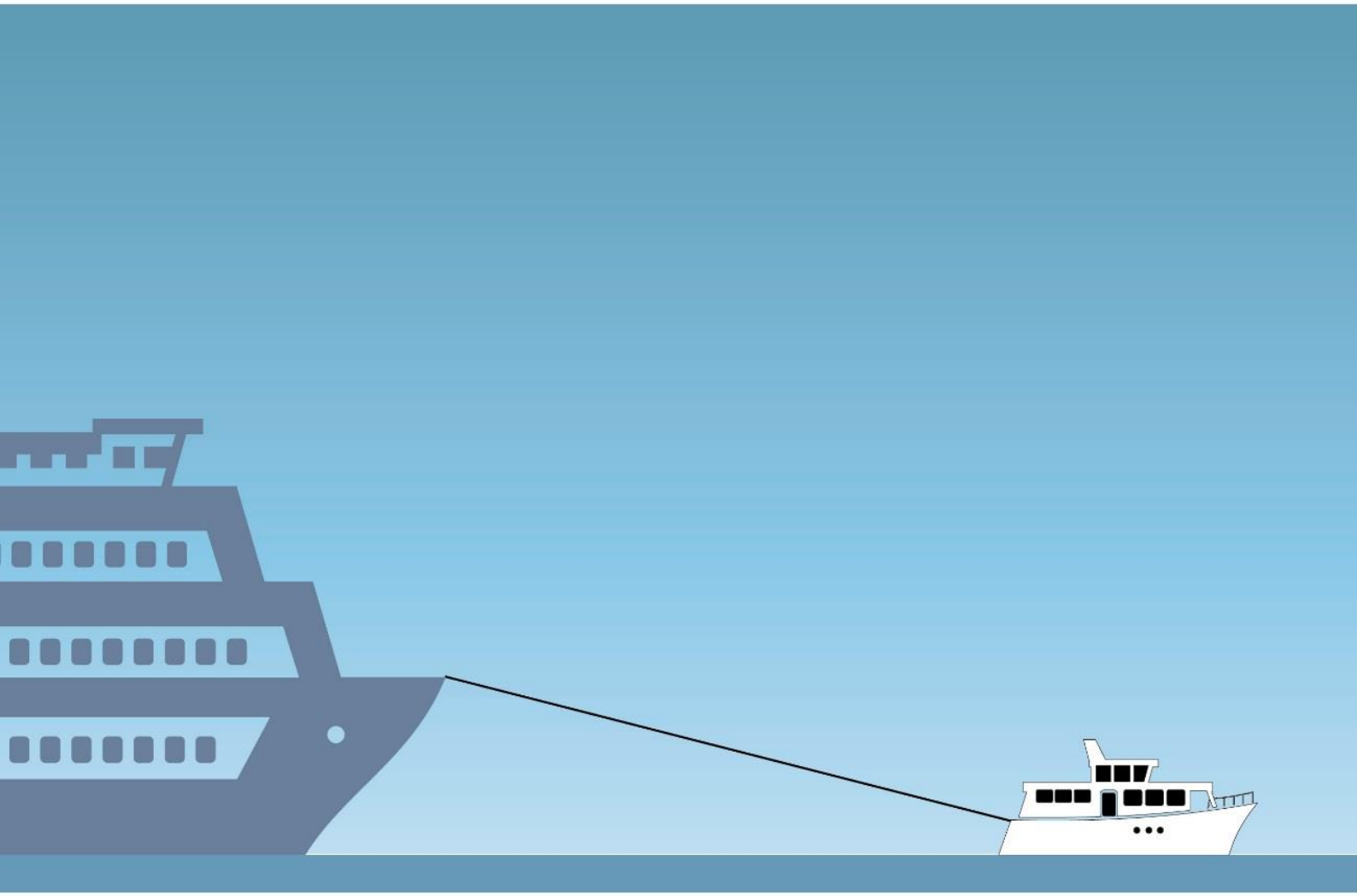
econauten

Case Study

Managing environmental protection processes at Deutsche Bahn

DB Mobility Networks Logistics



FINK - Deutsche Bahn's technical information system for nature conservation and compensation measures

If it comes to interventions in nature and landscape in the context of infrastructure projects, they must be compensated. This is demanded by law through the Federal Nature Conservation Act (BNatSchG). For Deutsche Bahn, an environmental pioneer and one of the largest construction project facilitators in the country, this means several thousand compensation measures per year that must be planned, developed and permanently maintained. The most important user of this data is the Federal Railway Authority (Eisenbahn-Bundesamt), which demands regular reports on the state of these measures.

To perform this task efficiently across the entire company, Deutsche Bahn has used the web-based technical information system FINK since early 2016. The software was planned and developed by an agile team, in which a business unit, IT and external advisors worked closely together from the beginning. The task of econauten was to set up and manage the requirements engineering. Together with Deutsche Bahn Environment, DB Systel and the software development company Ancud IT, these requirements were satisfied.

From a high-level process map to BPMN 2.0 models

Together with nature conservation experts from various Deutsche Bahn divisions, challenges for the new IT system were flagged systematically. The most important discoveries were that compensation obligations should, in future, already be captured at the planning stage. Furthermore these obligations need to be updated on a regular basis throughout their entire lifespan. Media disruptions need to be reduced to a minimum and the heavily document based workflow should be replaced by digital business processes. In agreement with the Federal Railway Authority, the report should be switched to the machine-readable XML format.

Several rounds of workshops turned the first high-level process map into clear descriptions of separate sub processes. These were modelled by econauten in the standard notation BPMN 2.0. The resulting charts are easy to understand and yet accurate, important preconditions in any software development project.

Completing user stories in an agile process

As an innovative project with high-level time and content expectation, FINK was successfully implemented solely via agile methodology. Together with DB Systel, econauten opted for a SCRUM orientated framework. With clearly defined work packages, known as user stories, the initial prototype expanded continuously. During this process, econauten acted at the interface between the business and IT units, leveraging their experience for precise user-orientated stories that can be implemented effectively into IT systems.

Modern system landscape based on Open Source

The result is a future-proof IT system based on enterprise-capable open source components. The core of the application is Camunda BPM. The sleek and highly scalable Java application can run BPMN 2.0 models directly. The high quality of nature conservation data in FINK is guaranteed by a Decision Management System. The modern user interface, based on Liferay, shows that this web-based business software can also be fun to operate.

With the right partners to succeed

The development and rollout of FINK, the new technical information system for nature conservation and compensation measures of Deutsche Bahn AG, shows that innovative IT projects in large enterprises can be successfully implemented with the right partners and a sustainable architecture. We are pleased that we could contribute to this success.

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