G.RAU
INNOVATIVE METALLE

METALS ARE OUR WORLD

G.RAU GMBH & CO. KG IS A GLOBALLY ACTIVE SUPPLIER IN THE FIELD OF METAL ENGINEERING THAT HAS ACHIEVED A DEGREE OF SPECIALIZATION IN THE HIGHLY COMPLEX AND VERSATILE WORLD OF METALS OVER THE PAST 130 YEARS, REMAINING UNSURPASSED TO THIS DAY.

YOUR PARTNER FOR SOLUTIONS IN METAL

BASED ON OUR KNOWLEDGE AND LONGSTANDING EXPERIENCE, WE ARE A COMPETENT PARTNER FOR OUR CUSTOMERS IN THE REALIZATION OF ECONOMIC SOLUTIONS.

From semi-finished products to functional assemblies

In addition to our product range from semi-finished products to assemblies, G.RAU offers a high degree of flexibility in the realization of individual and innovative products. To this extent, G.RAU has the technical competence to recommend and test new materials for specific applications, and is able to create and produce unique products in close collaboration with our customers. The product development efforts, in combination with the experience of inhouse toolmanufacturing capabilities and project management ensure professional assistance and advisory services in complex projects.

The G.RAU product development activities are further supported by a high-performance development unit, which closely collaborates with well known research institutes.

Our customers appreciate this intense dialog as well as our competent advice in the development of their new products and in the optimization of existing products. Together with our customers, we create innovative, individual and economic solutions.

This high degree of competence and innovation capability has made G.RAU the global leader in the field of shape memory alloys, which has enabled the company to achieve a unique selling point also in the field of actuators made of these alloys as well as actuators made of thermostatic bimetals.

With the latest certifications in accordance with DIN EN ISO 9001, DIN EN ISO 14001, DIN EN ISO 13485 and ISO/TS 16949, we put special emphasis on the compliance of the required standards as well as the continuous development and improvement of business processes. This has ultimately led to the great confidence that customers have placed in G.RAU.

Innovative solutions made out of metal

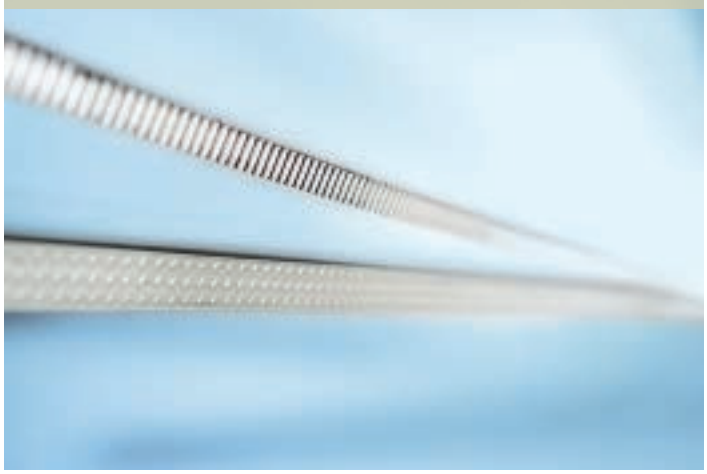
Today, G.RAU is a globally leading specialist for solutions out of metal. By combining the most diverse technologies, we are a competent partner for complex projects.

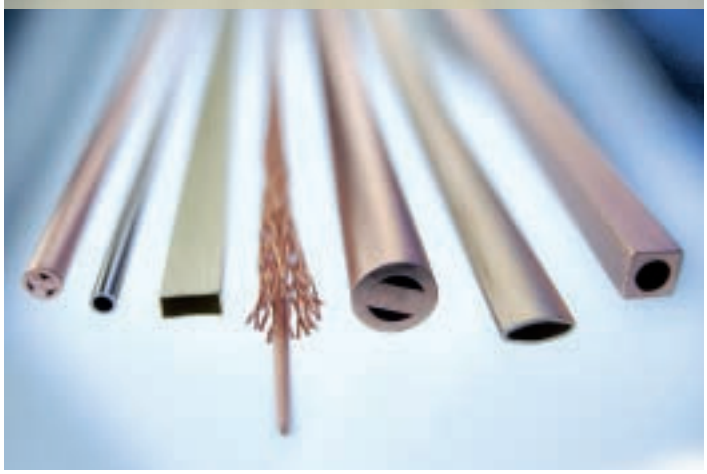
We use a wide variety of production technologies, such as stamping, extrusion, deep drawing, punching and milling. We join materials by e.g. seam welding, warm and cold cladding, laser welding, resistance welding, toxing or riveting. In addition, we also offer the possibility to selectively or fully electro- or electroless plate parts and strips.

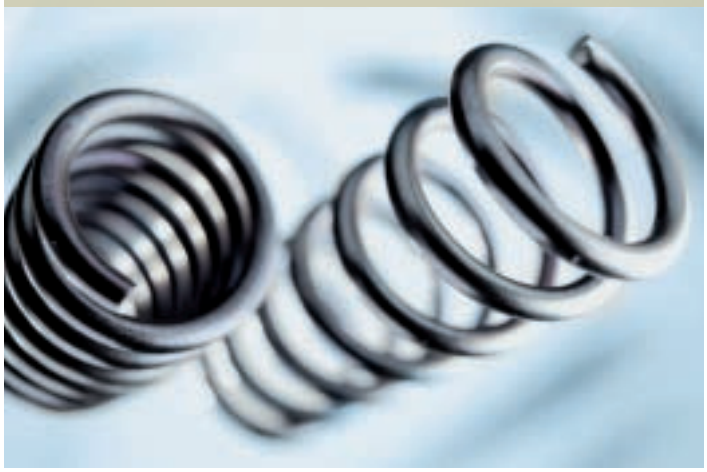
The use of these technologies enables us to offer a product range that extends from contact bimetals, thermobimetals, precision tubes and wires, profiles and stamping-bending parts, contact rivets, deep-drawn parts, extruded parts, metal-plastic composite components, actuators made from shape memory material as well as the manufacture of complex assemblies. Whether precious metals, alloys or composite materials, whether solid, cladded or plated – we will find the optimal solution that meets your specific requirements.

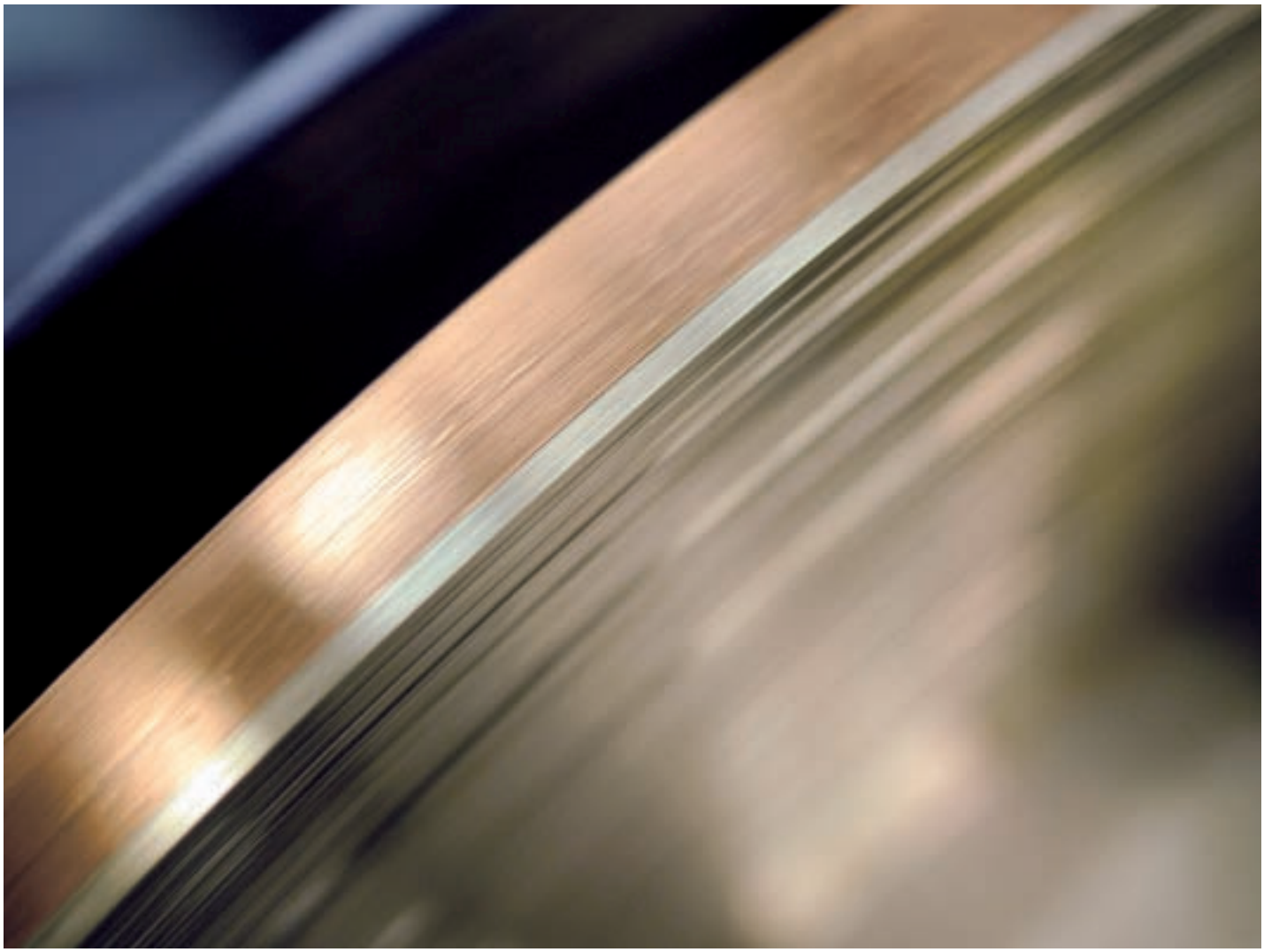
In collaboration with our design unit, we create solutions and develop economic tool concepts. Then, our inhouse tooling department produces these innovative and powerful tools, which ensure a high manufacturing capacity utilisation.

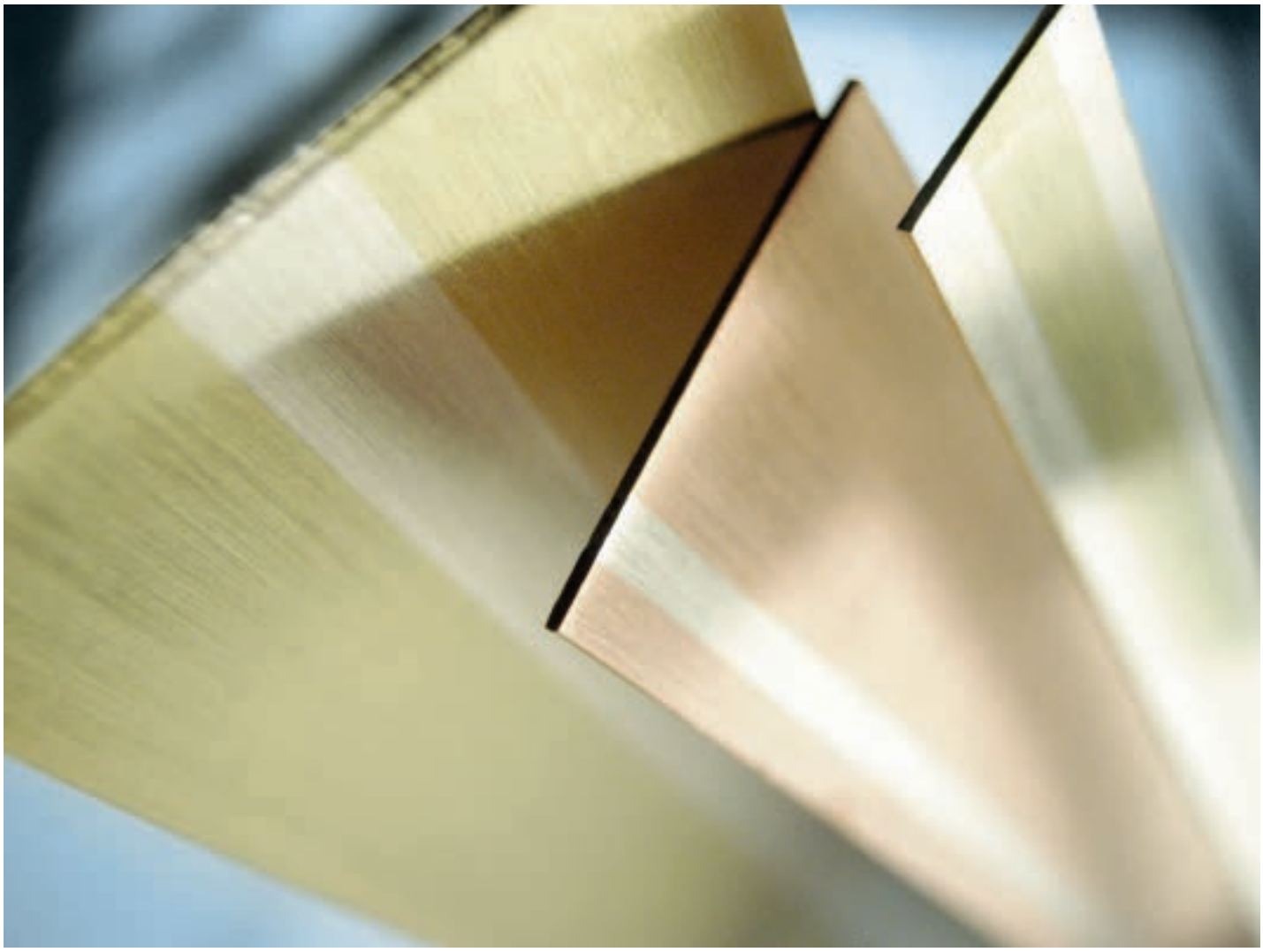
Our projects managers will assist you even after series release and will remain your competent partner.





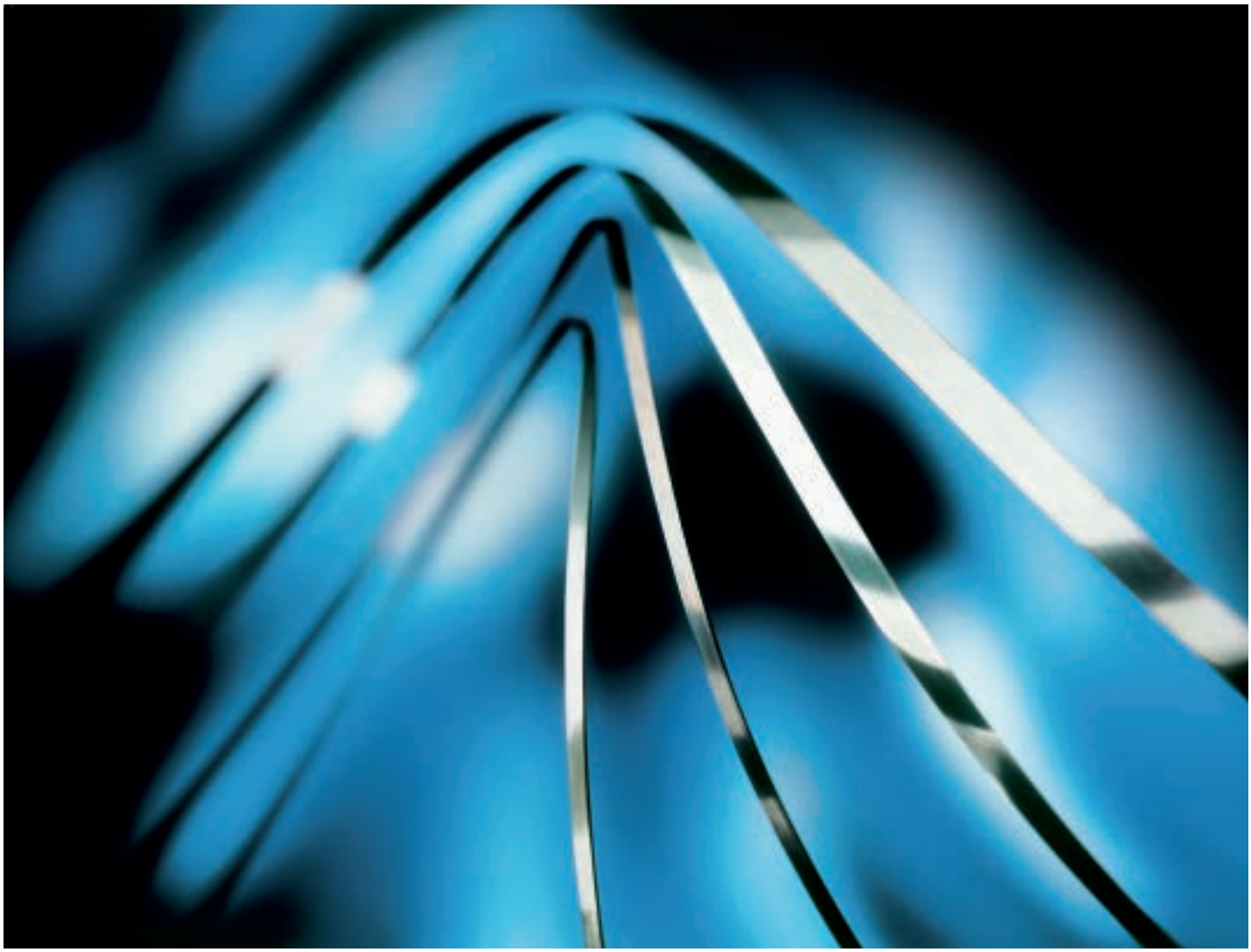






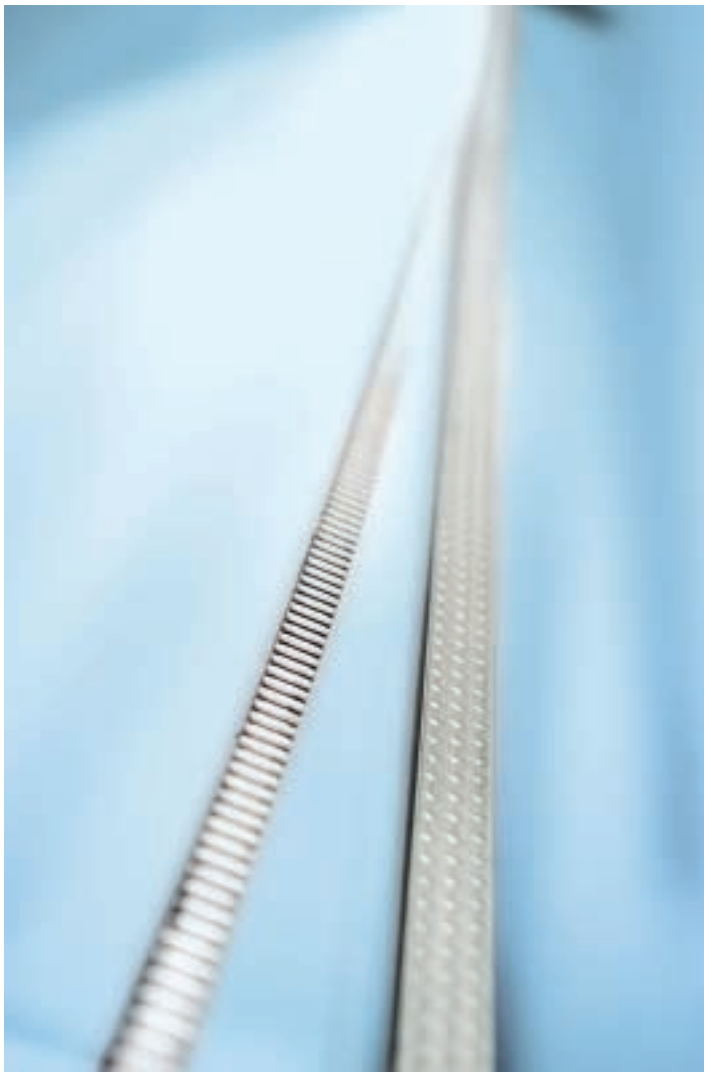
STRIPS MADE OF THERMOBIMETAL

THERMOBIMETALS ARE COMPOSITE MATERIALS THAT CONSIST OF AT LEAST TWO COMPONENTS WITH DIFFERENT THERMAL EXPANSION COEFFICIENTS.



CONTACT AND MINIPROFILE

TO MEET THIS REQUIREMENT G.RAU PRODUCES MICROPROFILES SIZE OF 30 µm WIDTH AND HEIGHT.

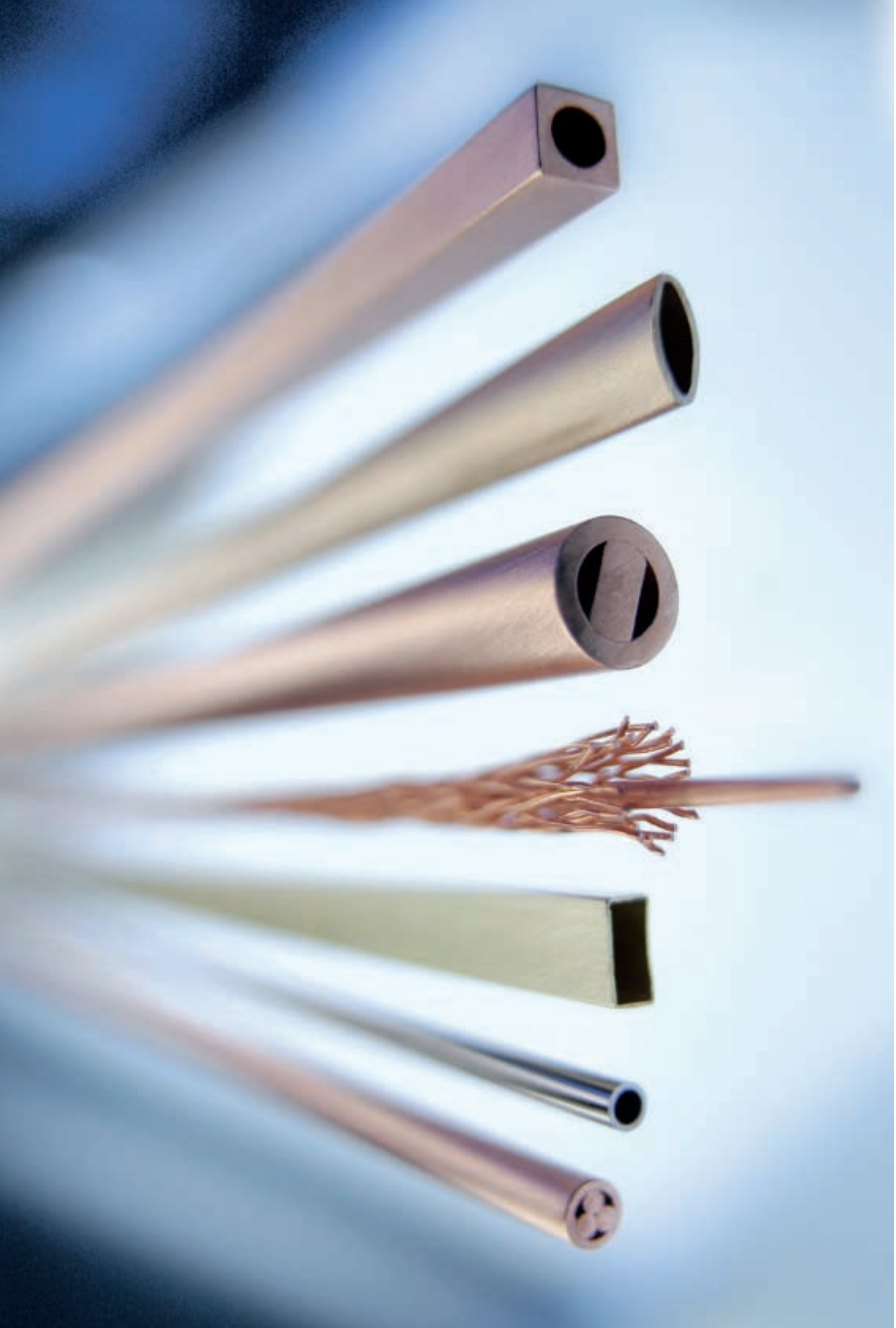


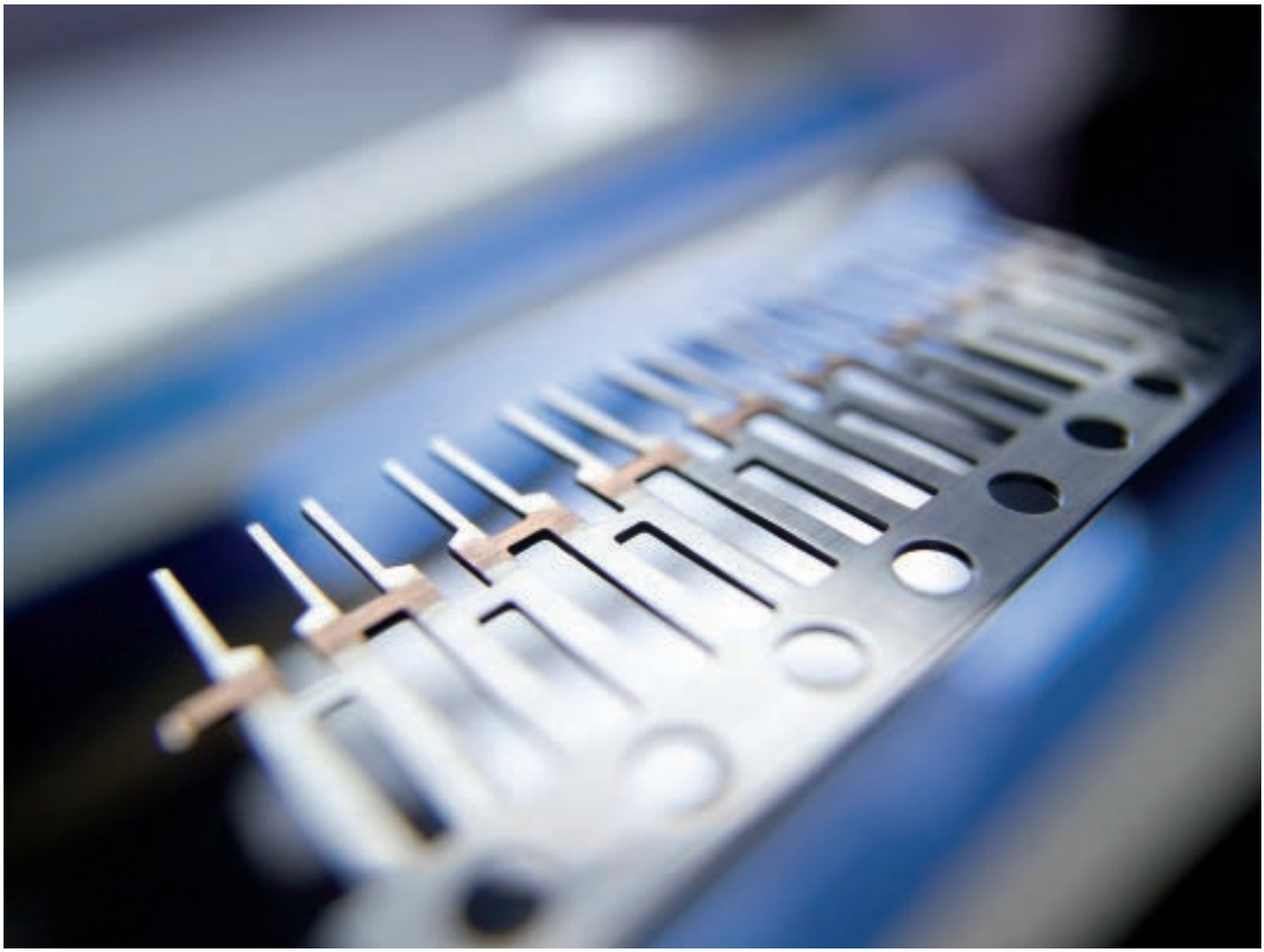
Miniaturization in the world of electrical contacts

We refer contact profiles to composite materials which consist of various individual components, and are further refined to create complex geometries. Therefore, we can use various carrier materials and several types of precious metal alloys.

Contact profile wires are the basic material used to produce contacts that switch electrical currents. The relation of the layer thickness between carrier and contact material, as well as their composition, are defined by the respective application and required power range.

We would be happy to assist you in choosing the appropriate materials.





G.RAU PRODUCES ALL CONTACT STAMPED BENT PARTS AND ASSEMBLIES ON STATE-OF-THE-ART STAMPING AND FORMING EQUIPMENT.

Fully automated, we can process several strips simultaneously into assemblies, weld contact materials or rivet contacts onto, cut threads or insert screws. Welding processes are executed by means of resistance welding or laser systems horizontally or vertically. The 100% vision system-based, process-integrated control guarantees the high quality of the products delivered.

The complex parts and assemblies are stamped from copper, copper alloy, nickel, nickel alloys, steel or stainless steel as well as from compound materials based on gold and silver. In addition, our surface engineering department can electroplate or chemically coat stamped strips and parts.

We would be happy to assist you in the selection of materials or plating technologies and are pleased to help with any technical question you may have.

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ACTUATORS MADE OF THERMOBIMETAL

ACTUATORS MADE OF SHAPE MEMORY ALLOYS

G.RAU is the expert for shape memory alloys

Assemblies made of shape memory alloys are used as thermal actuators in the automotive industry as well as in further applications of measurement and control technology, appliance technology, aviation industry as well as medical technology.

When heated, the actuators »remember« their original shape and are able to return to the original shape after deformation.

For more than 40 years, G.RAU has been researching and developing shape memory alloys and their applications. Quite rightly, we can call ourselves undisputed experts in this field, as we combine all manufacturing steps from the melt to the final complex part. at our facilities. Besides our predominant use of nickel-titanium alloy, we also use other special materials and also are constantly in the process of expanding our product range.

One-way effect elements only remember a high temperature shape to which they return upon heating. On the other hand, two-way effect elements remember the high temperature shape upon heating and the low temperature shape upon cooling. A two-way behavior can also be achieved by combining a one-way element with a counterforce. This reversible change of shape, with the aid of an external counterforce provides a self-sustaining solution.

G.RAU supplies parts according to customers' specifications as compression, tension, bending or torsion elements, as well as fasteners and sealing elements. Depending on the alloy and processing, the transformation temperatures of our memory elements are between -20 and +80 °C. Further developments should expand the transformation temperatures to higher ranges.

Thanks to our extensive experience in working with these materials, we are able to realize new and innovative solutions in collaboration with our customers.

We would be happy to answer any questions you may have about shape memory alloys.

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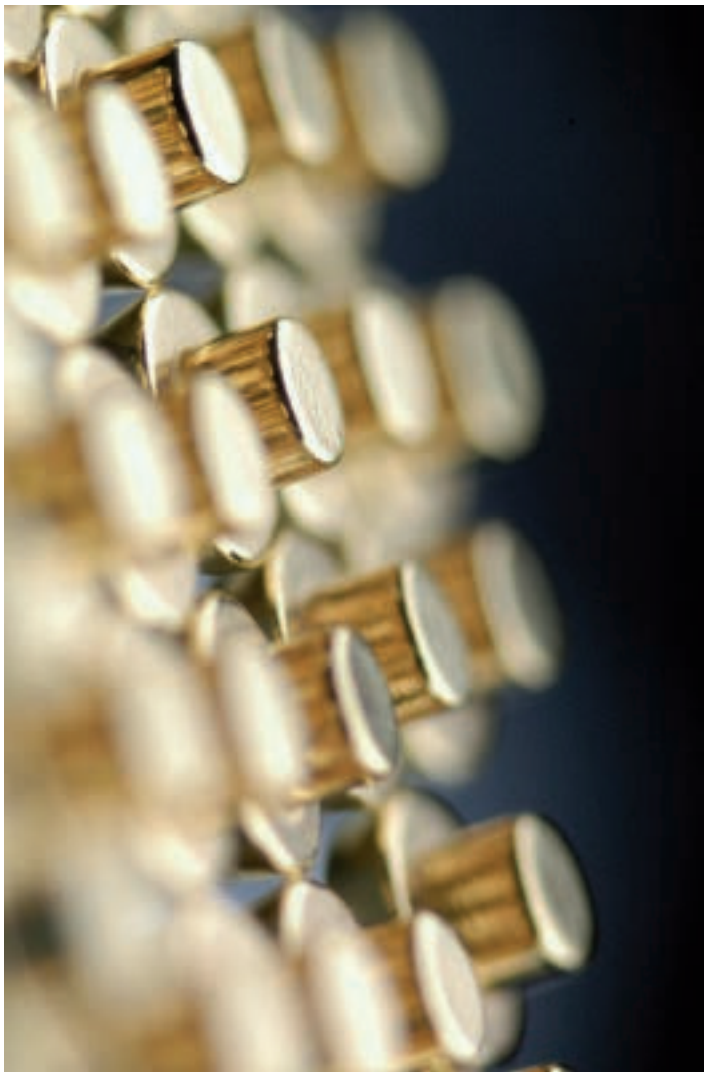
CONTACT RIVETS



Multiple material combinations

G.RAU produces solid and bimetal rivets from all precious metal alloys and contact materials on double pressure machines as well as by means of cold and warm welding.

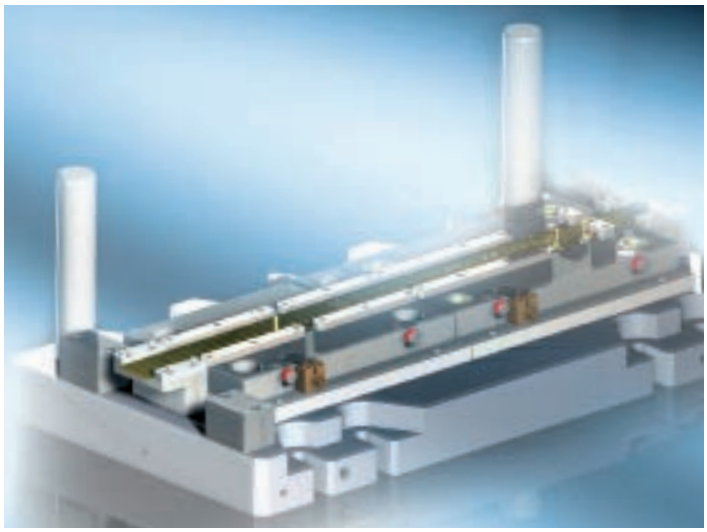
Bimetal contact rivets are frequently used to reduce the input weight of precious metal. Hereby the required contact material is mostly cold or warm welded onto the copper base.

The contact rivets are manufactured with a pole diameter of 0.7 to 5 mm and a head diameter of 1 to 15 mm. If requested, we can add an electro-plated surface layer onto the contact rivet.

Our team would be happy to help you select the suitable materials for your application and submit an appropriate offer to you.

MATERIAL AND PROCESS DEVELOPMENT

AS YOUR RELIABLE AND COMPETENT PARTNER, WE WILL SUPPORT YOU IN THE MATERIAL AND PROCESS DEVELOPMENT PROCESS.



We have all the necessary departments and facilities inhouse, from consulting, conceptual design, developing the samples to serial production and are your competent partner in all phases of the product from the idea till the realization.

Our development department, which also consists of a chemical and physics lab, a scanning electron microscope and several other testing systems, is available to you when developing processes or materials.

Your collaboration with G.RAU will result in innovative solutions and materials from the semi-finished product to functional assemblies which offer you a unique selling point in your specific market.

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