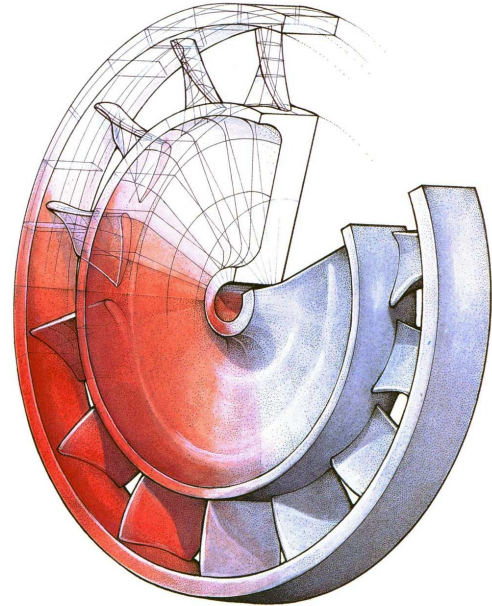


Rapid Cast Prototyping

TURBOCAM offers a manufacturing solution for impellers and turbines that will enter production as castings – **Rapid Cast Prototyping (RCP)**. Here are some scenarios in which these products will be particularly attractive:

- Metals such as MAR-M-247, Nimonics, and Inconels® are very difficult to machine, but their properties are crucial to the performance of the part. A cast prototype will more accurately represent the part in production than a machined-from-solid wheel.
- The cost of RCP is less than manufacturing wax pattern dies for small quantities of parts.
- This process is much faster than manufacturing a wax pattern die, and so allows the product to be introduced to the market in weeks rather than months.
- The design of the product has not been completely finalized, so investment in a wax pattern die may be premature. Several iterations of the design can be tried and tested at a fraction of the cost and time that more traditional methods would entail.



TURBOCAM will produce fully machined wax patterns, which can be used by an investment casting company to quickly produce accurate representative prototype castings.

Starting from blade design data, TURBOCAM uses a customized CAD/CAM process that was originally developed to produce impellers from metal forgings. The process has been adapted to machine accurate and stable wax patterns with superior surface finish – in specially formulated wax – using state-of-the-art 5-axis machines. After casting, subsequent machining operations can also be contracted by TURBOCAM.



The result of this process is that cast impellers are available in a fraction of the time and cost it takes to manufacture wax pattern dies for complex bladed parts.

TURBOCAM has the experience of having made over 25 designs of components, in sizes up to 380 mm diameter, and has worked successfully with several European and American casting companies.