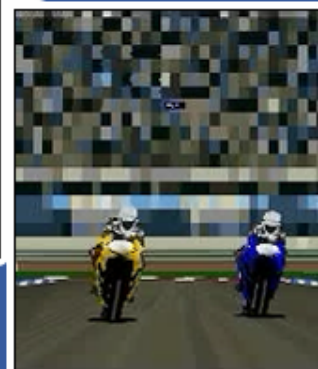
- Java (JSR184) and BREW solution
-  **swerve client** High performance engine optimised by ARM
-  **swerve studio** Comprehensive design environment
-  **swerve content** Portfolio of games, co-published with global media brands



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VS





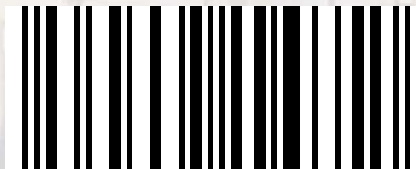
S.W.A.T.


Sony Pictures Mobile
a Sony Pictures Digital Network Company



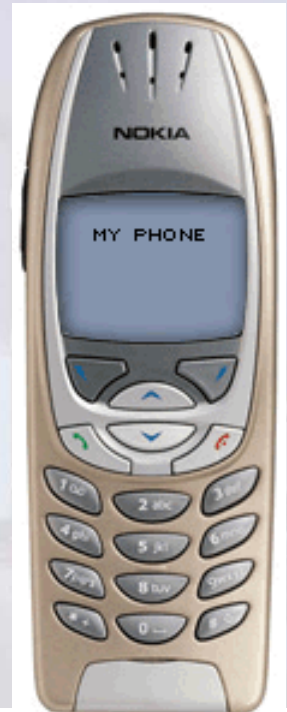


Intelligent Mobile Applications



What do we do?

- Deliver barcodes to mobile phones via SMS
- Application to deliver and redeem barcodes
- Use standard scanners to verify barcodes
- Barcode can represent anything of unique value
- Mobile as 'wallet of the future'
- Ticketing, coupons, proof of delivery, security...





who is mixipix?



a mobile multimedia production,
distribution and management company

providing a premium MMS
content creation and
transmission service for the
consumer market





the business proposition

providing a mobile multimedia content creation and delivery service for consumers and commercial partners

- production facilities for original content development and repurposing
- distribution channels to mobile phone networks
- secure, robust, easy-to-use solutions for fastest time to market with highest quality

for further information please contact: Lesley Keen lesley@mixipix.com

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A faded background image of three men in suits. The man on the left has his hands covering his eyes, the man in the center has his hands near his face with a concerned expression, and the man on the right has his hand to his mouth in a 'shock' gesture.

Thank You

Any Questions Please?

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