

We enable at-scale, commercial production of high-quality organoids in microgravity, to improve biological testing and regenerative medicine



# Life sciences challenges

\$1.4bn Average estimated cost of developing a successful drug

90% Of drug candidates fail in clinical trials

**100MM** Est. number of animals sacrificed p.a.



People( U.S.) are waiting for a life saving organ transplant



Avg. number of people who die per day while on the waiting list

## **Prometheus Organoids**



Superior and more ethical model than animal testing



Eliminates inviable drug candidates at the preclinical stage



Enables personalized and precision medicine



Solve rejection issues in regenerative (incl. transplantation) medicine



# FDA MODERNIZATION ACT ALLOWS SUBSTITUTION OF ANIMAL MODELS

#### A BILL

To allow for alternatives to animal testing for purposes of drug and biological product applications.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

#### SECTION 1. SHORT TITLE.

This Act may be cited as the "FDA Modernization Act 2.0".

#### SEC. 2. ALTERNATIVES TO ANIMAL TESTING.

- (a) IN GENERAL.—Section 505 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 355) is amended—
  - (1) in subsection (i)—
    - (A) in paragraph (1)(A), by striking "preclinical tests (including tests on animals)" and inserting "nonclinical tests"; and
    - (B) in paragraph (2)(B), by striking "animal" and inserting "nonclinical tests"; and
  - (2) after subsection (y), by inserting the following:

"(z) Nonclinical Test Defined.—For purposes of this section, the term 'nonclinical test' means a test conducted in vitro, in silico, or in chemico, or a non-human in vivo test that occurs before or during the clinical trial phase of the investigation of the safety and effectiveness of a drug, and may include animal tests, or non-animal or human biology-based test methods, such as cell-based assays, microphysiological systems, or bioprinted or computer models.".



# PHARMA HAS TAKEN NOTICE

**nature reviews** drug discovery

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AN AUDIENCE WITH | 16 February 2023

### Mini-organs attract big pharma

Hans Clevers, head of Pharma Research & Early Development : FIERCE for organoids in drug discovery and development.



BIOTECH

Roche creates organoid research institute to shake up drug discovery and development

By Nick Paul Taylor - May 4, 2023 07:00am









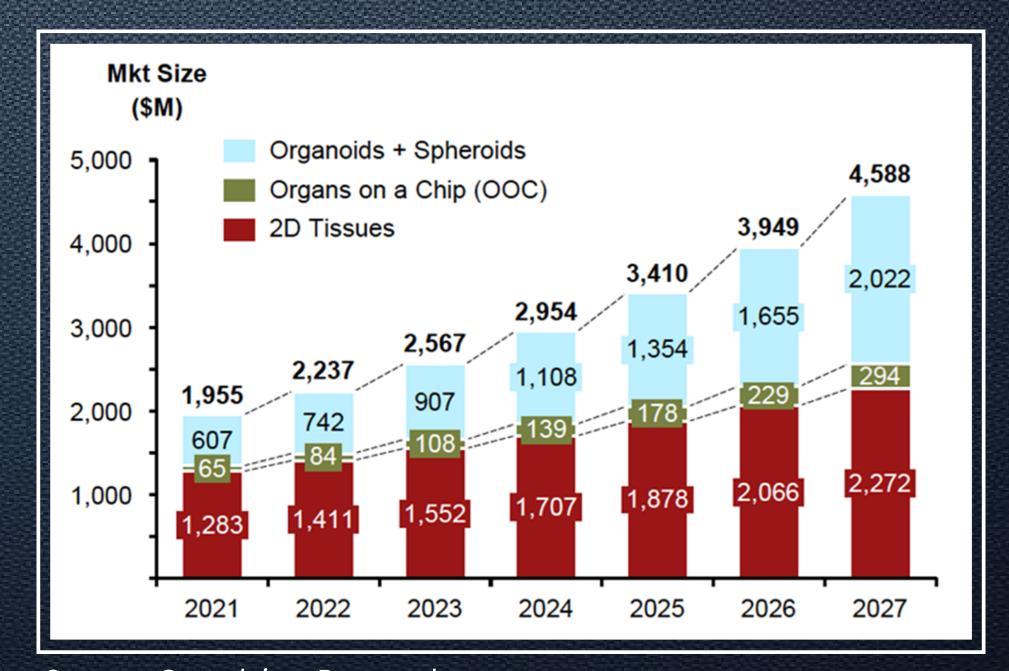
### TARGET MARKETS

### Biological testing

- Pharmaceutical Companies
- Research Institutions
- Clinics/Hospitals involved in regenerative medicine

### Regenerative medicine

Clinics/Hospitals involved in regenerative medicine



Source: Grandview Research



# Prometheus organoids produced in microgravity show significant advantages over traditional organoids

### Traditional Organoids

- Requires foreign materials
- Unwanted cellular reactions
- Rejection issues in regenerative medicine
- Not uniform quality
- Own organoid development is resource intensive

### Prometheus Organoids

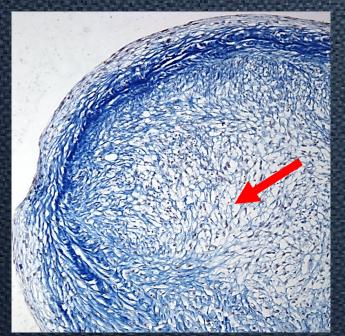
- No scaffolds/matrices required
- Better differentiation in microgravity
- Uniform quality
- Customized sizes up to 1mm



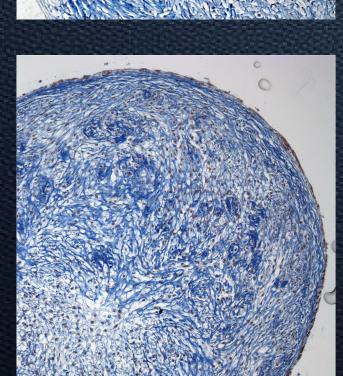
# Superior differentiation of organoid in microgravity

Ground Control

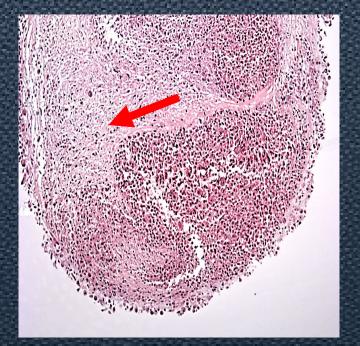
Space

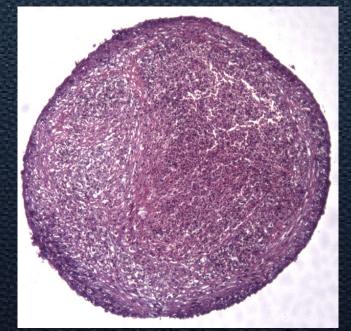


Cartilage (Azan)

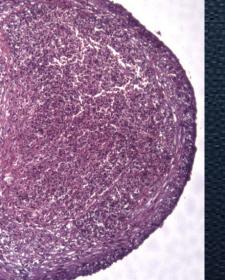


Liver (HE)





Ground control organoids contain large areas of connective tissue (pale colored; — ).



Production in space results in a significant better and more homogeneous differentiation.



## TAKING ADVANTAGE OF UPCOMING CAPACITY





Microgravity platforms in which Prometheus affiliates are shareholders



Commercial target price for launch & return of 1kg of mass



### BUSINESS MODEL

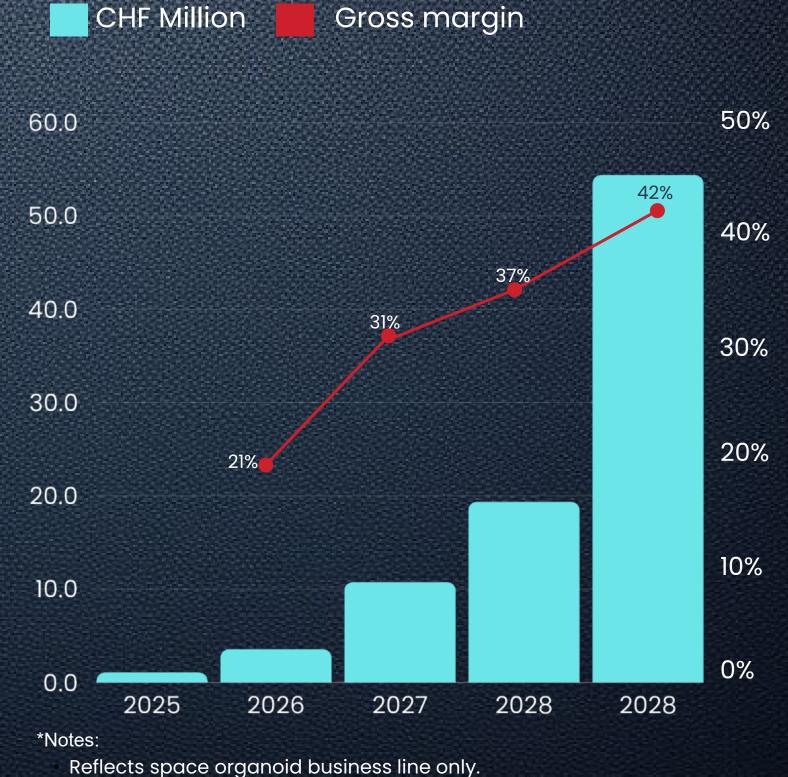
#### REVENUE DRIVERS

- Organoids for biological testing ⇒ sell by unit / plate
- Regenerative medicine therapies ⇒ by therapy (with a partner)
- Personalized biobanking ⇒ custom packages

#### COST OF SALES DRIVERS

- Raw materials (cells, media)
- Labor
- Spaceflight

CAPEX – low capital intensity!



- Does not include ancillary products and services, terrestrial organoids, personalized and regenerative medicine products.
- 2025 revenue: our priority is to fly with beta-testing commercial customers, not to maximize revenue at this point.



### Our team combines life sciences, space and business expertise



Raphael Roettgen, CFA Co-founder & CEO

Space business, investment and entrepreneurial expertise











Swantje Christoffel, PhD Head of R&D







**Célia Metry** Research Scientist

University of UZH Space Hub

**Experienced scientist known to our founders** 



Cora Thiel, PhD

Co-founder & Chief Scientific Advisor Distinguished bio academic - developed our technology

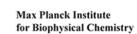


University of UZH Space Hub











**Victoria Rendon** R&D Liaison (Strasbourg) Life sciences & Space background



Head of Sales - to be recruited

**Experience in commercial role** at pharma/biotech company



**Aaron Kemmer** 

Entrepreneur-in-Residence

Pioneered in-space manufacturing as founder of Made In Space (acquired by Redwire)



#### Catarina Santos, PhD MBA

Commercial Advisor

Senior commercial executive in the pharma sector with 15 years' experience



**U** NOVARTIS





Justin Karl, PhD

**Chief Space Advisor** 

**Decades of microgravity experimentation** and payload experience









#### Liliana Layer, PhD

MADE INSPACE

Co-founder, Scientifc Advisor & Shareholder

Bio academic - worked with Prof. Dr. **Ullrich & Dr. Thiel on our space missions** 













#### **Prof. Oliver Ullrich, PhD MD**

Co-founder, Senior Scientific Advisor & Shareholder

Distinguished bio academic - developed our technology





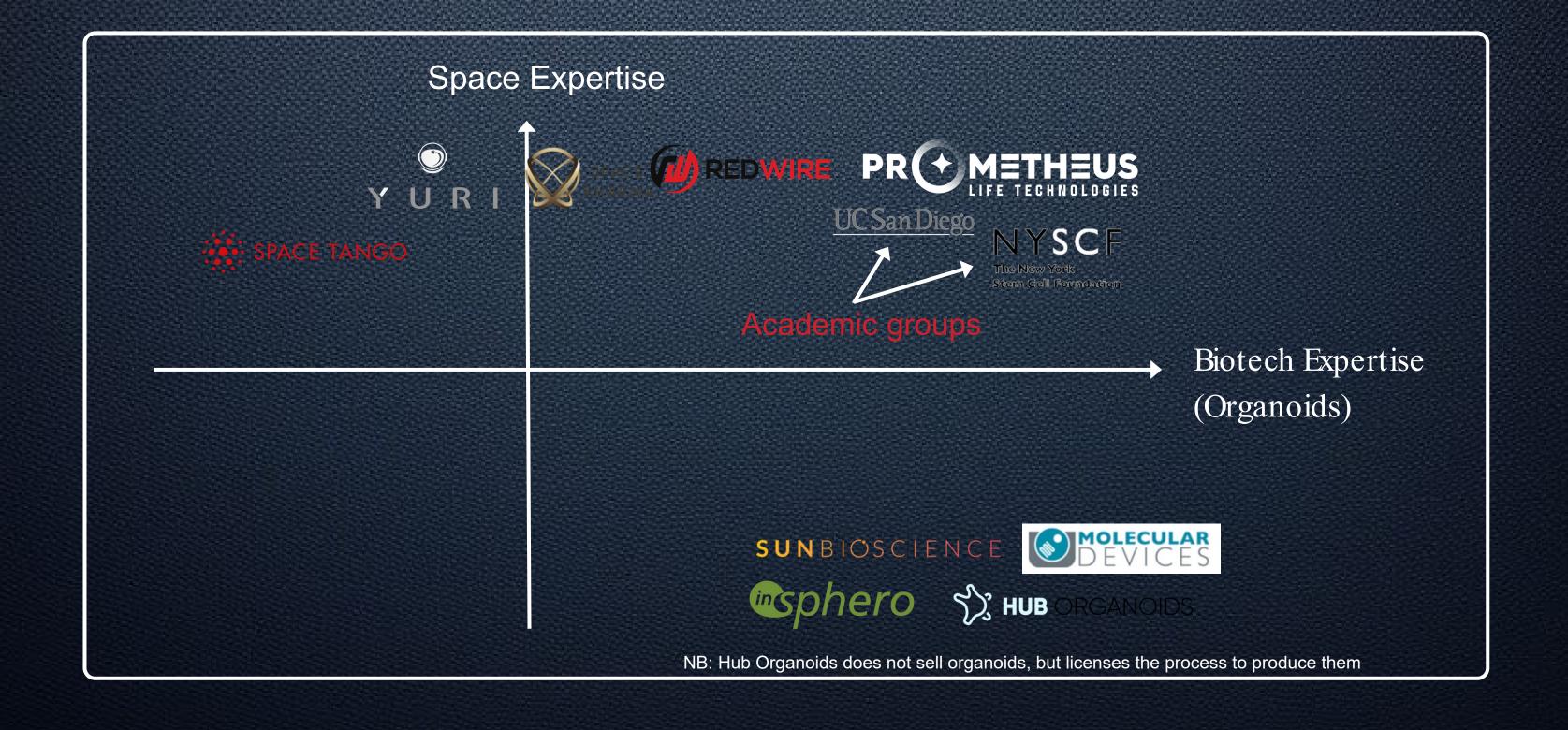
Zurich







# OUR EXPERTISE POSITIONS US BE AMONG THE LEADERS IN THIS MARKET





## BUSINESS MILESTONES

	<2022	2023	<b>2024</b> Pilot prod	<b>2025</b> lucts for	<b>2026</b> Scale up in	<b>2027</b>
Commercial			early ado		organoid p	
R&D	Concept proven on Space missions CRS 20 & 23		Regenerative medicine products Personalized medicine products			
	(472 organoids)		Ct	ustom commercia	al hardware dev.	
Funding		Initial Grants cesa	Seed / furtho Approx.CHF600k seed raised so far		eries A	Series B
Flights				zero-G	orbit (2x)	orbit (3+x)



# FUNDING ROUND

- Up to CHF2MM (600k done)
- From value-added VCs and/or family offices and angels
- Significant non-dilutive funding potential
  - >CHF300k won
  - Will apply for >CHF1MM in 2024/25
- Use of funds
  - Hiring business development, R&D staff
  - Set up R&D lab
  - Commercial pathfinder mission
  - Approx. 20 months' runway

