Jaivel Aerospace

Capabilities & Capacity

JAIVEL™
aerospace





Customer Approvals

Rolls-Royce plc

The Boeing Company

Locations	United Kingdom & India
Quality Certification	AS9100 Rev D
Operation Space	56000 Sq. Ft.
Team Size	92
Project Management	7200 hrs
Software & Data Science	10100 hrs
Control & Automation	12200 hrs
Design	46700 hrs
Manufacturing Engineering	28400 hrs
Machining	60200 hrs
Machining (Supply chain)	156600 hrs
Welding & Fabrication	24400 hrs
Assembly	24400 hrs
Inspection & Quality	38500 hrs
Max Machining Size	03 m ~09' 10"
Assembled Product Size	20 m ~65' 07'

* Capacity in Annual Hours

AS9100 RevD
FS 558372

003

AS9100 RevD
951 20 5089

INDUSTRIES

Aerospace

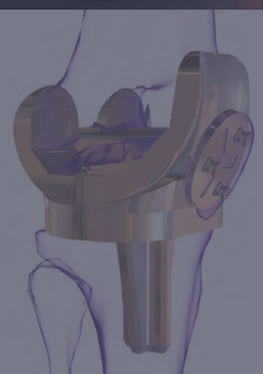
Satellite



Automotive



Motorsports



Medical

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Business Verticals

Intelligent Manufacturing Process

We apply innovation in manufacturing processes to unlock the true value potential of your organisation’s resources, helping you to substantially reduce spend and gain competitive advantage.

- Manufacturing Strategy
- Systems & Process Design
- Manufacturing Engineering
- Machine & Process Simulation
- Shopfloor Roll-out & Training
- Year on Year Improvements

Smart Jigs, Fixtures & Tooling

Redefining manufacturing operation performance through the application of innovation & technology to make tooling SMART.

- Fun to Use: User Interface
- Fresh Design Thinking
- Co-Create Concepts
- Detail Engineering & Analysis
- Quality Workmanship
- Installation & Training

Best Cost Manufacturing

Our manufacturing process expertise and tooling capabilities enable our India based Manufacturing Business to deliver exceptional value to our global clients. Inspire One, our manufacturing facility is designed on lean and Industry 4.0 principles.

- Program Planning & Mgmt.
- New Product Introduction
- Part Production
- Assembly and Kitting
- International Delivery
- Annual Cost Improvement

BUSINESS VERTICALS

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Quality Management System

We conceptualised our approach to quality in 1999. Being early adaptors of digital technology in business processes. Today, our paperless quality management system is co-created by every team member and it continues to evolve in real-time as we integrate technology and set ambitious goals for ourselves.

AS9100 & Customer Standards

We aligned our quality management system to AS9100 aerospace quality standards in 2008, we continue to pass audits with flying colours from certification agencies and customers. Over time, we have also incorporated SABRe from Rolls-Royce and DPD/MBD & Special Tooling standards from The Boeing Company in to our quality management system.

Business Continuity & Information Security

Our customers trust us to deliver solutions for their mission critical projects and we take this responsibility with highest preparedness. Having implemented robust information security infrastructure, we protect all information to ensure business continuity and confidentiality of respective intellectual properties.

Our multi layer information security infrastructure & processes are continually upgraded to ensure full compliance of statutory and export control regulations applicable.

Lean Enterprise

We go to great lengths to simplify complexity. Our people, systems & process embody the principles of LEAN thinking. Every member of Jaivel team contributes to improve and develop new ideas and create value for our customers.

- APQP Advanced Product Quality Planning
- TQM Total Quality Management
- 5S Visual Workspace
- 8D Problem solving
- 5 Whys Root Cause Analysis & CAPA
- FMEA Failure Mode Effect Analysis
- PY Poka Yoke Product & Process

Business Software

Software	Licenses
Epicor - Enterprise Resource Planning (ERP)	13
Epicor - Manufacturing Execution System (MES)	30
Solidworks Enterprise PDM	24
Microsoft 365	92
Microsoft Projects	3
Kesar - Performance Management System (PMS)	Jaivel Proprietary











Business System

Business management systems are designed to deliver speed in every aspect of our operations. We have selected best in class software and our team has explored it's depths to harness its true power, enabling our team leaders to make data driven decisions.

Quality Management System

Based on AS9100 standard, our paperless quality management system is built on ERP and PDM software. QMS also fully integrates with respective customer standards & enables seamless compliance of multiple standards and specifications.

Integrated Compliance

Right from first release, our business and quality management systems are designed based on our Integrated Compliance principles. This approach ensures that the QMS process and procedures enable value creation for customers. Always being ready for internal or external audits is a nice by-product of our approach.

Design Software

CAD / CAE Software	Licenses	Designers	Capacity Annual Hours
Solidworks	8	8	16272
Solidworks Simulation	1	1	2034
Siemens NX	6	5	10170
CATIA	2	1	2034
Autocad	2	4	8136
Autodesk Inventor	2	4	8136
Total	**21**	**23**	**46782**



Fresh Design Thinking

Design defines more than form and function: it defines an experience. Our approach to design starts from the exploration of fresh possibilities and considering every minute detail and then building intuitive functionality. We give a balanced focus on using human intelligence and automation to build the right product.

User Experience: Fun to Use

Experience of interacting with machines, tools and information used to make products matters the most in the manufacturing process. We weave the principles of ergonomics into technology to achieve an interface that is intuitive and fun to the user.

Design Standards

Our designers are proficient in working with a wide range of design standards of industries like Aerospace, Medical, Automotive and Space.

While we go to great lengths to deliver new design ideas, the design assets that we produce in software like CATIA or Siemens NX fully integrates with customer’s design practices and their PLM or PDM systems.

Manufacturing Software

CAM Software	Licenses	Engineers	Capacity Annual Hours
Solidworks	4	4	8136
PowerMill	7	5	10170
FeatureCAM	1	0	0
Siemens NX	4	2	4068
CATIA	1	1	2034
TopSolid	3	0	0
Vericut	4	2	4068
IMS	1	0	0
Total	**25**	**14**	**28476**



Manufacturing Engineering

As part of our Process business, we provide manufacturing engineering as a service to leading aerospace manufacturing companies around the world. We specialise in selection of best method of manufacturing for the parts based on their design intent, complexity, material and key characteristics. We apply this knowledge to all parts that we make in house or in our supply chain.

Digital Factory

We started our Digital Factory initiative in 2011, refined over the years, today Factory layout, Machine Kinematic 3D Models, Cutting tool database & digital definition of fixtures & every small detail are part of our digital factory model. This unique initiative gives us the edge in exceeding our customers' expectation in cost, quality and lead-time.

Simulation: Right First Time

We utilise various simulation solutions including Vericut from CGTech to simulate manufacturing process as well as CNC programs. This ensures that most improvements and finetuning is done in a digital environment without disruption to production schedules.

Machining

Make	Model	QTY	Capability	Size mm	Capacity
Jyoti	850 NVU	2	5-Axis	850 x 510 x 510	12048
Jyoti	850 NVU	2	3-Axis	850 x 510 x 510	12048
Jyoti	VMC 850DM	1	3-Axis	850 x 510 x 510	6024
Jyoti	TMC 600	1	Turn Mill	500 x 650	6024
Haas	VF 4	1	4-Axis	1270 x 510 x 510	6024
DMG	DMC 63V	1	3-Axis	630 x 500 x 500	6024
Cincinnati	CFV 550i	1	3-Axis	550 x 510 x 510	6024
Electronica	EZNC	1	EDM	600 x 400 x 400	6024
Total		**10**			**60240**

* Capacity in Annual Hours



Machining Ecosystem

One of the key advantages of manufacturing in India is its vibrant supply-chain ecosystem. Small but very capable machining subcontractors present tremendous opportunity to significantly reduce the cost of machined parts.

Integrator Approach

We proactively engage our machining supply-chain, while utilising our in-house machines for critical parts as well as fail safe capacity. This approach ensures that our customers get full cost benefit of manufacturing in India with dependable quality and delivery.

Supply-chain Capacity

Make	Model	QTY	Capability	Size mm	Capacity
Jyoti	Jyoti 3222	2	3-Axis	3000 x 2000 x 800	12048
Jyoti	Jyoti 2215	1	3-Axis	2000 x 1400 x 800	6024
Jyoti	VMC 1260	6	3-Axis	1250 x 600 x 600	36144
Jyoti	VMC 850	8	3-Axis	850 x 510 x 510	48192
Brenton	Matrix 2T	1	5-Axis	2000 x 1500 x 1000	6024
Haas	VF7	2	3-Axis	2134 x 834 x 762	12048
HNK	VTC 40/50	1	CNC VTL	Dia 5000 x 2500	6024
Haas	TL 3	2	CNC T	Dia 508 x 1524	12048
BFW	BMV 65	3	3-Axis	1500 x 700 x 650	18072
Total		**26**			**156624**

* Capacity in Annual Hours

Heat Treatment

- Normalising
- Annealing
- Hardening
- Tempering
- Solution Treatment
- Precipitation Hardening
- Case Hardening
- Vacuum Heat Treatment
- Gas Carburising
- Gas Nitriding
- Induction Hardening
- Stress Relieving

Surface Treatment

- Anodising
- Passivation
- Black Oxide
- Phosphate Coating
- Silver Plating
- Cadmium Plating
- Chrome Plating
- Silver Plating

Material & Non Destructive Testing

- Tensile Testing
- Impact Testing
- Hardness Testing
- Metallography
- Ultrasonic Testing
- Radiographic Testing
- Ultrasonic Testing
- Magnetic Partial Testing

Special Processes

Our materials engineering team is qualified and experienced with best practices & NADCAP standards applied in special processes. The expertise includes designing of detail process steps and quality process to ensure full compliance to applicable standards and requirements.

Supply Chain

We have stablished and NADCAP accredited supplies supporting a wide range of Heat & Surface treatment, coating, painting and chemical machining process.

SPECIAL PROCESSES

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Welding

- MIG/Mag Welding
- TIG Welding
- ARC Welding
- Resistance Welding
- Steel & Aluminium
- AWSD1.1 Certification
- QW-301 ASME Sec IX
- EN 15085-2
- EN ISO 3834-2
- Upto 3.0 mt. (~10 ft)

Fabrication

- Laser Cutting
- Oxy Fuel cutting
- Punching
- Tube Banding
- Shearing
- Grinding
- Rolling
- Drilling
- Milling
- Turning

WELDING & FABRICATION

Welding & Fabrication

Our team of welding engineers and AWS-CWI certified professionals manage and support our supply chain. We design all of our WPS internally and work with our suppliers to ensure full compliance to applicable standards and requirements.

Supply Chain

We have established a welding and fabrication supply chain possessing a broad range of capabilities and certifications.

Assembly

WorkStation	QTY	Size mm	Capacity
Small Assembly	4	500 x 400 x 400	16272
Medium Assembly	1	1500 x 1000 x 600	4068
Large Assembly	1	21000 x 8000 x 4000	4068
Total	**6**		**24408**

* Capacity in Annual Hours



Assembly

Assembly for us could mean fitting of bushes to your parts to highly complex product consisting of a few thousand parts or manufacturing system. The largest assembly we have done is of 20 m (~65’ 7”) length having 2500 components and 11 modules, calibrated to 0.100 mm (4 thou) accuracy level. For high precision requirements, we build our assemblies in a temperature controlled environment ensuring best in class dimension stability.

Expertise

Annually, we supply 600+ complex fully assembled manufacturing systems around the world. We have experience in managing large and complex assembly projects, ensuring correct tolerance stack-ups whilst achieving functional design intents of the system. All of the assemblies are fully calibrated using CMM machines or Leica AT 402 Laser tracking system.

Kitting

We also provide pre-assembled and fully kitted parts ready for customers’ assembly lines or maintenance, repair and overhaul (MRO) operations.

Inspection

Make & Model	QTY	Specification	Capacity
PC-DIMS	2	CMM Programming	8136
Hexagon Global Series	1	5-Axis 1500 x 900 x 900	6024
SpatialAnalyzer	1	LT Programming	2034
Leica AT 402	1	LT '100 mt Sphere	6024
Inspection Work Centres	4	Manual	16272
Total	**9**		**38490**

* Capacity in Annual Hours



Inspection

We approach dimension inspection in three stages, first stage is in-process inspection, where machine operators measure important dimensions on machine to ensure that the part is meeting required quality parameters as it passes through various stages. Once part is finished, it is fully inspected for dimensional and other characteristics. And final inspection is carried at sub assembly or final assembly stage as required.

Form, Fit & Function

Apart from ensuring dimensional precision, our quality team rigorously check form, fit and function against design intent and customer specifications. Cycling through finetuning iterations to get every fine detail just perfect. Our aim is to delight our real customer—your operator of our product.

Knowledge & Experience

Our metrologist specialises in industries standard GD&T practices and ASME 14.3. We utilise PCDIMS and SpatialAnalyzer offline programming software to maximise productivity of our Leica AT402 laser tracker and Hexagon Performance 1500 x 900 CMM. Our automated inspection system is supported by wide range of dimension inspection instruments.

Packaging & Dispatch

Every packaging is custom designed to ensure safe arrival of our products to your facility. While designing a packaging we study regulatory requirements of transit as well as final destination country in terms of type of material, fumigation & weight regulations. Every delivery includes below documents as standard.

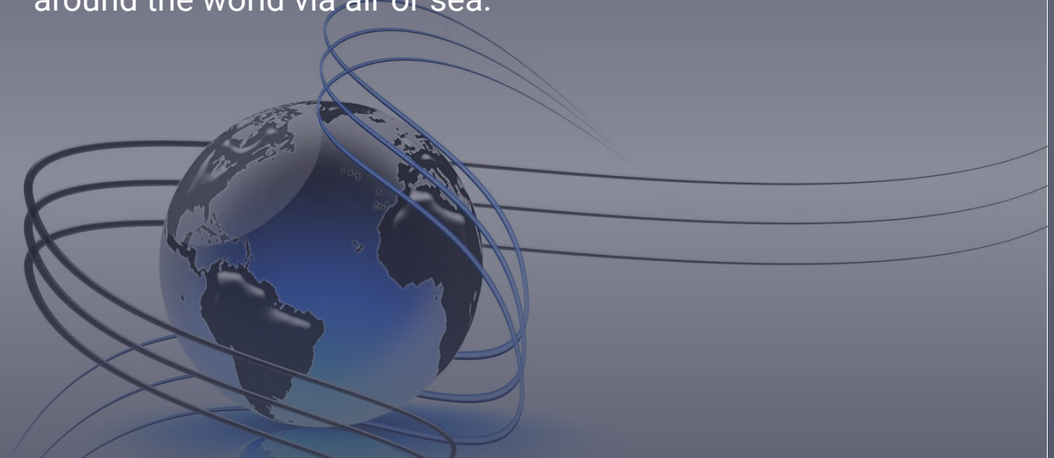
- Dimension Inspection Report
- Functional Test Report
- Standard Operating Procedure

Of course we are happy to provide additional documentation as per customer specific requirements.



Global Logistics: Air & Sea

We have partnered with global logistics solutions providers and airlines; DHL, FedEx, Emirates, Air-India & Gefco, to provide reliable and traceable delivery of our products around the world via air or sea.



Custom Clearance

With more than two decades of experience in delivering our products around the world, we understand importance of detailed and perfect customs and shipping documentation. Our logistics team work with customers to ensure that every regulatory detail is covered before dispatch for a reliable smooth transit of shipment via air or sea to the destination.

Door Delivery Option

If you prefer to receive our products directly to your facility (DDP), our logistics partners manage customs clearance as well as inland transportation, alternatively we also support CIF shipment to port of your choice.

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This documentation contains forward-looking statements, including our business strategy, plans, development activities and its outcomes, objectives of management, anticipated launch dates as well as resources projections, skills & knowledge of resources.

These forward-looking statements are not guarantees or prediction of future performance, these involve known and unknown risks, uncertainties and other geo-political factors, which are beyond our controls and may alter the outcomes. Readers are cautioned not to put undue reliance on forward-looking statements.

Further Information

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