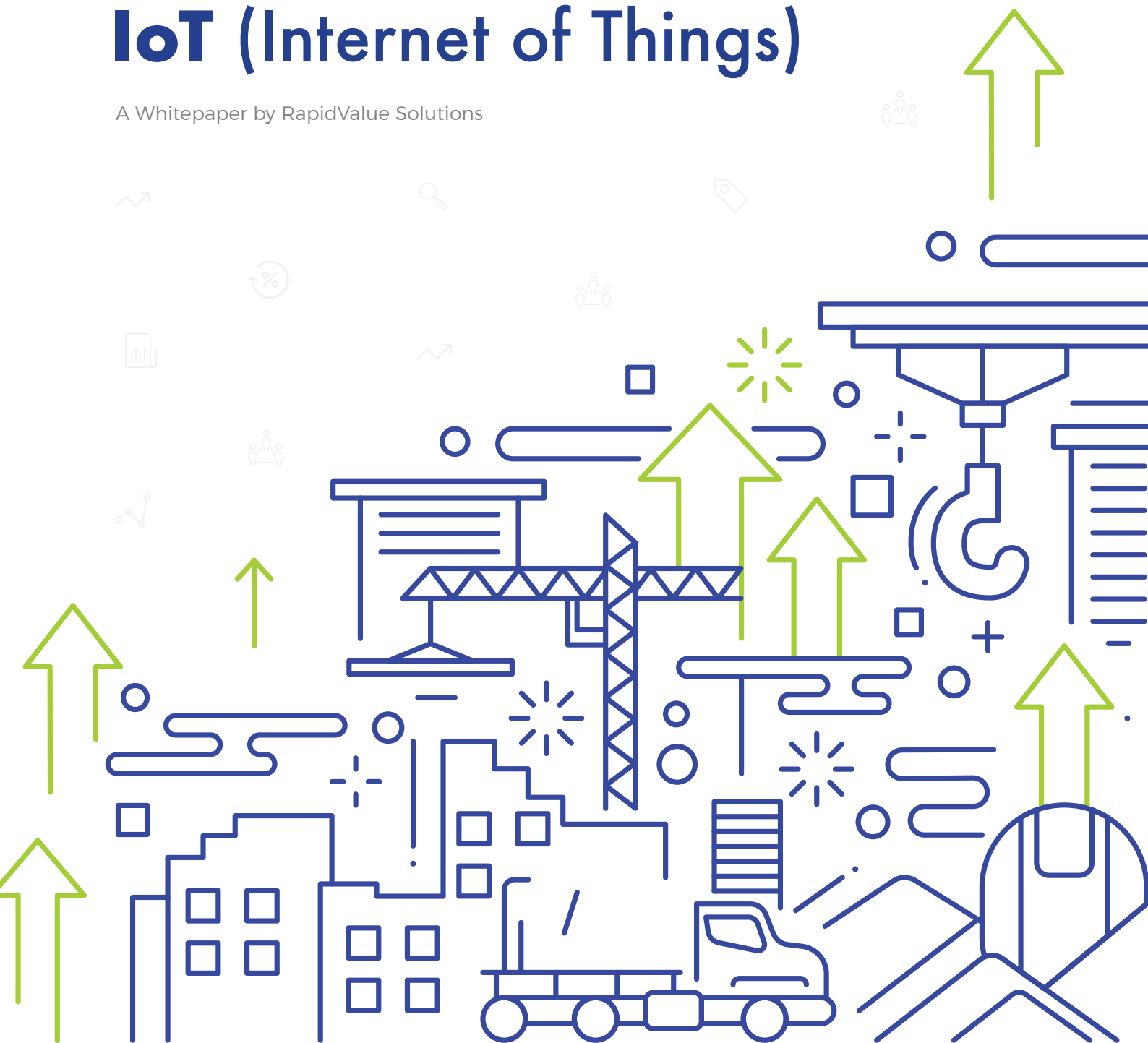


Increasing your **ROA** (Return on Assets) *with* **IoT** (Internet of Things)

A Whitepaper by RapidValue Solutions



index

01

Executive Summary

02

Guidelines on Implementing a Smart Asset Monitoring Solution

05

Overcoming the Challenges and Common Pitfalls

07

Realizing Value from Smart Asset Management

10

Increasing your ROA - Case Study

12

Conclusion

13

About RapidValue

Executive Summary

Increasing
your **ROA**
with **IoT**

1

Industries are investing billions of dollars in assets and are facing challenges monitoring those assets. The health of an asset is critical and it hugely impacts the business process. It is essential to keep track of where the asset is, what it is doing and in what condition it is performing. Thus, Asset Management becomes challenging and expensive.

With IoT-based Smart Asset Monitoring Solution, we can increase asset reliability, extend asset life, ensure it is not abused and reduce the maintenance cost with predictive maintenance. There are a lot of case studies or examples of new cutting edge solutions using IoT technology demonstrating better asset control. However, there is very little in-depth understanding of what exactly goes into building an end-to-end solution. Companies or executives looking at these examples, begin to think IoT solution as magic pill for overcoming their business challenges. More often none of these examples talk in detail about the various factors that need to be considered. There is no formula or fixed route for getting better Return on Investments (RoI) or Return on Assets (RoA) with IoT solutions.

This paper is a continuation of the previous whitepaper on [Re-imagining Asset Management with Internet of Things \(IoT\)](#). It provides guidelines and addresses the important aspects to consider while implementing a Smart Asset Management Solution. The paper further explains with a case study on how you can realize value from Smart Asset Management and increase your ROA. This is a solution implemented for a leading Crane Rental company in the United States.

Guidelines on Implementing a Smart Asset Monitoring Solution

Companies usually think of the IoT-based Smart Asset Management solution as a single software or product which can be rolled out to get benefits across their business. There are multiple factors which need to be considered like the upfront cost associated, the recurring cost, value added and cost of ownership to get good Return On Investment (ROI). Realistically, the actual value of the solution lies in the extent to which it is integrated, interoperable and flexible with your existing setup.

The following guidelines can be considered as a good starting point for an effective asset management solution strategy and adoption:

- 01** All journeys begin with a specific goal. A clear objective of what is needed from asset management and how it will be interlinked with the organization's objectives should be analyzed. Senior management should put in a rigorous effort to chart out the existing challenges, business objectives and targets from asset management.
- 02** Strategic initiatives like IoT should be looked at holistically with other technology initiatives undertaken, though it may be implemented for asset management, to begin with. An elaborate strategy assessment to understand how IoT can help the organization as a whole and how it can add value to asset management should also be examined. Assessing suitable vendors, platforms, devices etc. can also, be included in this to understand the best way forward.
- 03** A benchmarking exercise can go a long way to understand where your competitors are, what customers are demanding and where the industry is moving. Many times, technology innovations for the sake of innovation will not work unless your industry, market, employees, and customers are ready to accept it.
- 04** IoT initiative is not just the CTO's agenda or the responsibility of the IT team. The crux of IoT solution is the combination of operational technology and information technology. Since the solution will be across domains, a cross-functional team comprising operations team, infrastructure team, top management, asset management stakeholders, finance team and of course the IT team is essential. Putting together a team to drive the entire initiative with proper stakeholder responsibility mapping will help accelerate the execution.
- 05** As said, a journey of thousand miles begins with one step, it is always better to start with a Proof of Concept (POC). Understanding the complexities involved will take time. Therefore, before jumping into the ocean of IoT, it is advised to test the waters with a simplified prototype. Everything, right from connectivity, control, design, integration possibilities, scalability options, platform capabilities, compatibility with assets, can or must be evaluated during the POC phase.

06 Business case development is a must before the POC is moved to a full-fledged solution. Every minor cost, benefits, long-term effects and indirect cost can be included to develop a business case. Quantifying all the cost and benefits can be a difficult task but with proper know-how and a planning period of 3-5 years a lot of clarity can be obtained. Sometimes IoT may not be the right solution for your asset management but that can be figured out early, at this stage. Rather than investing in the solution and later identifying that it is not meeting the requirement, which can be an expensive mistake, developing a business case early is highly recommended.

07 Putting together a proper execution roadmap helps you to ensure that there is sufficient time for adoption and course correction, if needed. Many companies follow a phase-wise adoption strategy rather than a big bang approach. The roadmap should include elements like other solutions that can interact with asset management, integration with ERP, developing for multiple form factors, security requirements etc.

08 Ensure adoption of the solution by constant follow-ups and make sure it fits into the business process. Though IoT solution can be more technical, user experience design is critical for the adoption of the solution. Understanding the voice of your internal customers who

will be designing and using the solution which requires zero or minimal training, can be a key to success.

09 Set-up metrics across your asset management process and measure to identify improvements. Process improvements can be marginal to start with but in the long run and with efficiencies brought by other auxiliary solutions, overall asset management and monitoring can be transformed.

10 Constantly optimize and keep updating the process and solution. The insights generated demand action and the execution of these actions can optimize your processes. Improving efficiency is never ending process and companies must constantly strive to optimize. More data generated insights essentially mean more opportunities for improvement.

Overcoming the Challenges & Common Pitfalls

IoT solution deployments and rollout are associated with few challenges. Organizations many times have overlooked these challenges and are struggling to get out of the POC phase to roll it out, across the organization.

Some of the common challenges are:

- Significant **investment** is required in terms of the initial infrastructure set-up and the ongoing operating cost, as well. Many of the costing items are missed out like evaluating the licensing cost, retrofit cost, device replacement cost, bandwidth requirements etc. which can become huge CAPEX cost. Business case built around the solution should ensure incorporation of all cost elements.
 - The complexity that arises with the **integration** and mesh of digital and physical assets is difficult to handle. Many organizations end up with spaghetti integration without long-term a scalability plan and IT portfolio plan.
 - The volume and velocity of data that this solution brings with it can lead to **data swamps** making it difficult to sieve through relevant and irrelevant data. Care should be taken to ensure proper plumbing is done to combine usable and relevant data that can deliver actionable insights.
 - The entire IoT ecosystem is new and there are many vendors pertaining to different standards, protocols, and technologies. IoT solutions are brought together by multiple partners working together making it difficult to have a **common standard** and interoperability. It is important to avoid any partner lock-in. Modularizing the solution as much as possible and making it agnostic to the platform or hardware will be helpful in the long run.
 - **Ownership** of the deployments is always a challenge since it is cross-functional and cuts across different stakeholders. Therefore, good changes in management and process improvement/re-engineering are needed to ensure the solution adoption is seamless.
 - **Privacy and security** of data are highly critical especially when there is more data from multiple sources. A potential risk of data breach or unauthorized control of critical assets can be catastrophic. Organizations should take extra care in ensuring that sufficient security measures are in place and should build systems that can ensure no meaningful data leakage even if it is attacked.
- Though these challenges do exist, a careful evaluation and proper planning ensure organization's success without hitting roadblocks.

Realizing Value from Smart Asset Management

Increasing
your **ROA**
with **IoT**

7

Traditional 'asset management' and 'asset monitoring' can be a big time-consuming task and sometimes can make the assets a huge burden on company's balance sheets. Without proper visibility, unknown asset lifetime value, predictive capabilities and asset reliability, asset management and monitoring are becoming more and more challenging. In the digital age where the competitors, customers, partners and products are digital, there is more pressure on high reliability of assets, enhanced quality and high Return on Assets.

Implementing a Smart Asset Monitoring system doesn't automatically bring higher ROA and better contributions to company's income. Realizing value from such solutions is a highly focused initiative and depends on three things primarily:

01

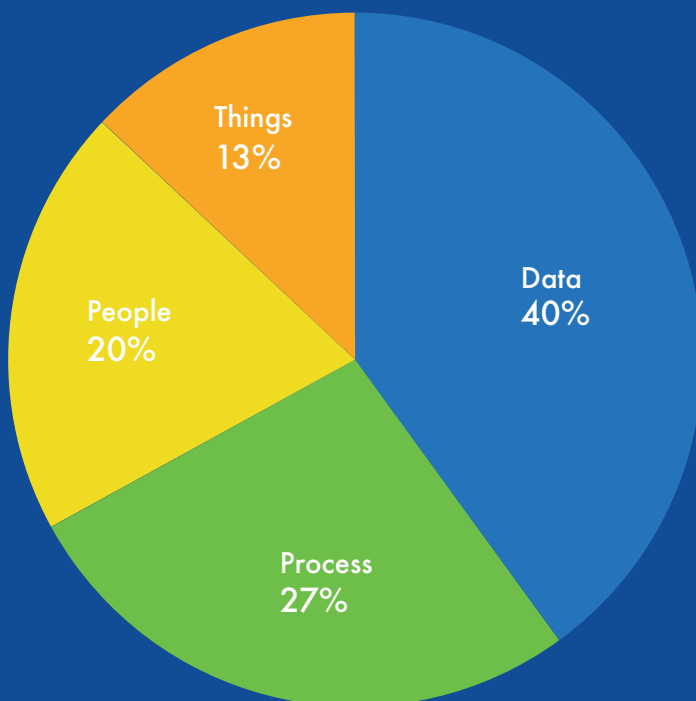
The involvement of the entire organization, starting from the top management to the end-users using the solution.

02

The capability to generate actionable insights from data.

03

The ability to transform the process based on the insights.



Data.

Capturing, Storing, and Analyzing data generated by connected "things". (e.g. machines, devices, equipment)

Process.

Updating business and operational process to benefit from IoT Solutions.

People.

Enabling workers through means such as training and providing user-friendly systems.

Things.

Connecting the right "things" (e.g. machines, devices, equipment) to capture useful data.



In which areas do we need to improve the most to make effective use of IoT solutions?

Realizing Value from Smart Asset Management

Increasing
your **ROA**
with **IoT**

9

Data handling is of prima facie importance to realize value from Smart Asset Management. The GPS devices can send location data, driving data, usage data, geo-fenced applications can send real-time alerts and maintenance requests can be automated. However, all of this will result in returns only when the organization can knit the data together to understand the patterns, constraints, and impact. Analytic capabilities play a major role in this and depending on the type of asset or type of monitoring requirement and latency needed, data analytics can be in real-time, at the transactional level or at the enterprise BI level. A study conducted by Cisco shows that 40% of the respondents believe that they need to improve their data capturing, storing and analyzing capabilities need to be improved to make effective use of IoT solutions. Thus, It is safe to say, the return on assets (RoA) with IoT based Smart Asset Management entirely depends on the data collection, data integration and data processing.

Increasing your ROA - *Case Study*

Increasing
your ROA
with IoT

10

About the Client

One of the leading Crane Rental companies in the United States has close to 2000 assets comprising mobile cranes, crawler cranes and construction equipment, working across the country with different customers on different jobs.

Problem Statement

They were plagued by disconnected systems, manual error-prone processes, poor planning and zero operational visibility. The management had challenges in identifying the asset lifetime value and there was revenue loss due to inaccurate billing to the customers. The legacy systems and processes of the company made it difficult to track and manage the utilization of these assets and thereby, leaving a lot of scope for efficiency improvement. The company embarked on a digital transformation journey by building a digital platform and Smart Asset Management solution.

Solution

A two-year roadmap was created for the company, to entirely re-architect their systems with different technology components comprising cloud, mobile and IoT. They looked at Smart Asset Management solution along with the other mobile and technology initiatives. The business had a vision of offering Lifting as a Service ultimately combining their cranes (product) and to offer them as a service for meeting the lifting requirements of their customers.

With the Smart Asset Management solution, the company is successfully able to achieve real-time equipment tracking, geo-fenced alerts and increase asset utilization. The dynamic dashboards for CXO users and operation users helped in fuel and route optimization, rightsizing inventory, better forecast and yard automation. The entire maintenance process for the cranes has been

transformed to a more predictive and automated maintenance based on the crane's usage and condition. With these systems in place, now they are moving to track advanced telemetry data like the load lifted by the cranes, operating condition of the cranes and dynamic insurance for cranes.

Results

The Company has started reaping benefits in terms of process efficiencies and eliminated data inaccuracies. They are now able to identify which assets are bringing in more returns and business is looking at introducing dynamic pricing for their on-demand assets. Similarly, the poor performing assets can be sold to reduce the cost incurred on them. The digital transformation is an incremental journey and the company is in the right direction to get ahead of their competition.

Conclusion

The benefit of Smart Asset Management solution is endless and depends on the organization how they use it. Understanding the implementation of a solution like this will be in multiple phases starting from phases like measurement, automation, innovation, and transformation. They can use it for simply tracking assets to pinpoint where you need to reduce unforeseen delays or time lost, reducing theft or pilferage of assets, making sure that the right asset is at the right place at the right time to increase customer experience.

The Smart Asset Management solution can be utilized for automatic reorders to ensure continuous availability of the asset and for optimizing operations like shipping route, route fuel usage etc. It provides help in rightsizing assets to avoid unnecessary cost and can be used for better regulatory compliance. Assets can manage themselves by requesting maintenance and the smart solution helps in improving first time fix rates. There is a huge scope of improving asset uptime with predictive maintenance and better planning of the asset sale/resale decisions to increase lifetime value.

About the Author



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Raakesh is part of the Business Consulting team at RapidValue. He helps clients to add value to their business through digital initiatives. He has experience implementing large-scale digital transformational initiatives and products. Raakesh has worked on multiple domains such as Manufacturing, Heavy Equipment, Retail, and Oil & Gas industries. Prior to RapidValue, he was part of Strategy Growth Initiative team at Accenture, to identify the right digital technology solution and the adoption strategy.

If you'd like to know more on this subject or learn more about IoT solution offerings by RapidValue, please reach out to us at contactus@rapidvaluesolutions.com

We'd be happy to hear from you!

RapidValue™

Enabling Mobility

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