

techman / December 29, 2012 02:21PM

[\[Precision Machine\] University Unveils Submicron Precision Lathe](#)

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CNA - Focus Taiwan (2012/12/26) A university in Taichung unveiled Tuesday (December 25) a prototype of a submicron precision lathe that the school says is the most precise lathe designed and manufactured in Taiwan.

The submicron precision lathe made by National Chin-Yi University of Technology can make components with tolerances as small as 0.2 microns (a micron is 0.001 millimeters), said Kuo-ming TSAI, an associate professor who was involved in the machine's design.

TSAI said Taiwan's machine tool industry is among the best in the world, but Japan and Germany still have a technical edge in producing components used in the ultra-precision lathes that produce parts used in high-tech electronics gadgets, such as optical lenses, that have to be precise, thin and lightweight.

As a result, Taiwan's lens suppliers and optical companies have had to import such lathes from abroad, he said.

Chung-yu HSIEH, director of a research center at the university, explained that the critical components for ultra-precision lathes are spindles, controllers, positioning measurement systems, and guideways.

Taiwan has had the ability to produce spindles and positioning measurement devices, but the university made a breakthrough in the area of hydrostatic guideways, and advanced controllers are currently being tested, HSIEH said.

The research center director said that the school is testing controllers made locally on its precision lathe to see if they can meet the general high standard of the new machine.

HSIEH said the school hopes the testing phase for controllers can be completed in 2013 so that it can manufacture a submicron precision lathe to supply to local factories in which all of the critical parts are made in Taiwan.

Reference:

[CNA - Focus Taiwan 2012/12/26](#)

[National Science Council International Cooperation Sci-Tech Newsbrief](#)

Edited 1 time(s). Last edit at 12/29/2012 02:25PM by techman.
