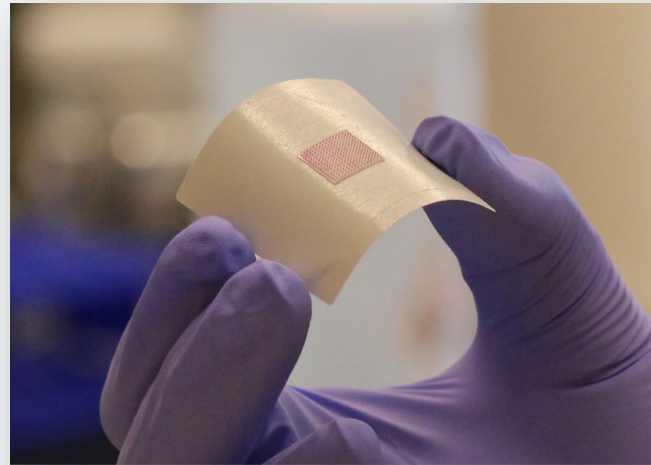


SingleTimeMicroneedles (STM, Inc)

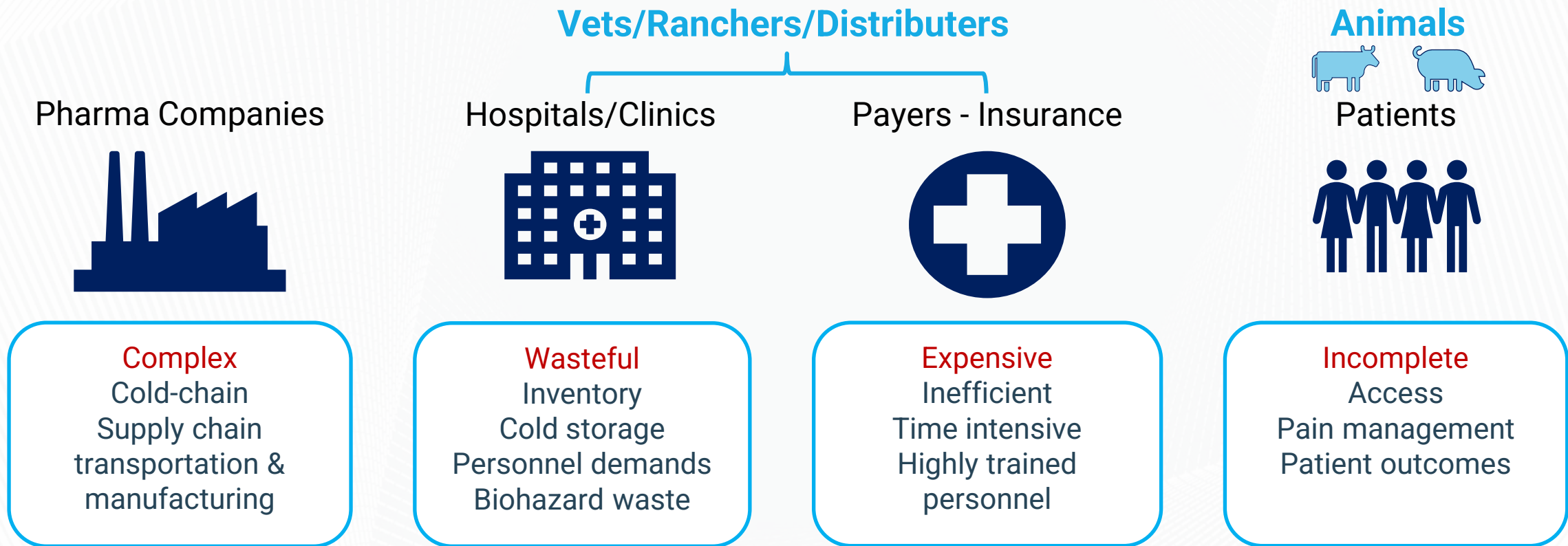
Democratizing Vaccine and Drug Access



STM CEO
Jasdeep Singh, Ed.D., MBA
Jasdeep.singh@stmpatch.com
860-847-0138

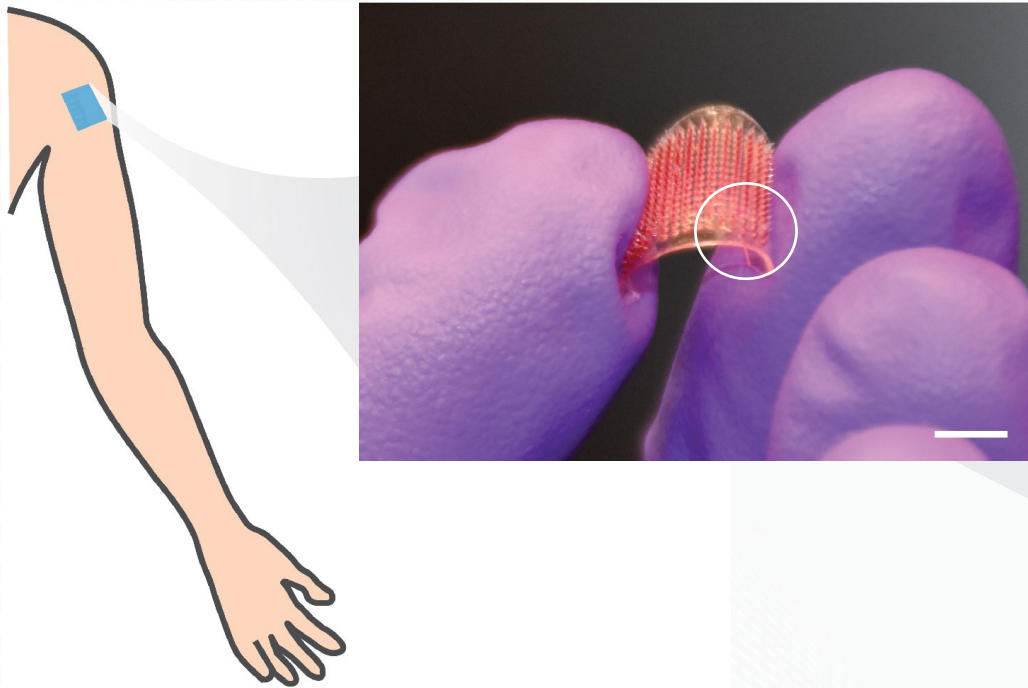
The Problem

Current injection-based vaccines and deployment/access challenges.

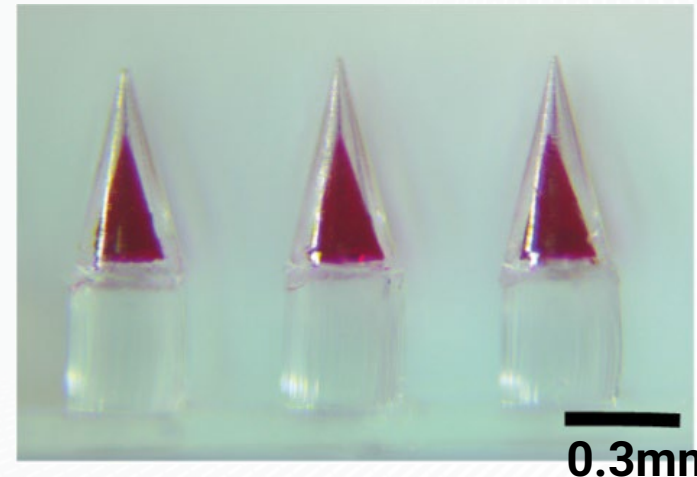


The Solution

A variable-dose and temperature-stable microneedle patch.



- Patch is removed, microneedles stay embedded
- Painless
- Surgical suture-like polymer
- **3 Patents (pulse dosing, mRNA stabilization, longitudinal dosing)**



Multi-Dose

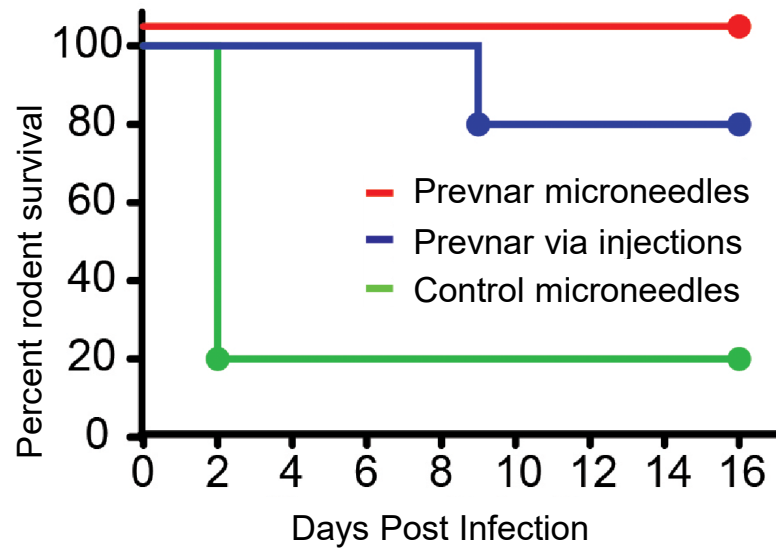
Thermally Stable

Customizable Microneedle Platform

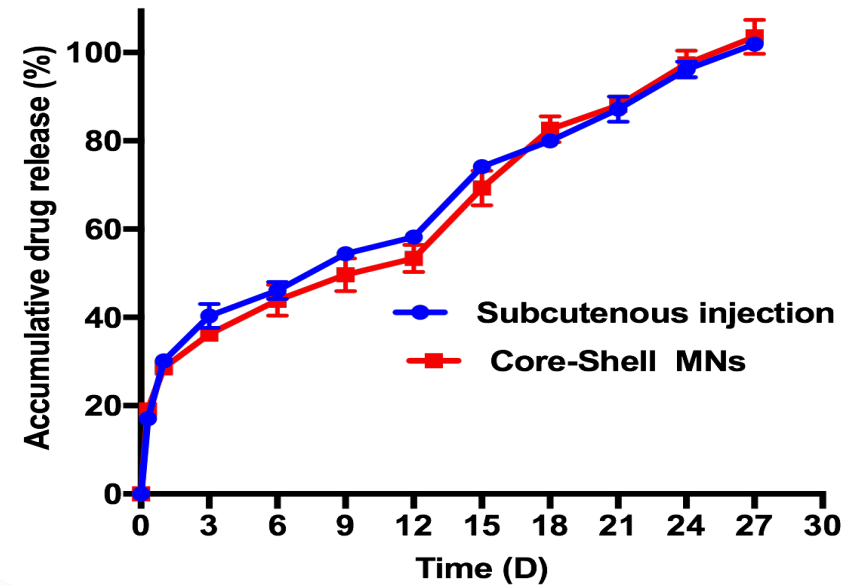
The Evidence

Microneedles Are More Effective Than Injections

Improved Vaccine Effectiveness

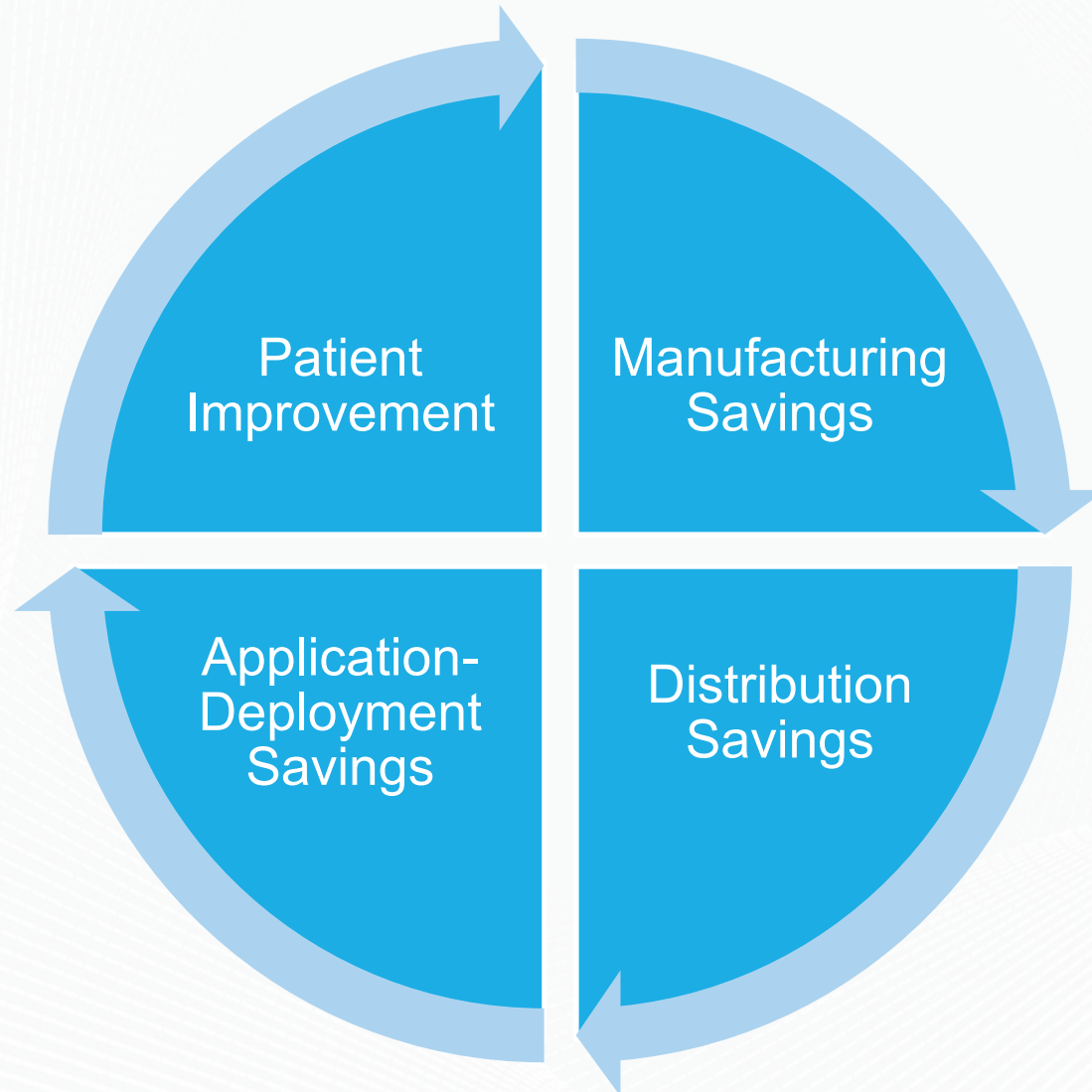


Improved Bioavailability for Drugs



The Supply Chain Benefits

Value Analysis



The Supply Chain Financials

- Greater efficacy
- Equal/higher bioavailability
- No missed doses
- No Pain

Patient Improvement

- ~42% cheaper to manufacture
- Reduced carrying-inventory costs

Manufacturing Savings

The Details

Application-Deployment Savings

- No biohazard/sharps waste
- Easily applied

Distribution Savings

- ~72% increase in doses per container
- No cold storage at any step

The Traction

SingleTimeMicroneedles' Sales

	Company	Sector	Species	Synergy	Priority	Lead Rating	Potential ROI	Specifics
Signed joint dev contract		Vaccines, Antiparasitics	c, r, e, s, h	dd, rf, lm	5	5	5	Test one of three potential bovine vaccines - discuss antiparasitic
Signed joint dev contract		Vaccines	r, s, h	dd	3	4	2	Test their vaccine survival in STM manufacturing process
R&D contract posed		Vaccines	c, r, e, s, h	dd, lm	3	5	2	Test their stabilization technology with STM
Negotiating joint dev contract		mRNA	r, s, h	lm	3	5	4	Collaborate on manufacturing for lm mRNA deployment
NDA		Vaccines, Cancer	c, r, e, s	dd	5	5	4	Develop STM patch to supplement initial proprietary dosage
LinkedIn sent		Antiparasitics	e	dd	5	2	3	
Joint dev technical meeting		Vaccines, Antiparasitics	c, s	dd	3	2	3	Companion animal; longterm dosing
Joint dev awaiting operational data		Vaccines, Antiparasitics, Cance	c, r, e, s, h	dd, rf, lm	5	3	5	Develop STM patch for developmental/market-ready products
Email sent		Vaccines, Antiparasitics	c, r, e, s, h	dd, rf, lm	5	2	3	Convince R&D to work on dd and/or rf as well as venture arm
Email sent		Antiparasitics	c, e	rf, lm	5	3	4	
Email received		Vaccines, Antiparasitics	r	dd, rf, lm	5	4	5	Gain bovine MVP data to design grant for African trials

UPDATE

1. Signed JD contract with Top 10 human/veterinary pharmaceutical company
2. Signed JD contract with a live-vaccine start-up
3. Proposed JD terms to a vaccine manufacturer and waiting to hear feedback
4. Need target species data to apply for discussed international foundation support

The Go-To-Market Financials

Two Sample Pathways (CRO/CMO/Licensing-Sales)

Generic Therapeutic Ivermectin

- Top 3 cross-species drug
- Multiple applications/doses/schedules

- Problem: 960,000 heartworm infections
- Treatment: \$1500
- Prevention: \$135
- SAM: 80mn dogs – 960mn doses, \$10B

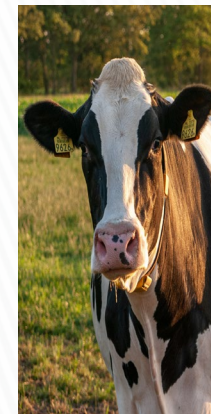
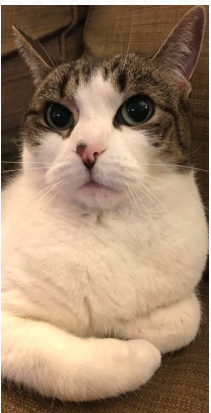
- SOM: 20% of 18mn dogs (10 states w/least vets)
- Unit Sales: 3.6mn
- Average margin: 30%+
- COGS+Marketing: \$7
- Expected time to market: 4yrs

Joint Development Contract CRO/CMO

- 30% of all US cattle unvaccinated
- Declining herd yields in developing world
- Increasing companion animal ownership

- Problem: The major cost in veterinary medicine is deployment
- SAM: \$11.8B Vaccines; \$40.1B Vet Pharma

- SOM: Bovine, Swine, Companion Animals
- Start-Up Fees: \$50-150k
- Margin (milestones): 20-35%
- Royalties (background IP): 4-11%
- Revenues (2023-2024): \$500k



The Pathway

SingleTimeMicroneedle Company Growth

Animal Market (Years 1-3)

1. Ivermectin – Dogs (extend to all species)
2. Glucagon-Like Peptide 1 (GLP) – Cats
3. Vaccines – Cattle/Swine

Science Data, Operational Experience, and Funding

Human Pre-Clinical w/Generic Drugs (Years 2-5)

1. GLP
2. Hormone
3. Pain

Data, Funding, FDA approvals

Human Vaccine (Years 3-8)

1. Pneumococcal
2. Influenza
3. Emerging Therapies

Pre-Seed
\$500k+ (Rev+Raise)

Seed
\$1.5m

Series A



The Founders

Thanh Nguyen
CTO, Co-Founder



- Asst Professor – University of Connecticut
- Inventor and innovator with 9+ patents
- PI and founder of two start-up companies

Jasdeep Singh
CEO, Co-Founder



- Led multiple organizations and fundraising
- Small business consultant
- Biology-chemistry background
- Public, private, and international experience

The Team

Employee



Nicholas Farrell

Research Lead

Engineering and
Microneedle Expert

University of Connecticut
Grad (BS, MS)

Consultants

Dr. Parbeen Singh

Biomaterial Scientist

Nicole Nelson

Biomaterial-Microfabrication

Morgan Hunte

Vaccinology-Immunology

The Science & Market Advisors



Dr. Steven Szczepanek

Professor - Researcher

Infectious Diseases and
Vaccinology Expert

University of Connecticut



Richard Hobson

CEO – HERDSEY

AgriTech and Global
Expansion Expert

Ireland

The Ask



**Open Seed Round
(Accredited Investors Only)**

Contact for more information



Invested Partners

- Build Key Market Partnerships
- Build Company Resources
- Build Knowledge Base

SingleTimeMicroneedles

**Jasdeep Singh, Ed.D., MBA
CEO**

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