

SITEC



医疗器械系统合作伙伴

System partner for medical technology

专业技术 | 生产系统 | 系列生产
Technologies | Production systems | Series production

SITEC在全球范围内开发、制造并提供高科技生产系统, 并生产用于医疗技术的精密零件和器械。

为了满足医疗技术的特殊要求, SITEC为其客户提供全面的工程专业知识以及多年在材料激光加工、电化学加工和自动化装配方面的经验。保证产品顺利进入量产并满足质量要求。
可机加工的材料范围包括钢和不锈钢以及有色金属(如钛、镍、铝和铜)的各种材料, 并包括各种塑料和玻璃。我们不断与业界及研究伙伴紧密合作, 以增强我们的专业技术。



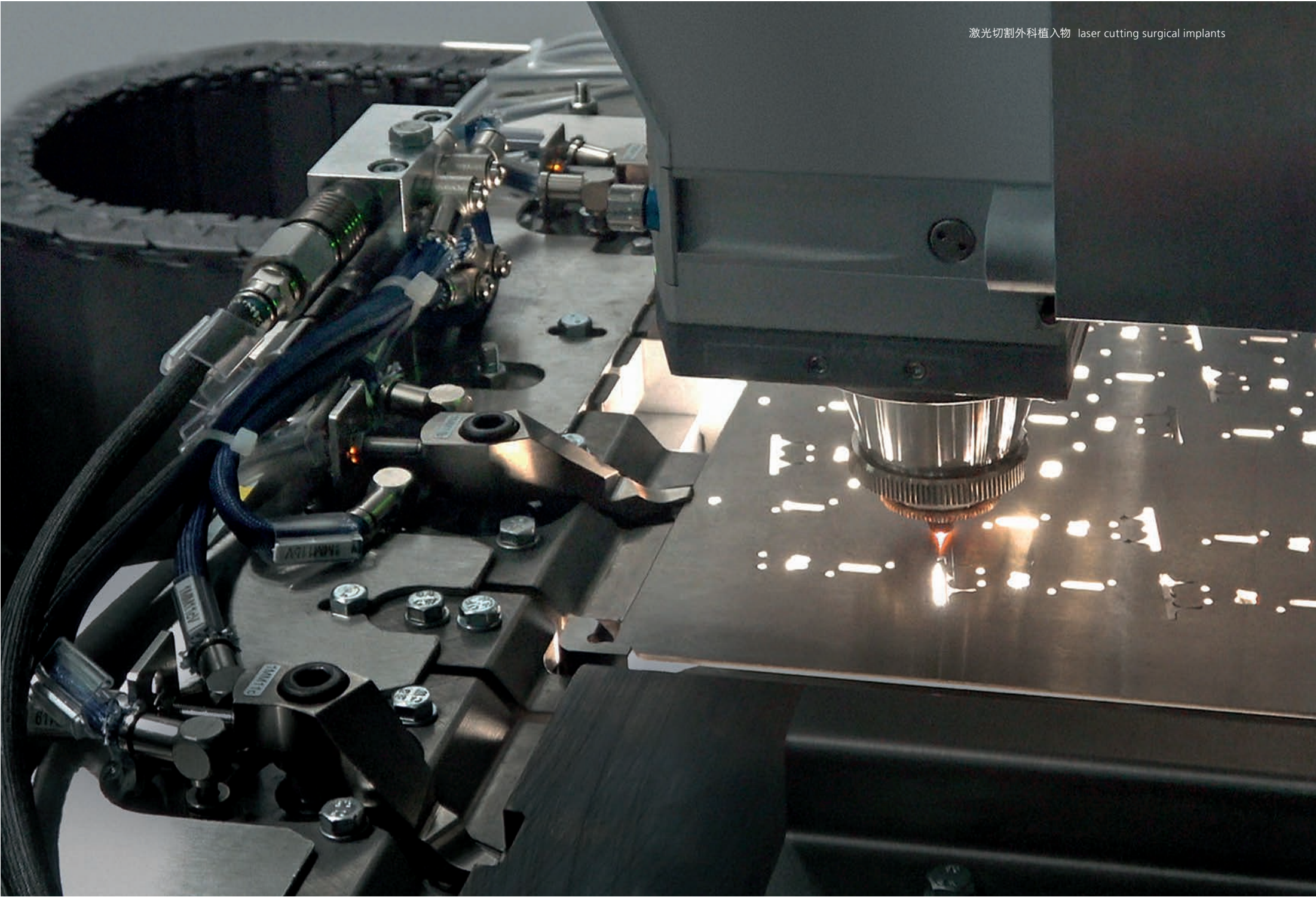
Technological expertise 技术能力

SITEC develops, manufactures and delivers high-tech production systems worldwide and produces modules and precision parts on a series scale for medical technology.

To meet the specific requirements of medical technology, SITEC offers its customers comprehensive **engineering expertise** and **many years of experience in laser machining of materials, electrochemical machining and automated assembly**. This foundation guarantees series-ready, quality-certified products.

The range of materials that can be machined encompasses everything from steels and stainless steels through non-ferrous metals, such as titanium, Nitinol, aluminium and copper, to various plastics and glass. We are continuously extending our expertise in close collaboration with partners from industry and research.

认证 Certifications: ISO 9001
ISO 14001
IATF 16949



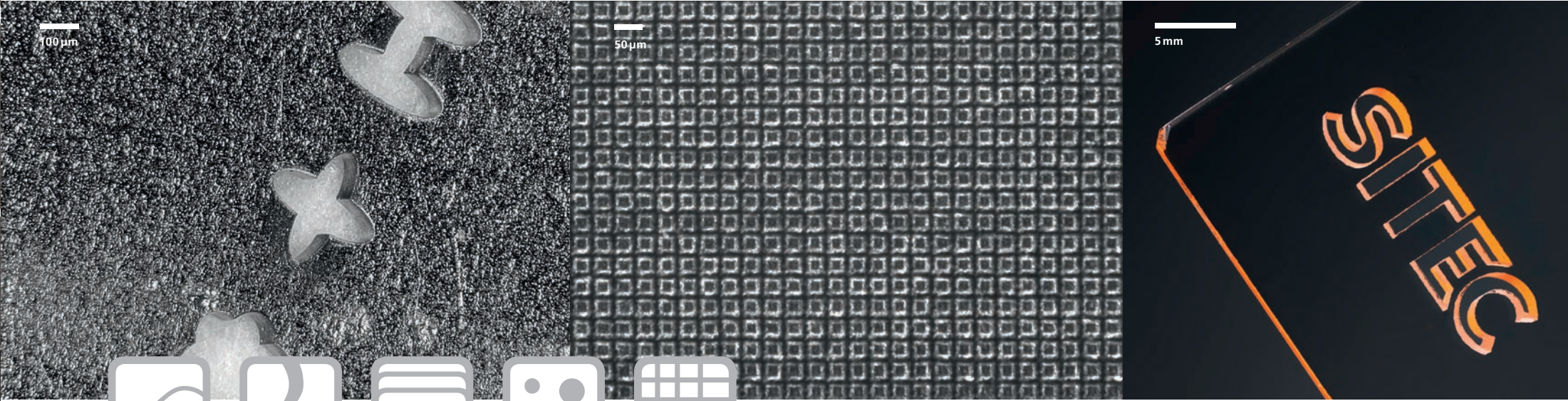
激光切割外科植入物 laser cutting surgical implants

激光技术使高精度、高效率的医疗器械加工成为可能。激光焊接、微激光切割、微小局部表面激光淬火以及3D微细钻孔、微细结构化和微细表面去除。SITEC使用各种激光束源，例如CO₂、二极管、光纤、碟片或超短脉冲激光器。超短脉冲激光为微米级的超精密加工，甚至对温度敏感的材料，开辟了崭新的可能性。我们经验丰富的应用工程师和设计人员团队将乐于支持您进行产品的技术开发。

Laser technology makes the high-precision, efficient machining of medical devices possible. The range of technologies includes laser welding, fine laser cutting and laser hardening of extremely small local surfaces as well as 3D micro-drilling, micro-structuring and micro-removal. SITEC uses various laser-beam sources for this, such as CO₂, diode, fibre, disc or ultrashort-pulse lasers, based on their optimal suitability for particular applications. Ultrashort-pulse lasers are opening up brand new possibilities for ultra-precision machining in

the micro-metre range, even for temperature-sensitive materials. Our experienced team of application engineers and designers will be happy to support you in the technological development of your products.

Laser machining of materials 材料的激光加工



镍钛合金的激光微钻孔、钛的激光微结构、玻璃的激光切割（图从左到右）
laser micro-drilling of Nitinol, laser micro-structuring of titanium, laser cutting of glass (images l. to r.)

电解加工 Electrochemical machining

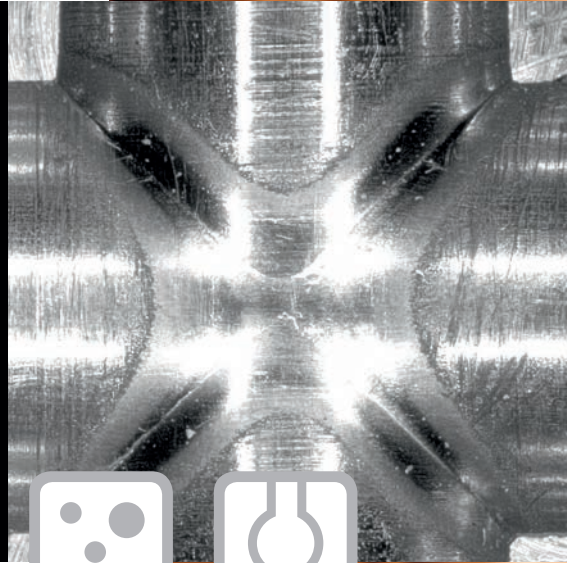
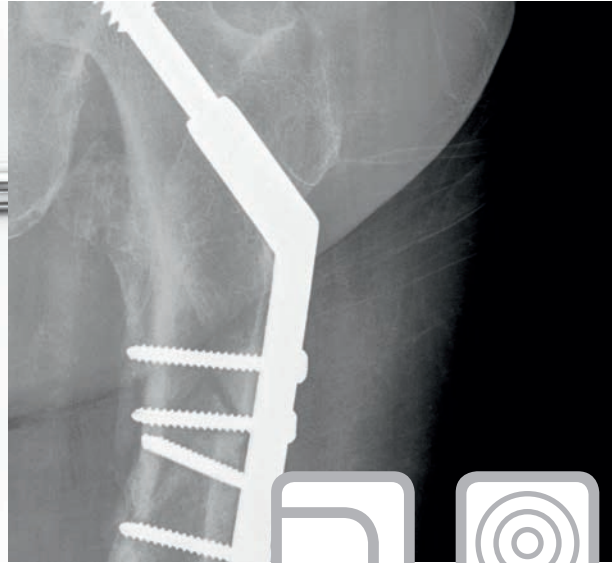
电化学加工(ECM)及其复杂的工艺提供了最大的可靠性, 尤其推荐用于制造具有高于平均要求的医疗器械, 例如植入物, 以满足质量要求。关键应用包括去毛刺、钻孔和定义的倒角。我们可以在应用中心进行样件加工, 以向您展示该工艺的能力。

Electrochemical machining (ECM) and its process variants offer maximum reliability and are particularly recommended for the manufacture of medical devices with above-average requirements for quality and customer confidence, such as implants. Key applications include the deburring of drill cuts and defined chamfering. We can carry out sample machining at our application centre to show you the capabilities of the process.

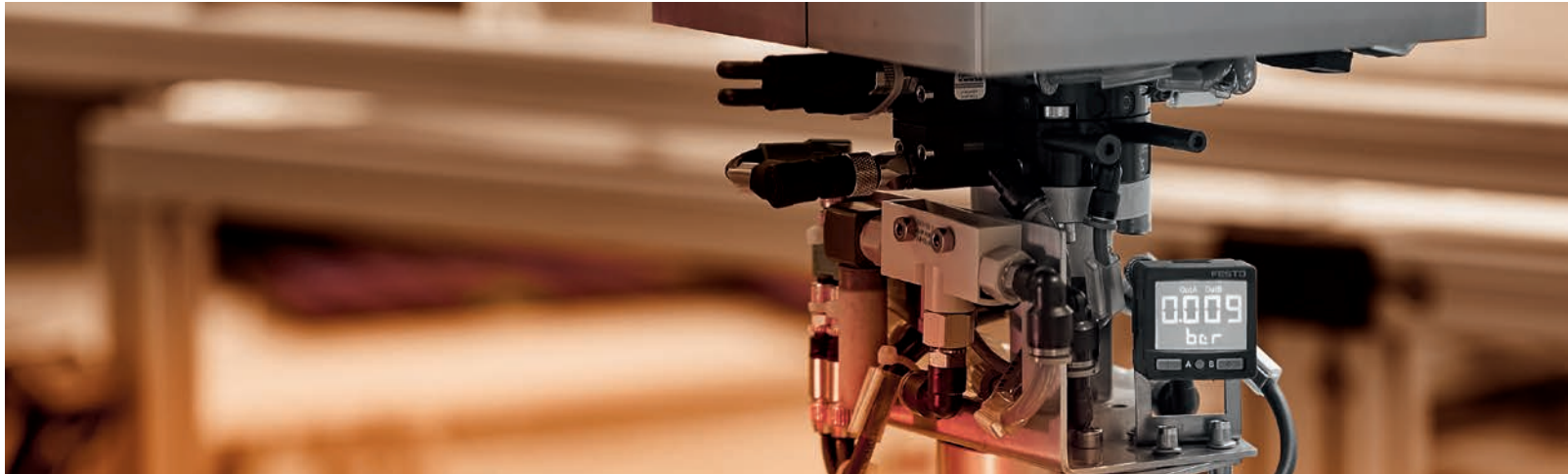
Assembly technologies 装配技术

自动化装配是我们的专长。我们多年来在自动化装配过程和装配技术, 以及集成测试、智能图像处理和激光处理方面积累了丰富的经验。零件运转和搬运系统满足不同的零件需求。所有装配过程都保证数据完整, 确保了100%的可追溯性。

The automation of assembly processes is our speciality. You can rely on our many years of experience in the automation of assembly processes and assembly technologies as well as the integration of testing processes, intelligent image processing and laser processes. Transport and handling systems are adapted to the respective requirements. All assembly processes are controlled, ensuring 100% traceability.



外科植入物中交叉口的去毛刺
Deburring of drill cuts in surgical implants



用于吸入装置的自动组装和测试
Automated assembly and testing of membranes for inhalation devices

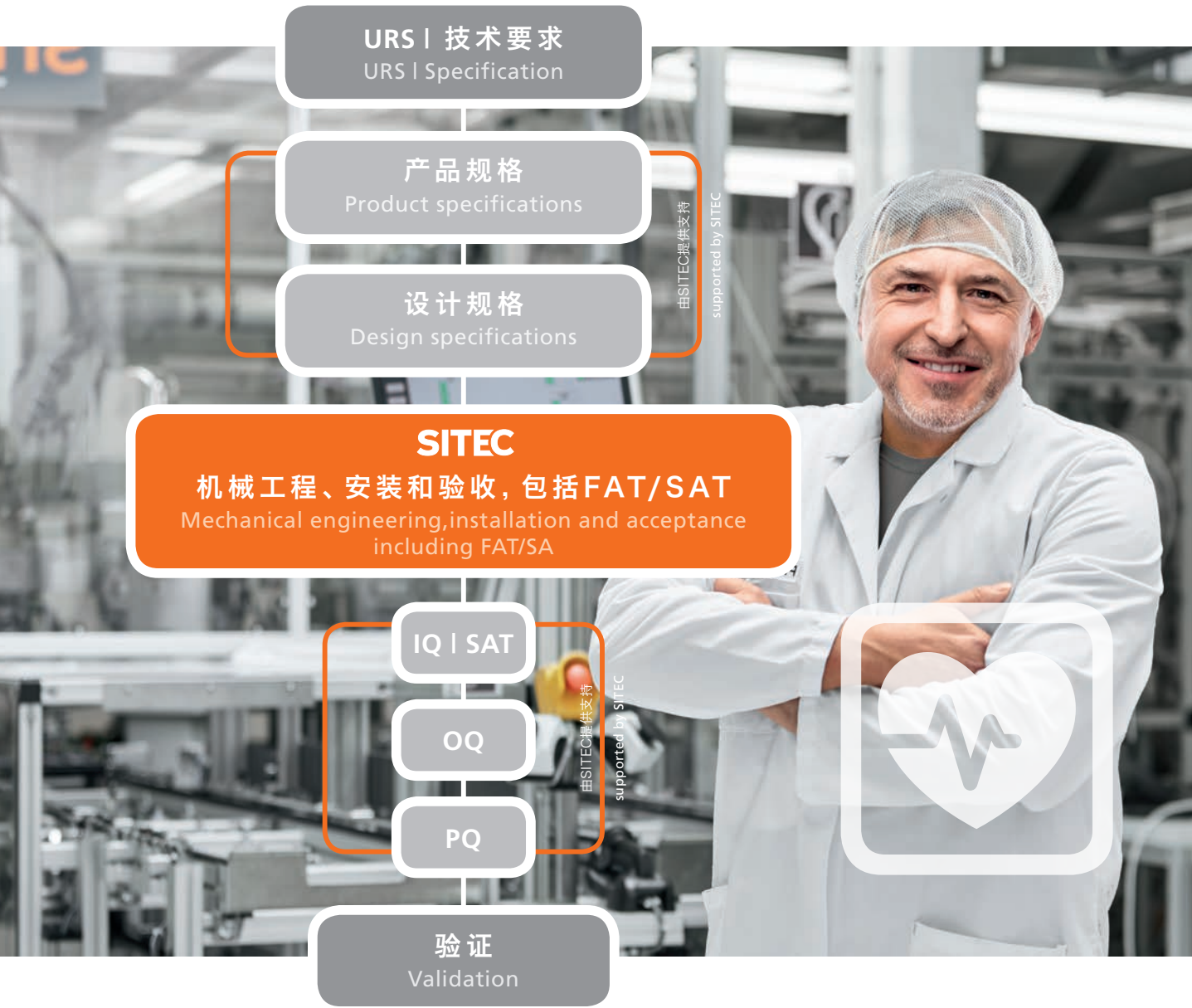
机械工程 Mechanical engineering

我们根据客户要求及行业标准开发及生产可靠的柔性制造生产系统。我们的产品组合涵盖从部分到完全自动化的装配、激光和ECM系统等所有方面。我们自行设计工装, 以确保客户产品的最大精确度和可重复性。我们为客户提供的服务包括系统规划、项目管理、设计、生产、装配以及全球售后服务。

我们在Varioview ATC MDA/ODA系统中记录操作和产品数据, 用于质量保证和生产评估。

We develop and produce reliable production systems for flexible manufacturing in accordance with customer requirements and industry standards. Our portfolio covers everything from partially to fully automated assembly, laser and ECM systems. We build our own jigs to ensure maximum precision and reproducibility of customer products. Services for our customers include system planning, project management, design, production and assembly as well as worldwide service.

We record operating and product data in our Varioview ATC MDA/ODA system for quality assurance and production evaluation.



Experienced industry partner 经验丰富的行业合作伙伴

作为一家全球领先的技术公司, 我们很高兴在产品开发的早期阶段为您提供支持。我们提供技术建议, 并根据行业特定的医疗技术要求开发定制的生产系统。

多阶段流程用于SITEC的系统的初步验收 (工厂验收测试 — FAT) 以及在客户地点交付和重新投入使用后 (现场验收测试 — SAT)。我们提供专业支持, 以进一步验证流程 (PQ、IQ、OQ), 直至您的产品的市场发布。

As a leading technology company, we are happy to support you in the early phases of your product development. We provide advice regarding technological issues and develop customised production systems in accordance with industry-specific medical-technology requirements.

A multi-stage process is used for preliminary acceptance (factory acceptance test – FAT) of the systems at SITEC and after delivery and recommissioning at our customer's location (site acceptance test – SAT). We provide professional support for the further validation process (PQ, IQ, OQ) through to the market release of your products.

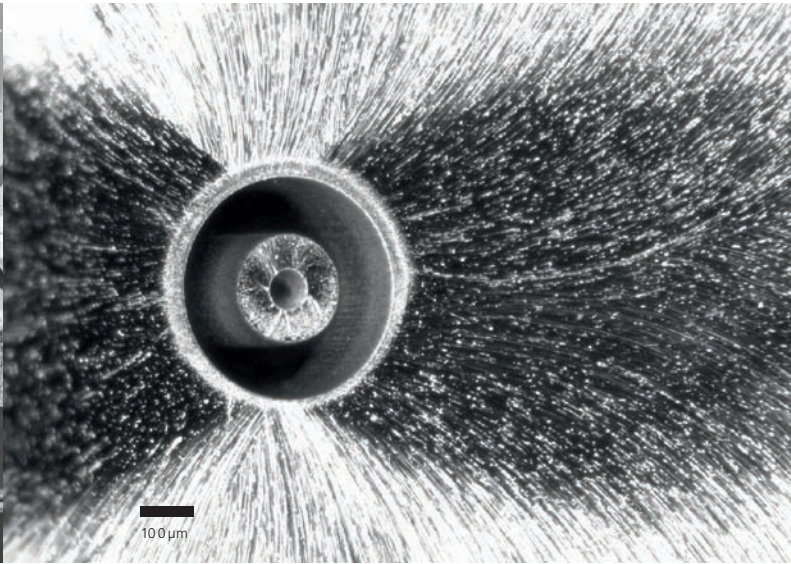
高性能系列产品 High-performance series production

壁厚薄、表面质量要求高、精度达微米级, 属于医疗产品的典型要求。多年来我们一直采用机械精加工、激光微加工、EC去毛刺等多种工艺组合加工医用精密零件。我们采用符合IATF标准的符合医疗技术要求的质量管理体系。

- 外科器械- 植入物
- 用于诊断的由玻璃和陶瓷制成的微流体组件
- 医用薄膜
- 雾化装置

Thin wall thicknesses, high demands on surface quality and highest precision down to the micrometer range belong to the typical requirements of medical products. We have been processing medical precision parts for years using various process combinations such as the mechanical precision machining, laser micromachining and EC deburring. We use an IATF-compliant quality-management system attuned to the requirements of medical technology.

- Surgical instruments
- Microfluidic components made of glass and ceramics for diagnostics
- Implants
- Medical films
- Membranes



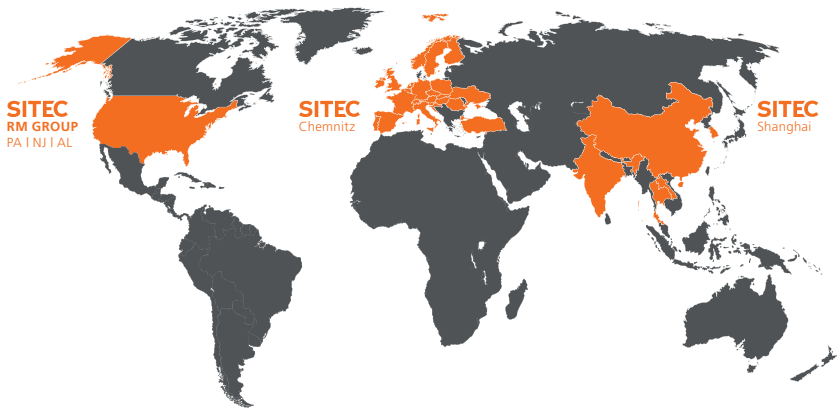
Partner network worldwide 全球合作伙伴网络

机械工程
系列生产
全球服务
我们在欧洲、亚洲和美洲的专业团队和合作伙伴在开发、机械和工业工程、系列产品和服务方面拥有丰富的专业技能和精神, 随时为您服务。

我们为您提供全面的360度服务和支持。您可以随时随地通过SITEC connACT关注您的设备性能, 并从一系列优化工厂和设备性能的过程中获益。

Machinery
Series production
Service
Our employees and partners in Europe, Asia and America are at your disposal with professionalism for development, machine and plant engineering, series production and service.

We offer you comprehensive 360-degree service and support. At any time and any place, you can keep an eye on your processes via SITEC connACT and benefit from a wide range of options for optimizing your plant performance.





机械制造 | 批量生产
Machinery | Series production

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