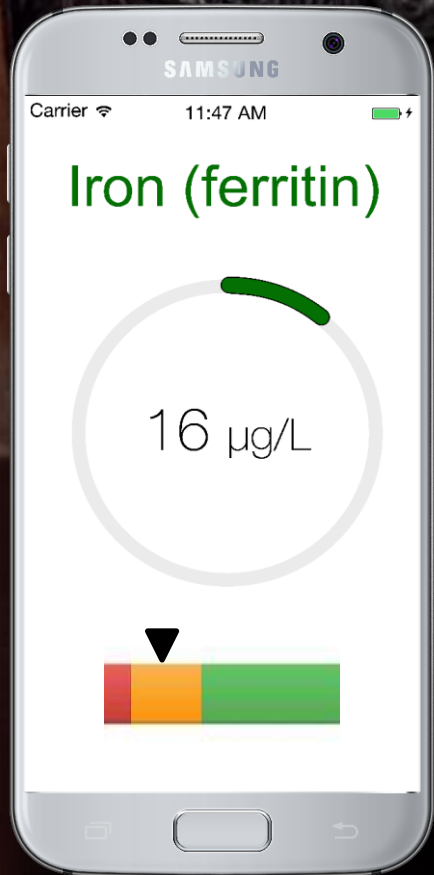




Fast and Low Cost Nutrition Deficiency Test
vitascan.me | li@vitascan.me



Do you have a nutrition deficiency?

It affects billions and leads to major health problems.

Existing tests are slow, expensive, and antiquated.

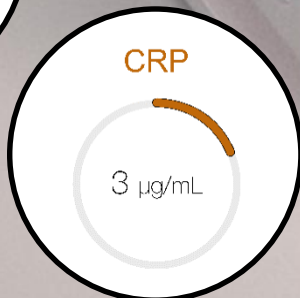
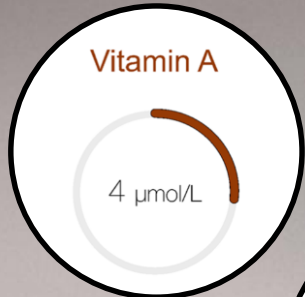
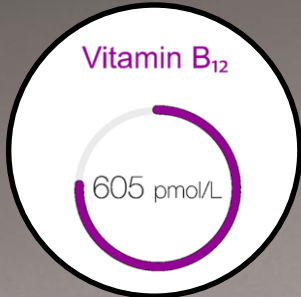
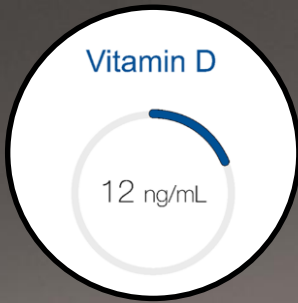
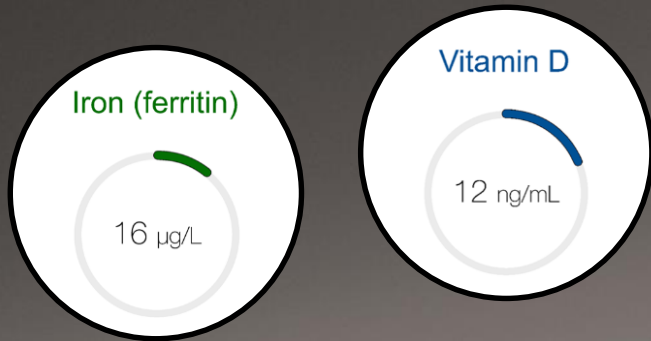
VitaScan enables personalized nutrition healthcare.

We impact market gaps in:

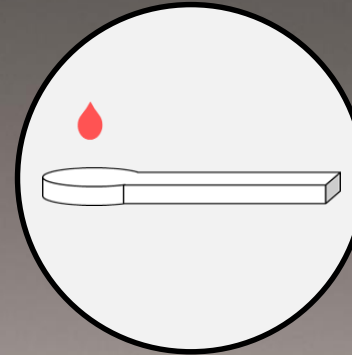
- Blood banks – pressured by FDA to provide better pre-screening
- Military – recruits develop anemia and risk disqualification
- Retail clinics – growing market is hungry to expand services



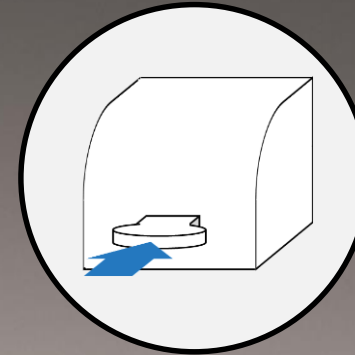
VitaScan is a comprehensive point-of-care nutrition test platform



1. Finger-stick applied to test



2. Reaction takes about 10 minutes



3. Results sent to computer/phone

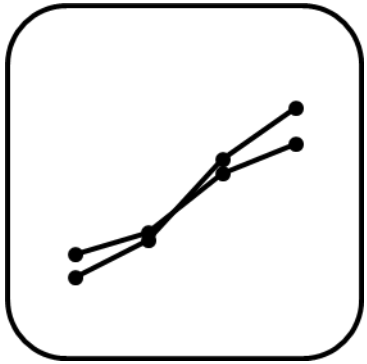


Clinic version | Mobile version

VitaScanTM
vitascan.me

Competitive advantage through cutting-edge technology

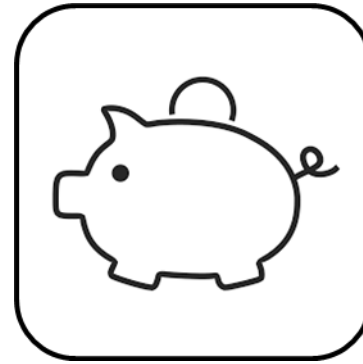
Know *how deficient* you are in about *10 minutes*, at *low cost*, delivered to your *phone*.



Quantitative analysis digs deeper than a yes/no result to give you the full picture



Unique biochemistry accelerates the test reaction to about 10 minutes

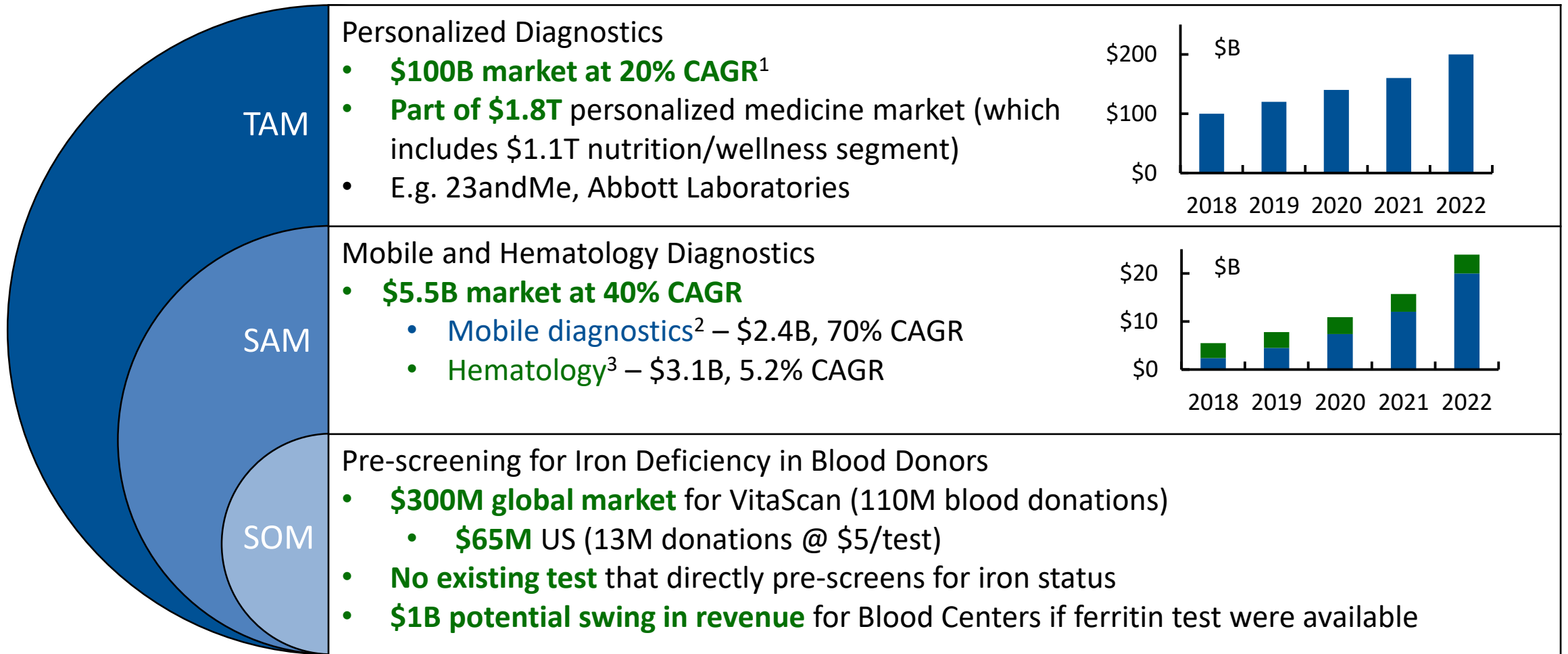


Low cost reader and test means anyone can buy it



Smartphone integration positions us as a home health IoT service

VitaScan enters a \$100B personalized diagnostics market



*References at the end

First product – ferritin test for blood donor iron deficiency screening

Key players



America's Blood Centers®
It's About *Life.*



American
Red Cross



Armed Services Blood Program



Current standard⁴

- In US, blood is a \$2.5B market for blood banks (13M units @ \$200/unit)
- Donating blood depletes iron in donors, and they risk anemia and other complications

Market pain^{5, 6}

- **No way to pre-screen** donors directly for iron deficiency (ferritin)
- **FDA supports** preventive measures, but no good options so far
- **VitaScan enables \$500M↑ potential revenue** to blood centers (vs. **\$600M↓** w/o ferritin test)

Market size^{7, 8}

- **\$300M** global market for VitaScan (110M donations)
 - **\$65M** US (13M donations @ \$5/test)
 - **\$200M** other high income countries (40M donations @ \$5/test)
 - **\$45M** middle/low income countries (55M donations @ \$1/test, 80% acceptance)

Market entry strategy

- **Work with FDA** to define clinical trial requirements
- **Collaborate with blood bank** key player(s) for validation trials and FDA application
- **Partner with influential diagnostics player** to validate product, workflow, and data integration
- **Secure contract** with blood banks to be exclusive test provider

*References at the end

Solid scientific and technical foundation

- 3 issued + 3 pending US patents
- 14 publications in high impact scientific journals

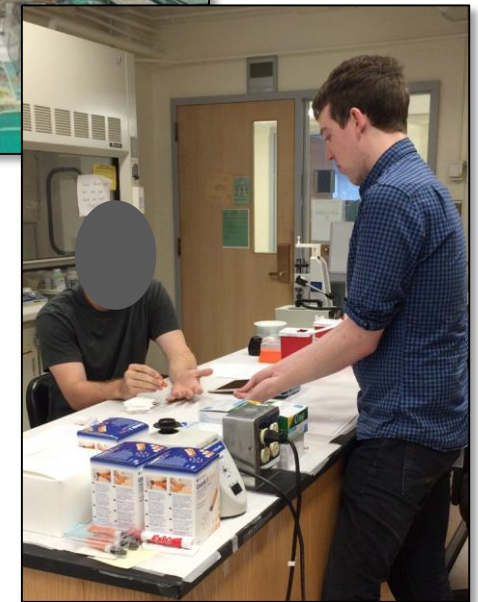
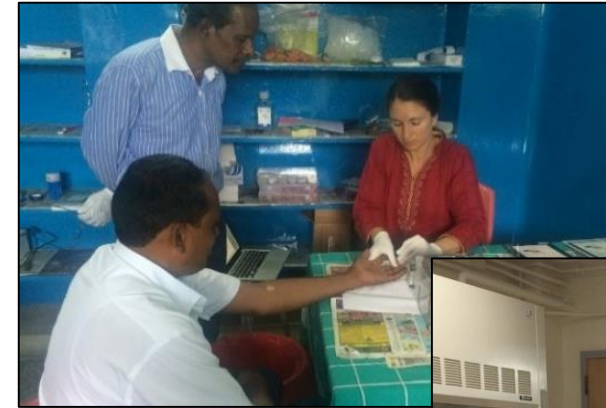


- Builds on \$4M in research funding to Cornell University



Cornell Engineering
Cornell Nutrition

Human Trials in India



Human Trials at Cornell

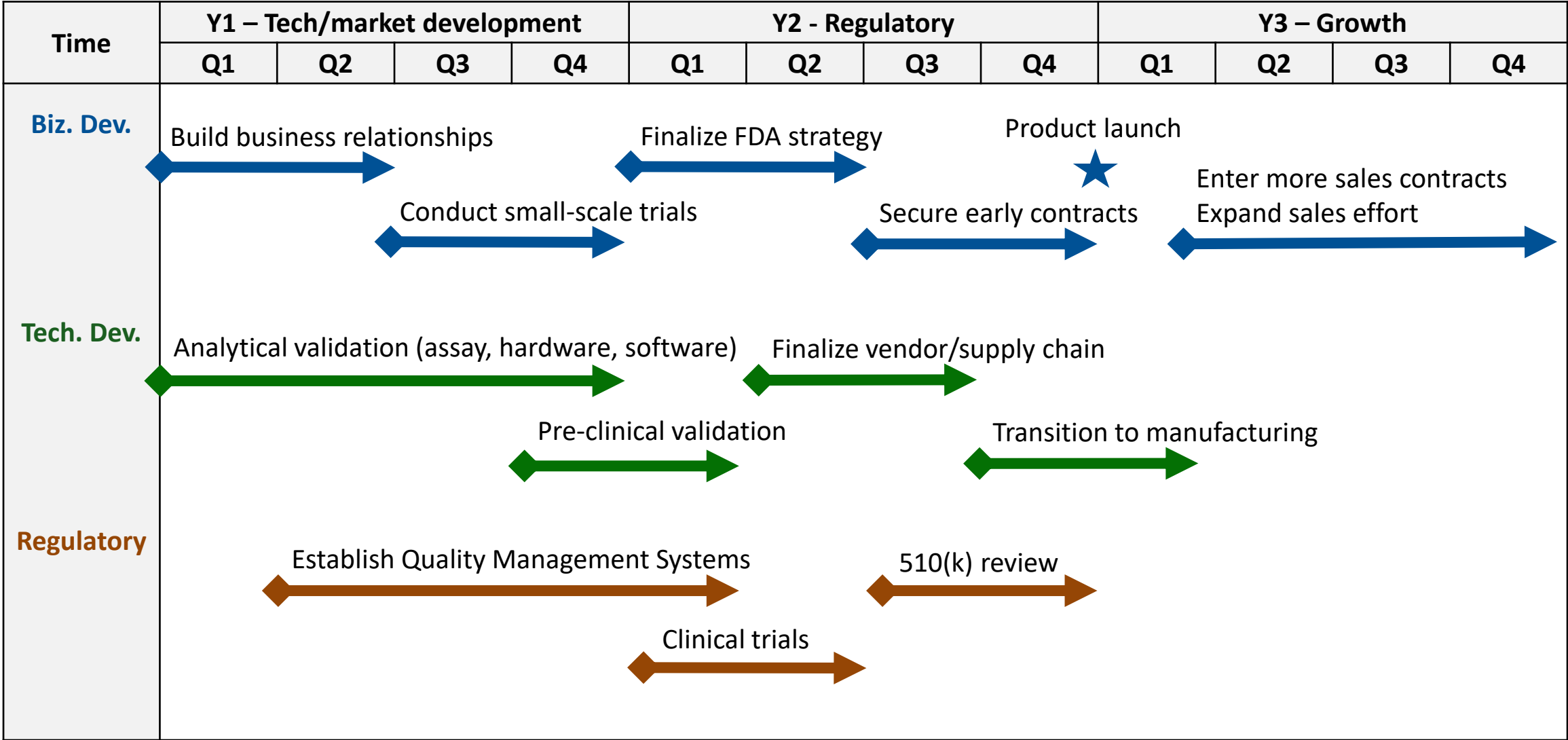


vitascan.me

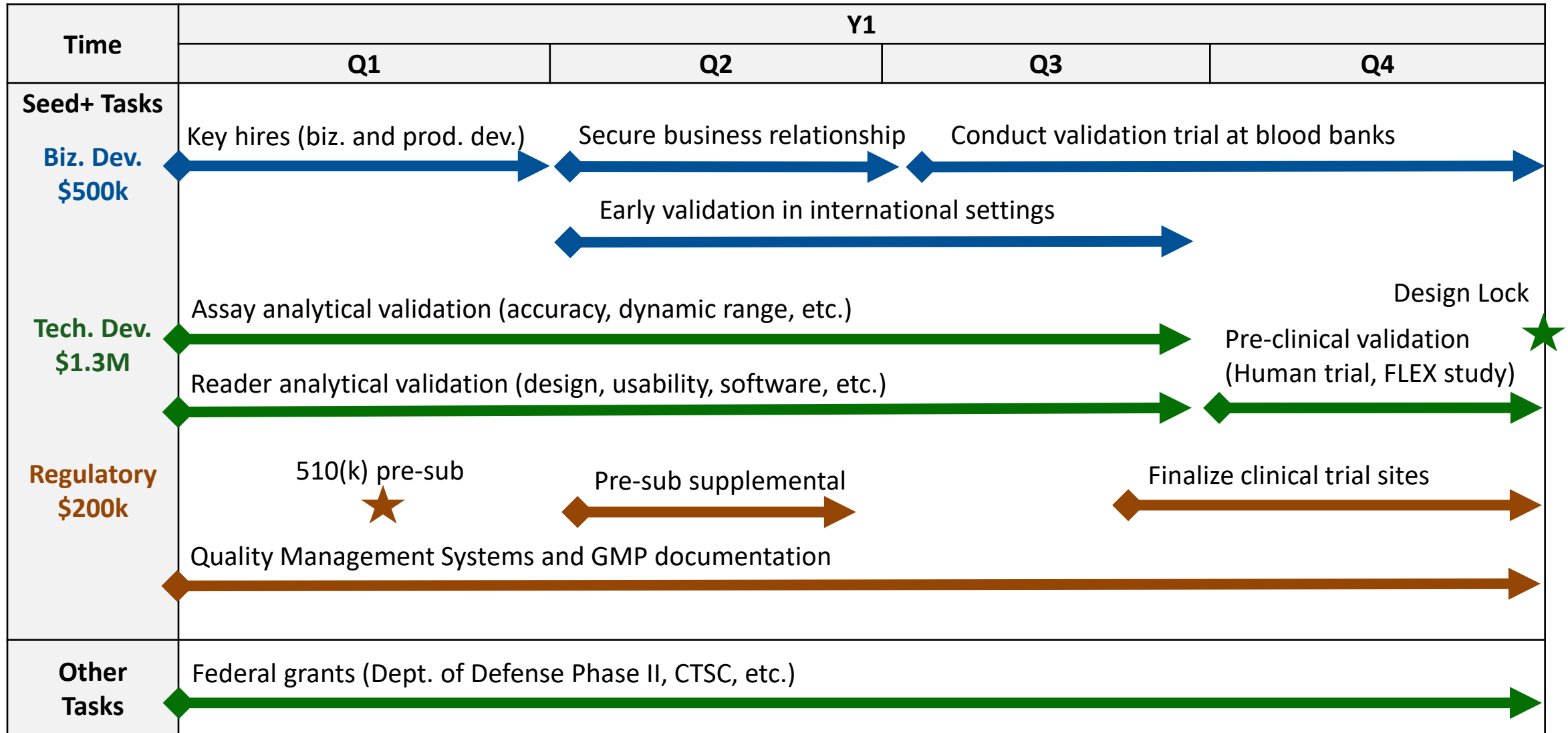
Against competition, we check all the boxes

	Laboratory-based	Point-of-care	Start-up stage	VitaScan
	Abbott, DiaSorin	Alere, HemoCue	Cue, Vitameter	
Micronutrients?	✓	✗	✓	✓
Fingerstick?	✗	✓	✓	✓
Portable	✗	✓	✓	✓
Multiplexed	✓	✗	✗	✓
Low cost	✗	✓	?	✓
Quantitative	✓	✗ (mostly)	?	✓
Fast	✗	✓	?	✓
IP protection	✓	✓	✗	✓

Go to market strategy – blood banks



\$2M Seed+ critical path and use of proceeds



Pro forma financial projections

Financial projections for blood donation market alone

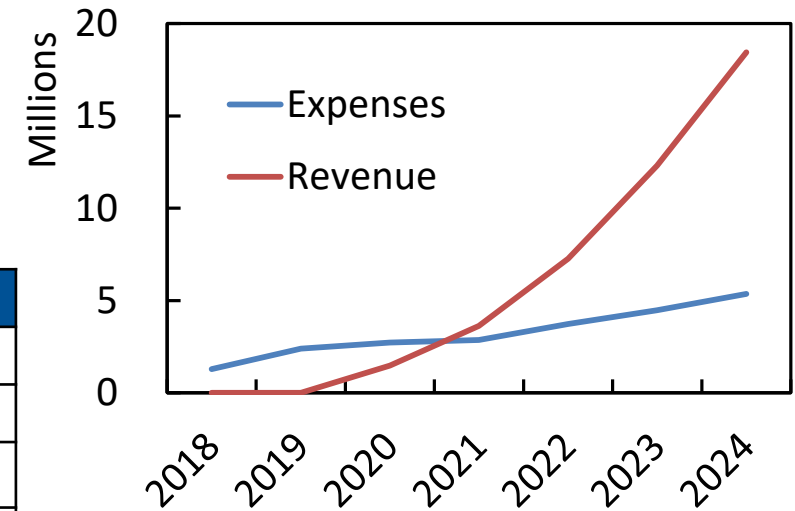
- Key players: America's Blood Centers, American Red Cross¹
- 13M donations/year = \$65M total US market for VitaScan²

Year	2018	2019	2020	2021	2022	2023	2024
Revenue	0	0	1,386,000	3,546,000	7,092,000	12,105,000	18,198,000
COGS	0	0	423,000	1,071,000	2,142,000	3,649,500	5,481,000
Gross Margin	0	0	963,000	2,475,000	4,950,000	8,455,500	12,717,000
% Margin	-	-	69%	70%	70%	70%	70%
Expenses	1,286,600	2,392,647	2,714,390	2,852,070	3,714,540	4,450,775	5,330,810
EBITDA	(1,286,600)	(2,392,647)	(1,751,390)	(377,070)	1,235,460	4,004,725	7,386,190
EBITDA (%)	-	-	(126.4%)	(10.6%)	17.4%	33.1%	40.6%

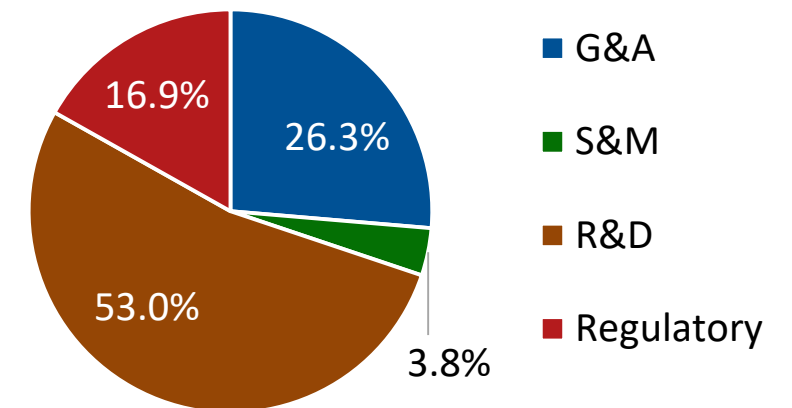
Assumptions:

1. ~2,000 donation centers averaging 20 donations/day
2. VitaScan test sells for \$5 each and reaches 25% of donation centers after 5 years

Yearly expenses vs. revenue



Operating expenses 2018 - 2019



Planned exit strategy through acquisition




- Acquisition following FDA clearance and demonstration of strong market penetration
- Possible acquisition partners include diagnostics and health tech companies

Diagnostics: Build on existing strengths to enhance diagnostic portfolio

Health tech/IoT: Expand into health and wellness through mobile platform



- Comparable companies acquired for hundreds of millions

Company	Test	Acquirer	Amount	Year	Revenue @ acquisition
 STAT Dx Closer to Care	POC respiratory	Qiagen	\$191M	2018	Pre-revenue
 pts Diagnostics	POC lateral flow	Sinocare	\$200M	2016	\$46M
 Alverix	POC influenza	BD	\$40M	2014	Pre-revenue



A team experienced in diagnostics, nutrition, and entrepreneurship

Leadership



CEO

Li Jiang, PhD

Mech./Biomed. Engineering
Diagnostics, Mobile Health



CTO

Dakota O'Dell, PhD

Applied Physics
Inventor of VitaScan



Chairman

David Erickson, PhD

Sibley College Professor of
Mechanical Engineering, Cornell



Board Member

Saurabh Mehta, MBBS, ScD

Professor of Global Health
and Nutrition, Cornell

Business Advisors



Beckie Robertson

Co-founder, Managing
Director, Versant Ventures



Greg McParland

Sr. Investment Manager
DSM Venturing



Bill Rhodes

Founder, Third Day Advisors
Fmr. SVP Becton Dickinson



Wayne Merkelson, JD

Legal Advisor, AgBiome
Fmr. VP Novartis

Scientific/Regulatory Advisors



Fran White

Founder, President
MDC Associates



Michael McBurney, PhD

VP Science
DSM Nutritional Products



Julia Finkelstein, ScD

Professor, Epidemiology &
Nutrition, Cornell University

Company snapshot and key milestones

	Time	Milestone
 Cornell Engineering Cornell Nutrition	2014 - present	\$4M total federal funding to develop technology and related research Filed 6 patent families related to VitaScan technology Published 14 research papers related to VitaScan technology
	2016	Secured \$350k seed investment from DSM Venturing Awarded \$150k Phase I research contract from Dept. of Defense Secured exclusive IP agreement with Cornell 3 key patents issued in United States Conducted domestic human trials for ferritin and vitamin D
	2017	Awarded \$1M Phase II contract from Dept. of Defense Secured \$160k additional funding from industry partner, NIH, and NY State Completed 510(k) preliminary meeting with FDA

References

1. Statistica, Personalized Medicine, 2016
2. Frost & Sullivan, Clinical mHealth Growth Opportunities, 2016
3. <https://www.marketsandmarkets.com/PressReleases/hematology-analyzers-reagents.asp>
4. Toner+, "Costs to hospitals of acquiring and processing blood in the US: a survey of hospital-based blood banks and transfusion services," 2011
5. FDA, "Considerations for iron management in blood donors" 2016
6. <https://www.medscape.com/viewarticle/872126>

"There is a 50% likelihood that you are going to be doing them harm...So without knowledge of what you are doing with such a high risk and with consequences of that risk, I find that not an acceptable alternative." – Susan F. Leitman, MD, director, Medical Research Scholars Program, NIH

"If you allow collection without knowledge of the iron stores, then in effect, what you're saying is that it's acceptable to take blood from someone who's iron deficient and make them more iron deficient. Both proposals permit the collection of blood without further evaluation.... I think that's a concern," – Gary Brittenham, MD, Children's Hospital of New York
7. <http://www.who.int/mediacentre/factsheets/fs279/en/>

"About 13K blood centers in 176 countries report collecting a total of 110 million donations, with about half occurring in high-income countries. Irregular supply of test kits is one of the most commonly reported barriers to screening. 99.6% of the donations in high-income countries are screened following basic quality procedures, as compared to 97% in upper-middle-income countries, 81% in lower-middle-income countries and 66% in low-income countries."
8. <https://www.redcrossblood.org/learn-about-blood/blood-facts-and-statistics>