litegrav

Turning Gravity Into a Programmable Variable for Biotech

www.litegrav.ai

Executive Summary

Space-like conditions allow to develop previously unseen, high-need therapeutics and materials, even on Earth. Still, computing and how to test these at scale and cost efficiently is unresolved. Current solutions unable to address an estimated 80 bn€+ potential in discovery and biomanufacturing.

Our platform is used for discovering new assets for human health and agriculture under extreme stress, by simulating space and other conditions. Our system can rapidly test hundreds of miniaturized experiments in parallel - cutting down the time and resources needed compared to traditional approaches.

We have cut down a stem cell optimization process from **7 years to a few weeks** with a client that was trying to achieve space like conditions with legacy systems. We can do this for a myriad health and agricultural use cases saving years and millions arising from trial and error

Traction and Commercialization

- Validated Technology: 8 early in-house and partnership pipeline assets
- Both paying contracted and LOI customers: NASA GeneLab, Boryung, Boston University, Mass General Hospital Bone Stem Cell Core, and Celvia.
- Financials: Revenue generation started in 2024; $1.6M+ projected revenue in 2026-27 via core facility installations and partnership co-developments
- The Ask: Raising up to $2M to consolidate GTM preparation across focus use cases and accelerate the commercial deployment of PIROUETTE™ toward projected revenue streams exceeding $800M in the early 2030s, on a path to $1B+. With pharma majors actively piloting microgravity and no integrated platform yet claiming the category, the window is open and the time is now.

An Unmet Need

Proven science, broken infrastructure. Every failed experiment wastes billions.

18 Months.

For *one* experiment in microgravity.

- ZARM drop tower & ISS platforms: waiting lists up to 18 months
- One shot. One payload. One chance.
- A single protocol error erases years of work —and cannot be repeated
- Parabolic flights: 25 seconds of data after *months* of preparation

$40,000 / kg.

To ask *one* question.

- ISS experiments require enormous budgets
- Only a handful of labs can afford access to space
- Parabolic flights and nanosatellite experiments remain inaccessible to most
- Cost per data point is catastrophically high —killing discovery before it starts

No Adaptability.

No intelligence. No scale.

- Legacy simulators run on presets—cannot be reprogrammed
- No parallel experimentation at scale
- No predictive, ML-guided design
- Trial-and-error by default — the same approach used 40 years ago

In the time it takes to book one ISS experiment, Litegrav's PIROUETTE™ has run a thousand.

Validated Science, An Untapped Market

Microgravity research is proven. Its bottlenecks are time, access, and scalability.

ESTABLISHED OUTCOMES

Extreme biology opens a transformative space for non-invasive innovation.

Keytruda

$31B+ annual revenue from one space-validated drug

7 yrs → weeks

Of stem cell optimization compressed for a single client

$90B+

Estimated potential in novel biodiscovery & biomanufacturing

The first mover window is open. The giants are circling.

- Space economy is expected to reach $1T by 2040
- 500+ protein crystallization experiments on ISS—demand is proven
- Merck and AstraZeneca are already using microgravity
- The infrastructure gap *won't* stay open forever

A NEW NET IS NEEDED

1. Robust algorithms for prediction and configuration
2. Hardware for rapid parallel feedback and validation
3. Scale—hundreds of simultaneous experiments

Pharma's next blockbusters will be validated in *weeks*, not *years*.

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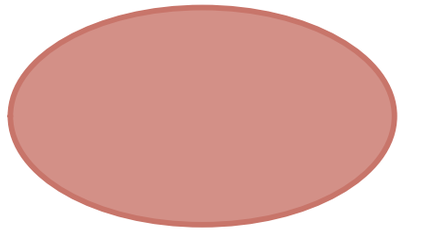
MICROGRAVITY AS MORPHOLOGICAL DIAL

Simulated gravity (sMG) influences cell morphology, differentiation state, and biological outcomes.

Traditional 2D Cell Culture, 1g



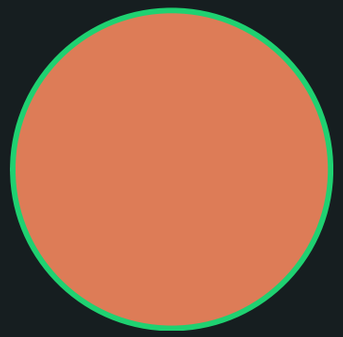
- Limited translational value
- Static morphology
- Flat—no 3D architecture

Directed by precise mechanobiological loading — PIROUETTE™

0g ← Gravity Loading → 0.9g

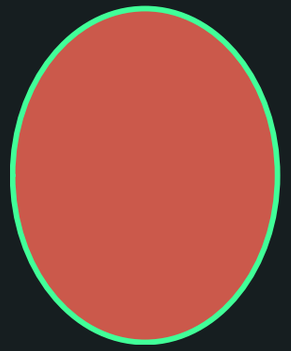
"0g" sMG

3D Spheroid



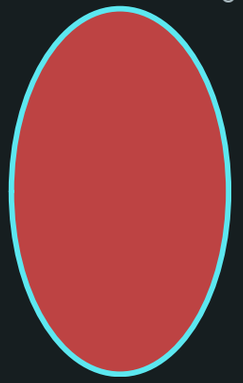
"Partial g" sMG

Differentiation Stage A



"Partial g" sMG

Differentiation Stage B



Tunable morphology—dial in to your desired outcome

Physiologically relevant

3D models — not flat, static cultures

Disease-specific cell states

Cancer · fibrosis · aging

Tunable differentiation

From immature to mature — on demand

Non-invasive control

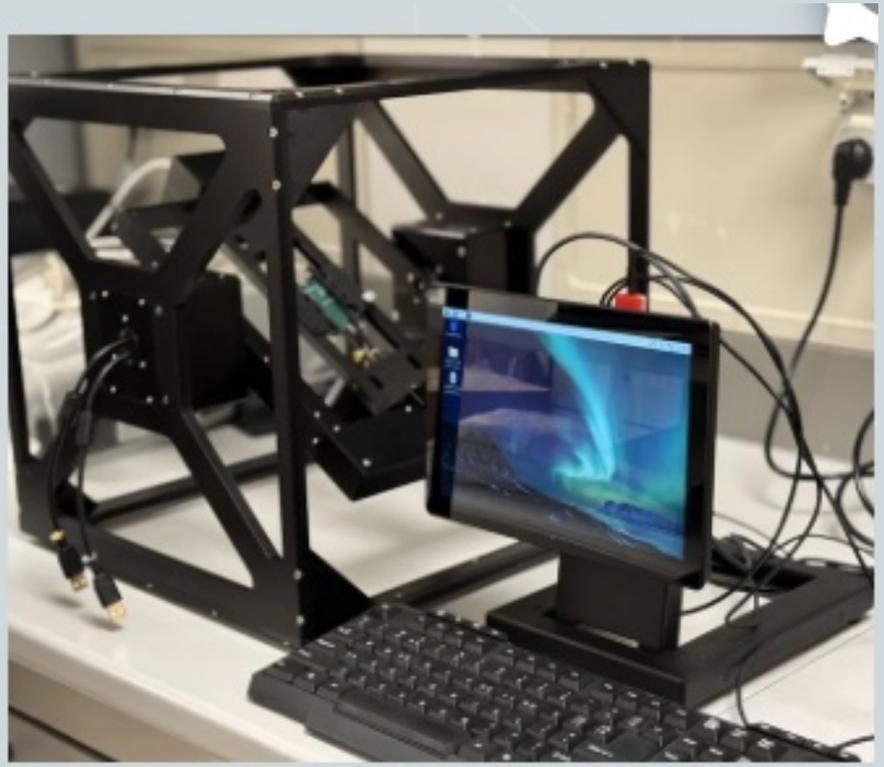
No chemicals or gene editing required

LITEGRAV'S FULL STACK PLATFORM

Direction is destiny.

A Rubik's Cube has *43 quintillion* configurations, but it can be solved in *under 20 moves* with the right algorithm. Litegrav's PIROUETTE calculates the exact sequence to reach your biological target.

No trial-and-error. No wasted experiments. Just the fastest path to discovery.



PLATFORM CAPABILITIES

- In silico prediction & modeling
- Rapid lab validation on ground
- Value-optimized production

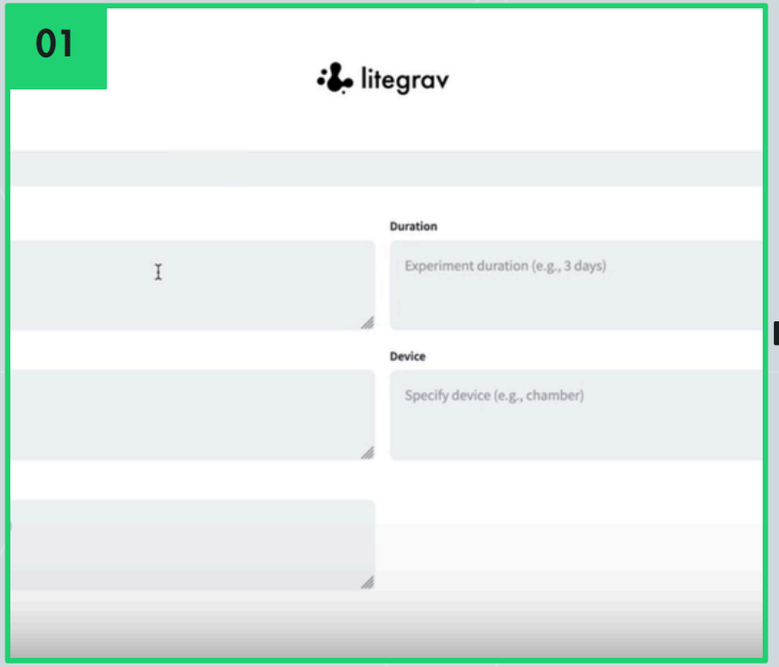
KEY METRICS

- > 90% cost reduction
- Days-to-hours optimization
- > 384 experiments / unit

MODULARITY ACCELERATES DISCOVERY

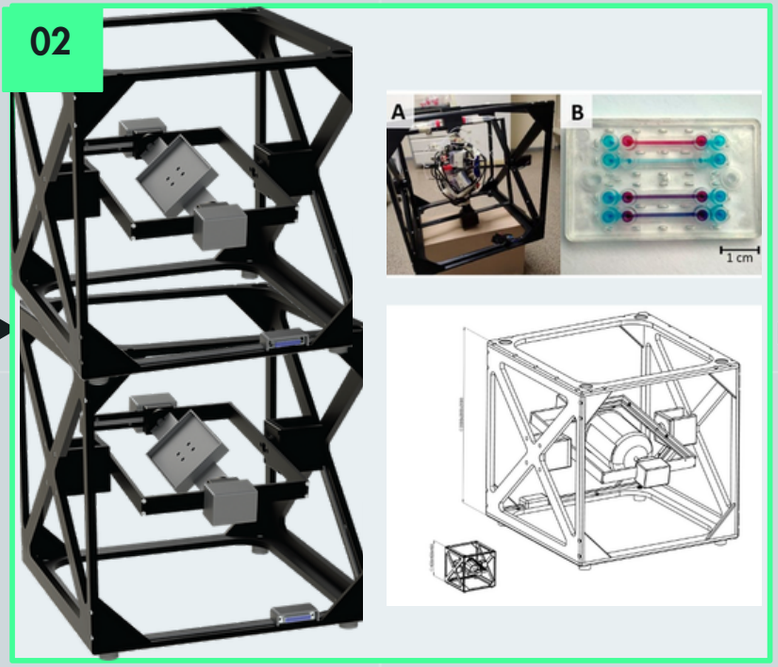
Configuration → Modified Biology

01



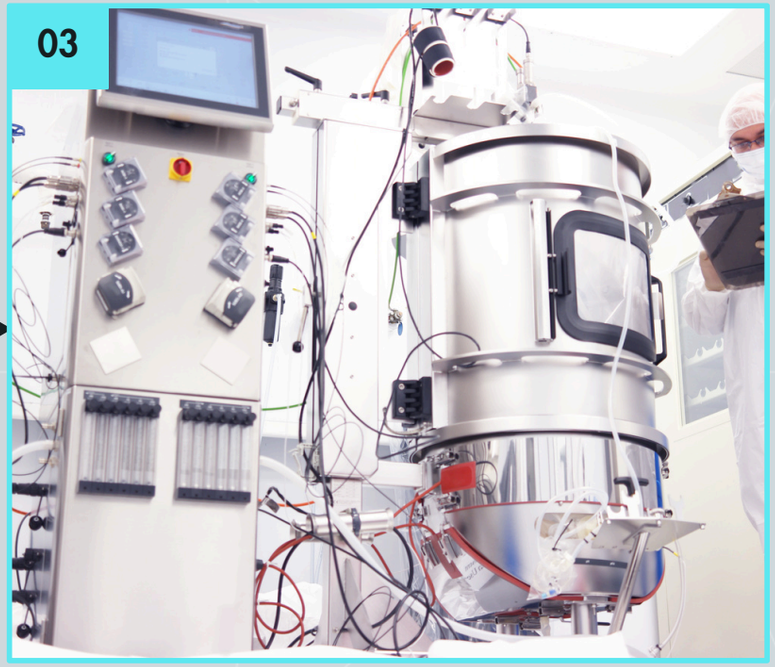
Software to model and predict biological target outcomes

02



PIROUETTE 3D MSRC enables rapid, high-throughput discovery and validation of target outcomes

03



Industry scale-up of IP asset generation

Three Validated Moonshots

	With Litegrav PIROUETTE™	Commercial Pathway	Partners
1 Stem Cell Optimization $50B+ Market by 2030	→ Multi-year optimization reduced to 3 Weeks	→ Licensing for stem cell therapeutics	Boston University / Mass General (rights signed) · Karolinska Institute
2 Oocyte / Fertility Optimization EU & North America requires higher success with IVF	→ IVF improvements & cfDNA enrichment project prep · Ovarian tissue optimization showing measurable improvements	→ Clinical trial initiation by Q2 2027	Celvia AS contract active
3 Micro-organism Re-Engineering $280B+ Industrial Biotech market	→ Biomining extremophile optimization · Co-development of novel yeast strains (LTGR-004 pipeline asset)	→ Pharma licensing discussions · 10+ novel compound library by end 2026	Train microbes for rare earth extraction · License strains to DSM, Novozymes, Chr. Hansen

TEAM

International Biotech · Commercialization · Defense · Pharma ML

Patrik Hollos

CEO, Founder

PhD, Neuroscience · 15 yrs life science commercialization

Artur Jackson

CTO

PhD cand., Mathematics · 20 yrs silicon industry & defense hardware

Alireza Kashani

ML Lead

PhD · 15 yrs Biopharma ML/AI · ex KPMG, Novo-Nordisk

Apoorv Sharma

COO

13 years in VC, Biotech, DeSci, Enterprise & Fintech

Matilde Miranda

Space Medicine

UCLA Skin Scientist

Margaret Pütsepp

Bioengineer, Data

Nucleate Baltics · ETH Zürich

Maris Macijevskis

CFO

Ex-Hansamatrix, a NASDAQ listed medical electronics firm

Marton Toth

US Relations & BD

PhD, MBA · Bridging EU Innovation with US Capital & Commercialization

Key Financials

USD · EUR→USD @1.09 · Conservative 18-month lag model

$600M+

Projected EBITDA · Annual · Early 2030s

TAM: $29B cell-based biologics · 13.2% CAGR · Target: 5% share by 2032

Based on 3 active licensing pipelines · Conservative capture of validated market segments · 18-month deployment lag

Hardware Rental & Sales

$50B+

Stem Cell & Oocyte Market · 2030

↗ Stem Cell Optimization
Oocyte / Fertility

$32k – $52k / unit · Recurring rental income · Scales with platform adoption

Biotech IP & Licensing

$280B+

Industrial Biotech & Biopharma · 2030

↗ All Three Moonshots

6 pipeline assets · Upfront + milestone structure · First deal anticipated 2026

SaaS / In Silico Platform

$390B+

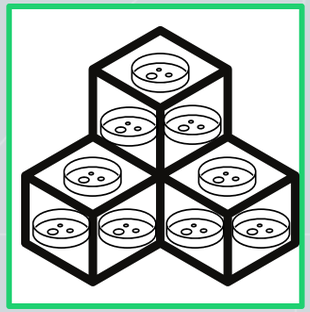
Biologics Market · Long-term

↗ Broad Biopharma
Platform

$10.5k – $16k annually / user · Compounds with each hardware deployment

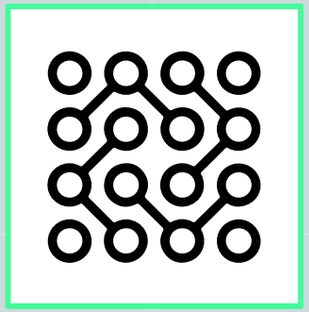
Three Revenue Streams, Compounding Value

Successful model proven by Recursio and Insitro, applied to mechanobiology with $33B in validated pharmaceutical revenue already generated.



Hardware (PIROUETTE) Rental & Sales

$32k – $52k / unit
(Depending on Customization)



Licensing, Drug and Method Discovery Assets

*6 pipeline assets

Software Platform for Biodiscovery

Protocol Library
$10.5k – $16k annually / user

Already Trusted By

Åbo Akademi

UNIVERSITÀ DI PAVIA

BOSTON UNIVERSITY

TAL TECH

ual: university of the arts london

ASRO

Celartia
Transforming the art of cell culture into scientific engineering

ORBITAL SPACE TECHNOLOGIES

esa business incubation centre Estonia

IN ORBIT aerospace

PROTOLAB

tentwelve

NORAchem

BORYUNG

prototron

Massachusetts General Hospital
Founding Member, Mass General Brigham

CellboxLABS

CELVIA

aws aerospace and satellite

Weill Cornell Medicine

MeOmics

NASA

L-Università ta' Malta

ScienceMosaic

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Capital Raise

We are seeking up to $2 million (equity and grants)

The raise size and its valuation can be gated depending on milestones. Existing investors might join to secure Litegrav's financing needs.

Use of proceeds for 18 months of runway*

Category	Amount
Running costs (average ~$54,000 per month)	**$980,000**
IP management and patent filing	**$208,000**
Manufacturing and installation of testing platforms	**$474,000**
Buffer (R&D, materials, campaigns)	**$266,000**
TOTAL	**$2,000,000**

Commercial revenue milestones**

2026	**>$1.8M**
2027	**>$4.2M**
2028	**>$10.8M**

*Expected platform leasing contracts in coming months and first pharma contracts in early 2026. Litegrav expects to be self-financing during 2026, making this the last funding round needed.
**Revenue milestones estimated from contracts under preparation (available upon request), including two contracts spanning $5M over 5 years.

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Thank You :)

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