Volvo Cars: transforming complex data with a unified graph platform

With advanced graph technology by Linkurious, engineers at Volvo Cars, a major international car manufacturer, have introduced a new culture of innovation to their organization.

Vehicles are constantly getting more complex as customers are offered more customization options for improved consumer experience. That complexity creates more dependencies as engineers bring together more functions and features. In order to expertly manage this increased dependency and complexity, engineers within Volvo Cars launched the Insight Lab, an integrated graph service successfully improving collaboration between teams. →

"We've seen Linkurious Enterprise play an important role in democratizing graph within Volvo Cars. It has helped the Insight Lab's team demonstrate the power of graph and make the technology accessible to everyone."

- Marilyne Bouteruche
Head of Customer Success @ Linkurious

Managing connected data with graph technologies

The engineers at Volvo Cars turned to graph technology, which is particularly good at managing the kinds of complex, connected data colleagues across departments were working with. The Insight Lab launched their graph project with Neo4j graph database.

They also needed a powerful and flexible tool to create graph visualizations. For this Volvo Cars engineers use Linkurious Enterprise, an off-the-shelf graph analytics and visualization software accessible to both technical and non-technical users, and Ogma a graph visualization library for developers from Linkurious.

Volvo Cars leverages graph technologies to analyze data and generate useful and actionable insights. Startup projects, "graph clinics," are used to launch PoCs (proof of concepts) and provide support across departments.

The Insight Lab team also deploys "flash graph projects" to quickly deliver graph-powered insights on request.

The internal graph platform at Volvo Cars has multiple daily users in graph project collaborations. "The level of adoption of graph technology we see within Volvo Cars is definitely a sign of success," says Marilyne Bouteruche, Head of Customer Success at Linkurious.

Examples of Insight Lab's graph solutions include:

➜ Managing the tasks and workflows of agile development teams.
➜ HR analysis of the progress of agile reorganization of teams.
➜ Visualizing data around implementation of vehicle functionalities. ➜

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Using Ogma and Linkurious Enterprise as complementary tools

The teams at Volvo Cars have been using two Linkurious software solutions in parallel: one to kick off any graph projects and the other to fully develop them.

Together, they deliver the insights and user experience their colleagues need:

Ogma is a JavaScript library for large-scale interactive graph visualizations, and offers a set of features required to display, explore, and interact with graph data in a web application. Ogma is used to create tailor-made graph solutions embedded in a customized graph app.

Linkurious Enterprise is an intuitive graph analytics and visualization software that is accessible to both technical and non-technical users. For Volvo Cars, this is usually where people start their graph projects, for example during a graph clinic. The developers have found it fast and easy to input data to quickly demonstrate the concept of what they are doing and to surface patterns of interest while they are developing an application in parallel using Ogma. Linkurious Enterprise has also been useful for getting instant insights for decision making and made graph technology accessible within the organization.

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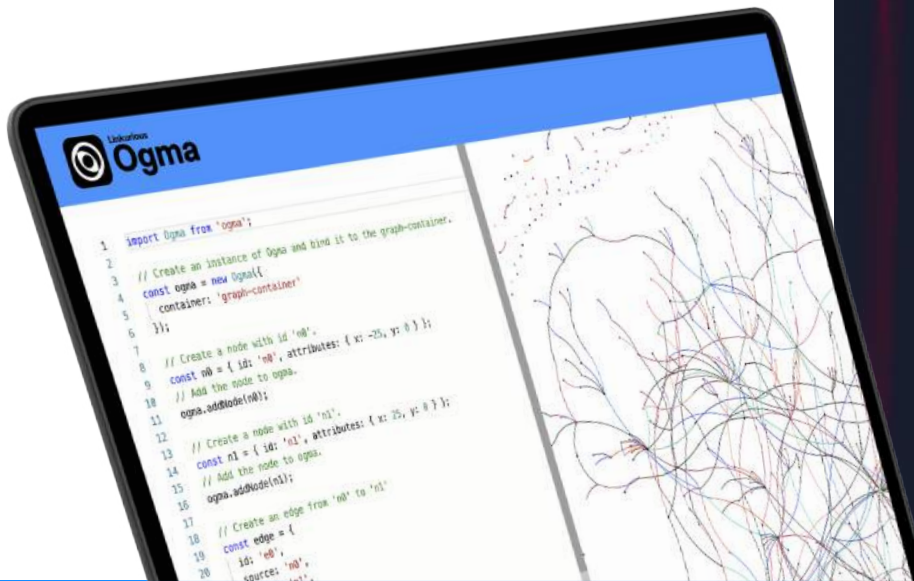# Creating a unified graph platform at an enterprise level

Today, graph technologies have many applications, and the organization's use of graph is growing. It allows teams at Volvo Cars to understand dependencies in a quick, visual way.

Using graph combined with product development data, Volvo Cars is able to visualize the work to come and manage backlogs and dependencies.

The team has also been able to visualize the Agile structure to see how individuals and teams are working together and let them understand how the organization grows and evolves.

The future of graph technology at Volvo Cars

Graph technology continues to gain traction at Volvo Cars, as more teams turn to graph solutions. More structured graph projects are also evaluated on a regular basis. ◑