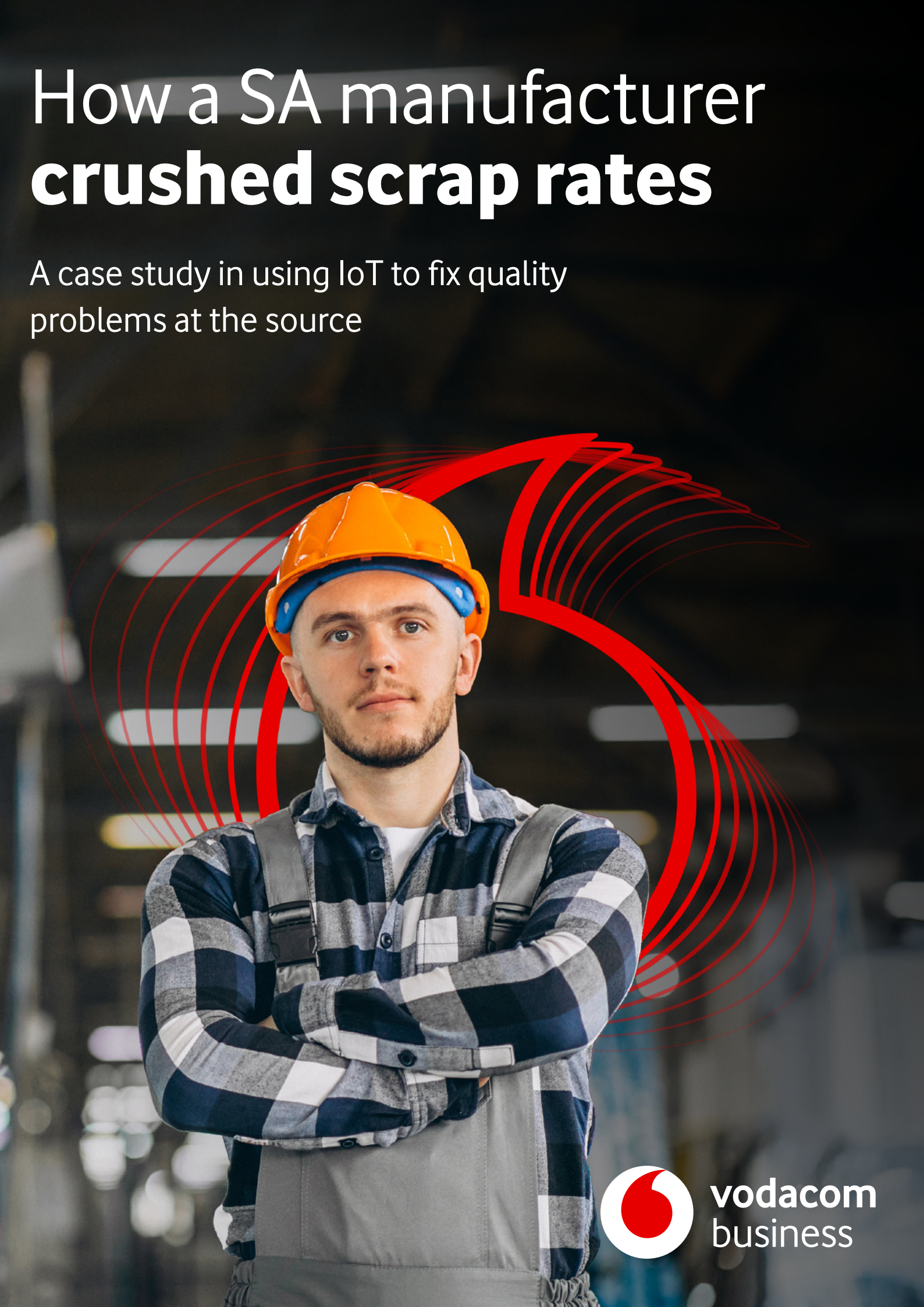
How a SA manufacturer **crushed scrap rates**

A case study in using IoT to fix quality problems at the source



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ATLANTIS (Pty) Ltd FOUNDRIES

Industry:	Location:	Company size:
Automotive manufacturing	Atlantis, Western Cape	Small – Medium

Project period:	Began in 2016 with phased investments through 2021 and ongoing optimisations

Who they are and what they make

Atlantis Foundries is one of South Africa's leading manufacturers of engine blocks for global automotive brands. Their factory, just outside Cape Town, produces more than 100 000 heavy cast-iron components a year, and each one with precise requirements and high-performance expectations. These engine blocks are critical structural parts, and a single defect can mean customer rejection, warranty claims, or worse.

The plant has been around for decades, but the leadership team had a clear goal: take an old-school foundry and turn it into a data-driven powerhouse.

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What problems they faced

Despite years of manufacturing expertise, A**tlantis was dealing with a familiar pain:** they couldn't always see what was going wrong. When a casting failed inspection or came back from a customer with a hidden defect, there wasn't enough traceable data to explain why.

Each engine block involves dozens of process steps, which includes pouring, curing, blasting, coating, inspection, and more. One mistake in any of them can compromise quality. But without granular data on what happened during each step, it was impossible to find patterns or prevent repeat issues.

In short:

they had quality problems, but no visibility. Scrap rates were too high. Quality failures were too frequent. And without real data, they couldn't stop it from happening again.

What they did with IoT

Atlantis didn't rip everything out and start from scratch. They built a smart system around the tools they already had:

Industrial robots with embedded sensors automated key steps like core dipping and blasting, while capturing live data on temperature, coating thickness, and cycle times.

RFID and serial tracking was added so each engine block could be individually traced through the process.

Inline measurement sensors were installed at critical points to monitor quality conditions in real time.

Edge data gateways collected and pushed sensor data to a central system without overloading the network.

DataProphet's, (an AI company specialising in industrial process optimisation) **AI platform** used AI to predict sub-surface defects before final processing, which they couldn't catch before.

Every engine block had its own data trail, which included real numbers, from real machines, recorded in real time .

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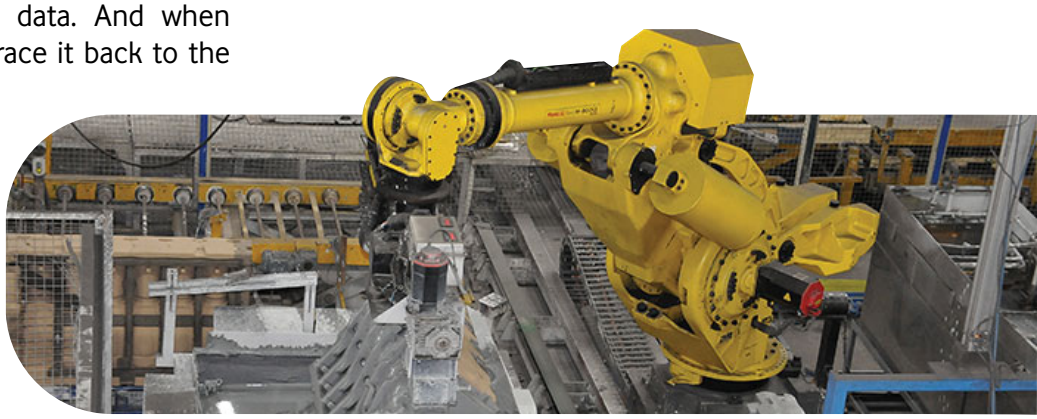
What changed

The impact was both immediate and lasting.

Scrap and rework dropped significantly, because defects were caught earlier: sometimes even before casting. The factory became more consistent, more predictable, and easier to manage. Operators could spot deviations faster. Engineers had clear cause-and-effect data. And when things did go wrong, the team could trace it back to the source without guesswork or delays.

Atlantis wasn't just improving quality. They were reducing waste, cutting costs, and giving their team a smarter way to make decisions.

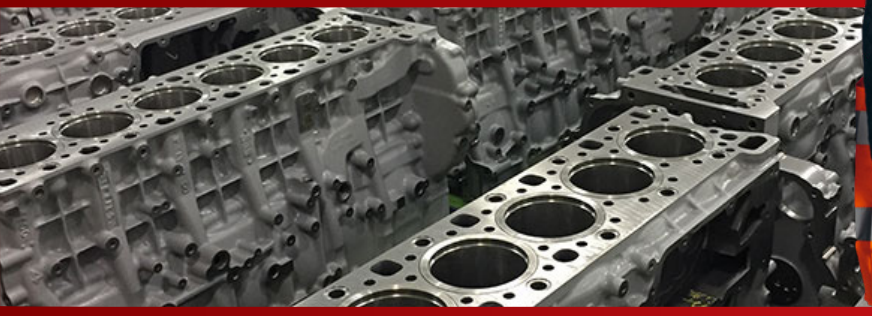


Why it worked

Atlantis succeeded where many others stall because they approached IoT with purpose, not hype.

They didn't aim for full transformation on day one. **They focused on one measurable problem:** reducing defects. And they built from there. Their robots became data sources. Their machines became transparent. And their people were brought into the process from the beginning.

This proves that smart tools can have a greater impact with a smart strategy.



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Why you should care

If you run a manufacturing SME, you're probably dealing with similar blind spots, or maybe something different. Either way, Atlantis proves that you don't need a new factory to fix your issues or be more efficient. You just need the right tech in the right places, and a strategy to make that tech work for you.

IoT isn't about reinventing your process. It's about making every part of it visible.

If you want to read a more detailed piece on Atlantis Foundries, you can read it here.

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