

Femtocells Reality Check: Business Models, Strategies and Market Trends



ARC CHART

SECTOR REPORT

Femtocells Reality Check: Business Models, Strategies and Market Trends

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Executive Summary

Although still in its infancy, the market for femtocells has evolved rapidly over the last two years, moving from a compelling concept but one without clear commercial viability to a reality which could fundamentally alter the mobile telecoms landscape. However, despite its prospects, the industry has been slow to embrace and deploy femtocells, and although Sprint in the US and Starhub in Singapore have dipped a toe in the water, most femtocell deployments are still at trial stage. Nonetheless, ARCchart anticipates the first large-scale femtocell deployments will arrive in Q2 2009, with the market ramping in 2010. With increasing user demand for mobile broadband data, operators will look to femtocells to improve indoor coverage whilst easing capacity requirements and backhaul costs in their macro-network.

There are several reasons for the femtocell's slow market birth, ranging from the technical to the commercial and strategic. Despite initial technical problems and the slow introduction of femtocell-related standards, it is true to say that most of these issues have been overcome. Through the efforts of the Femto Forum, the acceptance of the lu-h interface by all the main femtocell vendors has ensured uniformity. Interference has been dealt with and handoff is largely solved.

The remaining femtocell challenges are primarily commercial and strategic. Most femtocell vendors – Ubiquisys, RadioFrame, ip.access and Airvana – are medium-sized, VC backed businesses who are stepping into the new territory of large-scale consumer deployments. The large network equipment providers such as Nokia Siemens, Ericsson and Motorola have chosen not to enter the market directly, working instead with the femtocell vendors through OEM and reseller arrangements. Although this scenario is not that unusual in a new market it means that the specialist femtocell vendors lack the capital to exploit the mass market potential of femtocells and have a credibility gap to close in order to reach acceptance by Tier 1 operators. This gives rise to the classic catch-22: without the capital to subsidise a large-scale femtocell roll-out, vendors are unable to prove the viability of femtocells, but without this proof of concept many operators will wait on the sidelines.

This brings into play another crucial strategic issue: there is little first mover advantage for mobile operators looking to deploy femtocells. With the unit cost of a femtocell currently at around \$200 and with the considerable investment required to roll-out a service to consumers, femtocell deployment is a high cost, high risk endeavour. By being first to market the operator accrues none of the mass production cost advantages of the follower and takes all the risk with technical issues that will be ironed out at later stages.

The femtocell vendors counter these challenges with the indisputable operational benefits of femtocells. Coverage in the home is improved, which is vital if data services on 3G/3.5G are to take off, and the backhaul is taken care of by the consumers own broadband connection thus taking pressure off the transmission network. Furthermore, femtocells allow operators to offer homezone type services with reduced tariffs within the home environment but without the need for special dual-mode handsets. Churn can be reduced and whole families could be tied into one network since they will all be using the same femtocell. Finally, so-called femto 2.0 services could help increase ARPU by offering media sharing and social networking features when the consumer is in the home-zone.

ARCchart anticipates the first large-scale femtocells deployments to arrive in Q2 2009 but with less than 500,000 units shipped during the year. Instead, 2010 will be the year when shipments start to flow as the business case becomes clearer. The following three years are expected to see rapid growth as the price of the femtocell unit drops and the need for better in-building coverage grows. This will be driven by a combination of market factors including the need to backhaul high bandwidth mobile data; the growing use of data cards; greater integration of the femtocell with CPE; and the threat from fixed-line operators entering the mobile domain through dual-mode Wi-Fi solutions. Finally, as LTE arrives in many advanced markets there will be increased need to ship LTE femtocells around the 2013 timeframe and some believe the first LTE deployments will be via femtocells.

Table of Contents

A. FEMTOCELLS MARKET OVERVIEW	1
A.1 Drivers for in-building transmitters	2
Surge in mobile data traffic	2
Infrastructure cost saving	3
Defence against disruptive technologies.....	3
Increased ARPU through new revenue channels	3
A.2 Negative perceptions and market challenges	3
A.3 How a femtocell works	4
Communication with the core network	4
Standardisation efforts	5
3G indoor performance	5
A.4 Femtocell investment landscape.....	6
RadioFrame	7
Percello	7
Kineto Wireless	7
ip.access and Airvana	7
Investment summary	7
A.5 Fixed Mobile Substitution (FMS).....	8
A.6 Fixed Mobile Convergence (FMC)	8
Fixed-line carriers versus mobile operators	8
Integrated operators.....	9
The benefits femtocells bring to FMC	9
The rise of mobile broadband.....	10
WCDMA and HSPA.....	10
HSPA or WiMAX?	10

WiMAX	11
LTE.....	12
CDMA UMB.....	12
A.7 Mobile operator strategies.....	12
LTE Deployment	13
LTE femtocells	14
PC and Laptop based connectivity	14
Growth of the data card market.....	15
Sizing the data card market.....	16
A.8 Mobile broadband reality check	17
Embedded Wireless.....	17
Qualcomm's Gobi.....	17
Intel's Echo-Peak	17
The challenges of embedding.....	18
Barriers affecting rollout of embedded products.....	18
WiMAX	18
Intel's Atom platform.....	19
A.9 Femtocell deployments in the enterprise.....	19
Challenges to enterprise deployments.....	19
Handover.....	20
Connecting to the core	20
Signal leakage.....	20
Distributed Antenna System (DAS) Deployment	20
B. BARRIERS & DRIVERS FOR FEMTOCELL ADOPTION	21
B.1 Barriers to femtocell adoption	21
Handset Customisation.....	21
Health fears	22
Standards issues	22
Cost of deployment	23
Lowering costs through semiconductor innovations.....	24
DesignArt	24

picoChip	24
Cost outlook	25
Competing technologies	25
UMA	25
UMA service models	26
UMA outlook.....	27
VCC.....	27
VCC Outlook	28
Blocking femtocell traffic by DSL providers.....	28
Inter-cell interference and frequency planning	28
picoChip	30
Improved macro-cellular coverage and capacity.....	30
Inappropriate business models	30
B.2 Drivers to femtocell deployment.....	31
Adoption of LTE	31
Increased use of mobile broadband data cards	32
Poor in-building coverage	32
Billing consolidation	33
Anti-churn	33
Femto 2.0 services.....	33
ShoZu and Ubiquisys	34
Reduced backhaul costs.....	35

C. OPERATOR STRATEGIES AND BUSINESS MODELS 36

C.1 First to market strategy	36
C.2 Pure-play mobile operator strategies	37
C.3 Integrated operator strategies.....	38
C.4 Fixed operator strategies	39
C.5 The private femtocell network	39
Hay Systems.....	39
Outlook.....	40
C.6 Paying for enhanced coverage	40

C.7 Wi-Fi operator strategies.....	41
D. TECHNOLOGY OVERVIEW AND TRENDS.....	42
D.1 Form factor	42
Integrated design	43
D.2 Standards	44
Interoperability standards.....	44
Interface standardisation.....	45
Handset standards.....	46
CPE Standards	47
D.3 Mobile backhaul challenge.....	48
D.4 The UMA approach.....	50
D.5 WiMAX deployment opportunities	50
D.6 Location sensitive femtocells	52
D.7 Handover	53
The Sprint deployment	54
D.8 Home installation	54
Open and closed access.....	54
D.9 Scalability and use of concentrators	55
E. VENDOR STRATEGIES.....	56
E.1 Infrastructure vendor attitudes	56
Outlook	57
E.2 Product differentiation among femtocell vendors	57
E.3 Value chain	58
E.4 Vendor profiles	59
picoChip.....	59
Outlook.....	60
RadioFrame	60
Airvana.....	63
ip.access.....	64
Ubiquisys	65

F. FEMTOCELL MARKET FORECASTS	68
F.1 Regional analysis	69
Europe	70
Asia.....	70
North America.....	70
F.2 Technology.....	71
F.3 Revenues.....	72

List of Figures

Figure A-1: Typical femtocell network deployment.....	4
Figure A-2: Femtocell investment landscape	6
Figure A-3: Forecast LTE subscriber growth, 2008 - 2013	13
Figure A-4: Forecast LTE subscriber growth by region, 2008 - 2013.....	14
Figure A-5: Mobile broadband USB dongle sales for Western Europe	16
Figure B-1: Price per femtocell unit forecast,	23
Figure D-1: Ubiquisys 3G Femtocell	42
Figure D-2: Motorola's picture frame femtocell (VIDEO).....	43
Figure D-3: 3GPP femto home Node B architecture	45
Figure D-4: Decoupling of cellular operator network traffic and revenue	49
Figure D-5: 3GPP UMA/GAM Interface	50
Figure E-1: Femtocell Value Chain	58
Figure E-2: RadioFrame's Omnicell@Home femtocell.....	61
Figure E-3: Airvana's HubBub CDMA Network Architecture.....	63
Figure E-4: Overview of the NEC/Ubiquisys IMS femtocell solution	66
Figure F-1: Global femtocell unit shipment forecast, 2008 - 2013.....	68
Figure F-2: Regional breakdown femtocell unit shipment forecast, 2008 - 2013	69
Figure F-3: N. America, W. Europe & Developed Asia femtocell unit shipment forecast, 2008 - 2013	70
Figure F-4: Technology breakdown femtocell unit shipment forecast, 2008 - 2013	71
Figure F-5: Global femtocell revenues	72

CHAPTER A

Femtocells Market Overview

In-building cellular has gained prominence in the last few years – mainly as a response to the competitive pressure operators are dealing with. Technology is evolving at a rapid pace in line with customers demand for better and more economical service. In addition, wireless operators are faced with regulatory issues that, in some cases, inhibit them from addressing these pressing issues.

In the developed world, mobile subscriber growth is reaching saturation point with penetration close to or exceeding 100 percent in many markets. The challenge for operators for the last couple of years has been to increase ARPU while reducing churn and costs.

The investment in 3G in developed markets has peaked and now investment is directed to 3.5G technologies, boosting data rates and making media rich applications possible. New disruptive technologies have been launched into the marketplace clouding the role of the pure mobile or fixed operator. Hybrid operators with converged offerings are now entering the market and MVNOs targeting specific niches are commonplace.

Complex business relationships are being formed along the value chain and new business models are being created. VoIP has created a new business model with service providers like Skype and Vonage having huge success in the fixed-line environment. Although minutes of use (MoU) are still relatively low, there is little doubt they are having an impact on fixed-line voice revenues. With the growth of Wi-Fi and WiMAX through unlicensed spectrum there is also the prospect of VoWLAN, which presents a significant challenge to the mobile operators' established business.

Fixed-mobile substitution continues apace, but while mobile phone penetration has overtaken the number of landline phones in many parts of the world, cellular traffic still lags its fixed-line counterpart in terms of MoU. To fight fixed-mobile substitution, fixed-line operators and broadband providers have launched homezone-type solutions where the mobile acts as a fixed-line phone when at home.

In-building cellular has long been seen as a method of simply ensuring better indoor coverage – usually in large venues like multinational corporate offices, hotels and airports. Technology has moved on, however, and now in-building cellular solutions can target subscribers on the move in trains and aircraft; subscribers within an SME environment; and subscribers in the home environment. Better indoor coverage can help mobile operators reduce churn through a differentiated service offering; save investment costs in the macro-network; and help deliver new ARPU-enhancing products.

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