



THE PERFECT MATCH

BIG DATA AND IOT ARE DRIVING NEW BUSINESSES IN INDIA

BY TEAM MT



"For a hi-tech manufacturing major Big Data enabled augmenting a petabyte scale online using analytics."
 – Rajeev Ranjan, vice-president, service offering head, manufacturing, Infosys

TODAY WE LIVE IN AN INTERCONNECTED world where people, objects, companies and devices stream information constantly across the Internet. The emergence of Internet of Things (IoT) helps in connecting people, data, processes and physical things. Machine and device sensors aren't new but devices with their own IP addresses and 24/7 feedback are. IoT, the new industrial revolution offers an unprecedented amount of objective data on products and how they are used.

Elucidating on how it works Atul Sareen, MD, Infor, India, stated, "IoT collects information from the above mentioned omni-channel data pool using low-cost sensors to provide real-time information about equipment status, location and performance. In this

new paradigm, where manufacturers are capturing and using manufacturing data the primary focus is to use data to predict market trends and customer needs. Anticipating consumer buying trends provides a much-needed competitive head start, allowing the manufacturer to be first to the market with product innovation. Successful product innovation largely relies on an accurate reading of the market's preferences and needs."

Along with IoT the Industrial Internet of Things (IIoT) is also ushering in a new era of interconnectedness within the enterprise, extending the realm of connectivity beyond mere manual and computer led interventions to making inter-device connectivity a reality. While it's still in an infancy stage, it promises to be as



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ESTIMATIONS BY GARTNER REVEAL THAT IOT WILL SUPPORT TOTAL SERVICES SPENDING OF \$69.5 BILLION IN 2015, WITH 4.9 BILLION CONNECTED "THINGS" BEING IN USE.



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big (or bigger) as the Internet revolution of the 90s.

Seconding, Greg Gordon, senior director, strategic workforce practice, Kronos said, "IIoT is enabling enterprises to monitor the vigour and performance of their various physical assets real-time. A truly 'connected enterprise' will not only realise improved asset utilisation and performance, it will also streamline workforce utilisation and safety. IIoT's benefits are not confined to operational efficiencies alone. It offers an opportunity for enterprises to improve existing product lines, create new products and services as well as unlock new revenue streams. Some organisations are already reaping the first mover advantage and it's only a matter of time before enterprises acknowledge and take advantage of the transformative power of IIoT."

DATA FROM IOT sensors are very high in volume, high in velocity and multi-structured. In addition, it poses challenges of various consumption patterns which not only need historical aggregates and analysis but real-time alerts and rule-based decision making. "This

data also has to be mashed up with enterprise master and customer data for providing meaningful insights to customers across various channels. All of this needs a well thought-out robust Big Data architecture with all the relevant components that not only manage the data but provide real actionable insights that are able to get the attention of customers," avowed Rajeev Ranjan, vice-president, service offering head, manufacturing, Infosys.

Big Data analytics is revolutionising the manufacturing industry in multiple ways. Until recently, product and process quality improvements were largely driven with strict adherence to Six Sigma and lean initiatives. With data visualisation and advanced analytics, manufacturers can decipher complex processes, bring in more automation, improve forecasting and supply chain dynamics, better align production, enhance accuracy, increase throughput and boost overall manufacturing efficiencies.

Agreeing, Gordon asserted, "Gartner estimates that IoT will support total services spending of \$69.5 bil-



"Enterprises need to effectively manage their real-time data, workflow and timely alerts that is provided by IoT."
— Atul Sareen, MD, Infor, India

1. Big Data is taken the manufacturing industry by storm.

2. IoT and IIoT are ushering in a new era of interconnectedness.



BIG DATA IS BECOMING AN INTEGRAL PART OF THE MANUFACTURING VALUE CHAIN TO PLAN, MAKE, SELL, DISTRIBUTE AND PROVIDE CUSTOMER SUPPORT.



"A truly 'connected enterprise' will realise performance, streamline workforce utilisation and safety."
— Greg Gordon, senior director, strategic workforce practice, Kronos

3. Increasing virtualisation would require a new set of skills for IT employees.

lion in 2015, with 4.9 billion connected "things" being in use. By 2020, Gartner estimates that 25 billion connected things will be in use and will support total services spending of \$263 billion. Imagine the quantity of data these devices will generate! Therefore, it's important to invest in a robust, scalable solution that can glean structured and unstructured data in real time to provide one with actionable insights."

Big data is becoming an integral part of the manufacturing sector value chain to plan, make, sell, distribute and provide customer support. Explaining, Rajan said, "In plan processes, it is leveraged for working capital management, financial consolidations, demand forecasting. For make, it plays a critical role of manufacturing quality analytics and asset management. Big data also plays a key role in guided selling, campaign effectiveness in sales processes and real time visibility and risk management in supply chain op-

erations. It also enables customer support in call driver analytics, issue and sentiment analytics."

IMPLEMENTATION OF ALL of this new age technology falls on the IT department. And they are often caught between the new global application's need for common processes and regional business units' needs for flexibility to address region-specific market requirements. Talking on the same, Viresh Shah, IT country head, Dana India averred, "It is a regional leadership role to continuously connect with the global application team to ensure that a regional BU need is captured in common processes. This is more common for regional compliance requirement. Such delta regional solution is normally provided with other standalone interface or application. We have also addressed some regional specific requirement by undertaking POC to understand fitment to business and later implement solution for regional needs."

On asking as to how IoT has helped drive efficiencies in his organisation, Shah replied, "Connected car, Big Data, telematics, vehicle diagnostics is the way to go. All automotive OEMs are building up Big Data platform on "Connected Car". In our industry every second telematics produces a data record including information like date, time, speed, longitude, latitude, and cumulative mileage and fuel consumptions and this helps us tremendously."

Big Data has also been successfully implemented across a host of sectors in hi-tech manufacturing, ISV's, auto, aero and industry manufacturing sectors. Elucidating Ranjan said, "For a hi-tech manufacturing major it enabled augmenting a petabyte scale online using analytics. Like Shah has mentioned above in

the auto/aero sector telematics based preventive maintenance initiatives are undertaken. We have also leveraged cloud based big data implementation for global rollout of incentive analytics for an ISV major.”

Gordon said that in addition to analysing equipment, Big Data techniques are able to identify behaviours in the workforce as well, which are often missed in the traditional methods of measurement and control, such as supervisory oversight and key performance indicators. “Here’s one example of how tracking behaviour can get missed. A manufacturer found out that a supervisor was increasing the measured performance of his team by adjusting their timecards so that all attendance infractions were removed. A second supervisor was looking to see where he could adjust timecards by just a minute to avoid paying his employees overtime and a third supervisor was found to be heavily adjusting his schedule when a workload input wasn’t accurate and was forecasting the wrong amount of labour.

“Looking to identify these behaviours using traditional methods of control is not possible because of the various ways employees need to interact with their applications to accomplish their job. In other words, the signals were too small to be noticed. Big Data

analytics provides a way to clear the noise and uncover discrepancies. Companies that leverage Big Data analytics to help manage workforce data will clearly reap a competitive advantage.”

THIS INCREASING VIRTUALISATION would require a new set of skills for IT employees. Shah concurred, “With the rapid pace of technology development, agility in business processes and greater focus on green environment it is absolutely essential to keep virtualisation IT skills top-notch. We adopted different strategies like classroom training, proof of concept on test environment, creating collaboration and cross functional team platform, rewarding through certifications, etc.”

To achieve operational excellence, any company needs to fundamentally explore and fully exploit all its information sources. “Manufacturing in a connected environment can contribute to fewer product defects by providing faster identification of equipment malfunctions and failures. IoT helps promote sustainability and using sensors to regulate temperature and energy usage in different areas of the plant it can help manufacturers reduce energy costs and lower the carbon footprint,” concluded Sareen. ■



“IT leadership is continually upgrading skills to address VUCA of new general conditions and situational challenges.”
— Viresh Shah, IT country head, Dana India

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