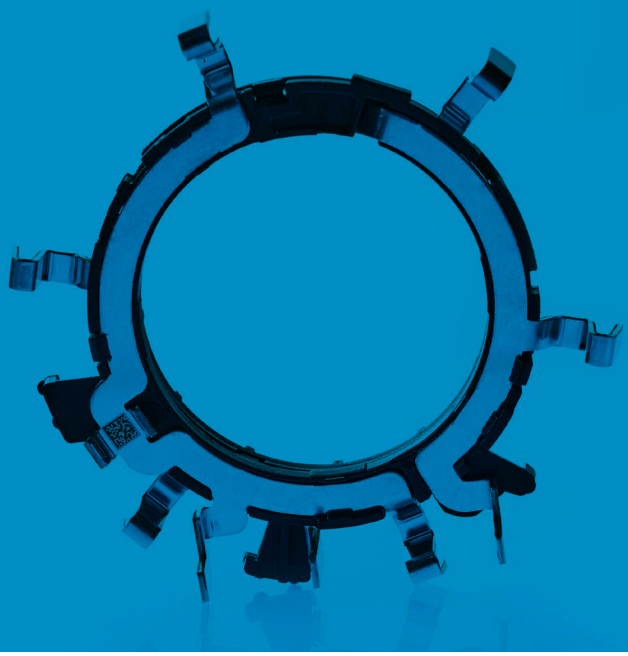
CGR
Form your world.

# Co-engineering and industrialization, from single unit to high volume

Your partner for springs, metal forming and sub-assemblies for industrial, medical, mobility and aerospace markets

# Mechatronic parts



## Overmolded and assembled connectors and electronic parts

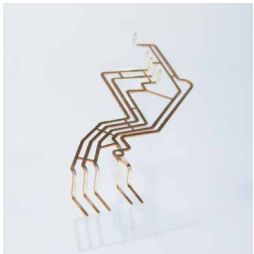
CGR produces all types of electric connectors and housings, including complete mechatronic subassemblies. We are experts in stamping, molding and overmolding as well as automatic testing. Our teams co-design, industrialize, manufacture and automatically assemble metal parts. Efficiency, quality and precision are the cornerstones of our competitive edge.

We employ a wide range of technologies, providing optimal solutions to our clients: EloPin pressfit for reliable PCB connections, automatic overmolding, soldering, welding of electric parts and membranes, assembly of heatshields, potting, LSR-injection and stitching, etc. Inline inspection and automatic testing as well as DMC marking are equally available.

Thanks to our global footprint, we serve customers all around the world.





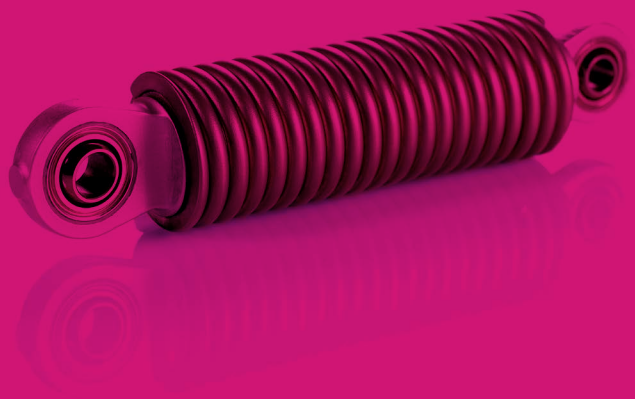





### Technical data and scope

| | |
|---|---|
| **Scope** | Europe, Asia, North America |
| **Stamping materials** | Copper and steel alloys; 0,1-2 mm thick, 10-200 mm wide |
| **Coatings** | Galvanic or thermic coatings with tin, nickel, silver and gold |
| **Plastic materials** | All current plastic materials, pure or reinforced by glassfiber |
| **Cleaning** | Clean rooms and in-line cleaning |

# Wire springs



## Compression, torsion, tension and formed wire

CGR produces wire springs, including compression, torsion, tension springs and formed wires, along with micro-springs for precision mechanics.

The synergy among our factories and engineering competences enables design and manufacturing of multi-component sub-assemblies including plastic casings and stamped metal parts.





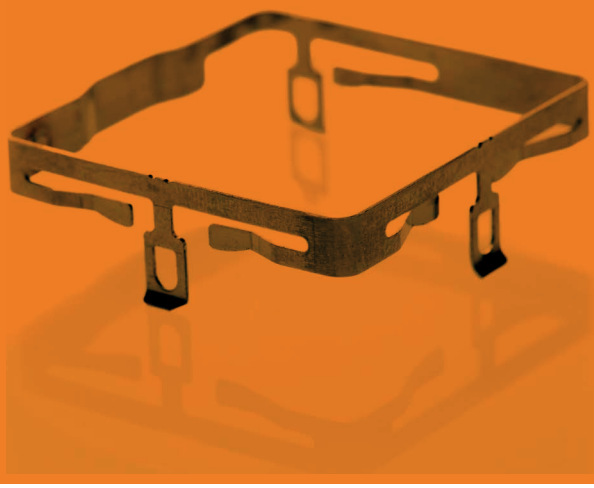





### Technical data and scope

| | |
|---|---|
| **Wire diameter** | 0,06-20 mm |
| **Materials** | High carbon steel wire, high and normal strength stainless steel, oil tempered steel and various alloys |
| **Coated materials** | Galvanized steel, galvanized aluminum plating, aluminum |
| **Operations** | Coiling, grinding, shot peening, shot blasting, thermal treatment for stress relief, cold and hot setting, stamping, laser cutting, bending |
| **Coatings** | All types of coating and painting, including: Delta Protekt®, Delta Seal®, Geomet®, Magni®, Zintek®, nickel, etc. |
| **Cleaning** | Cleaning per batch or in-line cleaning, meeting automotive & industry standards |

# Flat springs



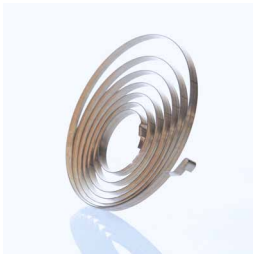
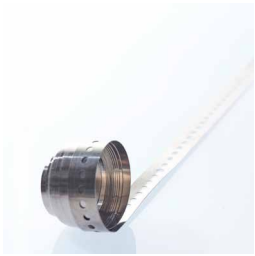
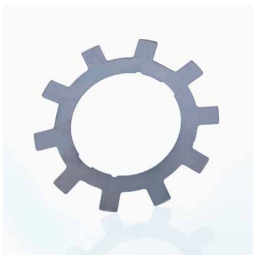
## Cold rolling, slitting, spirals, rewinder springs...

CGR is a specialist in the manufacturing of flat springs, from cold rolling of a broad range of materials to slitting of precision strips. Flat springs include pads, filters, clips, push-pull and constant force springs as well as spirals.

After forming, the flat spring can be subjected to thermal, mechanical or chemical treatment (washing, greasing, tribofinishing, etc.).



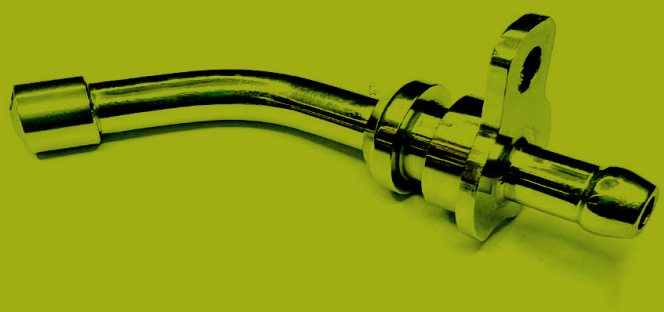



### Technical data and scope

| | |
|---|---|
| **Stripe thickness dimensions** | 0,10-3,2 mm, up to 500 mm wide<br>Laminated wires < 15x5 mm |
| **Materials** | High carbon steel, high and normal strength stainless steel, steel and various alloys |
| **Coated materials** | Galvanized steel, galvanized aluminum plating, aluminum, EPDM coating |
| **Operations** | Coiling, shot peening, shot blasting, thermal treatment for stress relief, stamping, laser cutting, bending |
| **Coatings** | All types of coating and painting, including: Delta Protekt®, Delta Seal®, Geomet®, Magni®, Zintek®, nickel, etc. |
| **Cleaning** | Cleaning per batch or in-line cleaning, meeting automotive & industry standards |

# Cold forming

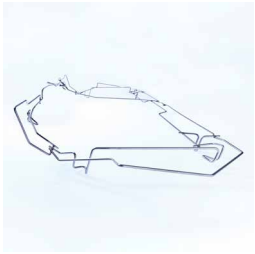


## Tubes, wires and cables

CGR's production sites form, cut, punch, laminate, weld and assemble a broad spectrum of parts according to client specifications. We employ latest technology to transform tubes, wires and cables. Depending on specific process needs, we apply thermal treatments, cleaning and other surface treatments.

Tube and wire forming consists of CNC or multislides bending, press forming or roll bending to match the desired 3D geometry according to design specifications. Formed tubes can be further shaped and welded to other stamped parts.

Crimping joins cables or ropes by deformation of a ductile material.



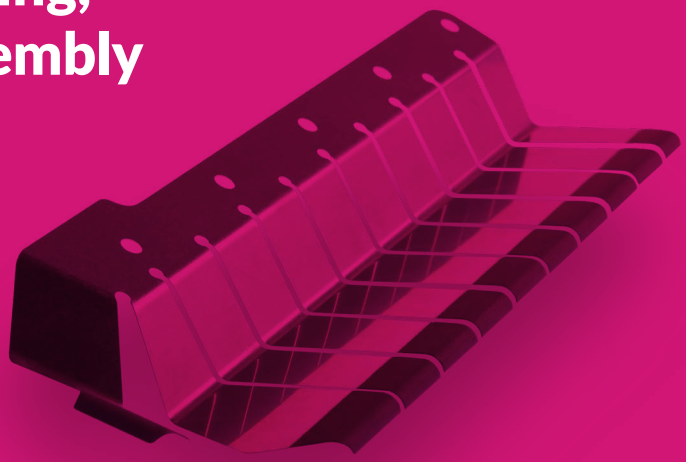




### Technical data and scope

| | |
|---|---|
| **Scope** | Tubes < 20 mm, cables, round wires < 14 mm |
| **Materials** | High and low carbon steel wire, high and normal strength stainless steel, steel and various alloys |
| **Coated materials** | Galvanized steel, galvanized aluminum plating, aluminum |
| **Treatments** | Coiling, shot peening, shot blasting, thermal treatment for stress relief |
| **Coatings** | All types of coating and painting, including: Delta Protekt®, Delta Seal®, Geomet®, Magni®, Zintek®, nickel, etc. |
| **Cleaning** | Cleaning per batch or in line cleaning, meeting automotive & industry standards |

# Aerospace components, precision machining, spinning and assembly



## Tooling, prototyping and serial production

CGR Cristin EDM (Electrical Discharge Machining) production units operate wire-cut, die-sink and high-speed drilling. EDM is used for precision tooling and mold making, prototyping and small batch production for the aerospace industry, as well as other applications.

Metal spinning, CGR Taverny's specialty (also known as centrifugal forming or metal turning), is a process whereby a metal disc or tube is rotated at high speed and shaped to form an axially symmetrical part.

Produced parts can be assembled in-house and supplied as complete subassemblies.

### Technical data and scope

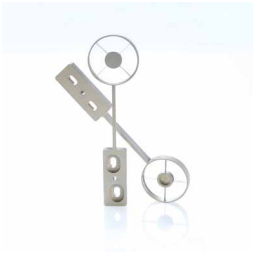
| | |
|---|---|
| **Materials** | Steel, aluminum, carbide, chrome cobalt, copper, Inconel, inox, titan and alloys, graphite (Taverny + tantalum) |
| **Coatings** | All types of coating and painting according to the customer's approved list of suppliers |
| **Marking** | Laser, ink, micro-vibrational engraving |
| **Certification** | EN/AS 9100, ISO 14001 and Nadcap (for heat treatment) |

### Cristin plant

| | |
|---|---|
| **EDM wire cutting** | Wire Ø from 0.07 to 0.33 mm<br>Dim. 800 x 600 x 500 mm |
| **EDM die sinking** | Dim. 600 x 420 x 370 mm |
| **Milling 5 axes** | Dim. 400 x 400 x 400 mm |
| **Turning** | Dim. 150 mm x 150 mm Ø<br>Precision 8 µm |

### Taverny plant

| | |
|---|---|
| **Spinning** | Flank steel 1300 mm Ø |
| **Thickness** | Alu 7 mm, steel 5 mm, stainless steel 3 mm, copper alloy 3 mm |
| **Precision stamping** | Mechanical press from 15 to 100 tons<br>Hydraulic press 1 ton |

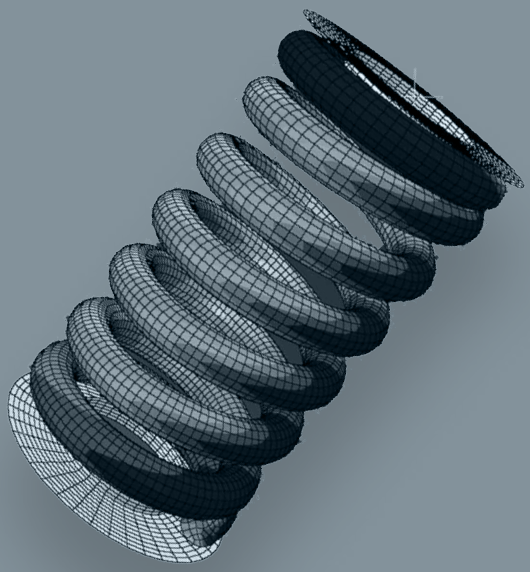









# Advanced research & development



## CGR's STRAIN Lab

CGR International runs its own R&D laboratory to support the co-engineering activities of its production sites around the globe. The facility, labelled STRAIN (Spring Technology ReseArch Institute) has been set up in close cooperation with the Clement Ader Institute (CAI) and the National Institute of Applied Sciences (INSA) in Toulouse. CGR's STRAIN lab thus provides access to the highest level of academic resources.

### Applied science for the industry

STRAIN offers CGR's industrial clients leading-edge R&D capacity which is unique in its genre. Moreover, the applied research programs carried out for multiple industrial applications are leading to numerous scientific publications. An award-winning new calculus for anticipating spring characteristics is among the most prominent outcomes. Other advanced research projects include the additive manufacturing of springs, the prevention of fatigue and breakdown, the optimization of the end coils and the (environmentally beneficial) reduction of overall spring mass.

## Designed for quality

For over 50 years, CGR has been co-engineering and manufacturing springs and components for the aircraft industry. Our products are custom made according to stringent international standards. They are manufactured in production sites exclusively dedicated to the aerospace industry. CGR controls the complete supply chain, from raw material sourcing through to engineering design, prototype qualification and serial production.

We are certified ISO 9001, IATF 16949, EN/AS 9100 and ISO 14001.

# Local presence, global reach


## A healthy and motivating work culture

Our workforce has been the heartbeat of our organization since the beginning. It is our first priority to create a working environment that is healthy, motivating and empowering. We strive for an honest and open company culture that inspires trust, commitment and respect.

Our competitive edge has enabled us to triple our activity over the last decade. Yet, despite our fast growth, we have kept our human spirit. Clients appreciate our accessible and reliable customer support.

## Our vision

- As experts in our field, we want to drive innovation and help build a better world.
- We want to ensure the financial solidity of our group and invest in our future.

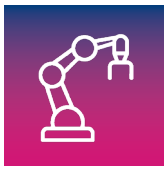
## Our markets

**Mobility**

**Medical**

**Aerospace**

**Electrical Engineering**



**Industrial applications**

## CGR in numbers

| | |
|---|---|
| **1963** | foundation year |
| **1 500** | employees |
| **231 M€** | turnover |
| **24** | plants |
| **11** | countries |
| **4** | continents |
| **1 000 +** | customers worlwide |

## Contact us

**CGR**
2 Rue Henri Poincaré
93270 Sevran - France
T : +33 1 49 36 58 31
contact@cgr-international.com
**www.cgr-international.com**

10/2025 - concept: bb&b
Photos: PDV prod - Gaël Kerbaol - bb&b