

## Big data analytics will create a new third wave of M2M but there are challenges to overcome

To maximise its opportunity in this third wave of M2M, any member of the ecosystem will have to adapt to the new data- and application-centric environment and the intrinsic issues of data use, management and ownership

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Big Data is set to transform M2M/IoT in a new, third wave. The first wave in M2M involves device-centric solutions, focused on sensing and monitoring. The second wave is more process-centric and enabled intelligent and automated processes. The third wave will be focused on applications and data, particularly in the domains of Subnets of Things (a precursor to Internet of Things) and data communities. To meet the requirements of the third wave, service providers need to develop and manage applications and data analytics to a much greater extent as well as understand how data from M2M may change underlying IT infrastructures. These are the findings of a major new report “Creating value from data analytics in M2M – the Big Data opportunity” published by research and consulting firm Machina Research.

Global M2M connections are growing rapidly, and are expected to reach 18.5 billion in 2022<sup>1</sup>. These connected devices will generate a significant amount of data linked to a diverse range of business sectors and processes. As such, M2M will be one of the major sources of data for so-called ‘Big Data’ analytics. Done right the benefits of stitching together M2M and data analytics will be substantial, for example in reducing inefficiencies and optimising productivity from resources in operational environments, preventing fraud and financial loss, and enabling the development of new products and services. M2M data enables a new set of business improvements, leveraging real-time and extended behavioral insights into new and tangible benefits (as illustrated in the Figure below).

Figure: How is value created from M2M data? [Source: Machina Research, 2013]

Data sources	Machine generated data (M2M)	Real-time remote monitoring and actuating <i>- to improve the management of operations</i>	Real-time data analysis <i>- to minimise losses and fraud</i>	New proposition and business models <i>- to generate new revenues and customer experiences</i>
	Interaction Data (B2B & P2P)	Transactions <i>- to improve process efficiency (manage volumes and time)</i>	Communications <i>- to enable financial settlements and achieve improved resource and time utilisation</i>	Channels <i>- to create new ways to approach customers and manage suppliers</i>
	Traditional Enterprise Data	Productivity measurement <i>- to measure operational performance</i>	Performance monitoring <i>- to measure financial performance</i>	Quality measurement and market analysis <i>- to measure quality and markets</i>
		Operational	Financial	Products & Services
<b>Business Objectives</b>				

<sup>1</sup> See Machina Research Forecast Database for more details

However, as Author Emil Berthelsen identifies, there are challenges ahead: *“To extract the maximum value out of Big Data in M2M will involve the handling of huge amounts of structured and unstructured data (as well as metadata), managed in real-time, and processed to deliver meaningful and useful insights of significance and value. That’s not going to be easy.”*

The report identifies numerous issues that need to be resolved by those hoping to benefit from this evolution. One relates to finding the best way to identify the value of data. Machina Research proposes a system based on significance, measured in terms of a Data Significance Factor (DSF).

Another potential banana skin is how to manage the data that is being gathered. Commenting on the latter issue, Berthelsen said: *“In Big Data, service providers and enterprises will be required to address new and growing responsibilities around active and passive data management including, though not exclusively, the areas of ownership, privacy, transparency, storage and security. These areas become even more important and scrutinized when businesses consider monetizing data. The consent of data owners and the transparency of how that data will be used emerge as two key responsibilities of enterprises. These responsibilities may be partially addressed by emerging technology requirements and developments in policies of ‘fair use’ where data may be used without the consent of users at every instance.”*

These, and numerous other challenges associated with Big Data analytics in M2M, are addressed in the report.

## About the report

The report “Creating value from data analytics in M2M – the Big Data opportunity” is one in a series of Strategy Reports published by Machina Research focusing on the key horizontal issues affecting the M2M/IoT industry. It is based on detailed and exhaustive discussions with key relevant stakeholders, supplemented by Machina Research’s extensive understanding of the changing dynamics of the industry.

The report examines the topic of Big Data and its impact on machine-to-machine (M2M) communications. There has been a lot of buzz about Big Data in recent years and it is important to understand the true impact.

The report starts by examining what we mean by the term ‘Big Data’, identifying the right ways to define and measure it, including a look at our own measure of ‘Data Significance Factor’. The report then goes on to look at the impact that Big Data will have on M2M, and vice versa, in terms of creating new data sources and justifying new investments in sensor networks.

The final two sections focus on the future, looking at the challenges faced in Big Data and how these can be overcome, as well as how Big Data, M2M and the Internet of Things will evolve and merge.

The report provides invaluable analysis for enterprises seeking to gain an improved understanding and awareness of Big Data, and service providers looking to identify opportunity areas to develop and improve data processing services for their customers (e.g. IT infrastructure improvements and cloud services).

The report is available as part of the Machina Research Advisory Service. For more information on how to access the Advisory Service, visit us at <https://machinaresearch.com/what-we-do/advisory-service/>.

## About Machina Research

Machina Research is a technology research and consulting firm focused on the emerging opportunities associated with new forms of connected device. We provide market intelligence and strategic insight to help our clients maximise opportunities from these rapidly emerging markets. If your company is a mobile network operator, device vendor, infrastructure vendor, service provider or potential end user in the M2M, IoT, Big Data or mobile broadband space, we can help.

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