



## Successful first turns of runner at Nachtigal

### First turns of runner: a crucial test

On the 19<sup>th</sup> of March 2024, water flowed for the very first time through the penstock and turned the first turbine. It was the first turns of runner.

The purpose of this operation, which represents a significant stage in the commissioning tests of unit N°1 of the Nachtigal hydroelectric facility is to test the correct assembly of the runner, alternator, shaft and their environment.

The first turns lasted 5 minutes and were conclusive. The speed reached 19 revolutions per minute (for 135 nominal revolutions per minute). Further tests will be carried out over the next few days at higher speeds and for longer periods.

After these tests, Unit n°1 will be connected to the electricity grid.



*Rotor rings excitation*



*Turbine shaft*

### What do the first turns of runner involve?

The first turns of runner involve a series of preliminary checks and actions, including:

- Manual starting of the control pump;
- Manual control of the braking system;
- Acquisition of gate speed;
- Opening and closing signals;
- Detection of the presence or absence of abnormal noise around the turbine and alternator;
- Monitoring bearing temperatures;
- Verification of the free rotation of the assembly.