ALTIZON

The Industrial IoT Company

SMART MANUFACTURING REPORT 2017

www.altizon.com

PREFACE

Industry 4.0, the fourth industrial revolution driven by Internet of "Things" (IoT) is gaining a huge traction in manufacturing industry. The physical world in manufacturing plants is rapidly getting replicated in the digital world. Like never before, machines have started exchanging information in real-time with each other, the software systems, and their users. Realtime categorized data forms the backbone for any Industry 4.0 initiative. Industrial IoT (IIoT) enables machines to work better, fail less often, and produce much higher quality output. It delves into all assets of the industrial world to better understand how they function and measure their impact on outcomes. It helps create a world of self-sustainable and adaptive systems that continuously learn from each other.

Altizon was born to assist enterprises in navigating the journey towards a new industrial world. We offer an Industrial IoT platform and vertical solutions for Industry 4.0. We have connected over 62 manufacturing plants and implemented close to 155 IIoT initiatives with our customers and partners. In this journey, we have observed that every industry vertical has a specific set of problems (use cases) that IIoT is best suited for. Patterns have now started to emerge.

I am pleased to share the **Altizon Smart Manufacturing Report 2017** with you. This is our analysis of the kind of problems that are best solved by IIoT initiatives and the outcomes that you can expect. We have shared our learnings transparently while maintaining the highest standards of confidentiality of customer data. All the data, insights, trends, and learnings shared in this report are exclusively Altizon's own and are not biased or influenced by any external entity. We anticipate enterprises to use this report as a benchmark for their Industry 4.0 initiatives for outcomes and processes. I invite you to share your feedback and experience of your IIoT journey.

- Vinay Nathan
CEO, Altizon Systems
vinay@altizon.com

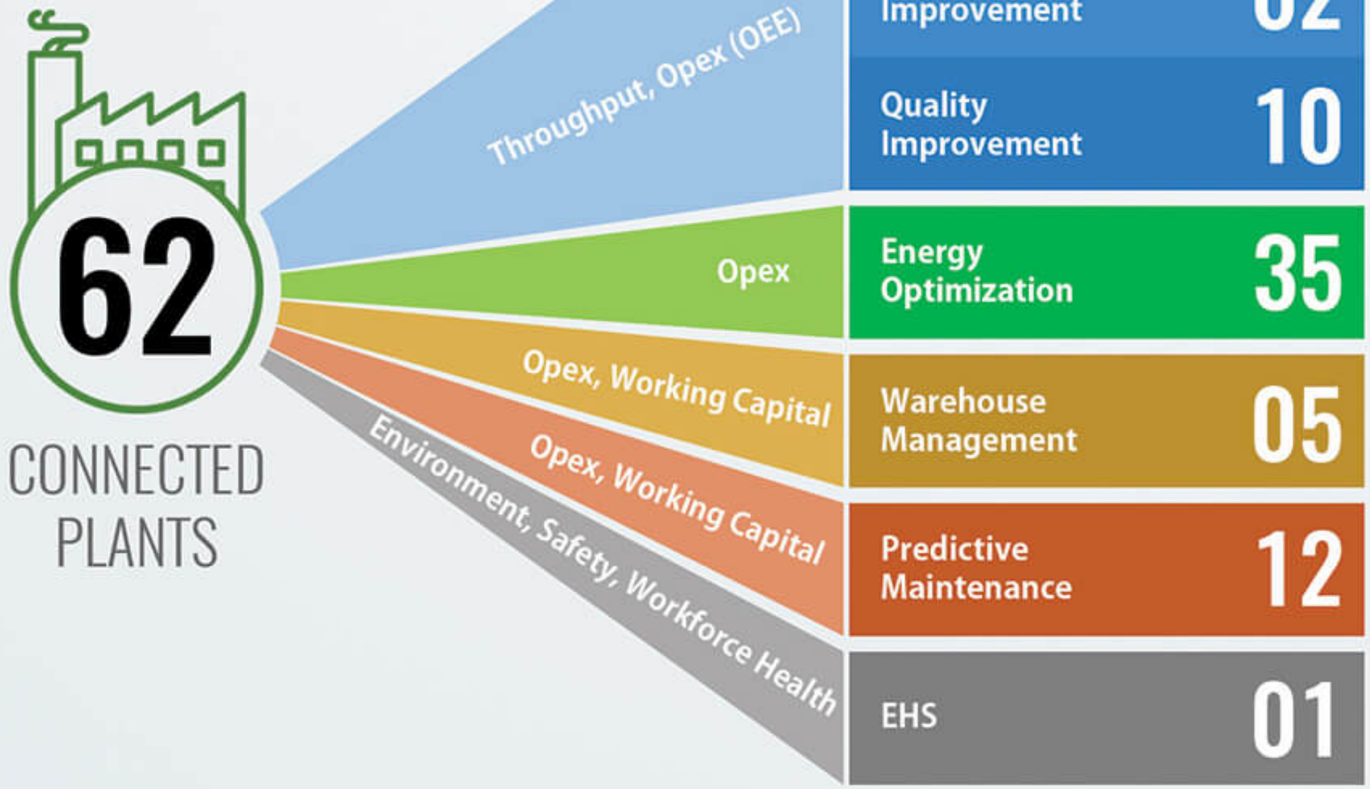
CONTENT

ABOUT ALTIZON

Altizon is a leading global Industrial IoT Company, that enables enterprises rapidly address CxO expectations around Industry 4.0. This includes driving higher Operational Efficiencies and enabling new Business Models for next generation Asset-as-a-Service paradigm by harnessing the power of Deep Learning and advanced In-stream Analytics. Globally recognized by Gartner, BCG, Forrester and Microsoft Ventures, Altizon is the partner of choice for over 130 Global Enterprises.

www.altizon.com

INDUSTRIAL IoT IMPLEMENTATION & USE CASE DISTRIBUTION



CUSTOMER BENEFITS

5% (3% - 8%) **Average Improvement in Topline**

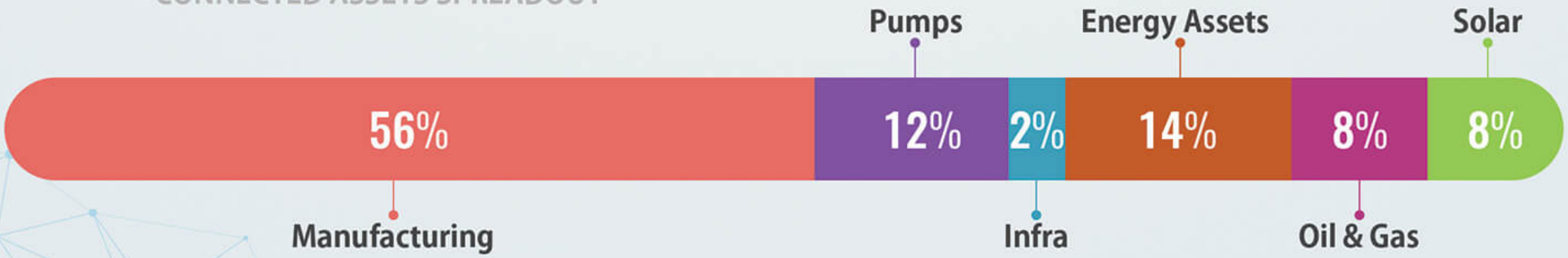
13% (7% - 50%) **Average Improvement in Productivity**

5% (1% - 8%) **Savings in Energy Expenses**

16% (1% - 20%) **Savings in Indirect Cost**

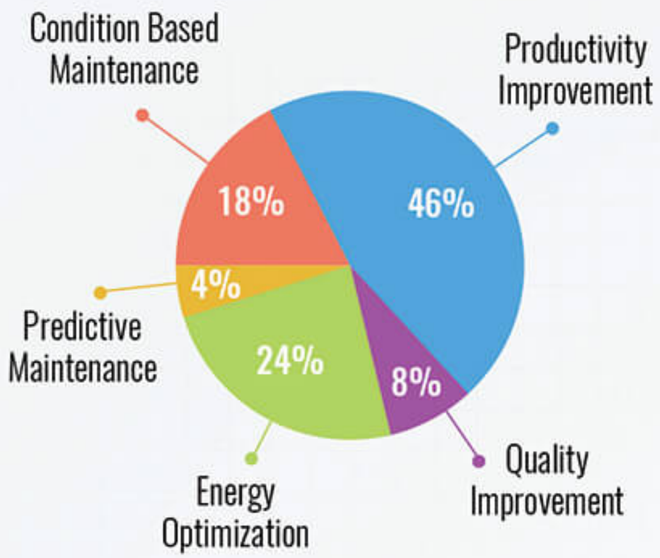
3% (0.5% - 6%) **Savings in Tooling & Spares Cost**

CONNECTED ASSETS SPREADOUT

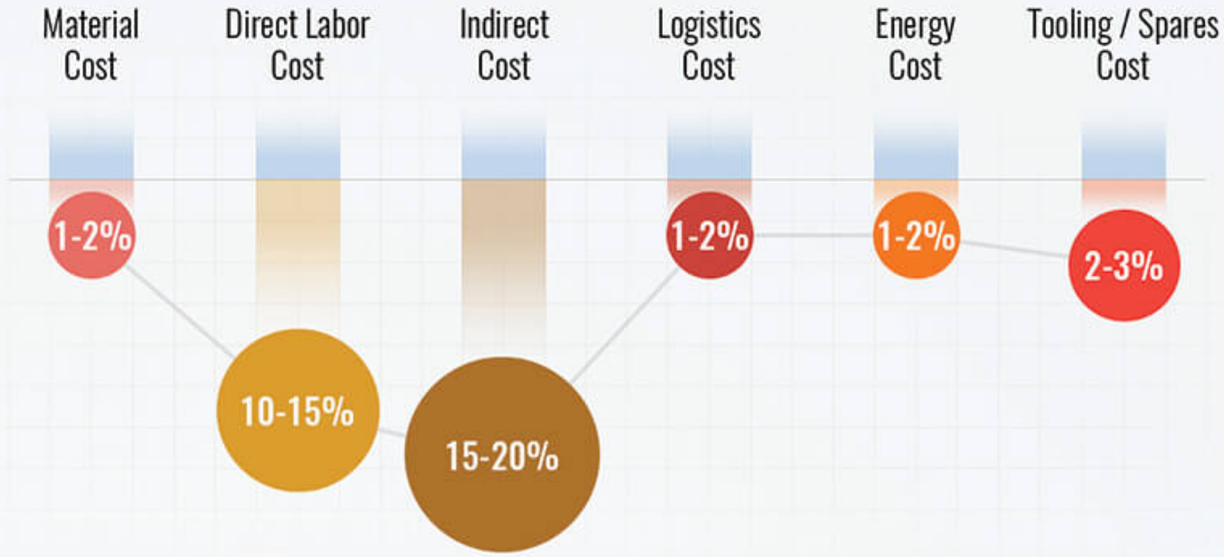


AUTOMOBILE INDUSTRY

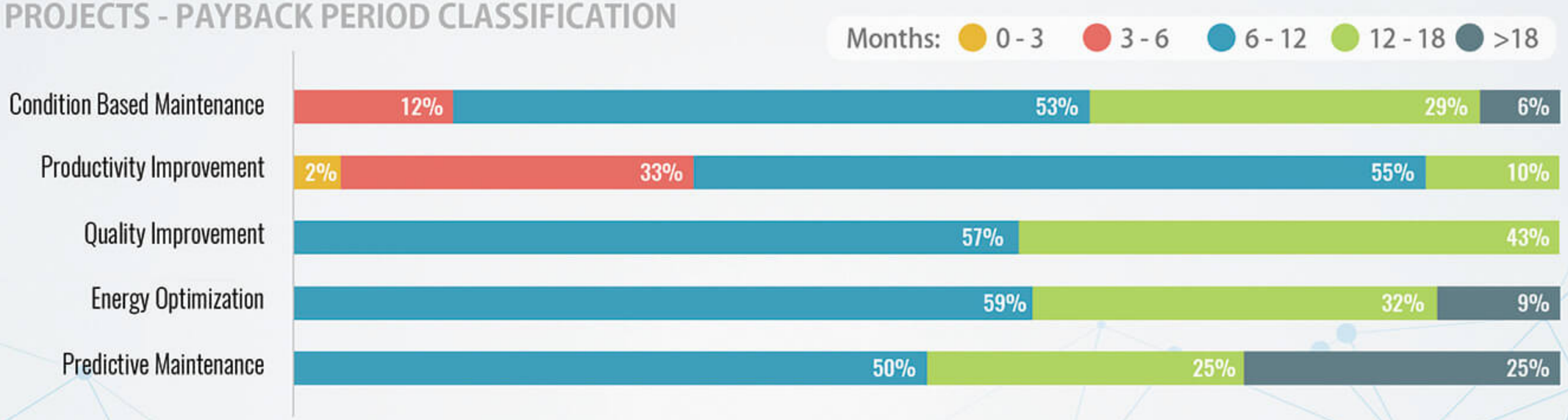
IoT PROJECTS DISTRIBUTION



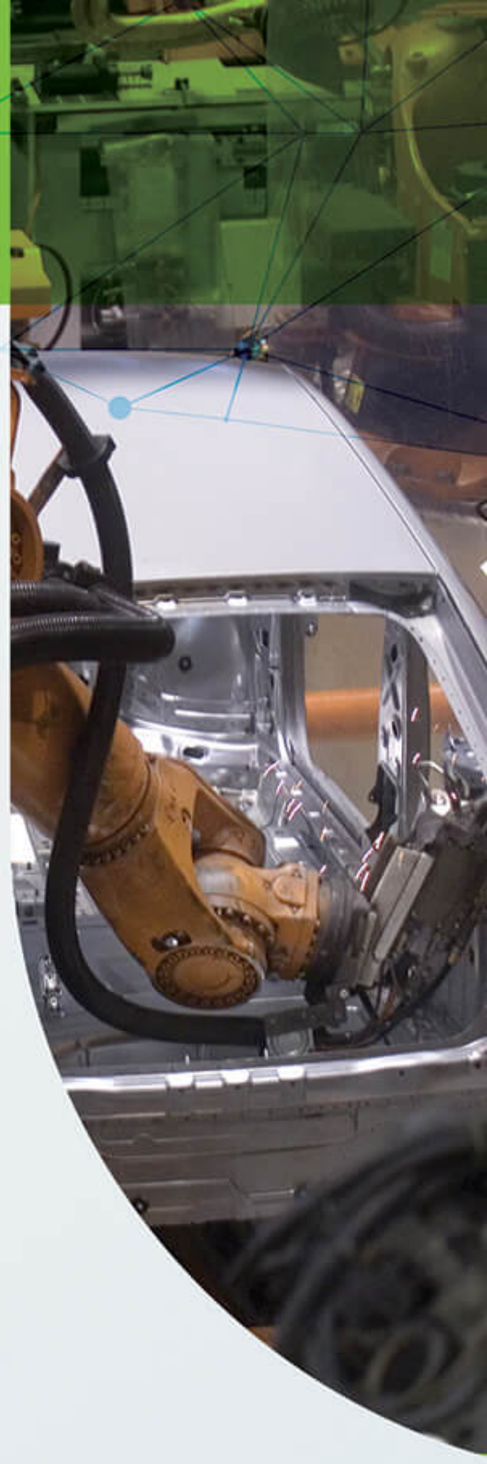
IMPACT (% Savings across Cost Heads)



IoT PROJECTS - PAYBACK PERIOD CLASSIFICATION



Doing IoT The Right Way
AUTOMOBILE INDUSTRY



HIGHLIGHTS

- By uncovering a factory's hidden capacity, IIoT enables significant improvements in productivity and overall quality.
- Advance yet accurate planning and scheduling is possible with reconciliation of real-time production booking and planned data in ERP systems.

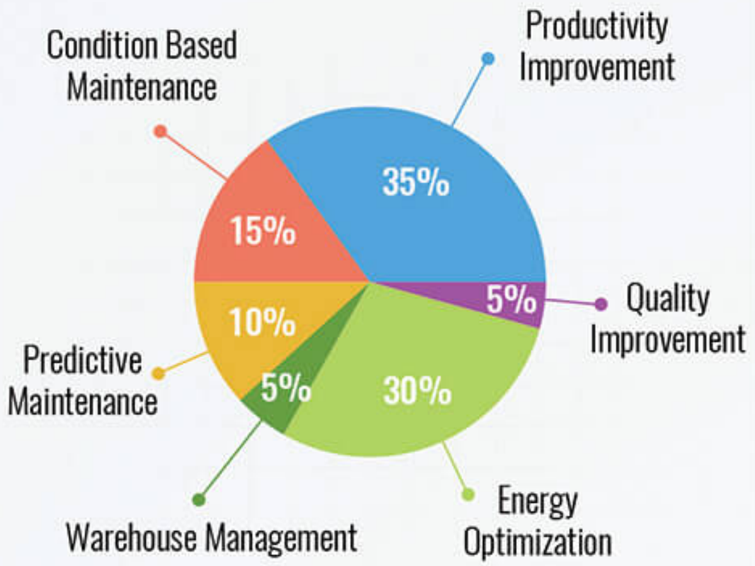
TRENDS

- Move towards a connected Supply Chain: Visibility into a supplier's manufacturing process, in-transit visibility, and management of inventory will be areas of focus.
- Data to influence Union agreements, shift load decisions, and vendor ratings.

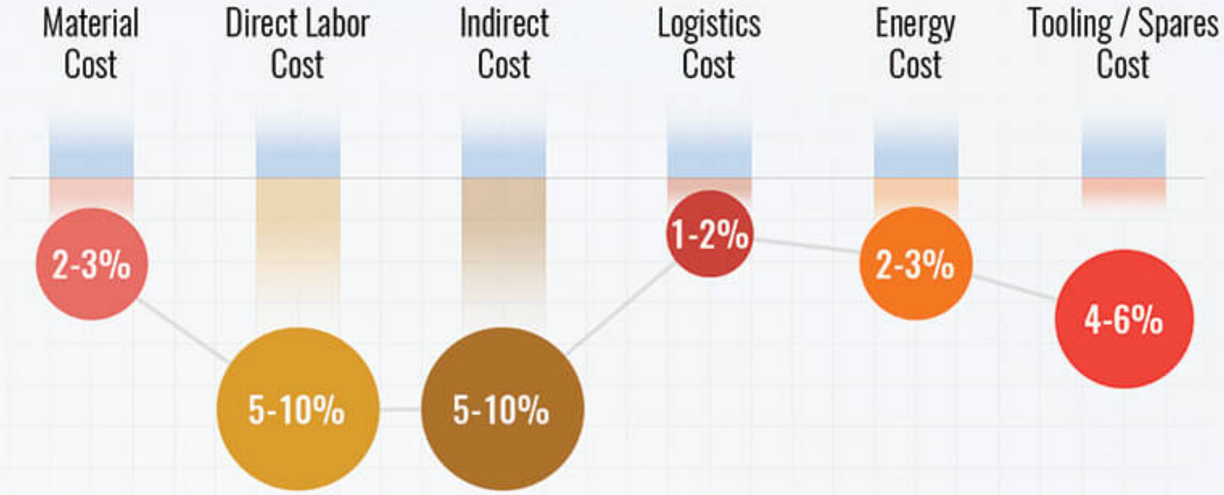
INDUSTRIAL PRODUCTS

(White goods, electrial, electronics & semiconductor, etc.)

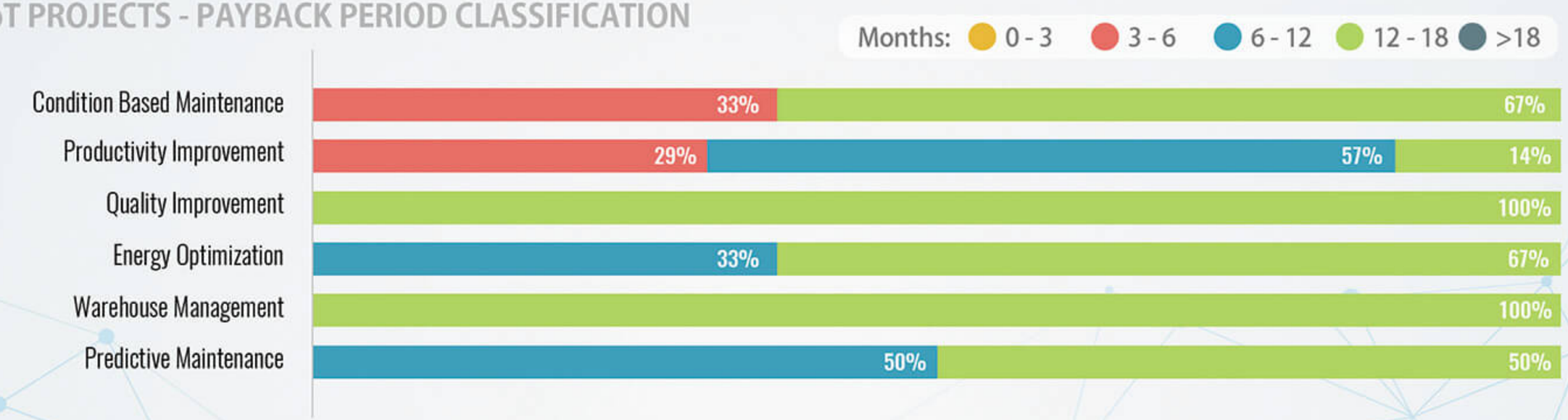
IoT PROJECTS DISTRIBUTION



IMPACT (% Savings across Cost Heads)



IoT PROJECTS - PAYBACK PERIOD CLASSIFICATION



Doing IoT The Right Way
INDUSTRIAL PRODUCTS

HIGHLIGHTS

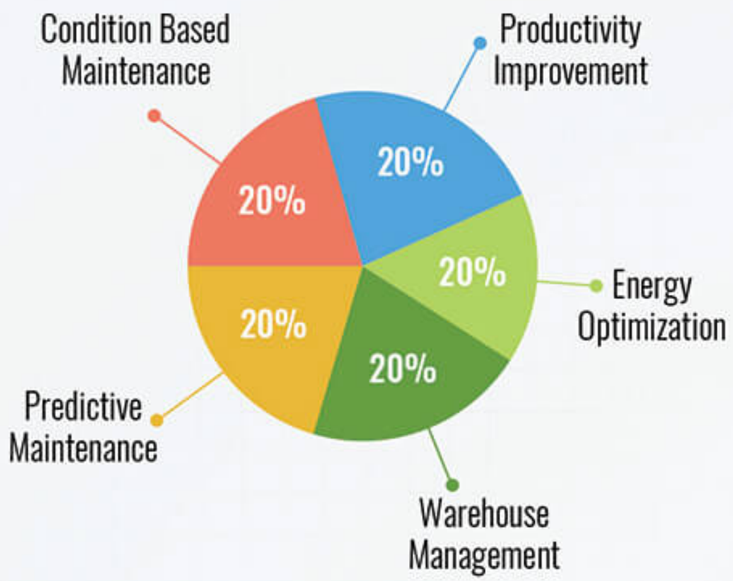
- It is observed that in this vertical, the throughput and productivity benchmark data is artificially high due to inaccurate data. Detailed machine data analytics can help establish accurate and realistic benchmarks.
- IIoT helps in end-to-end energy monitoring in the distribution network. This begins right from energy source to point of usage to help identify energy conservation opportunities and enable energy savings.

TRENDS

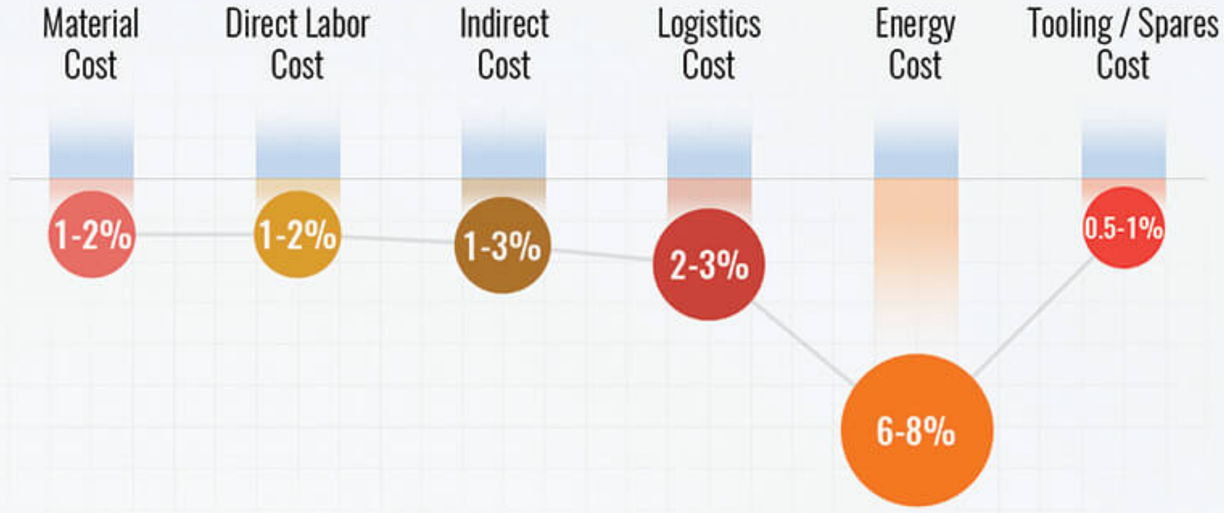
- End-to-end Process Traceability and Genealogy: If a product fails, it can be traced back to the conditions under which the product was built and the components that constitute the product, right down to the vendor. This reduces expensive product recalls.
- Establish Inter and intra plants' performance benchmarking.

STEEL INDUSTRY

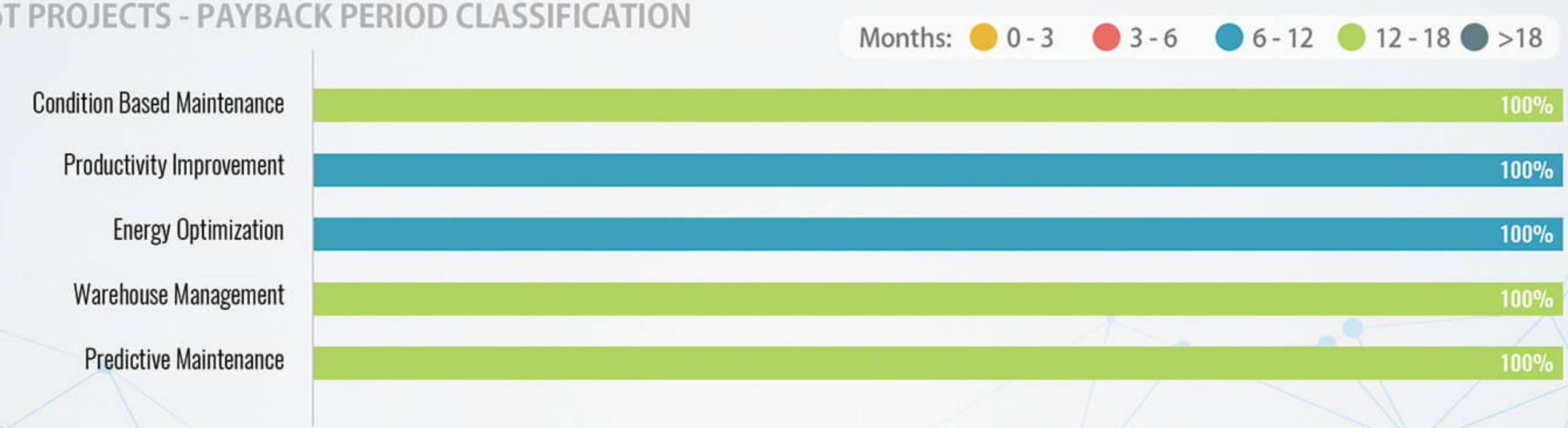
IoT PROJECTS DISTRIBUTION



IMPACT (% Savings across Cost Heads)



IoT PROJECTS - PAYBACK PERIOD CLASSIFICATION



Doing IoT The Right Way

STEEL INDUSTRY

HIGHLIGHTS

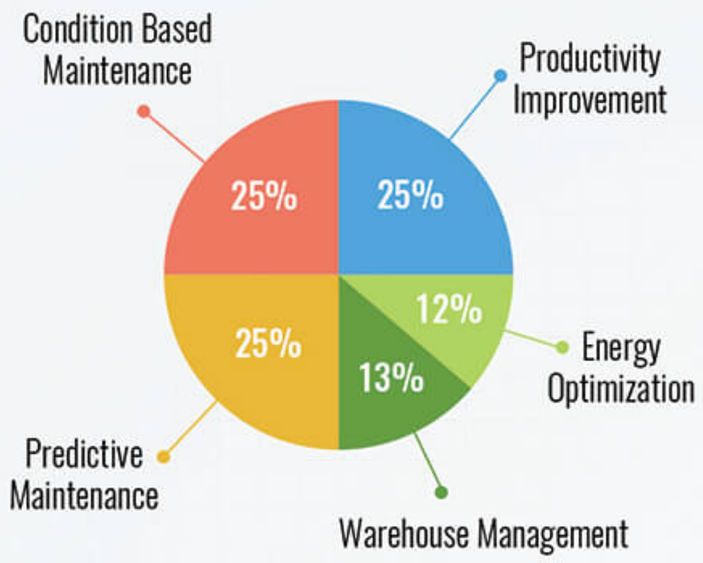
- Mining operations tend to get lower priority during LEAN improvement initiatives. IIot helps bring focus on significantly improving the productivity and reliability of mining assets that supply raw material to steel plants.
- IIoT solutions help improve the energy balance by accurate demand forecasting and production scheduling of furnaces.

TRENDS

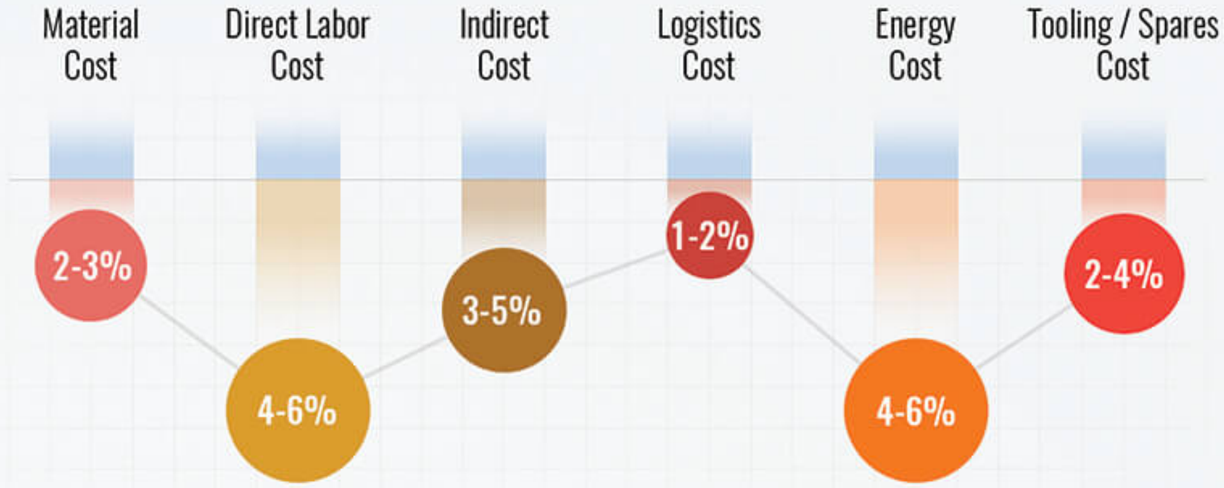
- Genealogy and Process Traceability – From Mining to Distribution.
- Environmental Management and Adoption of ISO 50001.

TYRE INDUSTRY

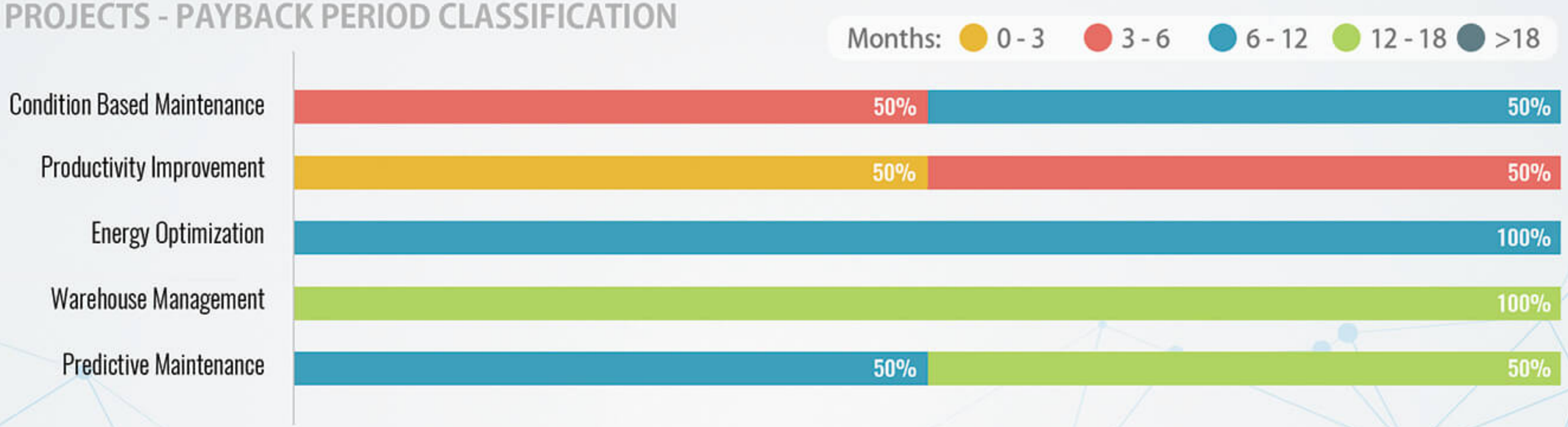
IoT PROJECTS DISTRIBUTION



IMPACT (% Savings across Cost Heads)



IoT PROJECTS - PAYBACK PERIOD CLASSIFICATION



Doing IoT The Right Way

TYRE INDUSTRY

HIGHLIGHTS

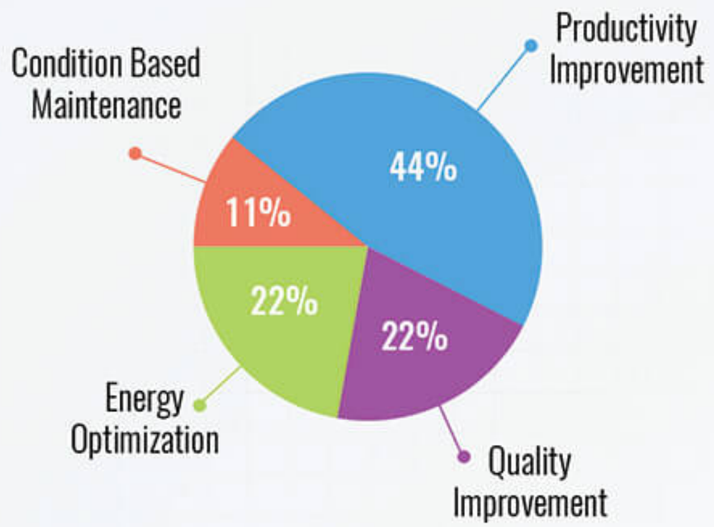
- IIoT helps in measuring, analyzing, and controlling the usage of consumables and indirect materials, which are a significant part of expenses and are rarely monitored.
- IIoT helps establish genealogy and process traceability, right from mixing to warehouse storage.

TRENDS

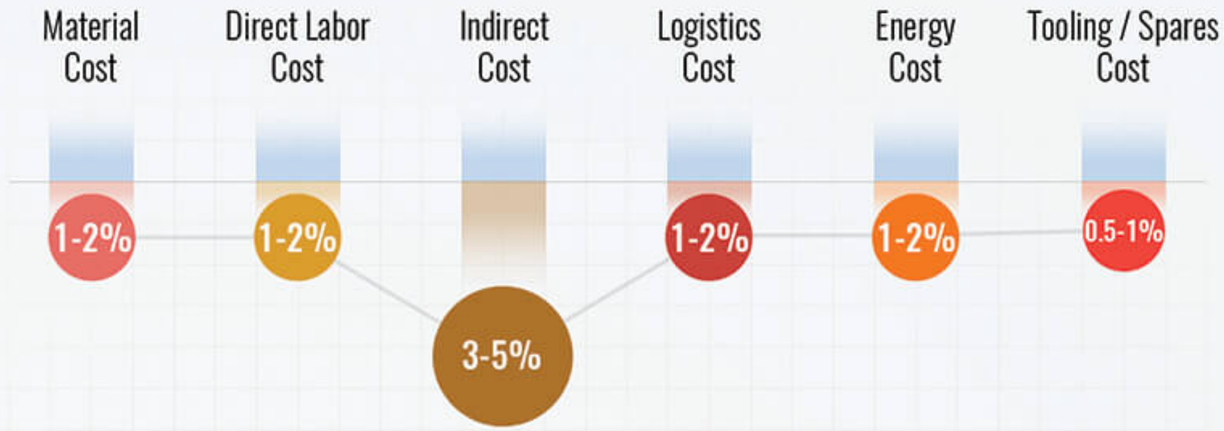
- Reconciliation of real-time production booking with planned data in ERP systems.
- Environmental Management and Adoption of ISO 50001.

FMCG INDUSTRY

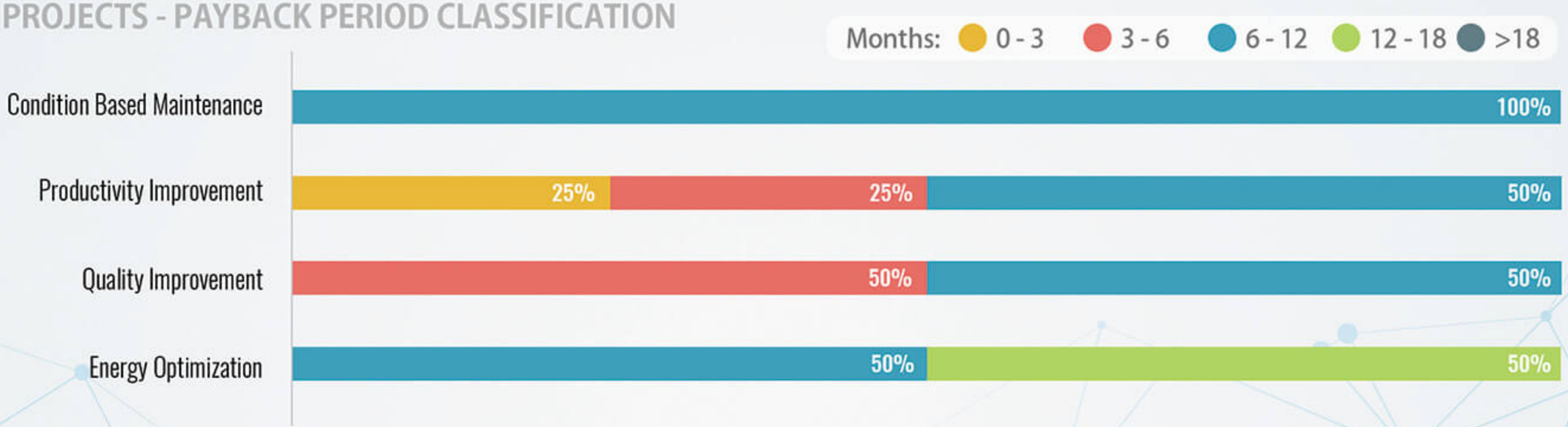
IoT PROJECTS DISTRIBUTION



IMPACT (% Savings across Cost Heads)



IoT PROJECTS - PAYBACK PERIOD CLASSIFICATION



Doing IoT The Right Way

FMCG INDUSTRY

HIGHLIGHTS

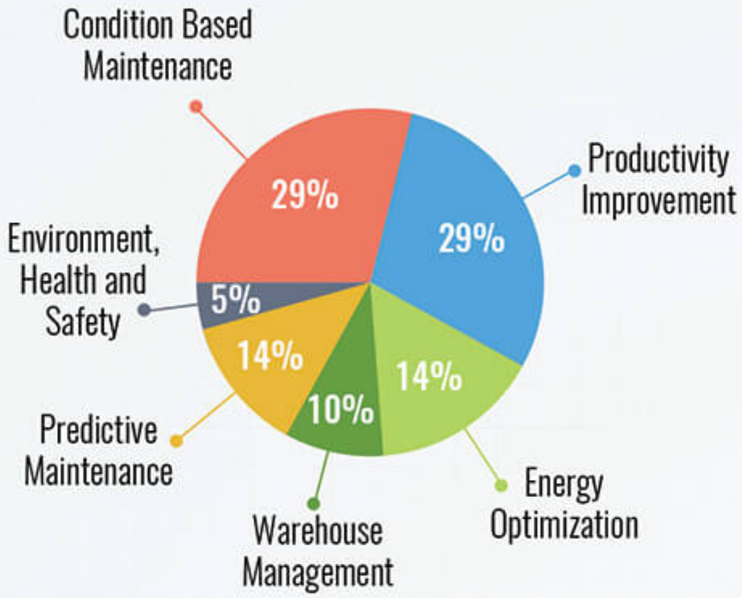
- In multi-product plants with varying cycle times, floating bottlenecks affect overall productivity. These bottlenecks can be identified and eliminated by detailed machine data analytics.
- IIoT provides a historical analysis of Quality to identify patterns and trends.

TRENDS

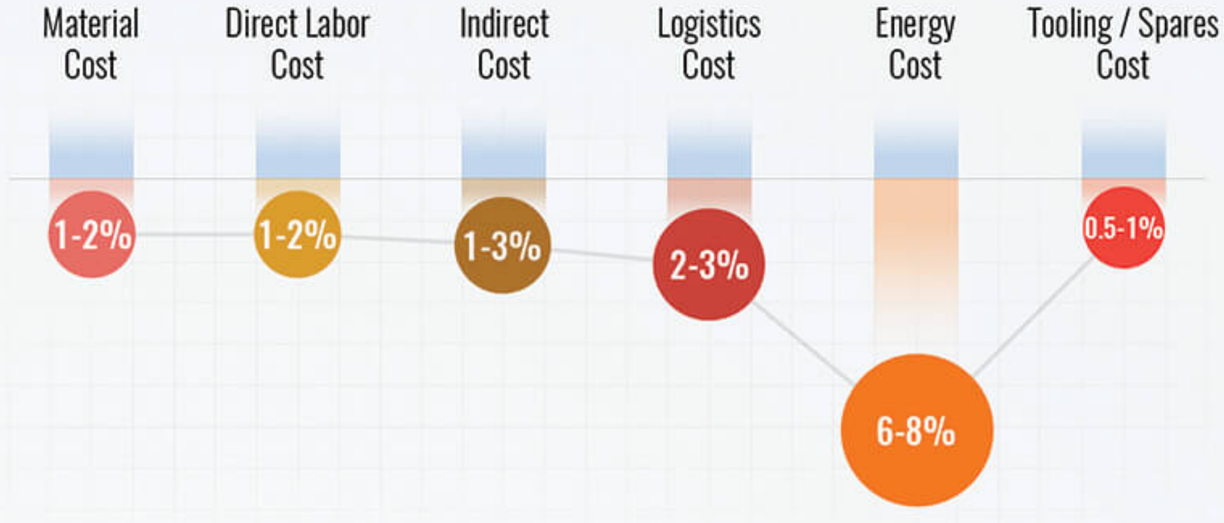
- Genealogy and process traceability.
- Performance benchmarking within and across plants.

CHEMICAL INDUSTRY

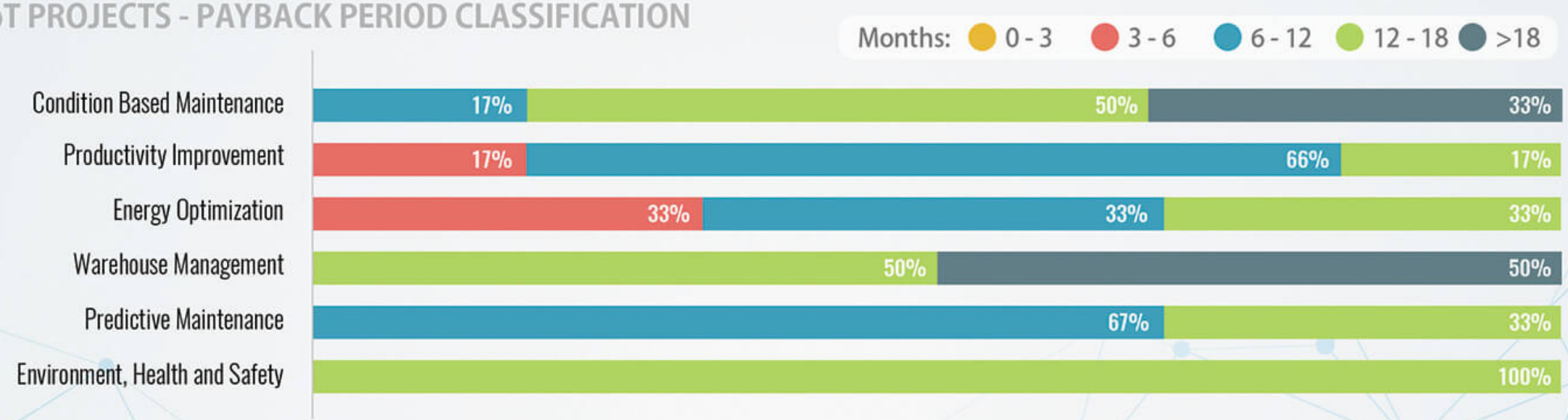
IoT PROJECTS DISTRIBUTION



IMPACT (% Savings across Cost Heads)



IoT PROJECTS - PAYBACK PERIOD CLASSIFICATION



Doing IoT The Right Way

CHEMICAL INDUSTRY

HIGHLIGHTS

- IIoT helps in re-establishing productivity benchmarks. By connecting process lines and measuring actual performance of machines in terms of time and not in terms of output produced, the gap between perceived capacity and actual capacity of a plant is bridged.
- IIoT enables condition monitoring of process lines, leading to improved process yield and energy conservation.

TRENDS

- Predicting quality and process yield based on detailed analysis of raw material used.
- IoT enabled Systems' safety.

DMAIC LED IoT IMPLEMENTATION ROADMAP FOR MANUFACTURING PLANTS

CONNECT, DIGITIZE & IMPROVE EFFECTIVENESS

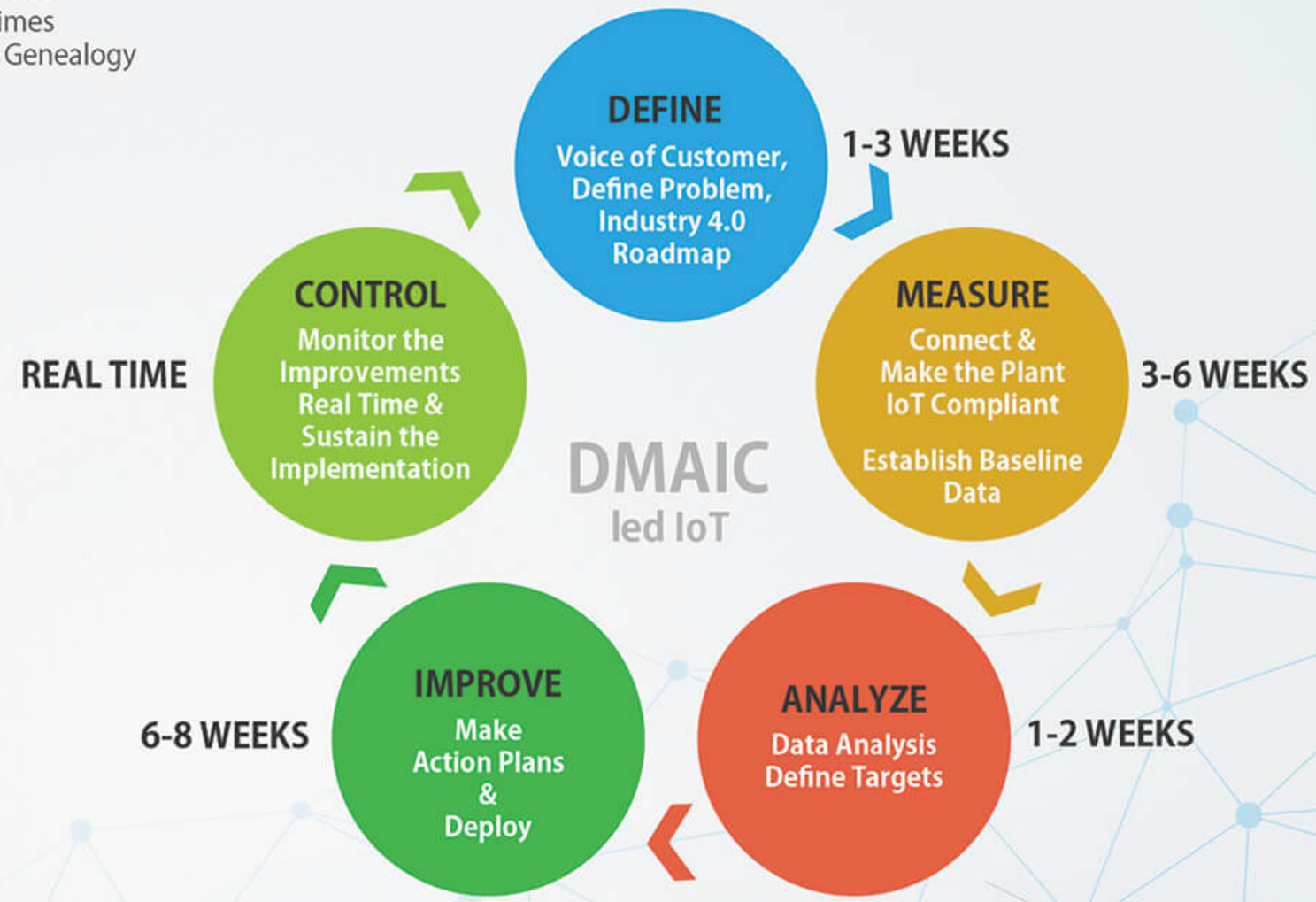
- All data on single platform
- Inter plant visibility
- High level KPIs
- Power forecasting

FACTORY DATA TO INTELLIGENCE

- Use condition based Monitoring & Process Data for Advance Analytics / Correlations / Machine Learning / Predictive Maintenance to reduce Unplanned Downtimes
- Batch wise Process Genealogy

INTELLIGENT FACTORIES TO INTELLIGENT NETWORK

- Interplant Analytics / Benchmarking
- Network Planning & Optimization based on Actual Data from different Plants
- Man Machine Material Tracking across the Supply Chain



ALTIZON

The Industrial IoT Company

1 BILLION EVENTS PER DAY

30+ COUNTRIES

130+ ENTERPRISE ACCOUNTS

155+ IoT PROJECTS

20K+ THINGS CONNECTED

Globally Recognized By

Gartner · FORRESTER · BCG

Microsoft Ventures · AEGIS GRAHAM BELL AWARDS · ispirt

ALTIZON

The Industrial IoT Company

www.altizon.com

sales@altizon.com

+1 760-514-0158

@AltizonSys