



## Pouring of the first hydraulic concrete of the final structures of Nachtigal

### Start of concreting works of the Water Intake of the headrace canal.

July 24th was not a day like any other at the Nachtigal Hydroelectric Development site. It will in fact remain as the one during which the first concrete was poured for the construction of the final dam works, specifically that of the future Water Intake of the headrace canal.

This very particular concrete, qualified as type 4 hydraulic concrete, is a reconstitution concrete, intended to fill the holes in the bottom of the excavations on the bed in order to obtain a regular surface which will serve as a base for the future structure. It is intended to withstand pure water for the whole life of the hydroelectric development, estimated at over 100 years.

### The culmination of a long concrete qualification process.

The pouring of this first concrete is the culmination of a long process that spanned over close to 7 months, with several stages.

The first step was the validation of the Quarry Files and thus of the aggregates used, most of which will come from the Nachtigal site. The non-alkali-reactive nature of the aggregates was confirmed on this occasion.

The validation of type 4 concrete formulation studies which made it possible to define the dosage to be



*The teams at work during the pouring of the first hydraulic concrete*

respected between the different components to obtain a concrete offering good long-term resistance to pure water.

The reception of the excavation bottom bed on the 1st of July 2020, made it possible to verify the quality of the rock on which the foundations of the final works will rest, and which is an important factor of good stability.

The treatment of the excavation bottom bed made it possible to close the small cracks observed on the rock.

The cement validation stage is based on quality check of the cement used, through the consistency in the origin of its key components, the performance of its production line, and finally, a quality control plan.

The general concreting procedure aims to ensure compliance with the prescribed provisions for the implementation of concrete.

Finally, the calibration of the Conventional Concrete Plant made it possible to ensure that the quality of the concretes produced complies with the requirements.

### An important step taken in a difficult context.

Despite the difficulties linked to the constraints induced by the Covid-19 pandemic, CCN, the company in charge of Civil Engineering and its workers are successfully continuing their march forward, drawing, day after day, the contours of the future Nachtigal Hydroelectric Development.