Integrated CAD-CAM-CNC Process Chain for Medical Part Manufacturing

Siemens announced today the introduction of CNC solutions designed specifically for the medical industry. These CNC solutions featuring the Sinumerik® 840D sl CNC, the Sinamics® S120 drive system and high performance motors enable machine tool users to create CAD/CAM data with NX CAM, as well as a system platform for high-speed cutting.
Medical part manufacturing is, first and foremost, based upon perfected cutting technologies. The manufacture of medical implants and prostheses requires, above all, high-precision machining with a short machining time that must produce perfect surfaces. Such high-precision, high-speed cutting is based on an integrated, high-performance CNC solution. This covers the creation of CAD/CAM data, straightforward programming, set-up on the CNC, suitable probes and high-precision milling with innovative tools.

High-speed cutting is technically very demanding, precisely because of the high speeds involved. Siemens CNC solutions for these types of milling tasks have correspondingly high spindle speeds and feed rates. These features are essential for the manufacturing of high-quality medical products, such as tooth and bone implants, bone screws and hip prostheses. The interactions between its many and varied functions enables Sinumerik to be adapted flexibly to meet the changing demands of CNC production. These functions include the exact measurement and calibration of multi-axes kinematics and the coupled motion of the tool orientation. Innovative technologies enable medical engineering products to be matched precisely to a patient’s individual requirements.

In order to enable manufacturers to react quickly and easily to changing market needs as well as increases in batch production, Siemens is offering a wide range of

setup functions for machine retrofit. All the important tool-related data is saved and can be recalled later in a single step. Jerk limitation, pre-control and the perfected “look ahead” function all support the operator during tool- and mold-making. Sinumerik Safety Integrated also facilitates the implementation of highly-effective operator and machine protection concepts.

About Siemens
A division of Siemens Industry, Inc., the Drive Technologies (DT) Division is the world’s leading supplier of electrical and mechanical products, applications and solutions that cover the entire drive train. DT is the global leader in energy-efficient motors and drives, as well as products and services for production machinery and machine tools. Technologies include standard products, industry-specific control and drive solutions, as well as mechatronics support and online services for web-based fault management and preventive maintenance. DT provides its customers with energy-efficiency, productivity and reliability in industries as diverse as clean and renewable energy, transportation, oil and gas, utilities, metals and mining, machinery manufacturing and machine tools. With nearly 40,000 employees worldwide, the Drive Technologies Division posted worldwide revenues of $10.2 billion in fiscal year 2009. www.usa.siemens.com/drives [1]

Siemens Industry, Inc. (SII) is the U.S. affiliate of Siemens’ global Industry Sector business—the world’s leading supplier of production, transportation and building technology solutions. The company’s integrated hardware and software technologies enable comprehensive industry-specific solutions for industrial and infrastructure providers to increase their productivity, sustainability and profitability. The Industry Sector includes six divisions: Building Technologies, Industry Automation, Industry Solutions, Mobility, Drive Technologies and OSRAM SYLVANIA. With nearly 222,000 Siemens Industry Sector employees worldwide, the Industry Sector posted a worldwide profit of $2.7 billion on revenues of $47.7 billion in fiscal 2009. www.usa.siemens.com/Industry [2]

Source URL (retrieved on *12/08/2013 - 8:50pm*):
http://www.mdtmag.com/product-releases/2011/11/integrated-cad-cam-cnc-process-chain-medical-part-manufacturing

Links:
[1] http://www.mdtmag.com/www.usa.siemens.com/drives
[2] http://www.usa.siemens.com/Industry