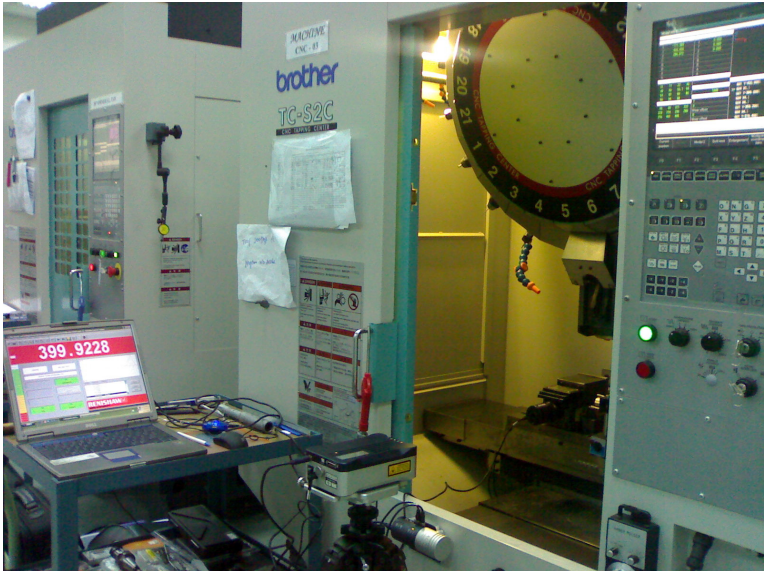




Track records – some of our track records:

Machine:	Haas VF2 Milling
Size:	760 x 410 x 400 mm
Location:	Klang, Malaysia
Accuracy before calibration: X: 33.3 μm, Y: 27.0 μm, Z: 21.3 μm. Accuracy after calibration: X: 3.4 μm, Y: 2.2 μm, Z: 4.3 μm. Benefits: 1. Error compensation improves accuracy. 2. No scrap of expensive mould material at small tolerances. 3. According to machine's owner, estimated cost saving from material scrap of at least USD 300,000 per year. 4. Secure more contracts, e.g. tooling for BMW Automotive, Germany.	
 CNC Machining Center Calibration by Laser System	

Machine:	Brother TC-S2C
Size:	500 x 400 x 600 mm
Location:	Penang, Malaysia
Accuracy before calibration: X: 10.7 μm, Y: 11.9 μm, Z: 8.3 μm. Accuracy after calibration: X: 1.1 μm, Y: 1.1 μm, Z: 3.8 μm. Benefits: 1. Error compensation improves accuracy. 2. Can machine of tighter tolerances of +/- 2 μm part of tap holes locations. 3. Secure more contracts from semiconductor industry. 4. According to machine's owner, zero scrap rejection after the calibration and cost saving of scrap material of about USD 100,000 per year.	
 CNC Tapping Machine Calibration by Laser System	



Track records – some of our track records:

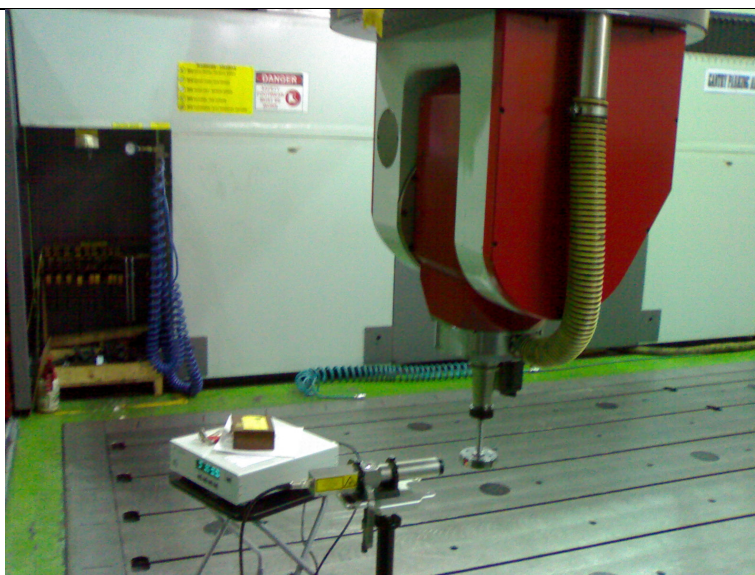
Machine:	H&H Ultra 5
Size:	6600 x 4600 x 1950 mm
Location:	Melacca, Malaysia

Accuracy **before** calibration:
X: 122.6 μ m, Y: 39.8 μ m, Z: 84.8 μ m,
B: 0.0296°, C: 0.0491°

Accuracy **after** calibration:
X: 33.2 μ m, Y: 8.9 μ m, Z: 2.0 μ m,
B: 0.0070°, C: 0.0060°

Benefits:

1. Full 5-axis calibration by laser system.
2. This large-scale 5-axis machine accuracy is improved from calibration.
3. After calibration, the accuracy performance of machine is declared at $\pm 2.5 \mu$ m/m.
4. The machine's owner managed to secure multi-millions business contract from Airbus Europe.
5. Furthermore, the machine's owner will soon to secure US Boeing contract worth millions.
6. Calibration report issued by us satisfied the requirements of Airbus and Boeing Auditors.



CNC Machining Center Calibration by Laser System: Rotary Axis



CNC Machining Center Calibration by Laser System: Linear axis.



Track records – some of our track records:

Machine:	DMG DMU 340P
Size:	2800 x 3400 x 1600 mm
Location:	Changi, Singapore
Accuracy before calibration: X: 17.3 μm, Y: 60.6 μm, Z: 12.5 μm. Accuracy after calibration: X: 3.7 μm, Y: 6.1 μm, Z: 4.3 μm. Benefits: 1. Error compensation improves accuracy. 2. Secure more contracts from oil & gas industry. 3. After calibration, the tight tolerances can be achieved. Scrap of large size aluminium block (raw material) is reduce significantly, productivity improved and cost saving.	



CNC Machining Center Calibration by Laser System

CNC Machining Center Calibration by Laser System

Machine:	Hardinge VMC 1000-II
Size:	1000 x 510 x 670 mm
Location:	Penang, Malaysia
Accuracy before calibration: X: 39.2 μm, Y: 21.6 μm, Z: 26.9 μm. Accuracy after calibration: X: 3.1 μm, Y: 5.0 μm, Z: 6.3 μm. Benefits: 1. Error compensation improves accuracy. 2. After calibration, the tight tolerances can be achieved. Scrap of large size aluminium block (raw material) is reduce significantly, productivity improved and cost saving.	



CNC Machining Center Calibration by Laser System

CNC Machining Center Calibration by Laser System



Track records – some of our track records:

Machine:	Fanuc Robocut α-0iB
Size:	320 x 210 mm
Location:	Melacca, Malaysia
Accuracy before calibration: X: 10.2 μm, Y: 8.1 μm Accuracy after calibration: X: 4.1 μm, Y: 1.4 μm, Benefits: 1. Error compensation improves accuracy. 2. The laser calibration gave improved accuracy and then prevents the cost of initially planned ball-screw replacement (USD 5000), minimize machine downtime and scrap reduction.	



CNC Wire Cut Machine Calibration by Laser System

CNC Wire Cut Machine Calibration by Laser System

Machine:	Wenzel CMM (Double Column)
Size:	6000 x 1200 x 2300 mm
Location:	Shah Alam, Malaysia

Accuracy **before** calibration:
X1: 130.7 μm , X2: 256.7 μm
Y1: 148.0 μm , Y2: 131.9 μm
Z1: 149.7 μm . Z2: 160.5 μm .

Accuracy **after** calibration:
X1: 13.1 μm , X2: 16.1 μm
Y1: 3.2 μm , Y2: 3.9 μm
Z1: 6.3 μm . Z2: 11.4 μm .

Benefits:

1. Error compensation improves accuracy.
2. This double column CMM was under utilized for few years. Recently retrofitting with new controller. Calibration ensure the machine in accurate condition and suitable to perform task of geometrical measurement and quality inspection of parts.



Double Column - Coordinate Measuring Machine (CMM)
Calibration by Laser System

Double Column - Coordinate Measuring Machine (CMM)
Calibration by Laser System