



JRI Orthopaedics Ltd.

New MDR marking requirements Case Study

Customer Profile

JRI Orthopaedics is a leading UK manufacturer of orthopaedic implants and surgical instruments, based in Sheffield. With over 60 years of experience, the company supplies global healthcare markets and operates under strict regulatory standards, including ISO 13485. Its focus is on innovation, quality and patient safety.

Challenge

JRI needed to comply with new EU MDR requirements mandating durable UDI data matrix marking on every surgical instrument. Legacy marking equipment could not deliver the precision, durability or scalability required across more than 3,500 part numbers.

Solution

Laser Lines supplied a Big SMARK laser marking system equipped with a 20W MOPA laser and coaxial vision system. Adjustable pulse control enabled high-quality data matrix marking without compromising sensitive materials. The integrated vision system ensured precise placement and repeatability. Extensive sample testing optimised parameters across multiple metals, plastics and colours. On-site training and implementation support ensured smooth adoption and future scalability.

Impact

JRI achieved MDR-compliant marking capable of withstanding repeated sterilisation cycles. Marking consistency improved across thousands of part numbers and materials. Production reliability increased while reducing risk of non-compliance. The solution future-proofed JRI's marking capability for new products and materials. Close collaboration established a trusted UK-based technology partnership.



Sisma Big SMARK, Laser Marker

Key Takeaways:

MDR compliance achieved

3,500+ instrument part numbers supported

50+ sterilisation cycles durability target met

High-repeatability data matrix marking

Multi-material capability (steel, titanium, plastics)



"Laser Lines stood out for quality and service. The team listened, understood our requirements and delivered a solution that works. Their technical expertise and willingness to collaborate made all the difference." - Ray Salim, Quality Validation Engineer at JRI Orthopaedics