

Design and Pre-fabricated Solutions

Quality-assured piping assemblies that support
and deliver optimized project execution

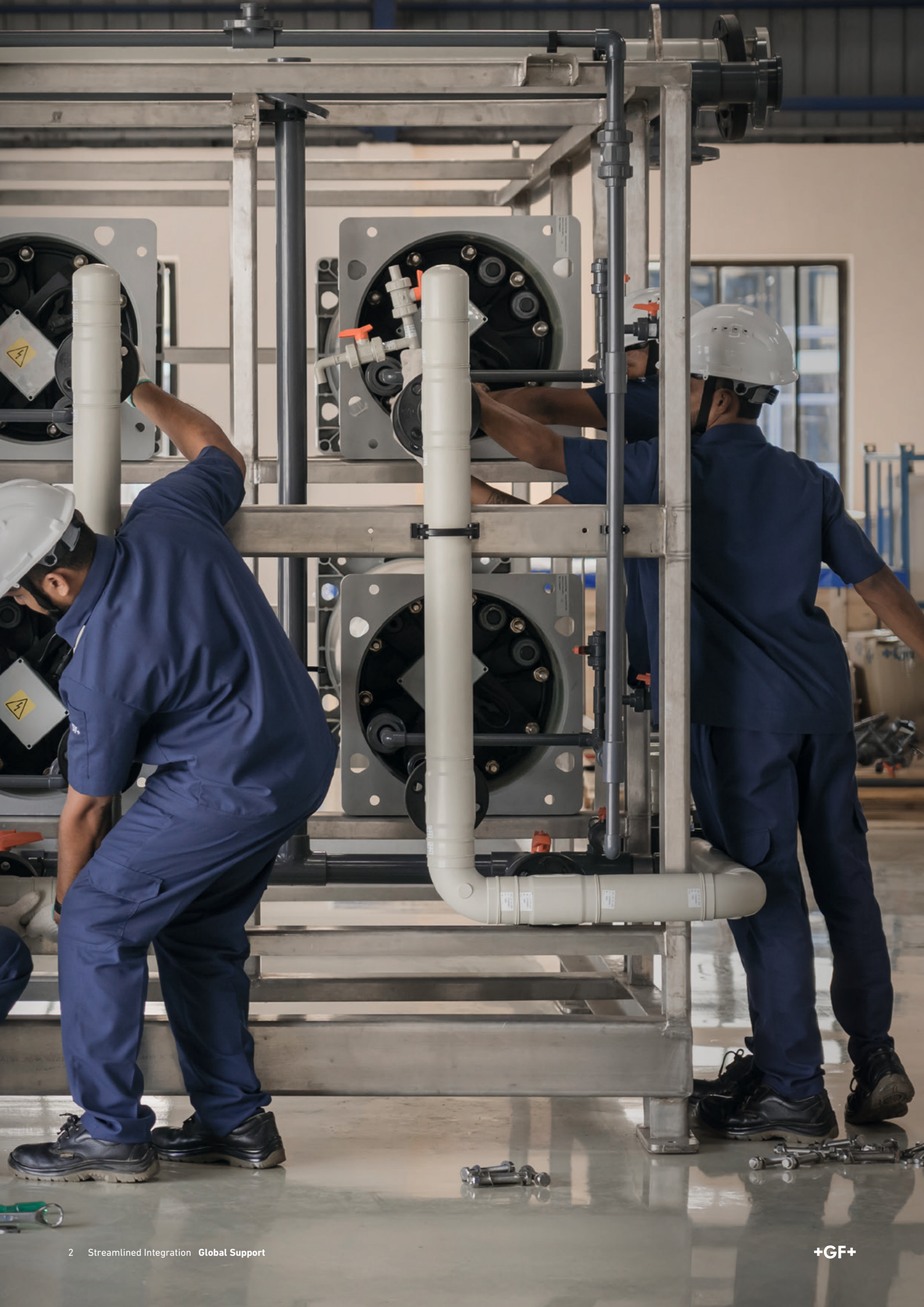
Design and Pre-fabricated Solutions

Simplifying complexity by maximizing efficiency

As industrial projects grow in scale and complexity, companies face tight deadlines, increasing regulatory demands, complicated logistics scenarios, and complete traceability of installed components.

At GF, we understand that every project is unique, and trust is at the heart of every successful partnership. Our integrated approach minimizes project risks and ensures traceability across all components. We are committed to simplifying your journey. At GF we manage the entire supply chain process from raw materials to final pre-fabricated components, passing by the operation of extrusion and injection molding factories and dozens of GF-owned pre-fabrication facilities across the globe. All while optimizing logistics for our customers as efficiently as possible.





Local solutions with global reach for 20 years

A proven effective network that provides proximity, technical support and logistical strengths wherever our customers operate. With a worldwide fabrication presence, GF ensures consistent quality and scalability.

15+ fabrication facilities

worldwide to ensure rapid delivery and minimal transport costs

500+ best-in-class fusion machines

from GF deployed in our network

Scalability of solutions

quick ramp-up of project-focused locations

5 dedicated clean rooms

fastest commissioning of ultrapure water production

Connected knowledge

Seamless global collaboration for over 20 years of engineering and fabrication facilities.

Irvine, California (USA)



Monterrey, Nuevo León (Mexico)

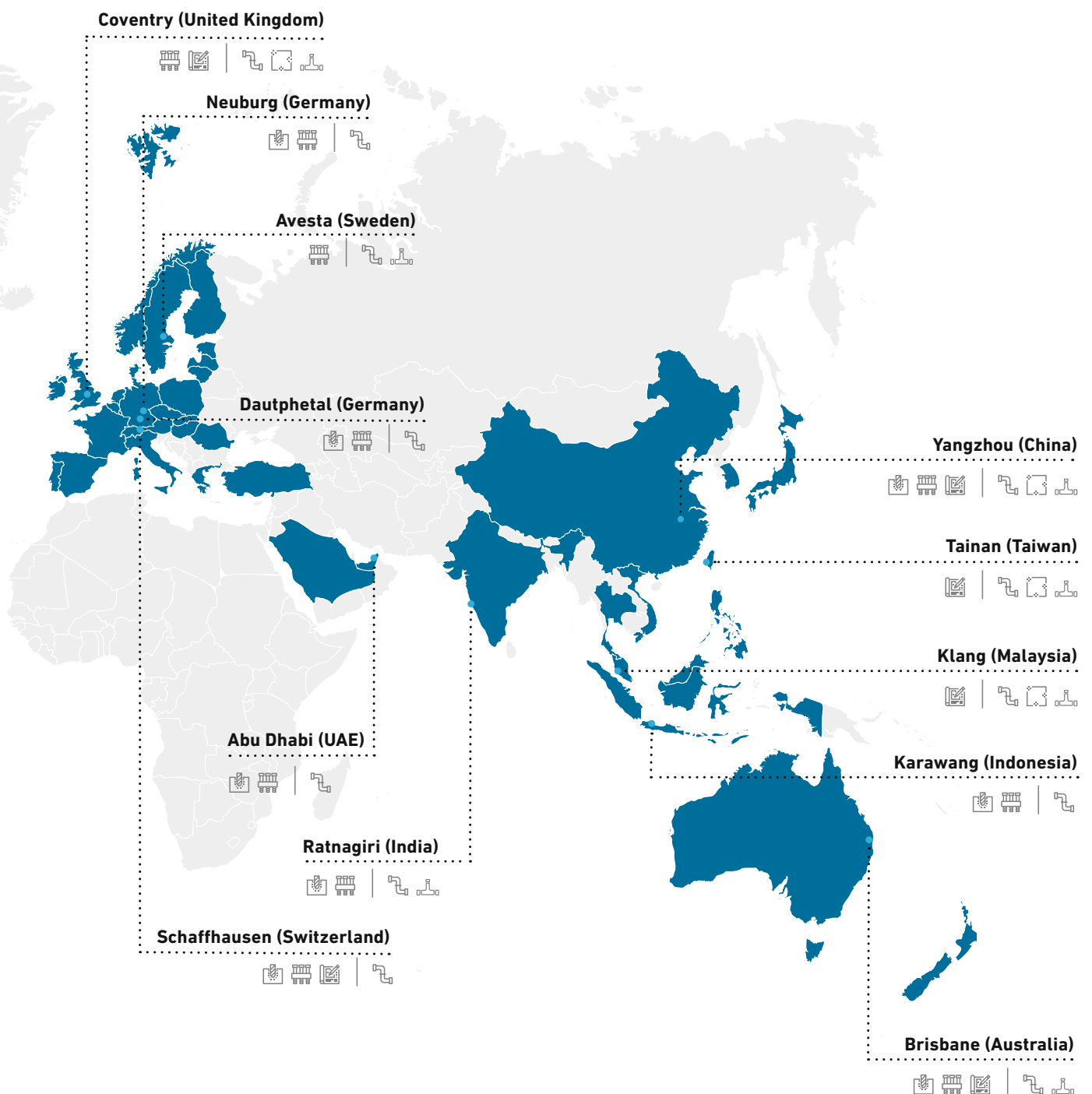


Shawnee, Oklahoma (United States)



Cajamar, São Paulo (Brazil)





Off-Site
Manufacturing

Fabrication Clean room Skid assembly

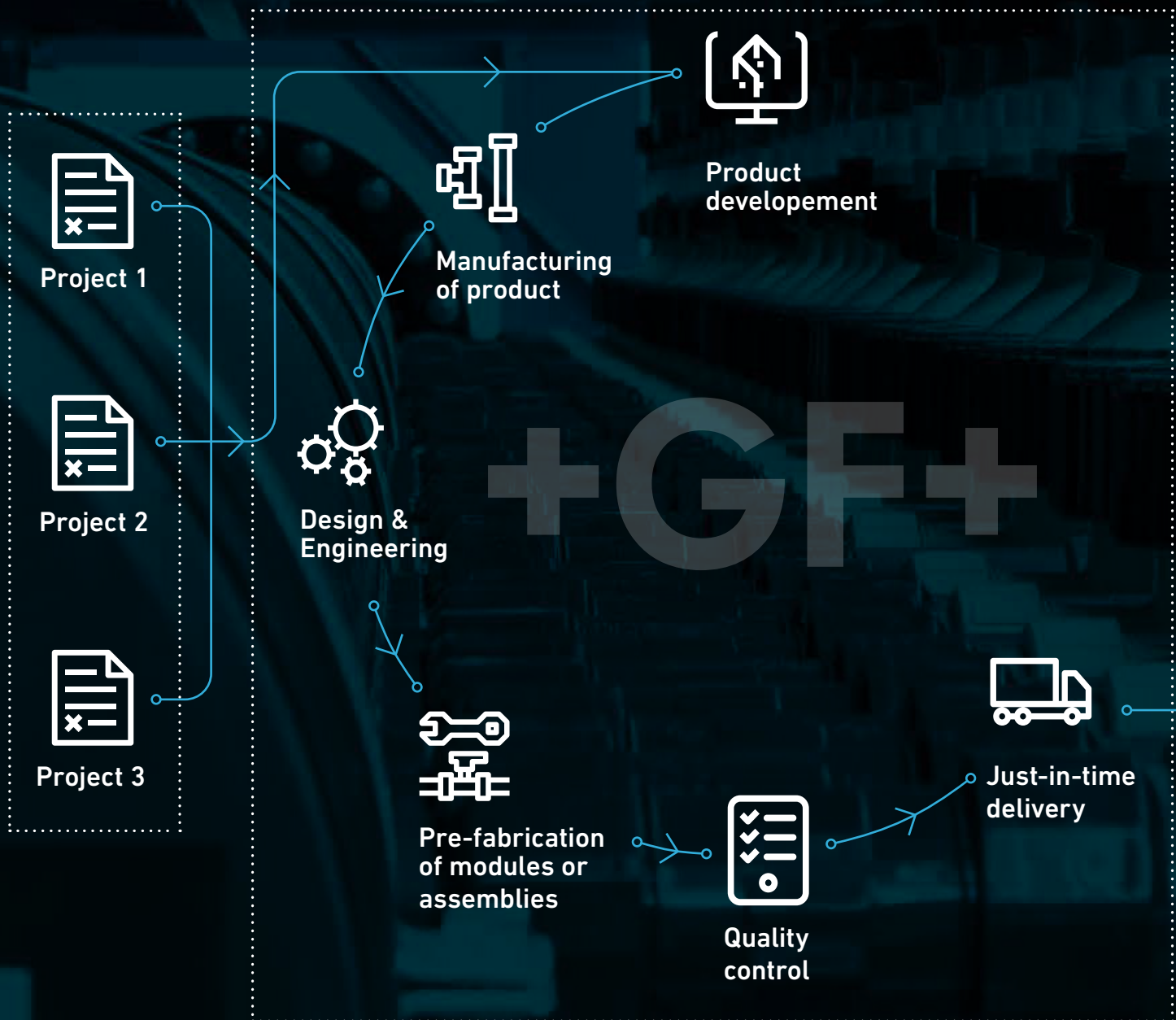
Custom Products

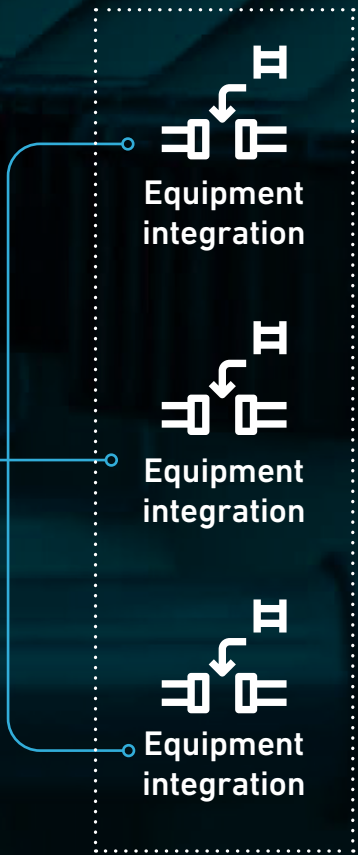
Header production Machining Design/engineering

Optimized construction process

Forward integration

Ensure smooth project execution, eliminate inefficiencies, and reduce risks at every stage. GF controls the entire value chain, from 7 types of materials to 100,000+ manufactured components to endless pre-fabrications, ensuring increased quality, traceability, and a simplified supply chain.





Equipment
integration

Equipment
integration

Equipment
integration

100%

end-to-end QA/QC
based on GF's minimum standards,
adaptable to projectspecific requirements

Seamless traceability

End-to-end quality
mindset and documented
prefabrication operations

250+

experienced fabricators
trained and certified across all facilities

1,000,000+

welds/year
delivered by our teams

5 Engineering hubs

around the globe specializing
in mechanical, structural, and process-
specific (PSA/hydraulic) design.

Ready when you are

Partners in Project Execution

By minimizing on-site labour and optimizing supply chains, we help our customers reduce costs and accelerate project completion, without compromising quality. We deliver reliable, high-quality pre-fabricated solutions designed by specialized engineers and assembled by experienced and certified installers.



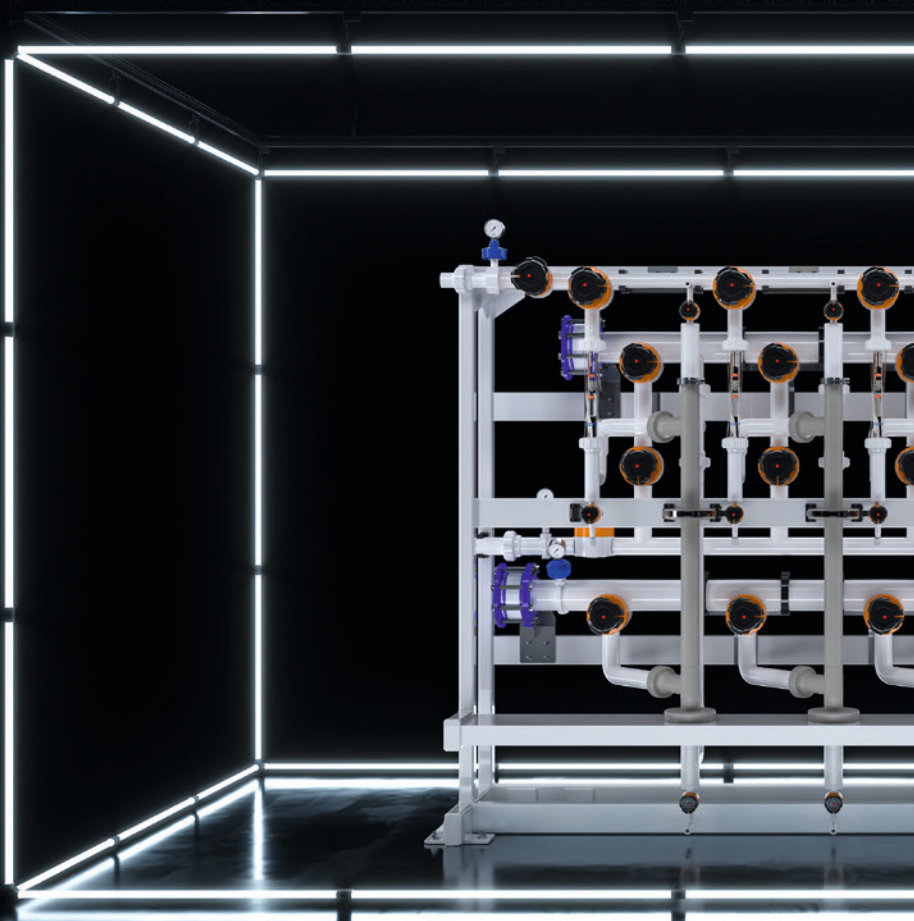
Operational confidence

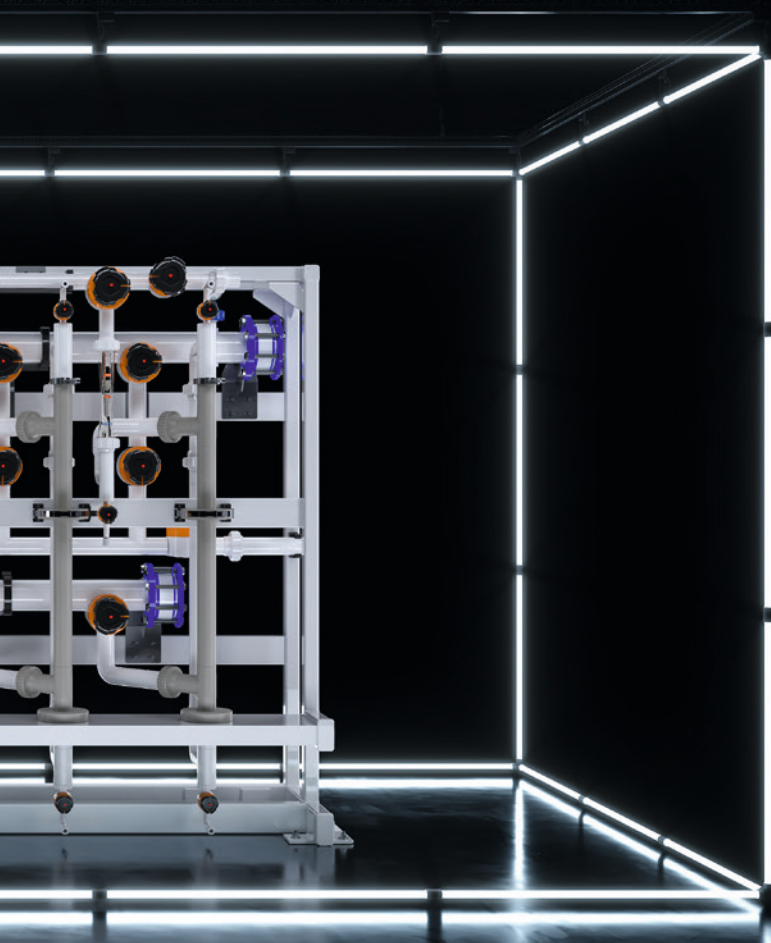
Every component delivered is engineered to perform exactly as per your demands, providing a total fitness for purpose.



Forward Integration

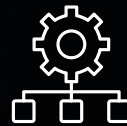
Quality and consistency from raw material to fabricated components.





Engineered efficiency

Pre-fabrication allows for labor efficient and high quality installation.



Streamlined infrastructure

A worldwide network of fabrication facilities and engineering for every project execution.

Specialized knowledge

Proposal and Detail Engineering Solutions

Every project is unique, but engineering challenges remain the same: ensuring precision, efficiency, and long-term reliability

Design Excellence

By integrating engineering as the first step to pre-fabrication, GF minimizes errors, improves efficiency, and simplifies installation.



Global consistency

A unified engineering approach ensures standardized solutions across all locations.



Optimized supply chain

Standardizing pipe assemblies ensures efficient delivery schedules.



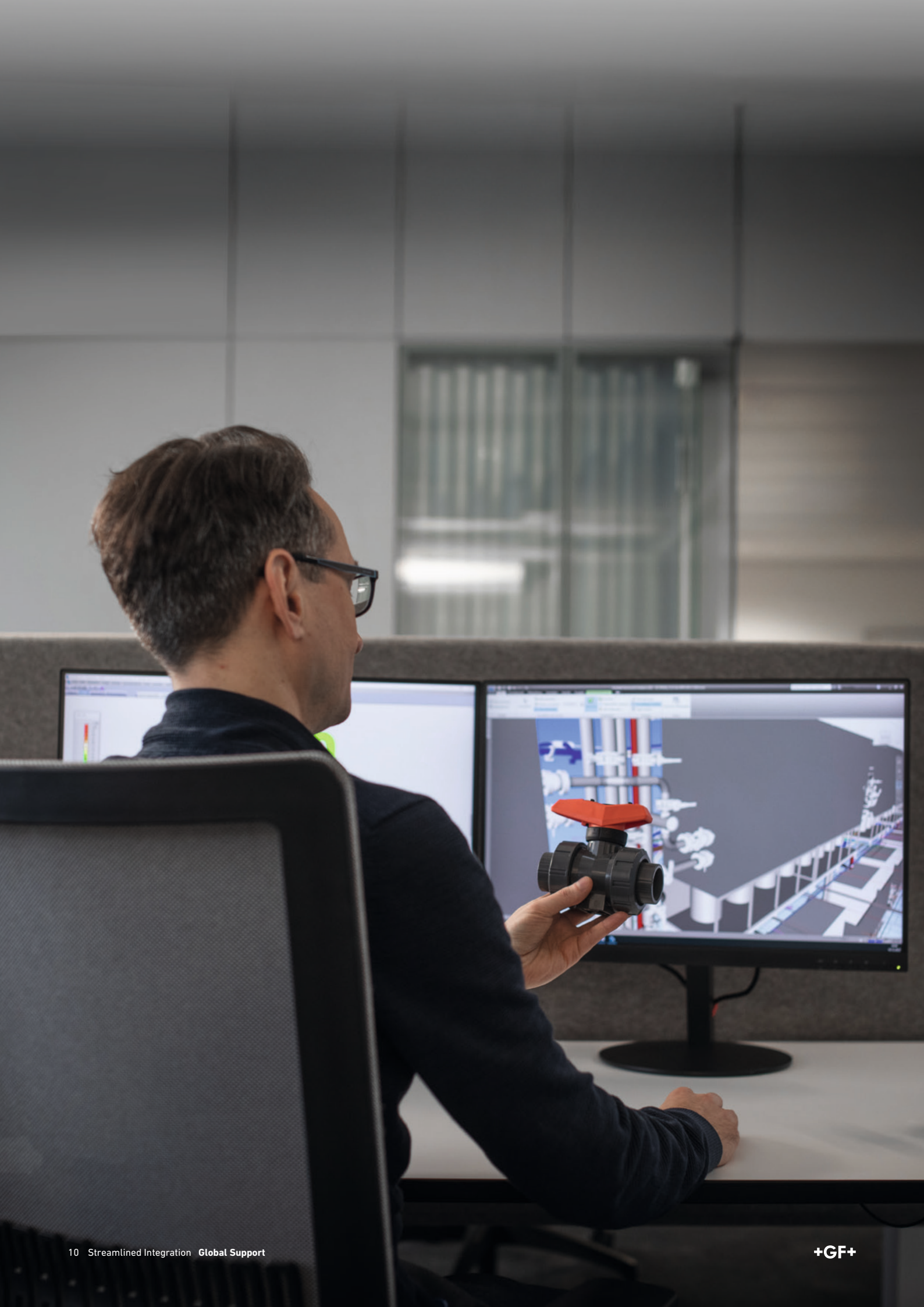
Streamlined project execution

Transforming complex piping designs into assemblies for faster installation for on-site crews.



Logistics-optimized prefabrication

Pre-fabricated assemblies designed for efficient transportation and on-site handling.





+GF+

CNC 4.0

Tailored innovation

Pre-fabricated Solutions

GF's fabricated components consolidate integrity of the entire application

Reduce complexity, increase efficiency

By engaging GF's pre-fabrication team early in the design and planning phase, our customers realize improved quality, system integrity, lowered total cost, and optimized timelines.

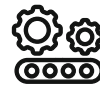


For projects demanding highest level integrity, we offer advanced testing such as Electronic Weld Bead Inspection and Ultrasonic NDT ensuring flawless performance even before installation.



Optimize resources

Minimize the need for a larger specialized workforce on-site. Customer supplied equipment can be integrated, facilitating turn key manufacturing and assembly.



Eliminate on-site installation challenges

Critical work is mostly done under a controlled environment, minimizing the impact of typical space limitations at the project site.



Ready-to-install precision

Our pre-fabricated solutions ensure accuracy, long-term reliability, and rapid bolt-on installation.



Simplify logistics

GF delivers complete pre-fabricated solutions on time; freeing up your team to focus on other mission-critical tasks instead of managing inventory or subcontractors.

Infinite possibilities

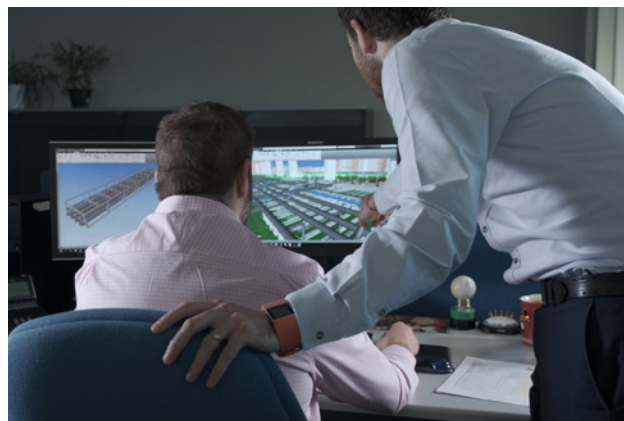
Our portfolio of solutions

GF provides a comprehensive range of engineering services as well as pre-fabricated solutions designed to streamline installation, ensure quality, and enhance efficiency across industries. From the early steps of design to the assembly of customized fittings or fully integrated modular skids, our engineering and pre-fabrication capabilities offer ready-to-install solutions that minimize on-site work and accelerate project execution.

Detail design and modelling for fabrication

Modelling phase to transform proposals into buildable blueprints, ensuring engineered solutions for precise fabrication, integration, and long-term performance

- Construction-Ready Drawings: Translation of conceptual layouts into fully detailed 2D and 3D fabrication drawings tailored for seamless build execution.
- Comprehensive 3D Modelling: Full-system modelling including integration of third-party equipment and interfaces to eliminate clashes and surprises.
- Specification & Design Reviews: Before building, rigorous checks are performed to ensure compliance with project specifications, standards, and client expectations.
- Pipe Support & Bracketry Design: Custom & standard support solutions designed to suit thermoplastic behaviors and site-specific constraints.
- Coordinated Build Accuracy: Every design element is modelled and aligned for constructability, maintainability, and installation efficiency.



Proposal Design & Engineering

A clear, data-driven foundation for successful project execution

- Expert Material Selection: Every proposal is tailored with the most suitable thermoplastics for performance, durability, and compliance in challenging environments.
- Expansion & Contraction Analysis: We factor in thermal movement and stress to ensure long-term reliability.
- Hydraulic & Flow Review: All proposals backed by summary hydraulic calculations to optimize performance from day one.
- Detailed MTO & Commercial Clarity: Transparent, accurate material take-offs and cost breakdowns support confident, informed decision-making.
- Conceptual Design with Sustainability in Mind: Design layouts aligned with project goals and environmental summaries.
- Food & beverage, high-purity chemical processes.

Advanced engineering support

The specialist analysis and simulation backbone for complex thermoplastic pipework systems

- Advanced Pipe Stress Analysis: Simulation of static and dynamic loads, including thermal expansion and pressure surges, using industry-standard design codes.
- Seismic & Buried Load Modelling: Engineering for resilience by analyzing seismic activity, soil interactions, and buried pipe behavior to ensure system integrity.
- Thermal & Flow Simulation: Detailed modelling of heat loss, temperature gradients, and hydraulic behavior to optimize system performance.
- Design Code Compliance: Every analysis is benchmarked against international standards for pressure, flexibility, and safety; tailored to project-specific requirements.
- Integrated Engineering Support: This global team works alongside proposal and design teams to ensure robust, validated, and future-proof engineered solutions.

Pipe racks, modules, and structural integration

Optimizing space and structural stability for complex piping layouts

- Pipe spool integration into engineered steel structures
- Custom-designed bracketing solutions to encapsulate stress loads food & beverage, high-purity chemical processes
- Modular welded & assembled frames for rapid on-site deployment
- Scalable configurations: Pre-assembled units up to full trucking dimensions
- Application fit:
Large-scale industrial facilities, data centers, and power plants requiring robust structural integration



Special fittings, pipe spools, and assemblies

For high-performance fluids handling, customized to your project needs

- Full material compatibility:
ABS, PP, PE, PVC, CPVC, PVDF, ECTFE
- Specialized systems: COOL-FIT, Double See, and Contain-IT for demanding applications.
- Size range: from small-bore piping to large-scale solutions up to Ø 1600 mm.
- All types of connections available:
- Fusion technologies: Butt, Socket, Infrared, Electro-fusion.
- Cementing for PVC-U & PVC-C systems.
- Mechanical connections for hybrid integration.
- Application fit:
Ideal for chemical processing, water treatment, cooling systems, and industrial fluid transport.

Skid building and assembly

Fully integrated solutions for mission-critical processes

- Turnkey skids with piping, instrumentation, and control components.
- Precision assembly in protected environments for Ultra-Pure Water (UPW) and other contamination-sensitive applications.
- Designed for seamless transport & on-site plug-and-play installation.
- High-accuracy fabrication ensuring compliance with process control requirements.
- Application fit:
Microelectronics, Pharmaceuticals, Food & Beverage, High-purity chemical processes.





Specialized facilities and fabricators

Future-proof facilities for maximum reliability

Our pre-fabrication facilities are strategically positioned near engineering hubs to provide seamless access to advanced design expertise and real-time support. With state-of-the-art equipment and rigorous quality control, we enable customers to optimize efficiency without compromising performance.

Cleanroom precision

For industries where purity is non-negotiable, GF's clean rooms offer the highest quality assurance standards, ISO 7 (Class 10.000) clean rooms, ensuring contamination-free pre-fabricated components for applications such as microelectronics, pharmaceuticals, and ultrapure water systems. These specialized environments provide a controlled atmosphere where every joint, weld, and assembly is performed with unmatched precision, minimizing the risk of impurities and defects.

Precision machining for custom components

One fabrication facility per region specializes in the high-precision machining of custom polymer components. Using centrally specified semi-finished materials, all equipment is exclusively used for plastic dry machining.



+ Industry-leading Cleanrooms
In compliance with stringent industry standards.

+ Global reach for local execution
Delivering the same quality at every location.

+ Advanced capabilities
State-of-the-art automated welding machines
for accurate high-volume production.

**+ Seamless support
even during peak demand**
Facilities scale rapidly to meet project deadlines
while maintaining consistent quality.



Good to know

With a global presence and engineering excellence, we ensure every project is executed with precision; anytime, anywhere.

Strong connections

Advanced jointing solutions

Versatile jointing solutions for
application-optimized installations

Our global pre-fabrication shops use advanced in-house jointing technologies, ensuring the delivery of high-quality, ready-to-install components.

Cutting-edge jointing solutions

With over 60 years of expertise in polymer piping systems and three decades of leading infrared fusion technology, we are setting the standard in high-performance jointing.



Digitized for full traceability

Every weld is monitored, recorded, and digitally stored.



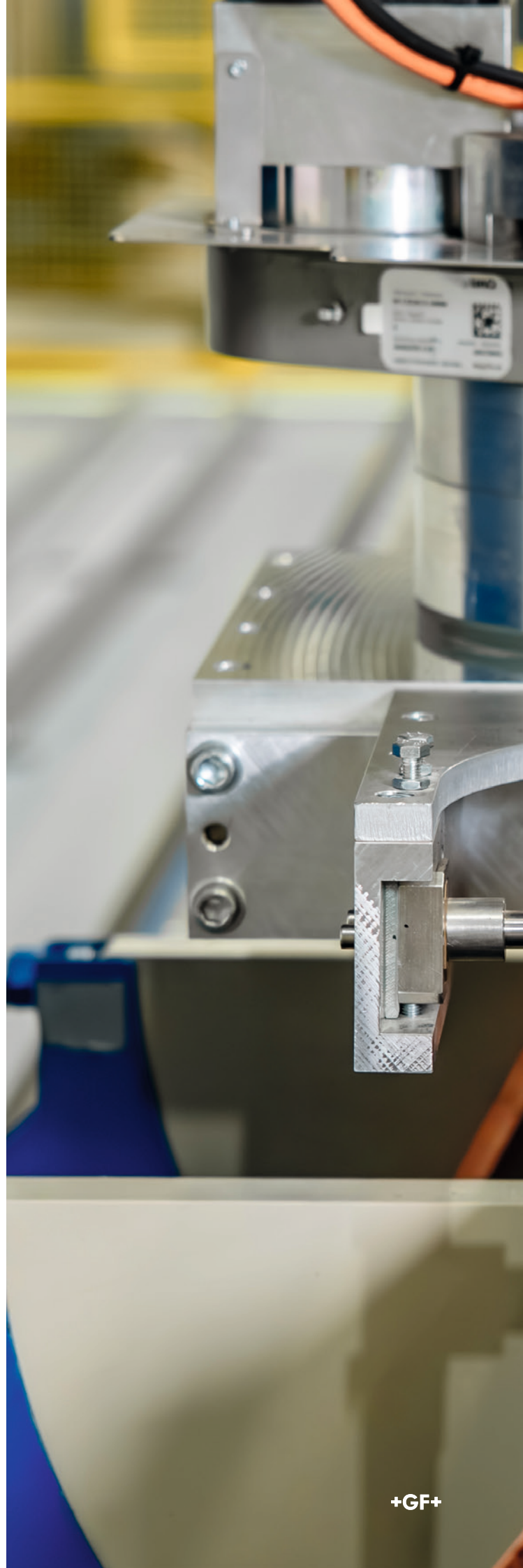
When and where you need it

As a trusted partner in flow solutions, we also provide equipment rental centers.



Manifold perfection

High-precision fusion machines are available to manufacture complex manifolds with absolute accuracy for high volume demands, ensuring 100% alignment with design specifications across a wide range of diameters.





Installer training

Global Academy

Certifying you future

With a growing skills shortage in the construction sector, ensuring a qualified workforce is more important than ever. GF's comprehensive training programs ensure that every installer is certified, minimizing the risk of improper handling or jointing failures.





+ From theory to hands-on

All that your installation teams need to know in advanced joining technologies, including IR welding, butt fusion, electrofusion, solvent cementing, and mechanical joining.

+ Industry-Recognized Certifications

Participants receive official accreditation, verifying their ability to execute high-quality, secure polymer piping installations.

By combining state-of-the-art joining solutions with comprehensive installer training, we ensure that every project benefits from seamless execution, superior quality, and long-term reliability.



Learn more
gfps.com/global-academy



Success stories

Real-world impact

Pre-fabrication and engineering support to ensure safe operation of a major industrial refining plant

Chiyoda Corporation sought a cost-effective, safe, and chemically resistant piping system for a large-scale refining plant, demanding precise tolerances and rapid installation. GF provided the PROGEF polypropylene welded system, prefabricating over 1,000 spools at multiple global facilities. This streamlined approach reduced onsite labor, accelerated installation, and ensured stringent quality adherence. High-performance polymer materials delivered substantial long-term savings and improved operational safety, enabling Chiyoda to confidently meet demanding project timelines without compromising on quality or performance.

Extensive engineering services enable a cost-efficient retrofit

GF provided components and services to overhaul the jet thrust-ersystem onboard the Swedish icebreaker Oden. On board, using standard components was impossible, so GF provided engineering support to create a custom solution. In addition to the dimensioning of the pipes, this also required services such as a feasibility study, pipe stress analyses, hydraulic calculations, and analyses of flow characteristics and energy consumption.



Pre-fabrication solutions in support of a perishable market opportunity in the Microelectronics segment

A Microelectronics company had an urgent need to quickly build a fab to focus on immediate demand opportunities in the marketplace with a specific integrated circuit chip. The customer approached GF to see what could be done to reduce factory construction time by 30%. The solution proposed was a pre-fabrication facility to be placed in close proximity to the construction site so that GF could rapidly deliver pre-fabricated piping solutions that could quickly be 'bolted into place' and the system could be fully functional in 60% of the previously built factory timeline.

The new facility, including a cleanroom, was put into operation in 90 days. GF managed the procurement of all components, secured and trained the local workforce, aligned with a local transporter, and optimized the schedule interactions with the general contractor to enable rapid delivery of pre-fabricated solutions, which were often installed on the very same day. The customer stated their intention to employ this optimized model on future construction projects.



Reduced construction times for a hyperscale data center in Dublin

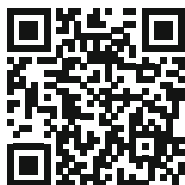
A major hyperscale data center in Dublin required a robust cooling system totaling 70MW. Facing this industry's tight schedules, traditional construction methods were impractical. GF stepped in with ecoFIT pre-fabricated HDPE piping solutions, offering pre-fabricated components for swift onsite deployment. Expert engineering, stress analysis, and rigorous ultrasonic testing accelerated the project timeline dramatically – from an estimated six months to just six weeks – while ensuring a top-quality first-time-right installation approach. GF's precision and commitment to reliability significantly streamlined the construction process, delivering operational excellence ahead of schedule.



Excellence in Flow

Visit our webpage to get in touch with your local specialist:

www.georgfischer.com/locations



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