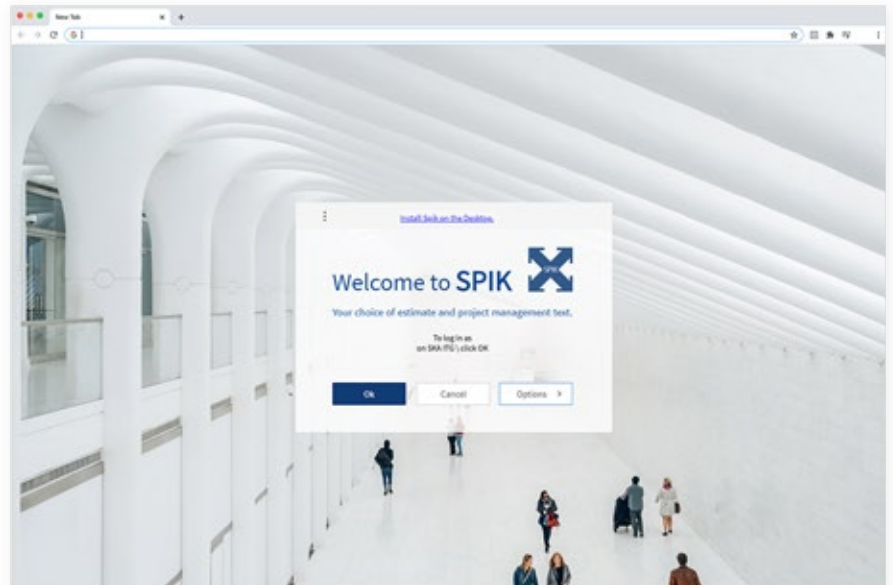
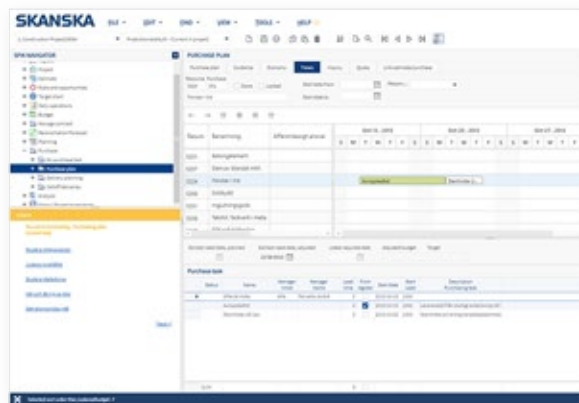


Skanska

Wisej.NET helps migrate
Skanska's Project Management
Application for 4,500 users

SKANSKA



Thousands of construction sites for critical infrastructure across the globe benefit from Wisej.NET as a rapid web-enabling technology for their project management processes.

With around 32,500 employees worldwide, Skanska is one of the world's largest construction and project development companies. The group is known for realizing complex construction sites across Europe and the US such as airports, bridges, homes, hospitals, power plants, as well as railways, roads, schools, and tunnels. As a multinational company, the group currently has 10,000 ongoing projects, which are located throughout Central Europe, the UK and the United States.

In order to coordinate, manage, and calculate these projects, Skanska has developed an in-house application called "SPIK" that is used by all construction sites and offices within Skanska Sweden. The software suite addresses the specific needs for complex project planning which include cost calculation and reporting requirements.

Christer Lindström works as an application specialist with Skanska Sweden IT AB. He explains: "SPIK covers the whole building process from early cost estimates to the end of project warranty. SPIK has functions regarding bidding and estimating, financial control, risk and opportunities, change management and purchase."

Web Migration for 850 forms and dialogs

Skanska's goal was to modernize the existing desktop application (SPIK) to become a web-based solution. The team around Christer started a market analysis and defined requirements that they considered important for creating a better and more future-proof solution. "We also identified several risks in continuing to maintain the old solution, which was partly based on old technology. We then sent a request to a few selected suppliers, including Ice Tea Group (ITG) to help us modernize the application."

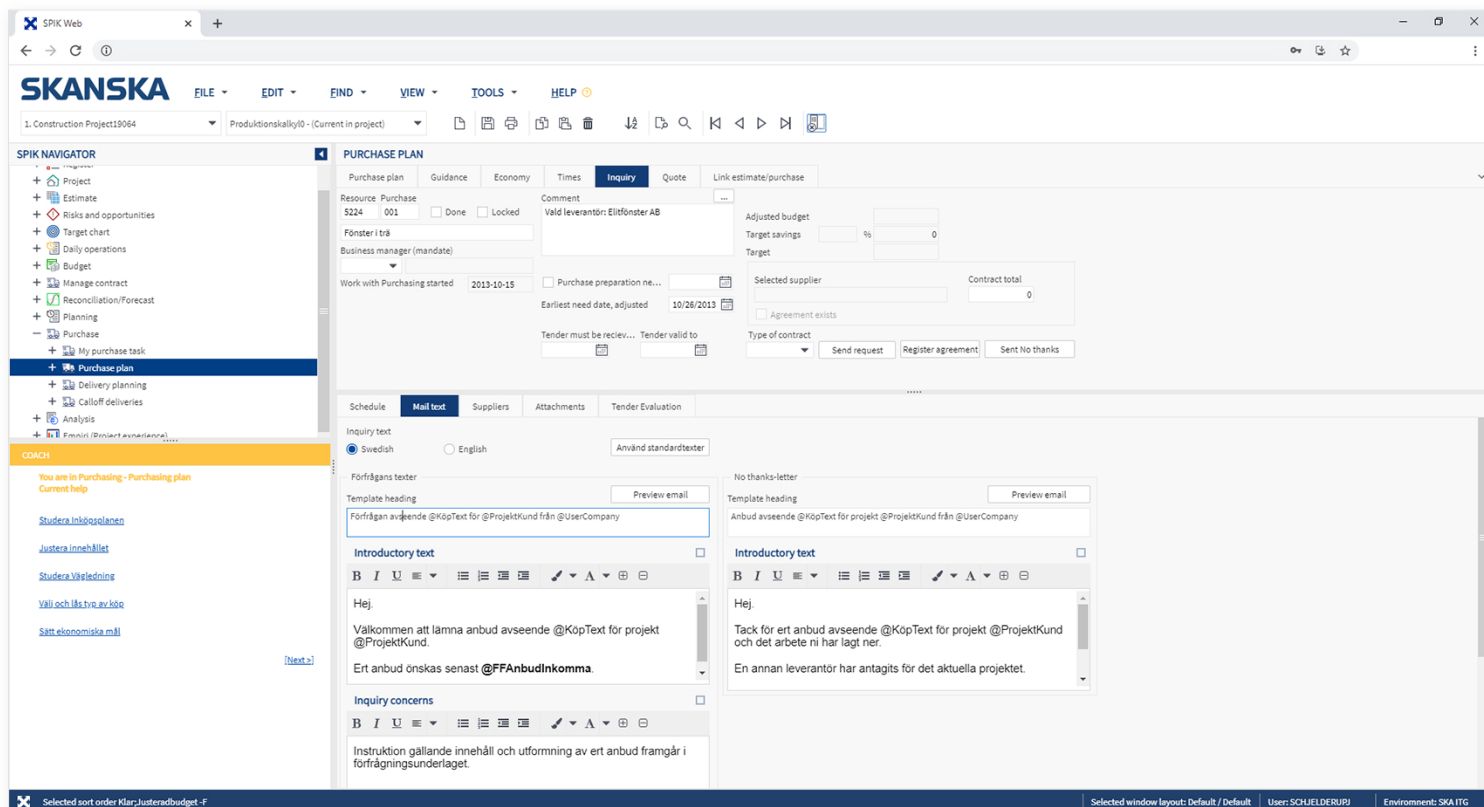
The existing client application needed to either be rewritten completely or converted with retained functionality, leaving the backend (web services, databases, etc.) unaffected. The old application was to be used in parallel with a gradual implementation of the new one, so that the existing client could be phased out step-by-step.

Application Modernization at a fraction of the cost

During the procurement phase, Skanska evaluated the Wisej.NET framework and compared it to other proposals for a rewrite of the software. "We immediately saw that a migration with Wisej.NET would be much cheaper compared to other alternatives. In the end it became a cost issue as to why ITG was chosen as supplier."

Originally, Skanska had other plans and wanted to rewrite SPIK from scratch. "This approach proved to be a big risk regarding cost and complexity", Christer summarizes. A web-enabling solution based on Wisej.NET stood out as the fastest, most cost-effective, and failure-proof approach. Therefore, the decision was easy to make for Skanska.

The proof of concept with parts of the SPIK application running in the browser was delivered after two weeks. The



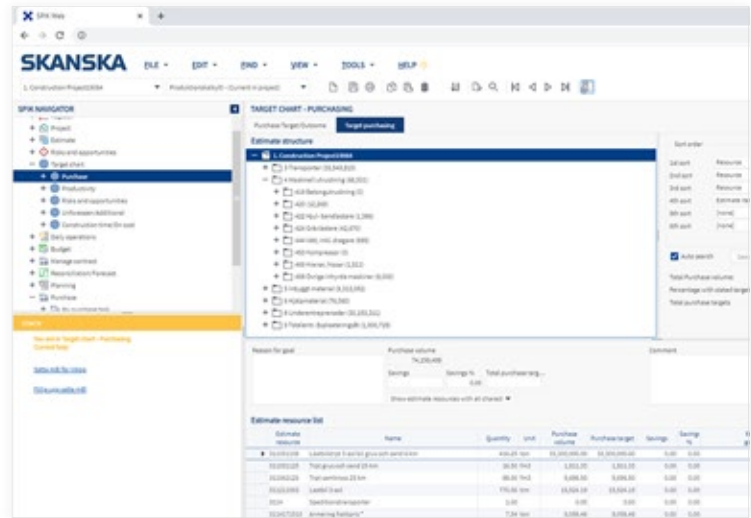
migrated in seven months, including UI optimizations provided by Ice Tea Group's UI/UX designer. Ice Tea Group estimates the effort for a full rewrite of an application of this magnitude to be about 27-man years, not including the risks associated with rewriting.

Such a quick turnaround provided other advantages that are not immediately apparent. Due to the shortened time frame, the development team at Skanska was able to include several small feature enhancements before the first release. With the migrated application delivered by the ITG team, users could compare the old Windows-based solution and the same application running in the browser – connecting against the same database.

Another financial element to consider is the reduction of license costs for Citrix and other components needed to deploy classic Windows software for several thousand users. The SPIK development team was able to cut down on release cycles by employing modern deployment practices. Before the web-based application, a new release took up to four weeks to deliver to 4,500 users. With the new solution, the time frame for deployment was aggressively reduced to a few hours. Wisej.NET also helped to keep the application usage and Help System intact, so much so that the comprehensive application handbook at Skanska did not have to be rewritten.

Low-risk, great turn-around

Wisej.NET provided great economics: "It worked very well since we could proceed to work in a well-known environment where we could continue as before. The experience of Wisej.NET is good. It feels robust and easy to use", says Christer. "Working with Wisej.NET/PPJWeb has also increased productivity with significantly faster release cycles than before."

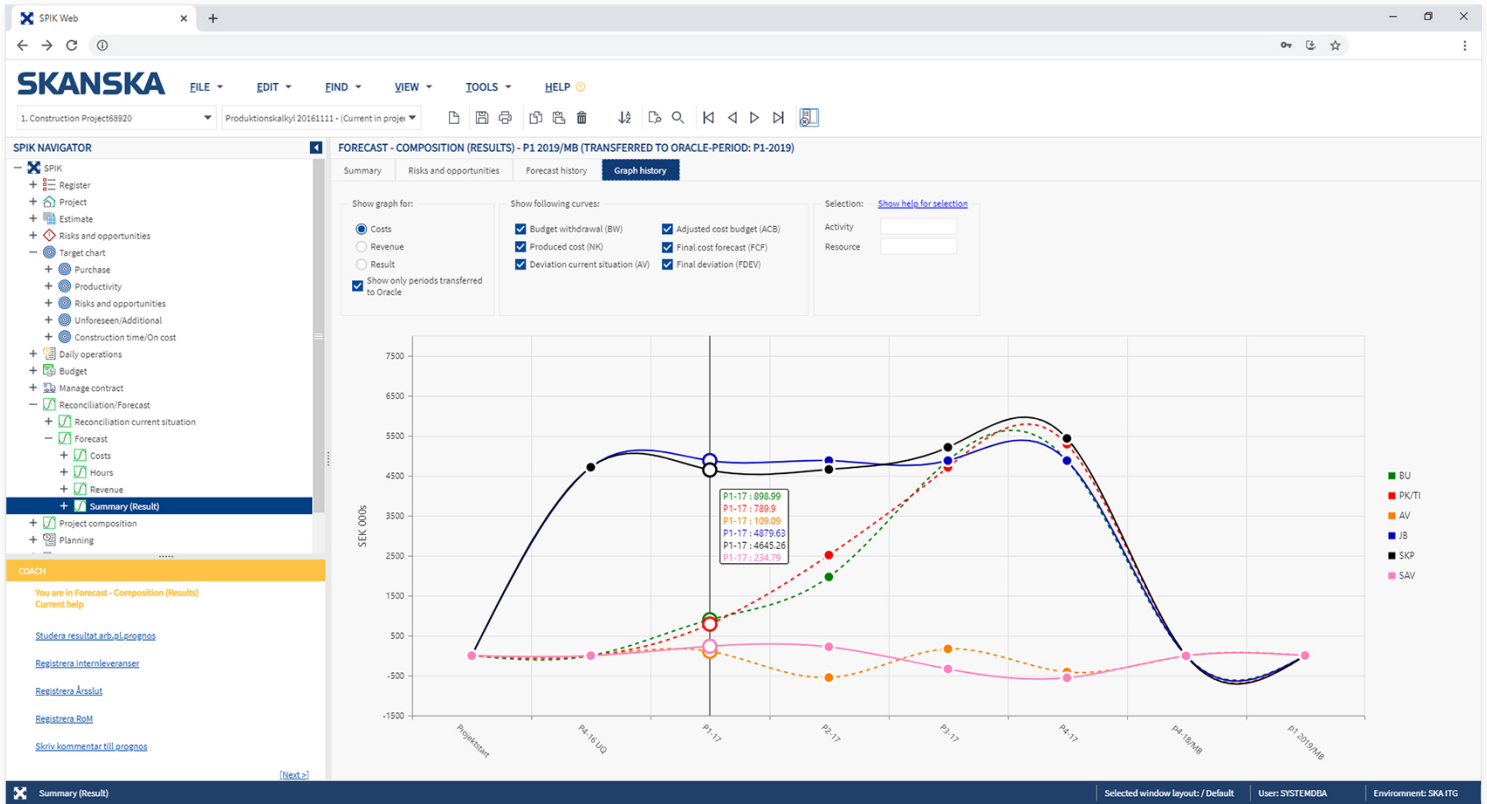


Results Achieved

- Full web migration of a comprehensive Windows application for project planning and calculation of large construction sites across Sweden.
- Wisej.NET powers 1,000 concurrent and 4,500 total users with great performance and scalability.
- New version identical or faster in all areas.
- Preserved data, reports, application algorithms with guarantee.
- Cut down on deployment cycle from 1 month to 1 day.
- Web-enabling accomplished within 1 year (all-in) compared to the expected 27 man-years for a manual rewrite.



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About Skanska AB

SKANSKA was founded in 1887 as a concrete manufacturer in Stockholm, Sweden. Today, the organization has grown to be one of the world's leading project development and construction groups in the world with projects such as the M25 Motorway in the UK or the LaGuardia Airport redevelopment in Queens, USA.

SKANSKA is active throughout Europe and North America realizing civil work projects (tunnels, roads, railways and bridges), buildings (homes, commercial properties, schools, hospitals) and more.

<https://www.skanska.com/>

About Ice Tea Group

Ice Tea Group LLC, located in Washington DC, is a worldwide specialist for enterprise application modernization and business web frameworks.

We help developers and organizations stay competitive. Our mission is to strengthen and increase the value of enterprise-scale software assets by providing modernization paths throughout technology changes.

Since 1998, our services and frameworks have been used by more than 600 companies, in 4,800+ applications, over 50 countries. Some of our clients are: Fujitsu, Lidl, Goodyear, Xerox, Skanska, Volvo, Merck, GE Healthcare, IFS, Air New Zealand, CBS, SAGE, Ericsson, Siemens, ASFINAG, Markel, Ameriprise, Europ Assistance.

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