IMS Software Customer Profile - JSC "Motor Sich"

The JSC "Motor Sich" Engine Plant is a world leader in gas turbine production for airplane, helicopter and industrial installations. IMS Software is being used today in both the tooling and CNC programming divisions.

In early 2013 JSC "Motor Sich" started an evaluation and implementation of the IMS Software products with the supervision of the CNC programming division. Given the diversity of equipment used in the enterprise, as well as the complexity of the developed NC programs, the implementation was divided into several stages:

- Stage 1 - the implementation of a virtual control system IMS (module IMSverify)
- Stage 2 - the processing of existing and creation of new postprocessors for an existing enterprise equipment (module IMSpost)

During the evaluation of the system we built 24 5-axes milling machine models and tested more than 40 operating NC programs. The main target of simulation (virtual machining control) was revealing details of the undercutting and gouging during the design stage, thereby reducing the number of defects in the production stage of complex parts - blades, blisks, centrifugal wheels, etc. that are produced from very expensive, high-value pieces.

By using the IMS software, all errors were eliminated from the NC programs. The programmers optimized cutting paths and reduced the machining time for cutting parts with the help of simulation processing in real time.

The software proved to be very useful as it allows to collision checking between the machine units and tools, tools and fixtures, and tools and stock. The system allows you to not only adjust collisions within these pairs, but adjust the tool undercut for a specified distance.

In the past, we would have to test and adjust multiple times to set the precision machining of the complex parts that are inherent in the production of aircraft engines. The bundle of stock-fixtures and CNC machine tables have revealed defects that were previously accompanied by overcutting of the fixtures or the parts.

Further implementation of the system will optimize existing issues and develop new postprocessors by the use of the postprocessor generator, IMSpost. This will also increase the quality of the developed NC programs.

Implementation of the IMS software will dramatically reduce defects caused by errors in the NC programs and also increase the quality of postprocessing. Our company is using IMSverify and IMSpost not only as a primary solution but as a part of the whole strategy on the plant.

The support of the IMS Software team has been critical to this success. They have provided consistent and excellent support throughout the duration of the project. With the success of the initial installation the IMS Software implementation has since been expanded to two additional divisions of the plant.

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