BIRD TECHNOLOGIES
High-Tech case study

Bird®
The RF Experts

Challenge:
U.S.-based Bird Technologies, a leading radio frequency products and services provider, needed to increase part reuse to accelerate delivery of its products to market.

Solution:
The company adopted Dassault Systèmes' EXALEAD OnePart application to speed the search process for similar parts and to reduce the number of duplicate parts in its database.

Benefits:
With OnePart, engineers are able to rapidly find similar parts for reuse instead of spending time redesigning new ones. As a result, the company has reduced the number of duplicate parts on its server by 75% and accelerated product development.

With Bird Technologies - You're heard, loud and clear
Many of the technology products used today are based on Radio Frequency (RF). RF is used for anything from low-frequency applications such as AM or amateur radio to high-frequency applications during rescue missions, police or military communications, FM radio broadcasting, cellphones, global positioning systems (GPS), speed radars and direct television broadcasting from satellites.

In all these sectors, Bird Technologies (Bird) is one of the world's leading providers of radio frequency products and services. Companies use its wide range of products to generate and transmit audio and video content over the air. "We develop a wide range of products that include antennas, RF filters, measurement equipment, and signal boosters," said John Winter, mechanical engineering manager at Bird Technologies. "Our products are used for public safety, by police and fire departments, the Federal Bureau of Investigation, as well as various other governmental and military organizations. While we don't manufacture the radios used by many of these entities ourselves, we provide the testing equipment that ensures they get the most output from their equipment. Some of our products are used in life and death situations, which is why we, at Bird, place a great deal of emphasis on reliability. Our products have to survive some of the harshest conditions – in the Las Vegas sun, in a burning building or in the Afghanistan desert. They just simply have to allow people to be heard loud and clear."

In the semiconductor industry, Bird's RF sensors are present in the tools that fabricate computer chips, basically helping them increase their yield by over 50%. "Your smartphone is a little bit cheaper thanks to our products because they help semiconductor manufacturers make better computer chips," he explained. "Some of our products were also responsible for enabling a lot more people to use their cellphones and other communication public safety devices during this year's Rio Olympic Games. We helped make sure that everyone was connected. Likewise when using communication devices in subways, inside a building or when driving through a tunnel,

these are all places where you don't want to lose your signal when trying to communicate. This was a big issue, for example, during the 9/11 rescue operations at the World Trade Center in New York where the first responders were losing coverage when they were in the building and couldn't get through. It was pretty chaotic. Since then, our company has been commissioned to provide products that help deliver better in-building coverage," Winter said.

Best statistic
EXALEAD OnePart helped Bird Technologies reduce the number of duplicate parts in its database by 75%.

75%

DESIGN REUSE – THE PATH TO BETTER EFFICIENCY

Bird Technologies designs and manufactures a large variety of components for its RF equipment in its multiple design offices in Ohio, New York, Virginia and Sweden. Each entity strives to accelerate delivery of the highest quality products to market. "Customers value the reliability of our products but also want good quality for less money," Winter stated. "Our large product portfolio has resulted in a lot of 3D models that, if they could be reused in new designs, would considerably cut costs and market delivery time. Yet, the file locator tool we were using in the past was a non-indexed search tool that was slow and inefficient. Rather than wasting time waiting for the tool to crawl through all our data, our designers preferred redesigning components from scratch."

Opting to redesign components also left Bird with a large database of duplicate parts on its server. "We had over 3,000 duplicate parts and needed a way to reduce this number," Winter said. "Reusing existing designs was the answer."

> "With EXALEAD OnePart, information search has been reduced from an average of four minutes per search to just a few seconds."
>
> John Winter, mechanical engineering manager, Bird Technologies

To improve part reuse, Bird chose EXALEAD's OnePart search application for its mechanical engineering activities. "OnePart quickly searches through our design database based on file attributes, metadata and geometric similarities, enabling engineers to easily find similar parts," Winter said. "In this way, OnePart leverages our existing Solid Edge 3D designs, which reduces overall development time of new products. Thanks to EXALEAD OnePart, we've realized a 75% reduction in duplicate parts and expect this to improve as more of our engineers get acquainted with this application."

MORE AUTONOMY

OnePart utilizes indexing technology, which makes the search process faster. "Before, our engineers and especially new hires would ask one of their more experienced colleagues, where they could find a certain part," Winter said. "Now my designers don't need to depend on anyone; they use OnePart to search for the part themselves. One of my new hires, for example, needed to work on an engineering change order for one of our projects. If it hadn't been for OnePart, he would have had trouble navigating through our server. The OnePart application is so intuitive, he quickly became proficient and was able to easily find the right information on his own."

In a reuse situation, OnePart helps target the correct duplicate part much faster thanks to its graphical preview feature and tabled metadata. Engineers also use OnePart not only for 3D CAD documents, but for all other design documents such as data sheets, test data, manufacturing instructions, test procedures and drawings. "Information search has been reduced from an average of four minutes per search to just a few seconds. OnePart's ease of use and speed has encouraged our engineers to use it more often."

In addition to side-by-side comparisons, Winter's team uses OnePart's full text search features with auto completion and parent-child navigation to facilitate the search process. "We also like to use the filtering capabilities to narrow down a search. For example, if I enter the first four digits of a part number and I just want to look through our old AutoCAD database or just through Solid Edge files, I can limit the search to just that type of document. All I need to tell EXALEAD OnePart is not to look in a particular database because I know the part is not in there. Using filtering capabilities to exclude information you don't want is a big help."

A Dassault Systèmes business partner helped install EXALEAD OnePart at Bird. "Once the system was installed, it took under 6 hours to get it up and running," Winter said. "The partner's IT expertise was a valuable asset, which helped speed things up. For a mechanical engineer who didn't know anything about IT and indexing, with their guidance, and with that from the EXALEAD team, I had no problem setting up indexes and defining which files we do and don't want to index."
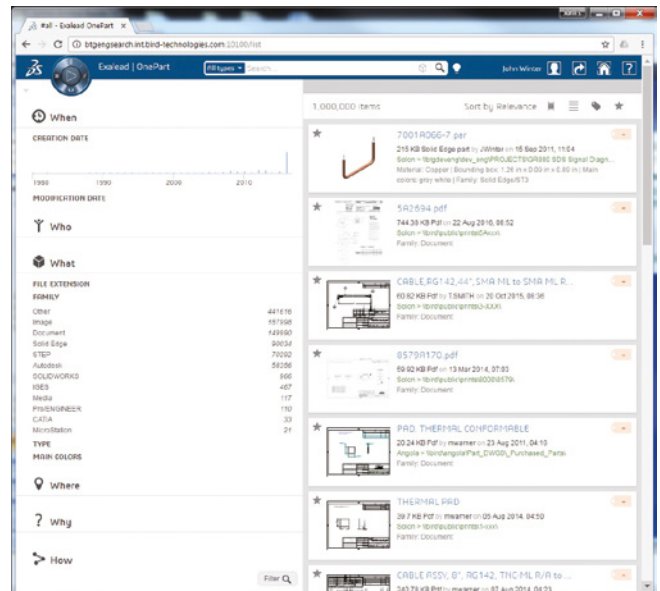
OnePart user interface for Bird Technologies

When asked what engineers expect from their search solution, John Winter was quick to respond. "The search should be fast, easy to use and easy to learn," he answered. "People don't want to waste time looking for information. They want to design products. The faster they get the search out of the way, the faster they can begin designing. With our previous search tool, we would narrow down the search just so that the tool would go faster. And if the result came back with insufficient or zero results, we would have to iterate by opening up the search a little and let the tool work while we went out to lunch. This could go on for a long time with the risk that we probably missed out on some valuable information. With EXALEAD OnePart, those days are over."

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