**Production Module**

NC Toolpath Optimization & Engineering Analysis

---

**Extend Spindle Life**
- Reduce Air Cutting Time
- Analyze Spindle Load/Torque
- Eliminate Force Spikes

**Reduce Machining Time**
- Advanced Optimization Algorithms
- Stabilize Cutting Forces
- Optimize Feed Rates

**Reduce Tool Costs**
- Determine Peak Tool Temperature
- Avoid Tool Breakage
- Extend Tool Life

**Steady Shop Floor Operations**
- Better Chip Control
- NC Program Benchmarking
- Steady Machine Tool Performance

**Improve Part Quality**
- Minimize Deflection
- Better Fixture Design
- Improve Surface Quality

---

**CUTTING FORCE (N) VS. TIME (sec)**

**Before Optimization**

**After Optimization**
MACHINING MODELING TECHNOLOGY

Production Module is a premier NC toolpath optimization software that integrates physics-based material models, CAD/CAM data, tooling and workpiece geometries to analyze and optimize machining processes.

HOW IT WORKS

» Define/import tool geometries, stock workpiece
» Select material
» Import toolpath and run analysis
» Production Module takes over to:
  • Balance tool loads
  • Analyze each toolpath, calculate forces, temperature, spindle power, tool stress, etc.
  • Compare calculated outputs to optimization limits
  • Raise/lower feedrates

SUGGESTED OPTIMIZATION VALUES

Third Wave Systems developed the Suggested Optimization Values feature to help new users select their optimization values by providing a starting point for optimization variables with the click of a button. This function analyzes the force, pressure and feed profiles for each sequence in the project to provide a suggestion for these variables.

140+ VALIDATED MATERIAL MODELS

Production Module has an expanding library of 140+ standard materials that have been developed and validated by Third Wave Systems. Through a proprietary material characterization process materials are physically tested and resulting models are experimentally validated. This process ensures confident results and analysis.

THIRD WAVE SYSTEMS

6475 City West Parkway
Minneapolis, MN USA 55344

Phone: +1-952-832-5515
www.thirdwavesys.com
sales@thirdwavesys.com

Third Wave Systems develops and sells premier materials based modeling software and services for machining solutions. Innovative manufacturing companies implement these solutions to dramatically reduce costs of machined components, accelerate design cycles, improve part quality and get to market faster.