**Francis turbine:** Milled on an ALZMETALL GS 650/5-T

The long and tightly twisted blades of the Francis turbine limit the accessibility of tools. Therefore, machining cannot start from the shroud and proceed in the direction of the floor; instead, the starting point for calculations must be the blade edges in the pocket between two blades. In contrast to conventional machining processes, this allows shorter tools to be used in certain circumstances and therefore yields more effective process parameters. The extension of the hyperMILL® Multiblade package to include these machining strategies allows tightly twisted blades and even shrouded impellers and blisks to be programmed very easily.

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**Blade machining:** The machining of pockets between blades can be divided into several depth ranges with different tool diameters and lengths in order to mill effectively using the most stable tools.

**5-axis rest machining:** The standard hyperMILL® strategies are also available for machining. The transition radii, for example, were milled on the floor of the pocket using the 5-axis rest machining strategy.