Case Study Airbus
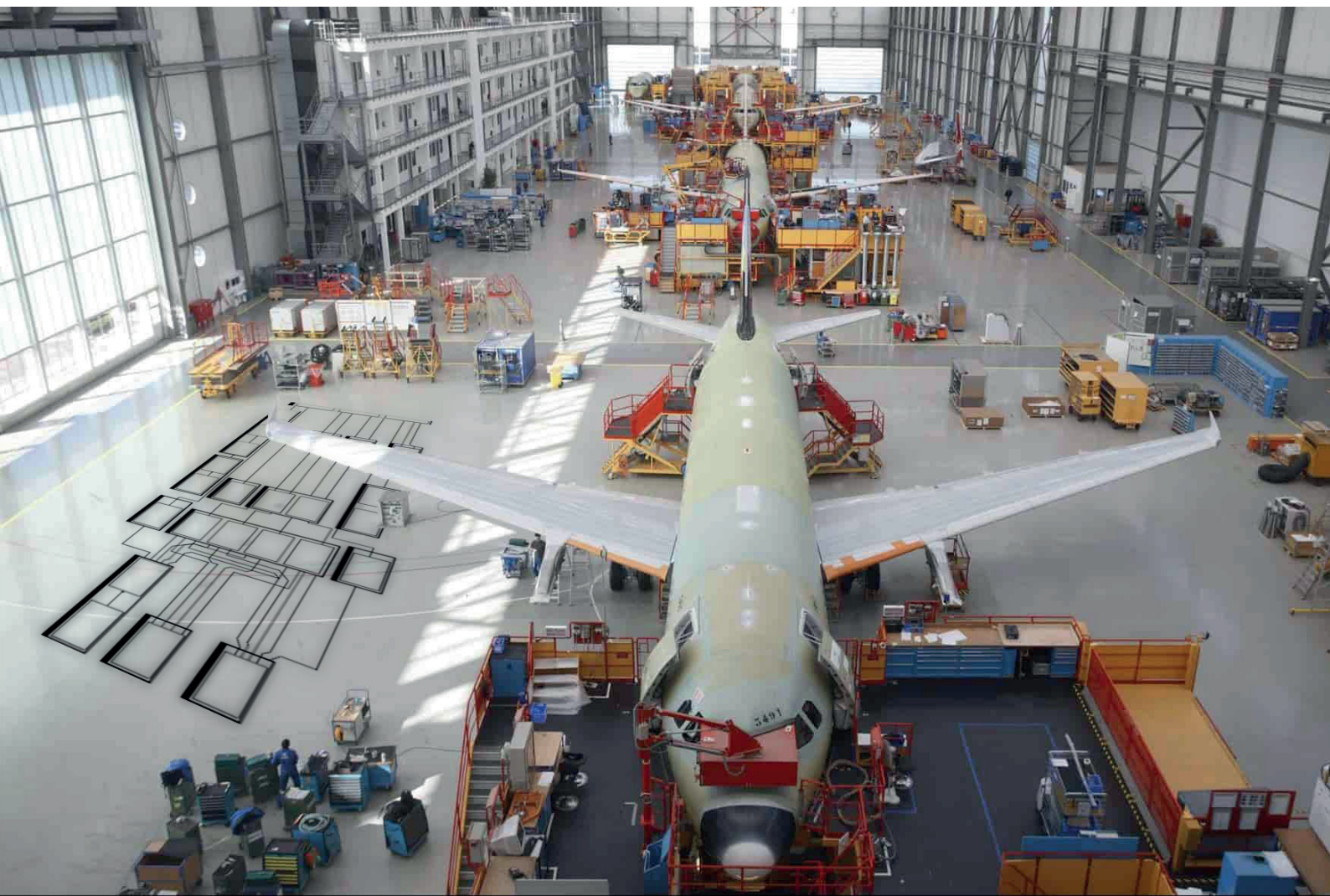
Visualizing factory workflows

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When software systems retire

How do you prepare for old age? If you're a big company running legacy software, you need to carefully plan the system's "retirement", choose its future replacement, and test everything — before it's too late.

An international pioneer in the aviation industry, Airbus has become a household name. But its products are anything but ordinary. The company designs, manufactures, and supplies state-of-the-art passenger aircraft to high-flying customers around the world. Final assembly lines are located in Europe, China, and the US.

Airbus maintains highest standards while adopting new technologies

In the Manufacturing Process Planning (MPP) department, the technical dependencies that link assembly activities are visualized "to ensure an accurate and optimum process in a highly competitive environment," as software engineer Philipp Wostry puts it. But because the legacy visualization software was set to expire, MPP needed to research,

AIRBUS

Industry   Aerospace
Headquarters   Leiden, Netherlands
Headcount   130.000

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select, and test a suitable replacement. To support modern planning architecture, they wanted the new solution to be web-based. The ideal replacement tool would also be able to visualize large amounts of data and allow users to easily interact with the graphs.

Needs & objectives

Needs analysis

- Depiction of technical dependencies
- Compatibility with planning architecture
- Visualization of large data volumes
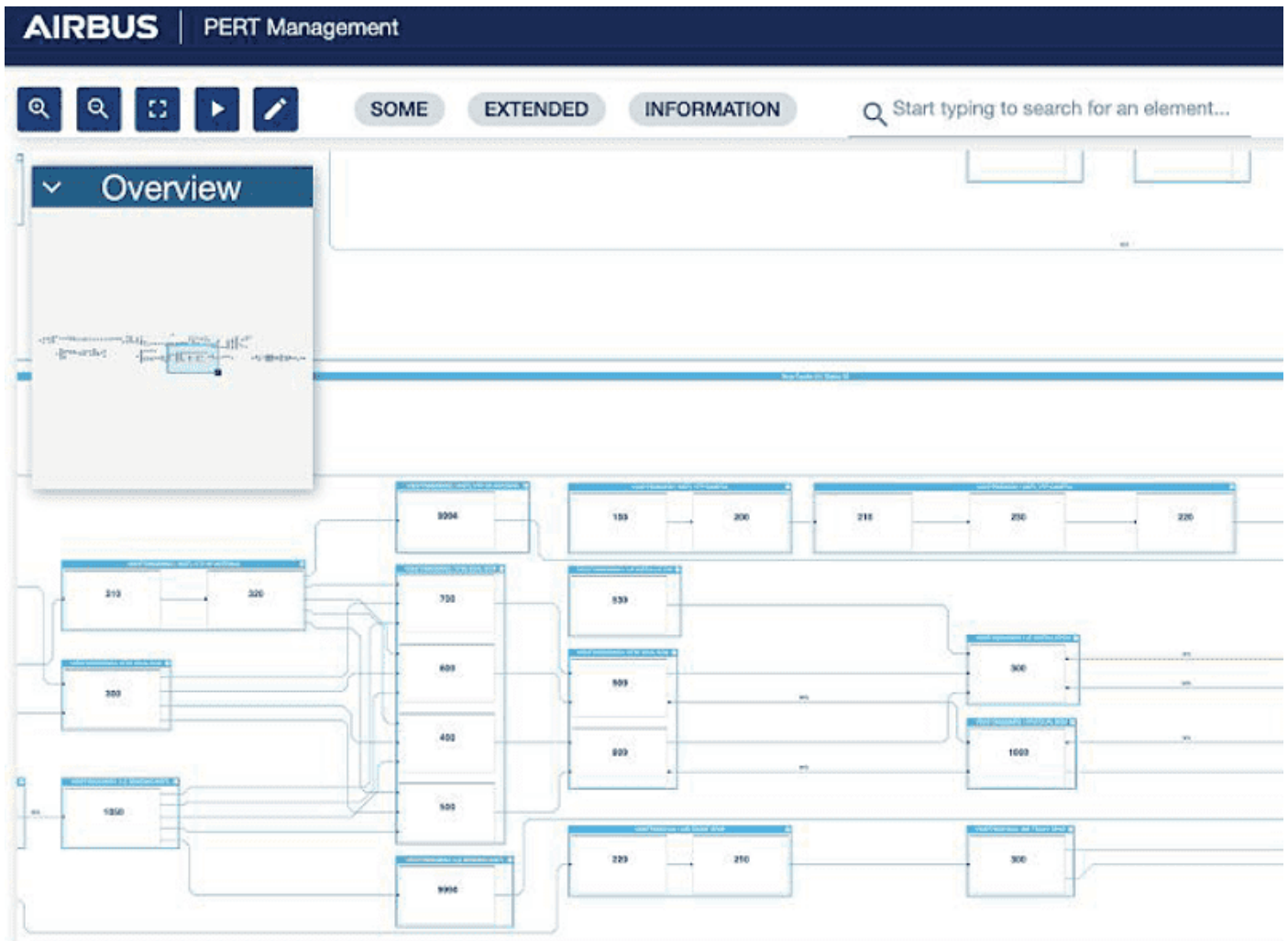- More time to focus on core business

Objectives

- Process optimization by connecting operations on all levels
- Web-based replacement for legacy tool
- Interactive graphs with search and editing function

Plug-and-play functions — plus expert support

Open-source graph libraries did not have the necessary features. But yFiles from yWorks did. After evaluating the SDK, the MPP development team knew they had identified the perfect fit. "yFiles has all the features we need, and is well-documented," says Wostry. "This allows us to focus on solving our business-specific problems rather than building a graph visualization library from scratch." In the PERT UI, the Airbus team created a hierarchical lay-

out with the following structure: n levels of families → designSolutions → operations, connected with dependencies (edges) between all levels. The yFiles library offers a wide range of helpful functions requiring no additional programming. Users can search in graphs, collapse and uncollapse levels, and enjoy easy interaction: editing existing items, creating new edges, finding cycles in dependencies, and more.

Sample PERT visualization with dependencies and properties (courtesy of Airbus)

While developing their customized, web-based solution, the Airbus team regularly contacts yWorks experts for advice. "We have had, and continue to have, a very good experience with the core developers who provide support," Wostry shares, noting that speed and competence are both essential. As of February 2021, a first version has been deployed to a productive environment, with users giving very helpful — and almost entirely positive — feedback.

yFiles is available for **5** different **platforms** and **technologies:**

HTML, **JavaFX**, **Java** (Swing), **WinForms**, and **WPF**
yworks.com/yfiles/platforms

"
The yFiles SDK has the features and documentation we need, and provides excellent support. So we can focus on solving business-specific problems rather than building a visualization library from scratch.

— **Philipp Wostry,** *Software Developer, Airbus*

Customized visualization? The sky's the limit!

yFiles SDK is the industry-leading software library for visualizing, editing, and analyzing connected data with a wide array of automatic and customizable layouts. yWorks is pleased to support Airbus with everything they need to develop a well-integrated, interactive web-based tool.

There's more to explore!

Getting started with yFiles

Learn more about **yFiles**, the diagramming SDK, and it's **powerful** and **flexible features** for **HTML**, **Java**, **.NET**, and **WPF** here:
yworks.com/yfiles-overview

yFiles demos mentioned in this article

- Contextual Toolbar demo
- Flowchart demo

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