



Nanoshell Company

NANOTECHNOLOGY POWERED BY INNOVATION

Nanobiotechnology Enabled System for Continuous Blood Purification and Cancer Therapeutics



The Silicon Review[®]

"50 Leading Companies of the year 2020"
Apr 2020



Company Information



Nanoshell Company
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- LLC founded 2009; HQ: Salt Lake City, UT
- Woman and minority owned
- www.nanoshellcompany.com
- **Mission:** Nanoshell Company uses nanotechnology and biotechnology to develop practical solutions for pressing biomedical or commercial needs.

- **Management/Production Team:**

Dr. Agnes Ostafin, MS Eng. Mgmt., PhD Chem. Phys. (President).

Dr. Hiroshi Mizukami, PhD, Biology (Vice President Research)

Aleksandra Olszewska, MS Mat. Chem. (Product Development)

Maciej Olszewski, BS Mat. Chem (Production Management)



USTAR
UNIVERSITY TECHNOLOGY ASSISTANCE

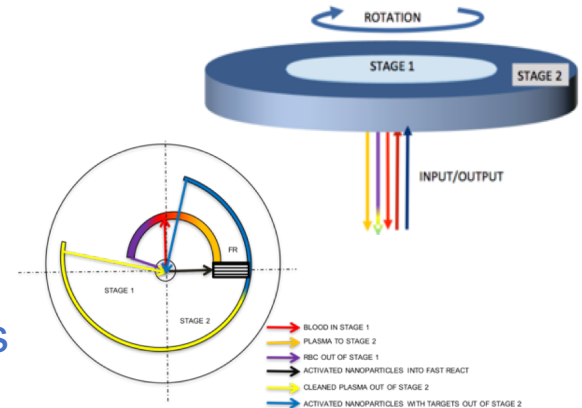
- **Accomplishments:** > \$3M in Federal funding since 2009, 3 patents awarded, 1 pending, 4 commercial products in development. State of Utah Technology Acceleration Program Awardee 2019.



Technology Information

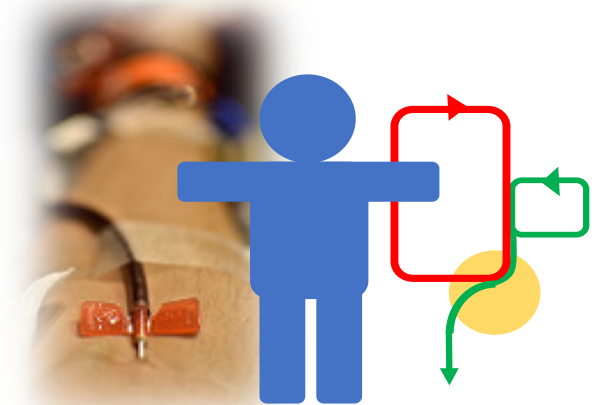
- Cleans blood fast with integrated, patented Nanopheresis and FastReact™ technology.
- Continuous substance recovery in one unit.
- Same machine-many targets-more than dialysis or transfusion.
- Easy to store, concentrated consumables.
- Mobile, powered via 12V DC battery.
- Light-weight, biodegradable and biocompatible parts
- Parts made using low-cost 3D printing.
- Captured substances automatically preserved, recorded into cross-referenced database.
- Both non-clinical and clinical uses.
- TRL 6-7.

The Nanopheresis System



Military Application

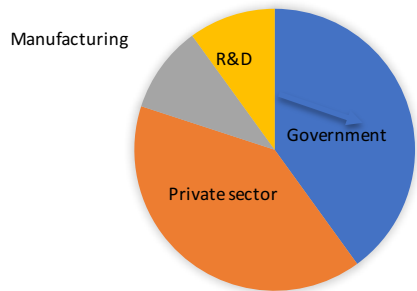
- Field-employable medical life support tool
- Key problem(s) this product solves:
 1. Combats organ damage from
 - *blood hemolysis,*
 - *chemical/biological weapons,*
 - *toxins, infectious agents.*
 2. Improves response to pharmacological treatments.
 3. Assists cancer diagnosis and treatment.
 4. Safely collects quality forensic evidence.



Ability to Deliver

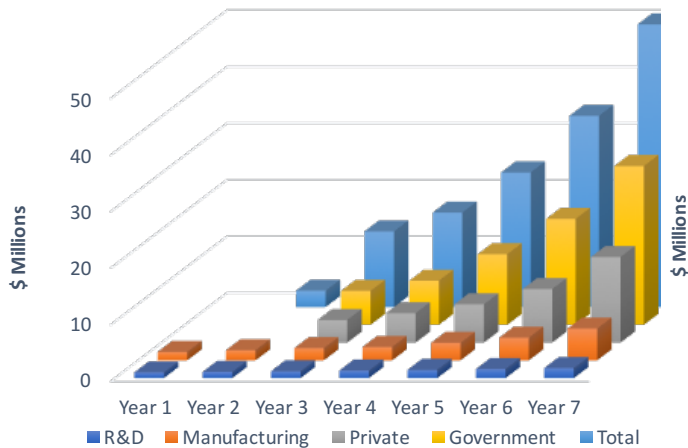
- ROI - 4:1 expected by year 5 after launch.

TARGET MARKET

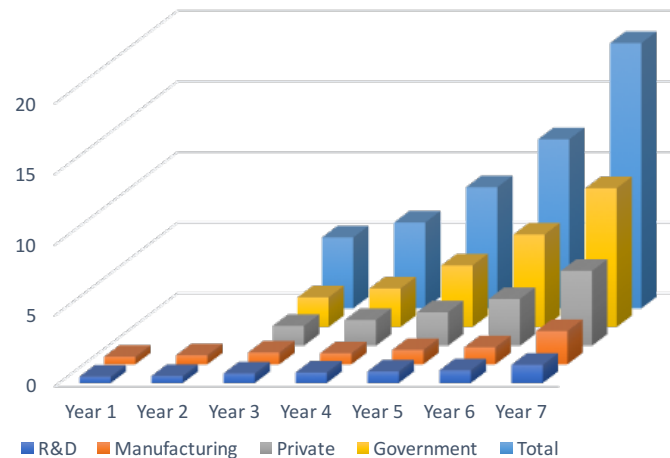


Expected global medical device market size by 2025 is ~\$150 Billion USD

PROJECTED REVENUE BY SECTOR



PROJECTED EBITDA BY SECTOR



Ability to Deliver



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Strengths

- Patented, versatile, “game-changing”.
- Universal platform.
- Multidisciplinary, experienced developers.
- Academic, medical, and technology partnerships.
- Experienced federal contractor/grantee.

Weaknesses

- Small enterprise.
- Weak business and marketing expertise.
- Moderate regulatory and compliance expertise.

Opportunities

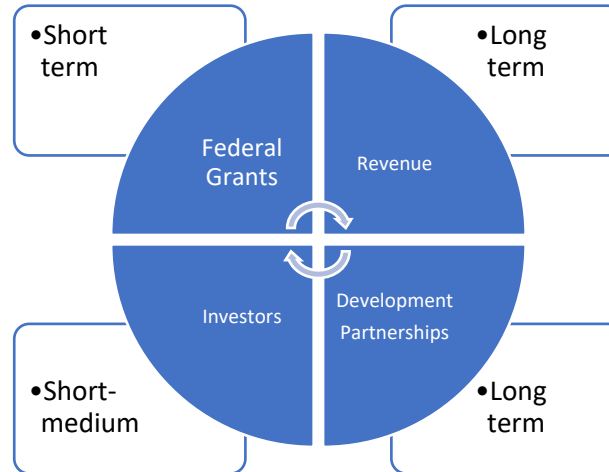
- Can reach multiple sectors.
- First of its kind to market.
- Easy to adopt/ requires only basic level of emergency medical training to operate.
- Can set the gold standard for nanopheresis technology.

Threats

- Competitive edge harmed if financial support of final phase is tied to Federal granting cycles.
- Aggressive pressure/ buy-out by a large competitor for the purpose of killing the technology

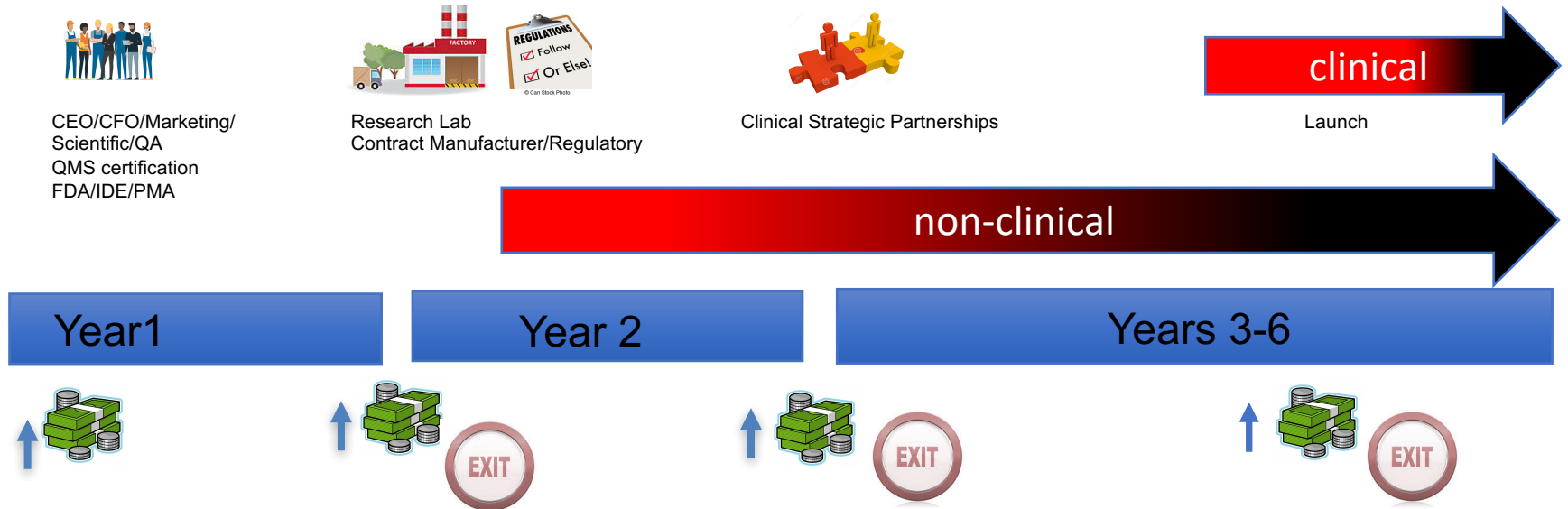
Ability to Deliver

- Financing model



Ability to Deliver

- Financing strategy-combined grants/investment/sales



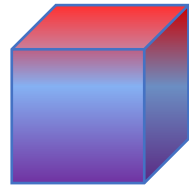
Ability to Deliver

- Pricing strategy



R&D Model

- Public/private R&D
- Animal model testing
- Drugs
- ~\$18K
- Manual control
- Open collection
- No sensors



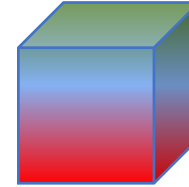
Manufacturing Model

- Pharma
- Chemical
- Biotech
- ~\$40K
- Auto control
- Closed collection
- Computer interface/GLP



Clinic Model

- Hospitals/clinics
- Blood banks
- Transfusion Centers
- ~\$85K
- Auto control/feedback
- Closed collection
- Patient data security
- Computer interface/GLP



Mobile Unit

- Military
- WHO
- ~?
- Auto control/feedback
- Closed collection/specimen security
- Computer/Manual option/GLP
- Battery powered



Our Ask

1. Staged development funding: \$30 M USD/5 years
CEO/CFO; Marketing/Sales; Clinical trial coordinator, QA
ROI - 4:1 expected by year 4 after launch of clinical unit
2. Development partnerships
Computer interface; cyber security; GPS; data transfer
CRO-FDA-monitored clinical trials; Manufacturing partner/distributors
Advisory relationships for targeted stakeholders
3. Certification/recommendation:
FDA; CE Mark
4. Manufacturing Partners/Buyers
Exit/Merger or Prepare company for public offering