STOP PAYING FOR TOOLS.

START INVESTING IN OUTPUT.

Steel Tool Optimisation for High-Volume Manufacturers

A 10% improvement in tool life can generate greater operational savings than a 10% reduction in tool price.

Most manufacturers focus on the purchase price of tooling. Yet in high-volume production environments, the true cost of tooling lies far beyond the invoice. Unplanned downtime, premature failures, inconsistent output and excessive changeovers collectively erode profitability in ways that purchase price alone can never reflect.

Major Industries works with manufacturers to address this directly; reducing total cost per component through precision engineering, metallurgical expertise and application-specific tooling optimisation.

The Hidden Cost Of Tooling Decisions

For technical engineers and procurement teams operating under cost reduction mandates, the focus on tooling price is understandable. However, this approach consistently underestimates the full operational impact of tooling performance, and the real cost often lies elsewhere.

Typical Approach	Optimised Approach
Lowest purchase price	Engineered for your application
Frequent premature failures	Extended, predictable tool life
High unplanned downtime	Stable, continuous production
Inconsistent component quality	Consistent dimensional accuracy
Elevated scrap rates	Reduced scrap and rework
Frequent tool changes	Optimised changeover intervals
Reactive maintenance cycles	Proactive performance management

Where The Real Cost Lies

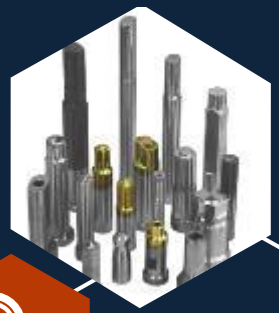
When purchasing high volumes of high-speed steel cold forming tooling, even marginal inefficiencies accumulate into significant operational cost. The breakdown of hidden cost typically follows a predictable pattern:

30-60%	**2-4×**	**15-25%**	**~40%**
of tooling cost can be hidden in downtime	cost multiplier when failures are unplanned	output lost to inconsistent performance	of changeovers are non-value adding

Note: Figures are indicative benchmarks based on common high-volume cold forming production environments.

The real cost of tooling is not what you pay for it, it's what it costs you in lost production.

In many cases, relatively small tooling or process refinements can generate measurable improvements in uptime, consistency, and cost per component.



How Major Industries Ltd Reduces Your Total Cost

We specialise in helping cold formers unlock greater value from their high-speed steel tooling.

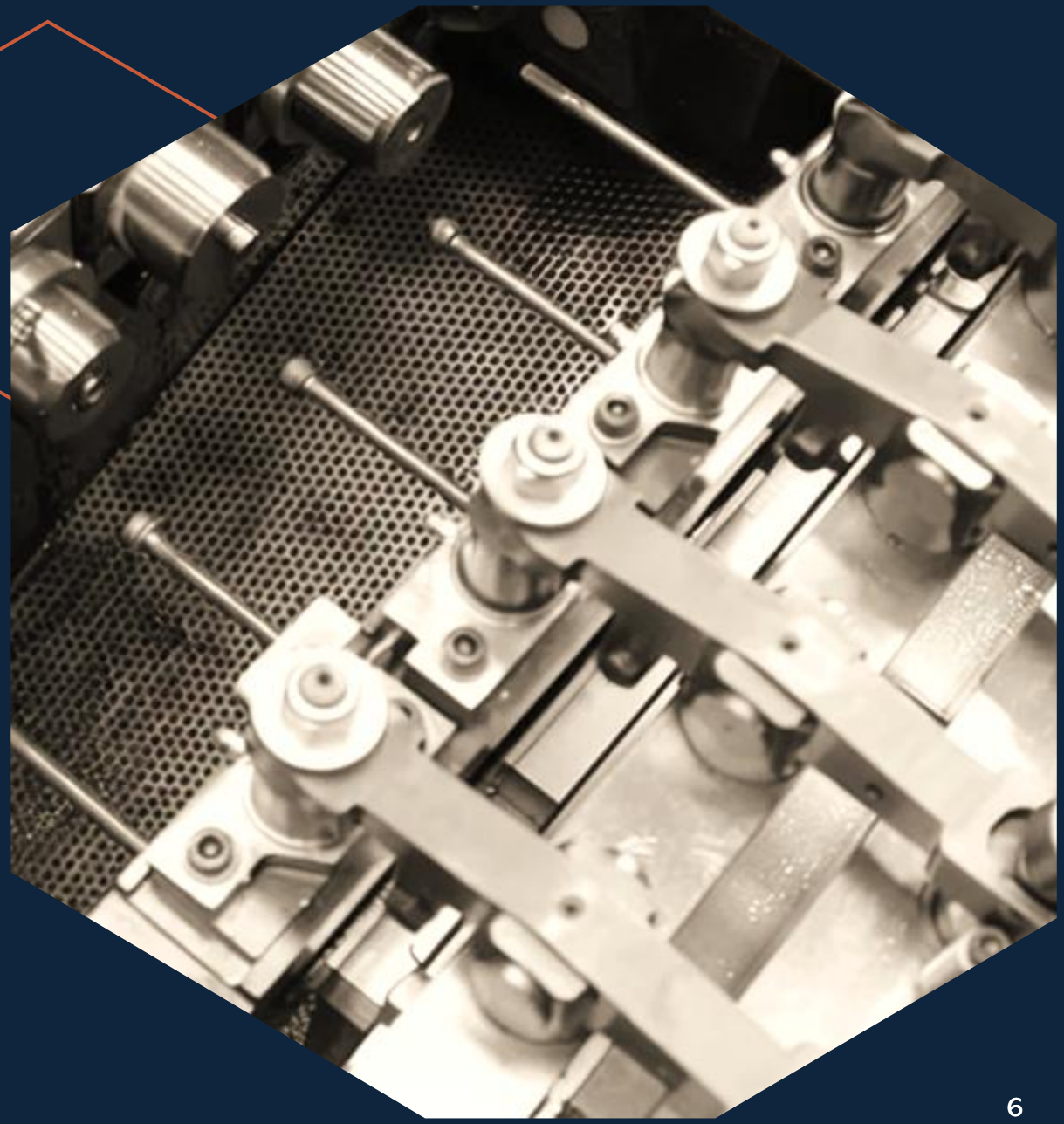
Combining metallurgical expertise with application engineering, we take a systems-based approach to tooling performance - recognising that optimum results come from the interaction between tooling design, material properties, coatings, heat treatment, and the operating environment.

Through geometry refinement, advanced surface engineering, and technical support, we help manufacturers increase tool life, improve process stability, reduce downtime, and lower the true cost of production.

- ✓ **Application-specific profile optimisation to reduce forces and extend edge life**
- ✓ **Selection of surface treatments matched to your workpiece material and forming conditions**
- ✓ **Heat treatment optimisation to balance hardness, toughness and fatigue resistance**
- ✓ **Failure analysis and root cause investigation for recurring breakage or wear issues**
- ✓ **Material consistency assurance through controlled supply chain and incoming inspection**

We do not only offer theoretical recommendations.

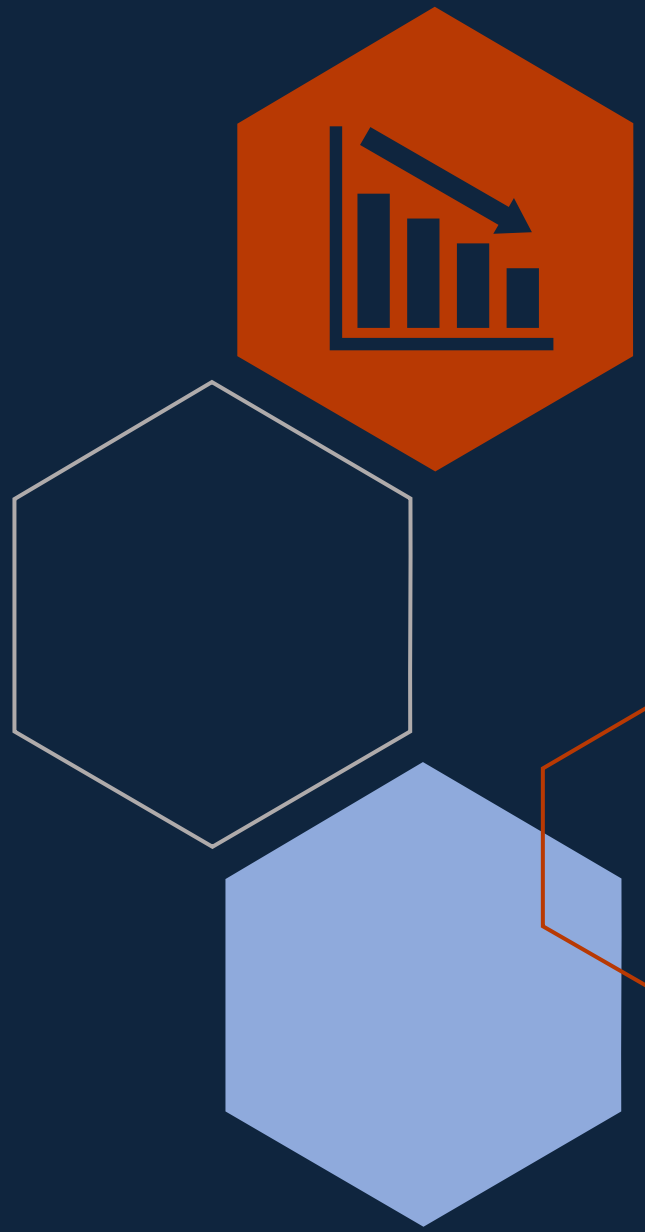
We validate performance in your production environment under identical conditions.



What This Means For Your Operations

The combined effect of these improvements is measurable across the metrics that matter most to engineers and procurement managers alike:

We Help Reduce	We Help Improve
Machine downtime	Output per shift / production run
Tool change frequency	Process stability and repeatability
Scrap and inconsistency	Tool lifespan and predictability
Operator intervention	Cost-per-part performance
Reactive maintenance cost	Supplier reliability



The Strategic Case For HSS Tooling Optimisation

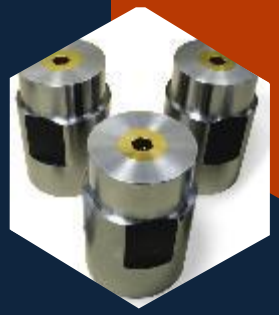
The global tooling landscape has shifted materially in recent years. Sustained pressure on raw material prices, supply chain volatility and increasing energy costs have elevated the importance of tooling efficiency as a lever for cost control. For manufacturers relying on high-volume cold forming, the strategic implications are significant.

Optimised high-speed steel tooling represents a viable, performance-validated alternative for many cold forming applications. Where HSS tooling is already in use, performance optimisation offers a route to improved cost-per-part without the capital exposure of a material switch.

Performance Over Price:
A Procurement Perspective

For procurement professionals, the decision framework for tooling is changing. Regulatory and internal pressure to demonstrate total cost of ownership rather than unit cost savings is reshaping how tooling is evaluated. The key shift is from cost-per-tool to cost-per-part as the primary performance metric.

Traditional Procurement Metric	Performance-Based Metric
Unit price	Cost per component produced
Price per batch	Changeover cost per production run
Supplier lead time	Uptime contribution
Invoice value	Total operational impact



Why Leading Cold Formers Choose To Trial With Us

Technical engineers require more than a commercial argument. They require evidence. Our **Performance Validation Trial** is designed precisely to provide that, a structured, measurable comparison under real production conditions with no disruption to existing processes.

- ✓ No production disruption - your existing process continues unchanged
- ✓ Identical operating conditions for both tooling solutions
- ✓ Measurable data collected across all key operational metrics
- ✓ No obligation - the trial result determines the next step
- ✓ Full performance comparison report issued on completion

Engineer performance. Reduce cost. Increase output.

Performance Validation Trial

The **Performance Validation Trial** forms the cornerstone of our customer engagement approach. Rather than relying on specification sheets, theoretical calculations, or sales claims, we demonstrate performance where it matters most, within your own production environment.

By running our recommended tooling solution alongside your existing specification, you can directly measure the impact on tool life, process stability, productivity, and overall manufacturing costs. This provides objective, real-world evidence of performance, enabling informed decisions based on proven results rather than assumptions.

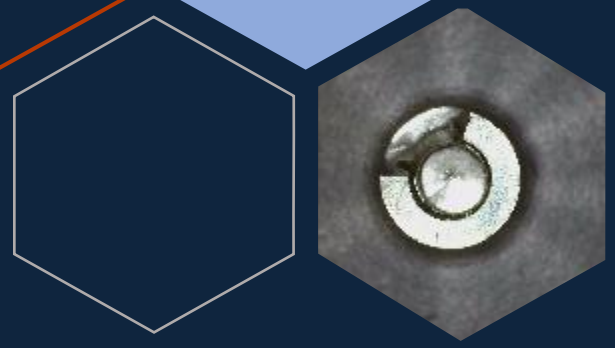
What The Trial Involves

Major Industries tooling, incorporating tailored specification enhancements and application-specific recommendations, is run alongside your current tooling under identical operating conditions.

With no disruption to production or changes to your existing processes, both solutions are evaluated concurrently while performance data is captured and analysed throughout. The result is an objective, evidence-based comparison that quantifies the impact on tool life, productivity, process stability, and manufacturing costs.

Metrics Tracked Across Both Tools

- ✓ **Tool life:** units or cycles to end of useful life
- ✓ **Machine uptime:** productive hours versus downtime events
- ✓ **Output per shift:** components produced under standard conditions
- ✓ **Changeover frequency:** intervals and duration of tool changes
- ✓ **Scrap and inconsistency rates:** dimensional rejects and quality failures
- ✓ **Estimated cost-per-part impact:** derived from measured performance data



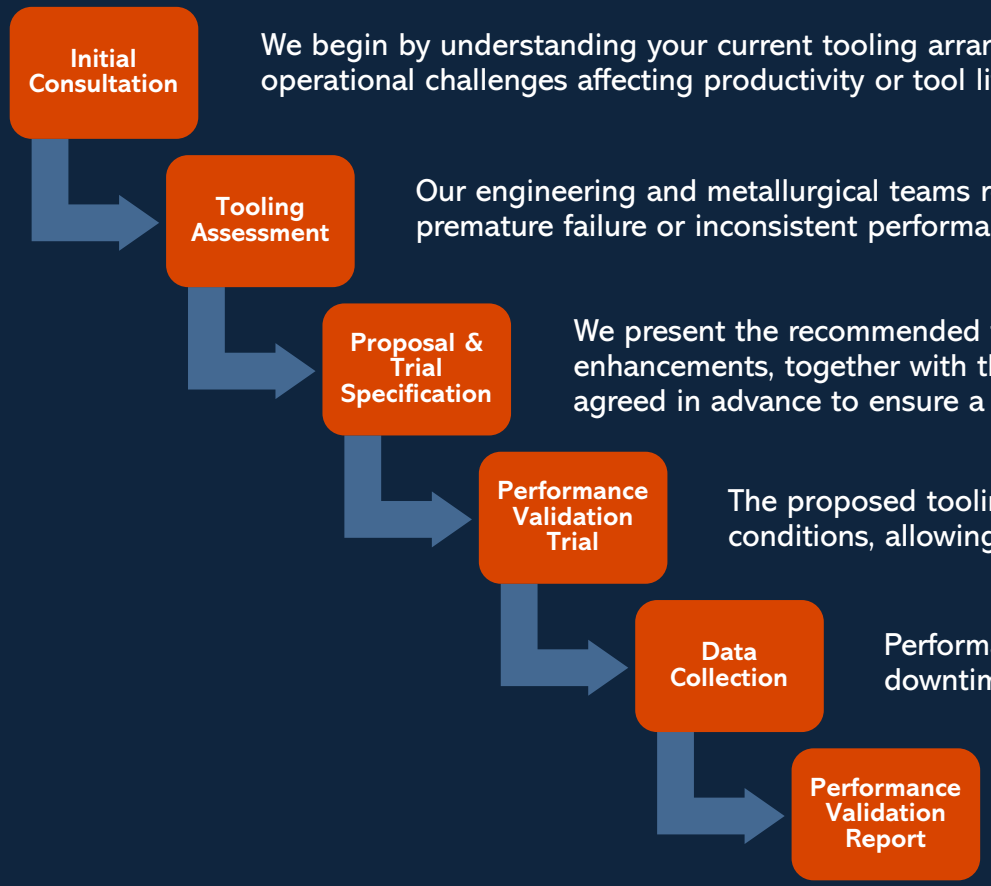
Who Is The Trial For

The **Performance Validation Trial** is most relevant to manufacturers who meet one or more of the following criteria:

- High-volume cold forming operations using HSS tooling at scale
- Current experience of premature tool failure, inconsistency or excessive downtime
- Procurement teams seeking to move from unit-cost to total-cost evaluation
- Engineering teams under pressure to improve cost-per-part performance
- Operations facing elevated production and tooling costs
- Manufacturers with repeat, high-usage tooling applications where optimisation delivers compounding benefit

6 Easy Steps To Get Started

Engaging with the **Performance Validation Trial** requires no long-term commitment beyond agreeing the trial objectives and conditions. The process is straightforward, transparent, and designed to minimise risk while providing measurable results.



We begin by understanding your current tooling arrangement, production environment, performance expectations, and any operational challenges affecting productivity or tool life.

Our engineering and metallurgical teams review the component, tooling application, wear behaviour, and likely causes of premature failure or inconsistent performance. From this, we develop a tailored tooling proposal.

We present the recommended tooling specification, including any geometry, material, coating, or heat treatment enhancements, together with the associated tooling investment. Performance objectives and measurement criteria are agreed in advance to ensure a fair and objective evaluation.

The proposed tooling solution is run alongside your existing specification under identical production conditions, allowing direct comparison without disrupting production schedules or existing processes.

Performance data is gathered throughout the trial, including tool life, production output, downtime, process stability, and operational observations.

This provides a clear assessment of the return on investment and the true value of the proposed tooling solution.

PVT Success Stories

1 Punch Insert

Problem Encountered
- Premature wearing of detail on the face of the insert
- Output 18-20k

Proposal & Solution
- Steel upgrade from S2 to MIL60R
- 4% price increase per unit

Result
- **Output increased to 150k**
- **Output multiplied by 7.5x**
- **The customer reduced annual expenditure for the punch insert by 85%**
- **Incumbent supply: 348% more expensive**

2 Finishing Punch

Problem Encountered
- Deformation of embossed detail on punch face
- Output 20k

Proposal & Solution
- Steel upgrade from BM2 to MIL60R
- 30% price increase per unit

Result
- **Output increased to 90k**
- **Output multiplied by 4.5x**
- **The customer reduced annual expenditure for the punch insert by 71%**

3 M12 die insert (FlangeForm)

Problem Encountered
- Poor life, output circa 20-30k

Proposal & Solution
- Built to spec
- Straight switch – Heat treatment improved
- 5% price increase per unit

Result
- **Output increased to 70k**
- **Output multiplied by 2.5x-3.5x**
- **Halved annual demand**
- **The customer reduced annual expenditure for the die insert by 38% - almost the value of 4 inserts.**
- **Incumbent supply: 348% more expensive**

Don’t just buy tooling.

Engineer performance.
Reduce cost.
Increase output.

Major Industries Ltd
Hot & Cold Forming Tooling Specialists

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