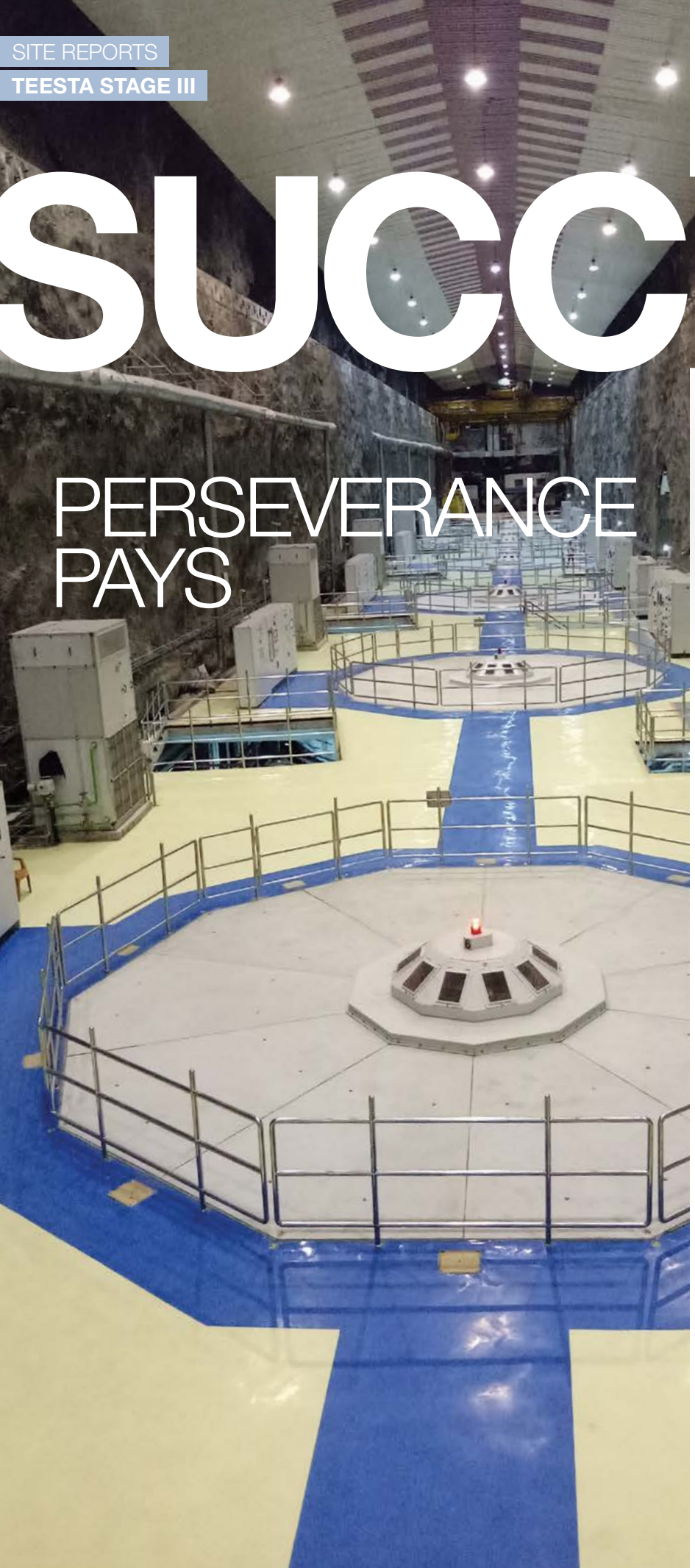
SUCCESS

PERSEVERANCE PAYS



INDIA – ANDRITZ Hydro has successfully executed and commissioned one of the largest hydropower plants in India. This is despite challenging circumstances, with a natural disaster prolonging not only the execution of the project but also threatening the whole construction site and its manpower.

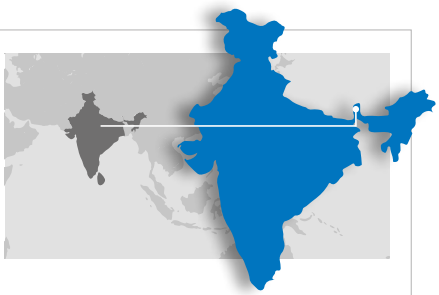
In October 2007, ANDRITZ Hydro signed a contract for implementation of the 1,200 MW Teesta Urja III hydropower plant with an independent power producer (IPP), Teesta Urja Limited. A consortium comprising of ANDRITZ Hydro India and ANDRITZ Hydro Germany was awarded this contract for the turnkey execution of the electro-mechanical scope of the project, including the complete installation and commissioning.

While the turbine's basic design and coated runners were from ANDRITZ Hydro Germany, ANDRITZ Hydro India had responsibility for the entire project management including manufacturing, supply, installation, and commissioning of the plant. Aside from the runners, all major equipment, such as the spherical valves, generators, automation and control systems, and the numerical protection system, as well as the digital excitation system were manufactured at ANDRITZ Hydro workshops in India. The contractual scope also included packages for mechanical balance of plant and electrical power systems, including a 400 kV GIS and 400 kV XLPE cable system featuring one of the longest cable lengths for a hydro project. This project showcases the excellent co-operation and harmonious working practices that can be achieved between multiple ANDRITZ Hydro locations.

Located in the north-eastern state of Sikkim, this run-of-river power plant is one of the largest hydropower plants in India, with a rated head of 780 m and annual generation estimated of about

Challenging transportation

Generator rotor lowering



Teesta Stage III | India

Technical data:

Total output:	1,200 MW
Scope:	6 × 200 MW
Head:	780 m
Voltage:	400 kV
Speed:	375 rpm
Runner diameter:	3,020 mm
Av. annual production:	5,300 GWh

5,300 GWh, 90% dependable over the course of a year. The landmark project was successfully commissioned by ANDRITZ Hydro in 2017, achieving all guarantees and certificates.

An initial contractual duration of 46 months up to commissioning of the last unit was subsequently revised to 112 months, mainly due adverse conditions caused by a massive earthquake. With its epicenter right at the project site, the quake occurred in September 2011 and was followed by the collapse of one the arterial road bridges to the project site in December 2011.

Owing to the extended execution period, one of the main challenges faced during the project execution was related to the preservation and storage of the components for an extremely long duration at various locations near the project site, which was successfully handled by the project team. The long duration of storage caused replacement of a few components on one hand and also demanded refurbishment of a few of these parts too. Furthermore, the transportation of the heavy consignments in an extremely hostile terrain was another mammoth task which was completed successfully.

ANDRITZ Hydro demonstrated its commitment to the project during the extended project duration and proved itself as a reliable partner to the customer, whose profile changed from an IPP to a government-owned entity during the later phases of execution. Due to extensive pre-commissioning activities completed beforehand, the commissioning of all six units was achieved within just one month.

Proving the performance through successful commissioning and by achieving good efficiency figures in the performance tests, ANDRITZ Hydro has demonstrated its high level of competence and dedication.

As a result, it has contributed significantly to the development of Sikkim and ultimately to India's ambitions for national growth. (⟶ see article on page 12)

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River Teesta is main source of water for many people

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