



Photo: terraXcube/Christian Steiner

USE CASE

Function tests for machines & materials

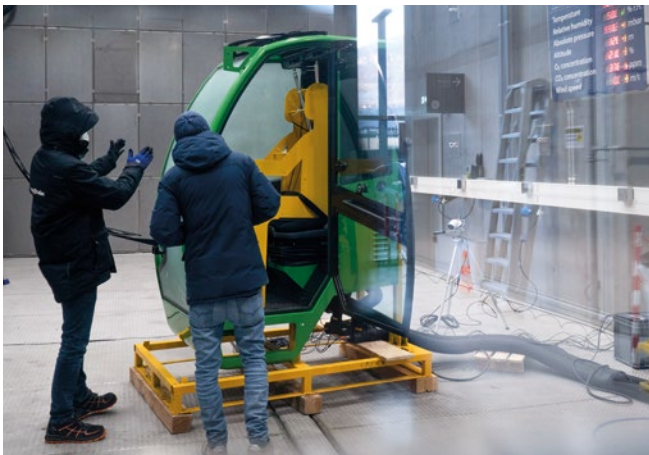
Icing, cooling and solar radiation –
test your product in freezing cold and blazing heat.



terraXcube

terraXcube is Eurac Research’s extreme climate simulation center at the NOI Techpark in Bolzano, South Tyrol, Italy. Within its chambers, even the most extreme environmental conditions on our planet can be created. By combining hypobaric and altitude technology with state-of-the-art environmental simulation, we aim to investigate the effects of extreme climate conditions on humans, ecological processes and industrial products. The climate chambers differ in size and equipment and can accommodate people, plants and other living organisms for up to extended periods and have the space to accommodate large machines and products. Each day our team breaks new ground with scientists and industry partners and prepares the path to gain discoveries.

Photo: Eurac Research/Annelle Borolotti



What happens when moving parts such as doors or hinges ice up? Will your product be functional and safe in extreme weather conditions? Does your engine make a flawless cold start in freezing cold conditions? Do your drone’s rotors still work at freezing altitudes? What if it’s not freezing cold? How does your product perform in extreme sunlight? Does it affect the operability or readability of displays and other control panels?

Find the answers by testing your products in our Large Cube: from forklifts to drones, excavators to e-charging columns: make your product fit for any of the world’s extreme conditions from Alaska to Zambia.

In the Large Cube, we are able to simulate extreme altitudes of up to 9000 meters as well as almost any extreme weather phenomena.

The test in a nutshell:



Snow



Wind



Precipitation



Sun



High altitude



Humidity



Large cube size

Measures:

The interior dimensions of the Large Cube are 12 m × 6 m × 5 m (L x W x H). The total available area is 137 m² plus 100 m² for test set-up. The entrance to the test chamber is formed by a wing gate with the dimensions: 3.6 m × 4 m (W x H). The maximum size of the test object can be 10 m x 3.6 m x 4 m (L x W x H).

Accredited tests:

Tests accredited by [Accredia](#) according to the following standards:
 CEI EN 60068-2-1:2007, IEC 60068-2-1:2007
 Environmental testing: Cold
 CEI EN 60068-2-2:2008, IEC 60068-2-2:2007
 Environmental testing: Dry heat
 IEC 60068-2-13:2021 Environmental testing:
 Low air pressure,
 IEC 60068-2-39:2015, CEI EN 60068-2-39:2016
 Environmental testing: Temperature and low air pressure



LAB N° 1785L



Technical data:

Temperature: -40...+60°C

Relative humidity :10 % – 90 %rH

Maximum simulated altitude: 9000 m

Air pressure: 95 kPa – 33 kPa

Wind: 0 m/s – 30 m/s

Contact:

T +39 0471 055 550 – terraxcube@eurac.edu
 terraxcube.eurac.edu

