



The Challenge

Procurement teams often face delays, quality issues and poor communication from CNC suppliers.



Missed Deadlines



Inconsistent Quality



Unclear Updates

When suppliers fail to deliver on time, projects stall and costs rise. Deadlines are critical, and late parts cause ripple effects across your operations, damaging both efficiency and trust.

A part that doesn't meet spec is more than an inconvenience, it's wasted time and money. Every delivery should be right the first time.

Without clear communication, you're left chasing answers instead of focusing on the job at hand. Visibility matters just as much as precision. Uncertainty adds risk where clarity should bring confidence.

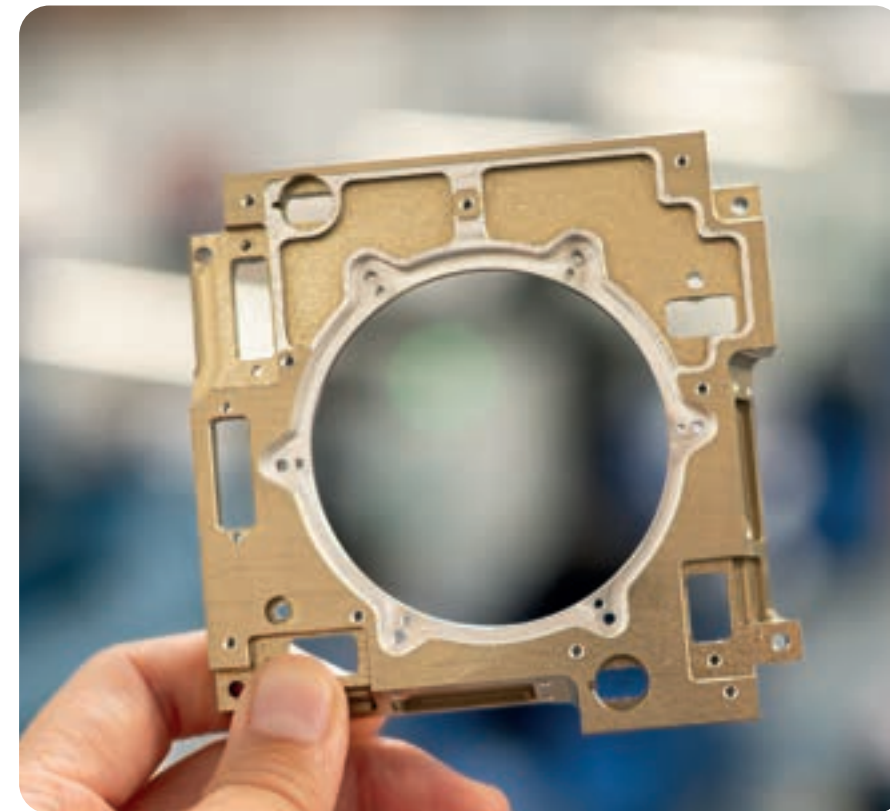
80% of CNC part issues come from parts **not meeting precise measurements.** *(IEOM Conference, 2023)*

Our Solution

Choose a machining partner who prioritises **your deadlines, your standards, and your peace of mind.**

When you work with Penta, you gain a supplier who understands the pressures you face.

We help you avoid costly delays and quality issues by resolving potential problems before production begins and keeping you informed every step of the way. Our modern CNC technology, rigorous inspection processes, and ISO 9001-certified systems ensure consistent quality and precise parts you can rely on.



The Penta Proven Process

The Penta Proven Process is the backbone of our quality. It's a step-by-step system that governs how we estimate, prepare, manufacture, and inspect every part. It removes guesswork, reduces variation, and ensures we're always working to the highest standard, no matter the job.

Understanding Your Needs

Once you get in touch with your enquiry, we'll arrange a call to understand your requirements and technical needs. You'll learn more about our capabilities and how we can best support you.

1

Unique Preparation Process

After placing your order, we carefully review the specifications and plan materials, tooling and resources upfront. Where helpful, we suggest design improvements to enhance manufacturability, maintain consistency and avoid delays.

2

Quoting with Care

Our experienced engineers gather technical information, offer design for manufacture suggestions if needed, and prepare a quote with transparent pricing and realistic lead times.

3

Tailored Packing & Delivery

Your order is carefully packed and dispatched to your requirements. We provide full documentation for traceability and offer flexible delivery options, including stock holding, call-off, and Kanban services.

5

Production

We turn plans into precise parts, maintaining quality and consistency across every production run. Our skilled team and modern CNC machinery ensure reliable results for both simple and complex parts.

4

Quality Assurance

Quality is not a single step. It's a continuous process that shapes everything we do.

From the moment we review your initial enquiry to the day your order leaves our facility, quality underpins every part of the Penta Proven Process.

This multi-layered approach ensures precision, consistency, traceability, and peace of mind, giving you the confidence that every part we produce meets your standards.

CNC Machining Service

We offer a comprehensive range of CNC machining services, delivering precision-engineered components to meet diverse industry needs.

Tell us the service you need, the material you want machined, and any finishing requirements, and we will manage the [complete manufacturing of your part from start to finish](#).

1. Services

- CNC Milling
- CNC Turning
- Design for Manufacture
- Prototype Machining
- Assembly
- Part Marking
- Finishing

2. Materials*

- Aluminium
- Engineering Plastics
- Stainless Steel
- Carbon Steel & Tool Steel
- Titanium
- Brass, Bronze, Copper, and other yellow metals



3. Finishes*

- Bead Blasting
- Brushing
- Anodising
- Extensive Plating Solutions
- Polishing
- Powder Coating
- Ultrasonic cleaning

*Don't see your preferred material or finish? Contact us to discuss your specific requirements.

Milling

Our advanced 3, 4, and 5-axis milling machines, combined with 24/7 automation, ensures flexibility to produce precise, consistent results at every stage.

We support you at every step, combining Design for Manufacture advice, precision milling with thermal compensation, and rigorous inspection to create parts that meet your exact specifications.

Turning

Our range of turning machines are engineered for consistency, repeatability, and reliability, providing the ideal tools for your turned parts.

From prototypes to production, our turning service delivers reliable, high-quality turned components with care and accuracy.



Matsuura MAM 72-35V

Milling max size:
Ø350 mm x 300 mm height
X travel = 550 mm
Y travel = 440 mm
Z travel = 580 mm

32 pallets, 240 cutting tools
24/7 machining capability



Doosan Machines

Maximum envelope size*:
X travel = 1000 mm
Y travel = 500 mm
Z travel = 400 mm
*Depending on material and part specification

With added 4-axis machining capabilities



Bridgeport Machines

Maximum envelope size*:
X travel = 1000 mm
Y travel = 600 mm
Z travel = 450 mm
*Depending on material and part specification

With added 4-axis machining capabilities



Mazak Quick Turn

Turning max size:
Chuck size: 8"
Max diameter: Ø380 mm
Max length: 350 mm

Tailstock
Live tooling capabilities for milled features



CMZ Lathes

Turning max size:
Chuck size: 10"
Max diameter: Ø350 mm
Max length: 580 mm

Subspindle
Bar feeder for 24/7 run time
Live tooling for milled features



Doosan Puma

Turning max size:
Chuck size: 10"
Max diameter: Ø376 mm
Max length: 700 mm

Sub spindle
Bar feeder for 24/7 run time
Live tooling for milled features

CNC Tolerances

	Range Achievable	Notes
Milling	$> \pm 0.01$ mm	Dependent on part geometry, material, and setup. 5-axis offers tighter tolerances and better repeatability.
Turning	$> \pm 0.01$ mm	High-precision turning across billet and bar work, supported by modern multi-axis machines.
Geometric Tolerances	$> \pm 0.010$ mm	Depending on material, finishes, and the geometry of the part.
CMM Measurement	Verification to ± 0.002 mm	Achieved using our CNC CMM with $2.3\mu\text{m}$ volumetric accuracy and temperature compensation.



Erjon
Procurement, Surveillance Component

Everything about our experience with Penta has been perfect.
From the precision of their machines to their outstanding customer service, they've exceeded all expectations.

Quality Department

With advanced metrology and rigorous inspection protocols, we guarantee the accuracy, consistency, and performance your components demand.

Our temperature-controlled Quality department is equipped with advanced tools for precise checks on complex parts. Our precision microscopes help us detect surface flaws that could affect performance or appearance. All inspection equipment is externally calibrated by a UKAS-accredited provider. After achieving **99.5% quality performance over two consecutive years**, we secured and have maintained ship-to-stock status with a major aerospace customer for over 12 years.



Digital Vernier Caliper



CNC CMM



Baty Shadowgraph

2025 by the numbers

In 2024, we tracked the speed and accuracy of our first-off inspections to measure their impact on delivery. These checks verify that a part meets spec before full production. Fast approvals and high first-time pass rates reduce delays, rework and waste.

Take a look at our numbers to see the results!

2862
first-offs submitted from the shop floor.

41 minutes
Average first-off inspection time.

93.4%
of first-offs were right first time.

99.3%
of parts correctly machined to spec.

Why choose Penta

“ **Veronika**

Supply Chain Analyst, Biotechnology Research

Penta has been a good manufacturing partner to us over the last 12 months. The team is very responsive to our queries, strives to deliver high quality products on time and aligns with our demand variability.

“ **Agnieszka**

Assistant Buyer, Electronics OEM

I would highly recommend Penta Precision in whole, not only the product quality is consistently outstanding and the pricing competitive, but also the service is excellent.

“ **Adrian**

Purchasing, Medical

Penta Precision offers a highly professional, competitive and above all quality service. As one of our approved suppliers, we look forward to continuing to benefit from the close and ever-improving relationship.





**We're on a mission to become
the engineering company where
everyone wants to work and who
everyone wants to buy from.**

Use the QR
code to watch a
video about us.



About Us

Trusted for high-precision machined components since 1998.

At Penta Precision, we believe that the smallest details make the biggest difference. As an ISO 9001 accredited company, we've built our reputation on delivering high-tolerance, complex machined components with unwavering precision and reliability. Our commitment to excellence isn't just about the parts we produce—it's about the partnerships we forge.



Experts with passion

Our team of in-house specialists bring unparalleled expertise, care, and personalised support to every project. We don't just deliver parts; we work hard to bring reliable innovative ideas to ensure your success.



Exceptional quality, every time

Our commitment to quality drives everything we do. Our thorough in-house proven process ensures we deliver high-performing, precision-engineered components that help your business succeed.



Building effortless partnerships

We work with you at every stage, offering design for manufacture support, bespoke solutions, and opportunities for improvement to ensure your goals are achieved, and you feel confident in your delivery.



Mark Walker
Managing Director

Oversees business direction and ensures we deliver on our promises to customers and staff.



Andy Vick
Head of Manufacturing and Quality

Leads production and inspection, ensuring every part meets spec and is delivered with care.



Sam Brown
Head of Sales and Marketing

Drives customer relationships and marketing efforts to support long-term growth.



Ann Raybould
Head of Finance and HR

Manages finance and HR functions to keep the business and team running smoothly.

Meet the Team

Behind every precision-engineered part is a team of real people, based here in the UK, who care about the work they do. At Penta, we believe trust is built through consistent delivery, clear communication and genuine accountability, forming the foundations of lasting partnerships.

Our leadership team fosters a culture of care, discipline and continuous improvement, ensuring customers receive quality components and the reassurance that comes from working with people who take pride in doing things properly.

When you know the people behind the work, you can have complete confidence in the results.



Get in Touch

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Experts with Passion
Exceptional Quality, Every Time
Building Effortless Partnerships

