



## 3D Design Plays Key Role in Unprecedented Antarctic Expedition

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British Antarctic Survey uses Autodesk's Digital Prototyping software to find clues to beginning of life on earth and climate change

SAN FRANCISCO--(BUSINESS WIRE)--Jul. 11, 2012-- An ambitious British expedition to Lake Ellsworth in Antarctica is using [Autodesk digital prototyping software](#) to help discover new answers about the evolution of life and effects of climate change.

British Antarctic Survey (BAS) engineers will transport equipment overland for three days to the sub-glacial lake, where they will use a hot water drill to melt a 2.2-mile hole in the ice covering the submerged lake to extract water samples. The team will have a very short window of 24 hours to gather their samples before the hole re-freezes.

This exploration of one of Antarctica's subglacial lakes has been planned for 15 years, but the team lacked the right tools to adequately try and test their plan to ensure they could gather the samples they need in the timeframe allowed. Through the use of Autodesk's digital prototyping and simulation technology for [sustainable design](#); BAS engineers can create a digital model of the drill; simulate the conditions under which they will work; test and analyze their approach; and make necessary adjustments before they embark on their expedition.

"This is hot water drilling on a scale never achieved before," said Andy Tait, the BAS engineer managing the design of the hot water drill. "Because everything will have to be done so quickly, it is vital that we create an accurate 3D model of the entire drilling operation and simulate its performance because there will be no room for error once we are out on the ice."

As a participant in the [Autodesk Clean Tech Partner Program](#), designed to help groundbreaking environmental projects such as this, BAS received Autodesk's digital prototyping portfolio, including [Autodesk Showcase](#), a visualization tool, and [Autodesk Inventor Publisher](#) for technical documentation. Tait will use Autodesk Inventor Publisher to visually and interactively communicate how the drills and its components work to colleagues and partners. He also believes that Autodesk Showcase will be invaluable for developing stunning presentations and other visualizations to help explain the technology to wider audiences.

Autodesk Inventor automatically coordinates changes across the digital model, streamlining the analysis, experimentation and eventual optimization of a design. This has been important to this project, not just because of need to carry out the operation within a tight timeframe, but also because of size, weight and strength parameters. The equipment must be transported over great distances and, therefore, needs to be strong, lightweight, and capable of withstanding extremely low temperatures.

"When our technology is being used to make this ambitious project successful, it gives me great confidence in the collective power of talented people working together to solve problems that otherwise could not be solved in isolation," said Lynelle Cameron, Autodesk's senior director of sustainability. "We're delighted to be partnering with the BAS team on their unprecedented expedition."

For more information about the project see [www.ellsworth.org.uk](http://www.ellsworth.org.uk).

### About the Clean Tech Partner Program

The Autodesk Clean Tech Partner Program supports the efforts, innovations and environmental advancements of clean technology pioneers, providing world-class software to design, visualize and simulate their ideas through Digital Prototyping. Clean tech companies in North America, Europe, Japan, and Singapore are invited to apply to receive up to \$150,000\* worth of software for only \$50. Access to a collection of Autodesk industry-leading software includes up to five licenses each of [Autodesk Product Design Suite Ultimate](#), [AutoCAD Revit Architecture Suite](#), [Autodesk Simulation Mechanical](#), [Autodesk Inventor Publisher](#) and [Autodesk Vault Professional](#) software. Get [more information](#).

### About Autodesk

Autodesk, Inc. (NASDAQ: ADSK) is a leader in [3D design](#), engineering and entertainment software. Customers across the manufacturing, architecture, building, construction, and media and entertainment industries -- including the last 17 Academy Award winners for Best Visual Effects -- use Autodesk software to design, visualize and simulate their ideas. Since its introduction of AutoCAD software in 1982, Autodesk continues to develop the broadest portfolio of state-of-the-art software for global markets. For additional information about Autodesk, visit <http://www.autodesk.com/>.

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