ANNEXES GET A LIFT AS FINAL TOUCHES PUT ON NEW GARAGE



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As the team has been putting the finishing touches on the station’s new annexes, this past week they also got a lift thanks to a new system they installed last season that can help keep the two annexes level.

Adjusting to glacier movement

The station’s new annexes underwent a vertical lift this past week thanks to a new system the BELARE team installed over the last few seasons, which allows the two annexes to be lifted as the glacier beneath them recedes and moves over time.

While the main part of the Princess Elisabeth Antarctica was constructed 2007-09 on a solid and unmoving granite ridge, the two new annexes have been built at a level below the ridge on top of a slowly-moving glacier.

All ice-covered areas in Antarctica are constantly moving by a few centimetres a year. Due to gravity, glaciers and ice streams that are part of the massive ice sheet covering Antarctica slowly flow towards the coasts all the time. The ice is actually not entirely solid, but rather behaves like an incredibly slow-moving

stream.

As a consequence, any construction done on top of ice-covered areas in Antarctica (or on top of any ice-covered area in the world for that matter) must take into account the constant movement of this ice, as well as additional snow that gets deposited on top of the ice. Adequate engineering solutions are necessary to compensate for the ice movement.

The system used at the station consists of 13 pistons placed under the 13 beams that support the floor in each of the new annexes from below, as well as a series of hinges fastened to the granite ridge in both annexes that can compensate for vertical movement. The pistons can be raised gradually as the ice moves. Each piston can be raised individually to allow precise adjustments to be made to the level of the annexes.

In anticipation of the average 8 cm retreat the glacier below the annexes experiences between seasons, the BELARE team has raised the annexes slightly above normal for the final weeks of the season. When the team returns in November for the next season, the annexes will not need as much adjustment as they needed at the beginning of this season.

Finishing up the garage

With the walls of the new garage are covered in solar panels installed by engineers Guus and Johan earlier this season, it was decided to put windows in the doors of the garage. This past week the team has been putting the finishing touches on the windows and moving equipment and mechanical parts (temporarily stored in containers outside) in their definitive storage area inside the new building.

Although the garage has been hooked up to the station's smart grid to receive power and can be fully lit, it’s both pleasant and useful to be able to have some natural light in the garage.

With a few more finishing touches, the three-season construction project of the new north and south annexes is finally coming to an end.