

Spur Information Solutions Ltd

Technology in the Parking Industry

Will CEOs eventually be replaced by robots?

Adrian Farrell

Technical Director



Predicting the Future

“We look at the present through a rear view mirror; we walk backwards into the future.” - Marshall McLuhan



Parking Technology – PA/CEO History

- Handheld Computers (replace handwritten PCNs)
- Portable Printers go wireless (Bluetooth)
- Digital Cameras capture photographic evidence
- Handhelds connect wirelessly to back office
- Global Positioning tracks CEO location
- ANPR Cameras increase automation
- ANPR Shrinks to handheld devices



Technology Transfer

Successful Technology in Industry often requires a “push” from the Consumer market: For Example....

Real-Time communication with Handheld Computers

- (1992) RAMS Data Network
- (1993) Proprietary Radio Networks – PA Radios
- (1998) WAP Mobile Phones
- (2001) GPRS – Mobile Internet
- GPRS Edge
- 3G – Mobile Broadband



Technology Transfer...Cont...

Consumer Digital Cameras...

- (1993) Early Cameras – 0.1 Megapixels
- (Late 1990's) Optics Improve, Memory Costs Fall, Consumer market sees future of abandoning “wet film” cameras
- (2000) Consumer Market massively increase choice
- 3-6 Mega Pixels now the norm
- Digital Camera now used by “My Dad”.



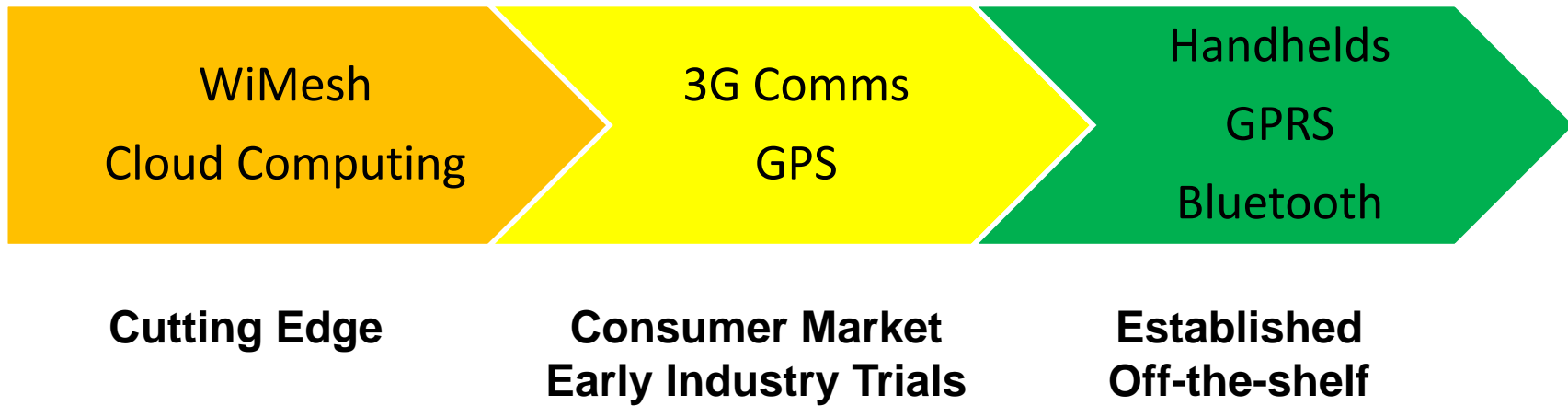
Technology Transfer...Cont...

GPS Satellite Tracking

- (1993) GPS Satellite Launch by US Military (1995 go live)
- (2000) GPS III Launched to public
- (2005) Sat Nav in car systems start to fall in price
- Consumer market drives down price of GPS “Chips”
- (2006) GPS Card for Handhelds available
- “My Dad” has a GPS system in his car.

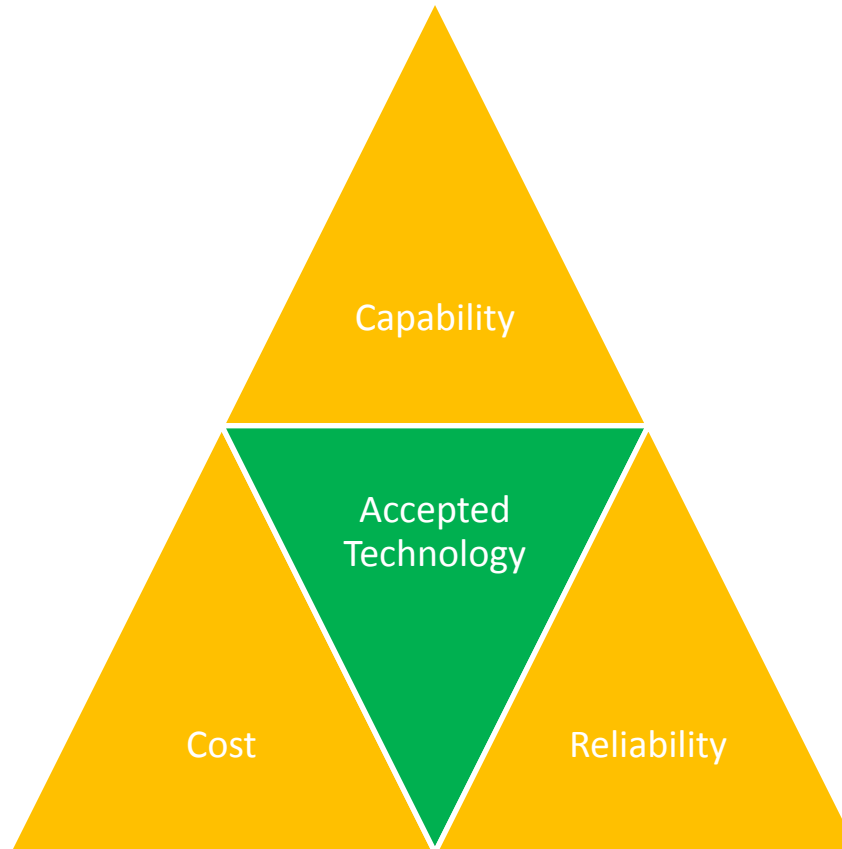


Maturing Technology



Technology Drivers

Technology Take-up



The “Nuts and Bolts”

Storage Cost are falling...

- (1982) 1 Kilobytes Computers
- ~1000 characters (2 paragraphs)
- Today’s Computer Hard Disks > 1 Terabyte
 - 1,000 Gigabytes
 - 1,000,000 Megabytes
 - 1 Billion Kilobytes
 - 1,000 Billion Characters
 - Yours for <£100
- Consumer Personal Video Recorders (PVRs)
- Capability to Store and Reference Moving Images



The “Nuts and Bolts”

Mobile Communications Speed Rising (Cost Falling)

- (Early 1990's) Mobile comms ~ 30 characters per second
- (Mid 1990's) SMS Messages ~ 1000 characters per second
- (2000) GPRS ~ 5000 characters per second
- GPRS Edge ~ 10,000 characters per second (photos)
- 3G ~ 50,000 CPS (movies – just)



Blue Sky....

Where is this leading.....

- 3G and WiMesh networks increasing speed
- Digital Storage sizes increasing, costs falling
- Faster Processing Computers

In 10 Years time....

Real-time, streaming live video from CEOs

Or

CEOs replaced with Robots



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