

GAUSS | Engineering
Solutions

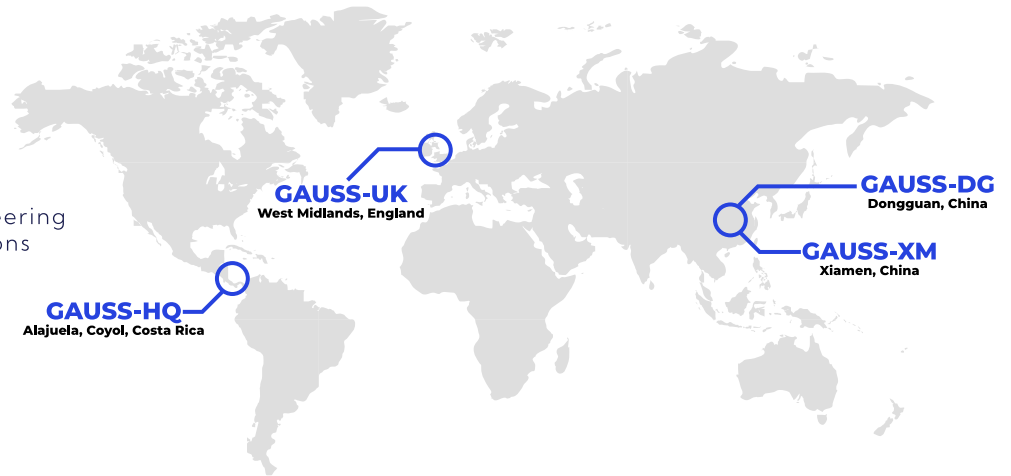
**Worldwide solutions
for the medical industry
and advanced manufacturing**



We are
essential[®]
**COSTA
RICA**



GAUSS



About Us

Driving Innovation & Sustainability in Advanced Manufacturing

At Gauss, we specialize in the manufacturing and distribution of high-volume plastic and metal components for the medical industry and advanced manufacturing sector. Additionally, we offer contract manufacturing solutions allowing companies to optimize production, reduce operational burdens, and maintain the highest quality standards.

We are strategically located in the BES Free Zone, Coyol, and La Lima Free Zone, Cartago, two of the most important hubs in Costa Rica for manufacturing and exportation of medical devices and high-precision components. Our facilities are designed to comply with global industry standards ensuring seamless integration with our clients' supply chains.

We are committed to sustainability, innovation, and operational excellence aligning our practices with Esencial Costa Rica, which emphasizes social progress, environmental responsibility, and technological advancement.

Gauss is proudly supported by key industry organizations in Costa Rica ensuring that we remain at the forefront of advanced manufacturing and global competitiveness.



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Value propositions

Cost Reduction, Efficiency, and Guaranteed Quality

At Gauss, we help our clients optimize their operations through VIP (Value Improvement Projects) achieving:

- Cost reduction by optimizing processes and implementing strategic improvements.
- Up to 85% improvement in lead-time ensuring faster and more efficient deliveries.
- Optimized inventory management and scheduled deliveries to minimize risks and operational costs.
- Quality issue resolution guaranteeing consistency and compliance with the highest standards.



Certifications



**Systems
implementation**



**Kaizen
Method**



**Lean
Manufacturing**



**Process
Automation**



**Artificial
Intelligence**



Mission

At Gauss, we are committed to improving lives of thousands of people around the world through the quality of our components and services providing cutting-edge solutions.

Vision

To be a global company, a leader in innovation, and a pioneer in operational management for the development of the advanced manufacturing industry and the enhancement of people's quality of life.

VALUES

QUALITY

COLLABORATION

SUSTAINABILITY

CUSTOMER
ORIENTATION

ETHIC

INNOVATION

EMPATHY

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Capabilities

Precision, Efficiency, and Reliability in Every Component

Gauss provides a comprehensive range of manufacturing capabilities allowing clients to streamline their operations and achieve superior cost efficiency and quality assurance. Our expertise spans plastic and metal components with specialized solutions in extrusion, injection molding, CNC machining, and contract manufacturing.

- **High-Precision Engineering** – Tight tolerances and advanced machining techniques for consistent product quality.
- **Supply Chain Optimization** – Reduced lead time and cost-effective production strategies.
- **Scalable Manufacturing** – Flexible production capacity tailored to meet market demands.
- **Certified Quality Control** – Compliance with ISO 9001:2015 and industry regulations.

COMPONENT SUPPLIER

High-precision and high- volume **plastic components.**

High-precision and high- volume **metal components.**

CONTRACT MANUFACTURING

- Legacy products
- Finished goods
- Processes & sub-assemblies.
- Re-works



GAUSS
Our Quality System at
GAUSS is certified

Quality System

We hold an **ISO 9001:2015** certification granted by INTECO. Additionally, our distribution center and contract manufacturing plant are certified under **ISO 13485** where the final quality inspection and handling of our products take place.

In this way, we ensure compliance with industry regulations and the quality our clients require. We also conduct annual on-site audits of all our suppliers to guarantee the proper functioning of controls.



PLASTIC COMPONENTS

Extrusion (plastic and silicone)

- Precision, Efficiency, and Reliability in Every Component

Injection molding (plastic and silicone)

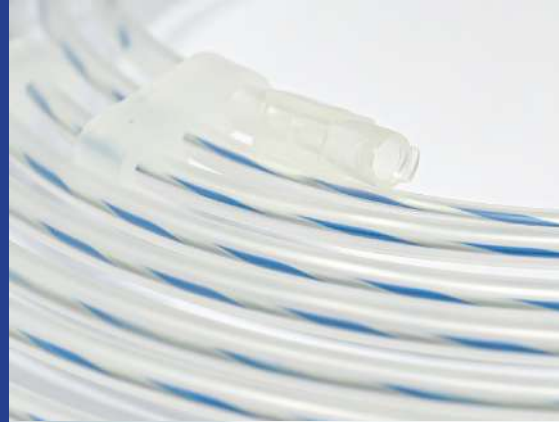
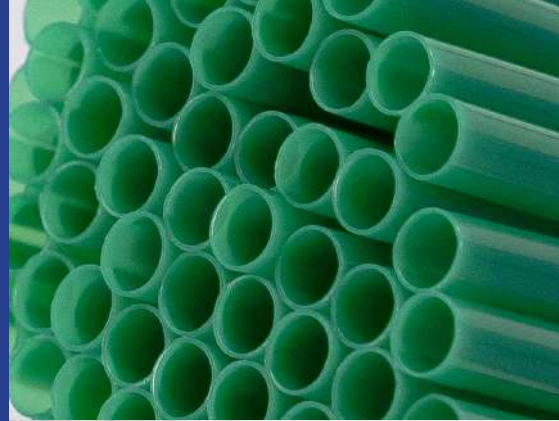
- Connectors, hubs, custom-made parts, enclosures, molded tubes, and precision components.

Shrink and peelable tubing

- Heat-shrink and peelable tubing for medical and industrial applications.

CNC Machining

- Custom-made parts, from micro-components to large-scale precision structures.



EXTRUSION

(Plastic and Silicone)

Single and multi-lumen tubes, rods, custom-made hoses, and flexible profiles.

Our extrusion process ensures high-precision tubing and profiles with tolerances as tight as **0.0001 in (0.0025 mm)**. With 24 machines, we provide consistent quality to a variety of applications. We manufacture **single-lumen and multi-lumen tubing** with up to **8 lumens**. Additionally, we offer co-extrusion allowing tubing to feature multiple colors or material layers for enhanced functionality. We can produce tubing up to **1640 ft (500 m)** length depending on the material. Our products can be supplied as **pre-cut tubes/hoses** or **spools/rolls** for optimized handling and application.

Parameter	Specification
Quantity of Machines	24 Extrusion Lines
Tolerances	±0.0001 in (0.0025 mm)
Max Diameter	3.00 in (76.2 mm)
Lumen Capability	Single-lumen, Multi-lumen (up to 8)
Co-Extrusion	Multi-color and multi-material layers
Max Length	1640 ft (500 m)
Supply Formats	Pre-cut tubing/hose, spools/roll
Daily Production	Per demand
Materials	PEBA, PVC, Silicone, HDPE, MDPE, LDPE, PA, FEP, POM, PU, etc

Experience and Solutions Provided:

- **Reduced lead times** → Improved production efficiency for faster delivery.
- **Cost optimization** → Efficient processes that lower material and operational costs.
- **Quality assurance** → Consistent precision and durability in every component.



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INJECTION MOLDING

(Plastic and Silicone)

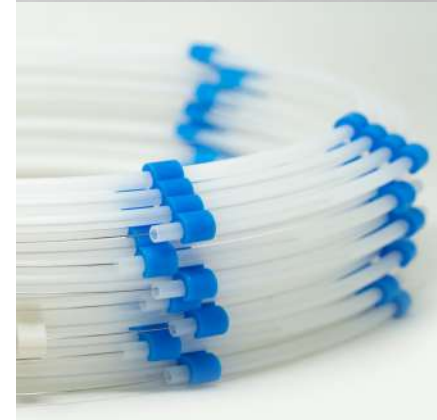
Connectors, hubs, custom-made parts, enclosures, molded tubes, and precision components.

With **38 machines**, we produce high-quality molded components with maximum dimensions of 78.7 in x 59 in x 39.4 in. Our capacity reaches **1,000 tons** with a daily output of 500,000 units. We specialize in over-molding, allowing the combination of different materials to enhance functionality. Additionally, we offer **multi-color molding** varying material hardness levels, and tailored compositions for specific applications.

Parameter	Specification
Quantity of Machines	38 Injection Molding Units
Max Dimensions	78.7 in x 59 in x 39.4 in (2000 mm x 1500 mm x 1000 mm)
Tolerances	±0.0001 in (0.0025 mm)
Production Capacity	500,000 units/day
Over-Molding	Multi-material integration
Color Options	Single and multi-color molding
Material Hardness	Pre-cut tubing/hose, spools/roll
Daily Production	Customizable hardness levels
Materials	PC, silicone, PEEK, PP, ABS, TPE, TPU, PPSU, LCP, PA66, LSR, etc.

Experience and Solutions Provided:

- **Shorter lead times** → Streamlined processes allow quicker production.
- **Cost reduction** → High efficiency in large-scale production.
- **Quality improvements** → Advanced molding techniques ensure defect-free components.



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SHRINK AND PEELABLE TUBING

Heat-shrinkable and peelable tubing for medical and industrial applications.

Gauss specializes in producing shrink and peelable tubing with high precision ensuring reliability for medical and industrial applications. This process shares the same **24 machines** as extrusion. Our products can be supplied as **pre-cut tubing** or **spools/rolls** for optimized handling and application.

Parameter	Specification
Quantity of Machines	24 Extrusion Lines
Tolerances	±0.0001 in (0.0025 mm)
Max Diameter	1 in (25.4 mm)
Supply Formats	31.5 x 23.6 x 19.7 in (800 x 600 x 500 mm)
Daily Production	Per demand
Materials	Customizable hardness levels
Materials	PTFE, FEP, PEEK, Silicona, PVC, PVDF, PET, ETFE, Polyolefin Shrink Tubing, Polyimida (Kapton), etc.

Experience and Solutions Provided:

- **Faster production cycles** → Efficient processes to meet demand.
- **Cost optimization** → Reduced material waste and improved efficiency.
- **High-quality standards** → Consistent thickness and strength for critical applications.



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CNC MACHINING

(Plastic and Metal Capabilities)

Custom-made parts, from micro-components to large-scale precision structures.

CNC Lathe – Turning: The CNC lathe specializes in machining cylindrical components by rotating the workpiece while the cutting tool removes material. Ideal for shafts, bushings, rings, and symmetrical parts with tight tolerances.

Swiss Lathe CNC: This highly specialized lathe holds the workpiece in a guide bushing advancing it axially while rotating. This method minimizes vibration allowing extremely precise, long, and thin parts used in medical devices and electronics.

CNC Milling: The CNC milling machine uses rotating cutting tools to shape materials into complex flat surfaces, cavities, and 3D geometries. Our 3-, 4-, and 5-axis milling machines allow highly intricate machining with minimal repositioning.

Experience and Solutions Provided:

- **Reduced lead times** → Quick turnaround for precision components.
- **Cost-effective manufacturing** → Optimized machining processes.
- **Superior quality** → Consistent and accurate machining for all components.



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Parameter	CNC Lathe Turning	Swiss Lathe	CNC Milling
Quantity of Machines	25	13	20
**Types	Standard CNC Lathe, Y-Axis Lathe, Live Tooling Lathe	High-precision guide bushing lathe for long, thin components	3, 4, and 5-axis milling for complex parts
Max Workpiece Size	12 in x 20 in (300 mm x 500 mm)	1.25 in x 12 in (32 mm x 300 mm)	3-axis: 39.4 x 19.7 x 19.7 in (1000 x 500 x 500 mm) 4-axis: 31.5 x 23.6 x 19.7 in (800 x 600 x 500 mm) 5-axis: 23.6 x 23.6 x 19.7 in (600 x 600 x 500 mm)
Tolerances	±0.0001 in (0.0025 mm)	±0.0001 in (0.0025 mm)	±0.0001 in (0.0025 mm)
Daily Production	500,000 or per demand	200,000 or per demand	300,000 or per demand
Some of the Materials	<p>Plastics: PEEK, PTFE (Teflon), PA66 (Nylon 66), POM (Delrin - Acetal), PC (Polycarbonate), ABS, PMMA (Acrylic), PE (UHMW Polyethylene), PVDF (Polyvinylidene Fluoride), Ultem (PEI - Polyetherimide), PPS (Polyphenylene Sulfide), HDPE (High-Density Polyethylene), PVC (Polyvinyl Chloride), PET (Polyethylene Terephthalate), LCP (Liquid Crystal Polymer).</p> <p>Metals: Stainless Steel (304, 316, 17-4 PH), Aluminum (6061, 7075), Titanium (Ti-6Al-4V), Brass (C360), Copper (C110), Inconel (625, 718), Tool Steels (D2, A2, H13), Carbon Steel (1018, 4140), Magnesium Alloys, Cobalt-Chrome Alloys.</p>		
Ideal for Fabrication	Shafts, bushings, rings, threaded components	Medical implants, micro-screws, long precision components	3D profiles, cavities, prismatic parts, custom structural components
Advantages	<ul style="list-style-type: none"> High-speed production for cylindrical components Consistent precision with minimal waste Ideal for high-volume production 	<ul style="list-style-type: none"> Superior accuracy for small, high-precision parts Minimal vibration, ensuring exceptional tolerances Optimized for mass production of tiny components 	<ul style="list-style-type: none"> Versatile machining for complex geometries Multi-axis capability reduces repositioning and enhances precision Suitable for prismatic, structural, and cavity components

** CNC Lathe – Turning

- Standard CNC Lathe: For simple cylindrical parts or those with low-complexity geometry.
- CNC Lathe with Y-Axis: Allows small side milling operations such as grooves or holes.
- CNC Lathe with Live Tooling: Integrates secondary milling functions without needing to transfer the part to another machine.

** CNC Milling

- 3-Axis Milling: Movement in X, Y, and Z; ideal for parts with perpendicular and simple cuts.
- 4-Axis Milling: Adds rotation over an additional axis allowing cuts on different faces without repositioning the part.
- 5-Axis Milling: Simultaneous movements in all axes, ideal for complex geometries in a single operation.

METAL COMPONENTS

Mandrels and pins

- Precision mandrels, guide pins, hypotubes, and custom-designed metal rods.

Springs and clips

- Multi-shape springs, custom clips, wire forms, and precision bending solutions.

Stamping and bending

- High-precision stamped metal parts, custom-bent components, and sheet metal forming.

Connectors and screws

- Micro-screws, fasteners, custom connectors, and precision-machined threaded components.

PTFE Coating treatment

- Low-friction, high-durability PTFE coating for medical and industrial applications.

Laser cutting and NC punching

- High-precision laser cutting and punching for sheet metal, tubing, and custom profiles.



MANDRELS AND PINS

Precision mandrels, guide pins, hypotubes, and custom-designed metal rods.

Our **17 machines** allow for precision manufacturing of mandrels and pins used in medical, aerospace, and industrial applications. We specialize in tight tolerance manufacturing to meet high-precision requirements. Mandrels can be up to **137.8 in (3.5 m)** in length with diameters ranging from **0.01 in to 0.500 in (0.25 mm to 12.7 mm)**. They can be customized with **rounded, flat, conical, and other tip designs**.

Parameter	Specification
Quantity of Machines	17
Tolerances	0.004 in - 0.315 in (0.1 mm - 8 mm)
Max Length	0.0004 in - 0.472 in (0.01 mm - 12 mm)
Diameter Range	Multi-form, fully custom-made
Tip Options	±0.0005 in (0.0127 mm)
Materials	Stainless Steel (304, 316, 17-4 PH), Titanium, Aluminum, PEEK, PTFE, POM, PA66, Ultem, Nitinol

Experience and Solutions Provided:

- **Precision machining** for high-tolerance applications
- Consistent quality across production runs
- Solutions for material selection and performance optimization



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SPRINGS AND CLIPS

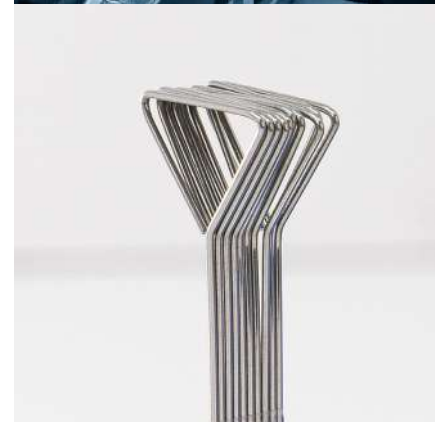
Multi-shape springs, custom clips, wire forms, and precision bending solutions.

We offer high-precision forming of **springs and clips**, capable of bending **SS bars from 0.1 in (0.1 mm) to 8 in (8 mm) and iron bars from 0.01 in (0.01 mm) to 12 in (12 mm)** using our **35 machines**. Springs can be multi-form and are completely **custom-made** to meet specific application needs.

Parameter	Specification
Quantity of Machines	35
Material Thickness (SS)	0.004 in - 0.315 in (0.1 mm - 8 mm)
Material Thickness (Iron)	0.0004 in - 0.472 in (0.01 mm - 12 mm)
Customization	Multi-form, fully custom-made
Tolerances	±0.0005 in (0.0127 mm)
Materials	Stainless Steel (304, 316, 17-4 PH), Iron, Copper, Titanium, Beryllium Copper

Experience and Solutions Provided:

- Custom bending for various applications
- Consistent performance for high-durability parts
- Optimized production processes to reduce costs



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STAMPING AND BENDING

High-precision stamped metal parts, custom-bent components, and sheet metal forming.

Our **20 machines** allow for precision stamping and bending of various metal components. We specialize in custom geometries and **on-demand production capacity**. Our bending capabilities include **stainless steel (304, 316, 17-4 PH) from 0.0004 in (0.01 mm) to 0.315 in (8 mm) and iron up to 0.472 in (12 mm).**

Parameter	Specification
Quantity of Machines	20
Material Thickness (SS)	0.004 in - 0.315 in (0.1 mm - 8 mm)
Material Thickness (Iron)	0.0004 in - 0.472 in (0.01 mm - 12 mm)
Materials	Stainless Steel (304, 316, 17-4 PH), Aluminum, Brass, Copper, Titanium

Experience and Solutions Provided:

- Flexible production capacity for high and low volumes
- Complex geometries and high-precision stamping
- Solutions for cost-effective material usages



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CONNECTORS AND SCREWS

Micro-screws, fasteners, custom connectors, and precision-machined threaded components.

With **40 machines**, we manufacture up to **500,000 units daily** of high-precision connectors and screws specializing in **micro-screws** for electronics, automotive, and medical industries.

Parameter	Specification
Quantity of Machines	40
Production Capacity	500,000 units/day
Specialization	Micro-screws
Tolerances	± 0.0002 in (0.005 mm)
Materials	Stainless Steel (304, 316, 17-4 PH), Brass, Titanium, Copper, Aluminum, PEEK

Experience and Solutions Provided:

- High-volume, consistent production
- Precision threading and fastening solutions
- Custom geometries and material options



GAUSS

PTFE COATING TREATMENT

Low-friction, high-durability PTFE coating for medical and industrial applications.

Our **PTFE Coating Treatment** enhances material performance by providing superior **wear resistance, reduced friction, and exceptional chemical protection**. This process is ideal for components requiring **non-stick properties and high durability** such as medical instruments, industrial parts, and aerospace applications.

Parameter	Specification
Coating Thickness	0.0002 in - 0.002 in (0.005 mm - 0.05 mm)
Max Workpiece Size	48 in x 48 in (1219 mm x 1219 mm)
Tolerances	±0.0005 in (0.0127 mm)
Surface Properties	Non-stick, corrosion-resistant, chemical-resistant
Materials	Stainless Steel (304, 316, 17-4 PH), Aluminum, Brass, Copper, PEEK, PA66

Experience and Solutions Provided:

- Enhanced wear and corrosion resistance for extended part lifespan
- Low-friction coatings to improve efficiency in high-performance applications
- Custom thickness and material compatibility for specialized industries



GAUSS

LASER CUTTING AND NC PUNCHING

High-precision laser cutting and punching for sheet metal, tubing, and custom profiles.

Our **Laser Cutting and NC Punching** services provide **high-precision cutting with superior edge quality** reducing post-processing and ensuring optimal material utilization. This process is suitable for **intricate designs, tight tolerances, and high-repeatability production** for industries such as electronics, medical devices, and aerospace.

Parameter	Specification
Quantity of Machines	10
Max Sheet Thickness	Up to 0.75 in (19 mm) for metals, 1.5 in (38 mm) for plastics
Cutting Precision	High-definition laser cutting for fine details
Edge Quality	Clean cuts with minimal burrs
Materials	Stainless Steel (304, 316, 17-4 PH), Aluminum, Brass, Copper, Polycarbonate, PEEK

Experience and Solutions Provided:

- High-precision cutting for complex geometries and detailed parts
- Minimal material waste and optimized cost-efficiency
- Fast turnaround times with consistent repeatability for large-scale production.



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CONTRACT MANUFACTURING

Cost Reduction, Efficiency, and Guaranteed Quality

Gauss provides Contract Manufacturing (CM) solutions tailored to meet the needs of OEMs and industrial clients aiming to streamline production, reduce operational burdens, and optimize costs. Our services include Legacy Product Management, Finished Goods Manufacturing, Process and Sub-Assembly Integration, and Re-Work Solutions. By partnering with Gauss, clients can focus on their core business while we ensure efficient and high-quality manufacturing.

Additionally, our CM services help OEMs and manufacturers free up valuable facility space enabling them to introduce new products, implement new technologies, expand operations, and execute seamless production transfers—all without diverting focus from their strategic business objectives.

CM Capabilities:

- **Legacy Products** – Extending the lifecycle of mature but profitable products through outsourced manufacturing.
- **Finished Goods** – Full-scale production of OEM-acquired products that require third-party manufacturing.
- **Processes & Sub-Assemblies** – Secondary processes that allow OEMs focus on core operations.
- **Re-Works** – Inspection, segregation, and correction of defects to recover value and maintain compliance.



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Legacy products

Sustaining Mature Yet Profitable Products

Many OEMs and companies own legacy products—older but still profitable product lines that continue to generate demand. However, maintaining in-house production for these products can strain resources that could be directed toward new innovations. Gauss offers a turnkey manufacturing solution ensuring that legacy products remain profitable and available without the operational burden.

- **Seamless outsourcing** – Maintain product availability without in-house overhead costs.
- **Regulatory compliance** – Production under ISO and industry standards.
- **Supply chain efficiency** – We handle raw material sourcing and logistics.
- **Quality assurance** – Consistent product quality across all batches.

Finished goods

Supporting OEM Acquisitions with Scalable Manufacturing

In many cases, OEMs acquire companies not necessarily for their entire product portfolio, but for a specific product or technology. As a result, certain acquired products may no longer align with the OEM's core focus but still hold market potential. Gauss provides contract manufacturing for these products allowing OEMs to keep them available without tying up internal resources.

- **Turnkey production** – Complete manufacturing, assembly, and quality control.
- **Cost-effective scaling** – Produce at demand-driven volumes with flexible manufacturing solutions.
- **Inventory optimization** – Manage stock levels efficiently while maintaining availability.
- **Market-driven approach** – Keep products available while assessing market performance.



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Processes and sub-assemblies

Enabling OEMs to Focus on Core Business

Many OEMs require secondary processes or sub-assembly production that, while necessary, are not part of their core operations. Gauss provides controlled and non-controlled environment manufacturing allowing companies to outsource non-core production tasks while maintaining the highest quality standards.

- **Controlled and non-controlled environments** – Tailored solutions for precision and compliance.
- **Seamless integration** – Support for complex sub-assemblies and multi-stage production.
- **Cost and time savings** – Reduce internal workload while increasing efficiency.
- **Enhanced focus** – Free up internal resources to focus on innovation and market expansion.
- **Facility space optimization** – Helps companies reallocate space for new technologies and products.

Re-works

Comprehensive Rework Solutions to Maintain Quality and Compliance

Manufacturing defects, process inconsistencies, or material mix-ups can create significant operational challenges. Gauss provides comprehensive re-work solutions including visual and dimensional inspections, material segregation, and correction of defective products. Our expert engineers design customized rework plans which must be approved by the client before execution ensuring full compliance with industry and client-specific standards.

- **Shorts and material segregation** – Identify and separate mixed materials or defective units.
- **Reprocessing defective parts** – Correct manufacturing errors to recover usable products.
- **Comprehensive inspections** – Visual, dimensional, and functional verification.
- **Client-approved rework plans** – Execution begins only after client validation.
- **Flexible execution** – Rework services available for finished goods, packaging, and sub-processes.
- **Facility space efficiency** – OEMs can focus on strategic objectives without managing rework in-house.



GAUSS

Participations



Awards



Innovation Award CADEXCO 2024

R&D – Driving Innovation in Medical Technology

Pioneering the Future of Medical Devices

At Gauss, we are committed to research and development (R&D) as a core driver of innovation. We are currently developing a cutting-edge medical device designed and engineered entirely by Costa Rican talent marking a transformative step toward establishing Gauss as a leading OEM (Original Equipment Manufacturer).

Our vision extends beyond a single device—we aim to redefine medical procedures and solve existing challenges through innovative solutions.

- **100% Costa Rican engineering** – A testament of local talent and technological capabilities.
- **OEM transformation** – Expanding Gauss' expertise from manufacturing to proprietary product development.
- **Solving real-world challenges** – Identifying and addressing inefficiencies in existing medical procedures.
- **Innovation-driven solutions** – Leveraging R&D to push the boundaries of medical technology.

Our dedication to medical innovation ensures that Gauss remains at the forefront of engineering excellence and healthcare advancements.

GAUSS



Facts Sustainability – Gauss’ Commitment to a Greener Future

At Gauss, sustainability is not just a commitment—it is a core pillar of our operations. As part of our alignment with Esencial Costa Rica, we actively implement initiatives that reduce our environmental footprint and promote responsible resource management.

- **Water Conservation**

We optimize water usage through efficient production processes minimizing waste and promoting sustainable consumption in all our operations.

- **Energy Efficiency**

By integrating renewable energy sources and energy-saving technologies, we significantly reduce electricity consumption ensuring a more sustainable manufacturing process.

- **Reforestation & Carbon Footprint Reduction**

We actively participate in reforestation programs contributing to the regeneration of natural ecosystems and the mitigation of our carbon footprint.

- **Circular Economy & Waste Management**

We implement waste reduction strategies, promote material recycling, and ensure responsible disposal to minimize our environmental impact.

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