



driving convergence worldwide

[www.femtoforum.org](http://www.femtoforum.org)

# The Femto Forum

**The Femto Forum is a not-for-profit membership organisation founded in 2007 to enable and promote femtocells and femto technology worldwide.**

We are independent, technology agnostic and inclusive of all relevant stakeholders.

Comprised of mobile operators, telecoms hardware and software vendors, content providers and innovative start-ups, our mission is to advance the development and adoption of small cells via femtocells and broader applications of femto technology for the provision of high-quality 2G/3G/4G coverage and services within the residential, enterprise and public access markets.

The Femto Forum is chartered to encourage the growth of a partner ecosystem committed to innovation in standards-based network infrastructure and to achieve high levels of collaboration and product interoperability.

# femto forum



## why femtocells?

### Advantages for the consumer

- Outstanding mobile coverage at home
- Rapid download for multimedia content
- Significantly enhanced battery life
- Greater security

### Advantages for the operator

- Cost effective way of increasing the network coverage and capacity in homes and offices – where a large percentage of mobile phone usage occurs
- Increased customer loyalty
- Offload data traffic from the macro network
- Platform for new services

### Challenges faced by the industry

- Consumer awareness
- Growth to mass market
- Standardisation of new services

The Femto Forum is dedicated to addressing and helping to resolve such issues. The promotion and global deployment of femtocell systems that address these challenges is at the heart of the Femto Forum's mission.

## femtocell market statistics

- The femtocell market is expected to reach just under 49 million femtocell access points by 2014 with 114 million mobile users  
*Infoma Telecoms & Media, 2010*
- As of Q4 2010, it is estimated that 1.7 million femtocells have been deployed globally as compared to 2.2 million outdoor cell sites, and femtocells now outnumber outdoor cell sites in the US  
*Infoma Telecoms & Media, 2010*
- 57 per cent of consumers surveyed globally find femtocells appealing – and of these, two thirds found the service either “very” or “extremely” appealing  
*Parks Associates, 2010*
- Consumers are most interested in femtocells for improved in-home coverage. Secondary benefits include better handset battery life, faster mobile broadband, advanced femtocell services and home-zone calling tariffs  
*Parks Associates, 2010*
- Globally, 68 per cent of consumers who found femtocells appealing were very interested in at least one advanced femtocell service – such as a Virtual Home Number, which rings every mobile phone in the home  
*Parks Associates, 2010*



## 2010 achievements

The Femto Forum has published authoritative white papers and briefs on a range of topics including:

- Femtocell business case
- The need for both 3G femtocells and WiFi access points
- Interference management in UMTS femtocells
- Consumer attitudes toward femtocells
- Femtocells as a natural solution to offload
- Femtocell synchronization and location

As part of the commitment to international standards, the Femto Forum works with organisations including 3GPP, 3GPP2, the Broadband Forum and the WiMAX Forum:

- In March, 3GPP2 published a comprehensive femtocell specification for CDMA2000
- In May, the Femto Forum ran the first plugfest for the 3GPP Lte standard in conjunction with ETSI
- In June, the WiMAX Forum published a femtocell standard
- The Femto Forum established an active LTE special interest group and published LTE application programming interfaces (APIs) in October

## Femto Forum focus for 2011

With the dramatic growth in 2010 of the femtocell industry, particularly within the residential sector, it has become increasingly evident that consumers require the same capabilities of their mobile phone in the home as in the business environment.

The focus for the Femto Forum in 2011 is to support the development of operators' and manufacturers' strategies into this area of the marketplace. Particular attention will be paid to:

- Scalability
- Femto-enabled services
- Configuration and optimisation
- Cost effective and rapid deployment
- Greater bandwidth and improved user experience



## working groups

The Femto Forum has established four working groups which address the key issues affecting the femtocell industry:

- marketing & promotion
- radio & physical layer
- network & interoperability
- regulatory

The working groups' mission is to ensure the rapid and effective deployment of femtocells to support a wide variety of consumer propositions and operator business models.

- The **marketing & promotion group** is looking at how the industry should best position femtocells within the industry and to the wider public, build usage cases, agree on common terminology and manage any potential concerns.
- The **radio & physical layer group** is developing standardised RF interfaces, clarifying the various capability classes of femtocell and examining interactions with outdoor cells.
- The **network & interoperability group** is promoting standardised requirements, architectures and interfaces for integrating femtocells into the network core and ensuring multi-vendor interoperability.
- The **regulatory group** identifies regulatory benefits and potential issues pertaining to public policy in various strategic markets around the world and works with regulators to ensure a benign environment for rapid and efficient femtocell deployment.

## special interest groups

The **4G group** focuses on the specific challenges posed by associated technologies in order to prepare the way for the second deployment stage covering next generation mobile technologies. This will include ensuring that both LTE and WiMAX standards include suitable provision for femtocells.

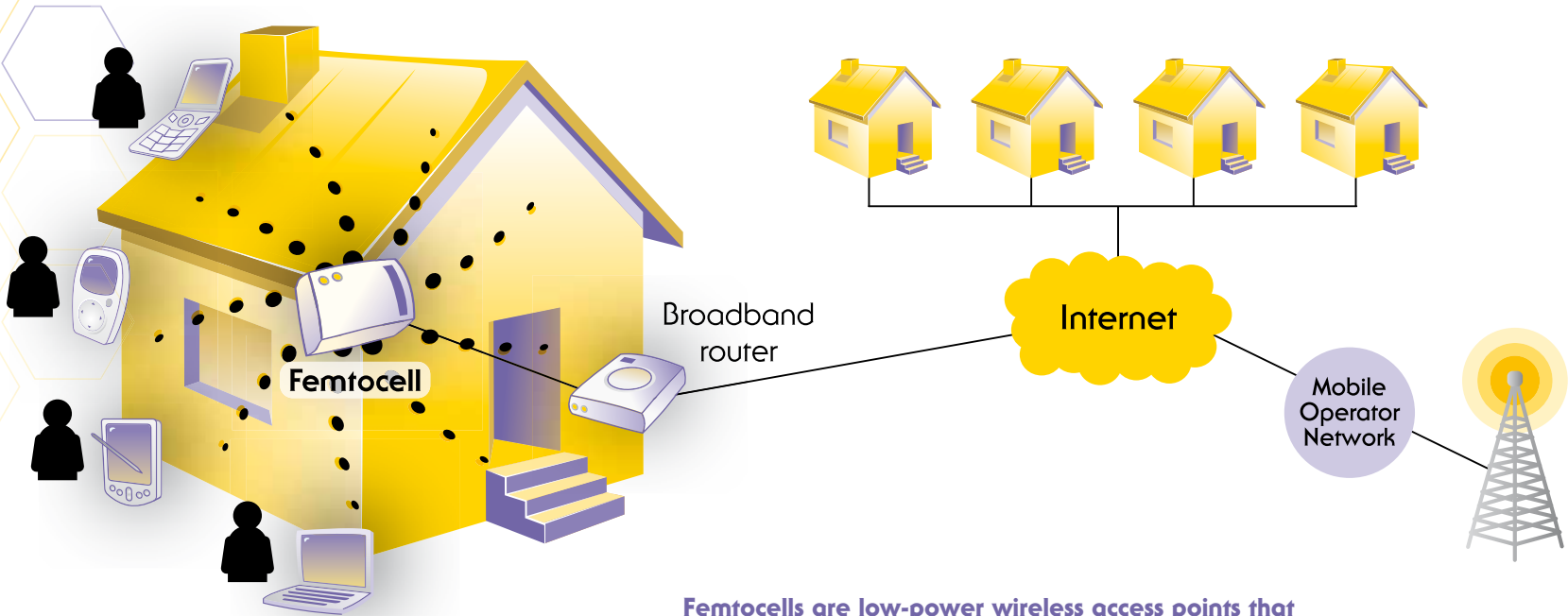
The **interoperability group** provides clarity on how, where and when interoperability testing will take place to ensure that deployments function effectively and in accordance with the standards.

The **services group** investigates the possibilities for femtocells to introduce innovative new services for consumers which take advantage of the 'presence' capabilities of femtocells, and easily connect mobile phone users to the home network and the web.

The group aims to develop consensus with the industry around common approaches, such as standard APIs, to ensure that services will work across all equipment.



## femtocells: delivering the 5-bar lifestyle



Femtocells are low-power wireless access points that operate in licensed spectrum to connect standard mobile devices to a mobile operator's network using residential DSL or cable broadband connections.



## types of membership

Membership is open to any legally established corporation, individual firm, partnership, governmental body or international organisation supporting the promotion and worldwide deployment of femto technologies. There are three levels of membership – **Full**, **Executive Board** and **Observer**.

### Annual membership subscription 2010/11

#### Full membership:

£7,190

#### Executive board membership:

£14,380

#### Observer membership:

Complimentary for the first year

### Observer status

Available to licensed holders of spectrum for mobile services on a discretionary basis and is complimentary. It extends for a 12 month period from the date of joining.

### Small operator option (discretionary)

Grants complimentary access to many of the benefits of full membership to small-scale operators. Contact us if you think you may be eligible for this category.



femtocell  
industry

Awards



## the Femto Forum awards

The annual Femto Forum femtocell industry awards recognise the achievements, innovations and outstanding contributions in the development and promotion of femtocell technology.



## how to apply to join the Femto Forum

Organisations wishing to join the Femto Forum are required to complete and sign the application form which is available as a PDF download on the website. The form must then be faxed to +44 (0)845 644 5824 or posted to Femto Forum, PO Box 23, GL11 5WA, UK.

On doing this organisations are deemed to have agreed to the Forum's Articles of Association and the IPR & Confidentiality and Anti-Trust & Competition Law policies, also available on our website.

Companies will then receive an invoice for the fee as applicable. Annual memberships run from 28 September to 27 September of the following year.

**For more information visit our website: [www.femtoforum.org](http://www.femtoforum.org)**

**Important note:** Observer membership is open only to mobile telecom operators (that hold spectrum licence). Mobile telecom operators can participate in the Femto Forum either as Full or Board members or as Observers. After the first year of membership Observer members are encouraged to become full members.

As Observers, operators will be able to take part in the activities of Femto Forum working groups and attend meetings, but do not have voting rights.

## benefits of membership

Membership in the Femto Forum is the only way to stay up-to-date with an industry moving very fast towards widespread adoption. Members gain significant benefit from direct personal interaction with all members of the ecosystem – operators, partners, competitors and suppliers. Membership delivers the opportunity to work with all the key sector players in shaping the debate, the standards, the promotion and deployment of femto technologies worldwide.

### All members are entitled to:

#### Direct influence

- Eligibility to chair a working group or special interest group (SIG)

#### Shape the debate

- Attend working group and SIG meetings, plenaries and AGM meetings
- Remote access to working group and SIG meetings, plenaries and AGMs
- Submit agenda items for consideration
- Participate in, or nominate qualified colleagues to participate in, working group/SIG activities
- Nominate and elect Chairs of working groups and SIGs
- Submit content for the Femto Forum website or newsletter

#### Stay up-to-date

- Receive regular newsletters and eshots
- Access the members' only area of the Femto Forum website
- Receive copies of working documents and presentation materials
- Receive the minutes to meetings
- Prior visibility of Femto Forum press releases
- Access to useful contacts and sources

#### Increased visibility

- Your company logo and mission statement on femtoforum.org
- Your website linked from femtoforum.org
- Use Femto Forum promotional material and logo
- Take part in Femto Forum public event activity

### Board members only are entitled to:

- Voting rights on the Femto Forum board increased (3x) on member resolutions.
- Set the strategy and budget for the Forum
- Propose initiatives and policies to members
- Eligibility to run for re-election as board members

### Full members only are entitled to:

#### Access to Femto Forum board

- Eligibility to run for election to the Femto Forum board
- Eligibility to vote for board members

#### Competitive advantage

- Access to business modelling tool
- Access to consumer research data
- Access to regulatory database
- Eligibility to vote on member resolutions
- Entitlement to sign up to the Femtozone: subsidised high profile attendance at key events

#### Cost savings

- Reduced delegate rates for Femto Forum plenaries
- 20 per cent reduction on the Femto Forum Femtocell World Series conferences, run in partnership with Avren Events
- Reduced delegate rates for other events: typically 15-20 per cent reduction – see current events on our website

# Femto Forum members

## operators

Arqiva  
AT&T Services  
Avea Iletisim Hizmetleri  
Belgacom  
Bell Mobility – Bell Canada  
Bharti Airtel  
Bouygues Telecom  
BT Group  
Cable & Wireless Communications  
Cable & Wireless UK  
Carphone Warehouse Networks  
Cellcom  
Cellcom Israel  
China United Network Communications  
China Mobile Communication  
China Telecommunications  
Chungwa Telecom  
Clearwire Corporation  
Comcast Communications  
Cosmo Bulgaria Mobile  
Cyta  
Deutsche Telekom  
DoCoMo Pacific  
General Communications  
Jersey Telecom  
KDDI R&D Laboratories  
KTF  
Mapesbury Communications  
Maxis Broadband  
M1  
Mobile Satellite Ventures  
Network Norway  
NTT DoCoMo  
Orange France Telecom  
Orascom Telecom  
PCCW Mobile HK  
Pioneer Telephone  
Reliance Communications  
RCI Rogers  
Saskatchewan Telecommunications  
(Sasktel)  
SFR  
Singapore Telecommunications  
SK Telecom  
Softbank Mobile  
Sprint Nextel  
Taiwan Mobile  
Tatung InfoComm  
TDC  
Telecom Argentina  
Telecom Italia  
Telecomunicacoes Moveis Nacionais  
Telefonica O2 Europe  
Telekom Austria  
Telenor Research and Innovation  
Telstra  
TELUS  
True Move  
Turkcell Iletisim Hizmetleri  
Unwired Australia  
Verizon Wireless  
Vodafone Group Services

## vendor ecosystem

2Wire  
Ablaze Wireless  
Acme Packet  
ADB Broadband  
Airvana  
AirWalk Communications  
Alcatel-Lucent  
Alpha Networks  
Argela  
Aricent  
Askey Computer  
AuthenTec  
Broadcom  
Cisco Systems  
Colt Technology Services  
Continuous Computing  
Contela  
Corning Cable Systems  
CS  
Datang Mobile Communications  
D-Link  
ETRI (Electronics & Telecommunications  
Research Institute)  
ERCOM  
Ericsson  
Freescale Semiconductor  
Gemalto  
Gemtex Technology  
Genband  
Hay Systems  
Hirachi  
Huawei Technologies  
IntelliNer Technologies  
InterDigital Communications  
ip.access  
ITRI (Industrial Technology Research  
Institute)  
Juni America  
LG – Ericsson  
Lime Microsystems  
mimoOn  
Mindspeed Technologies  
Mitsubishi Electric  
NEC  
Networks & Multimedia Institute  
Nergear  
Node-H  
Nokia Siemens Networks  
Nomor Research  
Panasonic Mobile Communications  
Percello  
Picochip  
Powerwave Technologies  
Qualcomm  
Radwin  
Rakon  
Sagem Communications  
Samsung Electronics  
Sercomm Corporation  
SigNav  
Sony  
SpiderCloud Wireless  
Sumitomo Electric Industries  
Tara Elxsi  
Tatara Systems  
Technicolor  
Telcordia Technologies  
Telecommunication Metrology Center  
of MIT  
Texas Instruments  
Toshiba Research Europe  
TRaC Telecoms & Radio  
Ubiquisys  
Winregra  
ZTE Corporation

## contacts

If you would like more information about joining the Femto Forum or would like to be included on our mailing list, please contact [info@femtoforum.org](mailto:info@femtoforum.org) or write to: The Femto Forum, PO Box 23, GL11 5WA UK

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