



A legendary innovator brings AIOps to its global enterprise

Electrolux automates IT and supports ambitious carbon reduction goals

by Rob Spencer
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The revolutionary innovations of yesterday are often taken for granted today. Since Electrolux AB formed in Stockholm just over 100 years ago, it has automated everyday living in groundbreaking ways, introducing some of the earliest vacuum cleaners, refrigerators, dishwashers and washing machines. Of course, these things don't surprise us anymore.

Electrolux, however, is truly a company of today, with its sights set on tomorrow. From Stockholm in 1919, Electrolux has grown into a worldwide enterprise, producing 60 million appliances yearly. And while it continues to bring new levels of automation, efficiency and elegant design to the most common aspects of life, Electrolux is also working on current innovations that are breaking new ground.

The company is putting automation into more than just its appliances, incorporating AI to automate operations in ways that will boost overall efficiency, and even contribute to ambitious environmental sustainability goals.

Complexity on a global scale

From an Electrolux facility in northeastern Italy (or, more often in 2020 and 2021, from his home office) Joska Lot monitors the operations of the global Electrolux IT infrastructure. And it's a vast and complex infrastructure.

Much of Electrolux's growth over the years has come through acquisition, each merger adding new physical infrastructure as well as unique technology platforms and application environments. As Lot explains: "We have Windows, we have AIX, we have Linux ... We have 10,000 servers across 65 countries plus the networking devices connecting them, 100,000 apps, databases, rules."

For Lot and his small team to ensure operational efficiency across an infrastructure like this, there are two primary challenges. The first is integrating with all of the platforms and environments to create a unified overview. "If I don't have a standard tool," says Lot, "my job



is more or less impossible. We have to harmonize."

The second challenge is to efficiently cut through the network "noise" and identify the specific tasks that will maintain operations.



Time to resolve IT issues that would traditionally take three weeks:

1

hour

Automation of a common repair task can save

1,000

hours per year



“We see about 100,000 events per day. It is so important in this huge ocean to identify exactly the drop of venom that you have to remove to save your life.”

Joska Lot, Global Solution Service Architect: Monitoring and Events Management, Electrolux AB

Integration and AI-driven automation

Lot and the Electrolux team have long tackled both challenges using IBM® Netcool® solutions as their integrated global IT operations management platform. And just as Electrolux continually finds new ways to enhance its appliances, Lot and team are now adopting AI-driven automation capabilities from the current evolution of the IBM Netcool platform, [IBM Cloud Pak® for Watson AIOps](#).

Lot sees potential to gain critical efficiency by using machine learning to automate what's known in IT as event correlation. "Events" are pieces of data about the functioning of the myriad elements in the IT environment. They cover a very wide range of phenomena, and the large majority of events do not indicate actual problems. Event correlation means grouping related events into "instances" to gain a much clearer picture of where actual problems are.



Lot provides an elementary example: "Imagine someone accidentally disconnects a network router that's connected to ten computers. That creates 11 different events, but there's only one real problem: the router needs to be

reconnected." Those 11 events are really just a single instance. "But that would be a single drop in our ocean," says Lot. "We see about 100,000 events per day." The faster IT ops managers like Lot can view instances instead of events, the faster they



can pinpoint actual problems and address them. Lot describes it vividly: “It is so important in this huge ocean to identify exactly the drop of venom that you have to remove to save your life.”

Traditionally, however, event correlation means having a team of people spending a lot of time manually analyzing event alarms and finding correlations. “In one year,” says Lot, “we fix the same type of issue 1,000 times. And we’ve had people spending one hour managing these activities manually.” Now, by implementing expertise-based rules into

AI, Electrolux can automate and greatly accelerate that work.

Electrolux is just beginning to incorporate this kind of AI-powered automation, but Lot sees it as a very important step. “Sizing the difference amongst events and incidents is the first step to a complete AI management of operations, and probably the one that can bring the fastest return on investment in self-learning technologies.”

It’s not just about the bottom line, either. Rather than displacing human intelligence, Lot sees the potential for AI to promote

employees’ expertise. “We need to invest in changing our minds. We have to explain why we should remove manual activities from operators who perform those activities very well.” By automating a menial task that consumes 1,000 hours a year, not only can Electrolux recoup much of that time, but the operators’ expertise can be applied to more valuable, higher-level tasks. Examples include identifying new correlation criteria that can be fed to the Watson AIOps solution, or refining rules and actions based on local conditions. It creates a virtuous circle, says Lot: automation saving time that can be reallocated to enriching the automation. Meanwhile, the operators can enrich their own expertise.

Moving forward, Lot is exploring containerization of the monitoring solution. Working with IBM, he recently completed a dev environment on the IBM Cloud Pak solution’s Red Hat® OpenShift® container platform, and he and his team are now testing the Watson AIOps capabilities as containerized solutions on OpenShift. The current monitoring environment is deployed largely on premises, but Lot thinks that deploying containerized versions on Electrolux’s Microsoft Azure cloud platform could be a more efficient, effective way to deliver monitoring updates and new features across the heterogeneous landscape.

Efficiency, resilience, sustainability

“Resolution times are not three weeks, but one hour.” That’s how Lot sums up the difference between traditional event management and integrated, automated AIOps.

This efficiency has a direct impact on the core business. Saving three weeks of an IT issue in a factory, for example, means avoiding three weeks of diminished production. And this effect is global. The ability to quickly resolve IT issues worldwide is a major support to cost efficiency and manufacturing volumes.

Lot has even connected the monitoring solution to sensors on actual production line machinery and equipment, creating an Industry 4.0 application for monitoring tools typically reserved for IT. In one instance, Lot’s team detected frequent failures in optical gun readers that scan parts for appliance assemblies. By discovering that a particular model



of gun reader was defective, Electrolux discontinued its use and avoided further downtime.

Electrolux also uses the integrated solution to navigate the COVID-19

pandemic, when Lot and many of his colleagues have switched to remote work. “We more or less have the global environment under control in one single point of view,” says Lot. “And this information is automatically available on



a PC, on a tablet or on mobile. So we can continually provide IT services for all of our offices and factories in the world.”

Finally, the AIOps capabilities contribute to a larger, more important innovation. Since 2005, Electrolux has reduced the absolute CO2 emissions from its operations by at least 75%. Further, in 2019, the company voluntarily joined Business Ambition for 1.5°C, a United Nations-led initiative to help limit the global temperature increase. For its part in the effort, Electrolux pledged to achieve net zero carbon emissions by 2050. Making good on this pledge will require optimized resource usage. That’s where AIOps comes in. By automating tasks that ensure proper CPU utilization and proper functioning of server and datacenter hardware, Electrolux can reduce power consumption and air conditioning — primary causes of carbon emissions. Again, as Lot explains, it’s a matter of scale: “Multiply these capabilities across all of our server rooms, the results are absolutely huge.”



About Electolux

Based in Stockholm, where it was founded in 1919, [Electrolux](#) (external link) is a leading global appliance company whose brands include Electrolux, AEG, Anova, Frigidaire, Westinghouse and Zanussi.

Solution component

- IBM Cloud Pak® for Watson AIOps

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