

Media Release

Biel, Switzerland
August 2023

Webinar shows faster production of a knee implant

The market for knee implants is large and growing rapidly. In a webinar on 14 September 2023, GF Machining Solutions, Seco and OPEN MIND will show how to machine a knee implant much faster than with the conventional process. This will help medical device manufacturers accelerate their production.

With a large and quickly growing global market for knee implants, showing a volume increase of 8%, there is a considerable cost pressure on medical device manufacturers. The complex forms of a knee implant require exceptionally smooth surfaces, making it one of the most difficult implants to manufacture.

Especially the femoral component in a knee implant, often a chrome-cobalt casting, is extremely challenging to manufacture. The curved, condyle surfaces must meet very strict tolerances and have a smooth, polished surface. The traditional process to manufacture it is to use five-axis milling, which can take up to 75 minutes, followed by five-axis grinding, which can take up to 20 minutes, and then polishing. During this three-step process, the part typically needs to be changed from one machine to the other, which adds additional time to it.

Taking a different milling strategy and using the Mikron MILL S 600 U, along with optimized cutting tools from Seco and specialized CAM strategies developed in *hyperMILL* by OPEN MIND, GF Machining Solutions was able to not only reduce machining time by over 30%, but also to improve the surface roughness such that the grinding process can be eliminated completely. Implants can go from milling directly to polishing, saving considerable time and cost.

From the machine side, the MILL S 600 U allows for a dynamic, precise machining, thanks to its Automated Machine Calibration (AMC) and the stable machine body temperature achieved with the Ambient Robust technology. The linear motors for the X-, Y- and Z-axes and the torque motors for the rotary axes (B, C) are actively thermostabilized to keep accuracy stable during long machining cycles and ensure a speed up to 100m per minute. The software and the cutting tools are the other factors that shorten the process significantly, with the barrel cutter achieving a superior surface.

The webinar on 14 September explores the keys to success in the new process and looks more closely at the savings generated. It will take place from 9-10 p.m. CEST (UTC-4, 3-4 p.m. EDT), for the US, from 3-4 p.m. CEST (UTC+2) for Europe and from 9-10 a.m. CEST (UTC+8, 3-4 p.m. ASEAN Common Time) in APAC.

To find out more about accelerating the production of knee implants register for this webinar under one of the following links: [Registration for the US \(gotowebrinar.com\)](https://www.gotowebrinar.com), [Registration for Europe \(gotowebrinar.com\)](https://www.gotowebrinar.com) or [Registration for APAC \(gotowebrinar.com\)](https://www.gotowebrinar.com).

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Profile of GF Machining Solutions

GF Machining Solutions is one of the world's leading providers of complete solutions for precision components and tools manufacturers and the mold-making industry. The portfolio includes milling, EDM, laser texturing, laser micromachining, and additive manufacturing machines. Additionally, the division offers spindles, automation, tooling, and digitalized solutions backed by unrivaled customer services and support. With its solutions, the division advances energy-efficient and clean manufacturing. GF Machining Solutions is a globally acting Division of the Georg Fischer Group (Switzerland) and maintains a presence at 50 locations worldwide. Its 3,398 employees generated sales of CHF 948 million in 2022. More information can be found at www.gfms.com.



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