

## CASE STUDY



Schleich GmbH

## Flexible, Fast, Easy: MDM Throughout the Entire Supply Chain Thanks to Neo4j

**INDUSTRY**

Manufacturing

**GOAL**

Integrated product data management system throughout the value chain

**CHALLENGE**

Need for greater scalability and flexibility in the product data network

**SOLUTION**

Data consolidated in Neo4j, with mini-apps developed for specialist applications

**RESULTS**

- Effective and fast workflow through the entire value chain
- Central knowledge base with interfaces to other systems

To efficiently manage heterogeneous data throughout its entire value chain, toy manufacturer Schleich was seeking a new, flexible product data management (PDM) solution. The company has chosen Neo4j to be its central database due to its excellent scalability and speed.

### The Company

Founded by Friedrich Schleich 80 years ago, Schleich GmbH is today one of the largest toy manufacturers in Germany and a leading supplier of original toy concepts worldwide. Its famous Schleich plastic figurines are sold in more than 50 countries. The company originally concentrated on the development, manufacture and sale of comic figurines, then expanded its range to include lifelike animals, and the toy worlds of knights, Native Americans and elves.

### The Challenge

Schleich supports a wide range of heterogeneous data structures that have grown over time. Its toys are subject to strict legal rules and require extensive material management – from the first draft of a figure through its production to sales. Data on, for example, individual toy parts, their quality standards and country-specific regulations, materials, production tools and their components all have to be maintained. The data comes into Schleich's product data management (PDM) system – which handles the master data management (MDM) of its product data – from various sources, such as component manufacturer and suppliers' systems, and different countries. Staff at Schleich use this complex data throughout the entire value chain for their work.

The previous PDM system was developed by Schleich many years ago and adapted to its needs. This system offered an integrated product data network, but its generic user interface often handled data in an intricate way. Administration was somewhat laborious, and the PDM no longer matched the company's requirements for greater flexibility, performance and easier operation.

### The Strategy

Schleich's goal was to put all its information into a semantic data model and process it across the company. „In the toy industry it is important to meet the highest quality and safety standards," said Dr. Andreas Weber, Vice President of Operations at Schleich. „Our staff needed to be able to quickly and easily access the relevant data throughout the entire value chain. Transparent evidence of compliance with all legal stipulations is essential. The old data silos had to be gradually replaced."

### The Solution

When developing a flexible, scalable system, Schleich chose Neo Technology, the developer of leading graph database Neo4j, and its partner and IT specialists Structr. The new PDM system – based on Structr's open-source software platform, with Neo4j as the central database – drastically simplifies and speeds up the development of software solutions. Individually optimised user interfaces only take a couple of days to create. Interfaces with other systems guarantee a high degree of integration. The Structr graph application platform enables mini-apps to be specially developed for the particular requirements of Schleich's staff. Its specialist departments can access the functional modules via individual user interfaces, which is a real boost for acceptance.

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“In addition to improved transparency in quality assurance and in the PDM, today we can plan and track all processes along the value chain with much greater efficiency.”

– Dr. Andreas Weber,  
Vice President of Operations,  
Schleich GmbH



„All data is tucked away behind the applications concerned and consolidated in Neo4j,” said Axel Morgner, Managing Director of Structr GmbH. „The mini-apps are tailored to user groups and each have a different interface and operating method.” Apps can be created quickly, with flexible front-ends for web and mobile devices. And it is here that the flexibility and speed of Neo4j is such an advantage. Multi-user operation is also possible in large departments without any problems, so users can work on the systems in parallel.

### The Results

Within just six months, Schleich successfully implemented the new PDM solution and migrated its entire dataset. „The availability of mini-apps as functional modules makes it possible to ensure considerably better use of the system,” said Weber. „Even the performance is much better. Requests for changes and individual views of the data world can be implemented considerably quicker.”

Staff receive precise information about the raw materials being used via a bill-of-materials mini-app, for example. This enables them to check compliance with legal directives and adjust their drafts as necessary. The entire value chain – from raw materials manufacturers and suppliers to Schleich’s own production teams – can be clearly viewed and tracked for, say, material management and compliance. Changes to laws can also be quickly and easily assessed for their impact.

External groups can view and edit relevant data using pre-defined access rights in the mini-apps. Outside laboratory operations can import their data directly into the system in the medium term. Externally available datasets can also be easily integrated, such as the European Chemicals Agency list of Substances of Very High Concern (SVHCs).

The Structr platform’s open system architecture means it can be integrated into Schleich’s heterogeneous system environment. The direct coupling of the new system to SAP, which is currently being introduced at Schleich, enables the company to cover almost all PDM-specific requirements with the new platform. SAP remains an industry standard and is being introduced in specific locations, enabling the toy manufacturer to save money while reducing the complexity of its IT infrastructure.

„Using the new platform, we can manage our entire dataset from different systems quickly, easily and very flexibly,” said Weber. „In addition to improved transparency in quality assurance and in the PDM, today we can plan and track all processes along the value chain with much greater efficiency.”

### About Neo Technology

Neo Technology is the creator of Neo4j, the world’s leading graph database. Organizations worldwide use Neo4j to extract real-time insights not only from their data but also data relationships. Neo Technology has brought the power of graph databases to organizations both large and small – from enterprises like Walmart, eBay, UBS, Cisco, HP, Telenor and Lufthansa to young startups like Medium and Zephyr Health. These businesses have used Neo4j to build solutions as varied as personalized recommendation engines, identity and access management models, social networks, network monitoring tools and master data management applications. From its inception, Neo Technology has always valued relationships, and now organizations worldwide use the Neo4j graph database to unlock the business value from their data relationships.

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