

AIDDA B.V. - ProtonShot

Digital Capacity Expansion for Proton Therapy



[Infographics here](#)

Stage: TRL 4 → Regulatory-ready MVP (24 months)

Location: [Groningen, Netherlands \(University Medical Center Groningen spin-off\)](#)

1. Executive Summary

AIDDA B.V., a spin-off from the University Medical Center Groningen (UMCG), is disrupting the radiotherapy market with **RadShot** - the first dose-guided patient positioning system. By replacing traditional, manual anatomy-guided alignment with ultra-fast, "physics-aware" dose calculations, we reduce patient setup time from 15 minutes to under 5 minutes.

Our **clinically validated** technology addresses the primary bottleneck in high-CAPEX cancer centers: throughput. By almost doubling room capacity without additional hardware, AIDDA offers a profound ROI for hospitals and a scalable SaaS-driven revenue model for investors.

2. The Problem: The Throughput Bottleneck

Proton therapy centers represent a capital investment of **\$30M to \$40M per facility**, yet they operate at a massive efficiency deficit.

- **The Setup Penalty:** An average 25-minute treatment session wastes 15 minutes (over 50%) on manual patient positioning, with precision dependent on staff skills.
- **The Clinical Gap:** Current positioning is "physics-blind" - it aligns bones and skin, but cannot "see" how internal soft tissue density changes affect the actual dose delivery.
- **The Staffing Crisis:** Global shortages in Radiation Therapists (RTTs) make current 3-person-per-room workflows hardly sustainable.

3. The Solution: RadShot (ProtonShot & PhotonShot)

RadShot uses patented **Dose-Guided Patient Positioning (DGPP)** to automate the alignment process using daily CBCT imaging, advanced AI algorithms and GPU-accelerated Monte Carlo simulations.

- **Speed:** Reduces positioning from 15 mins to around 5 mins.
- **Precision:** Ensures the prescribed dose is accurately delivered to the target, even as internal anatomy shifts.
- **Leverage:** Increases room throughput from 2.2 to 4.0 patients/hour—effectively doubling capacity without new hardware (independent analysis from UMCG).

- **Efficiency:** Reduces required in-room staffing from three RTTs to two (independent analysis from UMCG).

4. Market Strategy: The "Beachhead to Mainstream" Bridge

Phase 1: The Proton Beachhead - TAM: \$ 74 M ARR

- **Why:** High-value, high-urgency niche (~400 treatment rooms globally), feeling the pain of high CAPEX for capacity expansion and skilled staff shortages.
- **Traction:** Formal interest from five proton centers aside from UMCG, documented with LOIs. Names include Holland PTC (NL), MAASTRO (NL), University Hospital Carl Gustav Carus (DE), Skandion Clinic (SE), New York Proton Center (US), Johns Hopkins Proton Center (US).
- **CAGR:** 11~15 % growth in the proton sector.

Phase 2: The Photon Mainstream - TAM: \$ 2 B ARR

- **Why:** Over 15,000 Linear Accelerators (Linacs) worldwide.
- **The Bridge:** Proton centers almost always reside within larger photon departments. RadShot establishes the IT footprint in the "niche" and expands to the "mass market" through established hospital accounts.

5. Revenue Model: Hybrid SaaS

We employ a tiered licensing model designed to capture the value of the capacity we unlock:

1. **Foundational License:** €150k per room, per year (Base implementation).
2. **Volume-Based Premiums:** Annual surcharges (up to €100k) triggered when the center exceeds its traditional capacity caps (e.g., >300 patients/year).
3. **Recurring Maintenance:** €30k/year for updates, MDR compliance, and support.

6. Competitive Advantage & IP

- **IP Protection:** Exclusive licensing of PCT/NL2023/050085 from UMCG. Granted in EU, national phase filed in US, Japan, Australia, and China. **Exclusive licensing agreement** being finalized with UMCG
- **Differentiator:** Unlike competitors (Varian, Elekta) who focus on *re-planning* (slow/resource-heavy), AIDDA focuses on *re-positioning* (fast/low-friction).
- **The "Physics-Aware" Edge:** Standard SGRT (VisionRT, C-RAD) is "blind" to the beam; RadShot is built on foundational Monte Carlo dose calculation expertise.

7. The Team

- **Daniele Farina (CEO):** EMBA in AI, data & analytics @ UvA; international experience in compliance and regulated innovation, leading ingredients compliance within Danone SN R&I Innovation Center with focus on IMF and pharma products for the Chinese market.

- **Prof. Dr. Stefan Both (CSO):** Head of Medical Physics at UMCG, former UPen and MSKCC faculty. KOL with 30 years of clinical research leadership. Co-inventor of ProtonShot.
- **Dr. Gabriel Guterres Marmitt (CTO): PhD in Physics; specialist** in Monte Carlo simulations and AI for medical technologies. Co-inventor of ProtonShot.

8. Investment Roadmap

- **Preferred Capital Track (Seed Round):** AIDDA B.V. is actively seeking a Seed investment as our primary vehicle to launch operations. This capital is essential to immediately assemble our core engineering team - including a Lead Software Developer and specialized engineers - and to bridge the gap between a research prototype and a fully MDR-certified MVP. Our goal is to achieve market-readiness and secure formal sales with at least two clinical centers (including UMCG and our Early Adopters Consortium) within the first phase of growth.
- **Ongoing Grants & Soft Loan Pursuits:** We are concurrently pursuing a €450k NWO “Take-off Phase 2” loan to support technical de-risking and MVP development. While this remains an active track, a Seed round is preferred to provide the agility needed for full regulatory certification (MDR Class IIb) as well as patent maintenance costs, which fall outside the primary scope of the NWO loan.
- **Operational Efficiency:** We are planning to leverage non-dilutive Dutch and EU instruments, such as WBSO fiscal benefits and Rabobank InnovatieLening (RIL), to maximize our runway and cover ongoing costs related to IP maintenance and quality management.

Investment Goal: This Seed investment will catalyze the creation of our high margin ProtonShot beachhead, setting the ground for the expansion into the broader PhotonShot market and ultimately capturing a significant portion of the radiotherapy patient positioning software sector.

Contact: Daniele Farina, CEO | daniele.farina@aidda.net | +31 (0) 6 11 19 02 55 | aidda.net