Scania's Al company: "Too much air in the trucks"

With the help of Al and advanced data analysis, Lots Group, backed by Scania's logistics machine, wants to pave the way for large-scale electrification of Europe's heavy transport. Their Pathfinder platform is now being opened up to more players — and it's impossible not to be impressed by the possibilities.

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Lots Group, which is wholly owned by Scania, is using AI to gain a better understanding of Europe's logistics routes. **Photo:** Lots Group/Scania

The first time Dagens Industri came into contact with Lots Group was in connection with the company, together with SKF, Scania and Ahréns Åkeri, presenting its ambition to launch one of Europe's longest routes for electrified transport. Together, they will drive 221,000 kilometers per year between Södertälje and Gothenburg with charging and loading in Katrineholm, thereby reducing emissions by 97 percent. That was in January this year.

However, Lots has been around for much longer than that. The initiative was started back in 2016 by Scania's then CEO Henrik Henriksson. Lots — which stands for Lean Optimized Transport Solutions — originally aimed to reduce waste in supply chains using lean principles and digitalization.

"There was simply too much air in the trucks . If you fill them better, both costs and emissions will be lower. But Lot's DNA has always been to pave the way for autonomy and electrification," says European Manager Johan Palmqvist.

Today, the company has operations in the USA, Canada, Brazil, the Netherlands, France, Germany and Sweden. The main mission is to help companies streamline their logistics – a task that has become increasingly complex. It is no longer just loading, refueling and driving; the parameters are significantly more today.



European Manager Johan Palmqvist and Product Manager Jonathan Jönsson.

Emissions from heavy transport also constitute a significant part of total emissions, accounting for around 6 percent in Europe. The EU's goal is to

reduce emissions from heavy transport in particular by 90 percent by 2040. This requires strong action.

"To enable large-scale electrification of heavy transport in a cost-effective manner, a number of parameters must be taken into account, which is in principle impossible to handle with paper, pen and Excel. There is also no ready-made tool to buy for this, so we have developed it ourselves," says Johan Palmqvist.

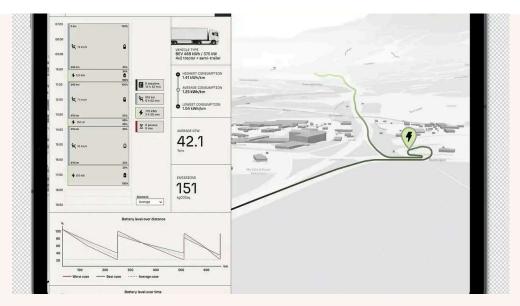


The proprietary Pathfinder platform compiles enormous amounts of data: logistics routes, detailed information about Europe's heavy vehicle charging network, biofuel stations, topography data, energy mix, weather, fill level, speed limits and much more.

With the touch of a button, users can see how a specific route would be affected by electrification – how much extra time would be required, what emission reductions could be achieved and which charging stations would be suitable along the route. It also shows how energy consumption is affected by factors such as temperature, road conditions and gradient.

A key feature of Pathfinder is the use of AI to manage and analyze these large and often unstructured amounts of data. The platform can automatically clean and structure transport data from various sources, simulate energy consumption and suggest optimal routes — even for more complex, multimodal transports involving trucks, trains and boats.

"It is actually the AI models that enable the large scale with hundreds of millions of combinations. This means that plans can be developed in a simple way, making it easier for transport buyers to make changes. For society, this hopefully means lower emissions and fewer empty trucks on the roads," says Product Manager Jonathan Jönsson, who is responsible for the development of Pathfinder.



In Pathfinder, companies can see how a route could be electrified. The platform takes into account everything from road gradient, temperature and other factors that can affect range and provides suggestions on how a route can be optimized.

Lots has already shown that smarter logistics delivers results. In an ongoing pilot project with Scania and SKF, the companies were able to increase transport efficiency by over 100 percent by increasing the fill rate in the trucks. With electrification, the savings can be even greater – but the higher price tag for an electric truck is a real barrier for many transport companies. Lots believes that the key is collaboration.

"Many in the industry are stuck in old systems and manual processes. With Pathfinder, we can perform analyses in seconds that previously took days – or were not possible at all – and identify common routes between different companies and suggest collaborations," says Jönsson.



This is where Scania and SKF come in again. Scania has a supplier on the west coast, SKF one on the east coast. Previously, the companies have purchased transport one-way.

"If we can combine them into a round-trip flow, a haulage company can justify an electrical investment, because they know they will get coverage in both directions. It may seem simple on paper, but it is a case we have been working on for a long time and have now started. We call it collaborative shipping. There are so many steps to think about for a company," says Jönsson.

Now the platform is also being opened up to more players, who can purchase it as a service. The more data that is added, the more powerful it becomes.

"We see Pathfinder as a catalyst for the transition. By collecting and analyzing data in a new way, we can accelerate electrification and make it cost-effective – not just for individual companies, but for the entire industry," says Palmqvist.

PATHFINDER FEATURES

Net-zero routing – Optimizes transportation routes for electric and biofuel vehicles by taking into account charging stations, road conditions, and driver rest times.

Emissions Insights & Reporting – Uses both static logistics data and real-time telematics to generate accurate emissions calculations in accordance with global standards.

Al-powered logistics automation – Automates time-consuming data analysis, reduces inefficiencies, and simplifies decision-making.

Infrastructure Optimization – Provides real-time overview of charging infrastructure to maximize utilization and return on investment.

Source: Lots Group

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