

Vitrafy Life Sciences

Pioneering Technology, *Preserving Life.*

Building the foundational infrastructure for the global biologics economy.

One cryopreservation platform. Animal reproduction, blood, cell & gene therapy — and beyond.

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Company Highlights

Foundational infrastructure for the biologic's economy — validated science, commercial traction, and upcoming value catalysts.



Cryopreservation-as-an-Ecosystem

- Cryopreservation solution covering the end-to-end process - **delivering high-quality results**.
- **IP protected** cryopreservation hardware and software solutions.
- **Expanding competitive moat** once installed.



Step-Change in Scientific Outcomes

- **Superior outcomes** when compared to existing standards.
- 94% post-thaw platelet recovery validated by US Army study - **unlocking new market opportunities**.
- Proven results in animal and cell & gene therapy.



Critical Market Need

- End-of-life products triggering replacement across the entire U.S. blood network.
- **One platform, multiple addressable markets** - broad application use.
- Prioritised blood, animal reproduction, and cell and gene therapy.



Significant Validation & Commercial Adoption

- U.S. Army validation through Phase I and II studies.
- Vitalant partnership provides access into **major U.S. blood network**.
- IMV Technologies partnership creating a pathway to **unlock global scale** in animal reproduction.



High-Margin Business Model

- Customer centric model **designed to improve outcomes**.
- **Monthly recurring service fee** covering device usage, software and service.
- Consumables leverages volume for **outsized returns**.



Upcoming Catalysts

- Upcoming **FDA device registration** milestone.
- **Civilian & Military** blood market opportunities.
- Full USA operation **scale-up to manage demand and supply**.

The U.S. Blood Industry Faces a 2027 Infrastructure Replacement Cycle

Two structural failures converging in the US blood market alone — creating an inflection point now.

PROBLEM 1

Chronic Shortages

- Blood platelets last less than 7 days at room temperature.
- ~2.6m platelet units collected annually – No FDA approved cryopreserved platelet solution exists in the market.
- Short shelf life leads to significant wastage - the US loses ~US\$280m in wastage annually.
- American Red Cross has repeatedly declared national emergencies due to insufficient supply.

<7 days

platelet shelf life at room temperature

~33%

of hospitals report platelet shortages

US \$280m

US annual platelet wastage cost alone

PROBLEM 2

End-of-Life Technology

- Red Blood Cell's are critical materials stored for disaster preparedness, response and rare blood programs.
- Only one method to cryopreserve exists - the backbone of US frozen blood programs for decades — it is being phased out by end 2027.
- The processing equipment and glycerol based cryoprotectants are being discontinued. No approved replacement exists.
- The US blood network must change.

⚠ 2027 DEADLINE FOR A SOLUTION

~11.6 m

Whole Blood and Red Blood Cell units collected annually (U.S)
Preparedness - Stockpiling – Rare Blood programs

The Ecosystem

Wholistic cryopreservation solution delivering quality at every-step.



What is Cryopreservation?

The science & engineering of preserving biological materials at low temperatures that underpins many areas of the healthcare system.

BUILT IN THE '60's, STUCK IN THE '60's

Commercial Applications

- Blood products
- Advanced therapies
- Assisted reproduction
- Biological R&D
- Stockpiling
- Cell banking

Workflow Issues

- Poor thermal control using toxic LN2
- Limited in-process automation, monitoring and traceability
- Expensive processing costs

Sample & Quality Issues

- Low post-thaw viable recovery.
- Loss of function / potency
- High variability
- Data gaps and quality assurance burden
- Low throughput

Legacy workflows compound quality, leading to low recovery and post-thaw loss.



Cryopreservation-as-an-Ecosystem

One integrated platform — hardware, software, and consumables — that embeds, then expands — continuous improvement and value creation.

QUALITY DRIVER

FREEZING DEVICE

Guardion

Entry Point

Embeds Vitrafy in the customer workflow

- LN2-free controlled-rate cryopreservation freezer, enabling decentralised freezing operations.
- FDA 510(k) registered (Gen 1). The entry point that embeds Vitrafy in the customer workflow.



DATA MOAT

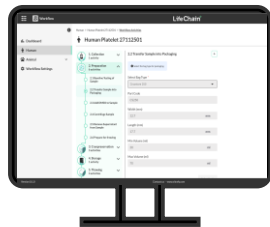
CLOUD SOFTWARE

LifeChain

Intelligence layer

Data compounds with every cycle

- Cloud-based orchestration software. Designed for 21 CFR Part 11 compliance.
- Data and intelligence for continuous improvement in thawing outcomes.



ECOSYSTEM CONNECTION

POINT-OF-CARE

Thawing

Decentralisation engine

Removes lab dependency

- Precision thawing device that delivers transfusion-ready temperature in minutes.
- Enables deployment beyond specialist labs.



REVENUE DRIVER

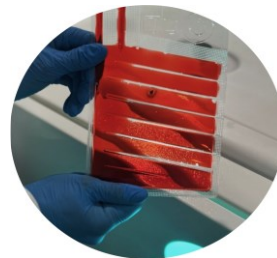
RECURRING REVENUE

Consumables

Revenue flywheel

Per-unit economics that scale with throughput

- Single-use consumables.
- The recurring revenue engine that scales with throughput and locks in per-unit economics.



Differentiated Technology Solution

Vitrafy's IP protected technology solution has a clear competitive advantage that may unlock entirely new market opportunities.

QUALITY

- Superior post thaw quality outcomes - consistently.
- Enables product availability in highly unstable environments across Military & Civilian use.

BROAD USE

- One solution – multiple uses.
- Unlock new market opportunities - decentralised and stockpiling use.
- Value creation for Blood stakeholders – not competitive.

SPEED

- Processing times from hours to minutes.
- Workflow and staffing efficiencies for users.
- Unlock New - Rapid 'deploy and transfuse' capability, for emergency response.

VALUE

- Remove product waste from expiration.
- Blood Platelets ~20% annually at a \$280m USD cost.
- Stockpiling of quality materials eliminates supply fluctuations.
- More Cells = More Value

Existing frozen blood programs transition to Vitrafy; stockpiling and battlefield deployment are entirely new markets that current technology physically cannot serve.

Address Existing – Unlock New

The Science

A step-change in scientific outcomes, consistently.

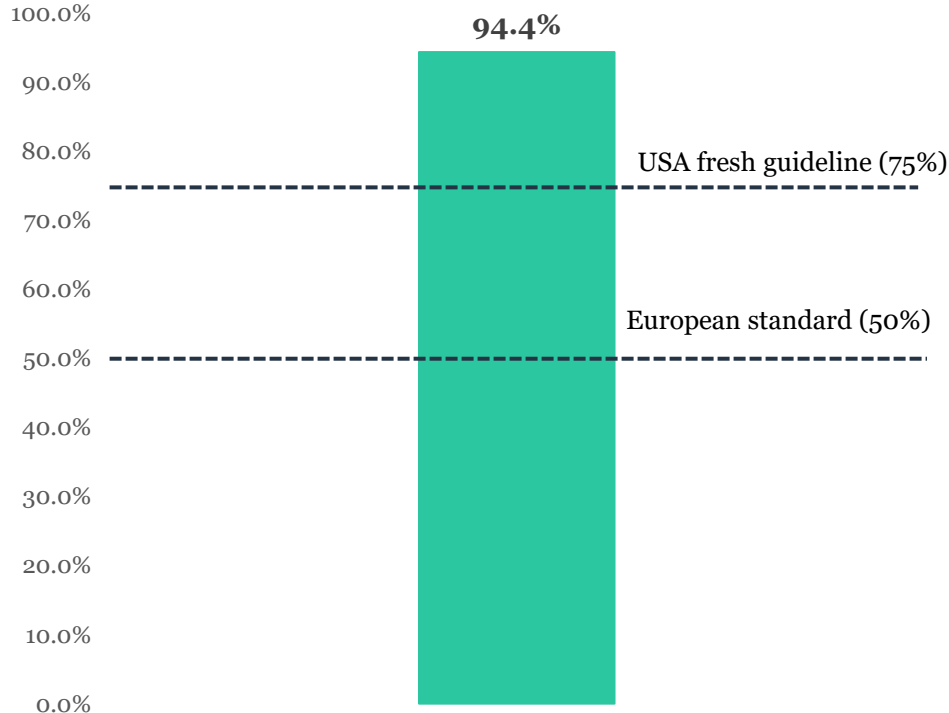


Validated Science – Blood Platelets



USAISR

U.S. Army Institute of Surgical Research



First-to-Market Opportunity

No FDA-approved cryopreserved platelet product currently exists in the US.

Exceeds Benchmarks

94.4% recovery exceeds European regulatory standard and FDA/AABB guidelines.

No-Wash Protocol

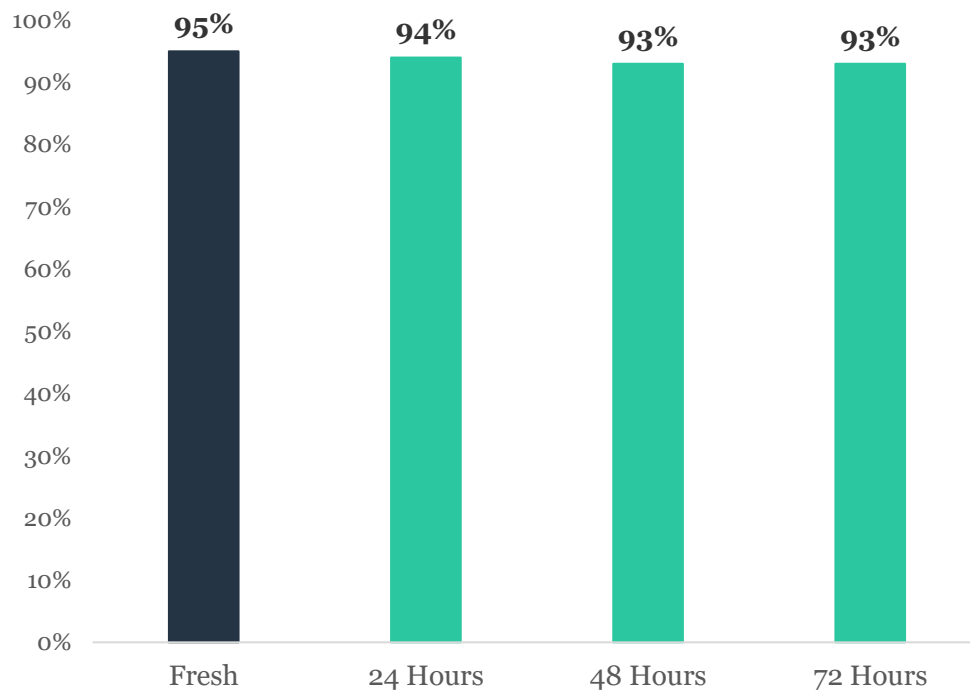
Eliminates the lab-bound wash step — deployable in ambulances, battlefield, rural hospitals.

Validated by USAISR, Lifeblood & BioBridge Global

USAISR Phase I and Phase II studies completed, representing Vitrafy's largest blood validation program to date.

Validated Science – T-Cell (CGT)

Vitrafy post thaw T-Cell Viability



Growing Market

Over 900 cell and gene therapy clinical trials (USA), requiring quality cryopreserved materials. Transformative new pillar of medicine, engineering cells to fight disease.

Preserving Quality

Post thaw Viability retained when compared to fresh in high value critical materials. Up to 50% quality loss can occur using existing cryopreservation methods.

Third-Party Validated

Independent Validation completed by BioBridge Global, Texas, USA.

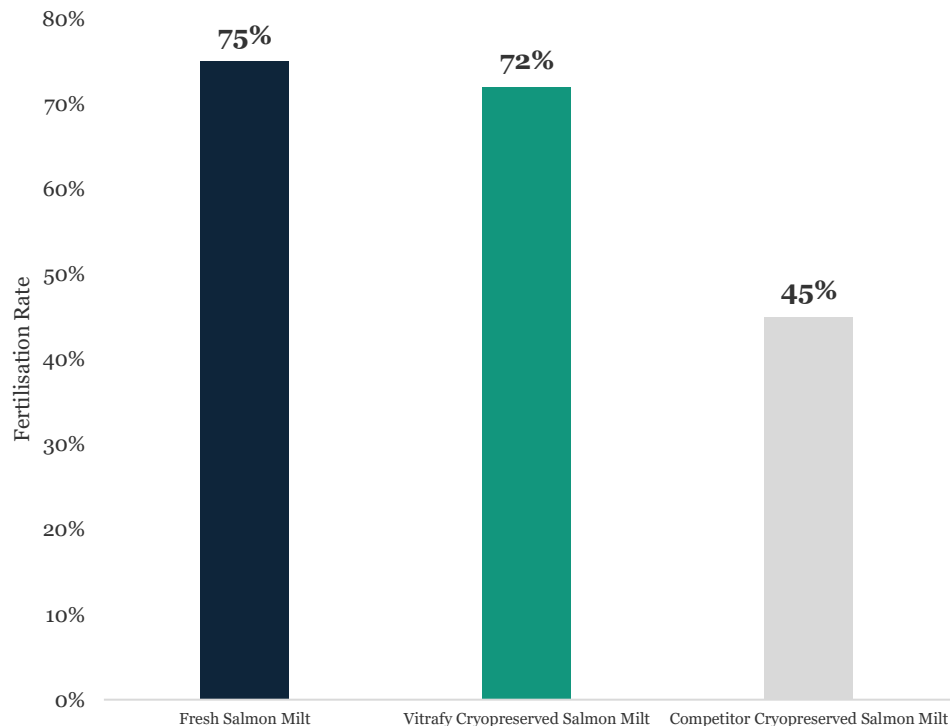
Unlocked through Blood

Many raw materials used for CGT are supplied by Blood centers.

Validated Science – Animal



Salmon Fertilisation Rate



Commercial Technology Validation

Year-on-year business model and ecosystem strategy success in unregulated markets.

Commercialised Product Offering

Vitrafy has commercialised its cryopreservation-as-an-ecosystem since 2023 in high throughput environments, growing annual throughput and revenue year-on-year.

Significant Market Opportunity

Large addressable markets across multiple species with an expanding addressable market via Vitrafy's cryopreservation ecosystem.

Translatable to Human

Animal health testing and validation confirmed proof-of-concept whilst being translatable to human health applications.

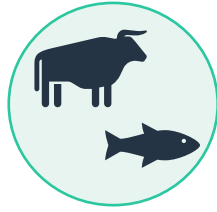
Commercial Traction

One solution, multiple go-to-market applications.



Priority Verticals Strategies and Catalysts

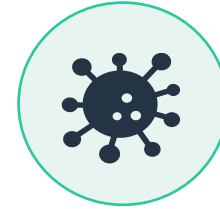
One solution, multiple go-to-market applications. Vitrafy has prioritised three areas.



Animal Reproduction



Blood



Cell & Gene Therapy

Growth Catalysts

- Food security and production
- Increased beef & fish consumption
- Population growth

- Technology obsolescence
- Structural supply shortages
- Global instability & disaster events
- Preparedness events (Olympics)

- Requires standardisation
- More Cells = More Value
- Cost prohibitive therapies limiting scale

GTM Strategy

- Highly concentrated market share
- Global partnership with industry leader

- Military into civilian
- Multi-use solution across various Blood components

- Drug Manufacturer collaboration
- Target pre or early clinical trials
- End-user driven adoption

Traction

- First Customer: **Huon Aquaculture**
- Secured Global Partner:
 - **IMV Technologies**

- Government & Industry bodies
- Civilian & Military Blood collection
- **Secured partnership with Vitalant**

- Drug Contract Development & Manufacturing Organizations (CDMO)
- Civilian Blood Collection

Critical Market

Two critical structural problems, demanding immediate market change.

U.S. Blood Market Snapshot:



14.2m blood collections annually



~6,100 hospitals across the U.S.



~1,000+ fixed site donation centers



No one should die from a lack of supply of life-saving blood

New York Blood Center declares emergency over critical shortage

Published: May 26, 2026, 10:21 a.m.



A hospital phlebotomist collects blood from a donor in Borough Hall. (Advance/SILive.com | Anthony DePrimo)

CRITICAL
SHORTAGES

Red Cross Declares Severe Shortage after Blood Supply Falls 35% in Past Month



January 20, 2026

SUPPLY
FAILURES

Blood donations have fallen to catastrophic levels. Experts say young people need to step up.

Changes to the requirements for donating blood coupled with the pandemic have led to a drop-off in the number of teens and young adults donating blood.



DONATION
DECLINE

Blood Products

A deliberate and targeted market entry strategy across military & civilian use.

Military Scientific Validation



USAISR

U.S. Army Institute of Surgical Research

In Vitro Phase I/II complete
94% post thaw quality - Blood Platelets
Technology Validation
New Market opportunities identified



FY24 –FY26

Civilian Expansion



Identified urgent market need –
Vitrafy technology a potential
solution for cryopreserved blood
products across military and
civilian.



FY26 –FY27

Multiple Product Applications



Land & expand strategy
One solution – multiple uses
Multiple blood products
Unlocks CGT raw materials



FY27+ - Expansion

Vitalant: First Major U.S. Blood Network Deployment

Vitrafy has partnered with one of the largest blood networks in America

Vitalant — Land & Expand

- Potential launch partner for next-generation red blood cell cryopreservation solutions.
- Aim to rapidly address the global critical need for a new Red Blood Cell solution - used for rare blood programs, stockpiling and preparedness to respond.
- Start with Two Vitrafy service packages deployed at Vitalant Research Institute.
- Supported by Blood Centres of America (BCA), seeking wider engagement across Military & Civilian.
- Guardion Medical Device approval (Class II 510 (k) exempt) H1 FY27 for clinical use with active FDA engagement on expediated new Red Blood Cell pathways.

Vitalant and Vitrafy are working to address the industry's need for a next-generation red blood cell cryopreservation solution ahead of the 2027 glycerol and washing workflow technology phase-out.



2nd-largest U.S. blood network:

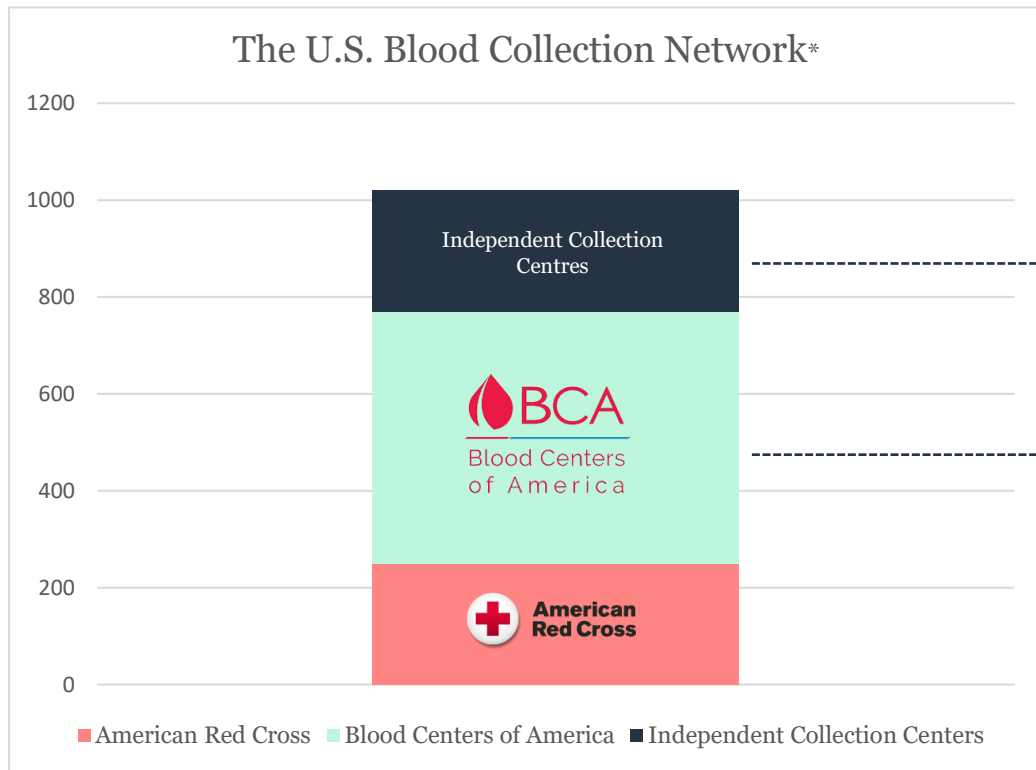
- ~125 collection sites
- ~900 hospitals across 20 states
- ~10% of annual U.S. blood collections

Anchor member of:



Blood: The U.S. blood collection network

Concentrated blood supply networks with a small number networks representing a material market opportunity.



Blood Network Concentration

Over 1,000 fixed collection sites across the U.S.
Below are examples of key blood leaders:

Independent Collection Centers



Blood Centers of America Members



Note: Fixed sites do not include the mobile collections centers utilised as part of the market collections.
Note: Industry logos are examples only and do not represent in-place agreements (except for Vitalant)

Animal Reproduction

Cryo-enabled animal reproduction for global food supply— led by bovine and aquaculture.

Animal Reproduction Snapshot:



US\$6B global animal artificial insemination market – led by bovine at ~50% of market



2,200 collection sites.



Animal Reproduction

Signed commercial agreement with IMV technologies to prepare for a joint go-to-market global offering.

IMV Technologies — Global Partner

- Global partnership secured with IMV Technologies to develop a Global go-to-market offering.
- Revenue generating - ~\$0.9m over 12-month term.
- Multi-species validation program underway: aquaculture and bovine — ability to expand species.
- ~2,200 addressable collection sites globally.
- Lower regulatory barriers — faster path to scale vs. human health.
- Opportunity stemmed from Commercial Aquaculture partnership that saw fertilisation improvements from 30% to 70%.



Business Model

Translating a scientific step-change into a high-margin, recurring business model.

Recurring Revenue Model

Recurring managed-service economics that compound with every installed device.

Installed Device Count > Recurring Monthly Service Fee + Consumable fee

01

Managed Service

HARDWARE + SOFTWARE + SERVICE

- Guardion freezer access
- LifeChain Software & service support
- Thawing units included
- Open-source use on all approved applications

02

Smart Consumables

PER-CYCLE REVENUE

- Single-use consumables across Animal & Human
- Sold separately to managed service
- Compounding upside on base fee

03

Compounding Moat

SWITCHING COST

- LifeChain data enables continuous improvement
- Outcomes intelligence hardens lock-in
- Strengthen competitive moat

Outlook

Multiple, upcoming value inflection points approaching.



Value Creation Roadmap

Milestone-driven value creation across FY26–FY27 with near-term catalysts in both regulated and unregulated markets.



COMPLETE

Ecosystem Validated

- Product launch (GLU) & U.S. arrival
- USAISR Phase II — 94% recovery
- Civilian Blood entry – Vitalant
- Human health partnerships secured

Market Willingness to Pay

- First 4 commercial units delivered
- IMV Technologies global partnership
- Animal revenue generating today
- Outbound sales & marketing live



CLEAR UPCOMING VALUE CREATION ACTIVITIES

FDA Approvals – Land & Expand – Broadscale Adoption

Q4 FY26

- Final USAISR report

H1 FY27

- FDA Guardian device registration

FY27

- Civilian & Military Blood market development
- Red Cells and Platelets biologics milestones
- U.S. CGT Pipeline conversation
- Scale up U.S. GUARDION device manufacturing
- Full U.S. Customer facing operation
- IMV partnership growth

Cryopreservation is broken.

Vitrafy is the fix.

Validated Technology

94.4% Post-thaw recovery
best in class
Competitive Advantage and moat

Clear Market need

Forcing event —
no approved alternative, 2027
deadline.

Commercial Ready

Revenue generating today
Scale Animal Reproduction
Scale Human Health

Deliver Value

Customer & Patient outcomes
Improving the Quality of
cryopreserved materials.

Pioneering Technology, *Preserving Life.*