



Company Overview

Eclipse Orthopaedics has created the STUD FINDER for orthopaedic surgery. This system is a fluoroscopic drill attachment that allows the surgeon to see a target hidden inside a bone and drill through it at the same time, a new capability that will change the way rods and plates are attached to fractured bones. Eclipse has leveraged NIH grants to prove the system's effectiveness and is ready to begin market-intent design and validation for regulatory clearance.

Problem or Market Opportunity

Problem: Leg and hip fractures can be treated by implanting a stiff metal rod, but placing the locking screws to fix the rod to the bone is difficult. Problems in surgery can lead to malrotation of the limb, increased surgery time and radiation exposure, and revision surgery. For about 20% of patients, this procedure results in limb malrotation of 10° or more and changes in gait, which can lead to pain and osteoarthritis.

Current Technology: Most surgeons use the “freehand technique”: a C-Arm fluoroscope is aligned with the target hole axis, the drill bit tip is placed in the center of the hole. The C-Arm is then moved away and the drilling is completed freehand, without further guidance. This method is difficult to learn and master, and it is difficult to keep the skills sharp.

Market: About 175,000 rod implant procedures are performed in the US each year. Including other similar procedures, such as certain plate implants brings the annual estimate of potential procedures up to 400,000. Potential annual revenue for a solution to this problem is \$250M.

Technical & Competitive Advantage

Eclipse’s Radiographic Targeting Attachment™ (RTA) system combines a battery-operated X-ray source, offset drive and radiolucent chuck into a drill attachment. When paired with the X-ray imager and any standard rotary drive, the RTA puts everything needed to accurately align and drill pilot holes for screws surgeon’s hands. In an NIH-funded pre-clinical study, surgeons directly compared the device to the current method and found that the RTA system is faster, produces less radiation exposure, and is easy to learn. This year, thirty surgeons will test the performance of the improved RTA system in pre-clinical trials at three residency programs.

Regulatory Strategy & Intellectual Property

Eclipse’s experienced regulatory experts have determined the RTA system is a class II device with clear predicates for a 510k pathway. The RTA technology is protected with issued and pending US and foreign patents.

Key Milestones

Q/YYYY	Objective	Milestone Description
Q4 2019	Proof of Feasibility	First Pre-Clinical Tests
Q2 2025	Product Development	Complete multi-site cadaver study
Q2 2026	Regulatory Clearance	Validation and Regulatory Filing
Q2 2027	Commercialization	First in-human use and commercial sales

Capitalization History

Year	Grant or Equity Type	Description	Amount
2016	Founding	Founder’s equity	\$1M
2019	SBIR Grant	SBIR Phase 1, I-Corps @ NIH program, and state matching (non-dilutive)	\$330K
2021	Pre-Seed Round	Convertible Notes	\$480K
2023	SBIR Grant	NIH / NIAMS SBIR Phase II Grant (non-dilutive)	\$2M

Current Round, Terms, and Use of Proceeds

Eclipse Orthopaedics requires \$500k in funding to accelerate development of the regulatory-intent design during the Phase II grant period, starting in Q3 of 2024. Following the completion of the Phase II grant in Q2 of 2025, Eclipse will need about \$ 2.0M to complete validation testing and regulatory clearance by Q2 of 2026 and begin limited sales in selected markets by Q2 of 2027.

Key Team Members and Advisors

David B. Rich | Founder and CEO

Mr. Rich has degrees in physics and mechanical engineering and has 30+ years of experience in the development of electronic systems and sensors for the aerospace, automotive and medical device industries. Mr. Rich is the inventor of the RTA system, co-founder of Eclipse Orthopaedics, and is the Principal Investigator for two NIH grants totaling \$ 2.3M

Christopher S. Frazzetta | Founder and Voice of the Customer

As a successful orthopedic device sales representative for major companies including Zimmer, Synthes and Medtronic, Mr. Frazzetta supported surgeons in the OR on a daily basis for 20+ years, witnessing 1000+ surgeries. Mr. Frazzetta now heads Frazzetta Financial, a financial services firm.

Audrey Beckman | Business Advisor

Ms. Beckman is the Chief Innovation Officer for Boomerang Ventures, a former Sr. VP of Zimmer Biomet and has 40+ years of orthopedic experience.

Kevin Greig | Business Advisor

Mr. Greig is a 40-year veteran of the orthopedics business, having held several executive positions including VP of a Trauma business unit.