

europaean COMMUNICATIONS

www.eurocomms.com

 @eurocomms



Comarch: Innovation in a digital world

Marcin Dąbrowski, VP
Telecommunications,
Comarch, talks about
how technology can
solve the challenges
telcos will face in 2016

IoT TECH EXPO EUROPE 2016

10 - 11 February 2016, Olympia, London

**BOOK
NOW!**



Save 20% with
'MOB20'

Over 200 Industry-Leading Speakers



5
Conferences

200+
Speakers

100+
Exhibitors

5 Conference Tracks:



Developing & IoT Technologies



Smart Cities



Data & Security



Connected Industry



Connected Living

Our Partners:



BECKHOFF

INTERDIGITAL



EVERYWARE



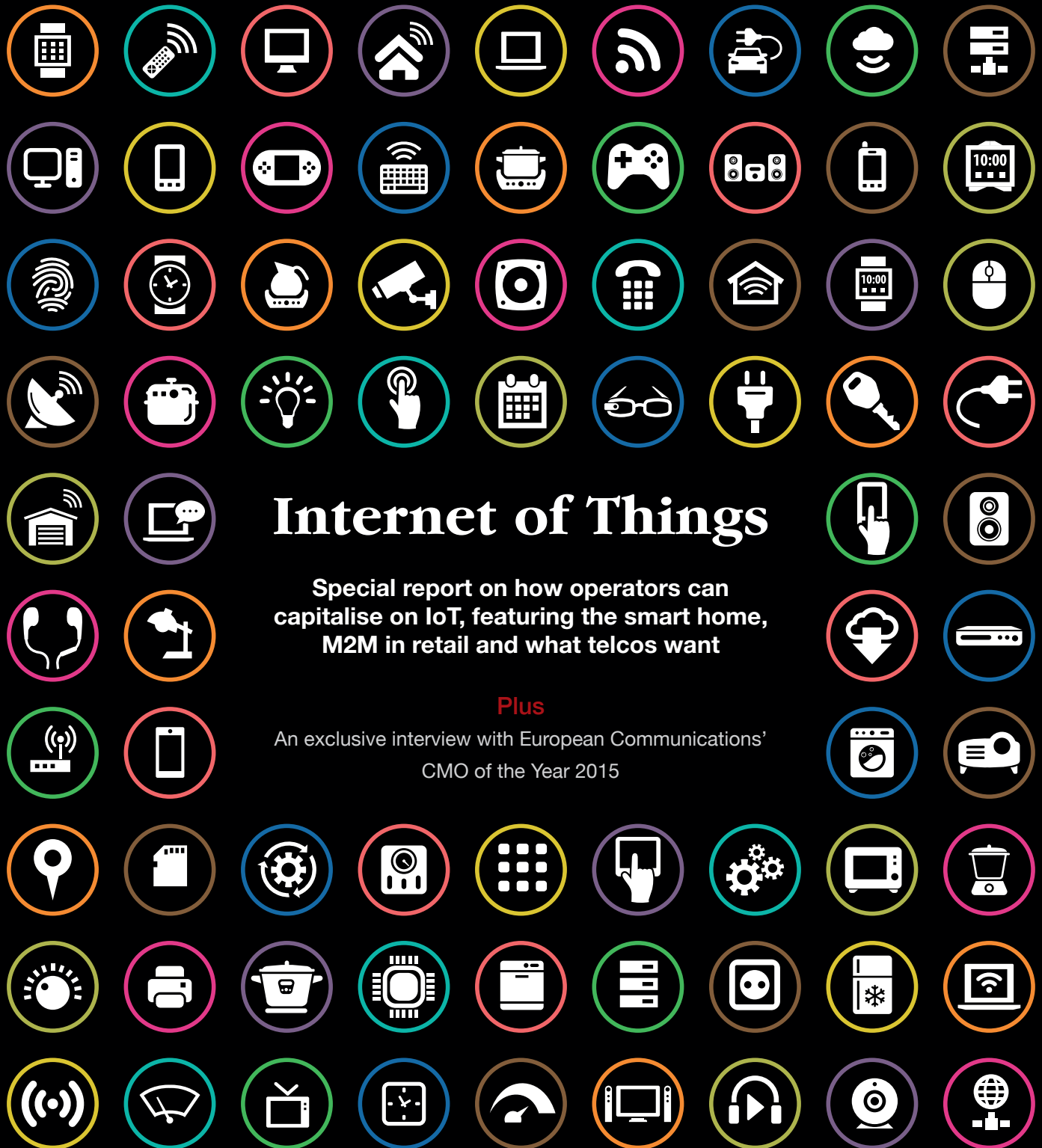
SAM

www.iottechexpo.com/europe

europaean COMMUNICATIONS

www.eurocomms.com

@eurocomms



Internet of Things

Special report on how operators can capitalise on IoT, featuring the smart home, M2M in retail and what telcos want

Plus

An exclusive interview with European Communications' CMO of the Year 2015

#MWC16

MOBILE IS EVERYTHING

What is mobile?

Is it the latest communications device? The health monitor on our wrist? The key to our digital security? Is it the means to connect the unconnected or is it the screen that entertains us? Mobile is all of this. But it's also so much more. Mobile powers our lives. It's an extension of who we are. Mobile is connectivity. Mobile is identity. Mobile is commerce. Mobile is inclusive. There is no clearer way to say it. Everything is mobile, but more importantly:

Mobile Is Everything. See the phenomenon for yourself in Barcelona at Mobile World Congress 2016.



BARCELONA **22-25 FEB 2016**

WWW.MOBILEWORLDCONGRESS.COM

AN EVENT OF
 **MOBILE
WORLD CAPITAL™
BARCELONA**

Contents



18 CMO of the Year

Proximus' Ariane Marchant talks to Marc Smith about how operators need to let emotion drive their decision making

6 Financial data Ill winds from Asia batter the global markets

9 Telco hacks leave operators in need of risk assessment Owen Hughes assess whether operators are placing security high enough on their to-do lists

12 Industry remains cautious about Ericsson, Cisco "pseudo-merger" The surprise announcement that Ericsson and Cisco gave formed a strategic alliance is one of the industry's major talking points. David Craick analyses what it all means.

17 CMO of the Year 2015 Marc Smith talks to Ariane Marchant, the winner of EC's second CMO of the Year award, about what operators can learn from her success

Special report:

M2M/IoT

20 Survey: Operators want more R&D, capex dedicated to their IoT adventure

30 Telenor's IoT journey gets off to a very cagey start Per Simonsen, Telenor's Senior Vice-President, Internet of Things, discusses the operator's strategy with Marc Smith

32 Global M2M groups urged to focus on commercial side of tie-ups David Craik analyses the strengths and weaknesses of the Global M2M Association and the M2M World Alliance as they look to deliver on their promises

34 Telcos get to the heart of the smart home Operators are uniquely positioned to rule the smart home, but certain west-coast firms have other ideas and will knock the telecoms industry off its stride if it is not immediately proactive and collaborative in its approach, reports James Blackman

38 Telcos can go shopping to win M2M business from the retail sector Figures suggest that smart gadgets will soon be flying onto the shelves of retailers. Nick Booth looks at how operators can profit from this emerging trend

Back page

40 Breaking down borders

european COMMUNICATIONS

How emotion can help operators succeed

As 2015 draws to a close, telcos exit the year as they entered it, with new business models on their mind and an array of tantalising technology that could help them achieve it.

The Internet of Things dominated January's CES, 2015's first showpiece event, and the sector had a tight grip on industry conversation in the months ahead.

Our Q4 special report examines just where the operators can make hay within the IoT and what they need to do to get there. According to our reader survey, what operators want is more money spent on research and development, as well as the capex required to build a business.

There's a confidence among the industry that operators will not be the dumb pipes powering the IoT. Instead they are looking at B2B offerings in energy and utilities, health and automotive.

However, the most commonly expressed challenge facing operators is a crucial one. Without a viable business model, they will struggle to get off the ground. More than half of operators are lacking a dedicated IoT unit. Four out of five of those operators say this should change.

We also speak to Per Simonsen, Telenor's Senior Vice President, Internet of Things, a refreshingly calm voice amid the feverish predictions and hype. He pleads for patience in letting operators find their space, "moving beyond being a pure tech provider and becoming a partner in a revised ecosystem".

The role of global M2M associations is also examined. Are these organisations pulling their weight and smoothing the way for operators to play a central role in the sector? We assess the landscape and whether they are moving fast enough.

Battlelines are being drawn in the smart home between operators keen to capitalise and the latest acronym to hit the telco industry, GAFA. That's Google, Apple, Facebook and Amazon. We look at the likes of Orange and Deutsche Telekom's attempts to own the sector.

Along with reports on operator security, the Ericsson/Cisco partnership and IoT's role within retail, there's an interview with Ariane Marchant, Proximus's Chief Marketing Officer and European Communications' CMO of the Year 2015.

The ex-Kraft and L'Oréal exec said operators need to move away from technology towards a more emotional approach. She also implored marketing teams to share brand KPIs with the whole company.

Could both pieces of advice help operators crack the IoT? 2016 may well reveal some answers.

Enjoy the issue.

Marc Smith, Editor

Editor
Marc Smith
marc.smith@eurocomms.com
T: +44 (0) 207 933 8979
Twitter: @eurocomms

Staff Writer
Owen Hughes
owenh@eurocomms.com
T: +44 (0)207 933 8979

Publisher
Justyn Gidley
Justyn.gidley@eurocomms.com
T: +44 (0) 207 933 8979

Sales Manager
Christine Felton
christine.felton@eurocomms.com
T: +44 (0) 207 933 8997

Publishing Director
Chris Cooke

Design
Alex Gold

Subscriptions/Circulation
SJP Business Media
PO Box 6009
Thatcham
Berkshire RG19 4TT
United Kingdom

T: +44 (0) 1635 879361
F: +44 (0) 1635 868594
E: europeancomms@circdata.com
W: eurocomms.com

SJP Business Media
(ISSN 1367 9996) All Rights Reserved.
No portion of this magazine may be reproduced without written consent.
The opinions expressed are not necessarily those of the publisher, who accepts no liability of any nature arising out of or in connection with the contents of this magazine.

European Communications is published quarterly by:
SJP Business Media,
52-54 Gracechurch Street
London, EC3V 0EH



Professionals based in the UK and Europe can apply for a free subscription to European Communications at www.eurocomms.com/register

Subscription prices:
UK £56
Overseas £74



Follow us on Twitter @eurocomms



Join us on LinkedIn



DELIVER INNOVATIVE DIGITAL SERVICES

- M2M Platform
- Data Analytics & Monetization
- Digital Services Platform



PROVIDE GREAT CUSTOMER EXPERIENCE

- CRM & SelfCare
- Service Assurance
- Customer Experience Management

OPTIMIZE ORDER-TO-CASH PROCESSES

- Product Catalog
- Service Fulfillment
- Convergent Billing



SUCCEED IN ANY BUSINESS MODEL

- Smart BSS
- B2B Solution
- MVNO / MVNE Solution

PAVE THE WAY FOR INTELLIGENT NETWORKS

- SDN / NFV Solution
- Self-Optimizing Networks
- Network Planning & Inventory



COMARCH BSS / OSS

FLEXIBILITY YOU NEED IN THE DIGITAL ERA

Since 1993 Comarch's mission has been to help communication service providers achieve high business profitability and enhance customer experience with end-to-end IT solutions and services. Thanks to numerous projects for the biggest telecom operators worldwide, we have gathered a lot of domain knowledge and expertise in the industry. This, among other factors, enabled us to successfully deliver various projects for multiple clients (including such renowned brands as Telefónica, T-Mobile, Vodafone, KPN, E-Plus, Orange) across the globe.

Get all the latest news about telecoms in Europe at www.eurocomms.com

Vodafone, AT&T, Verizon back Ericsson, Cisco partnership

Operators have voiced their support for a new tie-up announced by Ericsson and Cisco.



Unveiled: Organisational structure for the new Nokia

The new organisational structure of the combined Nokia-Alcatel-Lucent business has been unveiled, with the Finland-based vendor's executives heading up the majority of the leadership team.



European Parliament votes to end roaming charges, introduce net neutrality

Roaming charges will be abolished and net neutrality rules introduced in Europe after lawmakers voted through the proposals.



Telenor suspends CFO and three other executives as VimpelCom fallout continues

Telenor Group CFO Richard Olav has been suspended along with three other senior staff members as part of an ongoing probe into alleged corruption at VimpelCom.



Ofcom expresses "concern" at UK consolidation

Competition in the UK market could be damaged by the forthcoming wave of mergers, the Chief Executive of regulator Ofcom has claimed.

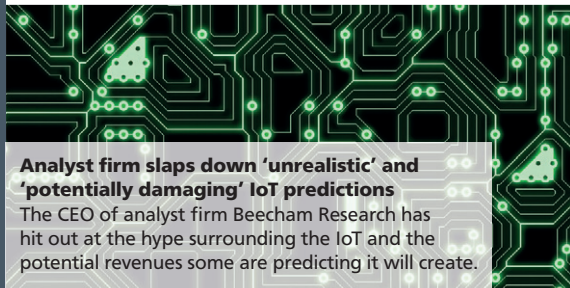
BT, Alcatel-Lucent announce 5GBps G.Fast trials

BT and Alcatel-Lucent have revealed that they have completed trials of a new form of G.Fast technology that can deliver speeds of more than 5GBps.



Analyst firm slaps down 'unrealistic' and 'potentially damaging' IoT predictions

The CEO of analyst firm Beecham Research has hit out at the hype surrounding the IoT and the potential revenues some are predicting it will create.



TalkTalk offers sweeteners for cyber attack that has cost £35m

TalkTalk is to offer a range of free incentives to customers in atonement for October's cyber attack as it unveiled its latest financial results.



Openreach CEO departs to head up UK bank

Openreach CEO Joe Garner has left the company to become the Chief Executive of British bank Nationwide.



Telefónica returns to growth in Spain after seven-year hiatus

Telefónica returned to quarterly growth in Spain for the first time in seven years as group sales and profits continued to rise in Q3.



Opinion

How operators can monetise the Internet of Things
By Patrice Slupowski, VP Digital Innovation at Orange



Q&A

Jan Geldmacher, Chief Executive of Vodafone Global Enterprise, discusses co-creation, new markets and partnering with Huawei



Feature

Orange Deputy CEO: Serving households, not individuals, is a necessity
The Deputy CEO of Orange said serving households, not individuals, was a necessity as the operator laid out plans to be the number one converged player in Europe.

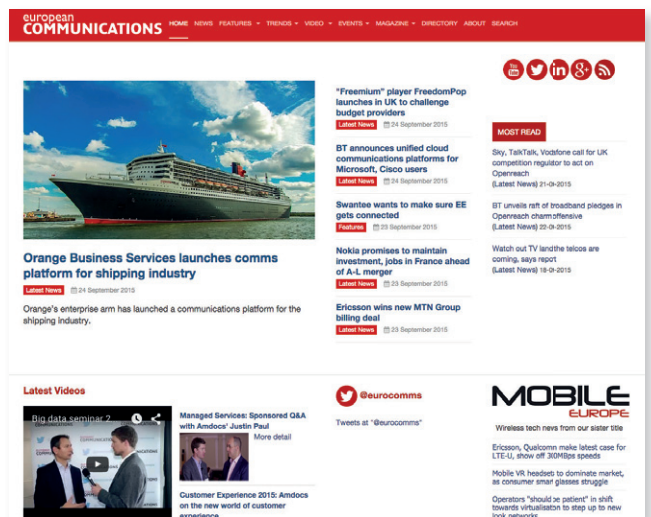
Discover the latest developments from Europe's telecoms space with our free daily newsletter

Register today for European Communications' daily e-newsletter and keep pace with the key events in the telecoms industry. Alongside all the latest news, you can read exclusive analysis, opinion features, Q&As with industry thought leaders and white papers to download.

www.eurocomms.com/newsletter

Key trends we cover include:

- Financial/M&A
- Regulation
- Back office/IT
- M2M
- Big Data
- Customer Experience
- Fibre Broadband
- Enterprise



@eurocomms



/eurocomms



European Communications

Global telco stocks take Q3 hammering

Share in telcos from China to Spain via the US took a battering in the third quarter as investors took flight

Asian woes prove contagious as US suffers tough quarter

The ill wind blowing across from the Chinese financial markets during the summer buffeted telco stocks as investors got fidgety with their holdings during the third quarter.

The Asia-Pac telco market slumped by more than 15 percent as investors got the jitters. China Mobile was one of the stocks that saw its share price yo-yo, ultimately closing down 8.5 percent to HK\$91.80. China Telecom's stock plummeted 17.3 percent during a torrid quarter with its stock sitting at HK\$3.73 at the end of September.

The malaise stretched to Japan, where NTT DOCOMO saw almost a fifth wiped off its value over the summer. It ended September with a share price of ¥1993.0, down 17.7 percent.

Across the Atlantic, AT&T and Verizon both hit quarterly lows on 25 August, as the Asian woes became contagious. AT&T (down 0.8 percent to \$32.58) fared better than rival Verizon, which saw its

share price drop 7.4 percent.

For Sprint and T-Mobile, both hit quarterly lows on 27 July. Sprint saw its share price fall to \$3.10, with analysts pointing to recent downgrades and a report blaming the operator for the hack of the Jeep's connected car, a claim Sprint denied. It closed the quarter down 15 percent at \$3.84.

T-Mobile shrugged off its quarterly low of \$36.50 to close the quarter up 3.1 percent at \$39.81. The operator came out swinging with an aggressive LTE campaign attacking Verizon and undercutting its rivals with a \$5 per month iPhone 6s promotion. Both actions helped it hit a high of \$43.03 in late September.

John Legere's noisy operator was the only one to exit Q3 in a better position than it entered it. Overall the market wasn't as badly hit by Asia but still declined 8.9 percent. A major worry for US operators was Apple offering consumers the chance to buy an iPhone directly, rather than through a telco.

Telefónica's growth forecasts not enough to stop share sell off

Shares in Telefónica were the biggest faller during the three months to September, slumping 12 percent.

Even the news that revenues for the 2015 financial year would grow 2.5 percent more than previously thought after a strong Q2 performance were not enough to stop the fall.

The Spain-based operator forecast revenue growth of 9.5 percent this year after sales increased by 12 percent and net profits grew by 70 percent in the three months to June. Sales in Spain grew for the first time in Q2, Telefónica reported, the first time since December 2009.

The positive announcement represented a high water mark in what was a busy period.

Analysts and investors fretted that Telefónica's proposed sale of its UK arm to Three would be threatened by the collapse of the merger in Denmark between Telenor and TeliaSonera.

The two operators said they had not been able to agree on "acceptable conditions" with the European Commission, under the auspices of new competition Commissioner Margrethe Vestager.

The tie-up of Three and O2 in the UK would create the country's largest wireless operator.

The third quarter began with Telefónica launching a new Pay-TV offering in Spain – after merging its Movistar TV business with the local subsidiary of French cableco Canal+ – and spending €600 million on exclusive rights to broadcast La Liga football matches.

It ended with the signing of a deal with China Unicom to share their data centre capabilities as part of a broader collaboration in cloud services.

In between, Telefónica enlisted Alcatel-Lucent, Huawei and Juniper Networks to help upgrade its network in Spain. France-based A-L has further been enlisted to upgrade the operator's global IP network.

Telefónica Executive Chairman César Alierta talked up "a new growth cycle... generated on a solid foundation supported as it is by strong realised investments."



The US telecoms sector fell 8.9 percent in Q3 according to data from the Dow Jones US Index



The Asia-Pac telecoms sector fell 15 percent in Q3 according to data from the FTSE Group Index



Europe sees Q3 telco stocks fall

Almost no European operator was immune from the global fall in telco share prices during the third quarter. Stocks in Telefónica were the hardest hit on our index, declining 12 percent during the period (see box out).

TeliaSonera and Telenor saw declines in excess of six and eight percent respectively. The Scandinavian operators had hoped to merge their businesses in Denmark, but could not agree on concessions with the European Commission. The deal collapsed in September.

In the resulting fallout, TeliaSonera announced plans to exit seven markets—Azerbaijan, Georgia, Kazakhstan, Moldova, Nepal, Tajikistan and Uzbekistan—in a bid to cut costs. Revenues from Eurasia account for around 20 percent of Telia-

Sonera’s total net sales, which rose 8.5 percent in Q2 thanks to positive currency movements.

Over in Norway, Telenor saw veteran CEO Jon Fredrik Baksaas hand over the reins to Sigve Brekke in August.

Elsewhere, Vodafone ended talks with Liberty Global over a potential exchange of assets in September. The UK-based telco—which also expanded its nascent fixed broadband offering in its home market—saw its share price fall over eight percent.

Deutsche Telekom was the only operator to see its stock rise—the Germany-based company’s share rose a modest 0.6 percent in Q3. CEO Tim Höttges said the operator is not planning for any major acquisitions in Europe as he revealed second quarter financials. Revenues rose by

15.3 percent in the three months to June, while EBITDA increased 13.5 percent.

BT, Swisscom and Telecom Italia saw their share prices fall between five and seven percent, while declines at Orange, KPN and Proximus were between 0.9 and three percent.

Telecom Italia was one of the most talked about telcos in the quarter after French media company Vivendi became its majority shareholder at the end of June. Shortly after, the operator announced that the number of proposed job cuts would almost double to 3,000 as it looks to cut costs.

The news came as the Italian market is set to get a good deal more competitive; Three Italia and Wind announced plans to merge in August.

10.7% Europe

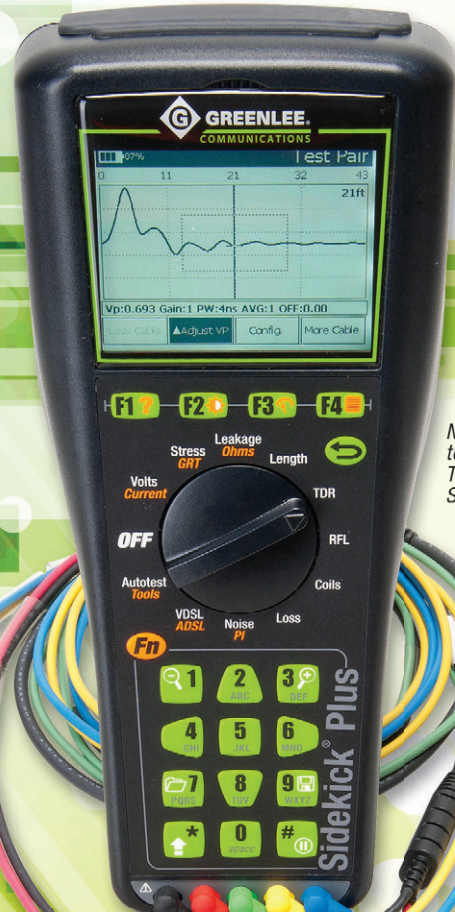
The European telecoms sector fell 10.7 percent in Q3 according to data from the FTSE Group*

* Our index is made up of the following EU telcos: Altice, Proximus, BT Group, Deutsche Telekom, Orange, Swisscom, Tele2, Telecom Italia, Telefonica, Telenor, Teliasonera and Vodafone Group.

Fast. Accurate. Reliable.™



Sidekick® Plus THE ADVANCED xDSL TESTING SOLUTION



The Sidekick® Plus, the multi-function test set with superior test speed, simplicity of test set up and longer battery life is ideal for the demands placed on today's telecom engineer. It is now available with xDSL service testing with vectoring, Step TDR, and Wideband Spectrum Analysis, all of which are in addition to the comprehensive test suite you would expect from a Sidekick – Stress Test, Volt-ohm meter (VOM), Loop Current, Longitudinal Balance, Transmission and Noise Tests, Open Meter, Load Coil Detection, Ground Resistance Test, Resistive Fault Location (RFL) and Time Domain Reflectometer (TDR).

Superior Test speed and simplicity of selection

Now with xDSL testing services, Step TDR, and Wideband Spectrum Analysis

Longer-lasting Li-ion Rechargeable batteries for superior performance



Scan this code to learn more about the Sidekick® Plus.



1.800.642.2155 / www.greenlee.com

Telco hacks leave operators in need of risk assessment

Owen Hughes assesses whether operators are placing security high enough on their to-do lists

The recent security breaches at TalkTalk and Vodafone in the UK have served as a harsh reminder that, as network technology advances, so does the sophistication of cyber attacks.

The attack on TalkTalk in October, which saw some 157,000 customers have their personal details accessed by hackers, was one of the most high-profile breaches of an EU telco in recent memory. A total of 15,656 bank account numbers and sort codes were accessed in what the MVNO labelled a “significant and sustained” attack on its core systems, in addition to 28,000 obscured credit and debit card numbers.

Naturally, TalkTalk received fierce criticism following the attacks, which was the third security breach to affect the company over the past 12 months. It also calls back into question the amount of trust customers can place in their service providers, which comparably hold more sensitive information on them than most other companies.

With telcos continuously insisting that security plays a key role in their approach to business, it’s hardly surprising that these claims have since been brought under scrutiny.

“People are not spending enough time securing their networks,” says Laura DiDio, Director in Enterprise Research at Strategy Analytics. “For mobile operators, particularly if you’re looking at 4G LTE, a lot of them think that now they’ve got these more advanced networks, they’re intrinsically more secure. But 4G has known security vulnerabilities. There are some long-standing, IT-based security weaknesses.”

Recent studies suggest that DiDio’s claims ring true.

A study by Deutsche Telekom this year, put out to 532 senior business managers and 113 lawmakers in Germany, found that only 12 percent believed hackers could inflict serious damage on their



organisations. This came despite the same survey revealing that nine out of 10 companies reported being targeted several times a week, or even daily.

With more potential entry points for hackers to exploit, telcos are particularly vulnerable to attacks, DiDio explains.

“If you’re a mobile network operator, you’ve got to look at every device at every level at every point on the network. You have to look at the numerous variants of cyber-attack. That’s what hackers do all day - that’s their job. They’re perfecting their trade.

“The hackers are becoming much more proficient and the hacks themselves are becoming more pervasive.”

A factor that stands out in the cases of Vodafone UK and TalkTalk is the tender ages of those allegedly involved – as young as 15 years old in the case of the latter.

In lieu of an official account from TalkTalk, Jan Kok, Security Technology Officer & Head of Nokia Security Centre, offers his own hypothesis on how the hackers may have gained access.

“They’re youngsters. This points to the fact that they probably used a software development kit tool,” he says. “It’s not clear what exactly happened over there, but my guess is that it was a standard vulnerability which was not taken care of,

which you can buy a tool to exploit.”

Like many, Kok finds it difficult to fathom how such incidents can occur despite the rigorous security measures telcos claim to have in place.

“It’s really hard to understand why things like [the attacks on] TalkTalk are happening. These are operators; we see much more professional ways of handling things.”

Vodafone UK is another telco to have found itself in rough waters recently.

In November, criminals acquired email addresses and passwords from a source outside of Vodafone that led to 1,827 customers having their accounts accessed.

Nevertheless, a spokesperson was keen to stress that unlike TalkTalk, Vodafone’s database was not hacked.

“Vodafone UK’s security systems were not compromised, breached or ‘hacked’ in the incident last month,” they told European Communications. “Criminals used generic usernames and passwords gained from a source outside Vodafone to get access to a limited amount of information for a very small number of customers. The information could not be used to access customers’ bank accounts directly.

“When these incidents happen, our priority is to contact customers quickly and shut down any potential for fraud.”



radisys.

**ACCELERATING
COMMUNICATION
SERVICES**

Radisys develops high-performance software and integrated systems for the communications industry. Network equipment and communication service providers around the globe trust Radisys to deliver critical products and technologies that help modernize their voice and data networks while accelerating the introduction of innovative new services and revenue streams.



CellEngine™ small cell protocol software and professional services for 4G/LTE and 3G/HSPA+



FlowEngine™ intelligent traffic distribution systems for SDN and NFV



MediaEngine™ media processing and transcoding for VoLTE, VoWiFi and WebRTC

**We can accelerate your communication services.
Give us a call or go to www.radisys.com to find out how.**



BARCELONA 22-25 FEB 2016

VISIT US @ MWC | HALL 5, STAND #5161

The cumbersome process for verifying malware and other security threats on the network further compounds problems for telcos.

Says Kok: "If someone is infected they have to wait three to four weeks for their bill, then identify the bad item on the bill. They then have to complain to the service desk, and this is a painful process for most subscribers because the first question they get is, 'Are you sure? Are you sure it wasn't your kid, your partner?'"

"It takes a while until the operator recognises that it isn't just one incident, it's one, it's ten, it's thousands, and says, 'There must be something wrong, we'd better ask someone to have a look at it.'"

Operators have been hesitant to discuss their security strategies in the wake of the cyber attacks in the UK - a number of European operators declined to comment when approached by European Communications in the writing of this article.

It's understandable that telcos are cagey at a time like this, as many of them are likely scrambling to revise their own protective measures to ensure they don't fall foul of similar attacks.

Says DiDio: "Security is on everybody's radar. What we've seen is that [MNOs] are paying attention and they are strengthening their internal security in terms of updating the virus protection, malware protection, strengthening the perimeter, the authentication...doing everything you'd expect them to do."

Nevertheless, the fact that operators have refused to open up since the attacks on TalkTalk and Vodafone simply kindles further uncertainty regarding how secure they really are and the peace of mind customers can expect.

DiDio continues: "You've got to really look at the fine print in the licensing contract - what happens in the event that there's a security breach? What are companies guaranteeing; what does the contract say? Is there a guaranteed response time?"

"A lot of these contracts are very nebulous and the language is so non-specific as to be unenforceable - it will say things like, 'we only have to use best efforts to perform remediation.'"

Conversely, TalkTalk has since been vocal in its commitment to preventing further breaches.

A spokesperson from the company told European Communications: "We take the security of our customers' data very seriously and we are doing everything in our power to ensure this kind of attack - or one like it - does not happen again."

"That's why as well as investing more time and resource in security, we are

“ If you're a mobile network operator, you've got to look at every device at every level at every point on the network ”

also committed to keeping our customers up-to-date with the best information and advice on how they can stay safe, as well as working together with Government, other businesses and industry, security organisations to tackle this growing threat."

Vodafone's spokesperson offered similar assurances, although pointed out that "no business is immune".

"Vodafone's security operation is 24/7 and is designed to efficiently and effectively prevent, detect and respond to attacks. We employ a team of experts who continually monitor and assess the integrity of our network and IT infrastructure," he said.

"We continuously invest in our layered security defences and strengthen our systems as new threats emerge."

Yet this may not be enough, suggests Nokia's Kok.

With the telecoms industry teetering on the age of virtualisation, 5G and the Internet of Things, Kok says operators need to revise their approach to security on even the most fundamental, day-to-day basis, in addition to addressing the threat towards subscribers "in a proactive way".

He explains: "Half of the cyber threat activities are coming from inside of the companies. Employees are the most important threats from the inside, and as such clicking on everything, leaving their password underneath the keyboard or passing it over to a colleague is not the way things should be done."


Meanwhile, having systems in place to log and trace internal activities can also help lower the number of threat vectors, says Kok.

"To protect your own infrastructure against DDoS, password misuse etc, there needs to be dedicated means in place like password management systems, single sign-on and entry into the system which cannot be passed over onto someone else.

"This is a very good measure for internal improvement of security, next to taking care of your interfaces, having your firewalls up-to-date and checking for loopholes in configurations."

Strategy Analytics' DiDio agrees. "You've got to look at every stage and every level in the network. It comes down to who should have access to what," she says.

Despite it being a turbulent time for operators, if anything they will come away with some key lessons that will, presumably, serve to make the telco landscape all the more secure in future.

"I would really say that operators have something to gain here," says Kok. "Instead of just fighting strategies to address a market like higher speed, best coverage and so on, I think to have security also provided is a very good chance for operators to differentiate." 

Industry remains cautious about Ericsson, Cisco “pseudo-merger”

The surprise announcement that Ericsson and Cisco have formed a strategic alliance is one of the industry’s major talking points. David Craik analyses what it all means

Ericsson was happy, Cisco was happy but the rest of the industry has more questions than answers. It was early November when the two vendors announced a “global business and technology partnership to create the networks of the future”.

The aim was to combine the “scale and innovation” of both firms to meet the growing global demand for digitisation and the IoT. They said customers, including operators, would benefit from the best of both companies namely routing, data centre, networking, cloud, mobility, management and control and global services capabilities. The partnership would offer end-to-end leadership across network architecture including 5G, cloud, IP and the IoT, from devices and sensors to access and core networks to the enterprise IT cloud. In addition, a joint initiative focused on SDN/NFV and network management and control would be launched.

The partnership, bringing together over 56,000 patents and \$11 billion of research would likely ramp up \$1 billion in incremental revenues for each company by 2018.

Hans Vestberg, President and CEO of Ericsson, said at the time: “Initially the partnership will focus on service providers, then on opportunities for the enterprise segment and accelerating the scale and adoption of IoT services across industries. For Ericsson, this partnership... is a key move forward in our own transformation.”

His counterpart at Cisco, Chuck Robbins, added: “With the pace the market is moving, the successful companies will be those who build the right strategic partnerships to accelerate innovation, growth, and customer value.”

However, given the lack of investment or product news much of the focus after the announcement was on why the two

groups had chosen a partnership rather than a merger.

The sector has seen plenty of those recently, including Dell and EMC, and the upcoming Nokia/Alcatel-Lucent deals – so why hadn’t Ericsson and Cisco followed suit?

Vestberg said a merger was “never on the table”. He told Bloomberg: “I don’t believe in big mergers – this is by far the best solution you can get. This is much faster and more efficient.”

Rima Qureshi, SVP & Chief Strategic officer at Ericsson, tells European Communications: “We have been in discussions for over a year. We have the same vision of helping operators with the challenges they face over OTT. We are a stable combination. We didn’t want a convoluted merger. We are ready to go.”

On the lack of concrete product announcements, she responds: “We have identified the need to look at virtualisation and with our combined capabilities we can tailor the best and faster solutions for operators perhaps unsure about the right architecture. We also see lots of opportunities in enterprises and IoT.” Further announcements were likely in the coming months, she adds.

So what does the telco industry think about the deal? What are the implications for Ericsson and operators? Will it succeed in its aims?

The press release announcing the tie-up included quotes from Vodafone – which said the partnership would “accelerate the pace of innovation” – and AT&T – which declared that it reinforced the “importance of seamlessly integrating IP and wireless solutions”.

No shows

But when European Communications asked others to comment on the deal none came forward. Analysts and consultants were more willing to talk. Matt

Hatton, CEO of Machina Research, says: “It’s a gap filling exercise by both players. They don’t have so much of an overlap in terms of offering but this is all being done with an eye on the future. The logic of IP dictates that ultimately hardware and software are separated, as illustrated by the trend for virtualisation. There’s only so much tin you can sell.

“It also positions both companies to be more focused on enterprise, rather than telco, and professional services. Ericsson has always been more focused on professional services than Cisco, while the latter has a much stronger position with enterprises.”

Adrian Baschnonga, Lead Analyst at EY’s Global Telecommunications Centre is more optimistic. “The strategic alliance reflects a shared ambition to improve end-to-end capabilities and extend addressable markets, vital at a time when competition is rising in the networking market and scale considerations become mission critical,” he says. “Cisco and Ericsson’s complementary capabilities in enterprise and mobile infrastructure augur well, while the choice of partnership as opposed to merger allows for greater speed to market with new offerings while at the same time avoiding regulatory risks.”

According to Baschnonga, operators will benefit from accelerated development of new solutions in SDN and NFV. “These are technologies that will act as key enablers as they look to open up new revenue streams while managing their investments more effectively,” he explains. “While more detail on joint product development is yet to come, the partnership underlines the importance of combined IP and wireless capabilities at a time when IoT and ultra-fast networks are still in an early growth phase.”

Frost & Sullivan Analyst Sheridan Nye picks up the point about what the

alliance means for telcos. “Overall it’s positive to have Ericsson and Cisco as a united advocate for smart, converged networks. Telcos need to retain their influence over the development of 5G and virtualisation. To avoid being relegated as dumb pipes, telcos need end-to-end control over service provisioning and quality. So the promised acceleration of converged mobile and fixed IP technologies is a valuable outcome of this partnership,” she says.

“Although this ‘pseudo merger’ reduces competition and could be seen as weakening the buyer’s power, ongoing price pressure from the likes of Huawei tends to counteract this impact. Nonetheless the potential for vendor lock-in could make some telcos uncomfortable.”

Nye isn’t too concerned about the lack of new product announcements at this stage. “The partners did well to keep their discussions quiet for over a year. Training up their respective sales forces for cross selling without tipping off the industry is an achievement in itself,” she remarks. “For now, the partners have signalled their priority areas – broadly to integrate across fixed and mobile solutions and build a common network management system. Further details will surely follow once product development teams have had time to work together.”

More emphasis should be given to the enterprise market and IoT when those new services are being developed, Nye believes. “Although the partners describe it as the ‘second phase’, the enterprise market and IoT is where the longer-term growth lies. Dismissive comments from Orange Business Services recently suggest as much,” she says. “For Ericsson as for Huawei, Nokia, HP and the rest, it is awkward on the one hand to enable telcos to succeed enterprise verticals while simultaneously addressing these markets directly. Yet that is necessary to ensure

they capitalise on growth opportunities.”

Ovum Analyst Camille Mendler also stresses that the partnership shouldn’t ignore the enterprise opportunity. “Admittedly individual contract values are smaller but unlike service providers client numbers continue to grow. Neither of Ericsson and Cisco’s major telco-focused competitors can claim strong or differentiated positions in the global enterprise market. That said the allies can’t ignore the new dual persona HP, VMware or Oracle, among others,” she says.

Let’s rewind and look at Nye’s phrase ‘pseudo-merger’. Nye is taking the partners on face value that a merger was never a consideration but she has some concerns about the strength of their alliance. “US-European regulatory processes could be time-consuming if it was a merger. Meanwhile, IoT, 5G and digital transformation in multiple sectors are all about to take off. That is not a good time to be hunkered down with lawyers sorting out the compliance issues and pushing through organisational change,” she says.

“Nonetheless, this is a risky approach in that customers, the supply chain and distribution channels all have to believe in the partnerships’ commitment. Strategic alliances can vanish in the mist. In this case, the goals are longer term but there’s not really a precedent for this approach, as the CEOs acknowledge. The elephant in the room is the power relationship that lies behind this partnership. Is Cisco in the driving seat, given its greater revenues and market cap? Or can two market-leading companies be equal partners in the long term for mutual benefit?”

Another key measure of success, Nye adds, will be how well both partners manage the transition from declining hardware legacy to ‘digital age’, software-driven products and services. “This requires careful choreography

across their portfolios to grow the overall addressable market.


“In choosing this path, both companies must believe they have more control of their destinies by working together rather than in competition. The risk is that there are a lot of moving parts to be aligned and crucially customers and shareholders have to share that view.”

It helps if the initial aims, in particular its revenue forecasts, are “modest”, which is Mendler’s view. Her main concern is whether a primary message of a one-stop-shop offering “quality and convenience is enough to woo a customer base itself under heavy attack”.

She says: “Ericsson’s customer base is shrinking and although hyped, 5G is still some way off. On virtualisation they hope to have a winning proposition, however virtualisation will shift rather than grow expenditure. Telco NFV spend is likely to be a very small percentage of capex.”

Indeed, Mendler says the success of the partnership won’t just rely on having the best technology or operational processes. Like many things in life it will come down to cold, hard cash.

“Vendor financing options such as managed capacity, deferred capex schemes or simply low equipment costs are highly attractive to customers,” she says. “Also, the willingness to share risk and reward particularly for cloud and IoT is influencing some deals and changing long-held telco-vendor relationships. The two allies must make clear position statements here to avoid losing ground. More needs to be said to sustain attention in a jaded and stressed market.”

Telcos will be cautious about this partnership. The opportunities and potential benefits are clear but until the alliance starts producing more meat on the bone with regard to products it will be hard to judge how transformational this tie-up could be. 

Q&A: Comarch offers innovation in a digital world

Marcin Dąbrowski, Head of Telecommunications Business Unit at Comarch, talks about the challenges CSPs will face in 2016 and how technology can solve them

As the new VP of the Telecommunications division at Comarch, can you share how the company's strategy has evolved within the last 12 months?

Marcin Dąbrowski: "It is safe to say that year 2015 was a major breakthrough in Comarch's history. First of all the decision was made to expand our geographical presence. We have opened up new branches in strategically important countries such as Austria, Brazil, Chile, Italy, Malaysia, Spain and Turkey. We are recruiting sales and pre-sales staff locally to be as close to our customers as possible, both in terms of the location and the language. We also expanded our headcount in existing offices – Dubai, London and also in the headquarters.

"Operators want their vendors to have an office locally, to speak their language, to understand their business environment. Our new strategy makes it possible for us to fully comply with those requirements. This also influenced our marketing – websites were launched in Spanish, Portuguese, Turkish and Italian. We also organize many events in the form of a workshop for telecoms from a given country. All these initiatives also contribute to our growing business on those markets."

Competing globally means that as a software vendor, you have to offer something unique to CSPs. How does Comarch differentiate from competitors?

"What we often emphasise is our flexibility – this has been recognized by our customers and by industry analysts as one of our

main differentiators. What we have in mind when we say flexibility is not only adjusting to our customer business needs, but also the configurability of our products.

"Our complete BSS / OSS solution portfolio has been fully designed and developed by us, unlike those offered by many of our competitors. This provides additional flexibility and agility in complex projects. The value of pre-integrated products, built in-house, implemented in the same R&D environment, using similar concepts and a similar technology stack, has already been proven in multiple successful projects. This has always been and still is a very strong Comarch differentiator."

““ There will be big demand for solutions that integrate service and customer data between BSS and OSS ””

Comarch has a very strong portfolio of traditional BSS / OSS solutions. Do you see operators still investing in these kinds of systems?

"We always emphasise investing in traditional BSS / OSS systems (e.g. billing, product catalogue, inventory management or service fulfilment) is a key driver for successful transformation programs. Without a strong foundation in the form of a future-proof BSS and OSS architecture, it is impossible to launch digital ser-

vices. In fact, all the solutions Comarch proposes within the innovative areas of SDN / NFV or M2M / IoT are built around core BSS / OSS components."

What are the main business areas that receive interest from CSPs around the world? What do operators invest in?

"Definitely everything related to modernising telecom networks – we have numerous discussions with telecoms about how to approach SDN and NFV, as well as self-organising networks.

"In Europe one of the biggest challenges is found in the frequency renewal auctions, which lead to significant investments. We can still expect some mergers between big mobile operators, like the ones already ongoing in UK or Austria. This created high demand for network planning and inventory solutions.

"We also observe increased interest in the areas of data analytics and customer experience management. Customer experience and service assurance have been on CSPs' agendas for a while now and are still going strong. This is especially true for South American CSPs, but it is visible also in Europe.

"In terms of BSS, we see operators embarking onto big transformation projects, focused either on enabling and automating the delivery of innovative services, such as M2M or IoT, or on an important customer segment, such as B2B. But I would say M2M and IoT are definitely number one on the list, when it comes to the most promising areas in BSS."

Does that mean these are the areas Comarch will invest in in 2016?

"Our biggest investment areas in terms of R&D will definitely be centred around SDN / NFV, M2M and IoT, as well as customer experience management and data analytics. This is the result of the market changes that we are observing, this is where we see the future of our business and ultimately, this is what our customers are interested in.

"Transforming to a service provider of everything, or a "digital telco" as some call it, will be our main focus in 2016. We

want to help operators in this important transformation, using the experiences we have gathered in projects for big brands, such as Deutsche Telekom, Telefónica, Vodafone, Telekom Austria or KPN.”

Many operators are at the beginning of their way towards virtualised networks. What kind of approach to SDN/NFV does Comarch promote?

“Comarch sees NFV/SDN not just as a new technology, but rather as a trigger for OSS transformation. What we emphasise is network elements can become much more – they can play the role of micro data centres, capable of hosting not only virtual network functions but also customer applications.

“We promote applying an “umbrella” OSS solution, able to manage hybrid networks, instead of having separate systems for traditional and virtualised networks. Comarch network and service inventory, for example, enables CSPs to model both traditional network elements and the virtualised ones, as well as services based on both kinds of networks in a single solution. This way there is no need for additional tools to manage the virtualised network – and it enables telecoms to optimize their OSS investments.

“And we are developing all the other components of OSS – assurance and fulfilment – to support the new kinds of services, based on virtualised networks, together with the ones based on traditional technologies.”

What about M2M? What developments has Comarch planned for the next 12 months?

“We look beyond what’s going on in the M2M and IoT space right now. We are preparing for truly intelligent solutions that, based on a behavioural analysis, can develop certain behaviour patterns and make intelligent decisions about the correct action to take. Good decisions cannot be based on one case, this is why the devices should be able to access a cloud, where they will be able to find similar cases. It is called predictive maintenance and relates to almost any device that is more

Marcin Dąbrowski, VP Telecommunications, Comarch



complicated than a lightbulb.

“Comarch focuses on building end-to-end solutions for telecoms and their business partners. We are currently working on application enablement platforms, billing of applications, billing on-behalf, holistic QoS management. The goal is to present our existing and potential customers with the exact kind of solution that they need, in order to find their place on the huge M2M / IoT market and do their business efficiently, no matter where they see that place and what that business might be.”

Let’s try to predict the future just a little. What challenges do you think operators will face in both BSS and OSS in 2016?

“Operators have been struggling for a while with increasing network investments to support better quality of service and comply with the new technology developments. Return on those investments has so far not been able to fully compensate for the cost of network developments.

“At the same time, revenues from traditional telco services are decreasing, as over-the-top companies and other new competitors are increasing their share of the communications services market revenue pie. And regulators require telecoms to keep the costs of their services in check. This means the need to optimise network costs and to generate revenues from new sources.

“We help operators avoid high costs of

introducing new network technologies, such as SDN/NFV, as well as to optimise the investment in network mergers. Both can be efficiently tackled with an “umbrella” OSS solution.

“In terms of finding new sources of revenue, operators will face the transition from a CSP model to being an ASP, an any-service provider. We have already seen numerous examples of this on the market, such as telecoms selling banking or insurance services. Telecoms will also search for revenues in other industry verticals. Many new services will therefore be added to the existing portfolios of CSPs. The challenge for BSS systems will be to support all those new kinds of service packages – this is related to all the core BSS tools, such as product catalogue, CRM and billing.

“Together with the new services comes the challenge of personalising service packages to reflect the needs of each customer. In order to introduce this change, telecoms will need comprehensive customer data that is currently scattered in many BSS and OSS systems. This is why there will be big demand for solutions that integrate service and customer data between BSS and OSS and let operators see complete customer information in one tool. This is why we are currently developing our comprehensive data analytics and customer experience management solution – to help CSPs in achieving that goal.”

www.comarch.com



THE NEW WORLD OF CUSTOMER EXPERIENCE™

EXCITING / INTELLIGENT / DYNAMIC QoE / ACCELERATE BUSINESS VALUE

In today's era of rising customer expectations, rapid technology advancements, intensified competition and service provider consolidation, operators need to deliver a multidimensional customer experience in order to succeed.

This experience should be exciting, intelligent, shaped by a dynamic quality of experience and underpinned by a determination to accelerate business value.

With Amdocs, you can differentiate and achieve competitive advantage by:

- Inspiring your customers with innovative services in the hyper-connected world
- Personalizing and contextualizing every customer interaction
- Shaping quality of experience with solutions for software-powered networks™
- Speeding time to market, optimizing business processes and reducing costs

Learn more at: www.amdocs.com

amdocs

embrace challenge eXperience success®

CMO of the Year 2015 And the winner is...

Turn over to see who was crowned 2015 CMO of the Year,
plus see highlights from the awards dinner



sponsored by



amdocs

embrace challenge eXperience success

CMO of the Year calls for more emotion, need to share brand ownership

Proximus' Ariane Marchant discusses her award win and offers some advice to her peers

Ariane Marchant, Chief Marketing Officer at Proximus, was crowned European Communications CMO of the Year for 2015 at a gala dinner in October.

Marchant was chosen by an independent panel of judges, which included the 2014 winner, Telenor Denmark's Lars Thomsen. All the judges – executives from Amdocs, AsialInfo, Brand Finance, Fujitsu and KPMG – were impressed by the completeness of Marchant's achievements during the past 12 months.

Speaking at the dinner, the former Kraft Foods and L'Oréal executive said: "I'm so happy, what can I say?! It's a big reward to be recognised by your peers... I'm very satisfied."

European Communications launched the second annual award in June. Nominations were gathered during the summer, before the judging panel convened in September to draw up a shortlist and decide on a winner. The nominations

were judged against five criteria: brand, customer experience, customer retention/growth, new products/services and contribution to the top and bottom line.

A notable success for Marchant was the re-branding of the Belgium-based operator from Belgacom to Proximus. The company unveiled the new brand in October 2014, nine months after beginning the project and with a budget of just €20 million. Marchant led the rebrand and created roadshows to gain the support of employees during this critical period.

"It was a long journey and we had several challenges," Marchant explains. "The first was to take this mobile brand and turn it into the new company brand. We used an external branding agency to make a neutral recommendation and to help make the smaller [Proximus] brand the hero.

"Belgacom was the main brand, the mother brand, and the employees were sure it was going to be the new main brand.

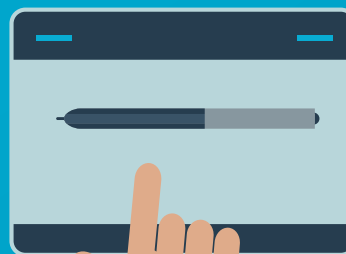
"But the agency found that Proximus really meant something – literally, it

means closest to you. But we were careful to not to make a big change to the design... we took several aspects of the Belgacom brand as it has heritage."

When it came to improving the customer experience, the CMO championed the launch of a digital app for customers to manage their subscriptions and made the technical assistance hotline for Proximus into a seven-day service that stayed open until midnight.

Over half a million subscribers were proactively contacted to review their subscription, which led to a three percent reduction in blended mobile churn and a 2.4 percent increase in the number of households subscribing to two or more services.

Marchant explains: "In the telecoms industry, we have [access to] huge masses of data. At Proximus we are rather good with big data, I think. One thing we're doing better is qualitative analysis as well as quantitative. For instance, we know what customers are watching, what type of device they have.



“With predictive modeling, we don’t offer them a standard retention offer, we ask them how they feel, are they satisfied... you start to offer solutions that are human, individual and take care of the people at that moment instead of just calling them from a list.”

When it comes to new products and services Proximus, in common with other European operators, struck a deal with Netflix to enable it offer the SVoD service to its subscribers. Marchant says she worked “in close collaboration” with the product team to bring Netflix onboard.

“Our role as a brand is to let people get close to what matters to them... that’s how we get inspired,” says Marchant. “We want them to be close to their friends, family and favourite programmes. We want to them to be close to everything that matters to them at any particular moment through our portfolio of products and services.”

Among other initiatives, such as another partnership with Eleven Sports, this strategy contributed towards pushing fixed revenues up 2.5 percent in 2014. All told, Proximus Group upped its guidance for underlying revenues to two percent and EBITDA to between 3-5 percent for 2015 as a whole.

Marchant says: “[Top and bottom line KPIs] are very important. The first thing I need to do is design initiatives and orchestrate them within the business unit. We have a central role to materialise them... it is crucial, it is why we are there.”

As is becoming tradition, the CMO of the Year was asked to offer some advice to her peers. “I have two,” Marchant responds. “More than other brands, in telecoms you need to have more emotion. You cannot touch, smell or feel a telco... you have to dare to go to the emotional side and away from the technical side.”

“Second, you should share brand ownership. The brand doesn’t belong to marketing – it belongs to consumers. There are a lot of people on the frontline of your organisation and they are the brand to consumers. If you can share the brand KPIs with the whole company you



Proximus' Ariane Marchant
and European Communications
Editor Marc Smith

can really bring the brand alive within your organisation and transform it into a customer centric one.”

Looking forward, Marchant and the rest of Proximus looks set to have a new battle to fight in 2016.

Liberty Global has agreed to acquire KPN's Base opco, although the European Commission opened an in-depth investigation into the deal in October.

Brussels said it had concerns that the transaction could lead to higher prices, less choice and less innovative services for customers in the Belgian telecoms market.

It will make a final decision in February.

Watch videos

You can watch a Q&A with Ariane Marchant on www.youtube.com/eurocomms, where you will also find the following videos:

- Q&A with Telekom Romania CCO Mathias Hanel, who was shortlisted for the CMO of the Year award
 - The judging panel discussing the criteria against which the nominees were evaluated
 - The four nominees who made this year's shortlist
 - Plus a highlights reel of the awards dinner.
- The European Communications CMO of the Year award 2015 was kindly supported by Amdocs and AsialInfo.

CMO of the Year 2015

Senior executives from across the industry came to London last month to celebrate Proximus' Chief Marketing Officer Ariane Marchant winning CMO of the Year 2015. Marchant was hailed for her well rounded achievements and her successful rebrand of the Belgian operator.





To register for your free subscription
visit www.eurocomms.com/register

European COMMUNICATIONS

**Have you seen European Communications?
Register now for your free subscription**

**European Communications covers the latest developments
in four areas of the telecoms ecosystem:**

- Operator strategy
- Back office
- Network
- Content and services

**Your free subscription to European
Communications includes access to:**

- News stories
- Latest financial data
- Exclusive interviews with c-suite executives
of Europe's largest operators
- In-depth special reports, such as
Monetising Content, Big Data, Customer
Experience and Managed Services
- Invitations to free seminars and
topical webinars
- And much more...

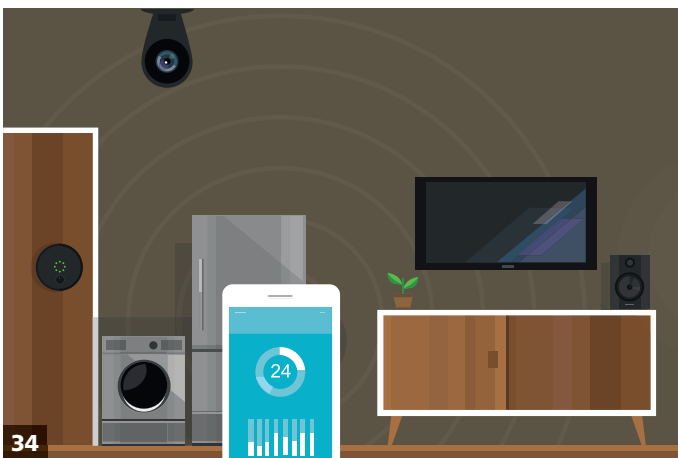
**Get your free subscription at
www.eurocomms.com/register or scan**



Register now for your **FREE SUBSCRIPTION** to European Communications
Essential information for the telecoms sector

Special report

M2M/IOT



Contents

20 Survey: Operators want more R&D, capex dedicated to their IoT adventure

30 Telenor's IoT journey gets off to a very cagey start Per Simonsen, Telenor's Senior Vice-President, Internet of Things, discusses the operator's strategy with Marc Smith

32 Global M2M groups urged to focus on commercial side of tie-ups David Craik analyses the strengths and weaknesses of the Global M2M Association and the M2M World Alliance as they look to deliver on their promises

34 Telcos get to the heart of the smart home Operators are uniquely positioned to rule the smart home, but certain west-coast firms have other ideas and will knock the telecoms industry off its stride if it is not immediately proactive and collaborative in its approach, reports James Blackman

38 Telcos can go shopping to win M2M business from the retail sector Figures suggest that smart gadgets will soon be flying onto the shelves of retailers. Nick Booth looks at how operators can profit from this emerging trend

Q4 survey: Operators want more R&D, capex dedicated to their IoT adventure

European Communications' latest quarterly survey sees the industry optimistic about the IoT but wary of the substantial challenges they must overcome

The telecoms industry is clear on the role that operators should play in the IoT (Fig.1). Over two-thirds of respondents said they had clarity on this question, with a further 77 percent convinced that operators can provide the IoT with more than just connectivity services (Fig.2).

But a deep dive into the responses shows a wide variety of opinions.

"Connectivity, devices, managed services, bundled propositions with their existing offers," said one respondent. "Robust and reliable networks, with eventually a common billing platform for all IoT services," said another.

One respondent said connectivity should be offered "as a primary service" but urged operators to "go up the value chain and provide ways to build applications".

Fig.1 Are you clear on the role that operators should play in the IoT?

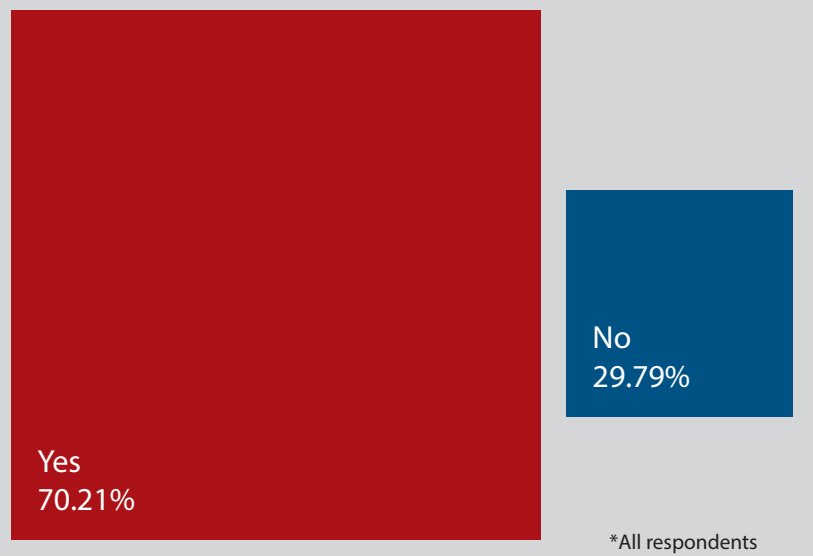


Fig.2 Are you convinced that operators can provide the IoT with more than just connectivity services?

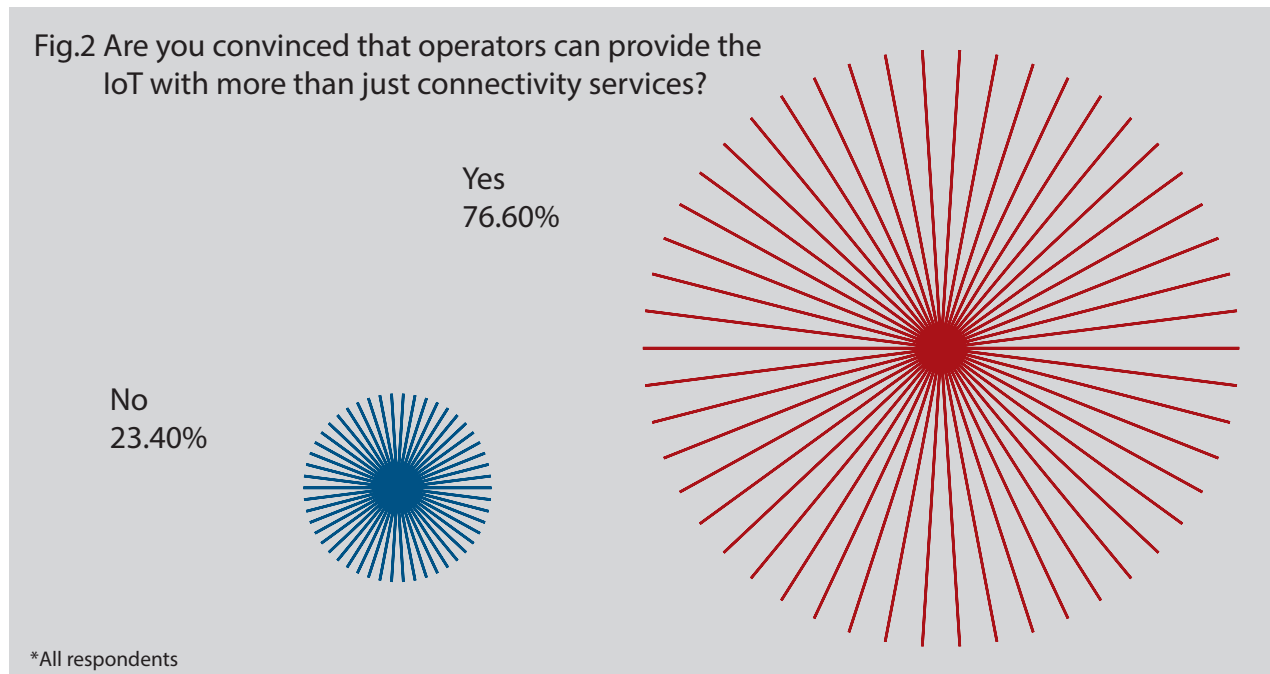
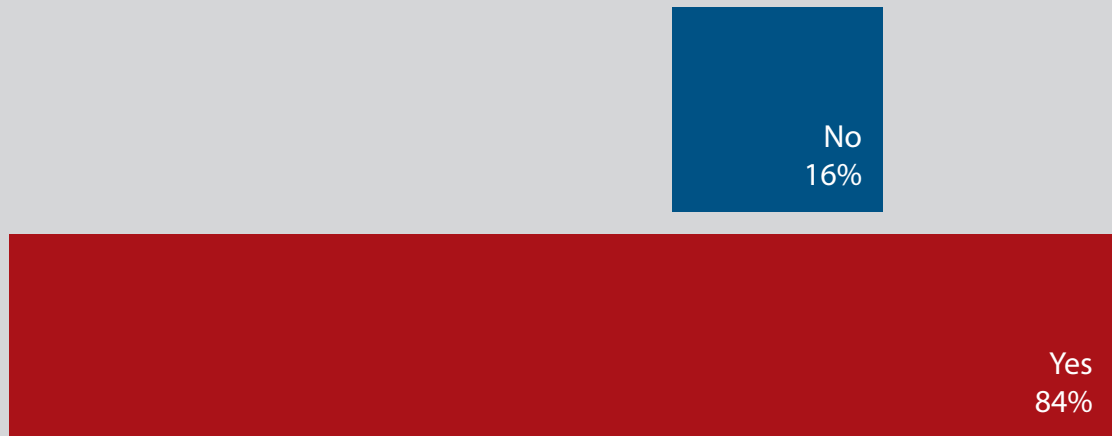
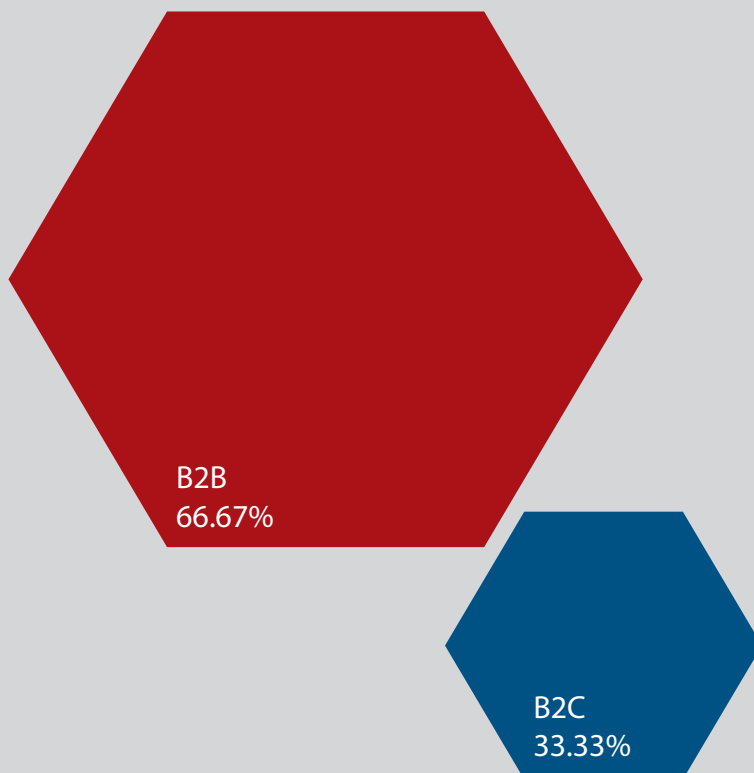


Fig.3 Are you convinced that the IoT can be a significant new revenue stream for operators in the next five years?



*All respondents

Fig.4 Which market do you think will offer the biggest revenue opportunity for operators?



*All respondents

Another said they should “own as much as the value chain as they can, including the customer relationship”.

Some were rather more pessimistic, however. “They should play the complete service provider role – they are likely to play the dumb pipe,” said one. “Operators have demonstrated 25+ years of failed services above voice and IP. The tariffs needed to make IoT over cellular workable leaves little scope for future service failures and IoT should be left to application experts, not connectivity providers,” said another.

One respondent even suggested that operators were too late: “Many solutions and products are already in the market and they are using the network without any control or involvement by the operator.”

Nevertheless, the majority is convinced that the IoT can be a significant new revenue stream for operators in the next five years. Almost 85 percent think this wish will come to fruition (Fig.3).

“Subscriptions in M2M/IoT should be enduring, much longer than retail subscriptions, and can provide a stable revenue [source],” said one respondent.

“Revenues per connected device might be low but given the number of con-

Fig.5 "The IoT needs a killer app to take off amongst consumers"

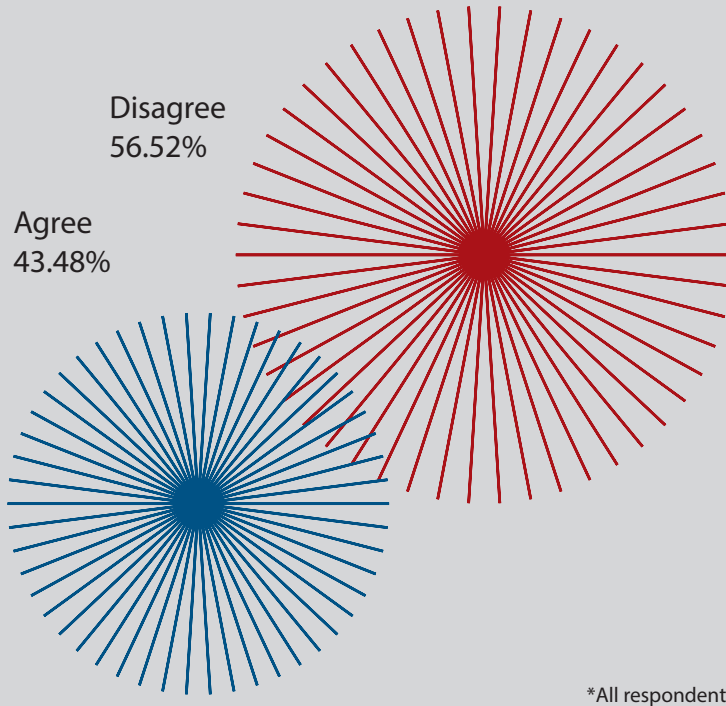
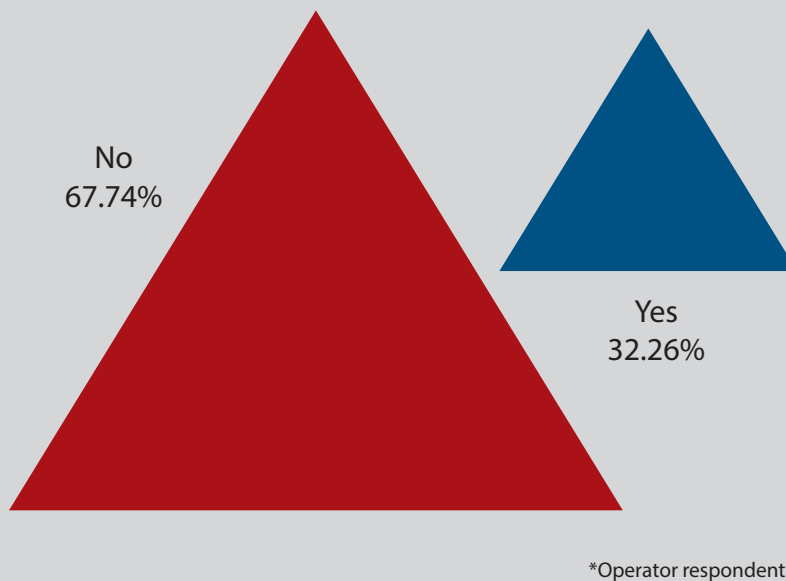


Fig.6 Do you feel enough R&D/capex is being dedicated to the IoT in your company?



nected devices to be deployed, overall revenues will be big," said another.

But there were plenty of caveats. The higher up the value chain they go, the more significant the revenue stream will be, said one. "Only if operators realise and accept their part in the value chain," said another.

Meanwhile, one respondent warned that it would require "significant effort and cost to make this work".

The industry is clear that the biggest revenue opportunity lies in the B2B or industrial IoT. A third thinks that the retail market will provide a bigger sales pool (Fig.4).

But perhaps the answers were dependent on what timeframe respondents had in mind. "B2B at the beginning (the next 3-5 years), but after 2020 B2C will probably be bigger revenue opportunity for operators," said one. But another claimed: "B2C will only account for 10 percent of IoT revenues."

One respondent warned: "Many B2C offerings will leverage Bluetooth/Wi-Fi and thus provide limited upside potential in connectivity revenue."

Dr John Bates, Smart IoT London Chairman, said this was a surprising statistic but an opinion he agreed with.

He said: "Projects like smart cities, connected products or smart energy may be delivered by mobile carriers and their partners to major organisations (cities, product companies, energy companies and so on), but the end consumer will most likely consumer these through smartphone apps, white labeled and provided by their respective city, product or energy company."

Respondents were much more split about whether the IoT needs a killer app to take off amongst consumers. Just over half, 57 percent, do not agree a killer app is required (Fig.5).

"Customers are so different, there is no magic app to rule them all," said one. "The IoT is not about 'one' killer app but enabling use of mobility and wireless connectivity in a much greater range of things, each with tailored use case," said another.

Fig.7 What do you regard as the biggest challenge to the success of your IoT business?

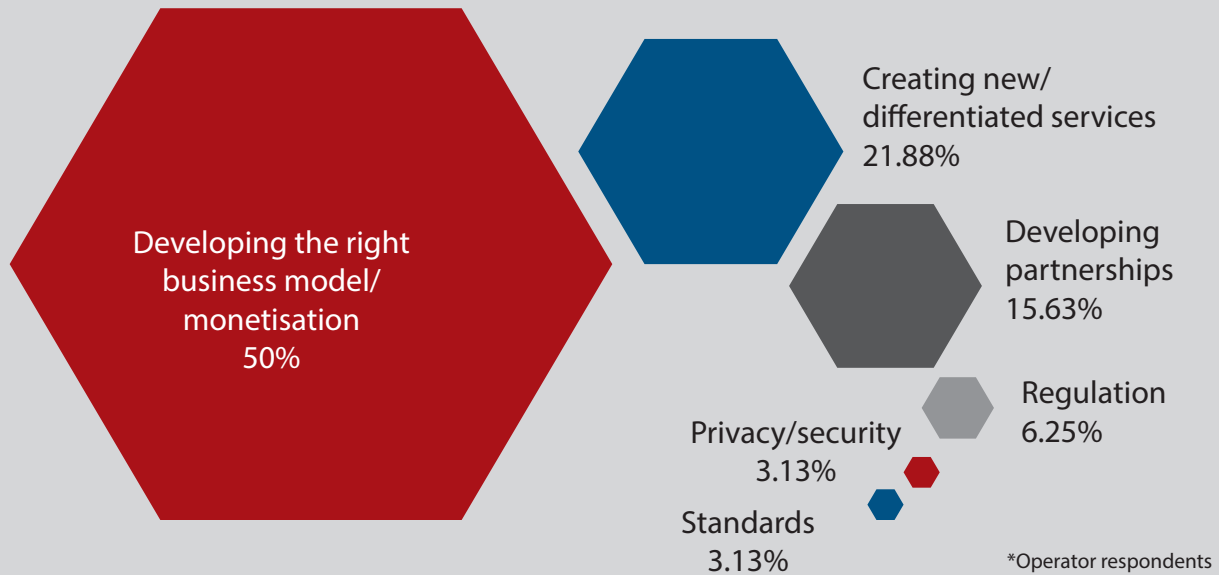
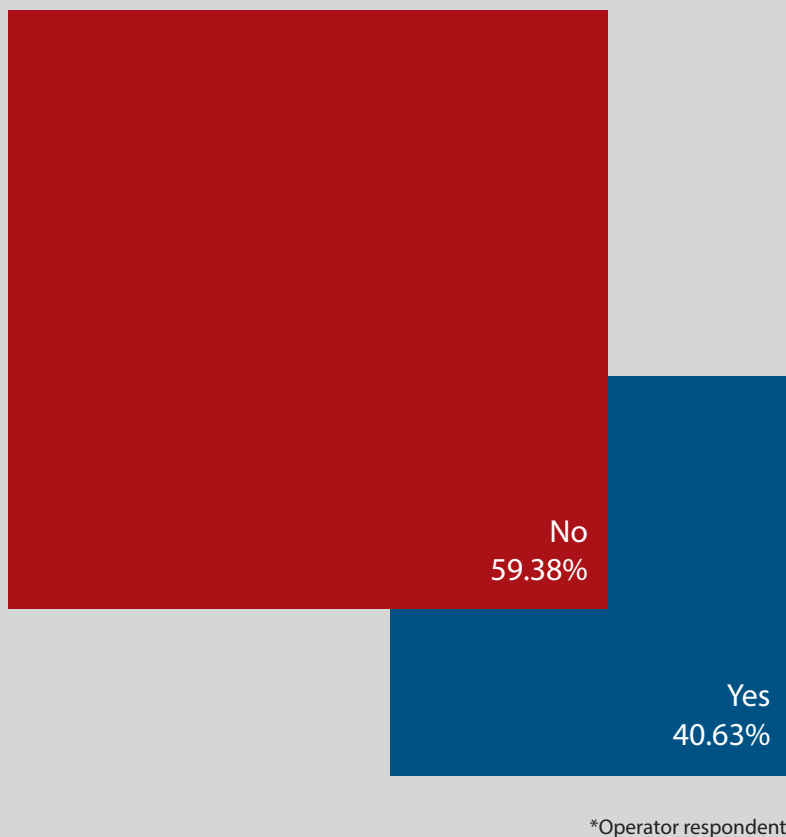


Fig.8 Do you have a dedicated IoT business unit?



However, some do think such a thing is required. "It needs a killer toy like the iPod of the previous generation," according to one respondent.

For all the relative optimism of the industry as a whole, operators themselves have a number of concerns about both their current and future status.

Chief amongst these is the view that not enough R&D/capex is being dedicated to the IoT at their companies (Fig.6). Just over two-thirds of respondents share this opinion.

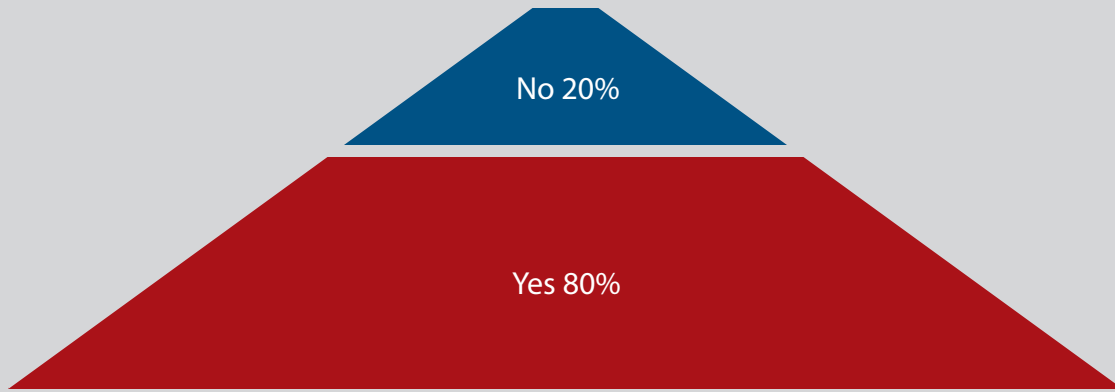
Overall, operators agree that developing the right business model/monetisation is the biggest challenge they have to overcome if they are to succeed (Fig.7).

With over half of respondents selecting this challenge – far ahead of creating new/differentiated services and developing partnerships – it is clear where operators need to focus in this nascent area.

Bates said: "I think everyone in the industry is struggling with this at the moment. The best answer so far is based on number of connected devices, so it is crucial to be in the game with a reasonable model in order to get a foothold and grow that share."

Somewhat surprisingly, connectivity and

Fig.9 If no, do you think it is important that one is created?



*Operator respondents

issues around standards received no votes whatsoever. Staffing issues and the need to educate end users were also ignored by respondents. However, one operator noted: "Many of the above are big challenges."

Saverio Romeo, Principal Analyst, Beecham Research, said he was surprised privacy and security scored so low, at 3.1 percent. He said: "Privacy and security are not simply annoying barriers to business that come up because some academics, researchers or activists are talking about them. They are the essential building blocks of the IoT and also a source of revenue opportunities. They require some serious consideration."

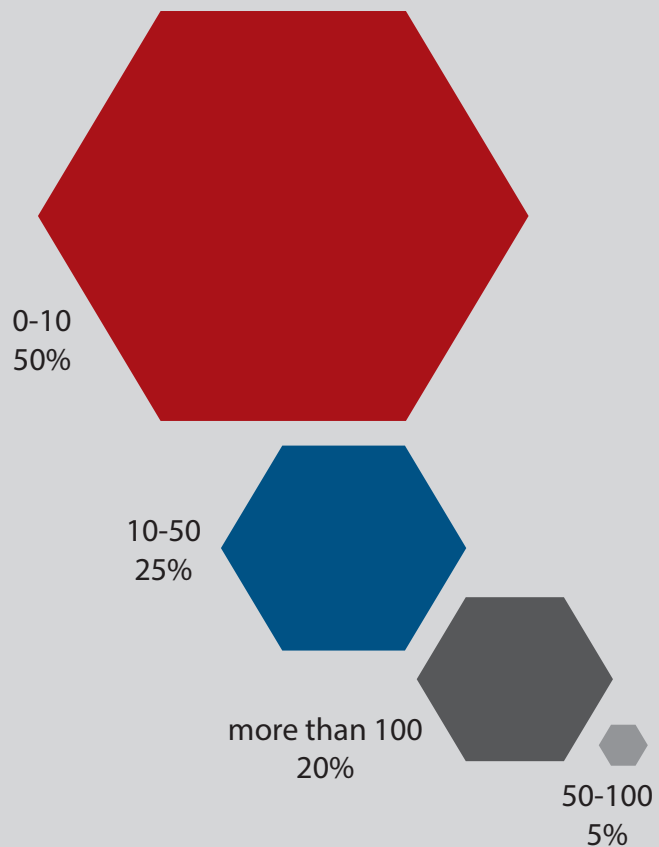
The majority of operators do not have a dedicated IoT business unit yet, but there is a clear desire amongst them for one (Fig.8).

Eight in 10 of those who said no dedicated IoT business unit exists currently think it is important that one is created (Fig.9).

The 42 percent of respondents who work for an operator that does have one stress that they are small in scale. The majority of them employ fewer than 50 people (Fig.10).

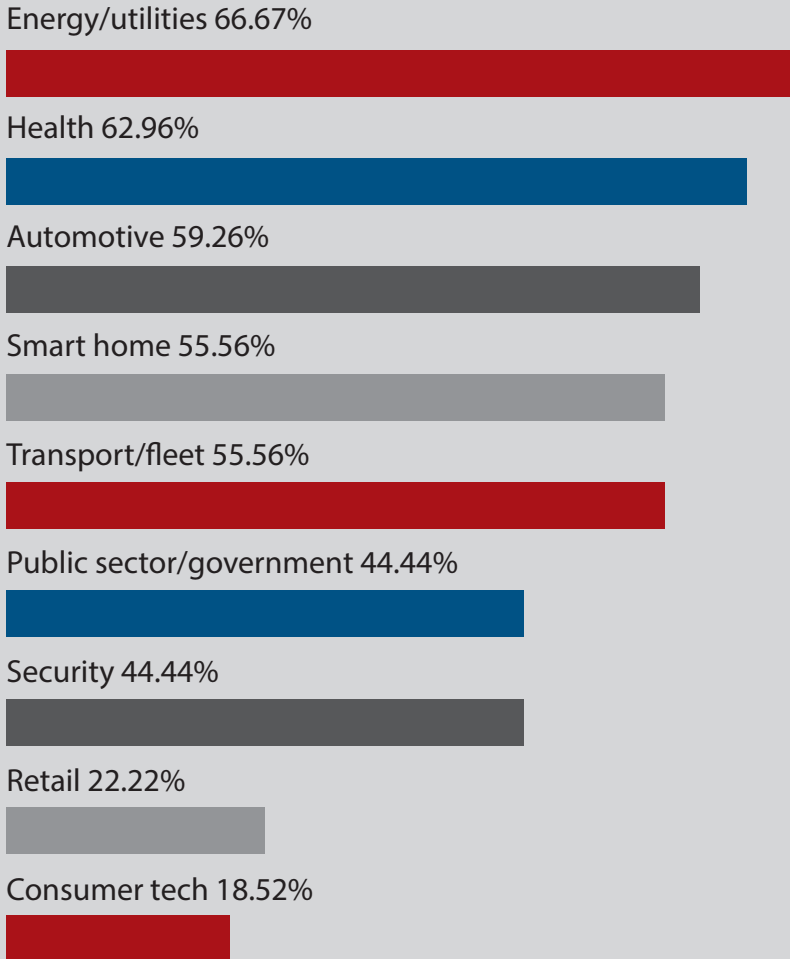
Bates said the lack of dedicated IoT units showed operators "being asleep at the wheel". He said: "It is about time they see this as the new industrial revolution and make sure they already have the fabric in place."

Fig.10 If yes, how many people does it employ?



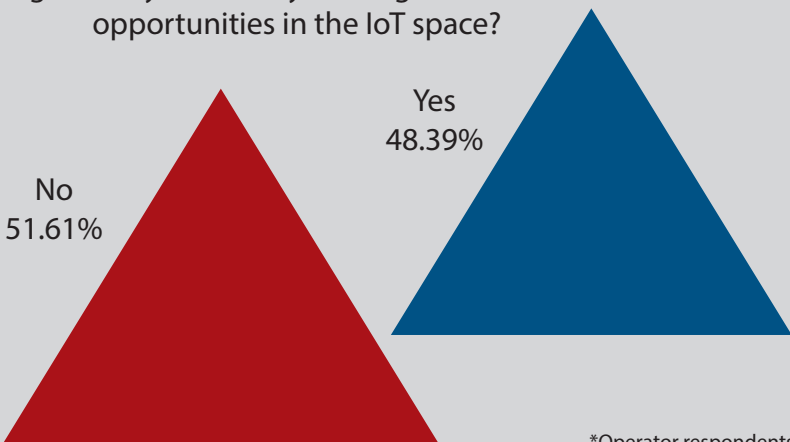
*Operator respondents

Fig.11 Which of the following verticals do you have IoT solutions commercially available for currently?



*Operator respondents

Fig.12 Are you actively looking at M&A opportunities in the IoT space?



*Operator respondents

Romeo added: “The responses show more needs to be done in terms of developing IoT business units with multidisciplinary teams in order to make MNOs more dynamic in the marketplace.”


The specific verticals that operators have IoT solutions commercially available for currently are numerous. Energy/utilities is the most popular, followed by healthcare and automotive. Transport/fleet, smart home, security and the public sector form the next tranche (Fig.11).

Solutions for the retail sector and consumer tech propositions are areas that the fewest amount of operators are looking at.

We have left perhaps one of the most telling statistics about operators and the IoT to the end. A significant minority of operators is looking at jumpstarting their IoT businesses by merger or acquisition. Forty eight percent of respondents claim to be actively looking at M&A opportunities in the IoT space (Fig.12).

“It is a pity but I believe that this is a must,” lamented one operator.

Romeo added: “The IoT is a multidisciplinary place and therefore cannot have it without partnerships. Those partnerships can go through M&A and it is interesting to see almost 50 percent [has done so]. Innovation through M&A and synergic partnerships is critical in the IoT.”

Ultimately, the dreams are still big but the practical challenges of realising them are high and will take time and skill to overcome as this nascent industry evolves. 

About the survey

One hundred and eleven respondents took part in our online survey in August and September 2015. The respondents were equally split three ways between operators, vendors and other interested third parties, such as analysts, consultants and regulators.

From a geographical perspective, 69 percent came from Europe and 12 percent from Asia-Pacific. The remainder was split between respondents from the Middle East, Africa and the Americas.

Telenor's IoT journey gets off to a very cagey start

Per Simonsen, Telenor's Senior Vice President, Internet of Things, discusses the operator's strategy with Marc Smith



If Huawei and its 100 billion connected devices is the IoT's yin, then Telenor's Per Simonsen is its yang.

While, with one notable exception (more on that later), you can trust most analyst firms or vendors to stick a few billion dollar signs in front of a forecast about how big an opportunity the IoT is going to be for telcos, it is rare to find an executive at an operator that is on a bit of downer about this key growth area.

That's perhaps a touch unfair on the man who was given the title of Senior Vice President, Internet of Things, at Telenor two short months ago, but to say he is cagey would be an understatement.

Perhaps he is refreshingly honest and

realistic about where we are within an area that has topped Gartner's annual Hype Cycle for the past few years.

Repeated questions designed to get him to make a bombastic statement or two are batted back with references to journeys, understanding and hoped-for insights.

When asked to define the Norway-based operator's IoT strategy, Simonsen says: "We are looking at different verticals, figuring out which have the biggest potential.

"We will use sensor and aggregated data to transform data interactions that will have a significant impact in a number of consumer- and industrial-oriented industries.

"We are looking to find opportunities where we can be part of end user delivery

of these type of services... moving beyond being a pure tech provider and becoming a partner in a revised ecosystem."

It is all very laudable, but is this not a classic case of an operator taking far too long to come up with a product or solution for the market?

Simonsen rejects the idea, despite the fact the telco rivals such as Deutsche Telekom and Orange seem to be well ahead in the smart home, to pick one specific vertical.

"I don't think there are many smart home providers who have made a big impact so far," says Simonsen.

"The market is still in its infancy... there's a lot still to be done. I'm not afraid that we've been losing out."

Beyond connectivity

The executive says that all the telcos “understand the basic logic” behind the IoT. “You aggregate data and then do something with that data to translate it into action,” he explains.

“So far, operators have been focused on connectivity but I think there are other roles. That’s what we’re looking into now.”

He claims not to have seen anything that “really stands out” from the operator community thus far.

“All the operators are trying to find their position [in the market],” Simonsen says.

He sees opportunities in both the B2B and B2C segments. “On the B2B side it’s about running services in a more efficient way, taking out cost. On the consumer side it’s about making people’s lives easier.”

He adds: “It’s important to focus on doing a real job for the consumer... it needs to be more than managing your lighting remotely.

“You need to look at what type of jobs you really need to do to have an easier life.”

But he says it is “too early to talk” about what specific solutions Telenor might offer.

He also refuses to discuss what revenue targets the company has set for itself.

All told, Simonsen is either doing a very good job of throwing me off the scent or Telenor really doesn’t know what it is doing yet.

It would appear it is the latter, which is perhaps reflective of a wider reorganisation at the operator.

Telenor’s IoT arm is one of three focus areas, the others being financial services and online classifieds, that are grouped under a new Digital business unit led by former McKinsey veteran Jon Gravråk.

Gravråk, as Chief Digital Officer, officially started his role on 1 December and was one of a number of new executives ushered in by President and CEO Sigve Brekke – himself less than six months into the job.

Much of Telenor’s IoT strategy will be built on the knowledge that Connexion, Telenor’s M2M arm that Simonsen moved from to head up IoT at group level, has built up.

Telenor Connexion’s expertise dates back to the 1990s and today offers cloud connection and managed connectivity services to companies including Volvo, Nissan and Hitachi Construction Machinery.

It is up to Simonsen to translate this heritage into something more substantial for the IoT.

Conviction comes in threes

There are three things about which Simonsen does have some conviction.

First, he says it is “really important” that Telenor stays close to the start-up community.

Although he says IoT innovation will happen “in many places”, Simonsen thinks start-ups will be key as he has been impressed by the solutions they have come up with.

Telenor launched the Nordic IoT Challenge this year in a bid to discover and get closer to start-ups looking at this area.

FarmDrones, a connected solution for farmers to increase productivity and crops yield through increased optimisation of land and targeted data analysis, was unveiled as the winner in October.

The start-up received €25,000 and six months of guidance and mentoring by Telenor.

This leads neatly on to his second conviction – that Telenor will have to acquire to succeed.

“Yes, M&A is part of our strategy. We are looking to take positions in certain verticals,” he says without being more precise.

The third thing Simonsen is certain about seems rather contradictory given the vagueness of his answers thus far.

He says some industries have been “slow” to adopt the IoT and warns they will fall behind if they don’t change their approach.

“Companies are keen to look at the IoT but there is a certain slowness in some industries,” Simonsen says.

“The introduction of an IoT solution can fundamentally change a business. Change is sometimes uncomfortable, not everyone wants that change and, sometimes, we feel that change is not

happening quickly enough.

“But the question many companies need to ask themselves is this: ‘Will we make the change or will we watch [competitors] reap the benefits?’”

Arguably, it is a question that Telenor should be asking itself.

On the other hand, perhaps it is sensible to be taking one’s time to analyse with an extra degree of due diligence what will succeed.

In November, the CEO of analyst firm Beecham Research hit out at the hype surrounding the IoT and the potential revenues some are predicting it will create.

Robin Duke-Woolley said everyone needed to “get real” about the potential size of the market. He added: “There is no doubt that the M2M and IoT markets are moving quickly and there are great new business opportunities, but with unrealistic predictions around the growth of connected devices, there is also the risk that companies will run out of time and money before they see a return on their investment.”

Simonsen admits there is hype, but says things are moving forward. “The change from a few years ago is that companies are taking the IoT quite seriously now.

“They’re examining to a bigger degree how it can help their business. We have more advanced dialogue today.”

However, he warns that the implementation time is long and underestimated.

“There is a lot of ramp-up time before the numbers can get big,” he says.

In light of all the above, Simonsen’s overriding reticence is understandable. He reflects that “solutions that add value” are what Telenor is lacking at the present time.

With competition in the shape of rival telcos on the B2B side and the big internet players on the B2C side, it is no easy task to find them.

So, where would he like Telenor to be in 12 months time? “I want us to have a more ambitious IoT position,” he concludes. “I think we will be visible with new concepts on the market but it’s still early days.” 

Global M2M groups urged to focus on commercial side of tie-ups

David Craik analyses the strengths and weaknesses of the Global M2M Association and the M2M World Alliance as they look to deliver on their promises

Despite its Dr Who like title the Internet of Things has generated huge excitement across many industries.

A few years ago telcos grouped together in two major associations both aiming to take advantage of the predicted growth in demand for M2M and connected devices.

Created in 2011, the Global M2M Association (GMA) comprises telcos such as Deutsche Telekom, Orange, Telecom Italia, Teliasonera and Swisscom.

The aim of the collaboration is, according to the group, “to make it easier for global enterprises to deploy and manage M2M services across the world by aligning our operational processes, enhancing quality of service and creating common services”.

That’s the talk. Back in February, it began to walk the walk by launching a Multi-Domestic Service aimed at helping businesses to capitalise on the growth of connected devices in the automotive and consumer electronics industries.

The MDS is a single consolidated M2M management platform provided by Ericsson featuring GSM-compliant embedded SIM cards (eUICC) and a subscription management platform provided by Gemalto.

The GMA said it would help meet a key challenge faced by businesses, namely how to provide a seamless and easy-to-manage localised IoT solution for end-users.

The other major global alliance is the M2M World Alliance, comprising telcos such as Telefónica, KPN, Telenor and Rogers in Canada.

It also talks about “meeting customers’ needs for cost-effective, easily managed,

fully compliant connectivity solutions”. It does so through a single SIM that works on all member networks thereby creating local operator profiles to reduce the cost of high volume data connectivity, centralised management of device status and usage and a single web platform to manage connections globally.

Andres Escribano Riesco, IoT/M2M Global Partner Programme & Horizontal Product Director at Telefónica, says the Spain-based operator joined so it could rely on a set of partners with common commercial interests, platforms and technologies.

He says the “main aim” of providing a global, homogenous service provision has been met. “We have a product based on

“ The challenge for these alliances is now on the commercial side ”

Jasper and G&D for embedded SIM support. The negotiation capability towards M2M systems suppliers was enlarged due to the fact of having multiple voices requiring same agreed capabilities.

“It also permitted to cover, with local operators, regions where regulations and restrictions to foreign operators were raised. Having local tariffs, when the volume of data increases, is also a must that cannot be substituted by roaming due to economic considerations.”

An example of its work includes last year’s connectivity deal between Telefónica, KPN and Tesla Motors. The two oper-

ators said they would provide connectivity for Tesla’s Model S in Germany and the UK on Telefónica’s O2 network, in Spain on Movistar, and in the Netherlands and Belgium on KPN’s network.

The two alliances are still trailing Vodafone, which Machina Research regularly ranks as the leading global operator in the field of M2M and IoT. It came out ahead of AT&T, Deutsche Telekom and Telefónica.

Matt Hatton, Chief Executive of Machina, says both the alliances have “done a pretty good job” meeting the technical aims they set out with. “The one technology, having trouble-shooting devices across networks and cross-network transparency – these capabilities have happened,” he states. “The challenge for these alliances is now on the commercial side. They need to show a single face to potential clients but also need to go to each other and discuss rates and costs. That is challenging.”

He says Vodafone has an in-built advantage because their decision making, as a single group, is top-down. “They say this is how this is going to work and it gets done. In a commercial alliance you don’t necessarily have aligned goals and you end up taking small steps. Some want to move faster and others want to move more slowly and you end up going at the slowest pace. Adding new members and ensuring that all comply with regulations also slows things down,” he says.

“On a technical level there has been a flurry of activity to get the technology available but there is nothing apparent on the commercial side. There is nothing fundamentally causing a problem but it’s been slow progress. I don’t think Vodafone feels challenged – it is much more

straightforward for them to push through multinational deals.”

IHS analyst Sam Lucero adds: “It hasn’t always been easy to get member operators to devote time and energy to the partnerships but the fact that the membership rosters continue to grow and operator has dropped out suggests that the operators seem to value them.”

He believes both alliances will look to increase their membership and their global footprint with “size and scale” being their principal goal.

“The key challenge for both organisations will be to convince potential customers that each is better placed to provide a global footprint and better service and lower rates than the offers from leading tier-one operators like Vodafone, AT&T and Verizon,” he states.

“They have their own global footprints via bilateral agreements with other operators. Customers may believe that one of these non-organisation operators may provide a more unified experience, despite the efforts of the organisations to integrate systems and process. I think the jury is still out on this question.”

Ben Parker, Chief Technologist at Guavus, says he is optimistic overall about the two groups as it is “too complicated” for most customers to use a hybrid of different billing services. But he adds: “They just have to be mindful that the M2M and IoT world moves quickly and they have to get their products out there. Harmonising prices won’t be easy but if they can work that out they can really challenge Vodafone and AT&T. They have great roaming agreements but on the flipside what the associations are doing isn’t really roaming. The cost can be much more economical.”

He continues: “There are some big networks in these associations and with unified billing will give a large Tier 1 a significant run for their money. But I do wish they were further down the road so their products were easy to access. They could move faster by not overthinking the problem.”

Randy Bryson, Chairman of M2M World Alliance, retorts that the group has made “tremendous strides”. He says



customers are “extremely excited” about the working alliance and single contact. “We can’t get there fast enough for them. We need to get consistent marketing of the alliance and consistent execution with our products. We need to keep our business model simple.”

Bryson says the biggest challenge the Alliance has faced is the different time zones of each partner. “We underestimated the challenge of coordinating conference calls and team meetings and the effect on those in Australia or the mid-West US. This is a global alliance,” he says.

“When we formed we have a very clear vision of what we wanted to do so that hasn’t been a challenge. The operators are fully committed and they all participate in leading marketing and business development groups. If you want to be part of the decision-making then you have to turn up. It is for the betterment of all the operators to be here and they want to be here because the functional and operational benefits to their customers is so strong.”

Telefónica’s Escribano Riesco says such challenges have been addressed by providing a clear governance model, a well-structured set of working groups with clearly defined goals and allocated tasks and commonly agreed business models.

He claims that members do devote enough time and resources to make the Alliance a success. “Having a set of clear rules of engagement permits the

different operators to choose the most suitable role for their interest,” he says.

According to Bryson, the Alliance has “a few coverage stamps which we are looking to fill” and claims it is in discussion over China and the US.

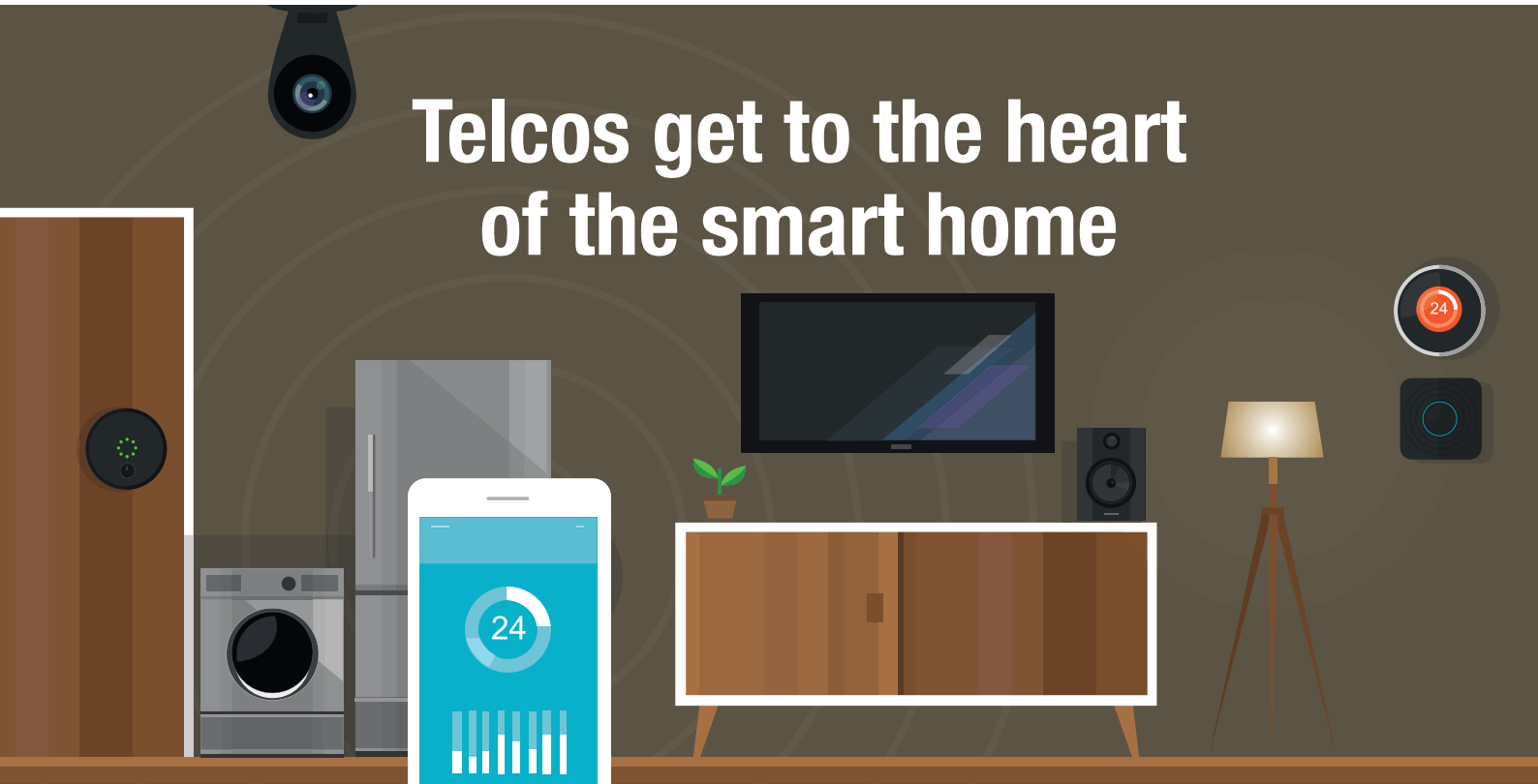
From a competition perspective, meanwhile, Bryson says Vodafone and AT&T are working on different strategies. “They are great competition but their strategy is different – permanent roaming compared to our local SIM,” he states.

“We like our path and our customers prefer it as it is easier to price and bundle. We’re on two different paths but I’m not sure it is our goal to be number one. My goal is to provide the best solution for my customers and provide them with a global access method. Individually, we will grow our own market and as the industry grows then everybody will become more successful.”

It is clear that both associations have made strides in the last few years in setting up the groundwork for a profitable assault on the IoT. But both are now entering a crucial phase – the progression from the establishment of a sound and steady technological framework to the creation of innovative and exciting commercial products.

This, added to no doubt more intense competition from the likes of Vodafone and AT&T, will put strain on the cohesion of the alliances. It is vital that members remain unified in purpose and strategy over the years ahead to ensure future success. ■

Telcos get to the heart of the smart home



Operators are uniquely positioned to rule the smart home, but certain West-coast firms have other ideas and will knock the telecoms industry off its stride if it is not immediately proactive and collaborative in its approach, reports James Blackman

The global market for smart home systems and services is developing rapidly, with revenues slated to jump 19 percent annually to \$115 billion (€107bn) by 2019, according to Strategy Analytics. In these few years, the smart home, will become a mass-market adjunct of the rangy Internet of Things, with 30 percent of households signed up.

Fixed line broadband providers, supplying upstream access, have an 'in' already, in the form of home gateways. Europe's major incumbents consider it their rightful domain.

"A fixed line provides certain bandwidth and stability," remarks Thibault de la Fresnaye, VP of Anticipation Product Marketing at Orange. "The home gateway is the entry point for digital services; it is the control tower."

Jon Carter, UK Head of Business Development for Connected Home at Deutsche Telekom, agrees. "This is a natural play for fixed line providers, without doubt. The broadband router is the hub of the

home, and will evolve to support smart home services."

SIM-enabled LTE routers will only be used in more leftfield scenarios, such as connecting up residential gadgetry in holiday lets and second homes, where fixed-line access is less assured, reckons Carter.

But Hans Dahlberg, Head of Global M2M Services at TeliaSonera, makes the point mobile access should not be so easily dismissed. "Both fixed and mobile are required to meet the needs of the connected home, from a capacity perspective as well as to provide redundancy to crucial services like healthcare," he says.

Downstream, inside the home, the ecosystem widens, becoming more interesting but less certain. There remains a lack of standards, with newer radio technologies like Zigbee and Z-Wave jockeying with old familiars like Bluetooth and Wi-Fi.

Telecoms operators have the potential to manage this chaos, and create value from it. They operators will piggyback on

fixed access, even if SIM-only routers are niche propositions. In the US, AT&T is offering Digital Life, a wireless security and automation platform that incorporates an app to give remote control over home systems and daily routines; Telefónica has licensed the system in Europe.

Kevin Petersen, President of AT&T's Digital Life says: "Between the idea of the smart home and the more nebulous internet of things, there is so much noise it makes it hard for consumers and businesses to make sense of it all".

Similarly, in France, Orange's Homelive service, one of the first integrated smart home propositions, works over-the-top of any fixed broadband line. It features an automation box that manages the radio link (Z-Wave) between units, and allows users to orchestrate devices from a single app.

Interestingly, it also incorporates a SIM card to assume control if the Wi-Fi goes down. A SIM-only version, running on mobile broadband all the way, might yet be made available to cater to poorly served homes, says de la Fresnaye.

Ultimately, this is where control of the system will be allocated and control of the market will be fought. “There is a job to do around data, in terms of connectivity, aggregation, storage and cross-fertilisation,” says de la Fresnaye. “We believe we can bring value by managing this data.”

Bill Ablondi, Director of Smart Home Strategies at Strategy Analytics, agrees. “The thing for telcos is to become the systems manager in the home, and knit together these different capabilities. And if they don’t do it, the likes of Amazon and Google will sell the devices and also put them to work.”

Competitive landscape

These two are already looking to establish a physical presence in the home. Amazon’s Echo voice-command device, powered by the Siri-like Alexa, is now available to the general public in the US, having initially been reserved for Prime customers. Google has just launched a mark-two version of its OnHub Wi-Fi router, this time by Asus, only a few months after the product’s debut.

Battle lines are being drawn up around software, too.

Google is betting on Brillo, an Android-based system to connect low-powered devices in the home. At Google I/O 2015, it also revealed its new Weave protocol, a command language to articulate this domestic IoT. Google has Nest, the darling of smart home gadgetry, among its roster of companies as well.

In the other corner, Apple is well ensconced in homes with its ubiquitous ‘iGear’. Its HomeKit automation system, enabling control of home devices via iOS devices, represents a shot across the bows.

The operator community is hardly in denial about the threat. “Our main competition now is from the ‘GAFAs’, much more than rivals in our own sector,” says de La Fresnaye, using the acronym (denoting Google, Apple, Facebook and Amazon) to describe the new competitive landscape. “The fight is around who will manage the hub at home.”

Carter at Deutsche Telekom agrees:

“There are some major west coast players with major ambitions for this market. Telcos need to move forward. Time is not on [our] side.”

Industry alliances

In the circumstances, one might assume the industry would do well to conspire with old enemies to conquer new ones. “We need to work together, and not fight each other,” remarks Carter. “It’s critical manufacturers perceive there’s a common approach. They want simplicity.”

Deutsche Telekom is corraling its peers around a single open-source platform, called Qivicon. Manufacturers, service providers and developers have signed up; Deutsche Telekom is now offering it as a white-label product to fellow operators. At yet unconfirmed UK and Dutch partners are due by the end of the year

“It is not just a platform for our own operating companies; we want to work with other operators to achieve necessary scale, so manufacturers see it as a viable platform in Europe,” says Carter.

However, Orange’s de la Fresnaye says its German rival effectively stumped up too late. “It proposed a deep integration around its platform but, at this stage, it’s not possible, or useful, because we already have our own,” he says.

“For now, we have our own solution, and we’re attempting to stimulate the market. We’ve learned a lot, and we’re in a good place; I think Deutsche Telekom is too. The idea now is to expand the ecosystem.”

Others have their own initiatives. TeliaSonera, for example, has a stake in Estonian company Yoga Systems, which has developed a cloud-based home automation platform, allowing users to run applications via a single interface. It is currently offered via its Finnish and Estonian operations. In Sweden, TeliaSonera has launched an open platform, HomeCare, for digital healthcare in the home.

Market stimulation

De la Fresnaye’s point about stimulating the market is important. “We’re not

specialists,” he admits. “We don’t know what the killer apps will be; we have to invest, and reinvest, and stimulate parallel systems in health, energy, security and so on.”

Telecoms providers are not about to do it alone; the sector is in its infancy. Regulation is needed to create order. AT&T’s Petersen remarks: “The lack of standards is problematic for consumers and operators. By putting them in place, the industry can remove a lot of the noise and allow a consistent and reliable experience.”

Collaboration is required to bring clarity. “Just because telcos have a connection to the home, doesn’t mean they can deliver the full proposition; they don’t have all the bits and pieces. They have to strike partnerships – with developers, and with those making devices and offering services,” says Ablondi at Strategy Analytics.

The opportunity for telecoms providers is to join the dots. Single point solutions are fine, but they’re more engaging when strung together with an inter-connected network of things. Platforms like Digital Life, Homelive and Qivicon can bring IoT’s potential into sharper relief. With them, users can create timers, rules and scenarios to link technology in the home. “What good is a connected home where nothing is connected?” says Petersen.

As it stands, talk of a pitched battle for control of the connected home is premature, and perhaps even misguided. It is early days, after all. So long as the telecoms industry is proactive and collaborative, the competition doesn’t need to be a knockout bout.

“This is not a zero-sum game,” says Ablondi. “Amazon and Google have motives that go way beyond devices and services. There can be room for everyone; I expect to see multiple systems in the home.”

Even so, telecoms operators might be ringside, but most aren’t even stripped down yet. Ablondi says: “They’re well positioned, but they need to get out there now and establish themselves as go-to providers, and they need to do it quickly.”

How mobile networks can enable the Internet of Things

By Theodore Sizer II, Wireless Domain Leader, Bell Labs



Predictions for the speed of growth of the Internet of Things vary only in one aspect - the length of the journey. What is not in doubt is the destination - and that is a world where hundreds of millions, or billions of devices are connected to each other, to people, and to analytics platforms. One aspect of this destination is often taken for granted, and that is the underlying network that will support the connectivity of these devices.

Without the introduction of wireless networks that are designed and optimised for the support of billions of devices and flexible enough to support myriad use cases and applications, the journey to the Internet of Things will be longer than many expect.

The IoT is not M2M

Operators have been providing connectivity to machines with embedded connectivity for years, so what is different about the Internet of Things? First, it is useful to distinguish between M2M - machine to machine communications as we currently know them - and the Internet of Things (IoT). In doing this we can see some of the different requirements of the IoT start to emerge.

As the name suggests, M2M commu-

nications use the cellular network to allow machines to talk to each other, with typical applications to date including vehicle and asset tracking (say a GSM module in a shipping container) and meter reading. The Internet of Things extends beyond a machine to machine connection to connect things to people, things to other things that then connect to people, and things that connect directly to other things. Crucially, and here is where much of the value will lie, the IoT also connects things to big data analytics platforms that take sensor and machine data and combine that with other data to create new information, new services and new applications.

Multiplicity of requirements

With this any-to-any connectivity, the IoT will encompass a much broader scope of network requirements than current M2M.

- **Scale:** operators have indeed had some success with M2M, but the challenge is that M2M simply won't scale well from its current status of hundreds of millions of connections to tens of billions. Analysts predict anything from 20-25 billion connected devices by 2025, and see that as the beginning of the mass era of connectivity of things. IoT networks must take advantage

of cloud computing and new network platforms to be able to scale.

- **Flexible latencies:** sometimes the connectivity will need to be near-instant, for instance for critical communications such as some health or industrial control applications - and that will require signalling that instantly activates a device in the network. At other times immediacy will not be an issue. A network intelligent enough to dedicate the appropriate resources to both will be much more efficient.
- **Flexible throughputs:** some applications will require virtually no traffic payload, and at other times there may be a requirement to transmit live high definition video streams across the network, for example from a remote monitoring camera activated at time of a major incident.
- **Flexible mobility:** some things may be highly mobile, like connected cars, and will need to be handed off between cells and site. Others will be more static, but may well be moved to new locations without the knowledge of the network operator.
- **Long battery life:** With billions of devices, battery life will become critical. It will simply not be economical to change a battery to power a traffic sensor on every traffic signal in a major city even once every 10 years. Devices cannot be in a constant state of communication with the network, thereby draining battery, so signalling must change accordingly.
- **Security is paramount:** some devices may require physical security to prevent malicious access; some applications will require high levels of protection to provide absolute integrity of the data flow. Security protocols will need to be flexible, but also scalable and available to applications on demand.

If you assess the above requirements, you can clearly see the current method of delivering M2M over cellular networks will not scale. For instance, device connectivity is handled in the same way as a voice call, or smartphone data session, requiring “conversational” signalling support from the core network. That flow of data across the network will not be sustainable at IoT scale.

One line of proposals has been to categorise many of these IoT requirements as items that can be solved by 5G, which proposes new air interfaces, control and signalling flows and even dedicated IoT networks, to deliver the required flexibility. 5G commercialisation is still several years off however, and the predictions are that there will already be a requirement for hundreds of millions, perhaps several billion, of connected wireless devices by 2020.

There are solutions that can be applied to the current LTE progression path to support the introduction of the IoT. LTE Category 0 devices, expected within 2016, are intended to operate at lower power and with lower receive bandwidth than previous M2M device types. Recently the 3GPP went further and is in the process of adopting new specifications for cellular IoT connectivity into its next LTE release, Release 13 (R13), due out in March 2016. This specification - Narrowband-IoT (NB-IoT) - proposes the support of massive numbers of low throughput devices, low delay sensitivity, ultra-low device cost, lower device power consumption and an optimised network architecture.

There are also currently live tests and pilots of non-cellular networks to provide wireless connectivity for sensor devices. These usually operate in non-licensed spectrum, such as in ISM bands or in “white space” spectrum, and are designed to provide low power access over wide areas. These Low Power Wide Area (LPWA) technologies - examples include LoRa and Sigfox - may provide a solution to one element of the IoT, the device to network connectivity, but only in a limited fashion. They are proprietary solutions, and cannot provide the economies of scale that a

truly standardised technology can bring, nor can they provide the device-to-device and device-to-platform interoperability that will unlock the value of the IoT in terms of allowing developers to create new combinations of services and applications. They also require the deployment of a completely new network, meaning that it will take many years to be able to provide the promise of universal coverage for devices, wherever they may move. These low power technologies are narrowly defined and do not have the flexibility to meet the various requirements discussed earlier. Furthermore, they operate in unlicensed spectrum, which makes it virtually impossible to provide any performance guarantees in a public environment.

LTE-M and NB-IoT will happen, there may be some proprietary LPWA networks deployed but to handle the new requirements in a quicker time frame, Alcatel-Lucent believes there are additional improvements it can bring to the table. One proposed method of reducing the load on the network is Connectionless Operation. Connectionless Operation establishes a network entity, the Connectionless Access Gateway, that is designed to provide a better way of handling the over the air transaction between the device and the network. Currently a device connects via the MME (Mobility Management Entity) through to the core network and then again to the device where the data needs to reach. That requires core signalling resources to be invoked for every session. If this model were extended to support billions of devices, it would simply swamp the signalling entities in the network - for example, traffic modelling by Bell Labs has revealed that M2M applications may consume up to 67 percent of computing resources in the Radio Network Controller (the 3G control element that is collapsed within the MME in LTE).

Instead, the Connectionless Gateway sits between the base station and the back-end applications to which devices are connected, typically close to the base station, and handles the transaction only between the device and the Gateway. The Gateway then holds and manages that

data, sending it through the network to where it needs to be. There is no need for the MME to handle every transaction, or to invoke core-signalling resources, dramatically reducing the load on the network. Alcatel-Lucent is now actively engaged with the 3GPP to look at how this approach can be standardised across the industry.

This edge-based architecture is in line with some analyst expectations for the overall IoT network architecture - the move to an edge based processing and analytical capability. An IDC FutureSpace report predicted that by 2018, 40 percent of IoT-created data will be stored, processed, analysed, and acted upon close to, or at the edge of the network. Using knowledge of cloud platform management, scalable platforms can be deployed to add the security, analytics and application logic to IoT data.

Flexible, scalable, adaptable – and available now

Designing mobile networks to support the IoT requires in-built flexibility to enable a host of potential use cases - many of which have not yet been thought of. In the long term, 5G networks, with new air interface technologies may provide part of the answer, but Alcatel-Lucent, benefiting from leading edge research from Bell Labs, believes solutions dedicated to more efficient and effective IoT operation are available now and can lead the transformation to the flexible, adaptable, scalable IoT network.



Tod Sizer, CMO, Alcatel-Lucent

Telcos can go shopping to win M2M business from the retail sector

Figures suggest that smart gadgets will soon be flying onto the shelves of retailers. Nick Booth looks at how operators can profit from this emerging trend



According to Vodafone's M2M Barometer report 2015, the number of retailers starting projects to cut costs or boost sales using M2M has doubled in the past 12 months.

If the survey sample of 650 companies in 16 countries is an accurate reflection of global trends, M2M in the retail sector is entering a new era of adoption. Research firm Analysys Mason, which contributed to the report, says 32 percent of retailers had embarked on an M2M/IoT project in 2015, compared to 17 percent the year before.

Some operators are already reporting a boom in the retail sector. Tony Judd, Verizon's Managing Director for the UK, Ireland and the Nordic, reports IoT gadgets are flying onto the shelves in retail emporiums. "The number of M2M connections on our network increased by 88 percent in the retail sector between 2013 to 2014, and we are expecting this

growth to accelerate as M2M technology continues to transform the delivery of goods and services," says Judd.

Major retailers are using telematics and asset tracking solutions to offer next-day or even same-day delivery. Operators are well placed to help customers see exactly where their delivery is via a smartphone app or website.

The opportunities in the M2M sector divide into two main categories – supply chain management and customer engagement – and there are major challenges for the operator in each case.

Both territories are already staked out by vendors that have been entrenched in the business for a long time. In the supply chain, there have been companies offering track and trace systems for decades and their specialist logistical knowledge is invaluable, according to Ken Hosac, VP of Business Development at IoT service provider Cradlepoint. That

wisdom would be a lot harder to accumulate than knowledge of apps and devices.

Inside the stores, it will be even harder to make inroads. The major savings inside the store won't come from customer engagement but from running costs. For example, for many stores, one of the biggest drains on the budget is the cost of energy. Anything that can be done to reduce those will not only cut the bottom line but, by improving the profitability ratio of the building – help to improve the value of the property, boosting the assets of the company.

But these are areas that have been staked out by the security companies and building management services companies. The finer points of heating ventilation and air conditioning are not core knowledge areas of operators, he suggests, but HVAC is an acronym that needs no explanation to the security and building management specialists. "Unless they buy one of them, operators will struggle to get in," says Hosac.

There is a slightly more optimistic outlook from Tim Ensor, Head of Connected devices at Cambridge Consultants, which is currently working with online retailers and shopping mall builders.

Improving the customer experience is the order of the day among retailers, even if the evidence seems to suggest that customers want something else. The massive inroads into the grocery market, made by cut price, low-tech discounters like Aldi and Lidl, might suggest that the consumer isn't as impressed by technology as the retailers. The UK supermarket Waitrose, which aggressively interacts with the customer through technology and constant offers, has been supplanted in the rankings by Aldi, which has a simple, limited range at lower prices.

Nevertheless, retailers are investing in tech to improve the customer (even if trading figures suggest it might be a mistake) so there is clearly an opportunity here. Cambridge Consultants, for example, came up with the concept of Bluetooth connected shopping trollies, so that store managers can track shoppers and analyse their behavior as they move through the aisles.

Operators could play a part in making a trolley an IoT device and creating mobile apps to improve the experience of customers. However, don't work on the assumption that the consumer will install an application on their phone in order to make life easier for the retailer. "We're a little stalled on that," says Ensor. "People don't want to download too many applications onto their personal devices."

So, any telco looking to provide shopping experience services needs to ask questions about where they want to help the stores to interact with customers and how they direct the shoppers to what they want to buy. There is an argument to be made that shoppers are shunning the hi-tech invasive retailers.

However, one area in which Cambridge Consultants is seeing definite positive interest is in shopping malls, where gathering information about the consumer is high on the agenda. Given that operators have enormous silos of information about their own subscriber bases, there are services that could be offered, if consent could be gained from the subscribers and the various databases cohesively integrated.

Rather than attempt to take on incumbents who are already deeply established in running supply chain systems, fleet management and employee tracking systems, it might be a better strategy to look to the future and get into virgin markets that nobody owns yet.

An unexplored area for retail markets, that the mobile operators could possibly colonise, is the connected car. In the near future, when we drive to the shopping centre, we'll leave our cars at the entrance of the car park and a machine will do the time consuming work

of driving around and finding a parking space, according to Ensor. When we've finished shopping, the automated valet will drive the car back to meet us at the entrance. If that sounds a rather ambitious long-term application to be planning for, there are simpler more immediately achievable M2M retail concepts that they could put into practice, such as automatically allocating available parking spaces to each driver. This is where an operator's GSM knowledge might give them a distinct

“Two of the potential barriers, other than trust, will be cost and technology”

advantage. Delivery drones are another potential growth market, Ensor says.

But Jon Carter, Head of Business Development for Deutsche Telecom's connected home arm in the UK, warns not to get carried away with future projections. There is a much more significant battle that has to be fought before operators start having designs on drones.

The connected home is the most realistic, achievable technology integration that is likely to materialise in the next few years. The automation of buying decisions, as connected fridges re-order groceries automatically and the intelligent home system re-orders light bulbs, presents tech companies with a chance to usurp retailers.

Companies like Amazon and Apple have effortlessly taken over book selling, music and entertainment publishing, so it's not a massive leap of the imagination to say that Philips, rather than a traditional retailer, may have a direct sales relationship with its customers when the connected home automates many domestic retail purchases, says Carter.

If retailers are in danger of being usurped as various vendors compete to be the online point of contact, telcos

have a major opportunity, using their knowledge of customer information, billing systems and customer relationship management (CRM) in order to consolidate the position of retailers with their clients.

"It won't necessarily be about making more margin on sales, but making the customer relationship stronger and more pertinent," says Carter.

Ownership of the customer is the important step. Once the retailer is embedded with the customer and knows all about them, they can use the IoT to create more services for them. When there are multiple home devices, the retailer (with the help of their telco partner) might be able to help the home owner to run their energy more efficiently, for example, or get better deals on broadband or phone calls, or buy devices that consume less power. The retail sector is far more adept than any other vertical at analysing customers and understanding the psychology of buying. But it's the telcos that can gather the raw data for them from the connected home.

"The successful retailers will be the ones that built trust with the homeowner," says Carter. "Two of the potential barriers, other than trust, will be cost and technology. So this is where, if they are not careful, retailers might have their lunch eaten by Amazon."

The point to remember is that retailers, are much more trusted brands than the likes of technology companies, according to Mark Dawber, Head of Business Development at IoT specialist SparkI. Retail organisations could become brokers of a customer's data, says Dawber, but they should put an emphasis on giving the customers power over that license, whereas the technology companies have lost trust by disempowering people, selling their information on to the highest (and lowest) bidders.

The crucial principle to apply, as the IoT changes the customer experience, is that the customer must stay in control of their data or retailers will surrender the trust they have spent years building. It's their one branding advantage over the technology companies. ■

Breaking down borders

Roaming charges will be abolished in 2017 and net neutrality rules introduced across the continent after the European Parliament voted through the proposals in October. Commission Vice-President Andrus Ansip said this was “a first step” towards a telecoms single market.





NET2EDGE

Innovative Access Solutions

Access economics just got interesting...

“...some claim €billions are at stake!”

 +44 (0) 345 0130030

 www.net2edge.com

CHANGE IS GOOD. TRANSFORMATION IS EVEN BETTER.

To transform your business, you need a partner. One who brings you new and innovative ideas every day. One with deep industry knowledge, meaningful insights and the broadest range of capabilities. And one who works shoulder to shoulder with you to help you reach the next level of performance. That's a partner called Accenture Consulting. And that's high performance, delivered.



High performance. Delivered.