

Flying high!



Aerospace Industry - pushing towards new limits

- ❖ **New Materials**
- ❖ **New technologies**
- ❖ **New Machines**

Composites Technology Research Malaysia ...

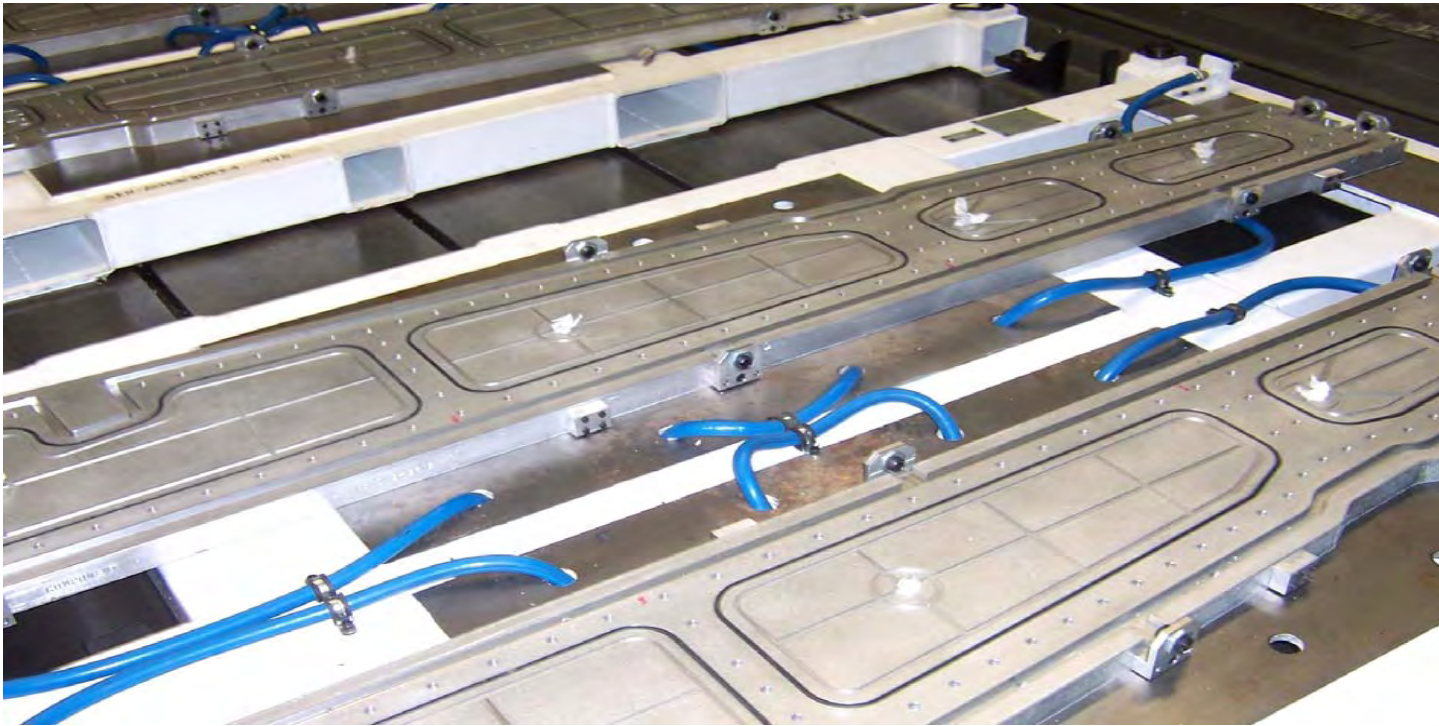


CTRM: a major name in Asian Aerospace Industry

Situated in the famous city of Malacca

A combination of rich historical heritage and hi-tech industries

... cutting edge technology for Aerospace Industry



CTRM is one of the busiest manufacturers of Aerospace components and also very active in implementing new technologies and new materials in this very dynamic Industry.

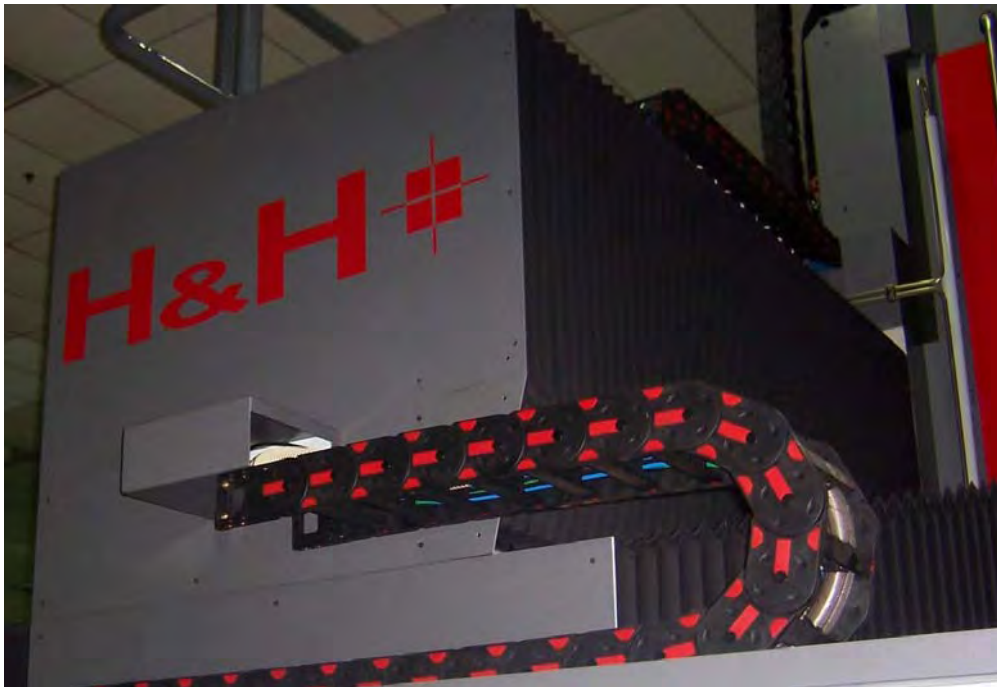
They have a ... need for speed!

So, when a new machine was required - a fast router in a very short delivery time – the logical spot to look was the country with so many fast drivers – they turned to neighbouring Australia!

H&H Machine Tools ...

H&H Machine Tools the Perfect Partner.

- ❖ Experts in 5 axes milling applications
- ❖ Design to very high standards
- ❖ Innovative through a dynamic team of engineers
- ❖ Efficient manufacturing for short delivery time

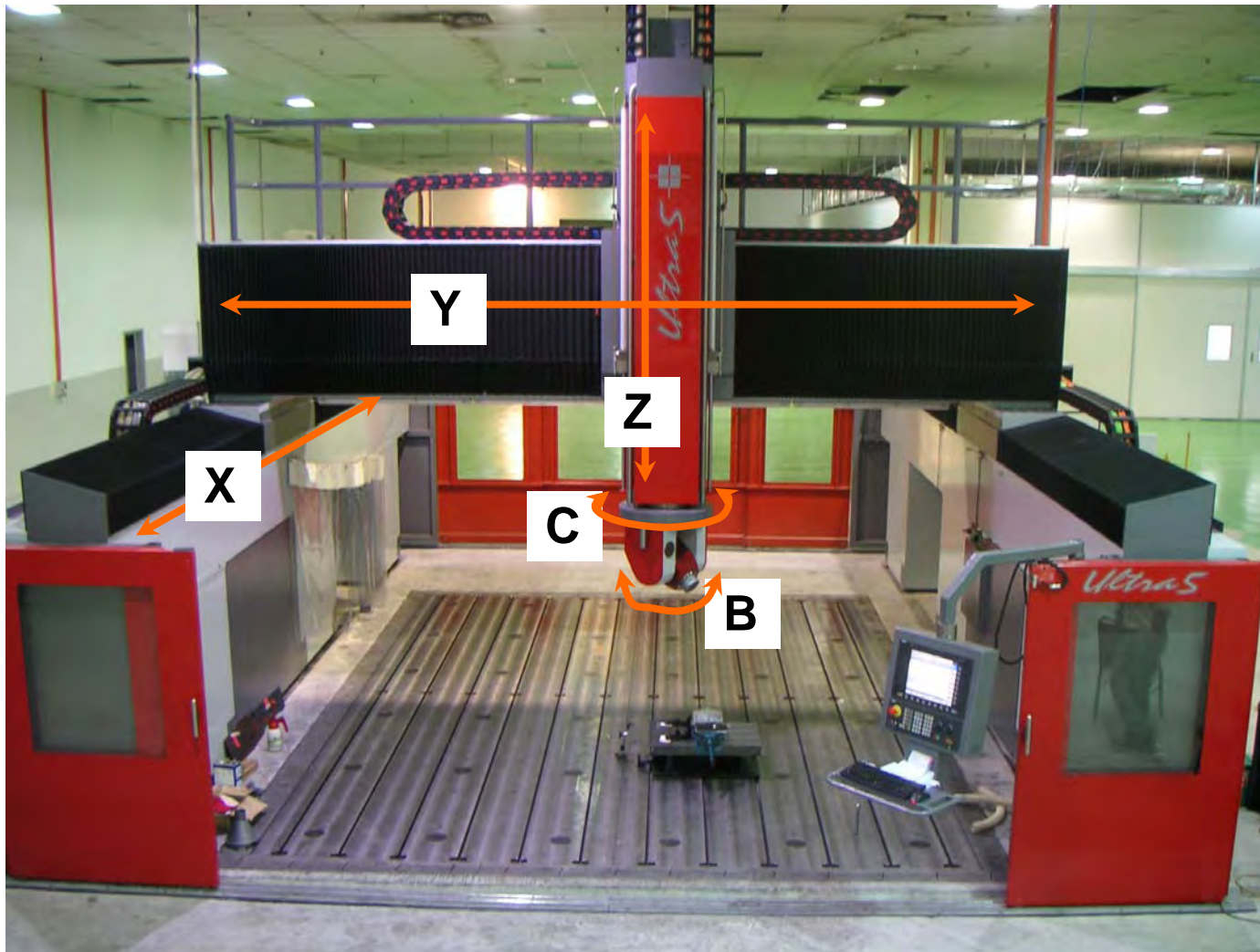


... 5 axes high speed milling experts

- ❑ 5 axes milling head original design
- ❑ Very accurate
- ❑ Incredible stiffness
- ❑ Powerful high speed spindle motor (40000 rpm)
- ❑ Direct measuring system for both rotary axes
- ❑ Multi-turn B axis
- ❑ Customized attachments for dust management
- ❑ Easy maintenance
- ❑ One of the best 5 axes heads on the market, sold world wide



Ultra 5 high speed milling machine concept



- ❖ X = 6500mm
- ❖ Y = 4500mm
- ❖ Z = 1500mm
- ❖ B = +/- 110deg
- ❖ C = +/- 360deg
- ❖ Sp = 30,000rpm, 20kW, (S1)
- ❖ Work area = 9500mm * 5800mm
- ❖ Max Feedrate = 60,000mm/min
- ❖ Tool changer = 20 tools

CNC Design – Siemens partner in the area

Sinumerik 840D and Simodrive 611D always the choice in Aerospace and high end machine tools applications

CNC Design, the Siemens partner for the region, was involved in all stages of the design, machine construction and installation.

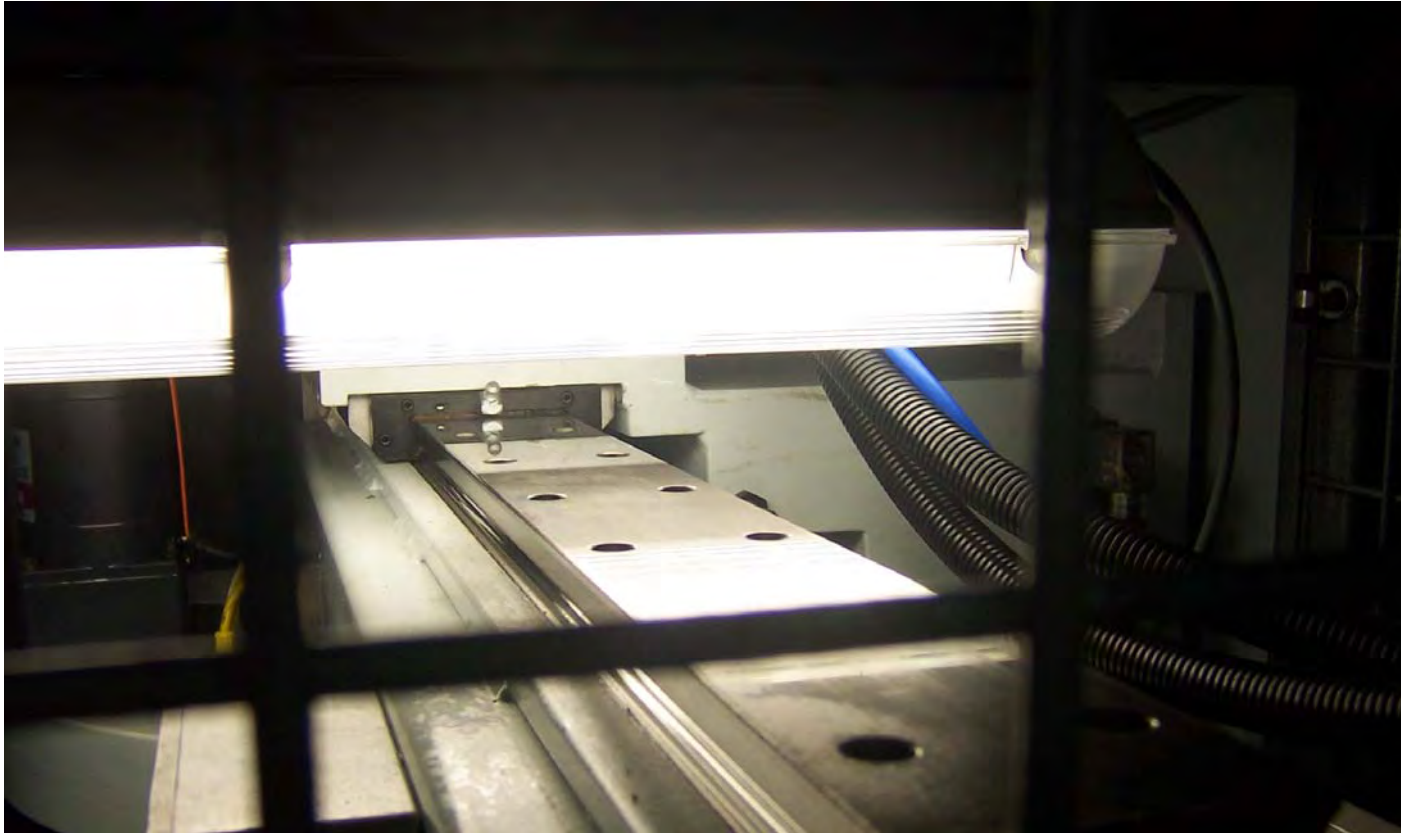


H&H Machine Tools and CNC Design teamed up to provide a perfect match in combining their expertise to build one masterpiece of Australian machine tools industry.

Equipped to the latest standards with the most advanced technology - CNC and drives - Ultra 5 competes on the world stage in 5 axes machining market.

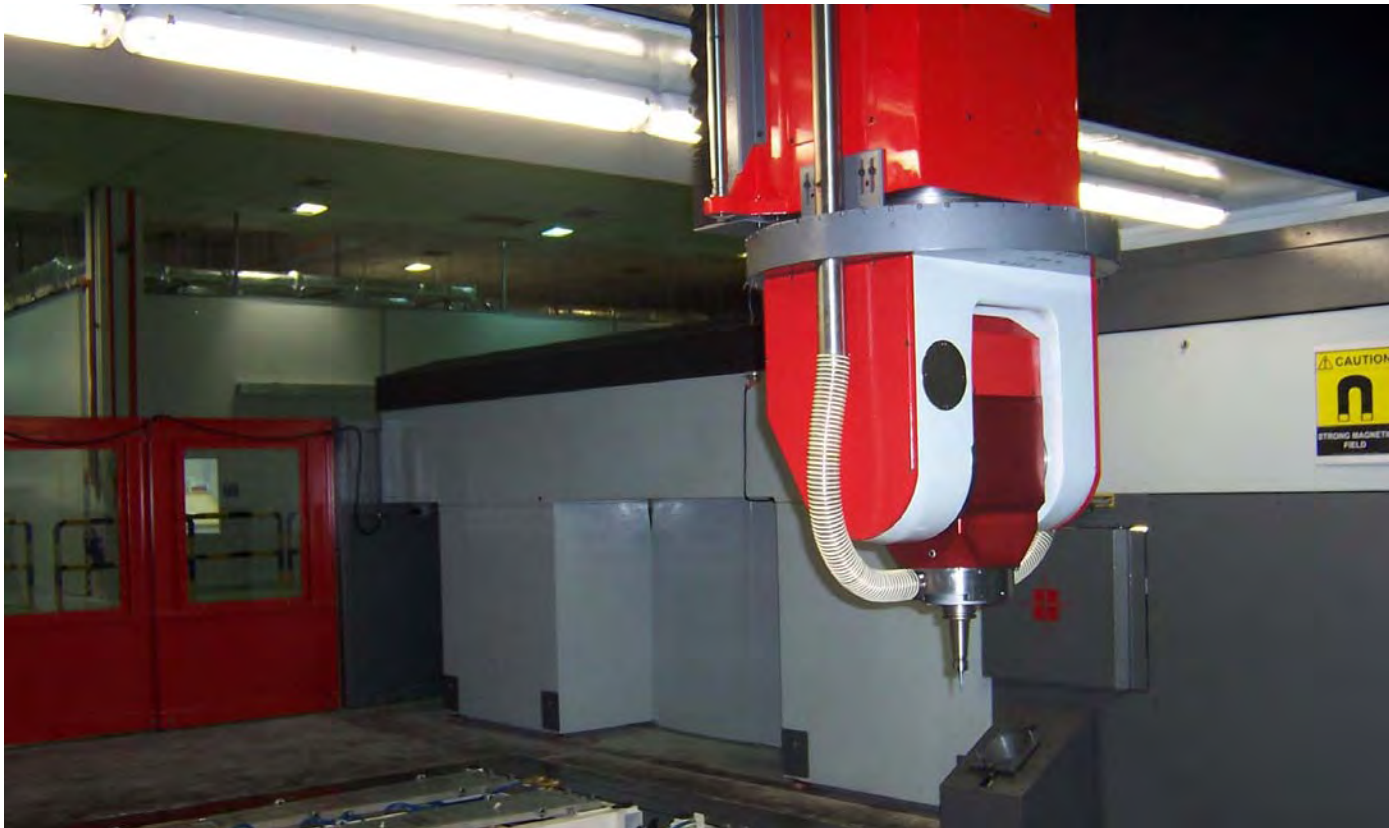


Sinumerik 840D/Simodrive 611D/1FN3



All linear axes of this machine are driven by Siemens 1FN3 linear motors.
Distance coded linear scales are used in premiere together with linear motors.
Mechanical brakes are fitted for safe stop.

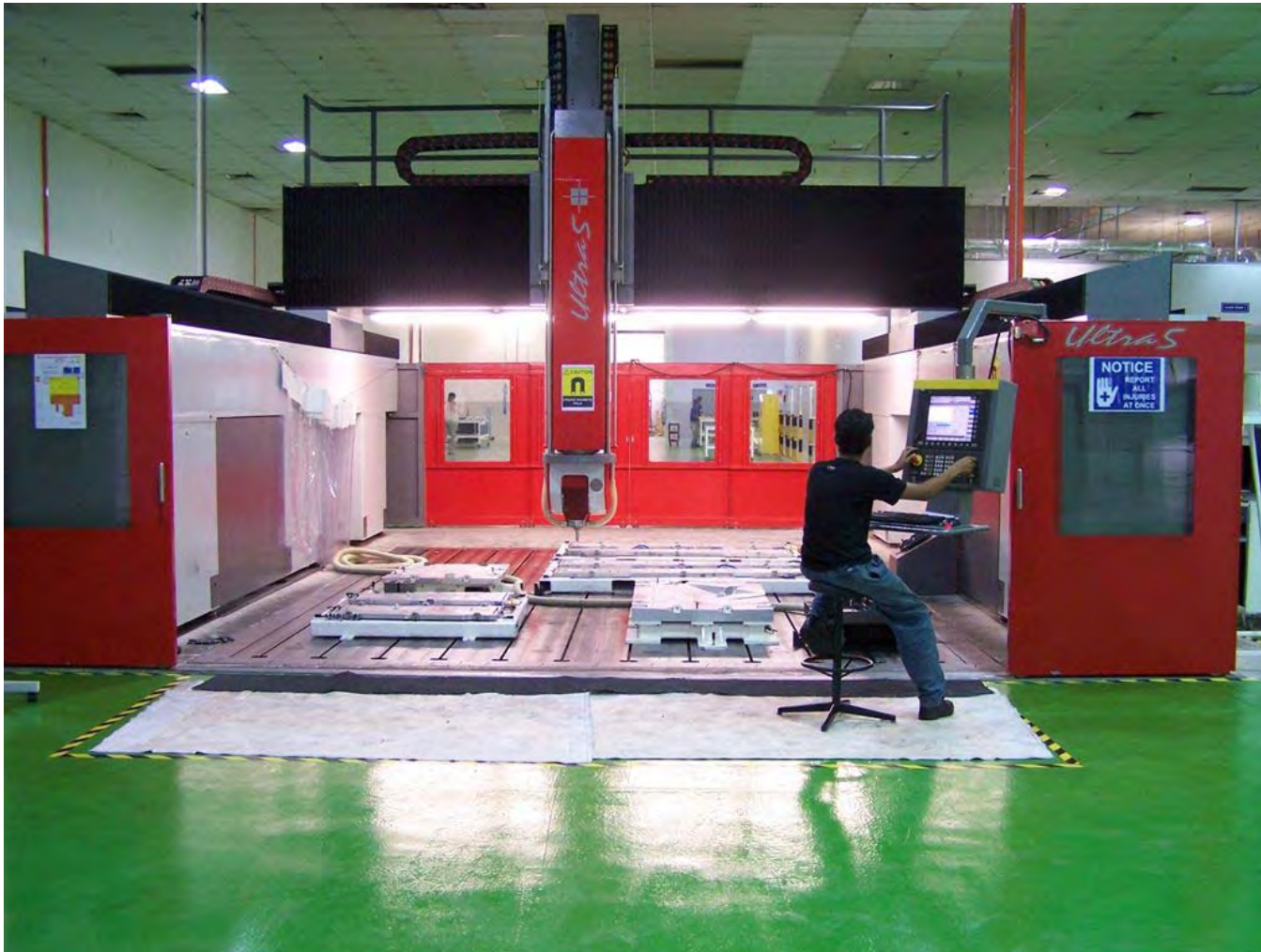
The Need for Speed ...



Linear motors, automatic tool changer, automatic dust extractor attachment changer, machine multi-zone working, automatic tool offset measurement (laser), work-piece probing, special design drilling tools, DNC, remote diagnostics, customized screens for work-piece easy setup and many other features are feeding this never ending hunger for speed.



... Ultra 5 is in Pole Position ...

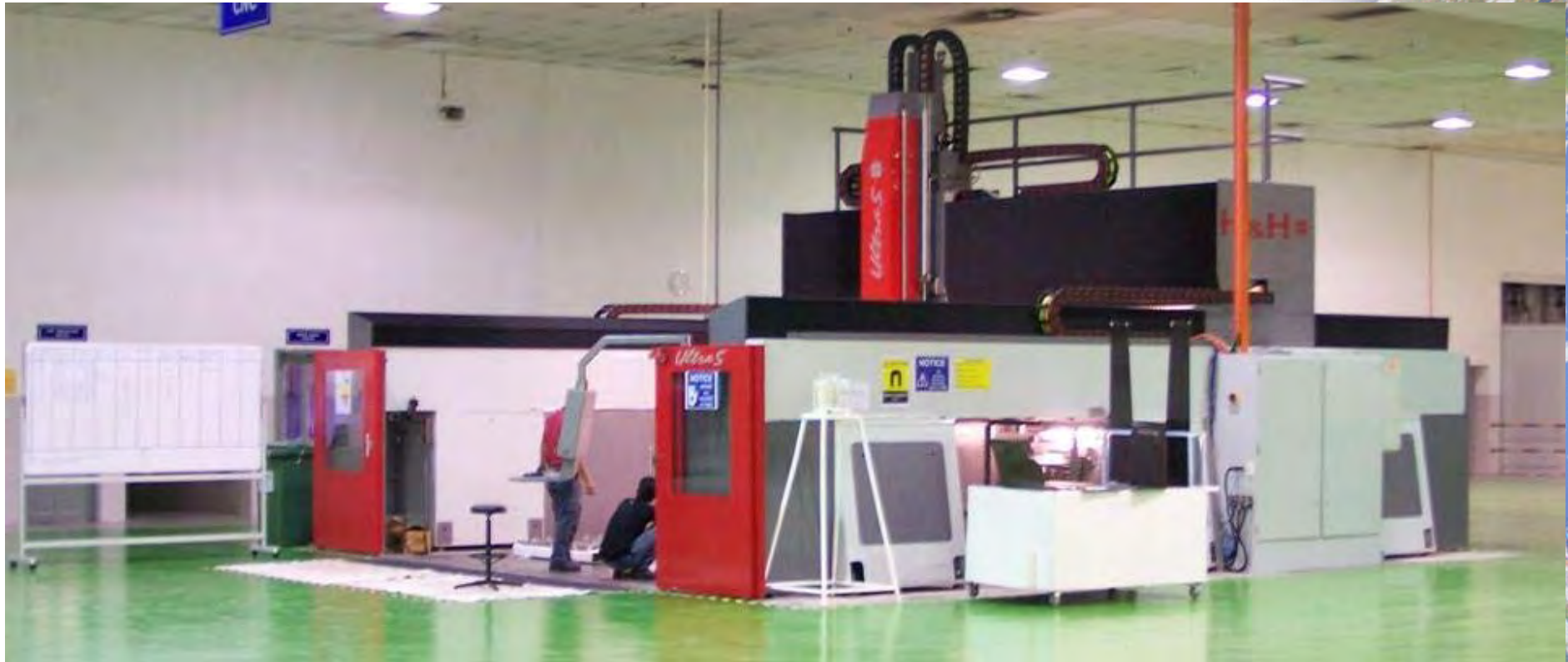


... With Trials Completed ...



In less than 10 months from the order to the final tests, Ultra 5 is now ...

... Ready for Production ...



Training completed and with trial tests successfully done, the machine is now in production and more development is planned for the future. New tooling for working special materials and other additional functions to be implemented, will make this Malaysian manufacturer a leader in the Aerospace Industry.

CTRM, H&H Machine Tools, CNC Design and Siemens - happy partners in making this machine and this project a big success.

Another happy ending story!



Siemens SE Asia Sales Manager and CTRM AC Equipment Engineer posing for a great future!