

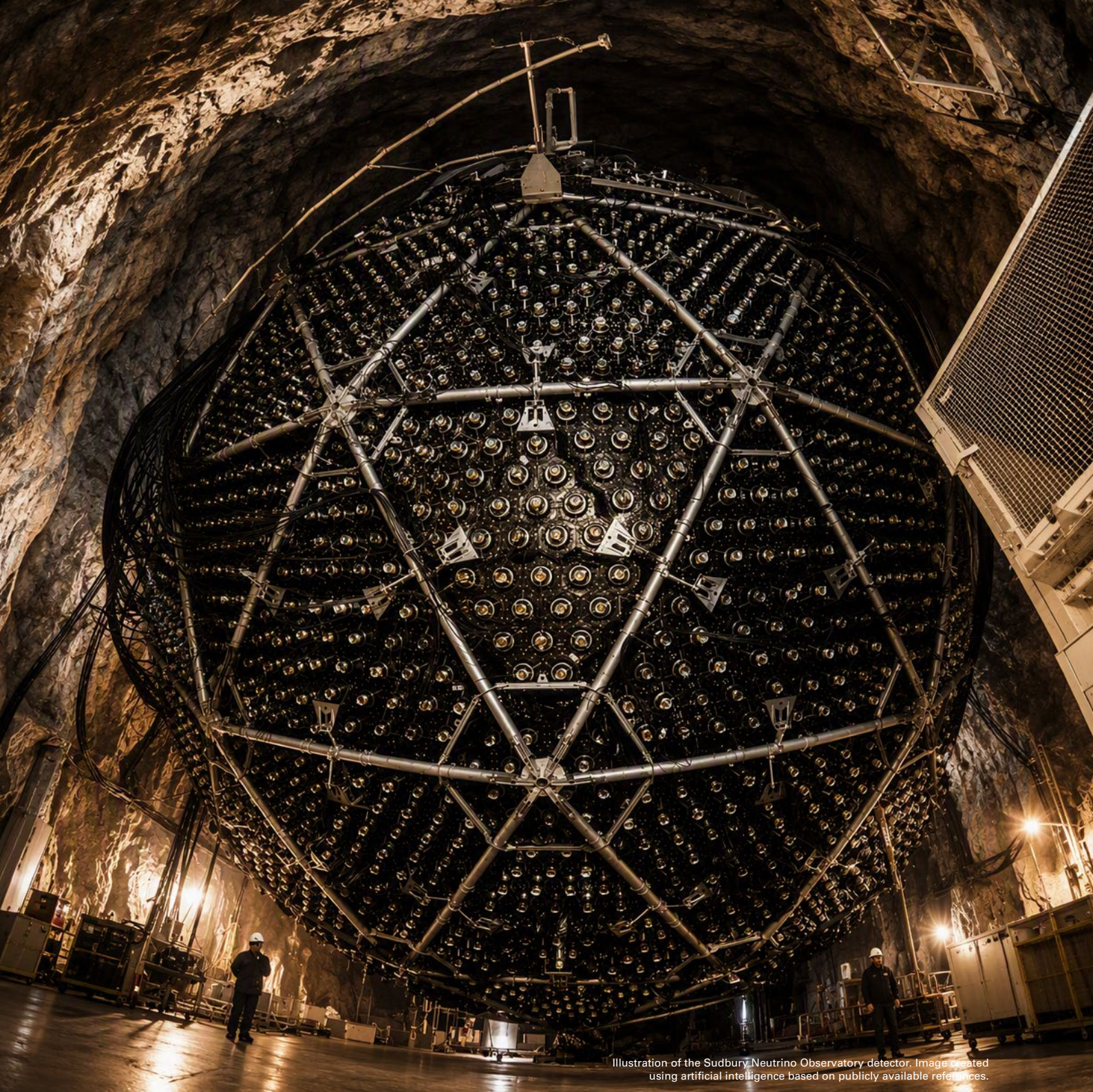


Illustration of the Sudbury Neutrino Observatory detector. Image created using artificial intelligence based on publicly available references.

SUDBURY NEUTRINO OBSERVATORY, CANADA

CASE STUDY

2,070 metres underground: The deepest Alimak elevator known to have been installed

Access anytime, anywhere

ALIMAK

SUDBURY NEUTRINO OBSERVATORY, CANADA

Engineered access where conventional elevators could not operate

Located 2,070 m below ground level, the elevator at the Sudbury Neutrino Observatory (SNO) in Canada is the deepest Alimak™ elevator known to have been installed. The observatory was built to detect neutrinos produced by fusion reactions in the sun and became one of the world's most important underground physics laboratories.

SUPPORTING ONE OF THE WORLD'S MOST ADVANCED SCIENTIFIC EXPERIMENTS

An Alimak rack-and-pinion elevator was installed at the Sudbury Neutrino Observatory (SNO) in Canada in 1993. Located 2,070 m below ground level, it is the deepest Alimak elevator known to have been installed.

Engineered to provide access where conventional elevators could not operate, the elevator was designed specifically for the unique geometry of the detector and operated on a combination of curved and inclined guide rails and provided reliable access for inspection and maintenance throughout the lifetime of the experiment.

Starting from the bottom landing at an inclination of 13.3 degrees, the elevator travelled upwards around the outside of the spherical neutrino detector along a curved guide rail path. As the detector geometry changed, the inclination gradually decreased to 11.1 degrees at the upper level. The elevator served observation and maintenance platforms located at different elevations around the detector, providing access from the bottom to the top of the installation.

REVOLUTIONARY DISCOVERIES

The results from the SNO provided groundbreaking insight into the properties of neutrinos and the processes taking place in the core of the sun.



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SUDBURY NEUTRINO OBSERVATORY, CANADA

The detector was constructed 2,070 m below ground in the Creighton Mine near Sudbury, Ontario, Canada, where the surrounding rock shielded it from cosmic radiation. SNO was a heavy-water Cherenkov detector designed to detect neutrinos produced by fusion reactions in the sun.

The detector began operation in May 1999 and continued collecting data until 28 November 2006. Analysis of the data continued for several years thereafter, contributing to major advances in particle physics and helping to solve the long-standing solar neutrino problem.

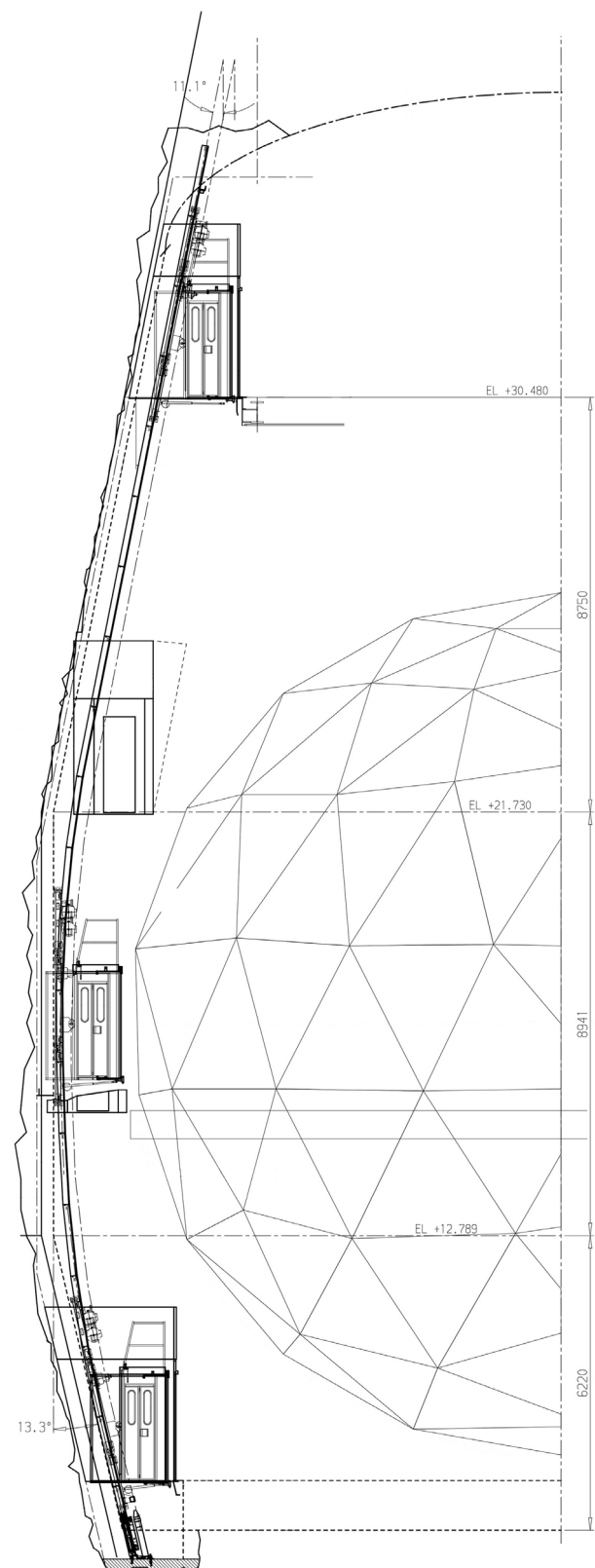
EXPERIENCE IN EXTREME ENVIRONMENTS

Alimak has extensive experience delivering access solutions for some of the world's most challenging environments.

Engineered for reliability and durability, Alimak elevators operate in locations ranging from the freezing conditions of Antarctica and Iceland to the extreme heat of the Australian outback. Their proven performance in demanding applications makes them an ideal solution wherever reliable and dependable vertical access is required.

ELEVATOR DETAILS

Location:	Sudbury Neutrino Observatory Sudbury, Canada
Application:	Neutrino Observatory Detector
Industry:	Scientific Research
Elevator model:	Alimak U-600 Special
Installation depth:	2,070 m below surface
Capacity:	600 kg
Lifting height:	24 m
No. of landings:	3



At a depth of approximately 2,070 m (6,800 ft) below ground level, this is the deepest Alimak elevator known to have been installed.

Alimak™ is a global market leader and pioneer in the design and manufacture of vertical access solutions for industrial and construction industries. The company provides high quality rack and pinion and traction elevators, construction hoists and work platforms. Alimak has a well-established global sales, service and distribution platform across more than 100 countries with strong market presence. The company has a large global installed base of over 23,000 units which provides unique know-how of all industrial application areas. Alimak was founded in 1948 and is part of Alimak Group which is headquartered in Stockholm, Sweden.

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