



Cinterion Wireless Modules in the Press

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Q & A with the Winners of Embedded Mobile Competition

On 18 November 2009, Rob Conway, CEO and Member of the Board for the GSMA, [announced three winners of its embedded mobile module competition](#) during his keynote speech at the Mobile Asia Congress. Option (Belgium) won the Best Embedded Module in the High-Bandwidth Application Category for GTM501 module; Cinterion Wireless Modules (Germany) and SIMCom Wireless Solutions (China) won the Best Embedded Module in the Low-Bandwidth Application Category for their Cinterion 2G M2M Evolution and SIM5215 3G modules respectively.



GSMA interviewed Norbert Muhrer, CEO, Cinterion; Philippe Willaert, Director Mobile Internet Devices, Option; and Derick Tsang, VP, SIM Technology Group, to get their views on the potential and future of the embedded mobile markets.

Q: Congratulations to all of you. Please tell us a bit about the main features of the winning modules?

Cinterion: Our winning entry for low-bandwidth 2G modules is the M2M Evolution platform, which makes it very easy to go from GPRS low-end portfolio all the way to UMTS 3.5G in terms of mechanical, logical and software design. It allows our customers to create more or less one product design, without a need for upgrades, change and diversifying. This lowers the barrier for customers to launch an M2M product, and they have a platform to upgrade to 3.5G in the end.

SIMCom: Our SIM5215 module is a winner for low-bandwidth 3G modules. It was developed as a response to the customers' feedback that they were not looking for high bandwidth, but need to keep their platform from becoming obsolete in the next 5-10 years. That's why the focus of our engineering effort is on developing low-bandwidth 3G products that have the features used in most vertical applications, allow a very simple transfer from 2G to 3G product, and are affordable, so our customers don't need to pay a lot to get a 3G product.

Option: With our GTM501 module [winner of high-bandwidth 3G module category], we focus more on the high end of the market, as well as the small size, robustness and resilience. We also believe that for the M2M 3G market specifically, it's not the bandwidth which is the most important part, but ubiquity: as a module provider, you don't know where your module will go – 2G market, 3G market or a mix – or even the country in which it'll reside. That's why it's an embedded module with a lot of resilience; it is solderable for environments where there may be a lot of vibration and it provides for robust heat dissipation. Outside of the M2M market, it's meant for thin and light Internet type of devices; think about eBook Readers which need to be about as thick as a magazine and require a very small size of module.



Q: What are the key challenges the industry is facing today in preparation for a large-volume growth?

Cinterion: I have only one. There are 6 billion people on the planet that drive mobile phone adaptation rate, and there are 50bn machines on the planet. Our industry's challenge is to break down the entry barriers and make it an easy to use the embedded mobile experience. We have to break down the hurdles, build the industry chain, standardise and link up the best partners. Once we give an M2M customer an out of the box experience the same thing will happen as in the mobile phone industry.

SIMCom: We also need to squeeze a lot of extra cost out of the entire industry chain and it's not just the wireless module. It's also the cost required to implement embedded solutions and the cost of keeping them running. Only when you get to an affordable total cost, the value of this technology will be seen by the consumer and by the industry, and it will take off in much higher volume.

Option: For us, cost is indeed one of the issues; not only the cost of manufacturing, but also the cost of deploying in different environments, different hardware, different software. Our R&D team is writing reliable software needed for embedded applications, that's one of the challenges that we see.

Q: 2G versus 3G: where do you see most of the growth in the short term, and when do you expect to see the transition to LTE?

Cinterion: Our analysis shows that by 2012, a large portion of M2M applications will still run on 2G networks. At the same time, certain industry groups are now driving migration to 3G and 4G. One driver is the marketing approach of our customers; another driver is the obsolescence of 2G networks in various parts of the planet. So 3G will happen soon, from our point of view. As for LTE, we think that where LTE standardisation today, it's not set up to drive M2M; the coverage is not there, the handover is not there; voice networks have to be run via the underlying 2G and CDMA networks. So LTE is something we keep on the radar screen, and I think it'll happen, but for the next 3-4 years, 2G will be the dominant technology in M2M.

SIMCom: In Asia, 2G has definitely been the leading technology behind M2M applications because of cost, and it has been in the market in the last 10 years. But we also see a lot of momentum from operators who are driving 3G, not only in Asia, but also America and Europe. And if you add a consideration about the life cycle of our customers' products, then I think that 3G is going to get here a lot earlier than we think. In the next few years, the growth will definitely be on the 3G side, but the absolute volume shipments will most likely remain on the 2G.

Option: The 3G technology is preferred for certain applications, for example, digital signage where flat screen technology is now available. The displays are stuck to the wall like paper and need to be fed with the data – either pictures or live video. It's impossible to run wires to all these devices and that's why high-bandwidth will be needed. Of course, that's only a portion of the M2M market - there are a lot of other segments covering the very low end market, mid-range and high-end markets.



When are we going to see the 1bn embedded connected devices?

Cinterion: We'd hope to see it in the next 3-5 years! When we look at some of the initiatives that are taking off, there is a delay in Brazilian automotive law but the Obama administration has implemented an \$ 11bn smart grid programme. Europe will be using embedded to collect toll taxes, which they needed urgently to revitalise the economy. These are all big drivers for the industry; and some of these projects will take off and drive volumes

SIMCom: It's hard to say when; it's easier to say what needs to happen in order to get to this one billion of devices. The top 3-4 applications in the metering, health, security and auto industries can easily reach 1bn when they actually materialise. I think it can happen; it just needs to involve more industries to generate volumes. So it's good to see GSMA getting behind the embedded mobile initiative, bringing together all operators to talk about it. The embedded market dynamics is starting to fall into place.