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IoT World

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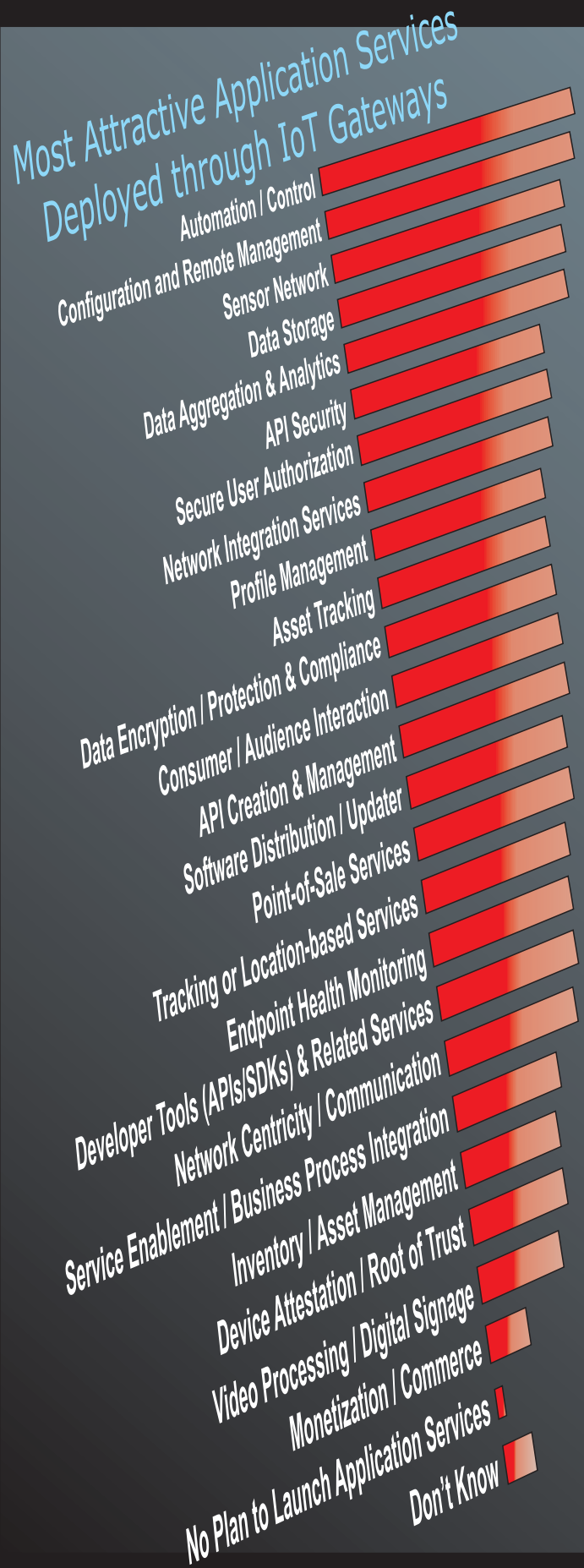
Mar-Apr 2017



IoT Gateway Fanless & Ultra Compact Embedded Platform for Harsh Environments from Adlink

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The Internet of Things will connect Billions of Devices,
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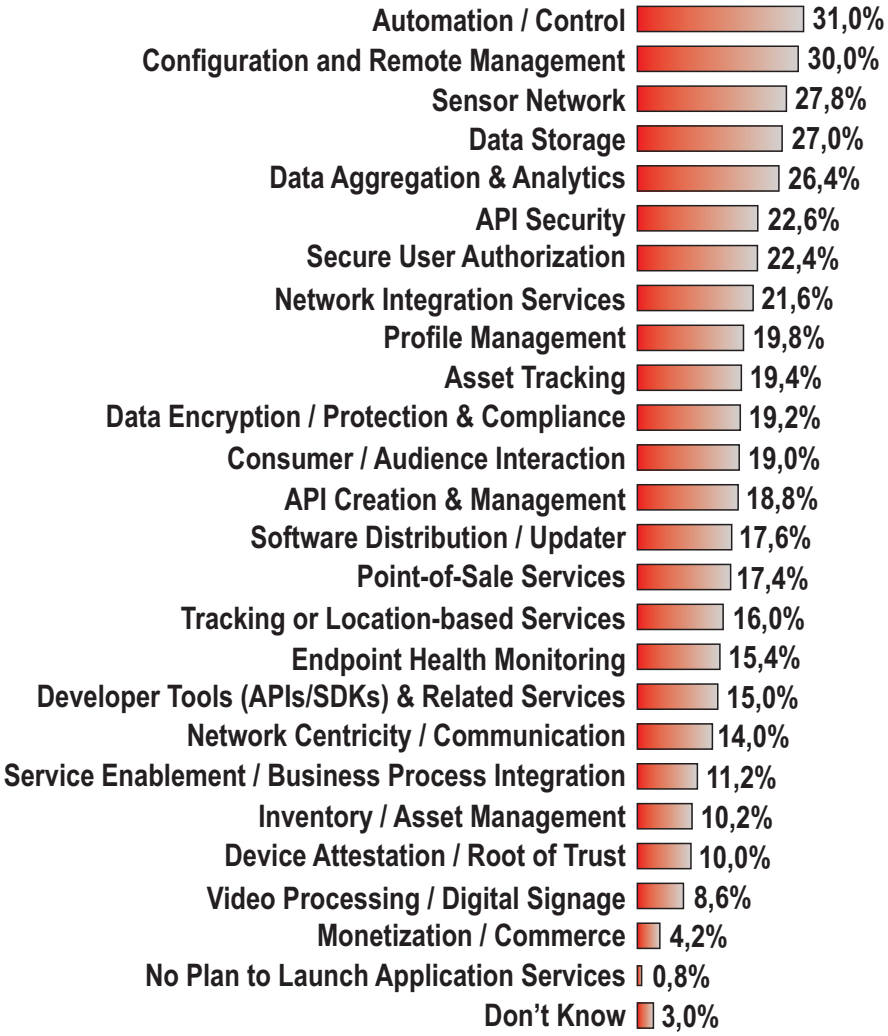
Cover Story

The Most Attractive Application Services Deployed through IoT Gateways (VDC Research - PTC)
For details see IoT World Jan-Feb 2017 page 7 & 8



In this Edition:

Daniel Dierickx
CEO & co-Founder
at e2mos
Acting Chief Editor

Dear Reader,

Here is your free copy of IoT World, one of our five e-magazines published by e2mos.

Our aim is to provide you with relevant information directly in relation with your activity.

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Thank you, Daniel Dierickx

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IoT Heading for Mass Adoption by 2019 Driven by Better-Than-Expected Business Results by Aruba, a Hewlett Packard Enterprise company

International study reveals IoT adopters are seeing strong gains in innovation and business efficiency, yet security remains a key concern with 84% reporting an IoT-related security breach

February 28, 2017 03:00 AM Eastern Standard Time

NASHVILLE, Tenn.--(BUSINESS WIRE)--A new global study 'The Internet of Things: Today and Tomorrow' published by Aruba, a Hewlett Packard Enterprise company (NYSE:HPE), reveals that IoT will soon be widespread as 85% of businesses plan to implement IoT by 2019, driven by a need for innovation and business efficiency. While the analysis confirms the clear business benefits from investments in IoT, Aruba's report cautions that connecting thousands of things to existing business networks has already resulted in security breaches for the majority of organizations.

The research questioned 3,100 IT and business decision makers across 20 countries to evaluate the current state of IoT and its impact across different industries. The study shows that while virtually all business leaders (98%) have an understanding of IoT, many are unclear of the exact definition of IoT and what it means for their business.

In his new eBook 'Making Sense of IoT', commissioned by Aruba, technology visionary Kevin Ashton—who coined the term 'Internet of Things'— presents the following definition:

"The 'Internet of Things' means sensors connected to the Internet and behaving in an Internet-like way by making open, ad hoc connections, sharing data freely and allowing unexpected applications, so computers can understand the world around them and become humanity's nervous system."

The Expectations Dividend
When examining the business benefits of IoT, Ashton discovered that the real-world benefits gained from IoT exceeded even the original expectations. This 'expectations dividend' is evident in two key performance areas: business efficiency and profitability.

As an example, only 16% of business leaders projected a large profit gain from their IoT investment, yet post-adoption, 32% of executives realized profit increases. Similarly, only 29% of executives expected their IoT strategies to result in business efficiency improvements, whereas actual results show that 46% experienced efficiency gains.

Chris Kozup, vice president of marketing at Aruba, comments: "With the business benefits of IoT surpassing expectations, it's no surprise that the business world will move towards mass adoption by 2019. But with many executives unsure of how to apply IoT to their business, those who succeed in implementing IoT are well positioned to gain a competitive advantage."

How Global Organizations are Using IoT
Aruba's research reveals varying levels of IoT maturity across different industry sectors. The following five vertical industries are leaders in their adoption of IoT and have realized tangible business benefits from a focused, use case approach to adoption.

Enterprises create a smart workplace for productivity and efficiency:
Over seven in ten (72%) enterprises have introduced IoT devices into the workplace. Indoor location-based services ranks as the second most promising use case to improve employee productivity, after remote monitoring. Twenty percent report remote operation of building lighting and temperature as a key use case, but that number more than doubles to 53% when asked about future IoT implementations.
Looking at the tangible results being realized today, 78% say the introduction of IoT in the workplace has improved the effectiveness of their IT team, and 75% find it has increased profitability.

The industrial sector increases business efficiency and visibility through IoT-enabled monitoring and maintenance:
More than six in ten (62%) respondents in the industrial sector have already implemented IoT. Using IoT to monitor and maintain essential industrial functions was identified as the most impactful use case in the sector. Today, the use of IP-based surveillance cameras for physical security within industrial organizations is still in its infancy, with only 6% having implemented it. However, when asked about future implementations, surveillance jumped five-fold to 32%.
Across the sector, 83% report increased business efficiency and another 80% have found improved visibility across the organization.

Healthcare introduces IoT to improve patient monitoring, reduce cost and foster innovation:
Coming in as the third most advanced in its implementation of IoT, 60% of healthcare organizations globally have introduced IoT devices into their facilities.
Across the sector, 42% of executives rank monitoring and maintenance as the number one use of IoT—higher than all other sectors. This underscores the importance of IoT-enabled patient monitoring in the modern healthcare industry.
Eight in ten report an increase in innovation and another 73% report cost savings.

... to next page

Retailers engage with customers and boost sales using indoor location technology:
Just 49% of retailers are using IoT technology, but 81% of these report improved customer experiences. An improved customer experience is likely to have a significant impact on customer loyalty and ultimately, revenue.
In-store location services delivering personalized offers and product information to shoppers was touted as the number one implementation for IoT, alongside monitoring and maintenance. Four in ten retailers ranked surveillance in their top three key use cases.

Governments lag in IoT adoption, struggle with legacy technology but still reduce costs:
The slowest sector to adopt IoT, only 42% of municipalities have deployed IoT devices and sensors. A third (35%) of IT decision makers claim their executives have little to no understanding of IoT, double the global average, suggesting that lack of education is the biggest barrier to mass adoption in this sector.
While nearly half (49%) of government IT departments are struggling with legacy technology, seven in ten IoT adopters in the public sector report cost savings and improved organizational visibility as the major benefits.

The Data Context and Security Challenge
Alongside these positive returns, the study also uncovers a number of obstacles that IT leaders feel are preventing IoT from delivering greater business impact. In particular, the cost of implementation (50%), maintenance (44%) and integration of legacy technology (43%) were highlighted as key issues.

Most notably, security flaws were found across many IoT deployments. The study found that 84% of organizations have experienced an IoT-related security breach. More than half of respondents declared that external attacks are a key barrier to embracing and adopting an IoT strategy. This confirms that a holistic IoT security strategy, built on strong network access control and policy management, will not only protect enterprises but also simplify the security approach for IT.

The ability to capture and effectively use data is described by Kevin Ashton as "what defines the Internet of Things", but this appears to be another clear challenge for global organizations. While nearly all (98%) of organizations that have adopted IoT claim that they can analyze data, almost all respondents (97%) feel there are challenges to creating value from this data. Well over a third (39%) of businesses are not extracting or analyzing data within corporate networks, and are thereby missing out on insights that could improve business decisions.

Kozup comments, "While IoT grows in deployment, scale and complexity, proper security methodologies to protect the network and devices, and more importantly, the data and insights they extract, must also keep pace. If businesses do not take immediate steps to gain visibility and profile the IoT activities within their offices, they run the risk of exposure to potentially malicious activities. Aruba is enabling customers to rapidly assess IoT deployments within their facilities and determine any potential threats that may be present."

Ashton concludes: "Since its inception in 1999, the Internet of Things has been ridiculed, criticized, and misunderstood. And yet here we are, less than two decades later, in a world where tens of thousands of organizations are saving and making hundreds of millions of dollars from the Internet of Things, using cars that drive themselves, subway stations that sense passengers, algorithms that diagnose deadly diseases using phones, and many other once apparently-impossible technologies. The future promises far more amazing things. The most important decision you can make now is how to be a part of it."

Additional Resources
IoT Campaign and Content Page - http://www.arubanetworks.com/solutions/internet-of-things/
Blog: Wake up to the Internet of Things - http://community.arubanetworks.com/t5/Aruba-Unplugged/Wake-up-to-the-Internet-of-Things/ba-p/288688
IoT White Paper: Internet of Relevant Things - http://www.arubanetworks.com/assets/wp/WP_InternetOfRelevantThings.pdf

Research methodology
A total of 3,100 IT and business decision makers were interviewed in November and December 2016. The respondents were from organizations of at least 500 employees, and were from both public and private sectors, but with a focus on the industrial, government, retail, healthcare, education, construction, finance, and IT/technology/telecommunications sectors. Interviews were conducted both online and via telephone using a rigorous multi-level screening process to ensure that only suitable candidates were given the opportunity to participate. Respondents were interviewed in the UK, Italy, Germany, France, the Netherlands, Spain, Sweden, Norway, Turkey, UAE, Saudi Arabia, the US, Singapore, Japan, Australia, India, Brazil, Mexico, China and South Korea.

About Aruba, a Hewlett Packard Enterprise company
Aruba, a Hewlett Packard Enterprise company, is a leading provider of next-generation networking solutions for enterprises of all sizes worldwide. The company delivers IT solutions that empower organizations to serve the latest generation of mobile-savvy users who rely on cloud-based business apps for every aspect of their work & personal lives.

To learn more, visit Aruba at http://www.arubanetworks.com.

5G is impossible without full convergence, reveals Wireless Broadband Alliance Annual Industry Report 2016

IoT and 5G are impractical without convergence and coexistence of licensed and unlicensed technologies

The Wireless Broadband Alliance (WBA), in partnership with Maravedis-Rethink, has today published its Annual Industry Report for 2016, revealing that the Internet of Things (IoT), the hyper-dense network and 5G will not be economic or practical without the convergence and coexistence of licensed and unlicensed technologies. Ultimately, success will depend on unlicensed technologies working in conjunction with licensed networks, enabling new performance levels and flexibility for service providers of all kinds.

Each year, the WBA conducts an industry-wide survey, and puts its findings into a report in order to update the industry on the state of the wireless broadband market. This year's report focuses on next generation Wi-Fi, the need for convergence and coexistence between unlicensed and licensed technologies, as well as the development of connected cities and city services.

Key findings from the Annual Industry Report include:

- Nearly 80% of respondents believe they will deploy Next Gen Wi-Fi by 2020, driven by the need to improve quality of experience (QoE), reduce churn, and provide seamless access between Wi-Fi networks, and between Wi-Fi and licensed networks
- The key challenges for companies in developing and deploying wireless services are creating a sustainable business model, ensuring QoE and device availability
- IoT, streaming video/OTT and Wi-Fi calling will be primarily driving future traffic growth
- 63% of respondents believe that convergence will be important to crucial for network strategies, while 71% believe coexistence will be important to crucial
- Operators remain a key partner for cities, compared to infrastructure vendors or systems integrators, and are key in supporting and providing CAPEX, OPEX, maintenance and revenue sharing or generation
- Dealing with public expectations, privacy and security are concerns and challenges for cities
- Providing connectivity for city services, along with location based services and big data analytics have increased in relevancy and importance

Furthermore, the WBA's 'Roadmap for Coexistence and Convergence in 5G' market research also supports these findings. While 62% of respondents believe 5G will be a combination of licensed and unlicensed technologies, 88% of respondents believe that unlicensed spectrum technologies are critical for the development of 5G, due to factors such as enhanced throughput, reduced latency, better coverage and lower costs.

"There has been a long history of innovation within the Wi-Fi community, and our latest Industry Report shows there are no signs of this slowing down," said Shrikant Shenwai, CEO of the WBA. "5G, smart cities, Wi-Fi and convergence and coexistence between licensed and unlicensed technologies are going to play a huge role in the development of networks and in turn, deliver better services for the consumer."

The 2016 WBA Annual Industry Report is available to download here.

About the Wireless Broadband Alliance

Founded in 2003, the mission of the Wireless Broadband Alliance (WBA) is to champion the development of the converged wireless broadband ecosystem through seamless, secure and interoperable unlicensed wireless broadband services for delivering outstanding user experience. Building on our heritage of NGH and carrier Wi-Fi, WBA will continue to drive and support the adoption of Next Generation Wi-Fi services need coexistence and convergence of unlicensed and licensed networks across the entire public Wi-Fi ecosystem, including IoT, Big Data, Converged Services, Smart Cities, 5G, etc. Today, membership includes major fixed operators such as BT, Comcast and Time Warner Cable; seven of the top 10 mobile operator groups (by revenue) and leading technology companies such as Cisco, Microsoft, Huawei Technologies, Google and Intel. WBA member operators collectively serve more than 2 billion subscribers and operate more than 30 million hotspots globally.

The WBA Board includes AT&T, Boingo Wireless, BT, China Telecom, Cisco Systems, Comcast, Intel, KT Corporation, Liberty Global, NTT DOCOMO, Orange and Ruckus Wireless. For a complete list of WBA members, please click here.

About Maravedis-Rethink

Maravedis-Rethink is a premier wireless infrastructure analyst firm. We focus on broadband wireless technologies (including LTE, WiMAX, small cells, core and backhaul) as well as industry spectrum regulations and operator trends. Since 2002, Maravedis and Rethink Research have provided clients worldwide with strategic insight to help them achieve key business objectives. Clients can access Maravedis- Rethink' technology, spectrum and market intelligence through subscription-based research services which include disruptive reports, webinars and online databases, analyst support and briefings as well as custom consulting engagements. Maravedis-Rethink has offices in 7 countries across 4 continents. **MORE** www.maravedis-bwa.com/en/about/about-maravedis

IoT Gateway
Fanless & Ultra Compact Embedded Platform for Harsh Environments

Full support Intel® IoT Gateway
Pre-loaded Wind River® IDP XT 2.0/3.1
WiFi, BT, 3G, and LTE
Certified by Microsoft Azure, IBM Bluemix & SEMA Cloud

Features

- Dual-core Intel® Atom™ SoC processor E3826
- Extremely compact: 120 (W) x 100 (D) x 55 (H) mm
- Full support Intel® IoT Gateway, with pre-loaded Wind River® IDP XT 2.0/3.1
- Certified by Microsoft Azure, IBM Bluemix & SEMA Cloud
- 1x HDMI, 2x USB 2.0 + 1x USB 3.0, 2x GbE ports, optional 4 isolated DI/O, 2x mPCIe slots (one supporting mSATA), 1x USIM socket, 1x SDIO
- Aluminum housing, withstanding industrial grade EMI/EMS (EN 61000-6-4EN 61000-6-2)
- Optional DIN-Rail / Wall mounting

ADLINK"s new Matrix MXE-200i series Embedded IoT Gateway Platform is based on the Intel® Atom™ SoC processor E3826 and has superior-class construction meeting a wide variety of specific industrial needs. Supporting Intel® IoT Gateway, with pre-loaded Wind River® IDP XT 2.0/3.1 enabling full IoT function, the MXE-200i series offers the most reliable Embedded IoT Gateway for use in harsh environments, compliant with industrial grade EMI/EMS (EN61000-6-4,61000-6-2), protecting customer assets and reducing TCO. Opposing conventional correlations between size and computing power, the MXE-200i series features large-scale performance in an ultra-compact package.

With its two GbE LAN, two COM, two USB 2.0 and one USB 3.0 host ports, optional four isolated DI and four isolated DO w/ interrupt support, dual mini PCIe slots with one mSATA support and USIM socket support communication with connections such as WiFi, BT, 3G, and LTE, the MXE-200i enables seamless interconnection, ensuring interoperability between systems. Matrix's proven rugged construction assures operation in harsh environments with operating shock tolerance up to 100 G and an extended operating temperature range option of -20°C to 70°C.

Implementation of ADLINK"s proprietary SEMA Cloud tool, the MXE-200i maximizes manageability and security for a world of applications, delivering efficient remote monitoring of system activity and health in real time, system control over a robust secured channel, and complete, fully manageable utilization of system resources.

All told, the MXE-200i presents an intelligent, robust embedded system supporting wide application development and easy service deployment, presenting outstanding performance in Intelligent Transportation, Facility Management, Industrial Automation and Internet of Things (IoT).

MORE: Click Here

APPLICATION BRIEF

CASE STUDY - Intel IoT Gateways - Industrial and Energy Solution

- Capitalizing on Internet of Things with a Starter Kit Based on Intel® IoT Gateways Click Here

VIDEO Series

- Machine Failure Prediction Click Here
- Automated Parking Systems Click Here
- Intel-based Gateway Solutions Click Here

21 Billion IoT Devices Will Ship with Embedded Real-Time Operating Systems by 2022

LONDON, March 6, 2017 /PRNewswire/ -- IoT faces new computing challenges, notably with deployment and scaling, and its future will rely in part on using embedded Real-Time Operating Systems (RTOS), which support many IoT application features, such as small size, constrained processing resources, low power consumption, limited maintenance, and real-time computing. ABI Research forecasts 21 billion IoT devices will ship with embedded RTOS by 2022.

"The tremendous expansion of the IoT revived the embedded RTOS market, with open source platforms springing up rapidly to jostle long-established proprietary players," says Michela Menting, Research Director at ABI Research. "While industrial demand for RTOS has a decade-long history, the development of new IoT applications in other segments, such as consumer, digital home, connected car, and smart cities, jolted demand for embedded RTOS."

Supported by greater MCU capabilities and lowering price points, the embedded RTOS market is expanding rapidly. Some of the most high-profile and innovative RTOS currently on the market include:

µC/OS, FreeRTOS, Integrity RTOS, mbed OS, MEOS, MQX RTOS, Nucleus RTOS, PikeOS, QNX, RIOT OS, ThreadX, VxWorks, and Zephyr.

Many open source operating systems popular with the IoT are increasingly adding real-time capabilities to compete in this lucrative market. Currently, the embedded RTOS market is highly fragmented, with hundreds of different platforms available.

"RTOS shows immense promise in terms of flexibility and application for all kinds of new IoT markets," concludes Menting. "Although, developers will need to tackle issues of interoperability and standardization to realize its full potential."

These findings are from ABI Research's Embedded Real-Time Operating Systems for the IoT (*https://www.abiresearch.com/market-research/product/1025277-embedded-real-time-operating-systems-for-t/*) report.

About ABI Research
ABI Research stands at the forefront of technology market research, providing business leaders with comprehensive research and consulting services to help them implement informed, transformative technology decisions. Founded more than 25 years ago, the company's global team of senior and long-tenured analysts delivers deep market data forecasts, analyses, and teardown services. ABI Research is an industry pioneer, proactively uncovering ground-breaking business cycles and publishing research 18 to 36 months in advance of other organizations.
For more information, visit *www.abiresearch.com*.

Editor Important Remarks

1 - Other leading RTOS:

- OSE and OSE MCE from ENEA: not mentioned in the PR above neither in the report
- MS Windows Embedded: not mentioned in the PR above but included in the report
- Linux: not mentioned in the PR above but included in the report

2 - About ENEA OSE Multicore Edition (OSE MCE):

• HYBRID SMP AND AMP ARCHITECTURE
The twice award winning design of the Enea OSE multicore kernel provides the ease-of-use of Symmetric Multi-Processing (SMP) together with the scalability and determinism of Asymmetric Multi-Processing (AMP) and the performance of bare metal.

• ENEA OSE AND 64-BIT SUPPORT
Enea OSE supports all major architectures, e.g ARM, x86, MIPS and PowerPC, both in 32-bit and 64-bit mode. The market need for 64-bit support is increasing, driven by the need for support of larger memories, e.g RAM sizes above 4 GB. As most CPUs today are both multicore and 64-bit, Enea OSE becomes the best fit with its advanced memory management features and excellent scalability characteristics.

MORE: please visit ENEA https://www.enea.com/products/operating-systems/enea-ose/

Kontron takes LoRa™ network for a journey with its standalone network server and IoT gateway for on-board Rail

New EN50155 railway certified TRACe LoRa-MQTT is first to provide a secure all-in-one LoRa network server and IoT gateway pushing MQTT streams to the cloud

Toulon, France, April 25, 2017 – Kontron, a leading global provider of Embedded Computing Technology (ECT), today announced the TRACe LoRa-MQTT, a new integrated En50155 fanless solution-ready platform offering a LoRa™ local network and transforming messages to Message Queue T elemetry Transport (MQTT) streams. Coupled with cloud connectivity services, the Kontron TRACe LoRa-MQTT is an all-in-one secure IoT gateway achieving continuous c ommunications from LoRa-based devices to the Cloud server and enabling secure data collection and remote analysis.

Extending the family of Kontron TRACe products specifically designed for Transportation, the TRACe LoRa-MQTT embeds a LPWAN (Low Power Wide Area Network) LoRa™ radio concentrator sustaining up to 8 communication channels simultaneously and Ethernet connectivity from one of the two GbE front M12 X-Coded connectors. The Cloud connection based on standard IP Ethernet automatically transforms LoRa™ messages to MQTT streams and the security is guaranteed by a TLS connection using private keys both on the TRACe gateway side and on the Cloud server side.

"Achieving reliable data transmission from a fast moving platform with ground stations is a technical challenge we have successfully met," said Philippe Vincent, General manager at Kontron Toulon, "we are excited that our TRACe LoRa-MQTT gateway is already being tested on a high speed train."

In addition, the Kontron TRACe LoRa-MQTT integrates various sensors and a micro-controller for system health monitoring. Designed to EN50155 railway certification, the TRACe LoRa-MQTT ensures stable operation in the harshest environments.Please find more information here: http://www.kontron.com/products/systems/transportation-computers/trace-railway-computers/trace-loramqtt.html

5TONIC is one of the Mobile IoT Open Labs recognized by GSMA

March 6, 2017 - Source: 5TONIC

To assist with the deployment of the 3GPP standardized Mobile IoT technologies (NB-IoT, LTE-M, and EC-GSM), the GSMA's Connected Living programme has launched the «Mobile IoT Open Lab Map», a unique resource which provides information on the operators, equipment manufacturers and associated technologies that are being developed in any particular region.

There is a total of 15 labs in the world, 9 of them in Europe, and 5TONIC is one of them. The list of all the recognized labs is available at: http://www.gsma.com/connectedliving/mobile-iot-lab-maps/

Over 70 global mobile operators back the GSMA Mobile IoT initiative, supported by more than 150 hardware and software providers participating in the GSMA MIoT Innovator community.

5TONIC activities in this area have already started, with the testing of the devices that have been used in the Mobile IoT (NB-IoT and LTE-M) demos carried out by Telefónica and Ericsson during the Mobile World Congress 2017. In the future, 5TONIC will allow device manufacturers and innovators to become collaborators in order to test different use cases and applications on the lab network infrastructure.

3GPP Mobile IoT technologies will accelerate the development of low power wide area (LPWA) IoT commercial solutions and ensure they are supported by a broad ecosystem, providing customers with more choice. They are considered a first step towards the implementation of massive Machine Type Communications (mMTC), which foresees tens of billions of network-enabled devices connected worldwide.

More Info:

- Mobile IoT Open Labs Map (26/02/2017)
- AT&T, KDDI, KPN, NTT DOCOMO, Orange, Telefonica, Telstra, TELUS and Verizon Back Deployment of LTE-M for Internet of Things (PDF | 542.4KB) (27/02/2017)
- Telefonica IoT Connectivity Hub (24/02/2017)

New Wireless Gecko SoCs Help Developers Tackle Multiprotocol IoT Design Challenges

Silicon Labs' EFR32xG12 Supports Complex IoT Applications with a Rich Set of Connectivity, Memory and Peripheral Features

NUREMBERG, Germany, March 14, 2017 /PRNewswire/ -- (Embedded World) -- Silicon Labs (NASDAQ: SLAB) announces a major expansion of its Wireless Gecko system-on-chip (SoC) portfolio, making it easier for developers of all skill levels to add versatile multiprotocol switching capabilities to increasingly complex IoT applications. The new EFR32xG12 SoCs support a broader range of multiprotocol, multiband use cases for home automation, connected lighting, wearables and industrial IoT. These SoCs deliver superior RF performance, enhanced cryptography acceleration, larger memory options, on-chip capacitive touch control, and additional low-power peripherals and sensor interfaces.

"Multiprotocol connectivity provides advanced capabilities to help simplify our networked lighting control designs while also satisfying customer needs for easy installation and over-the-air upgrades that extend product life," said Bruce Bharat, Director of Product Marketing – Networked Controls, Acuity Brands Lighting, a market leader in providing indoor and outdoor lighting, controls and energy management solutions. "Silicon Labs' Wireless Gecko platform gives us the multiprotocol SoCs, modules, robust software stacks and powerful development tools we need to get our network-enabled LED fixtures and controls to market quickly."

Wireless Gecko SoCs support zigbee® and Thread mesh networking, Bluetooth® 5 and proprietary wireless protocols. Silicon Labs has optimized its wireless protocol stack architecture to enable efficient switching between different network protocols. For example, device makers can now use a single chip to commission and configure devices over Bluetooth with a smartphone, and then join a zigbee or Thread mesh network to connect to dozens or even hundreds of end nodes.

"The EFR32 Wireless Gecko portfolio is the most versatile, feature-rich multiprotocol platform available today," said Daniel Cooley, Senior Vice President and General Manager of Silicon Labs' IoT products. "We continue to enhance the Wireless Gecko platform with new hardware and software capabilities that advance multiprotocol connectivity and address the real-world requirements of IoT products."

Superior RF Performance and Security

The Wireless Gecko portfolio offers the highest output power (up to +19 dBm) in the multiprotocol SoC market, reducing system size, cost and complexity by eliminating the need for an external power amplifier. EFR32xG12 SoCs also offer exceptional sensitivity in the 2.4 GHz band (-102.7 dBm for zigbee and Thread and -95 dBm for Bluetooth low energy) as well as improved sub-GHz performance for applications using proprietary protocols. The combination of highest RF output power and best sensitivity enables excellent wireless range, greater reliability and improved battery life for IoT applications such as smart meters.

EFR32BG12 Blue Gecko SoCs feature a 2 Mbps Bluetooth PHY, providing ample throughput for applications running a Bluetooth 5-compliant stack. The Bluetooth 5 standard enables four times the range, twice the speed, 800 percent greater broadcasting capacity and improved co-existence with other wireless IoT protocols.

To help secure the IoT, the EFR32xG12 SoCs include a second on-chip security accelerator dedicated to the multiprotocol radio and a NIST-certified true random number generator (TRNG). This additional hardware cryptography block runs the latest security algorithms with higher performance and lower power than conventional software implementations.

More Memory and Peripherals

EFR32xG12 SoCs offer four times more flash memory (up to 1024 kB with a dual-bank architecture) and eight times more RAM (up to 256 kB) than previous-generation Wireless Gecko devices. This significant memory expansion makes it easier to develop complex, feature-rich IoT applications supporting multiple protocol stacks, real-time operating systems such as Micrium OS, backup images for devices and over-the-air (OTA) updates for field upgrades to extend the life of IoT products.

The SoCs' expanded set of digital and analog peripherals gives developers greater design flexibility and the ability to connect additional components, such as sensors. An autonomous capacitive sensing controller provides direct support for cap-touch interfaces in IoT products, without the cost and complexity of adding external controllers.

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New Wireless Gecko SoCs Help Developers Tackle Multiprotocol IoT Design Challenges

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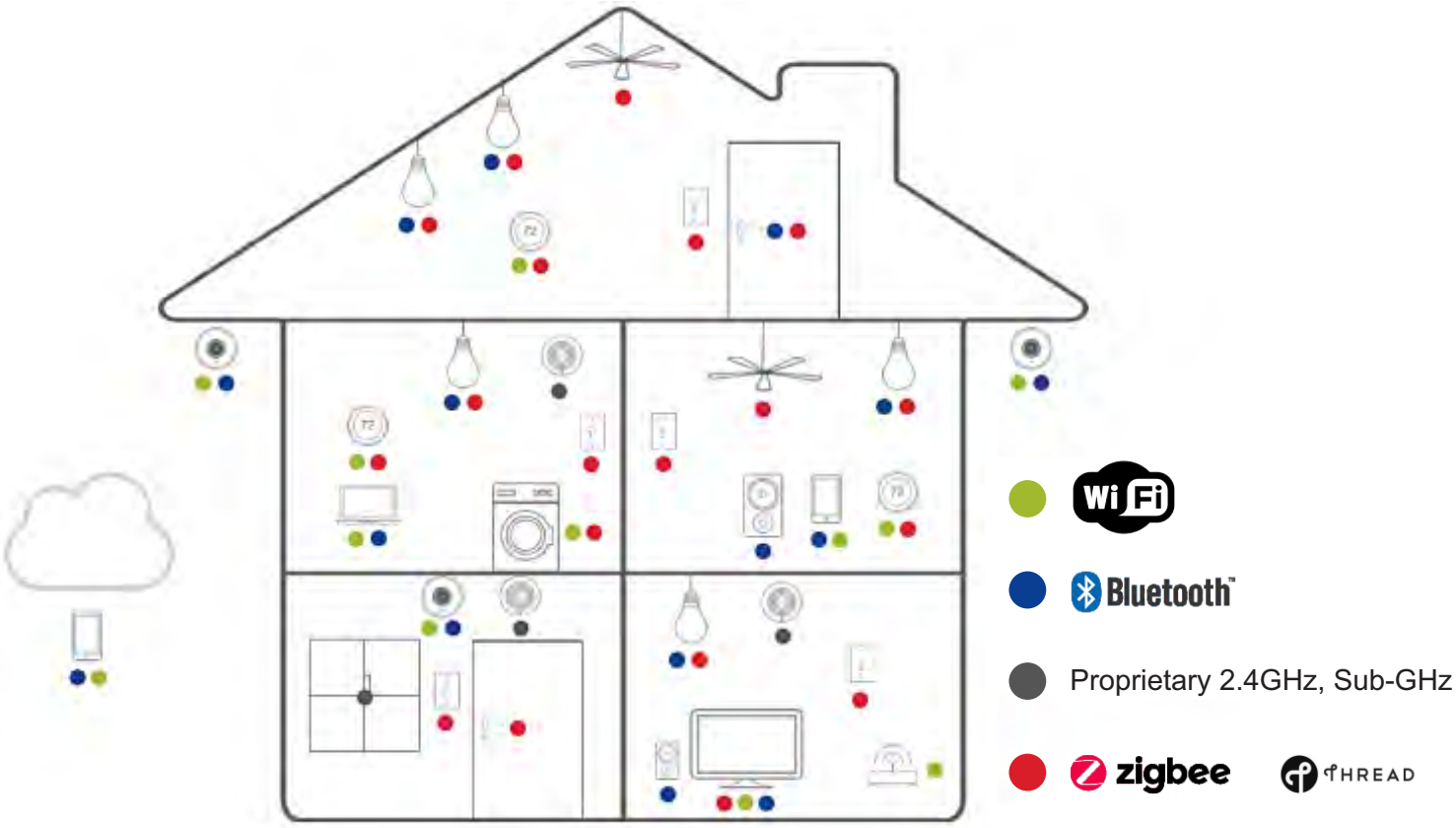

Pricing and Availability

EFR32xG12 Wireless Gecko SoC samples and production quantities are available now in 7 mm x 7 mm QFN48 packages, as well as 65-GPIO 7 mm x 7 mm BGA options for feature-rich applications requiring a large number of I/Os. Pricing for EFR32xG12 SoCs in volume quantities begins below $3.00 USD. For Mighty Gecko, Blue Gecko and Flex Gecko SoC pricing information, contact your local Silicon Labs sales representative or authorized distributor. The full-featured SLWSTK6000A Mighty Gecko Mesh Development Kit, supporting all protocols, is priced at $499. Additional radio boards for Mighty Gecko, Blue Gecko and Flex Gecko are available priced at $49. (All kits USD MSRP.) The Wireless Gecko portfolio is supported by Silicon Labs' full suite of Simplicity Studio development tools, available to developers free of charge.
To order Wireless Gecko samples and development kits, visit www.silabs.com/wirelessgecko.

Silicon Labs

Silicon Labs (NASDAQ: SLAB) is a leading provider of silicon, software and solutions for a smarter, more connected world. Our award-winning technologies are shaping the future of the Internet of Things, Internet infrastructure, industrial automation, consumer and automotive markets. Our world-class engineering team creates products focused on performance, energy savings, connectivity and simplicity.

MORE: www.silabs.com

Sierra Wireless, Landis+Gyr and Altair work with Telstra to launch new IoT era

Leading IoT solutions provider Sierra Wireless delivers modules for Telstra's upcoming Cat-M1 network using Altair's LTE platform to enable Landis+Gyr's industry first live Cat-M1 smart meter trial

Barcelona, Spain-February 27, 2017
Telstra, Sierra Wireless, Landis+Gyr and Altair today announced a significant milestone in accelerating the Internet of Things (IoT). Telstra is the first to complete network software deployment nationally to enable one of the world's largest Category M1 (Cat-M1) IoT footprints and has commenced localised Cat-M1 trials in Australia. Sierra Wireless AirPrime® modules, based on the Altair ALT-1210 LTE platform, will be the first trial Cat-M1 device to be deployed on Telstra's network, and Landis+Gyr will provide the first Cat-M1 smart meters to be trialed.

Telstra's Cat-M1 network will connect a wide variety of new and existing IoT solutions and services including wearables, water meters, agri-sensors, smart appliances, asset monitoring, industrial automation and more. Cat-M1 technology enables lower cost devices, greater breadth and depth of coverage, and up to 10 years of battery life for many use cases, while leveraging the secure existing LTE infrastructure.

"We are excited to be working with our partners Sierra Wireless, Landis+Gyr, and Altair to trial the first Cat-M1-enabled smart meter on our network," said Mike Wright, Telstra's Group Managing Director of Networks. "These smart meter trials will mean we can get the benefits of Cat-M1, such as low power consumption and deep coverage, out to market even quicker."

Landis+Gyr is one of the first customers to utilize Telstra's Cat-M1 network capabilities for its smart meter and smart grid applications. Utility customers rely on robust coverage to ensure the success of smart metering rollouts. The Cat-M1 network is perfectly suited for this; when deployed on a 4G network, the solution will continue to be enhanced to significantly extend breadth and depth of coverage, while balancing data speeds and latency. The smart energy innovator is also the first in the world to demonstrate smart electricity metering operating over a Cat-M1 network.

"Cat-M1 technology is critical for Landis+Gyr smart meters," said Adrian Clark, CEO Australia, New Zealand and South East Asia, Landis+Gyr. "Sierra Wireless' modules made it easy to migrate from 3G to Cat-M1 technology seamlessly, allowing us to take part in early trials and get to market quickly with solutions that take advantage of Cat-M1 network features. We are really excited by the results and the role this partnership plays in Landis+Gyr's rollout of the next generation of advanced metering infrastructure."

"Telstra's Cat-M1 network makes LTE the superior option for connecting IoT solutions nationwide, with improved coverage and battery life that will benefit existing applications and enable many new ones," said Dan Schieler, Senior Vice President and General Manager, Embedded Solutions at Sierra Wireless. "Our HL7749 Cat-M1 module provides another CF3™ form factor option for our customers operating their devices on Telstra's network, allowing them to quickly and cost-effectively migrate their connected IoT products or services from 2G, 3G, or 4G to Cat-M1."

"Altair continues to spearhead wireless IoT semiconductor development with the latest Cat-M1 standards," said Eran Eshed, Vice President of Worldwide Marketing and Sales at Altair. "This cooperation with three innovative ecosystem partners enabled the most significant milestone to date on the path to commercial readiness."

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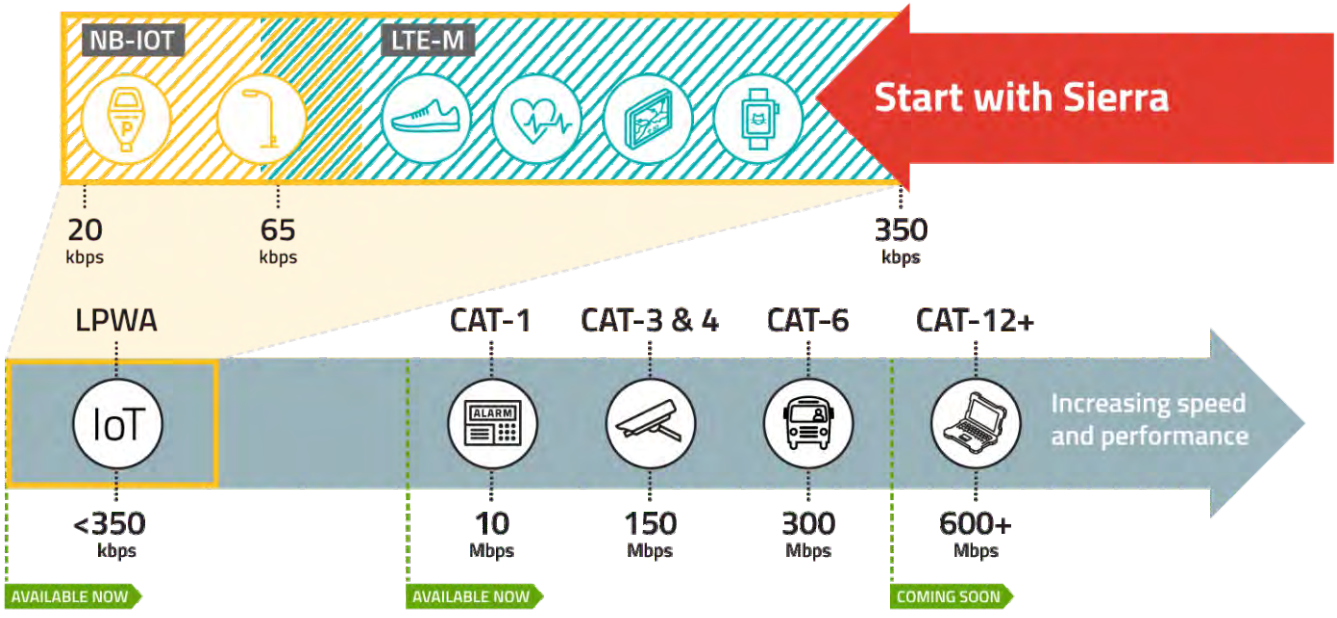

Sierra Wireless, Landis+Gyr and Altair work with Telstra to launch new IoT era

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About Telstra

Telstra is a leading telecommunications and information services company. We offer a full range of services and compete in all telecommunications markets in Australia, operating the largest mobile and Wi-Fi networks. Globally, we provide end-to-end solutions including managed network services, global connectivity, cloud, voice, colocation, conferencing and satellite solutions. We have licenses in Asia, Europe and the United States and offer access to more than 2,000 points of presence across the globe. For more information visit www.telstra.com.

About Altair

Altair Semiconductor, a Sony company is a leading provider of LTE chipsets. Altair's portfolio covers the complete spectrum of cellular 4G market needs, from supercharged video-centric applications all the way to ultra-low power, low cost IoT and M2M. Altair has shipped millions of LTE chipsets to date, commercially deployed on the world's most advanced LTE networks including Verizon Wireless, AT&T, Softbank and KT (Korea Telecom). The company's customer roster includes some of the world's leading OEMs and ODMs, such as Telit, Sierra Wireless, WNC and Gemtek as well as the majority of Asian ODMs developing LTE products for global markets.
For more information, visit www.altair-semi.com.

About Landis+Gyr

Landis+Gyr is a world leader in smart metering, energy management solutions, and related services, with presence in 30 countries headquartered in Zug, Switzerland focused on metering and other technologies which deal with management of energy.

Landis+Gyr is the global industry leader in metering solutions for electricity, gas, heat/cold and water for energy measurement solutions for utilities. Since 1896 the company has been helping customers overcome operational, regulatory and consumer driven challenges by capturing the advantages and benefits of technology. Focused on quality, reliability and innovation, the Group offers a complete portfolio of energy meters and integrated smart metering solutions, enabling utilities and end-users to make better use of scarce resources, save operating costs and protect the environment by managing energy better – and to build the smart grid.
For more information, please visit www.landisgyr.com.

About Sierra Wireless

Sierra Wireless (NASDAQ: SWIR) (TSX: SW) is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. We offer the industry's most comprehensive portfolio of 2G, 3G and 4G embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster. Sierra Wireless has more than 1,000 employees globally and operates R&D centers in North America, Europe and Asia.
For more information, visit www.sierrawireless.com.