

# Information Security: The biggest barrier to the Internet of Things

Research conducted by Telecom Intelligence has revealed that information security remains the biggest inhibitor of the development of the Internet of Things (IoT), with 42% of respondents identifying security as one of the top two challenges for widespread adoption of IoT.



Mark Warren

"As the research makes clear, IoT depends on a complex ecosystem, including providers of connectivity, device, cloud, data analytics and more. Securing the whole IoT stack, from the device hardware and software through all the network components and the cloud providers in such a way as to build trust with users is a tall order," says Mark Warren, M2M solutions manager for Africa at Gemalto. "This makes trust critical for IoT to achieve its potential, especially in terms of its adoption by the mass market." He adds that the requisite level of trust can only be built up when the identity of participants - both human and machine - can be guaranteed, an area in which Gemalto has built strong expertise.

Telecoms Intelligence based the research, *2015 IoT Outlook Report*, on input from close to 1,000 respondents, spanning operators, academics, consultants, cloud service providers and chipset manufacturers, among others. Its aim was to provide insight that was highly granular.

An important question answered by the research relates to what the IoT actually is. The majority of respondents (51.8%) primarily associate the IoT with consumer technology, such as home automation (28.5%) and wearable or mobile technology (23.3%). For 16.7%, the IoT is associated with sensors, while the remaining 8.4% associate it with machine-generated big data and 15.4% with the smart city - a combined 40.5% that relates, broadly speaking, to the industrial IoT.

## Telecoms operators in pole position

The research additionally indicates that telecommunications operators are considered to be in pole position within the emerging IoT ecosystem. The majority of respondents (59.7%) are saying IoT was impossible without telecoms service providers while 50.3% identified 4G as the catalyst for widespread adoption of IoT. Just a third of respondents (32%) said telecommunications operators are best placed to monetise IoT, ahead of cloud providers (17.5%).

Another potential barrier to the successful development and commercialisation of IoT is the creation of standards to ensure interoperability between devices and sensors and, critically, between connectivity platforms. Over one-third of respondents (37.2%) fingered "issues relating to platform standardisation" as one of the biggest barriers to the expansion and acceptance of the IoT.

With cellular networks likely to provide the main medium of connectivity, telecoms companies are likely to play a key role in driving connectivity standards, even across local area and wide-area networks. As such, the importance of resolving inter-connectivity issues cannot be overemphasised, especially given the fact that two rival open collaboration groups are developing networking topologies for the wide-area network that are capable of handling widely-dispersed M2M and IoT traffic.

## Opportunities IoT

Warren explains that the opportunities created by IoT are wide-ranging and limited only by one's imagination. "Given that data-driven insights are the key value to be derived from use of the IoT, it follows that providers of cloud-based storage and



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analytics are likely to benefit from numerous opportunities as their offerings will underpin the actual IoT-based services, whether consumer or business-focused. These will naturally be derived from market needs - and 'gaps' identified by providers."

He adds that IoT similarly represents a significant opportunity for providers of the high-speed connectivity required to support real-time delivery of insights and decision-making tools.

Opportunities in industrial IoT will likely be most evident in the utilities sector (22.4%) as smart grids and related services kick in, followed by telecommunications (18.1%); freight, cargo and logistics (17%); automotive/aeronautics (14%) and health care (11.8%). Most respondents (50.3%) believe that telecommunications operators are best positioned to offer industrial IoT services, with 47.5% identifying enterprise solutions and professional services as the primary monetisation opportunities in this area.

## 2020 to be key year for mass adoption of IoT

While only a minority of respondents (16.7%) say they are in a position to monetise IoT services currently, 24.9% believe they will be ready to do so by 2016, with a further 20.8% setting their sights on 2020.

"To most of the survey respondents, 2020 seems to be a realistic target date for achieving widespread acceptance of the IoT by consumers, business and even forward-thinking governments," says Warren. "However, to turn the considerable potential of the IoT into reality, building trust with potential users is the vital first step," he concludes.

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