



# Embedded Mobile Newsletter

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## Monthly Newsletter September 2009

I am very pleased to report the highly positive reaction to our first newsletter and interest from several industry leaders and market analysts in contributing to future issues.

This month, we take the opportunity to hear from Glenn Lurie, President of AT&T's Emerging Devices and National Resale business, and industry veteran Mike Short, Vice President at Telefónica Europe /O2. Both interviewees raise important issues for the future success of the industry, such as the need to keep open mind about M2M business models.



Mike Short also picks up on the transport sector theme with a look at wider sector opportunities and a Top-12 list of services for the Connected Car. These are certain to become increasingly available in Europe, following the MoU signed by Viviane Reding (European Commissioner for Information Society & Media) and Rob Conway (GSMA CEO) to secure the deployment of eCall in Europe. The revenue stimulus from eCall is a topic addressed in our Forecast Snapshot contribution from Beecham Research.

We welcome your feedback and suggestions for forthcoming newsletters and remind our readers about [the closing deadline for the GSMA's module competition](#), the winner of which will be announced at Mobile Asia Congress 2009 on 18 November 2009.

**Doug Chambers, Director of Market Development**

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## **AT&T: Preparing for a Tidal Wave of Emerging Devices**

**Doug Chambers and Svetlana Grant speak with Glenn Lurie, President, Emerging Devices and National Resale at AT&T Mobility**



**When we last spoke, you had just taken charge of the Emerging Devices Unit, so after a few months in the job, what is your view of the market today?**

**GL:** When we started the group in October last year, we knew this was a big market with a lot of opportunity. We started researching different vertical markets and found out very quickly that there were a lot of aspects of this space we didn't know and that we needed to learn quickly. We also have seen over the last 10 months many of these verticals change in front of our eyes as all in the ecosystem get educated. The computing space changed – for example, people

thought that netbooks would be a good device and then netbooks took off faster than most expected. Now we are starting to learn what customers want, how they want to buy it, and what it takes to sell a netbook.

The same lessons apply to embedded devices. We talked to large OEMs and thought they'd be very knowledgeable about the wireless industry. However, we found out quickly that this was not the case. We also learned that many of them were going through a completely new experience to manufacture their very first wireless devices.

For us, the biggest change has been what we've learned about the entire ecosystem, and one thing has remained constant - the excitement we sense from the all about new devices, the new space and that the opportunity is great. You really can't talk to anybody at an OEM, wireless device or chipset manufacturer, computing company or software company that doesn't believe that this space is going to explode and that it's the future of the wireless industry.

### **Do AT&T's projections match the expectations of 15-20bn connected devices over the coming decade?**

**GL:** We can debate these numbers and predictions all day long, but my take is that it is really big. The main things on which we are focussing are what business models do we apply to these devices and how do we monetize them— that's the main issue for carriers and the industry.

### **What are the key challenges in the embedded mobile space?**

**GL:** The key challenge is this is a brand new space and there's way too much wireless baggage. Speaking as a 20-year wireless guy, we all want to fall back on the same wireless business models that have worked in the past, whether it's a subsidy model or an activation model. The reality is that for the new embedded devices, none of these models work. We'll have to create new models for each vertical and for each new device and I think that's the biggest challenge.

You walk into certain OEMs and they say "we activate it this way, we will build it this way and you guys sell it that way". We find ourselves having to re-educate them. For any new embedded device, the end-user is going to expect a bit of a different activation experience, a bit a different service experience and a bit of a different monetization experience, and a bit of a different way they are going to use the devices. And if we are not going to change, then we can really hinder the progress of that specific product or that specific vertical.

I think these challenges will be overcome. There are many smart individuals in this space – and I'd like to think that includes us – who are listening and talking to customers and learning from our OEMs and partners, and walking in with a clean sheet of paper and asking how we want to go to market with new products, how we want to do business together and how we want to make it a win-win-win for the OEM, the carrier and most importantly, in this economic environment, a win for the customer.

Somebody is going to write a check every month and be willing to pay for new devices and services. That's where our focus needs to be going forward if we want this market to take off and be successful.

**AT&T has just launched a dedicated certification unit. Tell us a bit more about what market need it addresses?**

**GL:** Our new certification lab in Austin, Texas was built for a couple of reasons. First of all, we have to do things differently for embedded devices. AT&T has had a great certification process for standard handsets and smartphones, but new emerging devices will have to be a different business model. Many of the emerging device manufacturers want to resale AT&T's network. Thus we need a slightly different certification process for this resale device, which will not be branded AT&T. So I asked Jeff McElfresh (VP Product Development for Emerging Devices), who is in charge of product development to take a fresh look at the certification process. We did not want to change our quality standards but we did want to have a fresh look at how we may want to go about certification.

At the same time, we have a lot of new emerging devices to certify. Our existing device certification funnel was already very large for standard handsets and normal business devices, and we needed extra lab space, so we decided to create this new environment.



Probably the best outcome is that the new lab allows my team to have an 'A-Z' responsibility and accountability as to what goes to the lab, how devices are going to be judged and how quickly we are going to get things through that lab. We'll be able to provide useful feedback to OEMs in terms of how they build their device, and generally have a better and more efficient certification process for these new devices.

At this lab, we are also going to be able to pre-certify certain modules and make the certification process extremely fast for new emerging devices -- if vendors are willing to accept a pre-certified module. So you can see a variety of reasons for AT&T to set up this lab and I am very excited that we were able to build it very quickly.

**Let us talk about business models: Amazon Kindle's entry into the market has been quite successful. Are you seeing any shift to the content or per-use pricing models similar to Kindle? What other models do you see coming up?**

**GL:** When I took this role, I asked Ralph de la Vega (President and CEO of AT&T Mobility and Consumer Markets) to give me flexibility with regard to the go-to-market business models for emerging devices; this goes back to my comments about wireless baggage and having to do things the way we've always done them. So we've approached every single discussion with OEMs with a clean sheet of paper to look at how we want to do business together.

I think that Kindle is a great example. Amazon deserves credit for building a vertically integrated model for a great device. There's no complexity to the device and we understand that customers find the Kindle very easy to use – we believe that this simplicity is the secret sauce to their success.

The model they are using is a resale model, where the carrier is not very visible. We are open to doing resale models, retail models, direct to retail and AT&T branded models. We've come to this sector wide open, looking at what is the best and the most efficient way to bring product to market that will be beneficial to OEMs, to us, and most importantly, to the customer.

**What is the most innovative device or service proposition you have seen since taking over this role?**

**GL:** Of course there are some devices that are in the certification process and have not been announced, however, among those devices that we announced, the Plastic Logic eBook reader device for higher end and business users is a very innovative device. We also announced Sony Reader, which I think is a great device; it's already selling well and now AT&T is going to provide connectivity. The Garmin connected PND is also a partnership we have announced and I think a very innovative device with innovative applications.

There are other devices that I can't mention but I can say this: I think the most innovative device we sell today is the iPhone. It was a really important device for the emerging device industry, because it showed people what's possible -- looking at 75,000 applications on the Apps Store, any OEM starts thinking differently and outside of the box, and sees the additional value propositions for their devices if they become connected to the web and to other devices. The iPhone takes the cake and will continue to drive tons of innovation elsewhere.

**Are there any other important issues you'd like to raise?**

**GL:** If you walk into a major US retailer - a Best Buy, Wal-Mart, Radio Shack or Costco - and you look at what they sell, you find that for almost every device on the shelf the value proposition for the customer would be improved if it was connected. It would simply be better in just about every way, offer more applications and more solutions for customers.

Then you take that concept even further into the healthcare world or the automobile world; connectivity really expands so many aspects of our life. The reality is there should be very few things that we do in our lives that aren't connected. Not all people will want to always be connected; the bottom line is they will have that option.

Thinking 3-4 years ahead, the world will be very different, what we'll be doing every day will be very different. I think that the killer app is always going to be voice, even if some people argue with it. Even with voice, we are thinking about speech to text, text to speech and how it's going to work in the environment of the new devices.

I've been in this industry for 20 years and I am more excited right now than ever before. The technology is there, the networks are there and the OEMs are there and we the carriers are there and customers want to have and are demanding connected devices. I think we are going to see a big tidal wave of emerging devices in our future.

## Telefónica Europe / O2: Thought Leadership for Connected Society

**Doug Chambers and Ken Figueredo speak with Mike Short, Vice President at Telefónica Europe /O2**



**What are some of the key trends that companies seeking to target the embedded mobile market should be addressing?**

**MS:** We expect to see much more wireless connectivity to the web in the next 6 years - perhaps 5 Billion growth to 15 Billion web capable devices globally by 2015, according to IDC. This means that M2M will be connecting far more machines than people today, and we want to make the connectivity and solutions easy, for all of our customers.

Our company is already strong in fleet management and energy telematics. These will all grow particularly with interest in climate change, managing the environment and smart metering. There are many other areas of society just not yet connected - whether we are talking about street or field furniture, automotive, consumer goods or health.

**We know that you are a big supporter of applications in the telematics and transport segments. What are some of the most innovative applications and business models you have come across?**

**MS:** We recently completed a pollution management research project with Cambridge University, Imperial College and others. Wireless connected sensors for alerts to the public and environmental specialists can be undertaken in real time and with far better web based services than traditional methods.

We expect a much fuller range of "Connected car" services (see **Exhibit 1**) following the recent GSMA / EU eCall announcement.

We have looked at consumer appliances such as robotic lawnmowers that use a combination of M2M/GPRS and GPS for location. We can see remote sensors being used to switch on lights or and the water supply, controls for electronic road signs, bus

### Exhibit 1 Customer centred view of services for the connected car with safety as the first priority

#### eCall can facilitate a wider range of services and business models

- Safety/eCall
- Breakdown services and online access to maintenance records.
- Emergency alerts
- International roaming - voice/data/video
- Fleet management
- Navigation, in real time
- Points of interest/Hotels + catering
- Energy station alerts (Gas/Diesel/Electric)
- Tachographs for climate change
- Weather monitors /sensors
- Entertainment on the go
- Internet on wheels
- Enhancing the in car experience

stop information displays, and traffic lights all being supported by Mobile M2M/GPRS and Bluetooth. These examples are all largely 2G today but eventually 3G will play its part in M2M.

**The Obama administration is promoting investment in the health care and utilities sectors in the USA. In the UK, there have been consultations on smart metering and integrated transport systems. How should the mobile industry react to these developments?**

Respond with solutions, and build cross sector partnerships!

Telefónica Group has been active in the Continua Alliance for over 18 months now as this is also vital for end to end cross sector knowledge, interoperability and economies of scale. It is about shared understanding and solutions to meet the needs of wellness, disease management and long term conditions. Wireless has a great role to play in terms of both mobility but also data gathering (when connected/integrated medical devices are used) and feedback to patients as well as specialists. Access and input to personal patient records is just part of this approach.

Whether we are talking about smart metering or smart grids we all need to help protect our environment. Wireless has a great role to play, whether in the USA or China or Europe. We need to ensure that wireless measurement and M2M are playing to their strengths based on cost effective global standards and complete ICT systems.

**Are the GSMA's initiatives going to help the embedded mobile industry? What are your thoughts on the competitions and guidelines efforts?**

Most definitely yes!

Competitions are a good start to help raise awareness, and need to be complemented by fuller product directories and case studies to raise understanding. M2M Innovation around both 2G and 3G will be needed.

The guidelines will also hopefully help assure standards and, more critically, economies of scale to keep unit costs down. This has worked through several iterations of mobile devices from "God Send Mobiles" in the early 90's through to current broadband initiatives more recently.

The only 2 differences this time around are (higher) volumes and cross sector opportunities. On the latter working with energy, health and transport Sectors or key International Associations would seem vital. The GSMA cannot do it all on its own!

**Q. We see a lot of alliances being formed by MNOs globally as they target the embedded devices market. How is Telefónica/O2 positioning itself in the market and what are some of the initiatives we should expect to see in the coming months?**

Our recent Global TEF Group announcement with China Unicom shows how important we see global strategies and scale becoming. This will mean that we can exchange ideas, knowledge, and solutions

across 3 Continents of Asia /Lat Am / Europe and deliver our customers cost effective solutions. Not many operators can say they have reach to 10% of the global population, or be so well placed to meet the 3x global connectivity growth we expect in the next 6 years.

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## **Update on GSMA Embedded Mobile Module Guidelines project**

The guidelines project launched by GSMA in July 2009 is entering its busiest phase, with the Embedded Mobile Guidelines Handbook scheduled for release in February 2010.

The Handbook will be used by the industry to simplify module design and integration, facilitate and speed up the process of embedded module and device certification, reduce industry fragmentation, increase known volumes and economies of scale, and bring down upfront design costs. Previously, the GSMA successfully created and published a similar set of guidelines for Mobile Broadband in Notebooks, currently in its fourth revision.

The discussions are led by GSMA with the support of MNOs and vendors. The latest workshop in Atlanta, USA, focused on the requirements for embedded modules in key vertical sectors, such as automotive, healthcare, smart metering and consumer electronics. The participants included KT, AT&T (champion for automotive vertical guidelines), Telecom Italia (champion for healthcare), Telefónica / O2 (champion for smart metering), Samsung (champion for consumer electronics devices), Orange, Gemalto, as well as module manufacturers Cinterion, Sierra Wireless and SimCom Wireless Solutions.

The next phase of the guidelines discussions is dedicated to the processes of provisioning and certification, with the upcoming workshop hosted on 1-2 October by Softbank in Tokyo, Japan.

The guidelines work stream is open to participation for GSMA members and non-members alike. To find further information and get involved, email us at [embeddedmobile@gsm.org](mailto:embeddedmobile@gsm.org)

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## European Commission and the GSMA endorse eCall initiative



On 9 September 2009, Rob Conway Chief Executive Officer and Member of the Board of the GSMA visited the offices of Viviane Reding, European Commissioner for Information Society and Media, to sign the eCall MoU on behalf of the global mobile industry.

The MoU creates a framework for the introduction of eCall and is designed to encourage co-operation between vehicle manufacturers, telecommunications operators, the European Commission and the EU Member States, together with other relevant parties such as the insurance industry, automobile clubs and other industry partners. The collaborative approach of eCall illustrates one of the key goals of the Embedded Mobile initiative which is to accelerate the adoption of wireless connectivity in a wide range of devices.

eCall is an emergency call generated either manually by vehicle occupants or automatically via in-vehicle sensors in an emergency situation. When activated, the eCall system establishes a voice connection with the emergency services. At the same time, it sends the critical data including time, location, direction of travel and vehicle identification, to speed response times by the emergency services.

Improved safety will be the main benefit of eCall, which, like all emergency calls, will be offered free of charge to users. At the same time, it will open doors to vehicle manufacturers and service providers who wish to provide additional commercial services to supplement eCall. The forecast snapshot for this month is from Beecham Research and outlines the revenue potential for value-added services.

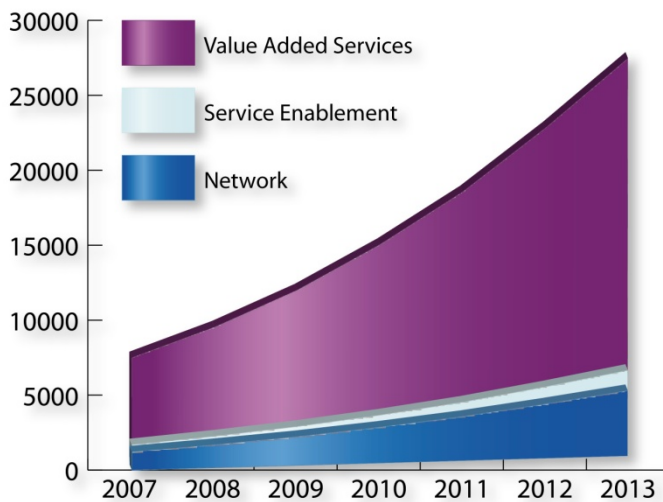
Future value added services will cater to many needs: from the “Internet on wheels” idea suggested by Mike Short and presented in Exhibit 1, to telematics, fleet management, and insurance. Usage-based insurance, also called PAYD (pay-as-you-drive), is already commercial or trialled in several European markets, including Italy, Spain and Germany; research and trials are also taking place in other markets, such as USA and France.

## Forecast Snapshot

In each newsletter, we highlight recent market intelligence from different market research firms that focus on the embedded mobile and M2M sectors. In this edition, we have Beecham Research’s perspective on the development of automotive services and global total M2M revenue. Firms interested in contributing to this section should contact us at [embeddedmobile@gsm.org](mailto:embeddedmobile@gsm.org).

### eCall to Provide Stimulus for Transport Sector M2M Revenues

**Exhibit 2 Worldwide Cellular M2M Services Revenue Forecast (\$ millions)**



Source: Beecham Research “Worldwide Cellular M2M Services Forecast Market Brief” August 2009 <http://www.beechamresearch.com/reports.aspx>

According to Beecham Research, an analyst firm specializing in M2M and embedded mobile worldwide, the transport sector represents over 30% of the total M2M service revenue today and will account for a substantial proportion of revenue forecast for 2013.

eCall represents two major new opportunities. The first is to network-enable every new car in the EU for a wide range of new telematics services that can then be more cost-effectively implemented. The second is to provide a stimulus for growth in the overall M2M cellular market as a result of the huge new volumes of hardware required. eCall represents a huge potential for new mobile M2M network connections.

**Exhibit 2** looks at the main components of the future M2M global revenue, which includes all types of applications. Network element in the chart represents the revenue from mobile connections – the airtime. Value Added Services is the revenue from vertical applications, which in case of automotive sector would include both auto telematics and the logistics market for the transport sector. Service Enablement is an important new area for service development which lies between the network connectivity and value added services layers.

One of the key points from the chart is that network connectivity itself represents just 17% of the total service revenue opportunity for embedded mobile in 2012. Indeed, Beecham forecasts this percentage to decline further over time as the two other elements gain ground. This puts into context the opportunity for service revenues in the layers above straight connectivity. At the same time, although eCall may not itself make great use of network airtime, it opens up the possibilities for other services that do. In this month’s interviews, both Glenn Lurie and Mike Short pointed out that mobile operators will be keen to benefit from these future new services, but in order to be successful, they will need to

work with various partners, from manufacturers to applications developers and standards bodies across different vertical sectors.

According to Robin Duke-Woolley, Founder and CEO of Beecham Research, “The opportunity that eCall represents is more than just the revenue that it generates itself. eCall will at most use its dedicated network connection probably once during its lifetime in a car. To make sure that connection works when required, it makes sense to utilize it for other services in the meantime. These will then help to justify the cost.”

In addition to these service opportunities, the huge volumes of cellular modules and other hardware required to implement eCall in every new car in the EU will help to lower the cost of network connections for all embedded mobile applications.

## Find out more and participate in the Embedded Mobile program

**Submit your ideas for the next issue of the newsletter:** We are currently looking for articles, questions and suggestions of topics to discuss in our next newsletter. Please send us your suggestions to [embeddedmobile@gsm.org](mailto:embeddedmobile@gsm.org)

### Embedded Module competition deadline is approaching

The submission of entries for the best embedded module will close at 17:00GMT on 1 October. The competition is organised by GSMA to further encourage the innovation in the embedded mobile modules and services. An evaluation panel consisting of senior representatives of participating MNOs (The Steering Committee) will be responsible for evaluating competition entries. The results will be reported at Mobile Asia Congress, held in Hong Kong on 18-20 November 2009.

In parallel, GSMA is running a competition for the best embedded device and service. The entries will be accepted until 17:00GMT on 1 January 2010, and the results will be announced at MWC in Barcelona on 15-18 February 2010. More details can be found on our website at [http://www.gsmworld.com/our-work/mobile\\_broadband/embedded\\_mobile/competition.htm](http://www.gsmworld.com/our-work/mobile_broadband/embedded_mobile/competition.htm).

### Embedded Mobile portal

The GSMA's Embedded Mobile portal includes a library of industry reference documents: [http://www.gsmworld.com/our-work/mobile\\_broadband/embedded\\_mobile/case\\_studies.htm](http://www.gsmworld.com/our-work/mobile_broadband/embedded_mobile/case_studies.htm)

More companies are called upon to submit their use cases and register with the Ecosystem Directory. Please email the case studies to [embeddedmobile@gsm.org](mailto:embeddedmobile@gsm.org) and visit [http://www.gsmworld.com/our-work/mobile\\_broadband/embedded\\_mobile/ecosystem\\_directory/ecosystem\\_directory.htm](http://www.gsmworld.com/our-work/mobile_broadband/embedded_mobile/ecosystem_directory/ecosystem_directory.htm) to register.

### Embedded Module Guidelines work stream

It is not too late to get involved in the ongoing work with the Embedded Mobile guidelines working group. To take part, please email GSMA at [embeddedmobile@gsm.org](mailto:embeddedmobile@gsm.org)

### Embedded Mobile Programme at Mobile World Congress in Barcelona (15-18 February 2010)

The 2010 event in Barcelona is approaching fast. The preparations for the next year's Mobile World Congress have now begun, and GSMA is actively seeking industry input to its plans. Download the brochure for the Embedded Mobile Zone in Barcelona here: [http://www.gsmworld.com/documents/GSMA\\_Embedded\\_Mobile\\_Zone\\_v2.pdf](http://www.gsmworld.com/documents/GSMA_Embedded_Mobile_Zone_v2.pdf), and send us your suggestions and wish lists to [embeddedmobile@gsm.org](mailto:embeddedmobile@gsm.org).

**Recent Analyst and Press Coverage of GSMA Embedded Mobile Programme:**

eCall MOU is signed between Viviane Reding and Rob Conway:

[http://ec.europa.eu/information\\_society/newsroom/cf/itemlongdetail.cfm?item\\_id=5208](http://ec.europa.eu/information_society/newsroom/cf/itemlongdetail.cfm?item_id=5208)

Rise of the Machines (again), 3 September 2009, Wireless Asia:

<http://www.telecomasia.net/content/rise-machines-again>

A phone in every car gains hard-won GSMA support:

<http://www.theregister.co.uk/2009/09/09/ecall>