



## Czech Army Rebuilds Bridges in Record Time Following Devastating Floods; The Czech Army Turns to 3D Design Software to Restore Transportation System

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PRAGUE, Czech Republic, Oct 9, 2002 (BUSINESS WIRE) -- Autodesk, Inc. (Nasdaq:ADSK)

The massive reconstruction effort following August's record floods is well underway in the Czech Republic, with some help from advanced 3D design software tools. The Czech Army will build more than 50 new bridges in less than two months after the flooded Czech rivers subsided. The floods claimed numerous bridges that are important to the Czech transportation system and vital to its economy. Altogether, the Czech Army deployed more than 6000 workers and 750 vehicles and machinery toward the Reconstruction and Protection operations, aimed at reducing flood impact.

As possibly the worst flooding in nearly 500 years, preliminary research estimates material damages in excess of US\$1.8 billion (CZK 55 billion and 1,8 billion Euros). According to the Czech Ministry of Transportation and Communications, 219 bridges on first- through third-class roads were either damaged or destroyed when the rain-swollen rivers spilled their banks.

Software from Autodesk, Inc. (Nasdaq:ADSK), the world's leading design software and digital content company, played an important role in the reconstruction of the Czech Republic's transportation infrastructure, recently devastated by record floods. Specifically, the Czech army used the company's premier software for 3D design, Autodesk Inventor.

During reconstruction, the entire bridge structure is first assembled on a river bank and then is "pushed" in place over the river. Creating a 3D design model within the software allows users to resolve weight and space issues on a computer before new construction begins. The Autodesk software also helps engineers determine whether the balance can be preserved during the "push" process so that the structure does not fall in the river.

### The Reconstruction Plan

Immediately after the flood subsided, army experts were called to the Headquarters of Land Forces of the Czech Army in Tabor to appraise all possible means to help affected areas. The recommendations were offered to the Action Committee within the Reconstruction and Protection operations used to coordinate personnel and machinery in all affected localities.

"In the first stage, when it was necessary to manage traffic accessibility of affected localities in the shortest possible time, we erected temporary bridges for military and emergency services. We gradually started to replace them with temporary bridges suitable for civilian use. Autodesk Inventor software enabled us to design each civilian bridge in approximately two days, followed by a one-week construction period per bridge," said Army major Pavel Manas, Ph.D., from the Department of Engineer Construction of the Military Academy in Brno.

Coincidentally, a student of the Czech Military Academy, Jan Khyr, had recently developed a 3D model of a bridge in the Autodesk Inventor software program for a project -- so the preliminary design existed. Using Autodesk Inventor, the army first created a 3D model of the new bridge based on the terrain profile data. The design was sent to the responsible authority, Sprava a Udrzba Silnic, whose employees prepared the area around the new bridge for construction. Army engineers then constructed the bridge. With Autodesk Inventor software, it was possible to prepare precise bills of work and to specify how many and which bridge components were required. It simplified logistics considerably and reduced construction time so that the Czech Republic could minimize the after-effects of the flood devastation. To aid in communication and discussion, the 3D software also gave engineers and decision-makers a more accurate visual representation than a 2D image of the future bridge design.

### About Autodesk

Founded in 1982, Autodesk, Inc., is the world's leading design software and digital content company. Autodesk offers solutions for professionals in building design, geographic information systems, manufacturing, digital media, and wireless data services. By delivering progressive products and services, Autodesk helps customers create, manage, use and maximize the value of their digital data throughout the lifecycle of their projects. For more information about the company, see [www.autodesk.com](http://www.autodesk.com) or [www.autodesk.cz](http://www.autodesk.cz).

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