

m2m

VOLUME 3

ISSUE 4

now

**M2M NOW
NAMED
FINALIST IN
ONLINE MEDIA
AWARDS 2013!**



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Tier Ones embrace One Stop Shops to boost customer experience, says Telit's Hierl

ASSET TRACKING EVOLVES

Asset tracking becomes 'asset management' as platforms bring end-to-end integration

GERMANY REVIEW

Is Europe's greatest power also a leader in M2M?

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OPERATOR INTERVIEW ▼

Bouygues: Customers need to know what's on offer!

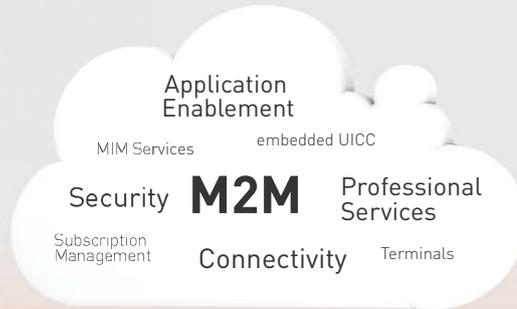


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Telit wireless solutions
Making machines talk.®

Cover Sponsor: Dominikus Hierl, CMO of Telit Wireless Solutions. Telit Wireless Solutions and m2mAIR are brands of Telit Communications PLC (AIM: TCM), an enabler of machine-to-machine (M2M) communications worldwide providing wireless module technology enhanced by managed and value added services, including connectivity. Exclusively dedicated to M2M for over 12 years and constantly advancing technological leadership from six R&D centers around the globe, Telit offers an extensive portfolio of quality cellular, short-range, and GNSS modules, available in over 80 countries. By supplying business scalable products interchangeable across families, technologies, and generations, Telit is able to keep development costs low and uniquely protect customers' design investments. www.telit.com



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Machine-to-machine market hots up as M&As rise and new association is launched



Jeremy Cowan

I've talked for some time about the need for maturity and simplification in the M2M market (*Comment, June-July 2012*) and at last there are signs that this is coming. Hacks like me look for headlines, such as the news (*page 5*) of the launch of the International M2M Council (IMC). Financial analysts look for big numbers and names in mergers & acquisitions; and readers of *m2mnow.biz* will know that M&A activity has expanded just as we predicted. In our March issue John Horn, president of RACO Wireless, said: "M2M is ripe for an explosion of growth. Through M&A activities and financial backing, single companies will develop capabilities that meet the wide-ranging needs of their growing customer bases."

A Darwinian cycle of 'survival of the fittest' is simplifying M2M's complex delivery chain. Not only will M2M see benefits of scale more often, but product portfolios and partnerships will be enhanced (see *News pages 6-7*). Since January, for these and other reasons, **Wipro** has invested US\$5 million in **Axeda**, **ST-Ericsson** has sold its stake in GNSS to an as-yet unnamed buyer, Cisco has bought **JouleX** for \$107 million, **Telular** has been sold to **Avista Capital Partners**, **Orbcomm** has purchased assets from **GlobalTrack** and **MobileNet**, **Numerex** has acquired new capabilities with **AVIDwireless**, **ESCO Technologies** has bought **Metrum**, and **CA Technologies** has acquired **Layer 7** to provide API security "while accelerating the shift to the Internet of Things".

Can we see any effects yet of M&As and market rationalisation?

It's early days, but **Sierra Wireless** sold its AirCard assets to concentrate on M2M, a policy that appears to be paying off as the company just reported first quarter 2013 revenues up 9.8%

(year-on-year) and non-GAAP net losses down from \$2.8 million a year ago to \$0.7 million. Jason Cohenour, president and CEO, said: "We are now an M2M pure play... Moreover, we now have significant financial capacity to accelerate growth and value creation through acquisitions."

M2M Now – Finalists in the Online Media Awards 2013

Finally, just a word of thanks to my extraordinarily talented colleagues without whose efforts **M2M Now** would not have been selected as **Finalists in the Online Media Awards 2013**. These awards attract entries from leading publishers worldwide, including CNN, New York Times, Sky, Huffington Post, and the BBC. So, it's very exciting for us to report that the (rather smaller) M2M Now has been named in such company. ☺

J Cowan

Jeremy Cowan, Editor, M2M Now

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New M2M trade body launched at CTIA 2013 in Vegas



Alex Brisbourne, KORE's president & COO, has joined the Board of the IMC, the new M2M association

A new non-profit trade body for machine-to-machine (M2M) communications, the International M2M Council (IMC), was launched at the annual CTIA 2013 event held in Las Vegas, USA in May. The founding members include Deutsche Telekom, Digi, Huawei, KORE, Oracle, ORBCOMM and Telit (see page 39).

IMC aims to promote the business value of M2M

across key vertical markets including automotive, logistics, energy, healthcare and public infrastructure – to make the benefits more visible to users and new adopters. The council will reportedly be dedicated to easing integration, reducing total cost of ownership and improving speed-to-market for M2M services via periodic benchmarking studies, deployment case studies, focus groups and standards building.

The IMC is a new trade organisation for the machine-to-machine communications industry – it will stand for M2M as its own global industry, not a single product category or vertical industry. Its aim will be to support industry efforts to increase deployment volumes by offering member

services that connect M2M solutions providers with adopters of M2M technology and support their evolving needs.

The IMC will “support industry efforts to increase deployment volumes, by offering member services that connect M2M solutions providers with adopters of M2M technology and support their evolving needs”. It will do this through a four-pronged strategy:

Awareness: Promoting M2M’s application in automotive, logistics, energy, healthcare, public infrastructure and other verticals – increasing M2M’s visibility to adopters.

Metrics: Setting benchmarks and sharing best practices learned through case studies and focus groups. It also aims to create best-practice certifications and business-level standards.

Policy: Ensuring solution providers and M2M adopters share a common view of the future. Plus it will present unified objectives to regulatory bodies on issues like security and privacy.

Training & Education: Establishing professional curricula to educate the industry, and encourage movement between M2M industry sectors.

Wireless M2M services provider, KORE Telematics is one of the companies selected

to join the IMC. KORE Telematics’ president and COO, Alex Brisbourne will join its Board of Governors.

“The M2M service delivery chain has become considerably crowded over the past few years,” said Alex Brisbourne. “The multiplicity of components and parties — a collection of many niche businesses, really — can make it difficult for even the most astute business to navigate through an entire M2M solution, end to end. We recognise the need to simplify as an industry, and are proud to join with a high-quality, diverse group of providers to help adopters achieve quicker time to services and profitability.”

Keith Kreisher, executive director of IMC, said: “The KORE suite of global device connectivity offerings is a natural fit with the IMC’s mission to help adopters build and deploy end-to-end M2M and Internet-of-Things (IoT) solutions with fewer associated time, cost and risk parameters.”

For more information on the IMC go to: <http://www.im2mc.org/>
For more information on CTIA 2013 turn to page 18.

The IMC will “support industry efforts to increase deployment volumes.”



M2M Now nominated as a Finalist in the Online Media Awards 2013



M2M Now.biz has been named as a finalist in the **2013 Online Media Awards**. The list of nominations includes some of the biggest names in journalism, including New York Times, Channel 4, Sky, USA Today, CNN, MSN, The Guardian, Times, BBC, al-Jazeera and Huffington Post.

Entries were judged by a 21-strong international. The awards, now in their third year, are organised by The Drum. According to the organisers these awards identify the cleverest, boldest and most original purveyors of news and views from around the world and reward the best in online news and journalism.



Neul CEO switches focus from broadband to M2M, lays off staff, plans new office and investment



Stan Boland, CEO, Neul

Neul, the UK-based firm known for its pioneering work in the TV 'white space' spectrum, has begun a 'hard reset' of its business. New CEO, Stan Boland, told M2M Now that Neul will be "sharpening its focus on M2M" following a strategic corporate review.

Boland was appointed in April by the Neul Board and current investors who felt that the company had lost its focus, and "made some tangential turns". Talking exclusively to **M2M Now**, Boland said the company would now "be providing a capability to people who want to be network operators, that would point them to extremely low cost endpoints, and allow them to deliver a

service. That means supporting the network connectivity capabilities, but also all of the account management, rating, online charging, billing interfaces, usage data and so on that sits behind such a network."

"It does involve a fairly hard re-set of the business which we're in the process of doing. It's obviously not good for some of the individuals affected but ... we are going to create a successful Neul in the M2M space, that will enable mainstream network operators to implement this stuff cheaply, quickly, in a controlled way where they and we can make money and the world can start to see the benefits of using extremely low cost technology, allowing devices to be monitored and measured, and that data to be analysed and mapped to deliver corporate capabilities that don't exist today."

M2M Now understands that the lay-offs go as high as C-Level. Meanwhile, Boland will need to attract new investors to grow the business in the new direction of travel.

"We're definitely going to have to raise some more money, no question," Boland said. "We have a pretty horrible re-alignment we're doing right now. We will move out some people and we'll shuffle some responsibilities around, and we'll end up with some holes in the management team that we'll fill from people in the industry that we're going to go after." He declined to give the number of job losses as an internal consultation period is continuing over the next few weeks.

(Read the full Exclusive interview in the next issue.)

SimplyHome chooses Aeris® to deliver medical support

Aeris® Communications, the only cellular carrier built exclusively for machines, has partnered with SimplyHome, a leader in the assistive technology industry, to bring a new home care offering tailored for the elderly and disabled populations. Data comprised from communicative sensors, that observe the user's daily activities, will be transmitted over Aeris' machine-to-machine (M2M) network.

From this data, SimplyHome can alert caregivers and loved ones of any changes in

behavioural patterns. Text, email or phone alerts can be generated by a single event, a combination of events or even from inactivity. The system can also monitor wellness priorities ranging from blood pressure and glucose levels, to weight and medication management.

Further, SimplyHome can help minimise the need for just-in-case staff time at medical and care centres, thus saving state programs (such as Medicaid) millions of

dollars. At the same time, families get more peace of mind and the elderly and disabled have access to medical support without sacrificing quality of life or independence. "The single biggest driver of elevated costs in assisted living care is just-in-case staff time. As the baby boomers age, healthcare costs will likely rise. As a result, Medicaid is under increased pressure to find more cost-effective solutions to better control these costs without compromising care," said Allen Ray, CEO of SimplyHome.

NEWS IN BRIEF | NEWS IN BRIEF

TREK extension reduces fleet costs and enhances productivity

The latest generation of in-vehicle PCs has extended Advantech-DLoG's TREK series. A member of the German Advantech-Group, the company offers a GPS based fleet management system that securely transmits real time data on a vehicle, load or shipment. The TREK-722/723, TREK-668, and PWS-770 transmits data dynamically,

offers options for versatile analysis and accurate monitoring of driver and vehicle performance.

"Our telematics solutions keep an eye on everything that needs to be monitored," explained Sayed Maudodi, BDM/PSM Europe fleet management at Advantech-DLoG. Data such as mileage, wear, fuel consumption or even the driver's driving style can be documented and monitored in order to perform an economic analysis of

vehicle use as well as reduce downtime and operating expenses.

In addition, cargo can be tracked automatically, load planning and scheduling can be streamlined and real time route adjustments can be enabled via GPS to further enhance cost effectiveness in the use of vehicles.



locate, communicate, accelerate

Canadian partnership enhances wireless M2M device testing

A collaboration, between Wavefront, Canada's Centre of Excellence for Wireless Commercialization and Research, and Communitech, two hubs on the CDMN national network, is designed to help accelerate the growth of wireless and technology companies in Ontario and across Canada.

With financial support available from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP), Wavefront will offer programmes to Communitech network companies, such as state-of-the-art mobile application development and testing services, with immediate effect. These services include onsite access to the Wavefront mobile device library, which houses the most in-demand smartphones and tablets for testing as well as a selection of feature phones.

Communitech clients will be able to perform remote testing on global carrier networks with Perfecto Public Cloud automated testing services, and conduct sophisticated usability studies. They will also be able to participate in a variety of advisory and mentorship programs delivered by Wavefront, including the Machine to Machine (M2M) Accelerator program, with training, tools and resources provided by Deutsche Telekom, Rogers and Sierra Wireless.

Partners launch antenna tuning on the fly

Taoglas and Peregrine Semiconductor have teamed up to enable M2M devices to reach wider bandwidths and meet high performance requirements using similar antenna space as with 3G/4G systems. Combining Taoglas' 4G antenna series and Peregrine's DuNE™ Digitally Tunable Capacitor (DTC) will help M2M manufacturers access all standard LTE and cellular bands while minimizing device size.

The partnership enables the antenna band to be changed 'on the fly' so that it matches the cellular band a radio module is using. This will be useful when, for example, driving a car across multiple locations or when a device moves between countries. Mark Schrepferman, director of the communications and industrial product line for Peregrine's High-Performance Solutions business unit, said: "By dynamically tuning the antenna with DuNE DTCs, the system can support multiple bands while providing optimal RF performance."

"This system will benefit our customers because it means they can achieve very high performance and throughput on those challenging lower frequencies such as 700 MHz, without dramatically increasing the size of the antenna," said Ruben Cuadras, engineering manager with Taoglas USA.



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"After the merger, you may notice a few changes in our corporate culture."





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It's free to be included in The Contract Hot List (below), which shows the companies announcing recent contract wins or product deployments. If your contract is not listed here just email the details to us now, marked "Hot List" <j.cowan@m2mnow.biz>

Vendor/Partners	Client, Country	Product / Service (Duration & Value)	Awarded
Aireon LLC	Nav Canada, Canada	Data services contract offering cost savings to the airlines	5.2013
Avista Capital Partners	Telular Corporation, USA	Purchase of the remote monitoring and asset tracking provider valued at \$253m	5.2013
Communtech	Wavefront, Canada	Collaboration to accelerate the growth of wireless and technology companies across Canada	5.2013
Evolving Systems	Unnamed customer, Latin America	Dynamic SIM Allocation to support MVNO initiative	5.2013
Gemalto	Mobile TeleSystems, Russia	SIM card provisioning to enable NFC (mobile phone based) public transport ticketing in Novosibirsk	5.2013
IEEE Standards Association	SIMalliance, UK	Collaboration to encourage global co-operation between mobile and internet industry ecosystems	5.2013
Kaga Electronics	u-blox, Switzerland	Compact U130-KG card gives machines high-speed 3G data and voice connectivity	4.2013
KORE	EE, UK	Partnership to extend KORE Global Connect™ services into EMEA	5.2013
Mesh Systems	Novatel Wireless, USA	Embedded M2M data management modules for MeshVista EZRA™	5.2013
NetComm Wireless	Etihad Etisalat (Mobily), Saudi Arabia	Deal to bolster vertical sectors in the Middle East by enabling M2M over 3G networks	6.2013
ORBCOMM	Cartrack, USA	VAR agreement for African market fleet management via satellite	5.2013
Orga Systems	EDMI Ltd, UK	Form global partnership to develop and sell integrated solutions for utility Smart Grid systems	6.2013
Parkopedia	Inrix, UK	Partnership for 2013 range of Lexus IS models	5.2013
Parkopedia	BMW Group, UK	Global in-car parking service for drivers in North America and Europe	6.2013
RACO Wireless	Rogers Communications, Canada	Carrier agreement to deploy M2M solutions via the Omega Management Suite	5.2013
Sensinode	Atmel, USA	Licenses Sensinode's 6LoWPAN software stack for use in ULP wireless hardware platforms	6.2013
Telit Wireless Solutions	MolluSCAN Eye Project, France	M2M monitoring of environmental changes and pollution levels from molluscs	4.2013
Telit Wireless Solutions	ipDatatel, USA	Integration of cellular module CE910-DUAL for wireless data alarm transmission in security industry	6.2013
Transatel	Digi International, USA	Alliance to simplify SIM & device management through integration of Device Cloud by Etherios™	4.2013
Vodafone	Mahindra Reva Electric Vehicles, India	Powering the e2o electric vehicle with Vodafone's M2M communication services	4.2013
Wildlife Research Institute	Digi International, USA	Bear hibernation studies with remote monitoring solution	5.2013
Wipro	AT&T, India	Expanded relationship to help businesses adopt complex M2M solutions	5.2013

More information on all these and other News stories can be found at www.m2mnow.biz

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Jon Howes appointed new technology director at Beecham Research



Jon Howes

Beecham Research has appointed Jon Howes as technology director in a move to expand the firm's technical insights to complement its market research and analysis of the M2M and Internet of Things industry.

Before joining Beecham Research, in 2011, Howes led his own **NEuW Ltd** consultancy team building products and services based on semiconductor and other advanced technologies for the automotive, smart grid and healthcare sectors. Prior to that he led R&D and marketing activities with **Fujitsu** and **Ferranti**, helping to launch some of the first GSM solutions.

Beecham Research founder and CEO, Robin Duke-Woolley said: "As we examine marketplace issues ever more closely on behalf of our clients, we see an increasing need for deep technical insights to support our market analysis and strategy development work. Jon has been a tremendous asset as we consult with technology companies about how to build their businesses in the M2M/Internet of Things space."

New CEO for Neul coincides with launch of 'white space' communications system



Stan Boland

Stan Boland has taken the helm at Neul, just as the company announced its latest offering, the NeulNET system which allows simple set up and management of white space radio networks to

support a host of applications that make up the Internet of Things.

James Collier, founder and now CTO, said that: "Stan's track record in building international operations is exactly what we now need since we have succeeded in developing and generating a real demand for our new products and our services. I'm delighted to welcome him on board and look forward to us working together to build Neul into a huge company."

Stan was previously CEO and co-founder of **Icera Inc.**, a UK-based company building 4G/3G/2G cellular chipsets and software which was acquired by **Nvidia Corporation** in 2011 for US\$367 million. Prior to this, he was CEO and co-founder of **Element 14 Inc.**, a UK company building ADSL chipsets and software which was acquired by **Broadcom Corporation** in 2000 for US\$640 million.

Cyan appoints new country manager for Indian operations

Integrated system and software design company, **Cyan**, has appointed Shiv Kaushik as its country manager in India. With more than 18 years of experience, Kaushik will help build key relationships in India's energy and utility sector.

Previously, in similar senior business development roles, Kaushik worked with system integrators and utilities to manage the deployment of the IT based systems required for the implementation of energy management solutions.



John Cronin

John Cronin, executive chairman of Cyan, commented: "We are pleased to welcome Shiv to Cyan. As demand grows for our Advanced Metering Infrastructure solutions, it is necessary for us to develop

partnerships with industry leaders who can

provide the knowledge and expertise. We are also pleased to be adding additional manufacturing capacity to meet local demand in India."

Cyan is based in Cambridge, UK and has been listed on London's Alternative Investment Market (AIM) since 2005.

Two new editors join M2M Now team



Georgina Elrington

Georgina Elrington has been appointed as deputy editor at **M2M Now** magazine. She will be working alongside the publication's editorial director, Jeremy Cowan.

For the last 20 years Georgina has worked with some of the most progressive media and high tech companies in the merging IT/telecoms space, such as **O2**, **Emblaze** and **Panasonic**, providing brand positioning, strategy and messaging counsel. Most recently, she has been a contributor to several key global technology magazines and newspapers covering deep infrastructure connectivity, processes, delivery, security and billing.



Sue Pakenham

Sue Pakenham-Walsh is the newly-appointed news editor of **M2M Now**. Sue is a highly experienced journalist with a background in marketing communications. She has written and reported

extensively on the UK and European property markets as well as a variety of other business sectors.

More recently, Sue has conducted research in the connected devices market for M2M Now's parent company, **WKM Ltd**, helping to shape the launch and early development of the M2M Now title. She is now responsible for the publication's online News content.



Bigger players now embracing One Stop Shops, says Telit, to enhance customer experience

It's been a long time coming, says Dominikus Hierl, but the 'App-ification' of M2M is leading Industrial Internet providers to adopt a One Stop Shop approach. So, M2M Now asks Telit's CMO why it's only happening now and whether mobile network operators (MNOs) will join in.

M2M Now: Can you foresee disruptive technologies appearing in M2M communications from outside telecom and having an impact on the market in three or four years? Are there any reasons why M2M may still struggle to progress?

Dominikus Hierl: All the ingredients are in place for that to happen. But, as is always the case with disruptive technologies, ingredients are fundamental but market timing and the model adequacy are actually the triggers.

You can clearly see the potential is there for it to happen with M2M. Our industry has been parading the technology and its capabilities in one way or another for over 12 years now which has provided the broader tech industry ample opportunity to begin resonating with the value proposition of connected devices. But M2M has such a fragmented value chain that as an industry, we need to quickly find more effective ways to make it look and feel easier to handle to adopters like **GE** and others before they will be ready and willing to take the M2M plunge.

Looking again at GE, the company's many divisions have for a short while now been adding an immensity of sensors to everything they design from hospital imaging equipment to locomotives, wind turbines, and hydroelectric power generation components. The feeble extent to which they are able to make full use of these sensors and of the massive amounts of data

they generate is irrelevant right this instant. GE, like many industrial giants are getting their machines ready to communicate in what they and I like to call the Industrial Internet.

M2M Now: There appears to be a recent surge in initiatives from large technology companies to do more about accelerating the adoption of the IoT (Internet of Things). What, if any, commonalities are there in these initiatives?

DH: We are certainly seeing names like GE, **IBM**, and **Google** now using a different vocabulary from before, signalling more of an embrace than reluctance regarding the Internet of Things.

We are also starting to see the technology sections of mainstream media outlets like the **New York Times**, and the **Wall Street Journal** carry more content on the Industrial Internet, M2M and the IoT. And when you read these stories, as I mentioned before, one common thread you glean is the need for M2M to become an enabling technology following much more closely the high-power white LED model for the light bulb industry. This is now what is incumbent upon all of us in the M2M space – to provide the tech industry this 'ready-to-use' approach they are asking for.

And we are seeing that happen. Some recently reported M&A activity involving M2M players seems to point to a trend with companies, particularly in →



In Association
with Telit



“We need to quickly find more effective ways to make (M2M) look and feel easier to handle.”
Dominikus Hierl,
Telit

hardware, acquiring software and services assets to augment their offerings, making them easier to integrate and to enable connected solutions.

At Telit, of course, we have been on this path for quite a while now. We have concluded several acquisitions, all with the objective of delivering this enhanced experience to large industrial adopters. And if we are meeting their requirements and targets, we are most certainly meeting those of other scale customers.

The need to change the way we package and deliver M2M in the form of products and services from dozens of different vendors into manageable solutions from the perspective of the adopter is clear and present. It comes not only from the groundswell created by the bold statements from these large industrial players, but also from the shift in expectations from the technology industry. The ‘App’ effect has hit the industry, and potential adopters need M2M and the Industrial Internet to look and feel more like installing an app on your smartphone, if for no other reason, than because that is what their customers expect.

When the smartphone revolution started a few years ago, none of us in the M2M industry could have imagined that something so distant in consumer electronics could possibly impact the dynamics of the largely B2B-based value chain that makes up our space. But it impacted it profoundly.

Connected products like building controls, security alarm panels, car infotainment and navigation systems now have to be as easy to use as a smartphone app and to pack ever-increasing functionality. The pressure this places on integrators and developers is passed down to us in the M2M value chain.

M2M Now: As you say, most of these initiatives follow the ‘One-Stop-Shop’ idea. Why is this?

DH: Again, it is the ‘App-ification’ of the Industrial Internet. All across the tech industry, companies and adopters want to see that kind of user experience. In order to deliver that in M2M, we need to package key pieces involved in connecting machines, as much as possible, into solutions. But even that is not enough – we also need to wrap all that with layers of value-added services required to quickly enable complex yet easy-to-use customer applications.

Furthermore, all that needs to be available from the same vendor and fully integrated into the solutions in order to approximate this ‘App’ look and feel. So, when you look at what that is – you see it is the One Stop Shop. It is an entirely new delivery model for our industry, but it is clear there will be no mass adoption without it.

Year after year, even though forecasts for M2M keep going up in absolute numbers, if you look closer, you will see that analysts are taking ever smaller percentages of total available market of connectable machines which they believe will actually make it to M2M. This revision has to happen to adjust for the widening gap that has formed between our industry’s component-centric delivery models and the mass adoption market we are exploring here. Fewer and fewer adopters are willing or able to take products and services this way. The answer is now right there for us to read and implement, and the One Stop Shop race is on.

M2M Now: The cellular module that works out-of-the-box is a valuable offering in the One Stop Shop. What is the role of traditional operators’ business models here?

DH: There are a few ways this can happen. All major operators have by now established internal M2M organisations – some have been running for a while, some are just getting started. They all offer rate plans specifically designed for M2M, some have strategic partnerships and some have taken equity stakes in companies covering value-added areas like service enablement platforms and so on.

There are services like our m2mAIR, however, that deliver high value benefits from service platforms reaching well inside the module and which make connected machines deliver better results. But these are too far outside the consumer models that operators typically have to use as the base for their M2M offerings. So far, not delivering this facility has not surfaced as a major stumbling block, but it is likely to become one now that major adopter expectations are becoming clearer.

With the flurry of activity in this area, operators will need to figure out how they will handle this and other similar cases. One thing is certain though, the relationship between operators and M2M providers will continue changing and evolving.

M2M Now: How do large cellular operators arrive at an integrated One Stop Shop offering?

DH: It is hard to envision large cellular operators ever becoming One Stop Shops for M2M. There will always be demands from One Stop Shop customers that are fundamentally incompatible with the business models and operational constraints supporting consumer smartphones. And when you look at the dreaded ARPU (average revenue per user), still largely steering cellular operator decision-making, you start to see how decisions are going to go when ARPU for connected machines is a mere fraction of the consumer number, and forecast by industry analysts to remain that way for the foreseeable future. →



The way forward here has to go through partnering and collaboration. Operators and M2M value chain players have to come together and work to deliver these complete solutions looking to improve the total customer experience at the level of sophistication they require. Anything less than that will no longer do.

Telit is an active partner to a number of operators around the world, some global, some regional, just as these operators are in partnerships with other M2M providers. It is the norm for our industry. These alliances and the co-operation that ensues help us all create models that work, as well as determine those which do not.

M2M Now: Why is the market at the highest levels only now seeing the value of the One Stop Shop? Which of these One Stop Shop models are likely to succeed, and which are not?

DH: It's happening now because the repackaging of M2M as the Internet of Things – and even the Industrial Internet as GE dubs it – has been a catalyst for adoption among large industrial players who have been on the sidelines until now. These open and positive statements – which, as I mentioned, have been made recently by heavyweights about adoption being a matter of 'when' and no longer 'if' – have propelled the supply side to snap into action heeding the demand for this better experience. At Telit we have been promoting and encapsulating this experience improvement with the One Stop Shop concept.

Currently, there are several One Stop Shop models coming together - and that is a good thing. It validates what we have been building at Telit for a decade now. The models we believe are more likely to succeed are those really focusing on and delivering improved adopter experience. Many will claim they are doing that but will under-deliver as they label as One Stop Shops, offerings that are nothing more than bundles of regular products from themselves and partners. This model has been tried and has not shown enough value aggregation to justify it.

The community of developers and integrators is working under tremendous pressure from their own customers. They are ready to embrace M2M but need us to understand the magnitude of that pressure and know that we are willing to create solutions that help relieve that pressure. In the end, those models that factor this into their solution designs will surface as having delivered on the One Stop Shop promise. 



“We have concluded several acquisitions, all with the objective of delivering this enhanced experience to large industrial adopters.”
Dominikus Hierl, Telit



Maturing M2M market encourages service providers to improve customer experience

There's some evidence that the machine-to-machine communications (M2M) market is now maturing after years of under-performing against expectations. But, from an end user's perspective, services can still seem fragmented. So, *M2M Now* editor, Jeremy Cowan met Kfir Dan-Ari of Amdocs in London to ask how services can be improved.



Kfir Dan-Ari is director, Product Marketing at Amdocs

Kfir Dan-Ari: M2M is a very fragmented business, it is still very vertical. Even the most experienced CSPs worldwide still tell us how, for each significant opportunity, they look for the different components of the solution and see how they can do it.

Now it's changing; more and more of our customers are talking about the need to consolidate, look for commonalities, create more efficient processes.

It's a good time to look at customer experience, because the discussion was – and in a way, still is – focused on technology, gadgets and cool applications. But as the market matures, there is room now to talk about what the customers buy, and what the customers are getting.

M2M Now: Do you think it's significant that the M2M market may at last be maturing, judging by the recent spate of mergers and acquisitions? Companies are being bought for their skills and customer bases, and to bring in-house what used to be outsourced in the partner ecosystem.

KD-A: Yes, definitely. One of our key customers in the UK is now looking at bringing more business from MVNOs and getting them back in-house, meaning leaving the low ARPU*, high volume M2M line of business handled by MVNOs, but keeping the high ARPU, high end services provided directly by them.

There is another significant indicator. More and more service providers are saying, 'I want fewer and more reliable partners.' That means fewer risky, niche

solutions where they don't know what will happen with them. They would like better control, better visibility of the solutions they use. They want to own the customers; clear-cut with no-one in the middle.

There are many verticals out there; they cannot chase each one of them and provide end-to-end (services), so what else can they do? For example, Orange have been talking about providing customers with big data analytics capabilities, for example developing applications in healthcare.

So, it's really interesting that they say the portion of revenue they make on healthcare connectivity is 20%. I think it's amazing; we often hear the CSPs' complaints, that they only know how to sell connectivity. But then we see more examples of how they do more.

M2M Now: What else are you seeing CSPs doing beyond connectivity?

KD-A: Project management, hosting, data storage and analytics. They do application development for doctors to browse information gathered from patients.

M2M Now: It's not usual is it for CSPs to make as much as 80% out of services other than connectivity?

KD-A: No, it's still mostly connectivity. Still, it's a question: what are the main barriers? I think most of them are related to business – how to sell; how to sell to hospitals, how to sell healthcare, how to engage →



with the healthcare services; how to face regulations, and what vertical or verticals to choose?

M2M Now: What are the other most attractive industry verticals?

KD-A: Utility and automotives; these are the leading verticals for mobile carriers to enter today.

M2M Now: What other factors should we see to be sure we're achieving some market maturity in M2M?

KD-A: Global connectivity is one. It will enable the ASPs to offer predictable and unified services. They will expect CSPs to support that. But also to secure the quality of service, which in roaming is a critical thing, because I think it's run on 'best effort', which is not good enough for many quality of service-sensitive M2M applications. There are additional aspects; subscription management, how to engage with partners, how to support the more complex and innovative business models.

CSPs are at the hub of this operation, or at least they can be. We just spoke to another European customer with a lot of affiliates. He was saying that the ASPs come to them and ask for connectivity. They don't ask for more, because they don't know whether the CSPs can offer them more.

Sometimes, for the CSP, especially for their sales force, it's easier to meet their (sales) quota by selling what they sell best - connectivity. But it starts to be more interesting where the service providers can provide additional value, such as billing-on-behalf and split-bills, which really opens the door for more complex B2B2C models.

There is also the business aspect; bringing additional partners, bundling offerings, connecting retail business to M2M. In most of the customers that we meet, the M2M business units are totally separate from the retail and other business units. They have their own P&L, and that makes a lot of sense, because it's a different business.

But I think part of the maturing process is being able to look at the CSP as a whole. I'll give you an interesting example from a US customer. He was approached by a car manufacturer, and a connected car device provider.

The head of the M2M business unit there said, 'Okay, I need to provide connectivity and integration.' So for the connectivity, he went, of course, to the network division of the same carrier, and said, 'I want to support x million cars tomorrow.'

They said, 'That's nice, but come back in a year because we are dealing with retail first. This is our top priority.'

So this guy had to buy connectivity from an MVNO to sell to that connected car partner. Now, if you think this is ridiculous, this MVNO bought connectivity from the network division of the same carrier. Can you

imagine how ridiculous that is? So, this is indeed an interim solution, but it reflects the situation where M2M wholesalers look for creative ways to close deals with partners.

I'm saying this because the M2M business units are, in many cases, isolated business units. They have their own IT; they have their own network needs, and they are, in a way, wholesalers. They care about business; they don't care about selling bits or bytes. They care about the P&L.

Now, as the market matures, it's time for the CSP to say, 'Okay, I have the retail arm and the wholesale arm and the M2M arm. Now let's try to combine them. Let's have John Smith, my customer, who is buying my connectivity services, and who has bought a connected car service from my connected car partner. Let's have him enjoying this bundle, and maybe I can bring more partners, content partners, insurance partners. Let's have him surrounded by this bundled offer that can really give them a consolidated experience.'

This is where the CSPs really put themselves in a unique position, because none of their ASP partners can do that. None of the ASPs can see the full picture.

Usually they see the customer from a narrow angle: as a connected car customer, or a healthcare patient. That leads me to business intelligence (BI) and analytics. I know there are a lot of challenges there: regulations, especially in cross-country or cross-continent BI.

So it's quite challenging, but there is a lot to do, because the CSPs have a lot of information about John Smith. They know where he lives, if he has a family, and if he's tech-savvy. Does he consume a lot of services? Is he paying on time?

This is incredibly valuable data for the ASP. This is without even going into the vertical-specific info; just analyse this information and provide it under the regulations to the ASP, and then the CSPs can give value.

It becomes even more interesting when CSPs start combining it in a cross-vertical. If I know about your driving behaviour and your healthcare behaviour, and I know that you consume such and such services, then maybe I can generate a certain package that is interesting for you with an insurance partner.

M2M Now: Yes, but first of all, you have to get past the challenges of handling data within a given geography, because these seem to be regulatory nightmares. And it's getting worse not better with the EU, China, or the Americans. 'You can only deal with this data in this geo.'

KD-A: I fully agree, but this is where the money is for the CSPs. Even with the little they can do, it will take them much higher in the value chain, in terms of revenue at least, but also in terms of the benefit they can give to customers. 

Service providers want "to get better control, better visibility of the solutions they use. They want to own the customers; clear-cut, no-one in the middle."

***M2M Now Jargon Buster**

ARPU = Average Revenue Per User

ASP = Application Service Provider

B2B2C = Business-to-business-to-consumer

CSP = Communication Service Provider

MVNO = Mobile Virtual Network Operator

P&L = Profit & Loss centre



Alun Lewis,
freelance
telecoms writer



New profit opportunities in real-time charging

They may not know it, but real-time billing and charging are familiar concepts for any wireless device users downloading games and music. Now, there are new opportunities for real-time billing systems to help utility providers cut customer credit risks and improve service uptake. By giving enterprises and consumers greater control over their spending, utilities can enjoy a better understanding of their customers, enabling the utilities to design tailor-made new services. Alun Lewis talks to billing system providers to find out more.

Smart metering initiatives are very much in the news headlines in many countries around the world these days – often causing controversy amongst consumer groups. While no one can argue that the planet needs to get a grip fast on its total energy consumption, if only for environmental reasons, it's mainly been the potential for consumers to better monitor and control their energy spending that's been the stated focus of most projects so far.

Whether those individual savings justify the huge expenditures either underway or being planned, estimated in the UK alone by energy regulator **OFGEM** as eventually costing around £11 billion (€12.9 billion), the roll-out of smart meters can also be seen as a first step towards realising smart grid visions. With these,

the whole generation, transmission and consumption cycle becomes much more dynamic, real-time and intelligent. While many utilities already implement techniques to balance loads, such as using pumped water storage systems and reservoirs to instantly provide a surge of power when soap opera watchers turn on their kettles, the increasing use of natural energy sources such as wind, wave and solar power mean that these new options must also be integrated to respond to real time changes in consumption.

In this smart grid world, the smart meter is about far more than just eliminating the human meter reader. Instead it becomes an essential tool for selling energy to the consumer in much more flexible and creative ways, driving them to change their behaviours and →

M2M Now Jargon Buster

BSS = Business Support System

CSP = Communications Service Provider

OFGEM = Office of Gas and Electricity Markets

MDM = Meter Data Management

their use of appliances to move from unnecessary peak time consumption to more cost-effective modes.

The challenge

The utilities involved face a major task here, changing their traditional batch billing systems to reflect this real time approach and integrating the data with all the other diverse systems involved in power networks. Similarly, telecom service providers and M2M service specialists that are looking to partner with power utilities and develop new revenue streams will also face substantial challenges arising from the scale, complexity and security issues involved in supporting what is a critical national infrastructure.

As **Innovation Observatory's** consultant Danny Dicks commented in his insightful 'Smart Grid Billing Outlook 2012-2016' report: "Smart grid billing can be addressed in different ways and decisions on billing system change, for instance whether to go for a 'big bang' or an 'adjunct system' approach, will be taken in the light of the company's competitive market position and its existing IT infrastructure. In the last couple of years, much smart grid investment has been in meters and much billing related investment has been in data collection and management (MDM – Meter Data Management), rather than in the charging, billing and customer care."

He continues: "But contracts for highly capable billing systems are starting to point the way towards increased opportunities for billing system vendors. Four types of supplier are competing for the smart grid billing system market: established enterprise IT system vendors with a very large footprint in the utility space; MDM system vendors whose systems can offer rating and charging; billing system vendors with a telecoms background; and new entrant vendors that have built billing systems for smart grids from the ground upwards."

Supporting the smart grid

There's certainly a kind of similarity there in the journey now facing the utility companies that was previously faced by telecom service providers. For around a century, their business model – and the supporting billing systems – had essentially revolved around leasing a section of copper wire to users by the mile or the minute. Over the last 15 years developments in mobile and broadband, and the resulting surge in content and applications, have led to an exponential increase in billing complexities as well as a shift to real-time charging – and left many problems in their wake.

On this topic, Matt Hooper, chief marketing officer at billing experts **MDS** says: "Substantial opportunities exist for communication service providers as a result of the challenges being faced by utilities. One is to help

utilities design and support more innovative and attractive tariffing, two-way billing that enables customer accounts to be credited as well as debited, and even real time offers to shape customer demand.

Hooper adds: "Utility companies currently vary in their billing sophistication. Fairly rudimentary time-based billing already exists but with limited uptake and satisfaction from consumers. Communications service providers can provide the network capabilities to support the smart grid. Additionally, they can provide outsourced billing capabilities along with flexible rating and advanced balance management, or to handle payment processes such as prepaid, paynow and postpaid charging."

Navigating new ecosystem billing

The sheer diversity of the end-to-end power infrastructure, and the many industries and installations involved, compounds this complexity. Macario Namie, VP marketing at global M2M service provider **Jasper Wireless**, sees the M2M energy market as a complex ecosystem: "It's almost never single sourced and there are multiple players who need to make this work. Operators have to supply the connectivity components, the backhaul network and the host. The module manufacturers; the system integrators whose software actually reads the smart meters and knows what to do with the data; and the data players who manage storage and databases to make sense of the data – must all work together to provide an end-to-end seamless experience. This can seem daunting to the energy companies and they must rely on the operator to manage the service."

But are most telecom service providers up to the task? Jennifer Kyriakakis, founder and VP marketing at real time policy and charging innovator **MATRIX Software** comments: "As telcos diversify their businesses across industry verticals through M2M, they've also divided their organisations and strategies on silo lines. M2M business models mostly come with varying – yet very low – service margins, so efficiency, centralisation and economies of scale are of the utmost importance for M2M services to be profitable. I'd argue that a centralised BSS infrastructure that is highly scalable and cost effective is key to profitability. While telcos cling to silos and systems that were originally designed to serve the voice market, M2M remains a promise and not a reality."

As ever, our implicit drive to connect everything to everything else carries the usual caveats about fraud and security, as telecom operators have found to their cost in recent years. **ABI Research** predicts a healthy market for cyber security products aimed at supporting smart grid developments, estimating global spend to the end of 2013 at \$2.9 billion. 'Norton Fridge' or 'McAfee Radiator' anyone? \$



Macario Namie, Jasper Wireless: "Multiple players are needed to make this work"



Matt Hooper, MDS: CSPs can provide the network capabilities to support the smart grid



Jennifer Kyriakakis, MATRIX Software: Economies of scale of utmost importance



Danny Dicks, Innovation Observatory: Increased opportunities for billing system vendors



Las Vegas, Nevada

M2M knows no bounds at CTIA and shows no signs of slowing

Guns, partnerships and breaking down barriers to cast commercial enablers far and wide; there was plenty of inspiration and innovation in Las Vegas this year. Here, M2M Now reviews the developments from the M2M Zone Pavilion at CTIA 2013.



on-demand, interactive M2M enterprise solutions.

Based on Numerex's FAST (Foundation Application Software Technology) platform, which focuses on enabling M2M and the ability to deliver value added services quickly and easily, the partnership offers a communications device capable of running customised and feature rich applications to businesses worldwide operating in the cloud.

Huawei also signed a distribution agreement with Embedded Works, a value-added technology distributor, to help get M2M customer offerings to market faster. Michael Chuang, executive vice president, Huawei Device USA, said: "Through this partnership, we're able to provide customers with the most appropriate devices, network services and applications in order to create customised solutions simply and efficiently."

Another new partnership, between **EE**, a digital communications company, and **KORE Global Connect**, an M2M connectivity company, will provide customers with an expanded market for their M2M applications – without the need for any new relationships, contracts or integration with existing infrastructures. Instead, they will benefit from multiple connectivity options, including KORE's satellite services and access to EE's 2G, 3G and 4G LTE network in the UK, plus access to voice services within KORE Global Connect to support emerging M2M applications including in the medical and despatch sectors.

Better deployments

In keeping with the new relationships, and in response to market demand to streamline deployment, M2M communications enabler Telit announced a fast track expansion of its m2mAIR service offering in Canada, Mexico and the US. Leveraging relationships with mobile carriers and other wireless service providers, both Telit and recently acquired **CrossBridge Solutions** plan to expand m2mAIR services horizontally across application segments as well as vertically with enhanced customer support, access services, wireless management, security, and cost control.

Telit is also expanding its line of multi-constellation satellite global positioning receivers. The introduction of its Jupiter SE868-V2 compact receiver module will

"eTrak products also have a geofencing capability triggering notifications if the device goes beyond preset boundaries."

One of the M2M highlights of CTIA 2013 in May was the launch of a new non-profit trade body for machine-to-machine (M2M) communications, called the International M2M Council (IMC). Rather than stand for a single product category or vertical sector, the IMC will represent M2M as a global industry.

Launched with founding members including **Deutsche Telekom, Digi International, Huawei, KORE Telematics, Oracle, ORBCOMM** and **Telit**, the IMC aims to promote the business value of M2M and support the industry's efforts to increase deployment volumes. It will do this by offering member services that connect M2M solution providers with adopters of M2M technology and support their evolving needs. (For details go to: www.im2mc.org/).

Forging new alliances

In keeping with the trend for partnerships, which have been a key M2M success factor, several new alliances were announced at CTIA 2013. For example, Huawei, a communications enabler, has combined its wireless module product platform with a DNA (Device, Network and Application) service module for a range of integrated services from **Numerex**, a provider of

benefit positioning and navigation applications in the automotive, commercial, industrial and consumer segments - including wearable and handheld devices.

Supporting the American Global Positioning System (GPS), Russia's Glonass and Japan's Quasi-Zenith Satellite System, the company plans to ship samples of the products' second version, which is ready to receive satellite signals from European Galileo and Chinese BeiDou Compass sat-navigation systems later this year.

Gateways to the world

Monnit Corporation, a company that designs and manufactures wireless sensor solutions, released an M2M-orientated cellular gateway. It has been designed to respond to growing demand for low-cost, reliable, 'connect from anywhere' monitoring that can address a variety of M2M applications. Systech also launched a new gateway, the SL-2000, which allows customer configuration to meet the needs of the target application.

Its goal is to provide the customer with just the right amount of features needed for the applications. And should the customer's needs change, the SL-2000 can change too. Supporting both ZigBee and Z-Wave standards, the gateway can seamlessly integrate with the peripheral that best fits the user's needs without worrying about compatibility.

Redline Communications, a provider of wireless infrastructure solutions for industrial applications, launched what is reported to be the world's fastest wireless broadband service for White Space frequencies (portions of a radio spectrum that are not constantly in use or present across geographical locations).

Said to be ideal for M2M applications, this new wireless network protocol can deliver data rates of up to 100 Mbps over a long range with the broadest non-line-of-sight coverage of any currently available white space technologies. It also offers military grade security for reliable wireless connections over long distances.

Location and vehicle technology

Elsewhere in the M2M Zone Pavilion, **CalAmp**, a provider of wireless products, services and solutions, introduced a new location messaging unit for automotive applications. The LMU-3030 can enable wide scale consumer deployment for a variety of uses including insurance, fleet management and driver behaviour management.

It features cellular data communications and high sensitivity GPS for precision location-based services and tracking. Commercial shipments of the LMU-3030 are scheduled to begin now, initially with insurance programmes in North America and Europe.

eTrak also announced its GPS+ line of consumer and commercial tracking products. GPS+ is eTrak's patent pending technology that integrates WiFi, cellular triangulation and GPS to achieve the most accurate positioning possible, both indoors and outdoors.

Supported by **Verizon**, GPS+ delivers the location in real time directly to a smartphone, tablet or computer. eTrak products also have a geo-fencing capability which triggers notifications if the device goes beyond

preset boundaries, and an emergency panic button that can send help requests to pre-determined recipients.

Also under the spotlight at the Vegas show, was **Telenor Connexion's** multi-operator telematics offering designed to help **Geotab**, a North American provider of GPS fleet telematics, expand its business overseas to Europe. Working in sync with Geotab's GPS fleet management software, MyGeotab, it enables managers to track and monitor vehicle locations, identify aggressive driving behaviours, optimise driver routes, and improve overall fleet health through ongoing maintenance reminders and alters.

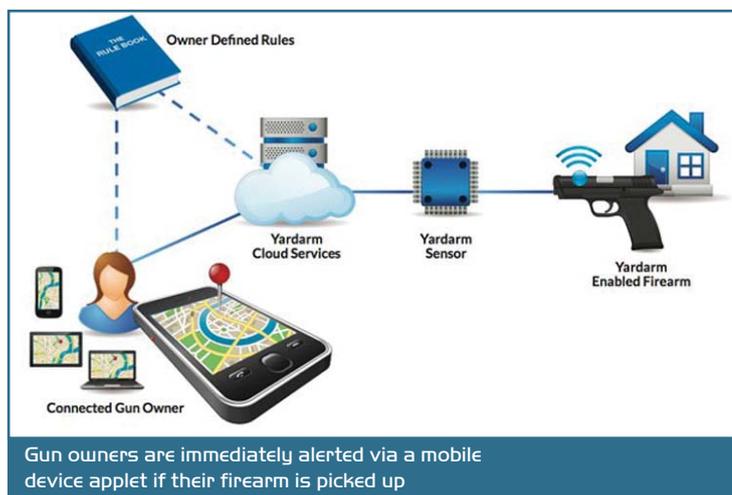
InventureTrack was shown by **ILS Technology**. It's a remote asset tracking management system that leverages ILS's deviceWISE M2M application platform to extract data from devices and provide critical, time-sensitive information such as GPS-enhanced event alerts and usage. Customers are able to manage all their assets effectively from a single, web-based portal.

Innovation

It seems the landscape for M2M knows no bounds. Technology for gun owners was unveiled when **Yardarm Technologies**, alongside M2M solutions provider, **DataOnline®**, premiered a prototype of the world's first wireless firearm safety option. Safety First gives connected firearm owners the ability to remotely engage or disengage the trigger safety.

Installing a Yardarm sensor on any firearm, enables wireless, real-time control of the trigger safety, full motion detection and geo-location tracking. Gun owners are immediately alerted via a mobile device applet if their firearm is picked up or handled by an unauthorised individual. It can also notify the local authorities of unauthorised movement or handling of the weapon. The product will be available in early 2014.

The 2013 Emerging Technology Awards ceremony honoured the industry's developments during the event. In the M2M, sensors, RFID and NFC category, ORBCOMM Inc. won with its GT 1100, a self-powered M2M asset tracking and monitoring device; **Kionix Inc.'s** KMx61G, a micro-amp magnetic gyro with integrated sensor fusion took second place for its increased functionality without draining power; and **Cisco's** 819 Ruggedised Integrated Services Router, supporting M2M applications that can enable enterprises with 3G wireless WAN network services, came third. \$





Asset tracking turns to 'asset management' with enterprise-grade M2M platforms that deliver end-to-end integration

Asset tracking and monitoring is changing dramatically. Although the business drivers are much the same as before, leading companies are recognising that the full benefits of asset tracking can only be realised when assets are seamlessly integrated with existing enterprise systems and back office operations of an organization. M2M Now caught up with John Keever, CTO of ILS Technology, to find out more.



John Keever is chief technology officer at ILS Technology

M2M Now: Asset tracking has historically been used to 'simply' locate cargo, containers and vehicles. How do you see these use cases and market dynamics evolving given ongoing innovations in M2M platforms and increased affordability of GPS and tracking hardware?

John Keever: As a pioneer in enterprise grade M2M platforms, ILS Technology is on the forefront of enabling new capabilities in asset tracking on many fronts – ranging from 'smarter' tracking to exciting emerging use cases within the transportation and cargo sectors, and even people tracking.

The fundamentals of asset tracking have not changed and today's primary objectives remain focused on productivity (collect data faster and in greater detail), accuracy (eliminate and minimise the inherent opportunity for human error), compliance (provide more accurate records and reporting mechanisms), and accountability (enforce corporate and personal responsibility and accountability).

However, while these business objectives remain, leading companies are now recognising that the full benefits of asset tracking can only be realised when assets are seamlessly integrated with existing enterprise systems and back office operations of an organisation. In simpler terms, we are rapidly evolving from 'dumb' asset tracking to 'smart' asset management.

The ever-growing availability of smaller, longer lasting battery-powered, more rugged and affordable tracking products has been a good catalyst for expanding the M2M market. Further out, we also expect that self-aware, network capable 'thinking' devices could be a game changer and further stimulate demand and innovation.

The more serious challenge has been on the back end, where the troublesome integration with corporate IT and enterprise systems continues to hamper the growth of M2M deployments. Fortunately, forward-thinking companies, such as ILS Technology, have been anticipating this critical issue, driving innovation that →



centres around a scalable and secure end-to-end M2M platform that connects virtually any device to any back office... and anything in between, with the scale for very large numbers of connections and expanded monitoring beyond just relaying locations.

M2M Now: Why is seamless back office integration so critical for asset tracking innovation?

JK: Tracking the location of critical assets has proven to be effective in optimising the front end of supply chain processes, but the necessary business integration with the back office applications and enterprise systems has often been cumbersome and vulnerable – as some shippers may use Oracle, while others have SAP or IBM-based solution platforms. Addressing the details unique to each solution platform makes the integration more costly, often requiring several man-months of custom programming.

So, for companies that rely on asset tracking as a core function or mission-critical part of their business, it is important to select an ‘enterprise grade’ M2M platform, not just a custom portal application. When assets are seamlessly connected to enterprise systems, not only does the shipping department benefit, but also accounting, maintenance, customer service ... and even human resources can optimise their operations by leveraging M2M data and capabilities – think of it as ‘big data’ meets M2M.

Consider our deviceWISE platform. It is recognised for being robust, secure, scalable, and simple to integrate with any back office, and it is supported by all leading enterprises software providers – with no additional programming. It can be configured to most back office applications with a few simple clicks, allowing companies to focus on the full capabilities of our platform. For example, several of our customers have evolved from just reporting locations to performing condition-based monitoring, whereby information related to temperature, shock, vibration or chain of custody is used to improve business efficiencies and build a competitive advantage.

M2M Now: How are your customers and application service providers (ASPs) creating some of these innovative use cases?

JK: For example, ILS Technology is working closely with InventureTrack Systems on a solution that gives direct access to an online global account to easily manage containers or trailers from anywhere around the world. You can locate your assets via GPS signalling, track and manage multiple assets that are equipped with the InventureTrack System devices and determine current location. Additionally, you can review the travel history of any container or trailer.

All this valuable information can be accessed with any web-enabled device, such as a smartphone, desktop computer or tablet. InventureTrack was able to configure

the DeviceWISE M2M platform in only eight weeks. We are also working with one ASP on a web-based policy- driven global secure administrator for container management. This breakthrough solution will ultimately support multiple customers and constituents, arm and disarm the shipping container security device, collect important data, provide alerts and alarms and maintain a centralised global database for ‘Chain of Custody’ status and key information.

An ‘enterprise-grade’ secure end-to-end system infrastructure enables organisations to provide the creation and enforcement of an electronic data key mechanism that allows commercial and industrial assets to be managed globally, as if they were certified and registered letters. Key constituents with a validated and approved ‘need to know’ are kept informed of each associated checkpoint arrival and departure and, more importantly, any deviation to path or plan. Chain of custody is a promising area being considered by governments in pursuit of secure global commerce and transport.

With another ASP, we are teaming to provide a Real-Time GPS vehicle tracking system for tracking very large fleets of vehicles, including fuel cost monitoring and fleet management tools. We are also seeing a lot of activity in geo-fencing, performance monitoring and predictive maintenance by heavy equipment manufacturers.

Recently, we started working with a forward-thinking ASP focused on asset tracking applications in support of law enforcement agencies. This has broad appeal in fighting crime, solving cases and reducing insurance premiums for consumers.

M2M Now: These are all fascinating examples of how a mature M2M platform can enable unique asset tracking businesses for companies large and small. So, how can emerging solution providers or existing ASPs get started on creating their own innovations in asset tracking?

JK: For starters, interested parties can contact ILS Technology directly to learn more about our turnkey end-to-end M2M platform, our service and support capabilities, and our network of device and software partners and operator relationships around the world.

However, most of our customers choose the ‘Do-It-Yourself’ option, since our platform is easily configured in-house with minimal support. We also offer our highly popular workshops on a regular basis, giving participants a hands-on experience with the versatility and intuitiveness of our platform solution.

Since “seeing is believing”, ILS is inviting readers to attend the ILS Technology workshops at the TIA Future of the Network Conference in Washington D.C. (tia2013.org) on October 7-10, 2013 and the M2M Evolution Conference to be held in Miami on January 28-31, 2014. 

“The increasing availability of self-aware, network capable ‘thinking’ devices could be a game changer.”

**John Keever,
ILS Technology**

You can visit www.ilstechnology.com/workshops to check the latest workshop calendar and register online for an upcoming workshop at any time



Steve Rogerson:
Freelance
telecoms writer

Choosing the right service

← NEXT EXIT

NEXT EXIT →



Martin Port,
Bigchange Apps:
It is cost
effective for just
one vehicle

Ever more companies are offering fleet and mobile asset management products and services. Steve Rogerson looks at some of the factors that should be considered before making a choice.

There is a myth that, when it comes to fleet and asset management, the technology is only really advantageous for medium and large size companies. But the potential savings in fuel costs and time, as well as other benefits such as reducing CO₂ footprint and improving driver behaviour, are as applicable to companies with just one vehicle on the road as they are to those with thousands.

The three key reasons for anyone investing in such a system are fuel costs, accident prevention and reduced maintenance. "Almost any company will want to do this," said Andy Cozens, senior consultant at driver performance and vehicle management company **Greenroad**. "Most people are looking to make economic savings. Some will want to reduce their CO₂ footprint, and they can do that by monitoring driver performance. And they want to get maximum use from their assets."

Cozens says that fuel costs are the most visible benefit, especially with almost continually rising prices. To understand the savings, he suggests looking at similar sized companies that are operating

management systems and see what improvements they are making. "Then look at your own fuel bill and see how much you can save," said Cozens. "Then look at your accident and crash statistics to see if there could be improvements there. And also look at your repair and maintenance costs."

Another way to see benefits is to look at simple online route planners on shortest, quickest and most fuel efficient routes. Management systems can bring those facilities to vehicles in real-time, even taking account of the up-to-date traffic situation. "If you just save 20 minutes, that might mean one or two more drops," said Cozens.

What's made this more attractive to many companies is the falling costs, not just in keeping tabs on vehicle tracking but also on asset tracking. "The affordability of putting a device on an asset has come down to the point where the business case has become more widespread," said Michael Jakab, vice president at **CalAmp**. "People are looking at where their assets are and asking if they are getting value from them." →



Jeff Newman,
Numerex: Most
of the deployments
are Rol driven

Choices choices...

With so many companies offering these types of services, choosing one that suits your needs can be tricky. Again, a good plan would be to look at companies of a similar size and see what systems they are using and ask them for feedback on savings, usefulness, customer service and so on.

Remember that telemetry and fleet management are broad terms and not every company offers every aspect. Some, for example, focus on driver performance with the other factors as add-ons. If driver performance is the most important to you, then one of these may be the best. But if not, then it might be wise to look elsewhere.

"Some claim to offer the full remit," said Cozens, "but their business is often focused on one or two aspects, so make sure they are focused on your core needs." Also look at whether they are just selling hardware or a service. Some will just sell you boxes that you install and monitor yourselves. Others will manage it for you, providing an ongoing service, interpreting the data and so on.

Bigchange Apps, for example, provides a mobile computer as well as back office facilities that will not only do route planning but also worksheets and scheduling. "We call it mobile resource management," said the company's CEO Martin Port. "It helps plan, manage and schedule work. This is much more advanced than route planning – you can get that on the internet for free. And it is cost-effective for just one vehicle."

He said the company provided the infrastructure as a service, managing the service provision, SIM cards, hardware and software. And there is a round-the-clock helpline that the driver can phone if there is a problem.

Service delivery

At the other end of the scale are organisations such as **Numerex** that target large companies with a service delivery platform. "We don't sell to those doing ten or twenty deployments," said Jeff Newman, senior vice-president of business development. "We look at global deployments for big companies."

Typically, the firm will be tracking assets in the \$10,000 to \$20,000 range whether moving through the company's own infrastructure or out in the supply chain. They will be monitored over a number of years to build up a pattern of how efficiently they are being used and where improvements can be made. These improvements can be in cycle time (how long it takes from the manufacturing process to complete its loop through the supply chain) and dwell time (how long it sits in any one place). "If deliveries are late, they can

look at this information and figure out why it happened," said Newman. "Most of the deployments are RoI (Return on Investment) driven."

Tim Taberner, product strategy manager at equipment provider **Eurotech**, added: "People are realising they can do more. In the rail industry and public service vehicles, people are beginning to understand there is an advantage in combining data from different monitoring systems." Jakab added: "They are looking at more than tracking. But they have to identify what business problem they are trying to solve and choose a suitable device." However, Taberner was critical that most deployments were still project-led. "Someone will have a particular need at a particular time," he said. "They are not interested in innovations outside that particular project. This is because the benefits can be harder to understand. It often requires a leap of faith."

Taberner believes that the industry needed to do a lot of evangelising to get round this problem. "You have to push all the different benefits in the hope they can join the dots," he said.

This is also being seen from outside the traditional fleet management sector. **Telefonica**, for example, recognised that many of its mobile customers were also looking at this technology and so it partnered with **Masternaut** to provide a fleet management offering as part of its overall business proposition.

Growing demand for integration

"Fleet and vehicle telematics have been around for some time but we haven't been a player," said David Taylor, managing director of Telefonica's M2M business. "But now companies are wanting this integrated with other offerings rather than being standalone."

Taylor believes there are elements around fleet management that could be added with mobile communications: "We see a demand for fleet management as part of the mix," he said. "They can come to us and get that as part of the offer." He said this was preparing for the future direction of the sector when fleet management would become a smartphone app rather than having a black box in the vehicle. "The phone could become the telematics system in the vehicle," and that, "it will be the driver's interface to the telematics system."

Whatever system is adopted, what is also important is having people in the organisation who understand what it is you want to achieve and are dedicated to working towards those goals. "You need to be aware not only of what you want to do but be committed to doing it," said Cozens, "otherwise you won't get what you want out of it." \$



Tim Taberner, Eurotech: It often requires a leap of faith



David Taylor, Telefonica: The phone could become the telematics system



Michael Jakab, CalAmp: The price of putting a device on an asset has come down



Andy Cozens, Greenroad: You need to be aware not only of what you want to do but be committed to doing it



THE CHALLENGE

Specialising in shipping perishable goods via multi-day trips on someone else's truck could be challenging and costly. Weather, unusual conditions, cross-border customs controls and lack of standardisation among trucks to hold and maintain temperature are just a few of the challenges the Allen Lund Company faces every day.

THE SOLUTION

Portable, wirelessly-enabled shipment monitoring solution from LocusTraxx powered by the KORE Global M2M Network

THE RESULTS

Perishable goods shipments can be valued at US\$10,000 - \$100,000 or more. This solution has saved time and money and Allen Lund has numerous stories of customer shipments that have been saved because an alert was received and appropriate measures were taken.

Immediate access to shipment information prevents spoilage in as many as 10% of shipments.

Reduced hours and dollars spent on customer claim submissions.

Access to average length of a haul, actual miles of a trip and viewing entire fleets on a single map simplifies business.

Perishable goods delivered without peril

Background

Transportation logistics can be a challenge in and of itself, but without the right information at hand — it can quickly become a nightmare.

Supply chain continuity is one thing, but delivering perishable goods is even more challenging because additional variables come into play that, if left unmonitored or unchecked, can spoil an entire shipment. Temperature, door security and actual location of the shipment in real-time can mean the difference between delivering quality products or an expensive container of spoiled goods.

Additionally, if you do not actually own the trucks that deliver your customer's goods, it makes monitoring them extremely expensive, if not completely impossible. Allen Lund needed a solution that was portable, removable, simple to install and dismantle, able to retain battery life and work immediately upon installation.

Solution overview

The OverSight™ system from LocusTraxx is a wireless system that is connected via the KORE network ensuring safety and security by making shipments self-reporting. By blending sophisticated SmartTraxx™ telematics with innovative, SmartTag™ wireless sensors, Allen Lund continuously monitors and instantly receives data on shipment temperature, door security and location from shipments on the road to computers or Smartphones.

The wireless sensors detect and continuously report information including shipment temperature, door status (open, closed, locked), and other conditions and when an issue or exception event is detected, Intelligent Alert text and email messages are sent automatically to Allen Lund so they can

make real-time decisions and take necessary steps to ensure the safe delivery of the products on the truck. These Intelligent Alerts are delivered via the KORE network anytime an event occurs that violates a rule — saving time and money while ensuring the safe delivery of the shipments.

Key results

Across the board, Allen Lund has seen that, on average, their customers have to intervene in approximately 10% of their shipments and because they are able to receive alerts and make adjustments while the shipment is in transit, the problems are resolved before they become claims. By learning what is happening while it is happening, Allen Lund has lowered claims by tens of thousands of dollars and saved hundreds of hours in claims management for their customers.

For example, Valentine's Day 2012, Allen Lund conducted 75 floral shipments out of Miami that were headed up the East Coast. Eight shipments triggered alerts. Out of those eight shipments, six were able to be adjusted in the field at the time of failure by the drivers and the other two were redirected to a service center where repairs were made to the trucks and the shipments were back on the road and delivered to their final destination on time and in excellent condition. The end result — 75 loads were delivered on time and in commercially acceptable condition.

That could have been a very different scenario if the alerts on those eight shipments had not been available. Without the notifications, those flower shipments could have resulted in tens of thousands of dollars in lost revenue for Allen Lund customers as well as many floral stores along the East Coast, not to mention some very disappointed Valentine's Day customers. →



LocusTraxx delivers...

- A Portable, Automated Cost Effective Tracking Solution with Self-reporting Food Security and Defense SmartTag Sensors for Continuous Monitoring Analysis and Reporting with Intelligent Alerts
- Easy to Navigate Dashboard
- Comprehensive views of all Shipments and Reports

KORE delivers...

- 100% true global coverage M2M expertise and strong service delivery track record
- Dual VPN connections from its network to customer premise with auto fail-over for performance and reliability
- Two, fully geo-redundant data centers powered by Cisco with automatic fail-over and self-healing capabilities
- Multiple, redundant connections to the largest global carriers

“In order to ensure the delivery of quality products, we require real-time access to data regarding our customer’s shipments. With this solution in place, we are alerted to vital alarm information and can quickly respond with appropriate measures and maintain the quality of the shipment without sacrificing margins. The system truly pays for itself in just one saved shipment.”

Kenny Lund, VP Support Operations,
Allen Lund Company



ALLEN LUND COMPANY
Transportation Brokers
www.allenlund.com

About LocusTraxx

LocusTraxx improves food safety and security through continuous monitoring and real-time reporting on the condition of food products while they are being shipped. The continuous monitoring and real-time reporting system assures food safety. The innovative, automated, and self-reporting approach assures customers’ perishable goods safety by monitoring in-transit temperature, GPS location and security information.



“By offering an economical and portable solution, Allen Lund shipments are delivered safe, fresh and on-time regardless of whether or not they own the truck that is delivering the product. Our simple, portable, cost effective solution is saving shipments from being destroyed in transit every day.”

David Benjamin, CEO, LocusTraxx

About KORE

KORE Wireless is the world’s largest wireless network provider specializing exclusively on the rapidly expanding global machine-to-machine (M2M) communications market. Providing unified control and management for cellular and satellite network service delivery in more than 180 countries worldwide, KORE empowers its application, hardware and wireless operator partners to efficiently deliver M2M solutions for connected devices across the globe. KORE offers a range of technologies — including GSM, HSPA, CDMA and EV-DO, as well as satellite services — that ensure the greatest possible reliability and coverage. ●



“As a single source provider of affordable global coverage, through cellular as well as satellite connectivity, KORE enables companies to track and control what really matters — precisely and cost effectively anywhere in the world.”

Alex Brisbane, President and
COO, KORE

EXPERT OPINION:



Connected cars drive M2M innovation

In June, headlines around the world touted the European Commission's adoption of two proposals that will ensure all European vehicles are equipped with emergency calling technology by October 2015. Here, Bertrand Knopf of Gemalto M2M looks at the implications for M2M.



The author is
Bertrand Knopf,
vice president
Sales at Gemalto
M2M

eCall calls attention to M2M

The emergency "eCall" system is designed to automatically dial "112" in the event of a car crash. The system establishes a connection over cellular networks with the nearest emergency call centre and sends details of the accident to rescue services, including the time of incident, location of the vehicle, direction of travel and other data. The eCall is made even if the driver is unconscious or unable to communicate and can be triggered manually by pushing a button in the car.

The European Commission estimates that eCall will speed up emergency services response times by 40% in urban areas and 50% in the countryside. When fully deployed, it's projected that eCall will save up to 2,500 lives a year and alleviate the severity of road injuries¹. When integrated with other Intelligent Transportation Systems (ITS) including smart road signs and connected car solutions, it can also help ease traffic congestion, reduce secondary accidents and help drivers find alternate routes to their destination.

The eCall programme is on track to meet the 2015 deadline, in large part due to the success of the Harmonised European eCall pilot programme, otherwise known as HeERO. Launched in 2011 by ERTICO, Europe's ITS trade organisation, HeERO developed an interoperable Pan-European eCall programme that seamlessly links 15 participating EU member states synchronising systems across country and network borders.

The programme heavily relies on advanced **Gemalto Cinterion**[®] machine-to-machine (M2M) modules inside the eCall devices to automatically establish two-way emergency calls between vehicles and the nearest Public Safety Answering Point (PSAP). Gemalto, the global leader in digital

security and M2M technology, has been a major contributor to the HeERO programme and an active member of ERTICO.

The automotive industry: An early M2M adopter

eCall is exciting for drivers and enterprises alike, enabling improved safety as well as economic benefits for carmakers, M2M technology providers, mobile operators and public safety participants. The same M2M technology that powers eCall can also enable value added services such as stolen vehicle tracking, pay-as-you-drive auto insurance, reservation services for truck parking – and it's just the beginning.

The automotive industry has always been ahead of the curve in innovation and it is among the first adopters of leading edge M2M technologies including solderable Machine Identification Modules (MIMs), remote subscription management and embedded 4G connectivity. These solutions are leading the way toward the future and expanding the Internet of Things (IoT).

The latest innovations, such as the Gemalto Cinterion LTE solution used in Audi's industry-first LTE connected car solution, allow drivers and passengers to enjoy advanced 4G features including simultaneous voice and data services, optimised navigation with street level imagery streamed to the vehicle, multimedia streaming and downloads, plus a mobile Wi-Fi hot spot.

A new end-to-end model for M2M

It takes more than just a connectivity solution to bring advanced M2M applications to life. Strict auto manufacturing specifications, longevity requirements, privacy and data security concerns →



plus the complexities of enabling a constantly moving high-speed wireless setting pose many more mobility obstacles than a typical industrial wireless solution.

To meet these requirements, Gemalto has streamlined what was once a complex value chain, offering a unique blend of end-to-end solutions and services that simplify and speed development. Gemalto's range of compatible technologies includes advanced M2M wireless modules to enable reliable communications, a suite of ruggedised MIMs™ for secure connectivity to mobile networks, flexible subscription management services, and an enhanced cloud-based platform for application enablement that can easily connect assets and enterprises anywhere in the world.

Gemalto Cinterion M2M modules are specifically designed to deliver top performance and low latency in rugged conditions typical of M2M applications. A complete line of advanced automotive products are optimised for the extreme environments of temperature, moisture and vibration unique to conditions on the road. All are pre-certified by global mobile operators to help expedite the approval process during development and improve cost efficiency. An intelligent evolution platform design allows easy forward migration without expensive redesigns and an embedded Java strategy simplifies edge-to-enterprise computing, allowing remote assets to seamlessly connect with backend systems. The portfolio also includes the industry's first multi-mode modules allowing communications on GSM, CDMA networks, enabling OEMs to develop one universal application that can operate anywhere in the world, simplifying manufacturing and logistics while speeding time to market.

Similar to a SIM, Gemalto Cinterion MIM smart cards secure a machine's identity and encrypt its wireless communications. Ruggedised for the challenges of M2M environments, MIMs combine robust chips with a specialised operating system that ensures longevity and offers a long lifespan, which is compatible to the requirements and product life cycles of the automotive industry. MIMs are designed in an array of form factors with a range of features including embedded Java and, as required by the automotive industry, production plants are certified according to ISO TS 16949 for unrivalled quality assurances and traceable production processes.

Gemalto enables its clients around the world to offer trusted and convenient digital services to billions of individuals. By extending this expertise to the M2M marketplace, Gemalto is revolutionising the value chain and accelerating the growth of the Internet of Things. Gemalto's proven services – including flexible subscription management, security consulting and analysis, secure service enablement and value added engineering consulting and support – help speed time to market while improving flexibility and scalability for new applications.

Standards-based device management solutions provide audit capabilities, anti-fraud and diagnostic monitoring, which are increasingly important due to the long lifespan expected from M2M solutions. Gemalto security consulting services help customers carefully consider an end-to-end security architecture to protect M2M implementations from threats. Value added engineering services help OEMs review schematics, analyse circuit board layout, optimise power design to offer stronger solutions and quickly launch state-of-the-art applications.

Gemalto's cloud-based Cinterion SensorLogic application enablement platform works seamlessly with M2M modules and sensors and serves as the hub connecting data in the field with backend systems. The device-agnostic SensorLogic Platform transforms data from any sensor into normalised, actionable intelligence that can be securely integrated into backend systems. The SensorLogic Platform utilises a complex event processing engine to evaluate data then send real-time alerts via email or text message when critical thresholds for heat, humidity, shock, vibration or tilt are reached. This action allows supervisors and dispatchers to respond in real time with commands to make required adjustments.

Modules + MIMs + Services + Cloud computing = Simplified, secure M2M

M2M technology is at the heart of the rapidly expanding Internet of Things. From automotive applications like eCall and Smart Car solutions to mHealth devices and cold chain monitoring solutions, Gemalto's leading edge M2M solutions and services are helping enterprises, governments and industries leverage our rapidly evolving digital society to optimise operations, increase productivity, simplify processes and ultimately, improve the bottom line. 

“eCall enables improved safety as well as economic benefits for carmakers, M2M technology providers, mobile operators and public safety participants.”
Bertrand Knopf,
Gemalto M2M

I: The European Commission,
13 June 2013,
http://europa.eu/rapid/press-release_IP-13-534_en.htm



“We haven’t even seen the tip of the iceberg when it comes to M2M.”
Eric Schneider, M2M Alliance

Is Europe’s major power a leader in M2M?



Andrea Sroczynski, Telenor Connexion: Mid-sized companies looking for connected solutions

With a wealth of expertise to call on in machine-to-machine (M2M) communications, from service planning right through to customer billing and self-care, Germany is at the heart of many of today’s M2M services. But how well is the ‘economic engine’ of Europe delivering new services and capabilities, responding to global enterprise needs, remodelling itself for the Internet of Things (IoT), and spreading its commercial wings into other regions and new industries? Report by deputy editor, Georgina Elrington.

Home to a mighty M2M player like **Deutsche Telekom**, Germany is well positioned as a European technology hub. DT has made significant progress in its M2M offering in the last few years, through its Developer Community and the launch of its M2M Marketplace.

It has achieved commercial success in automotive, usage based insurance and industrial automation where M2M solutions now help farmers in animal husbandry. Deutsche Telekom’s partner MEDRIA Technologies, for example, offers two monitoring solutions that make breeding beef cattle easier. Monitoring enables them to send a text to the farmer’s cellphone at the beginning of the brief period when a cow is on heat and shortly before she calves. This is a market with great potential and established in-roads for the manufacturing and automotive industries. Also gaining traction are remote home control, intelligent buildings, energy and eHealth. Germany has the second highest number of wireless M2M connections in Europe and is expected to reach a broadband penetration rate of more than 40% by 2016, paving the way for rapid growth.

German companies are playing an important role in driving the global M2M ecosystem with product innovation and business enablement activities. The country is the second largest exporter of enterprise technologies in the world, supported by strong industrialisation, right behind China. **Technavio**, a technology research and advisory company, rates the country as the fourth largest economy in the world and the largest in Europe.

Deutsche Telekom’s predictions highlight energy and automotive sectors as being the main M2M drivers. Uptake for the latter will no doubt be aided by the European Union’s ruling that all newly registered vehicles from 2015 must be equipped with an eCall emergency system. While the car manufacturers will be focusing on integrating embedded solutions, to comply with this regulation, it makes sense that other telematics and connected automobile entertainment services will also become subject to mass production.

Vodafone, UK-based but one of Germany’s leading M2M connectivity providers, expects high potential for industrial M2M. “The German mechanical engineering →



Joerg Koepf, Rohde & Schwarz: M2M will really take off over the next five to 10 years



industry exports about 75% of the machines it produces. With M2M, these machines can be monitored much more easily, even on a global level. Manufacturers receive remote data that enables them to control the machine status and identify problems at an early stage. Remote monitoring based on M2M can reduce service costs by up to 30% and enables the customer service to react faster.

"This is an important advantage for mechanical engineering companies whose business models are increasingly based on service contracts. A **VDMA** survey (Association of German Mechanical Engineering Companies) shows that services already contribute to 20% of its member companies' revenue. With our M2M solutions, Vodafone can help to make those processes more efficient and increase product quality. Remote monitoring also enables new business models in the mechanical engineering sector," said Marc Sauter, head of sales M2M Central Europe, Vodafone.

Development

Valued at US\$750 million in 2012, the country's M2M market is expected to reach US\$1,900 million by 2016 (Source: Technavio). Germany's 2016 IoT contribution has been forecast at a value of US\$1,540 million with an expected compound annual growth rate (CAGR) of more than 30% during 2012 -2016.

While it's clear that the telcos are viewing M2M as a new revenue stream, they can only do so much on their own. It seems that partnering with other companies, for service and support, is topping the bill for the region's continued growth. In fact, worldwide service management from a single source was one of the main reasons **ThyssenKrupp** recently extended a contract with Vodafone to supply 50,000 M2M SIM cards for the remote control and maintenance of industrial products.

Yet it's not just the superpowers driving the market. Smaller companies are taking their creativity to the big players for realisation, which is a fine example of collaboration towards an interconnected world. Andrea Sroczynski, head of region Germany (DACH) & head of global automotive sales at **Telenor Connexion AB**, elaborated for us: "With many mid-sized companies looking for connected solutions, what seems to be at the heart of any potential collaboration is a requirement for a company that has a good track record, knowledgeable support team, cool planning and assurance that they're not going to be just one out of billions of clients.

"Smaller units, focused on M2M, are appreciated in Germany's mid-sized sector as they seem to be able to offer the support and attention needed to roll out a successful product. Service knowledge is very available here and if you can bring good service history records to the table it's absolutely appreciated. This minimises the risk, which is especially important when entering a new sector," Sroczynski added.

Commenting on encompassing verticals and technologies, Andreas Freund, vice-president of marketing at M2M enabler and billing systems provider, **Orga Systems GmbH** said: "New areas, such as electric vehicles, combine different verticals in

one concept. Electricity for charging is delivered via a decentralised recharge infrastructure of the local utility that communicates via one of the country's telecommunication providers.

"In this case smart metering, automotive, communication and payment come together and create a new ecosystem. So you can see how a cross-vertical platform approach can provide a true benefit to the M2M service provider," he added.

Promotion

The M2M Alliance, the largest professional M2M organisation with 71 members spanning 10 countries, promotes the benefits of M2M technologies from its base in Aachen, Germany. Interestingly, 56 of those member companies hail from Germany. **M2M Now** asked Eric Schneider, chairman of the alliance, how important M2M technology is for the country's economy.

He said: "M2M technology is extremely important for Germany as well as for Europe. Our prosperity is based on our world-renowned expertise in areas such as engineering, automotive and energy. Germany is known for its inventions and so is Europe. We [Germany] developed the devices and machines which other countries use to produce their goods. Whilst we are the designers, countries like China and India are the producers. By including M2M technology into our solutions we will strengthen our position and it's crucial that we don't lose our power of innovation in these areas. Even as a fast follower, we wouldn't be able to compete with other areas of the world in the long run. We must stay in the driving seat and fulfill our role as innovators and market leaders."

When responding to global enterprise needs it's important to consider individual country dynamics. In the utility sector, for example, developing countries might be focused on supply and revenue assurance with pre-paid tariffs; whereas the more developed regions are likely to be driven by regulation, renewable energy adaption and energy efficiency. In these cases, the operators will need more streamlined, automated processes to ensure a profitable business, especially as roaming becomes more complex and regulation becomes more relevant. "Overall, we believe that the M2M market is still evolving, but it will really take off over the next five to 10 years," said Joerg Koepf, global customers and market, head of wireless market segment, M2M/NFC, **Rohde & Schwarz**, Munich.

You ain't seen nothing yet

Eric Schneider adds: "An important step is to raise awareness for M2M in industry and business as well as with the politicians. The German government must recognise the potential of M2M applications and how this can strengthen our core areas. Germany stands for creativity in engineering and technologies; our jobs and competitiveness depend on our abilities.

"The good news is that the (German) government has started to recognise the importance of M2M, partly due to the M2M Alliance's work over the last few years. Compared to other countries, we are actually doing fine but that doesn't mean that there isn't more that could be done." Schneider concludes: "We haven't even seen the tip of the iceberg when it comes to M2M." ★



Andreas Freund,
Orga Systems:
Cross-vertical
platform
approach is a
true benefit



Marc Sauter,
Vodafone:
M2M-based
remote
monitoring can
cut service costs
by 30%



Eric Schneider,
M2M Alliance:
M2M can
strengthen core
areas

M2M Now Jargon Buster

CAGR = Compound Annual Growth Rate

DACH = Germany, Austria & Switzerland*

M2M = Machine-to-Machine (communications)

SIM = Subscriber Identity Module

VDMA = Association of German Mechanical Engineering Companies*

(* English translations)

EXPERT OPINION:

Making the smart grid business profitable

Utility companies can engage with customers better and explore new revenue streams by utilising the smart grid. However, while the infrastructure is an enabler, energy companies are still seeking the most profitable business cases. *M2M Now* spoke to Olaf Vieselmann at Orga Systems to find out how the company is helping the sector to address new and complex billing challenges.



Olaf Vieselmann,
senior marketing
manager EMEA,
Orga Systems

As the deployment of the smart grid continues on a global scale, with it comes the need for more efficiency and the optimisation of the customer's energy usage. But handling the complex nature of smart grids requires the use of optimised systems that can not only scale to meet the requirements of today, and in the future, but keep the total cost of ownership down. That's a tall order!

Regulatory directives are pressing the utility companies for more flexible tariffs and currently, while smart meters may work for a few static cases, they can create enormous complexity when millions more try to synchronise dynamic tariffs and new rating parameters. Today, competition for a workable approach is growing in the deregulated markets and enabling differentiation. There is still a need however for revenue assurance, especially in the developing countries.

Astutely, Orga Systems, well-known for innovation in real-time charging and billing, realised that there were similarities between the new smart grid and smart metering driven requirements (such as real-time rating and pricing, dynamic tariffs, the processing of high volume data and real-time customer interaction) and its work in the telecoms space. Drawing on decades of experience, the company set about working towards a solution specifically for the utility sector. In February 2013, Orga Systems launched the new release of OS.Energy as part of its Smart Utility Suite.

"Transforming an existing infrastructure into a smart grid normally requires huge investment," said Vieselmann. "One of the key benefits of OS.Energy is its flexible integration into existing ERP and CIS systems. This means that the utility companies can still use a large portion of their existing

infrastructure. What's more, being easily configurable and utterly scalable, it's a great enabler for all future billing scenarios.

Understanding the billing challenges that utility companies are facing today and meeting their needs, by fulfilling their highest performance requirements, is what OS.Energy is all about."

The business case

OS.Energy aims to boost the profitability from within the smart grid by taking tariff flexibility, real-time transaction processing and customer engagement to the next level, all via a centralised rating engine. The utility companies will benefit from innovated pre-paid, post-paid and even hybrid energy offerings, advanced demand-side management (DSM) as well as enhancing the customer experience with real-time communication.

With proven off-load legacy billing systems from big data, OS.Energy implementation can help to reduce bad debt and introduce new pricing and budgeting schemes. It's a great accompaniment to helping solve the issues surrounding pre-paid electricity and customer budget control. It can support individual spending limits such as configurable thresholds for consumer notification (via SMS for example).

One such case comes from a recent rollout of the technology in the Philippines. **Meralco**, an Asian energy supplier, is implementing a pilot scheme whereby 40,000 of its customers will be connected to the smart grid. Interestingly, highlighted by the company's customer research, Meralco discovered that its users wanted the same experience of convenience for pre-paid electricity as they do when paying for mobile cell services. OS.Energy's pre-paid →

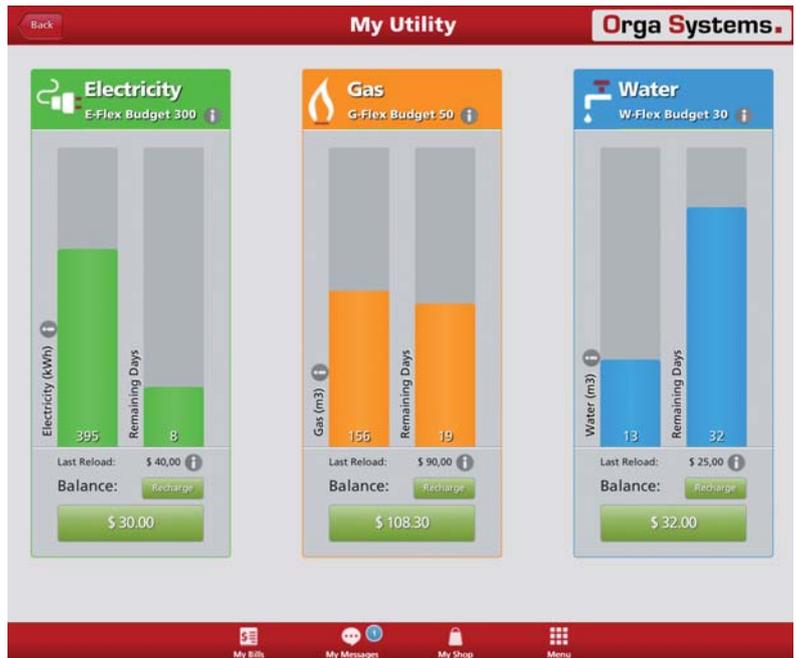


scheme, based on centralised real-time billing, means for example that customer can reload their accounts via their mobile cell phones by 'tingi' (per-piece-buying). For instance, Meralco's users will know three days in advance that their energy budget is about to end, which will help them avoid disconnections and other interruptions to service provision. So, with OS.Energy, bill shock and bad debts could become a thing of the past. This kind of threshold management can also help to educate customers about their energy consumption, a key initiative for environmental targets and regulatory requirements in the smart grid world.

OS.Energy in action

Energy companies can maximise their revenues and enhance not only customer engagement, but also customer satisfaction. By connecting the metering network to the CIS (customer information system), CRM (customer relationship management) and other support systems, OS.Energy can add real-time ratings and dynamic tariff possibilities to a utility's current infrastructure. It has integrated promotion capabilities for enabling campaigns, promotional bundles and even discounts. As well as tiered tariffs, including multilevel thresholds, it can remotely connect or disconnect customers. Performance bottlenecks in rating the data derived from meters can be resolved and new value-added services can be better monetised, all contributing to improved revenue management.

What's more, OS.Energy is able to adapt tariffs, and bill energy usage, in line with highly dynamic hourly spot market prices, helping balance demand and drive even greater efficiency. For example, pricing



events can be used to trigger DSM for selected home devices – delivering the type of scenario that will be the norm for the smart city of tomorrow.

In summary, utility companies, as well as M2M service providers that want to offer smart grid billing as a service with real-time control and dynamic options, would do well to take a look at Orga's OS.Energy offering. "We believe that choice and convenience for energy consumers are critical differentiators for utility companies securing profitability and success in the energy industry," concluded Viesselmann. 🔍



M2M Now Jargon Buster

- CIS** = Customer Information System
- CRM** = Customer Relationship Management
- DSM** = Demand-side management
- ERP** = Enterprise Resource Planning
- M2M** = Machine-to-Machine
- SMS** = Short Message Service



OPERATOR INTERVIEW:

Customers need to know what's on offer!

Here, prior to his paper at European Utility Week in Amsterdam (October 15-17), Yves Caseau, executive vice president, of France's Bouygues Telecom describes the urgent need for telcos and their partners to take responsibility for marketing 'smart home' services.

How profitable an opportunity is the Smart Home for telcos and utilities, and how much more do they stand to gain when they 'pull together' and partner up?

Yves Caseau: Telcos need to expand their domain to find new growth, from telecommunications to digital life. An interesting property of digital life is that, because of its rising complexity, it may work better if operated, that is, with the remote assistance of an operator.

Smart homes are one of the most concrete opportunities of this digital life field, the combination of a home, multiple connected objects, together with comfort and efficiency services bundled into 'life moment scenarios'. This is indeed a growth sector, but it requires a 'platform approach', that is, the growth of an ecosystem with a long tail of 'home apps' and services provided by third parties.

How can stakeholders better communicate with consumers and instill confidence in them? And whose responsibility is it to educate the consumer about better conserving energy?

YC: Telcos, together with their ecosystem partners, need to educate their consumers about what is already there! This starts with better, more concrete

advertising, showing the practical value and use of existing services, such as the cloud. This education also needs to become social, for instance the stakeholders can provide their customers with web platforms.

One could argue that everything is already on the web, but the smart home experience deserves better and a more specialised community with 2.0 tools. Lastly, telcos need to provide reassurance; this is an operator role, part of taking care of our customers. It is not enough to sell, we need to demonstrate and ensure that smart home services deliver everyday value.

How is the market defining and measuring growth?

YC: Value and growth are measured with sales of objects or accessories and services. The first KPI (Key Performance Indicator) is the equipment rate of connected devices that slowly transform regular homes into connected homes.

Once a critical mass is reached, telcos may start to bundle objects with services and measure the subscription rate of service apps and the bundled 'smart home plans'. The last measure of success is the incremental growth of subscribers' value, which is the sale of additional objects. This requires a value-share mechanism so that the telco may make a profit. ●



Yves Caseau,
Bouygues
Telecom:
Bundled 'smart
home plans'

"Telcos, together with their ecosystem partners, need to educate their consumers about what is already there! This starts with better, more concrete advertising and showing the practical value and use of existing services."
Yves Caseau,
Bouygues Telecom

For more information on the presentations at European Utilities Week go to: www.european-utility-week.com



On June 5th, to celebrate the first year of its cellular low-bandwidth network dedicated to M2M and IoT, SIGFOX welcomed experts from 10 countries



SIGFOX invited an audience of 150 guests to Paris for its first anniversary



Round Table speakers included leading silicon and infrastructure vendors, as well as the IoT and M2M sectors



Jim Morrish of Machina Research gave the keynote address and chaired a Round Table discussion



Ludovic Le Moan, CEO & co-founder of SIGFOX opened the anniversary celebrations, at which it announced its network expansion to Russia and the Netherlands



LOW POWER WIDE AREA NETWORKS: A potential global market in 2022 of 15.5 billion M2M connections

The names SIGFOX, Weightless and On-Ramp are increasingly often heard in M2M circles. As Jim Morrish, director of Machina Research explains, the main benefits of these technologies include their potential to lower the cost of M2M connectivity, support an ‘out-of-the-box’ and homogenous connected experience and enable an increased battery life for connected devices.



The author is Jim Morrish, director of Machina Research

What is the potential market for these Low Power Wide Area (LPWA) wireless solutions that are specifically designed and optimised to support M2M connections? Machina Research is unique among M2M industry analysts in having developed detailed forecasts for all of M2M, irrespective of underlying connectivity technology, and at a highly granular application level. Our existing analytical frameworks provide a good starting point for analysing the potential opportunity for LPWA solutions.

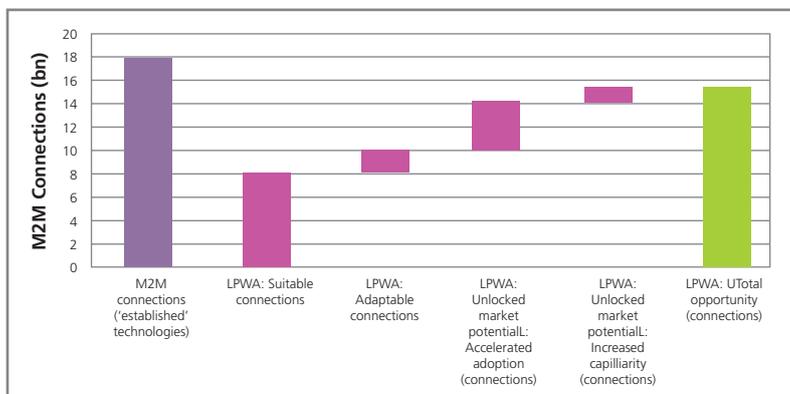
There are two major strands to our assessment of the opportunity for LPWA solutions:

- **Identifying where LPWA can substitute for existing technologies.** In this first strand we have categorised the 180+ M2M applications for which we already have country-level forecasts into three groups: Addressable by LPWA technologies; Not addressable by LPWA technologies, and; Adaptable to be supported by LPWA technologies.
- **Identifying where LPWA can unlock new market potential.** In this second strand we analysed where LPWA can either drive the total size of potential markets or the adoption of connectivity within defined potential markets. We also identified where LPWA has the potential to drive additional connected devices as components of M2M connected solutions

The results of our analyses suggest that whilst the market opportunity for the ‘established’ M2M technologies that form the basis of our current forecasts is 18bn M2M connections by 2022, the total opportunity for LPWA technologies in the same timeframe is 15.5bn connections. This total opportunity is made up of 8bn M2M connections for which LPWA technologies are innately suitable as a substitute technology, 2bn connections corresponding to M2M applications that can be adapted to be supported by LPWA technologies, 4bn potential connections that may be unlocked as LPWA accelerates the adoption of M2M connectivity and a

final 1.5bn connections resulting from an expected increased device count for certain M2M applications. These results are illustrated in figure 1, below.

Figure 1: Total LPWA opportunity, 2022 [Source: Machina Research, 2013]



Our analyses suggest that whilst these technologies have the potential to revolutionise aspects of the M2M market (for instance enabling the deployment of alarm sensors that are out-of-the-box connected and with 10-year battery lives), the main potential will derive from markets for intelligent building connectivity, consumer electronics and smart metering (although that’s not to say that these technologies can’t potentially play a significant role supporting industrial, and certain automotive, M2M applications).

Of course, for this full potential to be realised, LPWA networks would need to be deployed worldwide, ecosystems would need to gain critical mass and a host of commercial challenges must be overcome. Currently, the three main potential LPWA technologies (On-Ramp, SIGFOX and Weightless) are far from achieving those goals. Viewed from a perspective of 2013, it is by no means clear that these technologies will actually revolutionise M2M markets, but it is clear that such a potential does exist. \$

“The main potential will derive from markets for intelligent building connectivity, consumer electronics and smart metering.”
Jim Morrish,
Machina Research

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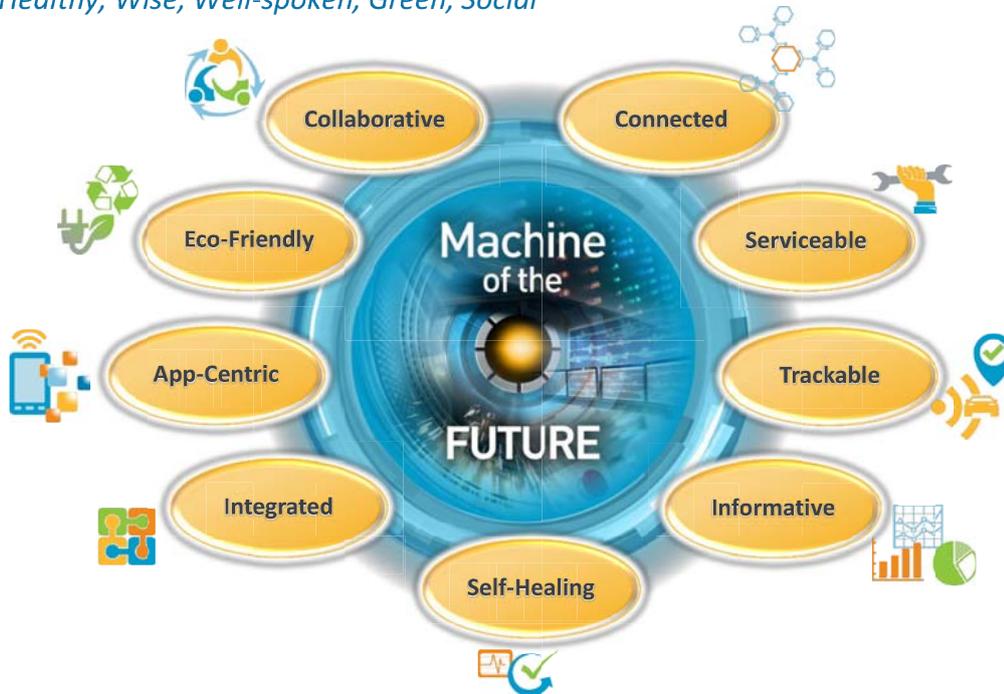


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Machine of the Future

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Boston, USA, May 6-9, 2013:

Axeda Connexion and 9 steps to the Machine of the Future

It takes guts to stand up in front of a technologically alert audience and describe 'The Machine of the Future' but that job was taken on at the recent Axeda Connexion conference* in Boston by Bill Zujewski, the company's CMO and executive vice president of Product Strategy.

There are nine levels on the way to the Machine of the Future, according to Zujewski. "The first is the **Unconnected** device." Metaphorically speaking it fights fires, giving limited feedback and offering a relatively high cost of service.

Level 2 is, therefore, the **Connected** device, giving fragmented information and only a reactive response to problems.

Machines of the Future also need to be **Serviceable** (Level 3) and **Intelligent** (Level 4 in Axeda's Connected Product Value Curve, see Fig. 1). This is the management phase of connected devices, in which serviceable devices offer remote access as needed, some proactive monitoring to help avoid service costs, and which enables some electronic delivery of software. The intelligent, analytical level 4, facilitates

predictive maintenance, service monitoring and reporting, analysis of product data so that managers can leverage usage data for new product enhancements.

Once you can **Optimise** in Level 5 you can innovate more and devices start to become self-healing. "Machines have to be 'up'. Sensors are being added or engineered in to monitor vibrations, temperature, humidity, battery levels, acoustic and infra-red activity," says Zujewski.

Devices can be integrated with the Enterprise, especially in billing, and pay-per-use business models come into play. This is the world of tracking and locating M2M devices for, among other things, inventory management. With GPS and Wi-Fi connectivity every device will be trackable using cellular or hotspot triangulation. M2M can track pets, →



Bill Zujewski,
Axeda: MaaS or
Machine-as-a-
Service



***Axeda provides advanced, cloud-based services and software for managing connected products and developing innovative M2M applications. The company also hosts an annual conference that continues to grow, with 23 partners exhibiting this year as well as 400 attendees taking in more than 50 sessions.**

kids, spouses, keys, and remote controls, says Zujewski, and the last of these will soon be your phone.

The **Differentiated** device allows cloud delivery of customer applications, replenishment management, remote control of products, mobile integration, with new revenue-generation opportunities in Level 6, as well as compliance and audit reporting. Customers want their devices to integrate with their back office systems such as ERP, CRM, PLM** and data warehousing. They know that they can achieve process improvements (and enhanced profits) through automation and data synchronisation. This, says Zujewski, is MaaS, Machine-as-a-Service.

That used to be as far as the Connected Product Value Curve went, but Axeda's not sitting still. Levels 7, 8 and 9 are all about collaboration. Initially, these **Socialised** devices (level 7) involve employees, customers and partners, one example being partner portals with third party service providers and distributors.

Hardware is less significant these days, devices need to be application-centric. It's true, he adds, of cellphones

and cars, and in business-to-business connections. Nor can M2M service providers afford to ignore the environmental impact of their services; they must be eco-friendly.

Once you step outside the partner ecosystem, into level 8's **Multi-vendor** environment, you need standardised data formats and services across vendors, and examples of this include the Connected Farm or Hospital. Machine data will be going beyond your walls. One example of this is in heavy machinery on a farm; Caterpillar, John Deere, Volvo and Komatsu are already creating standards for data sharing in intelligent farming. They're not sharing all data, but it does include elements such as fuel levels, location and operational status, Zujewski reports.

And the 9th step on the way to the Machine of the Future? Make it collaborative **Cross-Industry**, he says. In effect, it's the Internet of Things (IoT). Increasingly, data will also need to be shared cross-industry, for example in smart buildings, homes and cities. He's confident that the results will include better, greener, easier to use products. ★



Keith Bartlett,
Axeda:
Innovative
M2M service

India's Wipro takes US\$5m stake in M2M platform provider Axeda

Bangalore, India-based Wipro Ltd has made a US\$5 million investment in Axeda Corporation. Wipro is a global IT, consulting and outsourcing company.

Axeda, headquartered in Foxboro, MA, is a cloud-based service and software provider for managing connected products and M2M applications. With this investment, Wipro and Axeda intend to accelerate the development of services and end-to-end solutions to help organisations connect with any asset, leverage real-time machine data to enhance business processes, and develop innovative enterprise applications.

Wipro (NYSE:WIT) will receive preferential benefits such as dedicated access to Axeda-trained technical resources and premium support and services to drive machine-to-machine (M2M) initiatives. Wipro is the only systems integrator (SI) partner to have achieved Axeda Platinum Partner status. Their customers can now benefit from Axeda's rapid M2M application development and Wipro's big data analytics capabilities.

Nimble M2M partnerships

Global technology innovation and services company, **Aricent**®, has formed a new partnership with Axeda to enable quicker M2M application deployments.

By offering consulting, systems integration and application development services, Aricent aims to support the delivery of innovative M2M solutions to help companies build new business models, revenue streams, customer experiences and competitive differentiators. Leveraging the Axeda Machine Cloud®, Aricent aims to offer solutions that reduce time-to-market, improve asset utilisation, lower costs and increase revenues for telecom operators and connected enterprises.

Keith Bartlett, vice president for business development at Axeda, said: "The benefits of the Axeda Machine Cloud are threefold: rapid and easy implementation, ability to deliver innovative M2M service, and generate new revenue streams."

An agreement for **AT&T** to expand its M2M relationship with **Wipro** was also announced at the Axeda Connexion conference. AT&T and Wipro are combining efforts to provide customers with the expertise and technical support they need to get machines "talking," using the AT&T M2M Application Platform Powered by Axeda, which the companies say can dramatically speed the delivery time and lower the cost of application development and maintenance for M2M applications.

"Our relationship with Axeda has fuelled customer interest globally, and with the addition of Wipro's Axeda-trained engineers, we're poised to help even more businesses implement highly secure and reliable M2M solutions," said Mike Troiano, vice president, Advanced Mobility Solutions, AT&T Business Solutions.

****M2M Now
Jargon Buster**

CRM = Customer Relationship Management

ERP = Enterprise Resource Planning

MaaS = Machine-as-a-Service

PLM = Product Lifecycle Management

SIM = Subscriber Identity Module



Stand by for a ‘new wave of innovation’ based on M2M

At CTIA in Las Vegas in May, an idea long in the making came into being. The International M2M Council (IMC) was officially launched (see News, page 5). The IMC is a trade organisation for the machine-to-machine communications industry.



It is born with a rather bold ambition – that of standing for M2M as its own global industry, not to project M2M as an aggregator of value to a single product category or applied to a single vertical industry.

The IMC wants to bring together M2M solutions providers and adopters of M2M technology into a single membership organisation, to foster mass adoption throughout the technology sector.

Telit, and myself particularly have been involved in the IMC discussions since the idea was first brewed over a year ago. As you have read in my previous columns, making M2M a broadly adopted technology has been

Telit’s goal for over a decade now and I believe the IMC will go the distance making this happen.

In the past months we have witnessed a number of very high profile companies publicly embrace the ‘Internet of Things’ revolution, and cite the need for coherence and unity to educate the sector. Together with international standards bodies and players in the M2M value chain at large, these companies will bring solutions to market that can expedite adoption by key integrators in the various vertical segments of the tech industry.

In good timing with the impetus of this launch, you will see a number of initiatives and redeployment of efforts by Telit to foster a new wave of innovation based on M2M. ●



The author is Alexander Bufalino, senior executive vice president, Global Marketing, Telit Wireless Solutions

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www.tmforum.org/africa13M2M

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 Mandalay Bay, Las Vegas
www.m2mevolution.com/conference/

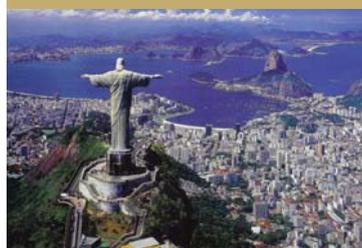
World Smart Week 2013
September 24-27, 2013
 Acropolis Convention Centre, Nice, France
<http://www.worldsmartweek.com>

M2M Innovation World Congress
September 24-26, 2013
 Nice, French Riviera
www.m2minnovationworldcongress.com

Telecoms Tech World
November 26-27, 2013
 Olympia Conference Centre, London
www.telecomstechworld.com

European Utility Week
October 15-17, 2013
 Amsterdam, The Netherlands
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October 21 - 24, 2013
 Rio de Janeiro
www.futurecom.com.br



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<http://m2mnowevents.com/>



M2M Now Money Talks is an innovative, debated, hands-on event for all delegates interested in or affected by connected healthcare within health and wellbeing, primary and secondary care. The interactive event will focus on business cases for implementation of an mHealth model.

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 2 thought-provoking sessions, including keynote, Q&A session, polling, provocative ‘real-world’ connected health case histories, and a panel debate. For the entire mHealth value chain including clinicians, payers, solution vendors, wireless network operators and business analysts.

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“Telit knows that M2M Now really understands the M2M sector, and offers its customers excellent routes to a global market with a professionally executed choice of media. We have worked with M2M Now on various successful projects and the team has been extremely easy to work with and we have been highly satisfied with the results of our campaigns. Sybille Stegmair, Marketing Director EMEA Telit Communications PLC”



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M2M can already make Jetsons-like homes, but will you pay for them?

I've been reading a lot lately about Cisco's vision of the Internet of Everything (IoE) and how it will change our lives. There have also been a few articles highlighting how forward-thinking people are already linking everything in their house – from the coffee maker to the toaster to the alarms. This is cool, Jetsons-like technology, says Larry Bellehumeur, but it brings up a question: Will the average family like it enough to actually pay for it?



Larry Bellehumeur is EVP of Sales and Marketing at Novotech Technologies

Key:

HVAC = Heating, Ventilation, Air-Conditioning

First, SOME people will pay for this privilege, without a doubt, and you will likely see them in line wearing costumes for the latest superhero movie in your neighbourhood! So, we know that there will be some demand for it. However, the trend among many household items that may be connected (like appliances) is to reduce costs, so I question whether there will be mass adoption for a toaster that costs 2-3x as much as a regular one, simply because it can text you to tell you your toast is ready.

One common application that is constantly referenced is the 'smart refrigerator', one that can let you know that you are out of certain foods. However, there will be some limitations here – for example, how will it know if you have two or eleven eggs in a container that is closed... How will it know how full your milk carton is?

There are some obvious applications that no doubt are popular today in the field of 'Smart Homes'. Solutions

that link homeowners with their security systems via a smartphone app are becoming more common and they are likely applications that people will pay for. As well, applications/services that allow people to have remote access to or control of key household items (such as a dishwasher, HVAC systems or garage door openers) will be very popular, as they will help provide a higher level of security for the home while also helping to reduce the on-going costs of the home.

Bottom line

As I have said in the past, any attempt to improve the visibility and the breadth of audience in our industry is welcome, and for that, I applaud Cisco's moves into the IoE field. There will no doubt be some great applications coming out, and with Cisco's presence in many homes (through their home-based WiFi routers), they have a great platform to offer many key services for the home. I just don't expect my toaster to talk to my coffee maker any time soon!

Read Larry's blog at www.novotech.com/blog and follow him on Twitter: @LBNovotechM2M

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