GIBBSCAM

CASE STUDY | Luxottica Tristar

GibbsCAM Helps Luxottica Tristar Unlock the Full Potential of MTM Machines

Luxottica Huahong (Dongguan) Eyewear Co., Ltd.

As a global leader in the optical and eyewear manufacturing industry, EssilorLuxottica has been leading the sector with exquisite craftsmanship and continuous innovation since its founding in 1961. The group owns world-renowned brands including Ray-Ban and Oakley, covering the entire industrial chain of eyewear design, manufacturing, and distribution, with 11 major production centers worldwide.

Among them, **Luxottica Huahong (Dongguan) Eyewear Co., Ltd.** is the group's largest production base, responsible for the core manufacturing of high-end eyewear and key precision components for smart eyewear, with products sold globally. Amid accelerating intelligent manufacturing upgrades, Luxottica has stepped up its investment in smart wearable devices, investing 550 million RMB to build a "Smart Factory" in Dongguan. This has raised higher requirements for machining accuracy, production efficiency, and flexible manufacturing capabilities of precision parts such as hinge components and smart eyewear structural parts.

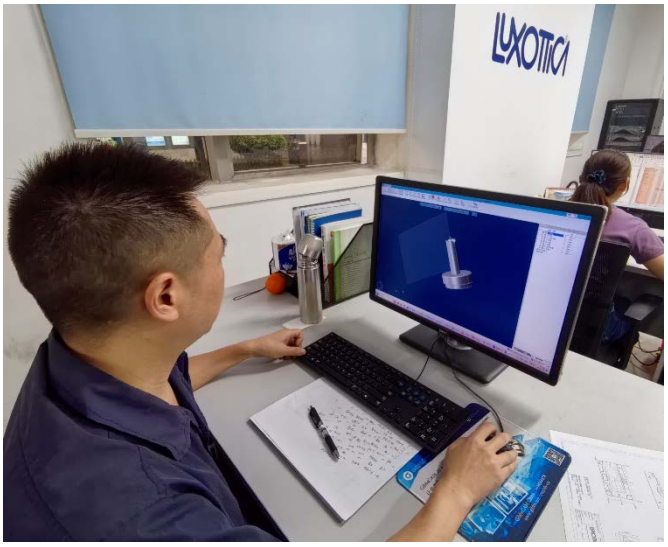
Newly installed Mazak 5-axis MTM machine at Luxottica

Challenges Before Adopting GibbsCAM

Before implementing GibbsCAM, Luxottica (Dongguan) had deployed high-precision multi-tasking machines such as Mazak INTEGREX i-200S. Nevertheless, the legacy programming software failed to match the efficiency of these advanced machines, leading to several critical pain points:

- **Complex programming**: Excessive nested dialogs resulted in complicated parameter setup, long learning curves, and time-consuming debugging. Missing or incorrect settings often caused machining errors, increasing costs and rework rates.
- **Disjointed turning-milling logic**: Frequent switching between different modules and interfaces conflicted with on-site engineers' programming logic and broke operational continuity.
- **Low equipment utilization**: Sub spindles remained idle for long periods. The core advantage of "complete machining in one clamping" could not be realized, making flexible production of high-mix, high-precision parts difficult.
- **Constrained digital transformation**: Insufficient compatibility and scalability hindered the factory's intelligent and automated upgrade.

Luxottica MTM Machining Workshop



A Luxottica engineer developing customized MTM programs using GibbsCAM.

Parts machined on the Mazak INTEGREX i-200S 5-axis MTM machine

Batch-produced multi-tasking machined parts

How GibbsCAM Empowers Production & Unlocks MTM Machine Potential

With its intuitive logic, integrated turn-mill programming, and design aligned with real-world machining habits, GibbsCAM quickly became Luxottica's core programming tool and fundamentally resolved traditional bottlenecks.

Intuitive & Efficient, Fast to Master

GibbsCAM uses a graphical user interface with clear parameter hierarchy and straightforward setup, eliminating cumbersome deep-level menus. It is highly tailored to the working habits of lathe and machining professionals.

- Tool changes, toolpath adjustments, and retract optimization are efficient and convenient, delivering ideal results without redundant parameters.
- Greatly shortens programming cycles and reduces human errors, allowing engineers to focus on process optimization rather than software debugging.

Integrated Turn-Mill Programming for Smooth Workflows

GibbsCAM adopts a **unified machining logic** that supports turning, milling, drilling, and tapping in a single workflow without module switching, significantly improving continuity and efficiency. Turning tool definition is intuitive, and operations (OD, face, ID, grooving, parting) are clearly organized for error-proof programming.

Most importantly, GibbsCAM fully activates **sub spindle utilization**, enabling true multi-tasking machining. This expands capabilities to complex precision components and strengthens product competitiveness.

Excellent Machine Compatibility for Rapid Deployment

GibbsCAM offers strong compatibility with high-end machines such as Mazak, enabling fast deployment without complicated debugging, reducing integration costs and implementation time.

"The GibbsCAM interface is completely designed around the working habits of lathe and machining personnel. It relies heavily on graphical operation with a clean parameter structure. We don't need to spend excessive time learning complex procedures. It is much faster to master than our previous software and greatly reduces programmers' workload."

"Its turning logic is very clear. Operations such as OD, face, ID, grooving, and parting are well-defined, keeping programming straightforward and reducing double-checking. This effectively minimizes errors and improves accuracy."

– **Project Manager of Luxottica**

"What impresses us most about GibbsCAM is its significant improvement in production efficiency and machining safety. The software intelligently optimizes toolpaths, reduces air-cutting time, and greatly boosts programming efficiency while lowering risks. This provides reliable support for our precision manufacturing."

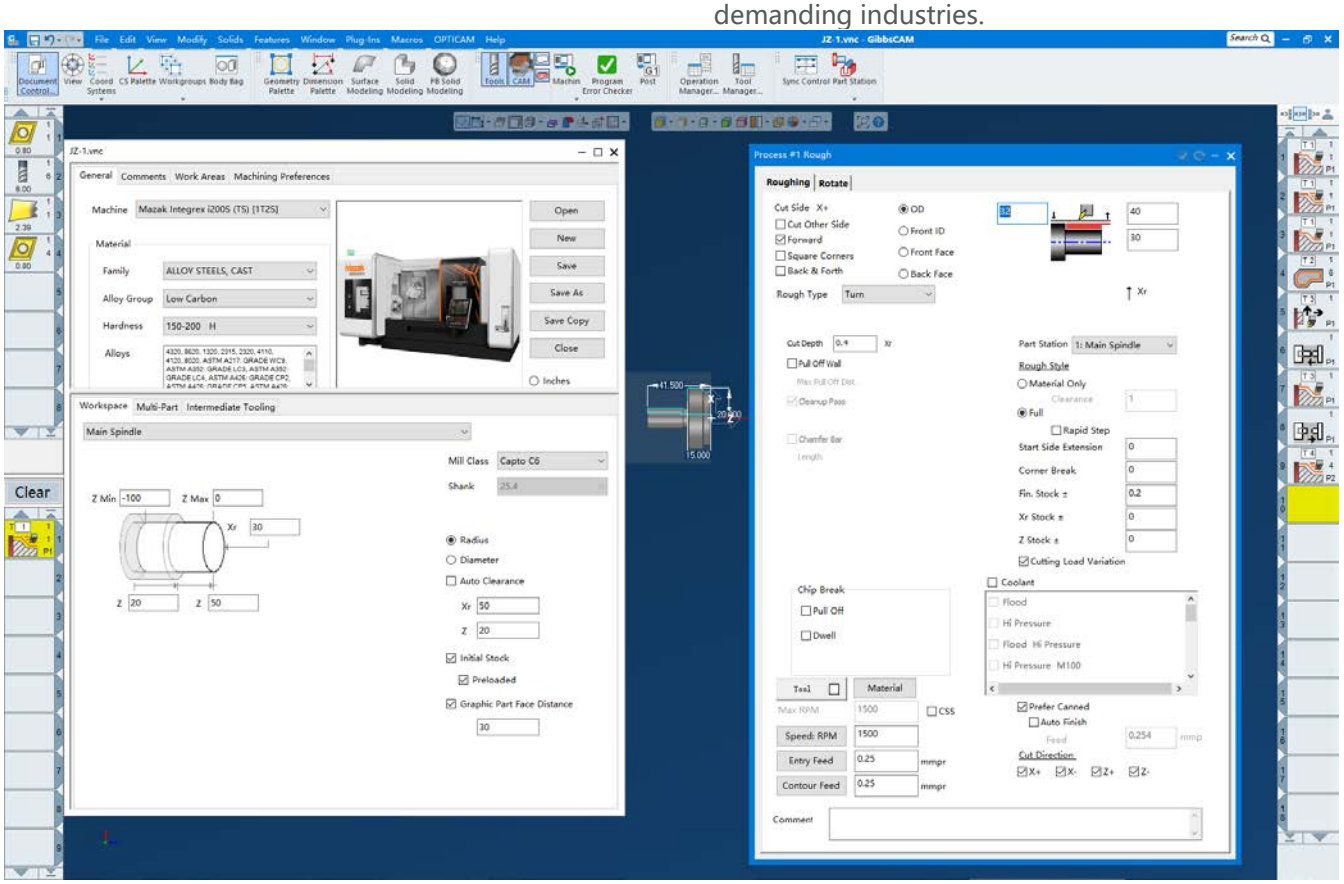
"As a global enterprise, we always pursue efficient, precise, and safe production. GibbsCAM perfectly meets our needs. It not only unlocks the full potential of our multi-tasking machines but also helps us achieve new breakthroughs in smart wearable manufacturing, bringing new momentum to our global development."

– General Manager of Luxottica

GibbsCAM MTM Solution:

The GibbsCAM MTM module is purpose-built for multi-spindle, multi-turret, and multi-channel turn-mill machines. Powered by Universal Kinematic Machine (UKM) technology, it supports complex machine configurations with any number of axes and channels, enabling complete machining in one clamping with synchronous operations. This drastically reduces cycle times and improves equipment utilization.

GibbsCAM MTM makes complex multi-tasking machine programming faster, machining more stable, and cycles shorter. It is a core CAM solution for high-volume production of precision components in aerospace, medical, automotive, and other demanding industries.



GibbsCAM Multi-Task Machining

About GibbsCAM:

GibbsCAM is a single CAM solution that simplifies complex programming without sacrificing ease of use. GibbsCAM supports 2- to 5-axis milling, turning, multi-task machining, Swiss machining, probing, and wire-EDM.

About Sandvik Group:

GibbsCAM is part of the Sandvik Group offering digital solutions to automate the component manufacturing value chain – from design and planning to preparation, shaping and verification.