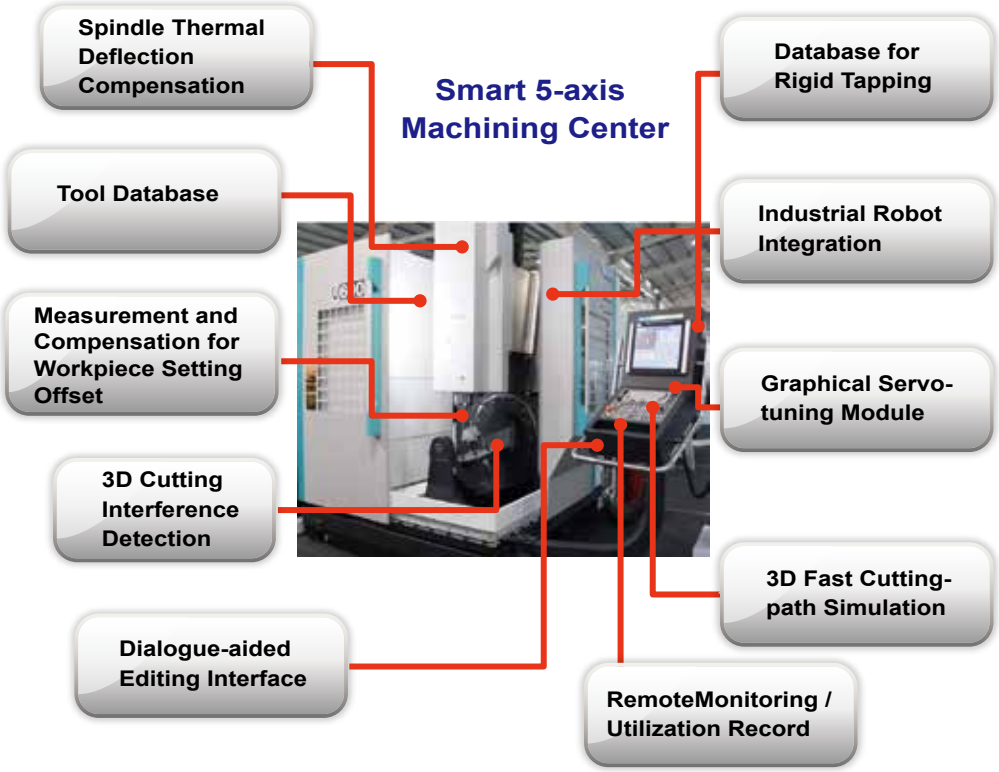
Taiwan's World-Class Cost Efficient Solution

High Cost/Performance Ratio Machine Tools: Taiwan is now the 7th largest producer of machine tools in the world, providing high quality and cost-effective machining centers, 5-axis machining centers and turning centers.

Smart Machining Functions: By integrating ICT technologies and cutting process know-how, many smart functions are now available such as spindle thermal deflection compensation, remote monitoring, on-line machining parameter adjustment, tool life management and maintenance management.



Agenda for Industry 4.0 Machine Tools in Taiwan

High Level Smart Work Cell: High level smart CNC machines, integrated with industrial robots, value-added software and sensors, are able to provide users with high level smart control functions such as on-line feed rate optimization, chatter avoidance and thermal deflection compensation.

Process-based HMI: The process-based HMI, implemented with excellent machine design knowledge and process know-how, can offer fast and safe operational environment with CAD/CAM integration, production schedule simulation, machining simulation and anti-collision function.

Smart Production System: The integration of ERP and MES software with ICT technology and international standard communication protocol allows for collecting production and machining demands from customers. The smart production system can satisfy customer's machining requirements in time and dramatically improve the productivity.


CAD/CAM Integration


Simulation and Anti-collision


Production Schedule Simulation


Remote Monitoring


Machining Parameter Database

MTConnect OPC UA

SAP ERP ORACLE ERP Microsoft Dynamics SkyMars SERVCLOUD SIEMENS

EtherCAT Technology Group

System/ M2M Socket MTConnect/OPC UA protocol provided to integrate processing software such as ERP, PLM, MES and so on.

Process HMI Socket HMI integrated with CPS functions to provide safe and friendly operational environment.

Servo/Peripheral Module Socket Digital servo motors, peripheral module and sensors integrated by EtherCAT protocol.

Intelligent Decision Socket High level intelligent control functions: Thermal deflection compensation, anti-chattering and machining parameter optimization.


Digital I/O Modules


Digital Servo Drivers


Sensors


Encoders/Linear Scales


Spindle Monitoring

Feed Rate Optimization


Anti-chattering


Machining Time Estimation


Thermal Deflection Compensation

IMTS2016 International Manufacturing Technology Show September 12 - 17, 2016 · McCormick Place · Chicago

TAIWAN Smart-X: From elements to new generation

Habor Precise, Oil and Water Coolers with Smart Control and Energy-Level Monitoring.

FEMCO, Full automation aluminum wheels production lines, mixed lines-mixed model production

Booth No.: S-8021

TIMS Tongtai Intelligent Manufacturing System

Tongtai , TIMS (Tong-tai Intelligent manu-facturing systems), the foundation of intelligent automation plants

Booth No.: S-8536

Smart Product → Smart Machine → Smart Factory → Smart Manufacturing → Smart Service

Booth No.: S-9451

Quaser, Cell Automation Technology

Booth No.: S-9482

Victor Taichung, CNC with industrial robot for autonomous operation

L & L MACHINERY,
Service for mass customization

Booth No.: S-8790

New Era with New Machinery at IMTS

IMTS2016
International Manufacturing Technology Show
September 12 - 17, 2016 · McCormick Place · Chicago

Facing the fourth global industrial revolution, Taiwan's machinery industry has been picking up with the world's pace. In response to Industry 4.0, TAMI has invited elites from different fields in academia, industry and research institutes to establish the "Smart Machinery Industry & Academia & Research Committee," which will be led by six leading companies from various industries such as plastic machinery, textile machinery, comprehensive processing equipment, CNC lathe, gear machinery and shoe manufacturing machinery. The purpose is to build demonstrative factories and production lines for Industry 4.0 and make them open to domestic machinery companies for visiting and learning. With the support from all fields, Taiwan's precision machinery is expected to continuously improve its global competitiveness and expand its market territory. The following is the machine tool industry information from the six leading companies.

面對全球第四次工業革命，臺灣機械業早已加緊步伐，與全球同步。本會因應工業4.0，邀集產、學、研各界菁英成立「智慧機械產學研委員會」，今年將帶領六家不同產業的領導廠商，如塑膠機械、紡織機械、綜合加工機、CNC車床、齒輪機械及製鞋機械等，建構工業4.0示範工廠及示範生產線，開放給國內機械廠商參觀與學習。期許臺灣精密機械在各界的支持下，不斷提升全球競爭力且擴大市場版圖。以下針對此六家關於工具機產業之製造商，提供給IMTS 2016之買主參考。

CHING HUNG MACHINERY & ELECTRIC CO., LTD. (CHMER)

Booth No.: E-4856

AMS High SPEED SMALL HOLE DRILLER

FEATURE

- Linear Motor Drive with Glass Scales on X Axis (opt. on Y Axis)
- Invert Spindle for reducing electrode wear and improving accuracy of the small holes.
- Inverter high pressure pump increases the flushing pressure.
- Various canned cycles for finding the edges, correcting the program of various workpieces.

NEW GX+ Series Linear Drive WIRE CUT EDM

FEATURE

- Linear Motors with linear scales
- The newest Generation Auto Wire Threading (AWT) completes thread wire within 6.0 seconds
- Self-developed and high-order controller with friendly user interface panel for supporting 6-axis machining.

Remote Monitoring Function

FEATURE

- Through the function, the end user can confirm the time distribution of machine working, the causes of the machine pauses and have the quantitative analysis.

COSEN MECHATRONICS CO., LTD.

Celebrating its 40th anniversary, Cosen Saws will be showcasing a number of new technologies for IMTS this year. The first of which is the Cosen Predictive Computing Smartsaw monitoring system, a proprietary cloud based technology that accesses and sends out sawing performance data in real time.

Smartsaw can report issues such as excess vibration, overheating, and changes in fluid line pressure via instant alerts on the mobile app. This technology can monitor the blade life, and accurately predict blade breakage. Notification of abnormal conditions from consumable items will minimize cost while maximizing tool life.

Cosen will also showcase the fully enclosed CNC-530 Intelligent CNC Performance Bandsaw. This 15 HP 20.9" capacity machine is equipped with V_Drive, and can cut harder material faster, smarter, and help reduce operator errors with its recommended cutting rates and stored parameters.

Comes see Cosen's new technologies in action at **Booth No.: N-6951**

FAR EAST MACHINERY CO., LTD.

The AVM System, A Technological Feat!

With upcoming trend of Industry 4.0, FATEK (adivision of Far East Machinery Group, FEMCO), has successfully developed an Automatic Virtual Metrology system (AVM) for wheel automation line. AVM is designed to provide real-time measurements for producing high quality wheels and reducing defect rate. The measured results are collected during cutting operation. Then, the results can be uploaded to the cloud and stored in big data server for future reference, and they can be instantly sent to designated operator or clients for better monitoring on production process. Besides, tool compensation can be achieved during machining to greatly reduce cycle time while maintaining higher quality and stability in workpiece.

Booth No.: S-8021

LUREN PRECISION CO., LTD. Booth No.: N-6960

At IMTS 2016, Luren Precision is going to demonstrate two types of cylindrical gear grinding machines, the LFG-3540 form grinding machine and the LGA-2812 continuous generating gear grinding machine. After decades of experience in designing and manufacturing machine tools, Luren is now capable of integrating the Industry 4.0 factors in its products. The related technologies are shown as follows:

PCNC

Windows-based personal computers are used to develop Luren's own-designed software. After completing the required information, the software will generate all the NC code automatically. The data can also be saved and used as feedback.

Remote Service

Teamviewer and skype are used for remote service. Luren technicians can easily correct input data settings in the machine via Internet.

Automated loading system

Space is reserved for future automatic loading and unloading systems in the machine design. The automatic robot will also be exhibited on Luren's LFG-3540 during IMTS show.

TAIWAN TAKISAWA TECHNOLOGY CO., LTD.

The CNC lathe produced by Taiwan Takisawa includes the following features for Industry 4.0 trend:

- Unique design with software simulation capabilities on static/dynamic test module and with reliability test.
- Designed to monitor and perform 24-hour production automatically.
- All the moving elements of machine can be evaluated, while monitoring the life cycle.
- The lifetime of spare parts can be estimated in order to proceed with the replacement in time, meeting requirements of non-stop production and customer's satisfaction.

Booth No.: S-8158

YEONG CHIN MACHINERY INDUSTRIES CO., LTD.

YCM® Smart Factory

Booth No.: S-8450

YCM®