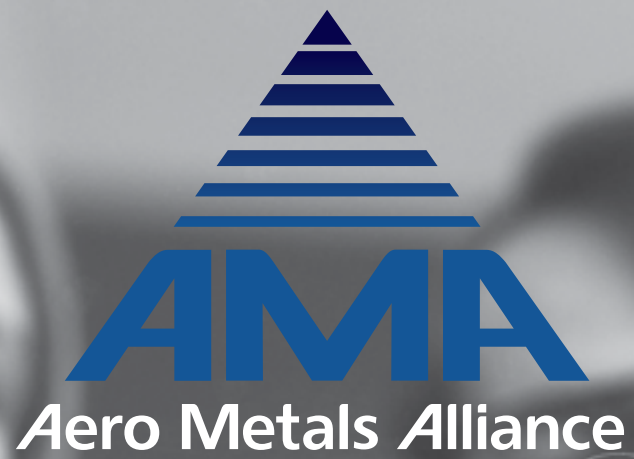


Five world class metal suppliers, offering unique capabilities and services





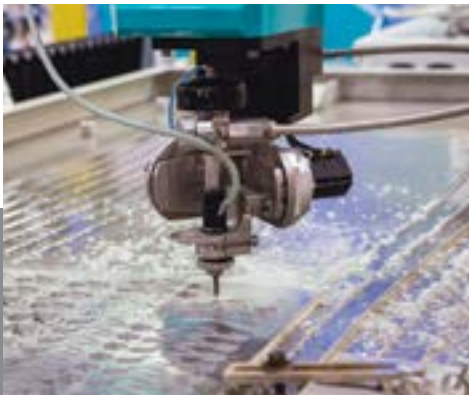
AMA includes some of the world's leading metal suppliers: Gould Alloys, Progressive Alloy Steels Unlimited, Service Centres Aero, Sunshine Metals and Wilsons. Together, these companies deliver a complete range of aerospace and high performance metal products to the world's leading aerospace and industrial companies.

# STRENGTH IN NUMBERS

‘The whole is greater than the sum of its parts’ is a widely used phrase and it is nowhere more evident than in Aero Metals Alliance (AMA), an organisation formed specifically to provide a dedicated offering to the aerospace industry from five of the world’s leading suppliers of metals.

The aerospace industry is global and, as such, needs a global capability from its supply chain. But a capability that also recognises the value of local service and support. Through the experience and expertise of AMA’s constituent businesses and the geographic spread that they represent from the 14

sites located throughout the Americas, Europe and Asia Pacific, the leading OEMs and sub-contractors within the industry can source materials, processing capabilities and supply chain management services.









[www.aerometalsalliance.com](http://www.aerometalsalliance.com)

# AMA BUSINESSES

The businesses within AMA are the leading names within metals supply: **Gould Alloys, Progressive Alloy Steels Unlimited (PASU), Service Centres Aero (SCA), Sunshine Metals and Wilsons Metals.**

In the markets in which they operate, the companies have established their own reputations for industry experience, knowledge and expertise. When that is brought together through AMA, the benefits to

those operating within aerospace manufacturing are considerable.



# COLLABORATIVE KNOWLEDGE BASE

The capability for the different businesses within AMA to draw on the expertise of each other is also beneficial to the Alliance's customers. In addition to a wide ranging understanding of the metals business, amongst its employees AMA

has specialists in a number of areas. This includes materials scientists who can offer technical advice and in-depth knowledge on the classifications of the different metals, offering invaluable input regarding a material or treatment that could better suit a

given application.

This knowledge also extends into the requirements of specific markets and customers, for example the different British, American and German specifications, along with customer specific grades

**Chris Norch is President of AMA** - *"A priority for AMA is always to be responsive to any changes in the aerospace industry and to ensure that our offering remains relevant. That goes for the metals that we supply, as well as our processing capabilities and our services. We have never looked to supply a simple 'out-of-the-box' solution but rather one in which we listen to customers' specific requirements to develop bespoke solutions accordingly. This will not change."*

**Mark Brown is Vice President of Business Development at AMA** - *"At AMA we're not talking just about added-value machining but also added-value services and integrated supply chain solutions. An example of which could be managing customers' supply chains and their long tail of smaller suppliers, resulting in a grocery store concept in our strategically located warehousing facilities. This reduces the customers' footprint and costs associated with non-core activities such as stockholding, allowing them to generate additional revenue from their core business activities."*

**Lori McLay is Vice President General Manager of the Californian service centre of Sunshine Metals** - *"We strive to be the 'go-to' people for our customers. Even if the question doesn't pertain to a product we supply, but relates to our market or a complementary product, we want to provide a full library of service. We pride ourselves on complete customer service, above all."*



such as MSRR (Rolls Royce) and ABS/AIMS (Airbus/GKN), plus many others. A collaborative approach helps to overcome such regional and customer-specific challenges, with AMA effectively extending the product portfolio that each business can offer to

its customers, particularly the contract customers. AMA also prides itself on being a knowledge resource for how metals contribute to aerospace engineering. If a customer has a question, even if it doesn't pertain to a given business but perhaps

relates to aerospace or a complementary product, the collaborative network usually ensures that an answer is available.

**Matthew Taylor is Service Centre Manager at Wilsons** - *"We interact a lot as we work in the same marketplace. The alliance allows each company to focus on what they do best, while being able to access bigger contracts by working together." This goes beyond just the UK though, with Taylor adding - "I have contact with the heads of all the businesses, talking to all of them once a month at least."*

**Christian Zelger is Service Centre Manager for SCA in Germany** - *"We attended a trade fair in Germany and received some enquiries regarding a Chinese contract which we were able to pass through an export BDM at AMA as it makes sense to service it from the region. India is also an interesting market so it is good to have people there. This is what I see as one of the biggest benefits of AMA. We are able to offer a wider range of products through our AMA brothers and sisters."*

**Booie Olson is General Manager of PASU's facility in South Carolina and supplies a product called Cronidur 30.** He commented, *"It's a trademark alloy of a mill out in Germany. They're the only one in the world that owns the patent of the alloy and we have the North American distribution rights. We also stock another alloy called 13-8 Supertough. We're the right-to-buy supplier for Lockheed Martin for the F35 program on that alloy, so we support Lockheed Martin on a global basis on that product."*



# POOLING OF RESOURCES

AMA provides a structure through which the companies remain independent but liaise and co-operate on a regular basis.

There is a similar collaborative approach in the UK between Wilsons Metals and Gould Alloys, with Wilsons being the soft alloys specialist and Gould focusing on the hard alloys.

**Marc McDuff is Vice President General Manager of Sunshine Metals in West Virginia.** He says - *"We are an aluminum supplier to the aerospace and defense supply chains. In Davisville, we have a 5-axis machining centre that exceeds 15 feet by 40 feet. We are the leader in heavy machining removal of thick plate for aero structure parts. In addition, we have complementary machining capabilities to offer a complete offering from your largest part down to your smallest. We continue to operate within the normal supply chain while bringing significant value as a value-add supplier of choice".*

**Gage Piancone, who is responsible for Sunshine Metals' facility in Kansas adds** - *"At Wichita we're handling multiple programmes right now with five CNCs and a sixth one slated to go, already approved, so we're doing quite a bit of first operation machining, both roughing and prepping. Going forward, I would say that machining is going to be the biggest part of the business over the next five to ten years."*

**For PASU with its sites in South Carolina and Las Vegas, the focus is also very much on value added business. John Olson is General Manager of PASU in Las Vegas** - *"We are a speciality metals distribution service centre, primarily focused on stainless steel, aircraft alloys (re-melted alloys - either vacuum melted or speciality melted). We don't really deal in any commodity products at all. We do all kinds of different processing in-house, including cutting and we do a great amount of value-added, where we might do some things in-house, then send it out for some processes and maybe bring it back in to do some further work."*





# EXTENDED PROCESSING CAPABILITIES

This extended range of products offered through AMA is also reflected in the range of services provided. Each company has its own processing capabilities which vary from business to business. In

essence, the collective capability of AMA embodies the latest technology to meet the needs of any specific metal processing requirement, including: **cutting, shape cutting, milling, surfacing, sawing,**

**drilling, guillotining, waterjet cutting, USI testing, heat-treating or re-tempering, forgings and machining to near net shape.**

**At SCA, it is a mix of commodity products and value-added business. Sebastien Berthoud explains -** *"We have merged our two new sites in the north of France where we specialise in 'direct line feed' with our employees working at our customers' sites and feeding their equipment daily with a very wide range of products. In Nantes, we have two sites: one for aluminium plates & sheets and one for hard alloy and extruded products where we undertake a lot of processing. In Germany, we specialise in pre-machined parts with 3-axis CNC centres and a unique band-saw to produce frames. We deliver more than 3,000 parts per month to various European customers."*

**Jane Bradshaw is Managing Director at Gould Alloys -** *"Aerospace manufacturers are searching for the ultimate peace of mind in materials supply. Material stockholding, first stage machining and supply contracts, designed around our customers' needs, enable Gould to offer the complete package. We can hold stock of our customers' material, processed to the correct stage, in bespoke areas of our warehouse, ensuring confidence in material availability and supply, even on a just-in-time or DLF basis. This enables customers to free up storage space to concentrate and develop core activities to grow their own business."*

**Near net shape processing is a significant area of development in the aerospace industry, a point commented on by Fabrice Hendrycks, Service Centre Manager for the SCA facility in Nantes -** *"On the big plates if you have one tonne of raw material, perhaps only 100 kilos will fly. So, to remain competitive, you need to reduce this buy-to-fly ratio and near net shape processing is the way to do it."*



# GLOBAL REACH

One of the major benefits that AMA offers through its businesses is the capacity to operate on a global basis. Each service centre has specific expertise and knowledge of its given market. Operations in the United Kingdom, United States, Europe and Asia collectively represent an impressive breadth of experience, with AMA supplying all the major OEMs

and sub-contractors in the aerospace industry, along with aircraft and engine manufacturers from Airbus and Boeing to Lockheed Martin and Rolls Royce. AMA locations are carefully selected to optimise logistics. A good example is the 8,000 square foot warehouse strategically located near Chennai, with easy access to the busy Chennai port complex, the

third largest in India and the biggest port in the Bay of Bengal. AMA continues to invest in its infrastructure and service offering, constantly looking for opportunities to extend its warehousing, processing and customer interaction.

United Kingdom	United States	Europe	Asia
Chesterfield, Derbyshire	Davisville, West Virginia	Nantes, France	Dalian City, China
Sawtry, Cambridgeshire	Corona, California	Seclin, France	Chennai, India
	Wichita, Kansas	Fellbach, Germany	
	Hartsville, South Carolina	Sosnowiec, Poland	
	Las Vegas, Nevada		
	Willimantic, Connecticut		





# CUSTOMER FOCUSED

AMA provides an easier route through which OEMs and sub-contractors in aerospace manufacturing can source their metals, their processing requirements and services. It offers a single point of contact, effectively a one-stop-shop, to access the best global capability in dedicated aeronautical

metal supply. AMA operates a highly trained team of responsive customer relationship and sales managers to provide the first point of contact for enquiries. Importantly, these managers take full ownership of the enquiry, following it through to ensure full customer satisfaction.

The companies within AMA also share best practice, fostering an approach which places customer relationship management at the heart of their own operations. This includes committing to lead times and, importantly, delivering on them.









# NEAR NET SHAPE APPROACH

The focus on buy-to-fly ratios highlights the contributing role that near net shape processing can offer. This has undoubtedly been a driver in increasing this service offering from AMA. As a major contributor in the aircraft manufacturing supply chain, this is a key area of development for AMA and its companies.

Customers are increasingly looking to optimise their production processes. This is primarily driven by the need to maximise their own spindle time

for core business activities, with AMA therefore undertaking some of the machining processes. It can take many forms, from simple cutting to more intricate processing in which near net shape pieces are supplied.

Even in AMA businesses whose business is predominantly transactional (so called 'spot business') rather than contractual, the processing element is increasing. Pre-machined kits of parts to individual specifications are becoming more

commonplace.

In addition to freeing up time for customers and OEMs to focus on more profitable final processing, near net shape processes can improve product quality, reduce variability and enhance component design functionality.

As the industry continues to search for ways to lower buy-to-fly ratios and reduce the amount of waste, near net shape processing will have a greater role to play.





## THE BUSINESSES

# GOULD ALLOYS

The company is a leader in the stockholding and distribution of high integrity ferrous and non-ferrous metals. Investment is ongoing, in both equipment and facilities, building on the company's significant expansion with its move to new purpose-built premises in 2015.

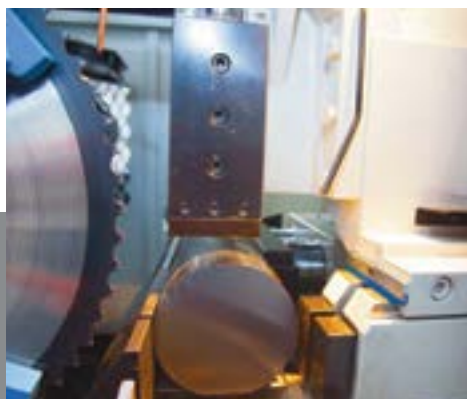
The production of near net shape components is a focus, with wide ranging stocks and extensive capabilities in processing.

The range in both aerospace and commercial specifications/alloys includes:

- **Alloy Steels**
- **Stainless Steel**
- **Aluminium**
- **Nickel Alloys**
- **Titanium**
- **Phosphor Bronze**

In terms of processing capabilities, the company provides:

- **Cutting to weight or length**
- **Processing which includes radiused, chamfered, turned and bored/hollowed**
- **Sawing facilities for both bar and plate**
- **Waterjet cutting**
- **Machine Shop (including CNC lathes, milling machines, turning centres)**









[www.progressivealloy.com](http://www.progressivealloy.com)

## THE BUSINESSES

# PROGRESSIVE ALLOY STEELS UNLIMITED (PASU)

Established in 1999 Progressive Alloy offers a full line of aerospace quality stainless and re-melted alloy products complemented by custom supply chain solutions to the aerospace, defense, oil & gas industries. In addition to stocking common grades, shapes and sizes, PASU has a full inventory of non-standard sizes. Progressive's multiple value-added processing capabilities provide the ability to supply near-net products resulting in reduced machining time. From 2 stocking locations (Hartsville, South Carolina & Las Vegas, Nevada) the company efficiently supports the North American market,

with close proximity to international airports and major shipping ports on the east & west coast of the USA providing exceptional service to the global market. Progressive's AS9100D Certified quality system is complemented with many major OEM Approvals including Pratt & Whitney - LCS.

Specialty products include round bar, flat bar, plate & forgings in the following alloys:

- **17-4PH & 15-5PH**
- **13-8MO**
- **13-8 Supertough®**

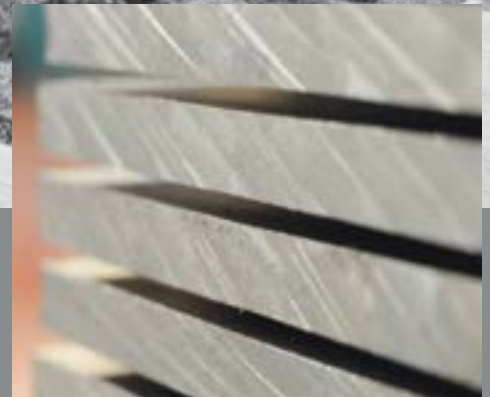
- **4340M (300M), 4330M, 4340 VAR**
- **Cronidur 30®**
- **Custom 455® & Custom 465®**
- **440c & 440c VAR**

Value added processing capabilities include:

- **Production cutting up to 22" diameter**
- **Plate processing up to 24" x 72" x 170"**
- **Waterjet cutting & near-net shape processing**
- **Grinding, trepanning & gun drilling**
- **Heat treating, destructive & non-destructive testing**









[www.service-centres-aero.com](http://www.service-centres-aero.com)

## THE BUSINESSES

# SERVICE CENTRES AERO (SCA)

SCA is a business that has operations in both Germany and France from where it services customers in Europe and beyond. With many decades of experience (since 1972 at SCAD and 1986 at SCAF), SCA is a specialist supplier of semi-finished aluminium, titanium and light metal alloy products to the aeronautical and space industries. The company prides itself on its ability to react to meet the changing needs of the market, with its wide range of alloys and equipment backed by many years of logistical experience. It supplies the whole supply chain from the smallest aerospace machining shops to the world's leading OEMs, offering material stock management, logistics (direct line feed within

a 24-hour delivery service) and processing (including cut to size and near net shaping).

A full range of sheets, plates, profiles and bars is available in both aluminium, titanium stainless or in a number of different alloys.

SCA's extensive pre-machining and finishing capabilities (straight and shape cutting, milling, drilling and surfacing) are provided from the following equipment:

- **10 plate saws (offering a capacity of up to 220mm thickness)**
- **3 CNC machines for parts of up to 5m length**
- **1 CNC controlled contour saw (near net shaped parts)**

- **3 bar saws (maximum diameter of 400mm)**
- **6 plate and bar saws for hard alloys**
- **2 shear guillotines for sheets (all alloys)**
- **1 Faro measurement arm (with tolerances of 0.02mm)**
- **Programming: 1 CAD SolidWorks, 1 CAM SolidCAM**

All SCA parts meet the quality requirements of the aerospace industry, with the German site certified to EN 9100, OHSAS 18001, ISO 14001 and the French sites to EN 9100 and EN 9120.







## THE BUSINESSES

# SUNSHINE METALS

The company is a world-class supplier of speciality metals and custom supply chain services for aerospace and defence applications. The standard range includes 2000, 5000, 6000 and 7000 series of aluminium plate, rod, bar and forged block. From its new facility in California and its strategically placed service centres in Kansas and West Virginia, Sunshine Metals is a leader in the optimisation of raw materials, with an offering which includes:

- **Vendor managed inventory programmes**
- **Near net shapes**
- **Profiles**
- **Semi-finished products and kitting**

- **Reduced run and set-up time**
- **Increased throughput**
- **Scrap/revert utilisation**
- **Reduced time from raw material to finished part**

The company's value-added services are provided through some 26 machines:

### **Multi-axis machining**

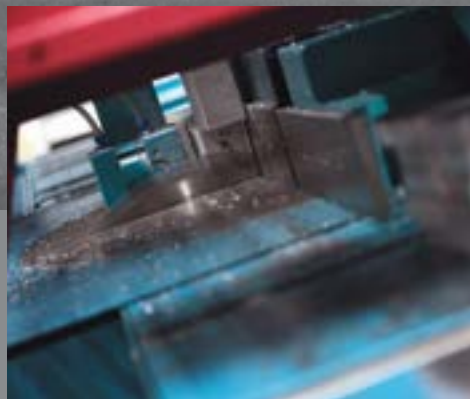
- **3-axis and 5-axis machining (from .25" to 25" thick, max width of 180" and 480" length)**
- **Nesting**
- **Drilling/tapping**

- **Milling**
- **Surfacing**
- **Dovetailing and prepping sawing**
- **Standard, precision, vertical and horizontal**
- **Plate saw cutting (max of 14" thick)**
- **Band saw cutting (max of 21" thick)**
- **Straight, circle and shape-cutting capabilities**

In terms of quality control, Sunshine Metals offers CMM inspection, USI testing, heat-treating or re-tempering, electrical conductivity and hardness testing.











[www.wilsonsmetals.com](http://www.wilsonsmetals.com)

## THE BUSINESSES WILSONS METALS

Wilson's prides itself on its accuracy and service, coupled with pace and agility, in supplying high performance aerospace alloys.

Wilson's is a founder of the Aero Metals stockist industry, with extensive experience and knowledge of the aerospace market. The company has been trading successfully for over 60 years specialising in the provision of soft alloys. Long term relationships have been developed with suppliers and customers. Wilson's' expertise and capability is global and its customers value the flexible and responsive service

which achieves rapid turnaround of all enquiries and accurate on-time delivery.

The company carries a comprehensive stock of over 2,000 aerospace released aluminium plate, bar and sheet items and has extensive capacity and capability to cut, machine and test to customers' needs. Wilson's carries extensive stocks of customer specific items of other aerospace hard alloys in support of long-term, one-stop-shop customer contracts.

Naturally Wilson's holds the latest AS9100, AS9120 and ISO9001 accreditations along with numerous customer approvals.

Wilson's' mission is to solve specific needs, whatever they are. In summary, Wilson's is here to take care of all metals sourcing, logistics and preparation activities and to free up customers to focus all their efforts and resources into their core business.

Wilson's - reliable metals supply accurately and on-time.





# CENTRALISED PURCHASING

The collective strength of AMA provides an opportunity to reduce costs. While the Alliance recognises the importance of treating suppliers fairly, its buying power reduces waste and therefore cost in many areas, while importantly maintaining the high standards and the quality of service and products so important to an effective aerospace industry supply chain.

All AMA suppliers are assessed via its vendor assessment programme whereby performance is measured and monitored to reduce costs, mitigate risk and drive continuous improvement.

Many strategic procurement procedures are in place, including information sharing, simplified processes (such as common terms & conditions, direct invoicing, a single price list and improved

handling of procurement processes) and the establishment of the most appropriate points of contact. However, AMA recognises the importance of not standing still and is constantly looking at ways to further improve its offering to the aerospace industry.







# ENVIRONMENTAL PROGRAMMES

As the focus intensifies on the green credentials of different manufacturing processes, all of those in the supply chain need to ensure that their environmental policies are robust and embracing

the latest developments in recycling initiatives.

For AMA businesses this is a fundamental focus, with scrap separated by alloy into containers supplied by the mills which are located around the various

facilities. Metals are separated not only between the different series but also by the sub-divisions within those series, optimising the opportunity for recycling.





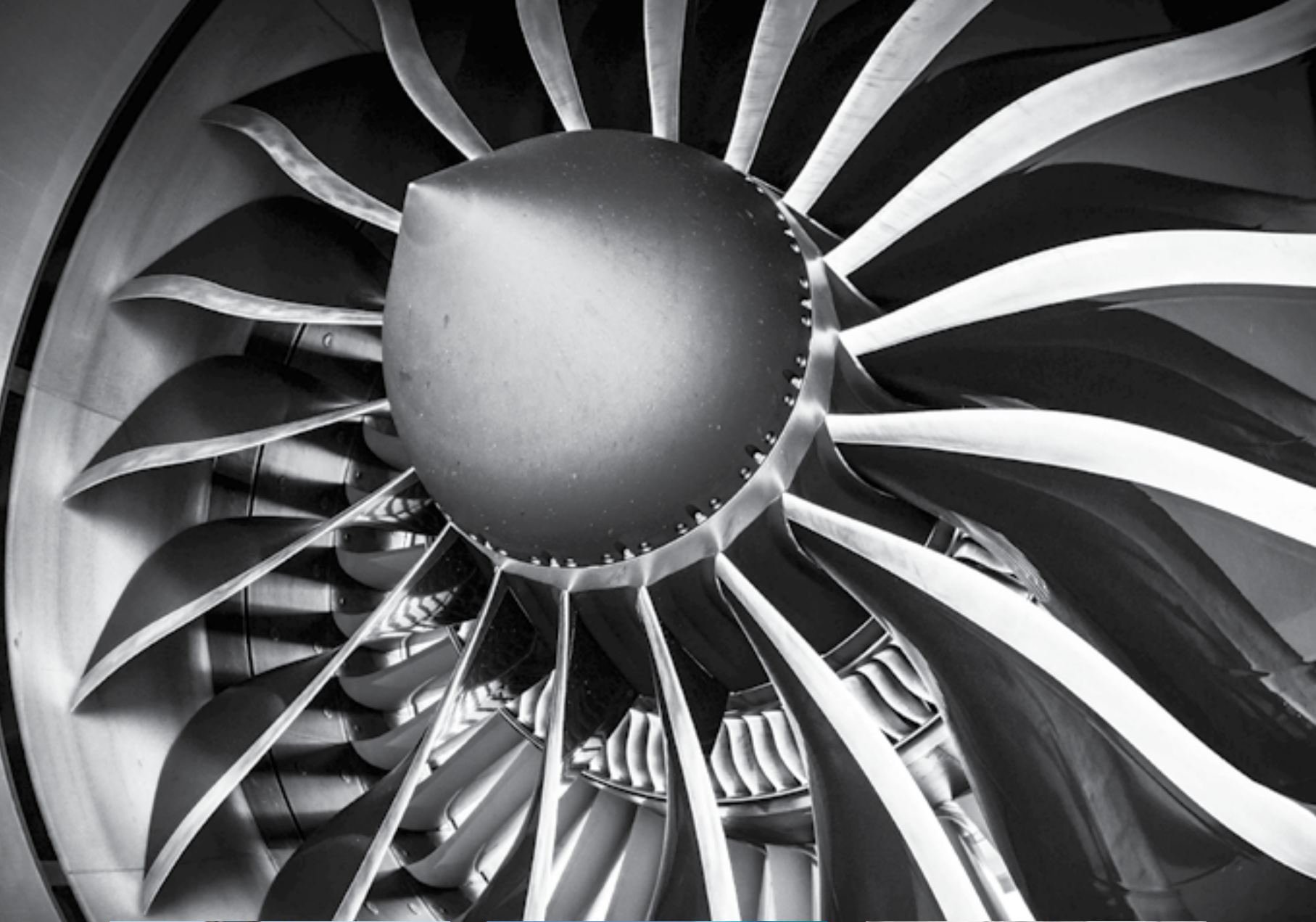


# OUR ACCREDITATIONS

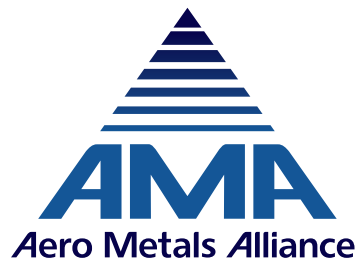
We work with a wide portfolio of businesses in the aerospace and defence industry. Below are some of the many approvals we hold nationally and internationally.

## Customer Approvals









[www.aerometalsalliance.com](http://www.aerometalsalliance.com)



[www.gouldalloys.com](http://www.gouldalloys.com)



[www.progressivealloy.com](http://www.progressivealloy.com)



[www.service-centres-aero.com](http://www.service-centres-aero.com)



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[www.wilsonsmetals.com](http://www.wilsonsmetals.com)