

SOFTWARE

CATIA V5 FIVE AXIS MACHINING SOFTWARE

Modules include:

Advanced Part Design and Detailing
Manufacturing Infrastructure
Prismatic Machining Programmer
Surface Machining Programmer
Multi-axis Machining

OPENMIND HYPERMILL

2.5D and 3D Milling modules
5 axis milling modules
Mill-Turn module
Catia v5 Import License
Virtual Machine License

VERICUT VERIFICATION SOFTWARE

Fully integrated with Catia to provide complete verification capability
Auto-diff
Vericut Force Optimiser

ICAM POST PROCESSOR

Development Builder – Post writing capability

PC-DMIS INSPECTION SOFTWARE

Full curves and surfaces facility
Direct Cad Interface (DCI) link to Catia
SPC

SYSPRO ERP

Management information system
Shopfloor scheduling & data collection – MOM

QPLUSE

AS9102 First Article Inspection Report Software

Q-DAS

Statistical software – run on CMM machines to gather inspection data

MINI TAB

Statistical software to analyse and visualise data for SPC analysis

GAGETRAK

Recording calibration measurements and status of inspection equipment.

ENOVIA DMU NAVIGATOR

Viewing and analysis tool for 3D CAD data.

CNC MACHINING CENTRES

2 No. Bavius Aerocell 160/400 5 AXIS AIRCRAFT HORIZONTAL MACHINING CENTRE

Twin Pallets 4000mm x 1600mm
103 tool capacity
Travel X = 4400mm, Y = 1700mm, Z = 850mm
Spindle speed = 30,000rpm, Power = 125Kw

4 No. DST Ecospeed F2035 6 AXIS AIRCRAFT HORIZONTAL MACHINING CENTRE

Twin Pallets 3500mm x 2000mm
129 tool capacity
Travel X = 3800mm, Y = 2500mm, Z = 670mm
Spindle speed = 30,000rpm, Power = 120Kw

1 No. DST Ecospeed FHT 1010 5 AXIS HORIZONTAL MACHINING CENTRE

Twin Pallets 1000mm X 1000mm
80 Tool Capacity
Travel X = 1250mm, Y = 1350mm, Z = 670mm
Spindle speed = 30,000rpm, Power = 80kW

1 No. STARRAG STC 800X 5 AXIS HORIZONTAL HIGH DYNAMIC MACHINING CENTRE

Twin pallets 800mm x 800mm.
204 tool capacity
Travel X = 1420mm. y = 1200mm, Z = 1300mm
Spindle speed = 30,000rpm, Power = 120kW

1 No. STARRAG STC 800 5 AXIS HORIZONTAL HIGH DYNAMIC MACHINING CENTRE

Twin pallets 800mm x 800mm.
204 tool capacity
Travel X = 1420mm. y = 1200mm, Z = 1300mm
Spindle speed = 18,000rpm, Power = 80kW

1 No. STARRAG STC 800 5 AXIS HORIZONTAL HIGH DYNAMIC MACHINING CENTRE

Twin pallets 800mm x 800mm.
204 tool capacity
Travel X = 1420mm. y = 1200mm, Z = 1300mm
Spindle speed = 5,600rpm, Power = 37kW

1 No. SNK HPS-120B 5 AXIS HORIZONTAL MACHINING CENTRE

Twin pallets 3048mm x 1220mm.
40 tool capacity
Travel X = 3150mm. y = 1320mm. Z = 762mm
Spindle speed = 15,000rpm, Power = 37kW

3 No. GROB G550 (PSSL) 5 AXIS HORIZONTAL UNIVERSAL MACHINING CENTRE

FMS Automation pallet storage system – PSSL – 69 pallets
630mm x 630mm.
140 tool capacity
Travel X = 800mm. y = 1020mm. Z = 1020mm
Spindle speed = 30,000rpm, Power = 53kW

1 No. GROB G550 (PSSR-10) 5 AXIS HORIZONTAL UNIVERSAL MACHINING CENTRE

Automated 10 pallet system – PSSR-10
Cell Controller Grob 4 pilot
630mm x 630mm.
120 tool capacity
Travel X = 800mm. y = 1020mm. Z = 1020mm
Spindle speed = 30,000rpm, Power = 53kW

1 No. GROB G550 (twin pallet) 5 AXIS HORIZONTAL UNIVERSAL MACHINING CENTRE

Twin pallet system - 1 machine tool
630mm x 630mm.
120 tool capacity
Travel X = 800mm. y = 1020mm. Z = 1020mm
Spindle speed = 30,000rpm, Power = 53kW

2 No. GROB G350 (PSSR-15) 5 AXIS HORIZONTAL UNIVERSAL MACHINING CENTRE

With automatic pallet storage system for 15 pallets – PSS-R15
Cell Controller Grob 4 pilot
117 tool capacity
Travel X = 600mm. y = 855mm. Z = 750mm
Spindle speed = 30,000rpm, Power = 53kW

3 No. GROB G350 5 AXIS HORIZONTAL UNIVERSAL MACHINING CENTRE

Single pallet 600mm dia
110 tool capacity
Travel X = 600mm. y = 855mm. Z = 750mm
Spindle speed = 16,000rpm, Power = 32kW

1 No CME-SAL FCM 6000 CNC TRAVELLING COLUMN BED MILL

Universal Multi-angular head
Table Size 6500mm x 1200mm
Travel X = 6000mm. y = 1200mm. Z = 2000mm
with **4th axis** 1200mm dia rotary table 30 tool capacity
Spindle speed 45 –3,000 rpm

3 No MATSUURA H-PLUS 630 4-AXIS HORIZONTAL MACHINING CENTRE

Twin pallets 630mm sq. - **4th axis** rotary table
80 tool capacity
Travel X = 1050mm. y = 920mm. Z = 870mm
Spindle speed 45 –12,000 rpm

1 No MATSUURA MAM-700 4-AXIS HG HORIZONTAL MACHINING CENTRE

Twin pallets 500mm sq. – **4th axis** rotary table
60- tool capacity
Travel X = 750mm. y = 600mm. Z = 625mm.
Spindle speed 30 -10,000 rpm

1 No. MORI SEIKI SV 500/50 VERTICAL MACHINING CENTRE

Table Size 1,100mm x 600mm
Travel X = 800mm y = 510mm Z = 510mm
Spindle speed 0 - 10,000 rpm

1 No MORI SEIKI MV65 VERTICAL MACHINING CENTRE

Table Size 1700mm x 650mm
Travel X = 1524mm y = 650mm Z = 650mm
Spindle speed 0 - 4000rpm

1 No MAZAK 530C VERTICAL MACHINING CENTRE

Table Size 1300mm x 550mm
Travel X = 1050mm y = 530mm Z = 586mm
Spindle speed 0 - 12000 rpm

1 No. MORI SEIKI MV 40/40 VERTICAL MACHINING CENTRE with AUTOMATIC PALLET CHANGER

Table Size 1100mm x 450mm
Travel X = 800mm y = 410mm Z = 510mm
Spindle speed 0 - 8000 rpm

1 No MORI SEIKI MV JUNIOR VERTICAL MACHINING CENTRE

Table Size 900mm x 450mm
Travel X = 560mm y = 410mm Z = 460mm
Spindle speed 0 -8000 rpm

3 No XYZ DPM-5000 BED MILL

Table Size 1930mm x 355mm
Travel X = 1500mm y = 508mm Z = 584mm
Spindle speed 70- 3660 rpm

1 No XYZ VM 4000 BED MILL

Table Size 1500 x 356mm
Travel X=1016mm Y=596mm Z=584mm
Spindle speed = 200-6000 rpm

CNC MILL / TURN MACHINING CENTRES

1 No. MAZAK INTEGREGX i500

Multi-tasking machining centre with true 5-axis contouring capability
12"/305mm chuck – 3,300rpm – Power – 37KW
Milling Spindle – 10,000rpm – Power 37kW
Tooling magazine – 72 No. - Capto C8
Travel X=845mm, Z=3126mm, Y=430mm, B=240°, C=360°
With long drill stocker , automatic steady rest and NC tailstock

3 No. MAZAK INTEGREGX i200ST (1500U) With MATRIX CONTROL

8" Twin Spindles "C" axis 0.0001° increment.
Mill/Turn Rotary-Tool spindle 12,000rpm 22kW
9 Station Bottom Turret – 72 No. Tool Magazine(Capto)
Travel X=615mm, X2 (Lower Turret)=230mm
Y=250mm, Z=1565mm, B=210°, C=360°
True **5-axis** contouring capability.
Spindle speeds 35 –5000rpm. Power = 22kW

1 No. MAZAK INTEGREGX 200 – IVST 1500U With MATRIX CONTROL

8" Twin Spindles "C" axis 0.0001° increment.
Mill/Turn Rotary-Tool spindle 12,000rpm 18.5kW
9 Station Bottom Turret – 40No. Tool Magazine(Capto)
Travel X=580mm, X2 (Lower Turret)=150mm
Y=160mm, Z=1545mm, B=225°, C=360°
True **5-axis** contouring capability.
Spindle speeds 35 –5000rpm.

1 No. MAZAK INTEGREX 200 – IIIST SERIES
With MATRIX CONTROL
8" Twin Spindles "C" axis 0.0001° increment.
Mill/Turn Rotary-Tool spindle 12,000rpm 18.5kW
9 Station Bottom Turret – 40No. Tool Magazine(Capto)
Travel: X=580mm, X2 (Lower Turret)=150mm
Y=160mm, Z=1045mm, B=225°, C=360°
True **5-axis** contouring capability.
Spindle speeds 35 –5000rpm.

1 No. MAZAK QTN 350MY
MATRIX CONTROL, Chuck Dia 300MM.
Max Machining Dia = 420MM
Max Machining Length = 1538mm
Travel: X=260mm, Y=150MM, Z=1605mm, C= 360°
Main Spindle Speed: 3300rpm
Milling Spindle Speed: 4000rpm

1 No. MAZAK QTN 200MY
MATRIX CONTROL, Chuck Dia 200MM.
Max Machining Dia = 380MM
Max Machining Length = 538mm
Travel: X=230mm, Y=100mm, Z=575mm, C= 360°
Main Spindle Speed: 5000rpm
Milling Spindle Speed: 4500rpm

1 No. MAZAK INTEGREX 35 TURNING CENTRE with
INTEGRATED MILL CENTRE
Y-axis, T-Plus Control and Power Tooling (40 tool
capacity)
Maximum cutting diameter 575mm
Travel X=245mm Y=90mm Z=1545mm
C-axis=0.001' x 360,000 positions
Spindle speed 35 - 3000 rpm

1 No. MAZAK SUPER QUICK TURN 28MS with
INTEGRATED MILL CENTRE and SUB SPINDLE
Bar Feed
T-Plus Control and Power Tooling (12 tool capacity)
Maximum cutting diameter 410mm
Travel X=245mm Z=1545mm
Spindle Speed 35-3500 rpm
Sub Spindle Speed 35-3500 rpm

1 No. MAZAK SUPER QUICK TURN I8M with
INTEGRATED MILL CENTRE
T-Plus Control and Power Tooling (12 tool capacity)
Maximum cutting diameter 300mm
Travel X=180mm Z=590mm
Spindle Speed 180-4000rpm

CNC LATHES

1 No. MAZAK QUICK TURN SMART 200
Bar Feed/Parts Catcher
Maximum swing diameter 660mm
Maximum cutting diameter 212mm.
Maximum cutting length 538mm
Spindle Speed 0-5000 rpm

1 No. MAZAK QUICK TURN 20 LATHE with T PLUS
CONTROL
Bar Feed/Parts Catcher
Maximum swing diameter 400mm
Maximum cutting diameter 240mm.
Maximum cutting length 500mm
Spindle Speed 0-5000 rpm

1 No COLCHESTER COMBI-4000 LATHE
WITH CNC FANUC CONTROL
Swing over bed = 554mm. Swing in gap = 830mm
Distance between centres = 2000mm
Spindle speed 18 -1,800 rpm

1 No COLCHESTER COMBI-K2 LATHE
WITH CNC FANUC CONTROL
Swing over bed = 400mm. Swing in gap = 585mm
Distance between centres = 1270mm
Spindle speed 6 –2,500 rpm

1 No. XYZ VL 425 CNC LATHE
Swing over bed = 480mm
Swing over gap = 700mm
Distance between centres = 1250mm
Spindle speed = 25 – 2500 rpm

INSPECTION

1 No. GLOBAL CNC CORDINATE MEASURING
MACHINE
PC DMIS measuring software
Stroke X = 3300 y = 2000 Z = 1500
Measuring Accuracy = 4.7 + 3L/1000mm

1 No. HEXAGON GLOBAL SILVER ADVANTAGE
CNC CORDINATE MEASURING MACHINE
PC DMIS measuring software
Stroke X = 3000 y = 1200 Z = 1000
Measuring Accuracy = 2.7 + 3L/1000mm

1 No. HEXAGON S CHROME
CNC CORDINATE MEASURING MACHINE
PC DMIS measuring software
Scanning heads
Stroke X = 2000 y = 900 Z = 800
Measuring Accuracy = 1.3 + 3L/1000mm

2 No. HEXAGON S CHROME
CNC CORDINATE MEASURING MACHINE
PC DMIS measuring software
Stroke X = 1500 y = 900 Z = 800
Measuring Accuracy = 1.3 + 3L/1000mm

1 No. HEXAGON SCIROCCO
CNC CORDINATE MEASURING MACHINE
PC DMIS measuring software
Stroke X = 1500 y = 1000 Z = 860
Measuring Accuracy = 4.5 + 5L/1000mm

1 No. HEXAGON ABSOLUTE ARM
7AXIS MEASURING ARM
PC DMIS measuring software
Max Reach = 2980mm
Measuring Accuracy = 0.030mm

1 No. TESA MICRO-HITE 3D 474 Manual CMM
1 No. TESA MICRO-HITE 700
2 No. TESA MICRO-HITE 400
2 No. MICRO-HITE 600
1 No. OPTICAL PROJECTOR
2 No. ELECTRONIC SURFACE FINISH TESTERS

Full range of calibrated measuring equipment and gauges traceable to NAMAS standards

CNC ELECTRO-DISCHARGE MACHINERY

1 No. FANUC EDM WIRE CUT MACHINE
Automatic wire feed
Five axis movement with taper cut
Travel X=750mm Y=450mm Z=300mm
U=60mm V=60mm

CONVENTIONAL TURNING LATHES

4 No CONVENTIONAL LATHES
All with digital readouts
Max Swing 535mm Max Length 2000mm
Max Spindle Bore 90mm diameter

CONVENTIONAL MILLING MACHINES

5 No. CONVENTIONAL MILLERS
(All with digital readouts)
2 No. UNIVERSAL MILLERS
2 No. VERTICAL MILLERS
2 No. TURRET MILLERS
Max Longitudinal Travel 1500mm
Max Cross Travel 700mm
Max vertical travel 550mm

CONVENTIONAL GRINDING MACHINES

1 No. JONES AND SHIPMAN UNIVERSAL
CYLINDRICAL GRINDER
Max. Between Centres 450mm Max. Swing Diameter
200mm

3 No. JONES AND SHIPMAN SURFACE GRINDERS
Max. Table Movement X = 24" y = 8" Z = 11"

1 No. DEDTRU PRECISION CENTRELESS GRINDER
Capacity 100mm long x 95mm diameter

1 No. FROMAG CNC E32-425 KEYSEATING &
PROFILE MACHINE
Keyway Width = 2-32mm, Keyway Length = 425mm
Bore Size = 10-130mm

1 No. DELAPENA SPEED HONER
Capacity 0.045" diameter - 3.125" diameter

SAWING

1 NO. BEHINGER HORIZONTAL AUTOMATIC BAND
SAW
Automatic Bar Feed, Capacity 260mm diameter

1 No. JAESPA HORIZONTAL BANDSAW
Capacity 300mm diameter

2 No. STARTRITE VERTICAL BAND SAW
36" Throat Capacity

TREATMENTS

Chemical Processing

(Tank Sizes – 1500mm x 800mm x 800mm)

Tartaric Sulfuric Acid Anodising (TSA)
Thin Film Sulfuric Acid Anodising (TFSA)
Sulfuric Acid Anodising (SAA)
Surtec 650 - Conversion Coating
Alocrom 1200 – Conversion Coating
Zinc Plating
Zinc Nickel Plating
Passivation
Pre-PFD Etch

Non Chemical Processing

De-embrittlement
Stress Relief
Dry Abrasive Blasting
Plastic Bead Blasting
Part marking

Painting

Dry film lubrication
Anti-Fret coating
PTFE coating
Undercoat and Top Coat painting
Fuel tank coating

Non-destructive Testing (NDT)

Penetrant Fluorescent Detection (PFD)
Magnetic Flaw Detection (MFD)
Hardness Testing
Electrical Conductivity

Laboratory

Salt Spray Corrosion Testing
Coating Thickness Testing
Titration apparatus including auto-titrator and full range of
chemical analysis testing equipment
Abrasive Testing
Paint adhesion testing
XRF (X-Ray Fluorescence) analyser