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Internet of Things

Top 3 Reasons to Integrate IoT
Into Your Business

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What is IoT?

IoT stands for the "Internet of Things" and refers to the network of devices, sensors, software, and other embedded technologies with the purpose of seamlessly connecting into our everyday lives via the internet. Innovations such as machine-learning and real-time analytics are a couple of the heavy-lifters in the IoT space. For the consumer, these types of technologies are most recognized as "smart home" devices such as refrigerators, thermostats, home security, and lighting fixtures. Through the use of connected devices, IoT allows consumers and manufacturers to gain deeper insights into behavior trends and consumer habits to not only reduce costs, but provide a richer, seamless user experience. Gathering large pools of data allows AI to make predictive models to map user patterns which helps save the consumer money, reduce overhead costs for the manufacturer, and potentially generate new forms of revenue for both the manufacturer and consumer.

Cost Reduction

Reduce time required to plan maintenance by 20-50% *

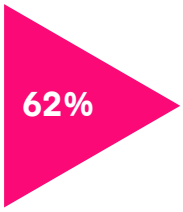
Increase equipment uptime by 10-20% *

Reduce overall maintenance cost by 5-10% *

Implementing IoT devices into day to day operations can streamline a business's operations by drastically increasing efficiency. Smart devices can alert a user of required maintenance long before a company might otherwise realize. Industries such as manufacturing, logistics, and food and beverage tend to have a high number of machines that require routine maintenance. Being able to identify which devices need which maintenance procedure not only saves time, but it increases the life-cycle of a device.

Increased Efficiency

60-73% of all data within an enterprise goes unused for analytics **



62% of businesses say IoT increased their customer responsiveness ***

58% of businesses say it increased collaboration within the business ***

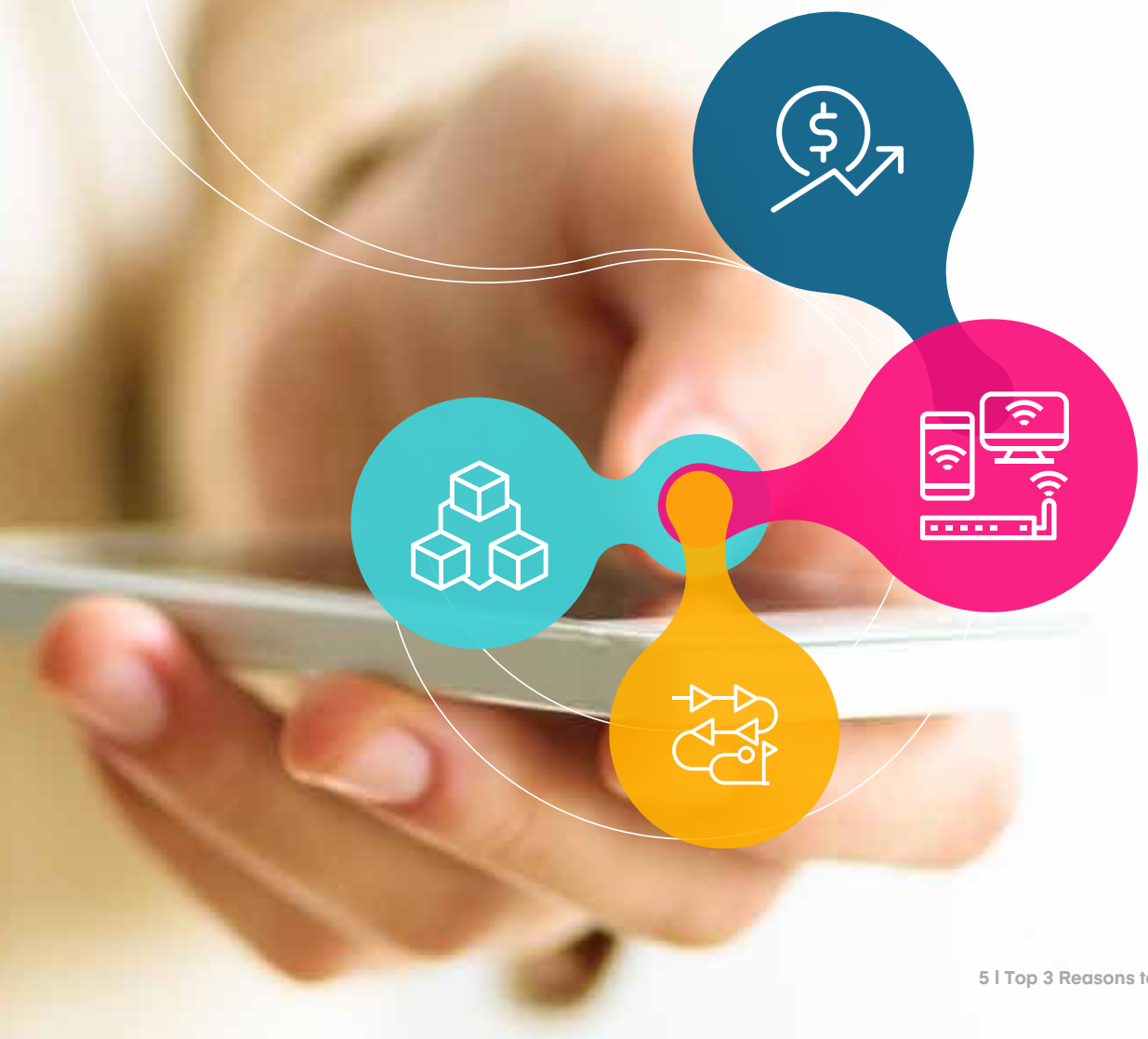
Often times a company may unknowingly sit on a gold mine of useful data. Implementing IoT provides a strong, competitive edge and allows for deeper and more profound insight into a company's data. Using big data analytics, a company can discover hidden patterns, unknown correlations, market trends, and customer preferences.

* https://www2.deloitte.com/us/en/insights/focus/industry-4-0/using-predictive-technologies-for-asset-maintenance.html
** https://go.forrester.com/blogs/hadoop-is-datas-darling-for-a-reason/
*** https://hbr.org/resources/pdfs/comm/verizon/18980_HBR_Verizon_IoT_Nov_14.pdf

Create New Revenue Streams

Imagine being able to monitor your electrical usage so closely that you could selectively charge during off-peak times and only charge the amount you needed to avoid over charging your device with unused electricity. While that might sound like a tedious task, with IoT all of this is possible and more!

One of the most exciting benefits of implementing IoT with a consumer product is the new-found ability to generate unique revenue streams both for the consumer and the manufacturer. Traditional subscription services for things like cable and internet often have customers paying a flat fee for their service. While other traditional utility services (like electricity) could potentially have customers paying premium rates for electricity during peakhours in high demand areas like Los Angeles of Silicon Valley. Big Data analytics isn't something that is just restricted to company data -- it can also be implemented in consumer products to gain deeper insights into user patterns and develop predictive models using AI.



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CASE STUDY **CLIENT: EV MANUFACTURER**

Challenge

OEMs are integrating machine learning modules in Electric Vehicles (EVs) in an attempt to minimize electrical demand during peak hours to reduce consumer electricity costs, reduce electrical grid demand, and ultimately reduce the C02 footprint of the driver. Additionally, these AI systems are attempting to open up gateways for new revenue streams by allowing consumers to sell back their unused electricity through the electricity market.

Solution

VDart Digital's wealth of knowledge in machine learning algorithms, cloud technologies, and system integration was called upon as we partnered with a Global OEM to streamline the customer's technical development. Machine learning algorithms now accurately predict optimal charging times based on individual EV owner metrics and local electricity demand. Additionally, smartphone apps allow the customer to input planned trip data that will then be integrated with charging data and AI modules. The outcome results in not only significant consumer cost savings, but a reduced carbon footprint and a potential to turn a parked car into a revenue stream by selling unused energy back to the grid.

Results

- Integrates with grid back-end and reduces consumer costs by only charging the vehicle based on driver habits and planned trip data that can be intuitively managed with a convenient mobile app
- Significant reduction in electric cost using AI to charge during off-peak-times and helps balance the grid
- The demand-reduction can now be monetized through the electricity market
- Reduced environmental impact of customer's homecharging C02 footprint
- Greatly reduced OEM environmental impact due to increased life of vehicle battery and reduced demand for newer batteries

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