Revolutionizing the Process of Biomedical Innovation through Catalytic Failure
The Roadblock: We don’t know how to fail

Why is the process of biomedical innovation so flawed?

- Time to failure is way too long (10+ years)
- Consequences of failure are massive
- We don’t begin with the patient in mind (failure isn’t useful)
How isolated human organs transform the process:

- Begin with the end in mind by starting with diseased human organs
- Reduce the time to signal in humans from 10+ years to <3 months
- Fail fast in humans without putting patients at risk
Transforming Tragedy into the Gift of Hope

Typically <10% of Organ Donors that pass in hospital have even a single solid organ donated.

Donor families are denied the solace that the gift of donation provides.

Deceased Donor Organs Don’t Need to Be Transplantable to Be Transformative

Our Inspiration:
How Human Organ Trials Works:

- We start with diseased human organs (e.g. fatty livers)
- We reanimate them with ‘mechanical patients’ (i.e. machine perfusion)
- We perfuse and evaluate organs for up to 5 days
- We digitally map organ response to stress and/or intervention at every length scale
How We Design and Execute a Human Organ Trial:

**Design**
Our custom software and team of world experts make design of complex human organ studies easy.

**Execute**
We then run perfusions in cohorts of 3-10 human organs with the potential to scale up for lead assets.

**Deliver**
Finally we deliver concise and actionable insights with our custom data analytics pipelines.
What Human Organ Trials Can Uniquely Provide...

1. **Fill the gap** between animal studies and human clinical trials

2. Enable **unexpected discoveries** because of the inherent complexity and variability

3. Enable early-stage research to **solve late-stage bottlenecks** like scale up & delivery

4. Be a **catalyst for new technologies** across the therapeutic & diagnostic landscape

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*The bottleneck for Human Organ Trials has been lack of speed and scalability*

*Revalia was founded to overcome these final bottlenecks and unleash the full potential of Human Organ Trials*
Revalia’s Organ Tech Team

Flexible team model to support agile development, with ability to scale resources up and down as needed.

Peter Buniak, Chief Technology Officer

Taras Petryshak, Big Data Developer

Yurii Lampak, Backend Developer

Andrii Melnychuk, Quality Assurance

Mariam Khalimkova, PM/ Business Analyst

Andrey Hankevych, Team Lead

Ivan Shulak, Solution Architect

Revalia’s Organ Tech Team is building a custom, full stack platform including software, hardware and analytics
Revalia’s Multi-Organ Perfusion Team

Jenna DiRito
Dir. of Perfusion Ops

Kourosh Saeb-Parsy
CSO

500+ organs of
perfusion experience

Benjamin Abram
Sr. Perfusion Specialist

Kat Nurminksy
Sr. Perfusion Specialist

Kat Nurminksy
Sr. Perfusion Specialist

CJ Arnold
Perfusion Specialist

Flor Fernandez
Yale Surgical Fellow

World’s First Simultaneous Triple Liver Perfusion
Revalia’s Current Capacity & Capabilities

- **Research Organ Supply**
  - Establishing partnerships with multiple top tier Organ Banks
  - Access to 1000+ research organs per year (heart, lung, liver, kidney & pancreas)
  - Initiated first-of-its-kind ‘Research Exclusive Organ Donation’ Program

- **Perfusion Capacity**
  - High volume capacity for liver (5 days) and kidney (1-2 day)
  - Have established a lung perfusion program for ~8 hr perfusion experiments
  - Experience with heart and pancreas to establish on demand

- **Injury/Disease Models**
  - Acute injury (hypoxia, drug induced toxicity)
  - Immune injury model
  - Cancer model
Our diverse team has a unique combination of expertise from human organ perfusion to drug development to managing complex data systems.