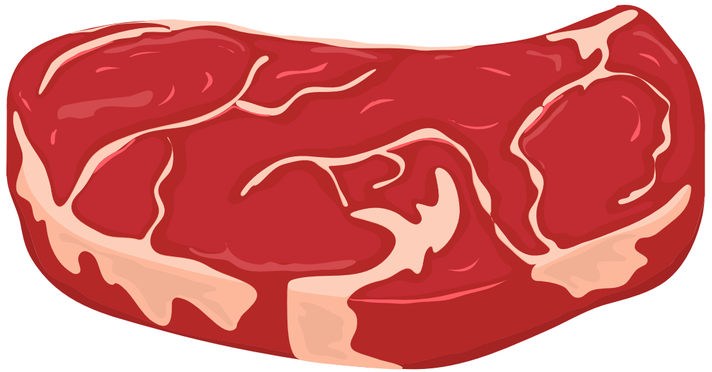
Fudzs.

Smaller, Faster, Cheaper

Fudzs.

CREATING SCALABLE, EFFICIENT AND AFFORDABLE CULTIVATED MEAT



investor@fudzs.com

Supported by Rouen Normandie Metropolis

Fudzs.

Smaller, Faster, Cheaper

Hungry for Change ? Hungry for Sustainability ?

"Cultivated meat is an emerging frontier that has enormous potential to become the foundation of a humane, climate-smart future protein supply"

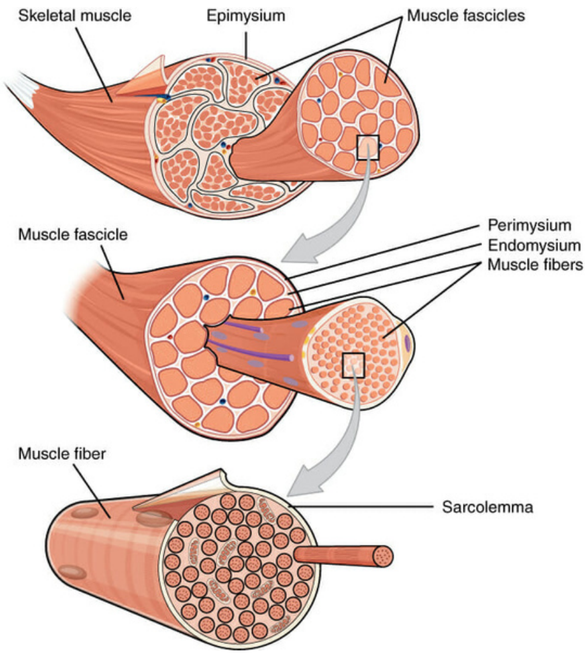
BLOOMBERG

Supported by Rouen Normandie Metropolis

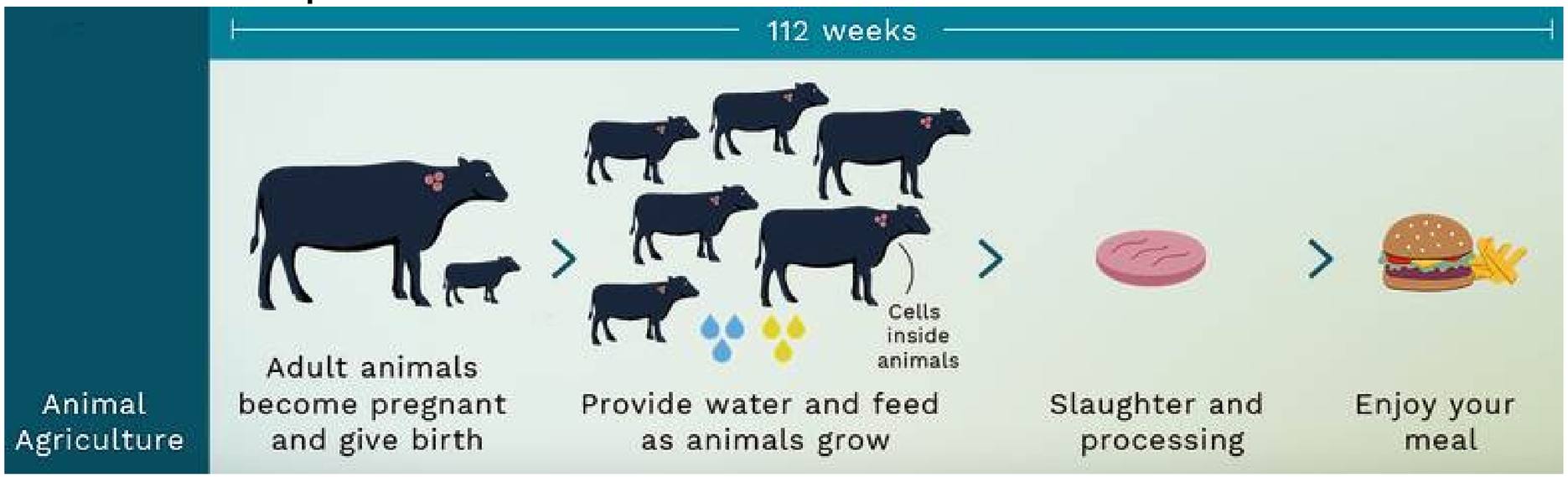
What is meat?

"All parts of an animal that are intended for, or have been judged as safe and suitable for human consumption. Meat has three major components: muscle cells, connective tissue, and fat"

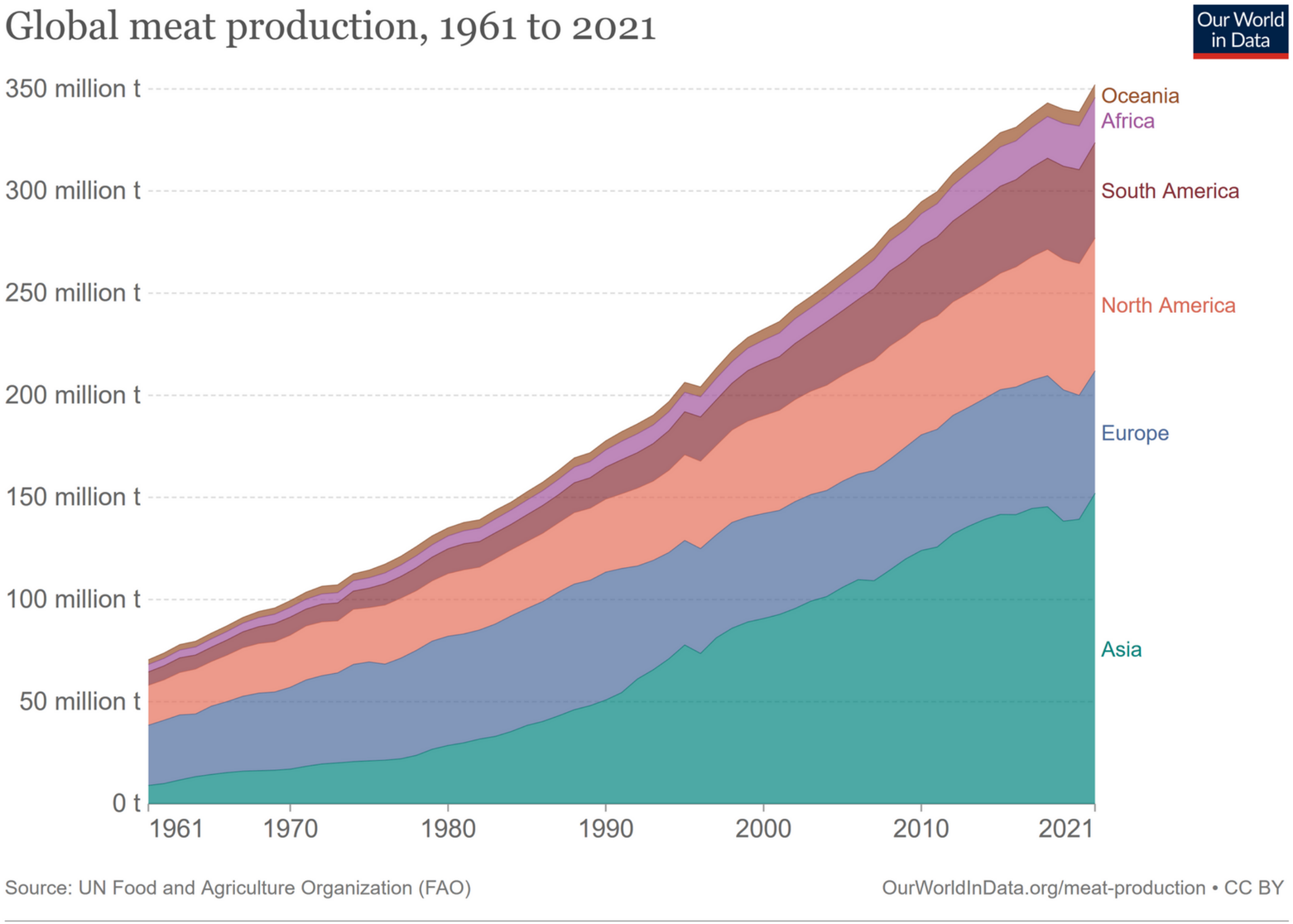
but muscles aren't just a soup of cells!



Current meat production methods



Current meat market and evolution



Changes in demand

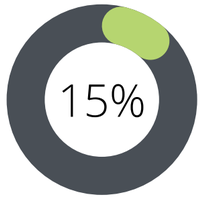
Increase in revenue
=> increase in meat demand

Increase in Earth population
=> increase in meat demand

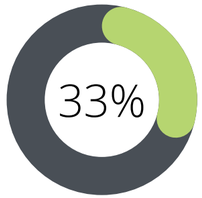
The FAO estimates that demand for meat will be 50% higher in 2025 than in 2010 and at least 70% higher in 2050

WHY ? Problems with intensive livestock

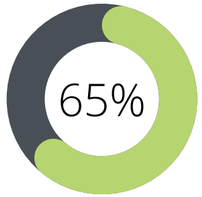
Environmental consequences



of CO2 emission



of water uses



of Nitrogen emission

of agricultural land uses

Public health

60% to 75% of emerging infectious diseases in humans are zoonotic in origin

Increase in antibiotic resistance

Animal suffering

1380 billion animals killed for human food in 2018

380 billion from livestock

80 billion land animals from livestock

+70% meat demand by 2050

(FAO)

What can we do?

- Everyone goes to a vegetarian diet (!)
- We change protein sources
  - Insects
  - Precision fermentation
  - Plant based food (meat)
  - Cultivated meat

Cultivated meat

Real meat with "normal" nutritional values

Meat from all types of animals

Beef, pig, chicken, seafood, fish,
goat, Wagyu, foie gras, caviar, etc.

More efficient production

less space, less water, less energy, etc.

No GMO, no antibiotic

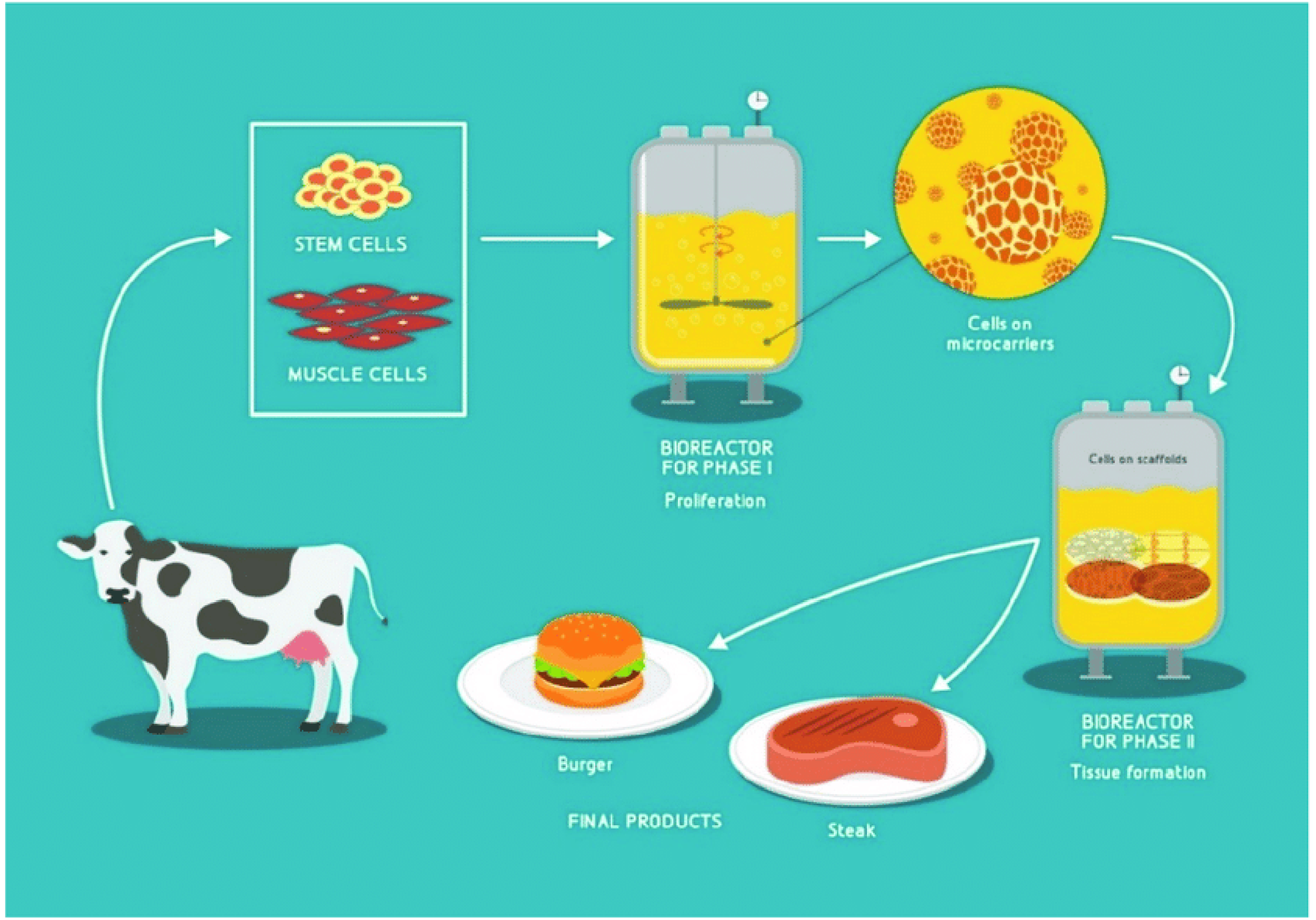
No animal suffering

Customizable nutritional profile

low fat, omega 3, vitamins, etc.

What is cultivated meat?

Cultivated meat is made of the **same cell types** than animal meat, that can be arranged in the **same or similar structure** as animal tissues, thus replicating the **sensory and nutritional profiles** of conventional meat.



Djisalov, Mila & Knežić, Teodora & Kundačina, Ivana & Živojević, Kristina & Radonic, Vasa & Knezevic, Nikola & Bobrinetskiy, Ivan & Gadjanski, Ivana. (2021). Cultivating Multidisciplinarity: Manufacturing and Sensing Challenges in Cultured Meat Production. Biology. 10. 204. 10.3390/biology10030204.

The major stages in cultured meat

"Prehistory" > 1970

1931: Winston Churchill theorises about the possibility of growing meat in an industrial environment.

1950s: Dutch researcher Willem van Eelen independently developed cultured meat.

1971: Pathologist Russell Ross produces the first in vitro culture of muscle fibres.

R&D - 1970 > 2013

1991: Jon F. Vein obtains a patent for the production of meat designed for human consumption.

2001: NASA begins experiments on cultivated meat.

2004: Jason Matheny founded New Harvest to encourage development by funding research.

2008: The Dutch government invests 4 million dollars in experiments on cultured meat.

Growth and solutions - 2013 >

2013 : The first cultured beef steak is created by Mark Post at Maastricht University.

2016 : Memphis Meats (now Upside Foods) launched a video showcasing its cultured beef meatball.

2020: Eat Just receives its first regulatory approval in Singapore for its Good Meat cultured chicken.

2021 : JBS acquires BioTech Foods, investing $100 million to enter the cultured meat market.

2022 : the Food and Drug Administration (FDA) completed the pre-market consultation of Upside Foods

2023 : JBS Starts Building Lab-Grown Meat Factory in Spain

2023 : USDA approves cell-cultivated chicken for UPSIDE Foods and Good MEat

The potentiel Market

$20B

Market by 2030 (McKinsey)

$450B

Market by 2040 (Barclays)

$1.38B

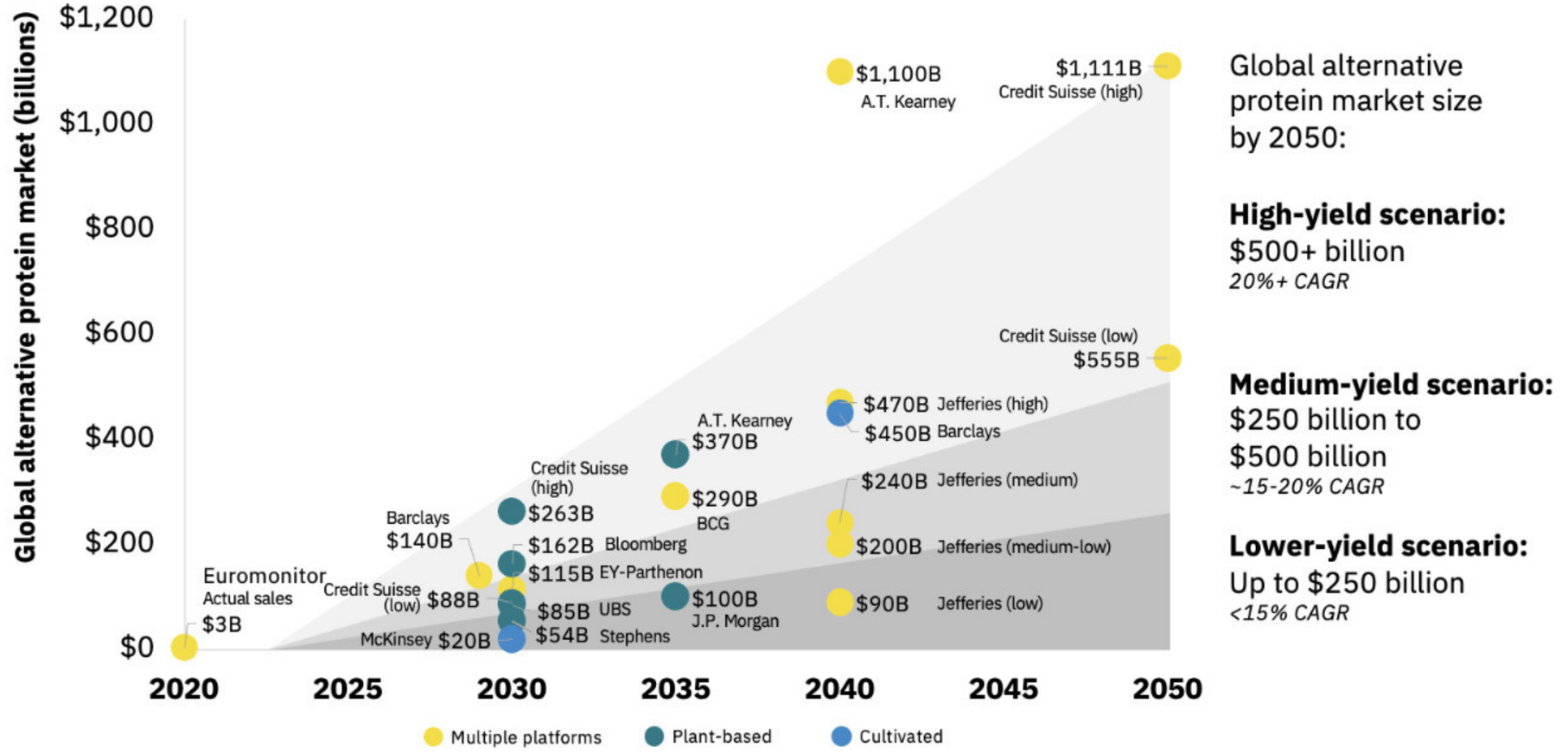
Raised by cultivated meat companies in 2021

25

Countries have at least one cultivated meat company

"A majority of consumers in Europe already want to buy cultivated meat and want their governments to support its development."

Figure 15: Projections of market size



Global alternative protein market size by 2050:

High-yield scenario:
$500+ billion
20%+ CAGR

Medium-yield scenario:
$250 billion to $500 billion
~15-20% CAGR

Lower-yield scenario:
Up to $250 billion
<15% CAGR

2030 : Cultivated meat will be 10% of the total meat share ($200B) - govgrant.co.uk

Cultivated meat industry : $3billion raised worldwide

Investments in alternative proteins

Category	Invested capital 2022	Total invested capital 2013–2022	10-year avg growth 2013–2022
Total alternative protein	$2.9 B	$14.2 B	107%
 Plant-based	$1.2 B	$7.7 B	99%
 Fermentation	$842 M	$3.7 B	190%
 Cultivated	$896 M	$2.8 B	196%

Our vision

We believe in a new way to produce meat, with respect to the environnement, to the consumer and to the animal.

We believe that cultivated meat will be tasty, affordable for all and made for the benefit of human health.

We believe in partnership with extensive farmers who work in a sustainable way to suppress intensive livestock farming.

We believe in small production units, with low environmental impact, adapted to local market to avoid unnecessary transports

Our profiles

Aude Planche is the co-founder and CFO of FUDZS. Aude has spent over a decade as a private equity and principal investor at a $3.4 billion global alternative investment group. Aude brings comprehensive capital markets industry knowledge and expertise having identified, structured, and executed investment opportunities across the capital structure in over 50 transactions spanning more than 20 countries across Europe, North America, Asia Pacific, and the Middle East. Aude has collaborated with entrepreneurs, government representatives, stock exchanges (such as Nasdaq, NYSE, Börse Frankfurt, SIX Swiss exchange, HKEX, TSX, Euronext etc.) and professional investors to evaluate and invest in unique opportunities spanning, Life Science, FoodTech, AgriTech, Blockchain Technology, CleanTech. Born and raised in France, Aude has always been a strategic thinker and a hard worker. In addition to her work, she is a sport enthusiastic (Polo, Cross-country skiing, Hiking). She holds a Master of finance.

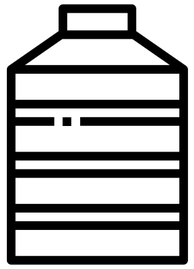
Zied Souguir, PhD is the co-founder and CEO and the responsible for the innovation division at FUDZS. He has 20 years of experience in research and industrialization of 3D cell culture media based on natural biopolymer, agri-food formulation and is co-author of more than 30 publications, patents, and papers in the field of modification of biopolymers and polysaccharides. He has several academic experiences in different prestigious institutes and laboratories (CNRS, MNHN, ESPCI, Rouen universit). He has worked for several start-ups, such as Celenys and HCS Pharma, where he has devised and promoted the industrialization of scaffold and thermosensitive technological process.

Gregory Maubon, PhD is the co-founder and CTO of FUDZS. Computer enthusiast for a long time, he has a PhD in the field of physics and astrophysics. He has worked in the digital domain for 25 years both in IT and business departments. He has worked in big institutions and small startups, where he has managed different teams, from 2 to over 50 people. He is a recognized consultant in immersive technologies and simulations since 2011 where he founded the French association for the promotion of augmented reality (RA'pro). He led several complex projects in IA for HCS Pharma, in data analyzing and production optimization. Grégory MAUBON is also a presenter and a lecturer in many international events related to technology.

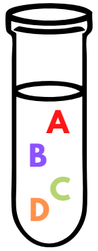
Cultivated meat now

Cells from animal

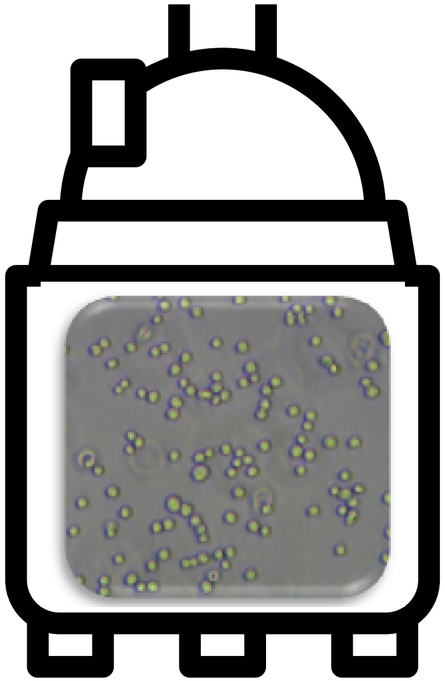
Liquid medium (water and nutriments)



nutrients



"liquid suspension cell culture"



Large bioreactor with low efficiecy

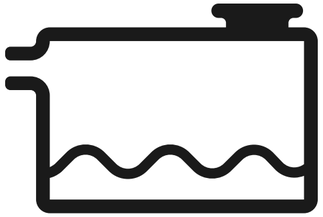
High risk of contamination

High energy consuming

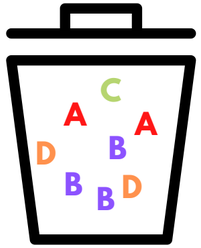
High price

High production price

Poor structuration capability

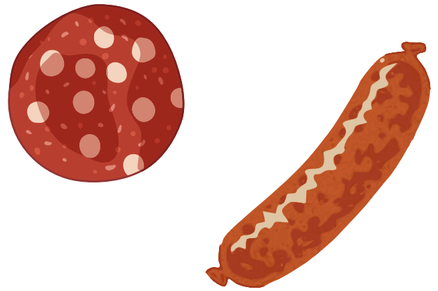


Structuration with external addition



Waste with nutrients and liquid media

Low sustanability



Unstructured or poorly structured meat

No natural taste and weird structure

Low perceived value

Why we do it better?

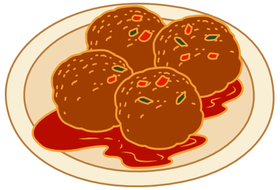
Small spaces needed and low energy

Cells from animal

Fudzs.

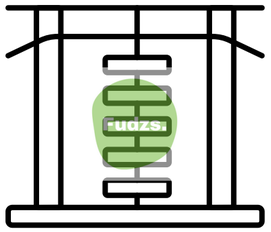
Fudzs technology: Edible and bioactive microcarrier

Small Bioreactor with our technology

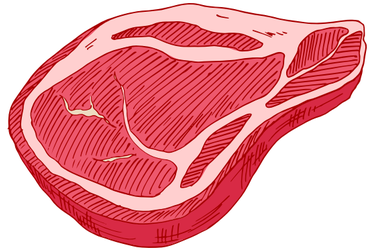


Low structured fat or meat

Fast to produce and low cost

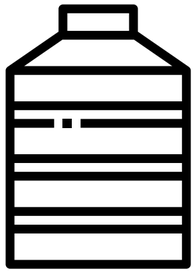


Electro-mecanical stimulation

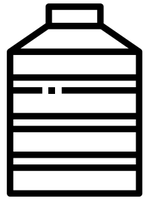


Fully structured meat

Tasty and animal meat like structure



Liquid medium



Used liquid medium

Recycled and complemented with few D C A B

"zero waste" process

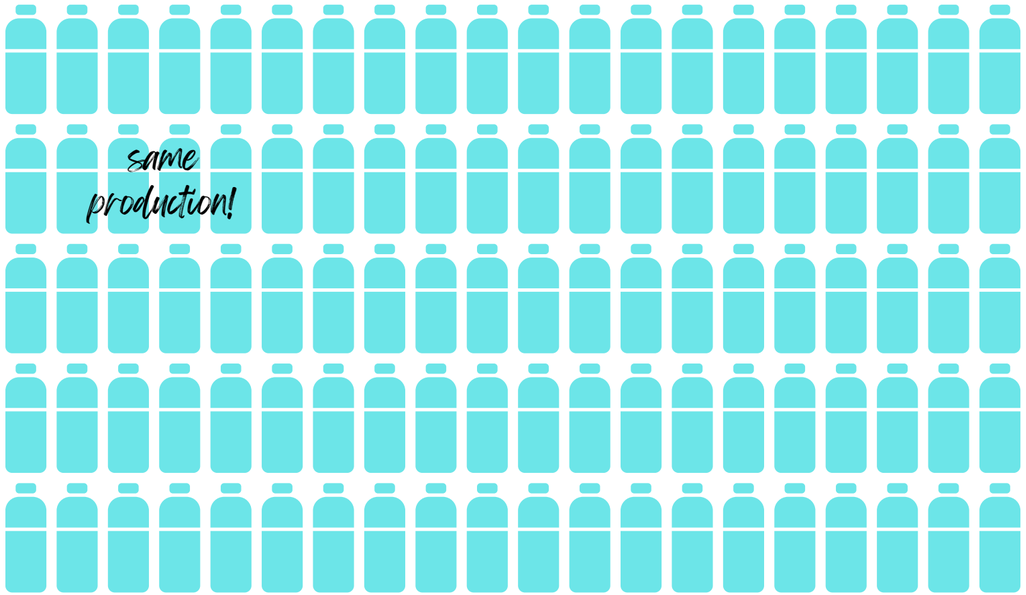
0.5 g of biopsy produces 5 tons

High perceived value

Let's talk about scalability and cost reduction

Competitors technology

100 Bioreactors



Our technology

1 Bioreactor

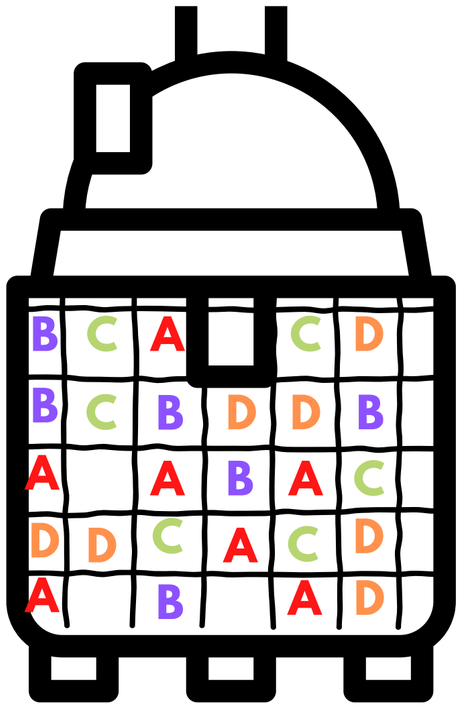
x100 more efficient

99% cheaper

Our technology

20+ years of research by world-leading experts
The most advanced lab-grown meat, nutritionally indistinguishable from real meat and fully customisable nutritionally.

30+ Published academic papers
-
1 Patent ongoing



Chemically
Composition: based on **food-grad** biopolymers and products (**edible**)
Bioactive: Suitable for meat cells (muscle and fat) and co-culture
Versatile: chemically adaptable (controlled growth factor delivery …)
Customisable

Physically
Multi form : scaffold, powder
Multi size shape: large size
Mechanical properties: allow mechanical and electric stimuli’s
Perfusable: ease diffusion of oxygen and nutrients

Scalability
Manufacturing : scalable and controlled materials
Cost:cheap raw materials

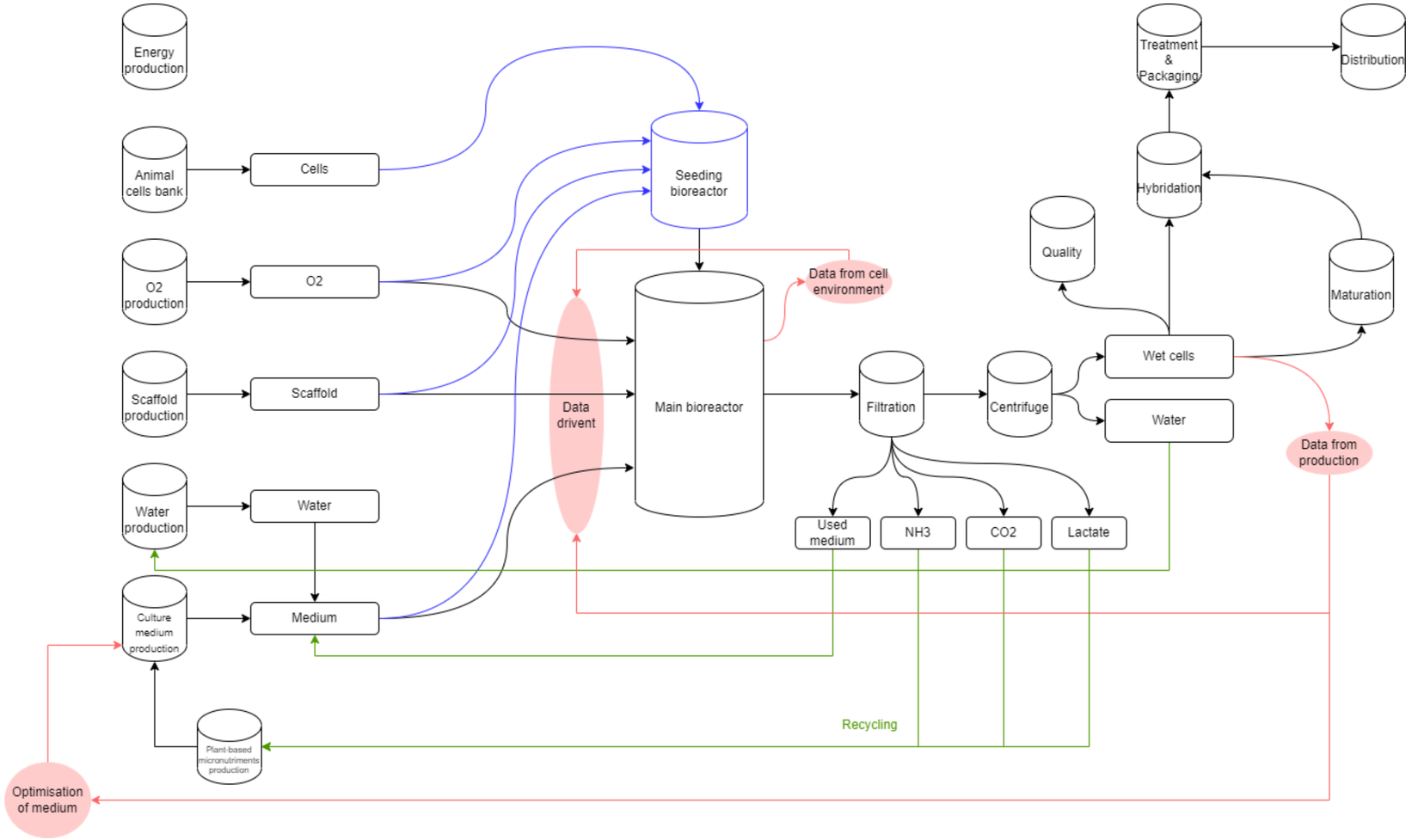
Experimental line - First step

100 m2
1 area (50m2) for preproduction
1 area (50m2) for process validation

Bioreactors from 10L to 100L for validation

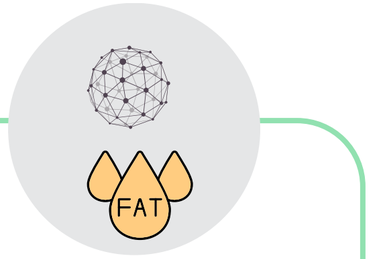
1 experimental production
bioreator 100L (than 1000L)

Product
unstructured "pure" meat
100 kg/year
Not for sale



Total Cost : $1M from scratch

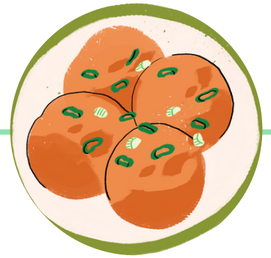
The products pipeline for next 5 years



Microcarriers & Fat

Immediately commercialisable for B2B client. We can provide higher-grade fat directly to businesses for a fraction of the price, a fraction of the environmental impact, and faster than competition.

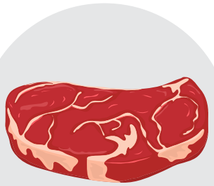
2024



Unstructured meat

Unstructured meat includes carpaccio, minced meatst

2025



Structured Steak

Structured meat ressembles and replicates meat precisely

2026

Fish & more

At this stage we offer an extensive range of meats including fish, chicken. Moreover, as we use selected cells it's possible to choose nutritional profile (low fat, Omega 3, vitamin, etc.)

2027

Our industrial vision

Microfactory
easy to build
easy to operate

Zero waste

No carbon footprint
No emission

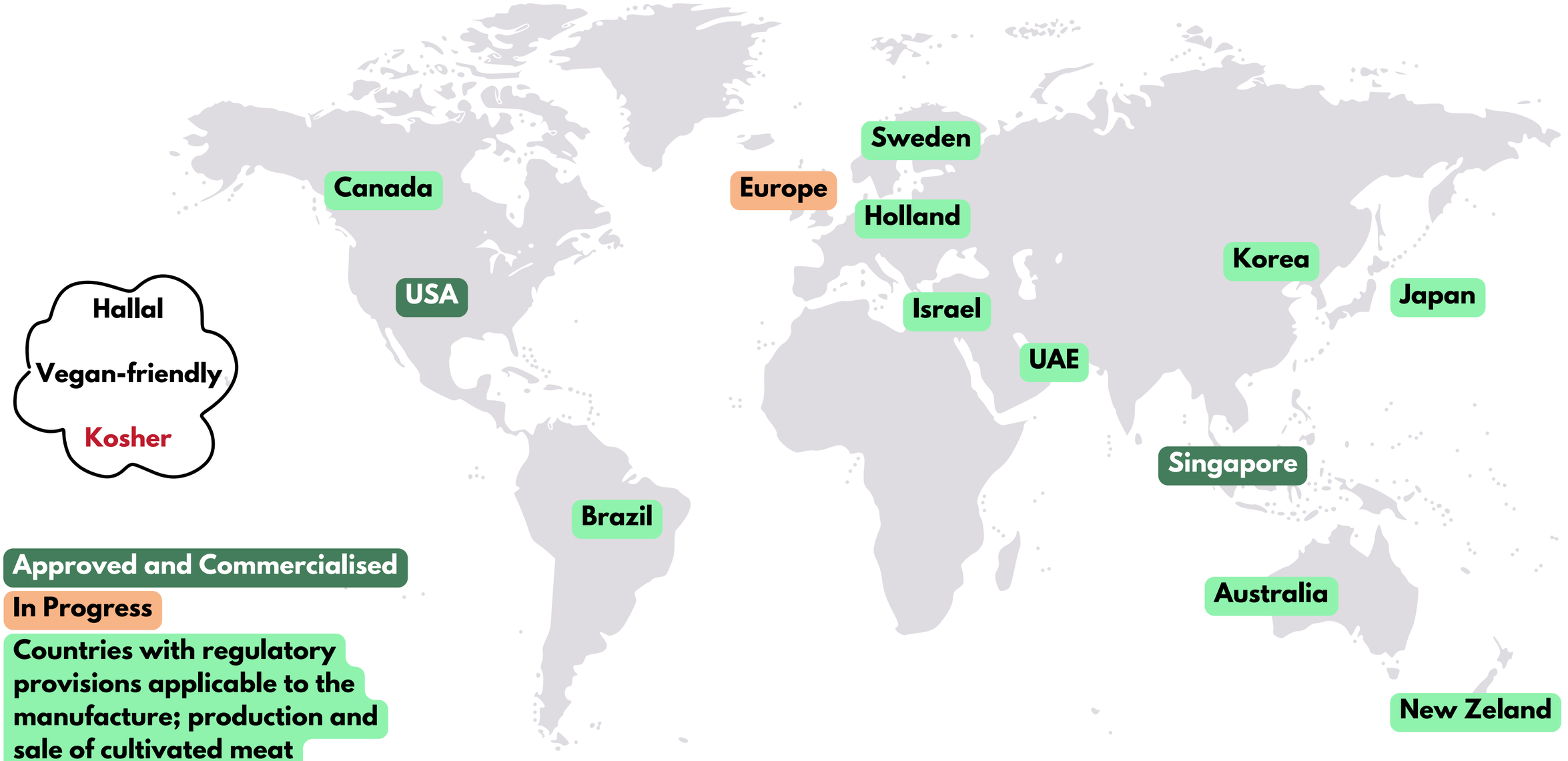
Artistic view of our microfactory by @midjourney

As low transportation as possible

Locals ingredients
Local foods consommation

Easily scalable to feed local needs

The regulatory Framework is promising



Hallal

Vegan-friendly

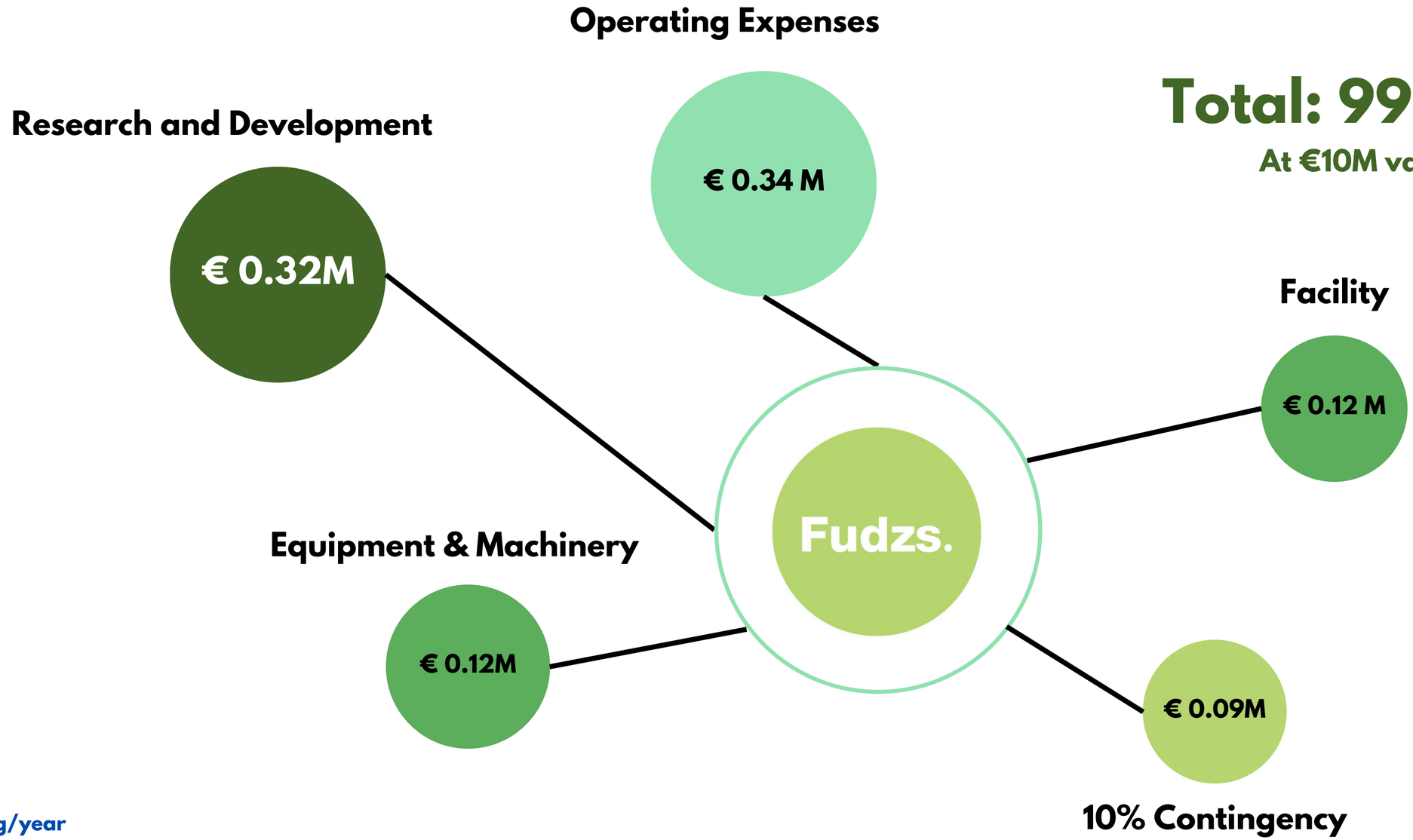
Kosher

Approved and Commercialised

In Progress

Countries with regulatory provisions applicable to the manufacture; production and sale of cultivated meat

Investment and use of funds

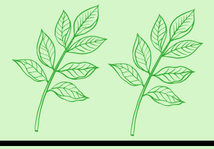


Total: 997,842€

At €10M valuation

-100Kg/year
-10L and 100L Bioreactor

Comparison with competitors

	UPSIDE Foods	FUTURE MEAT	ALEPH FARMS CLEAN MEAT GROWERS	GOURMEY	var	Mosa Meat	Fudzs.
Multi-product offering	✓	✓	✓	⊘ Just foie-gras	⊘ Just Fish	⊘	✓
Positive Environmental Impac							
Matured meat	⊘	⊘	⊘	⊘	⊘	⊘	✓
Structuring technology	⊘ Cellulose	⊘ Cellulose	⊘ Collagen	⊘	⊘ Alginate	⊘ Alginate	✓ Proteoglycan
Cost of Production	**$$**	**$$**	**$$$**	**$$**	**$$**	**$$**	**$**
Total Investment raised to date	**USD 608M (Valuation over $1 Billion)**	**USD 387.8M**	**USD 119.4M**	**USD 60 M**	**USD 13.9M**	**USD 96M**	**Total asking USD 8M to build a 20T pilot factory**

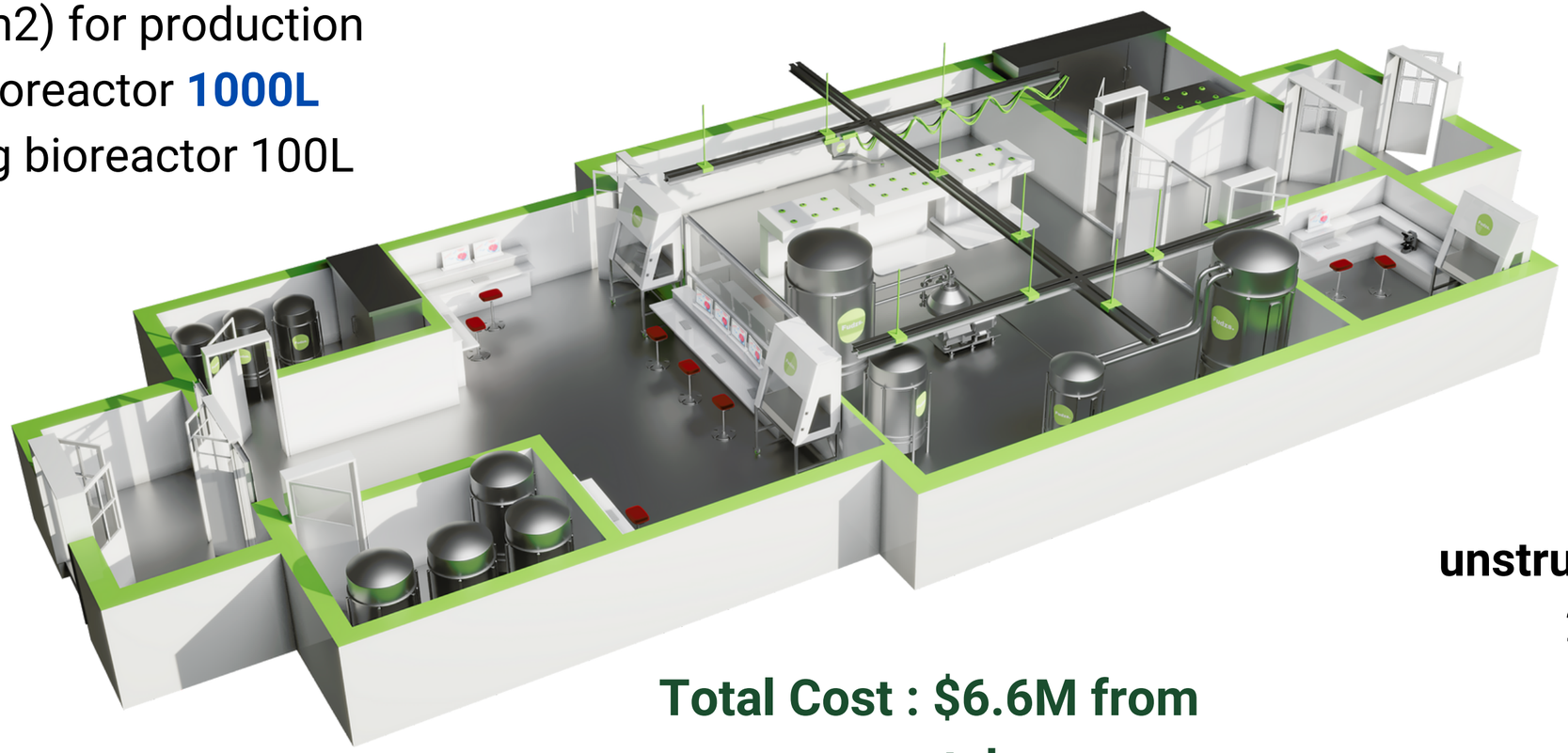
Pilot Production Line - 1 bioreactor - 20 tons/y

100 m2

1 area (50m2) for production

1 main bioreactor **1000L**

+ 1 seeding bioreactor 100L



Total Cost : $6.6M from scratch

OR : $2M in an existing building

Product

unstructured "pure" meat

20 tons/year

Alternative

unstructured "hybrid" meat

(20% meat / 80% plant)

100 tons/year

3,1 $

*Based on 20% wet inclusion rate for meat

Factory - 128 bioreactors - 2500 tons/year

10000 m2

128 production areas (20m2)

Cost : $158M from scratch

$80M / year (operation)

Product

unstructured "pure" meat

2500 tons/year

Alternative

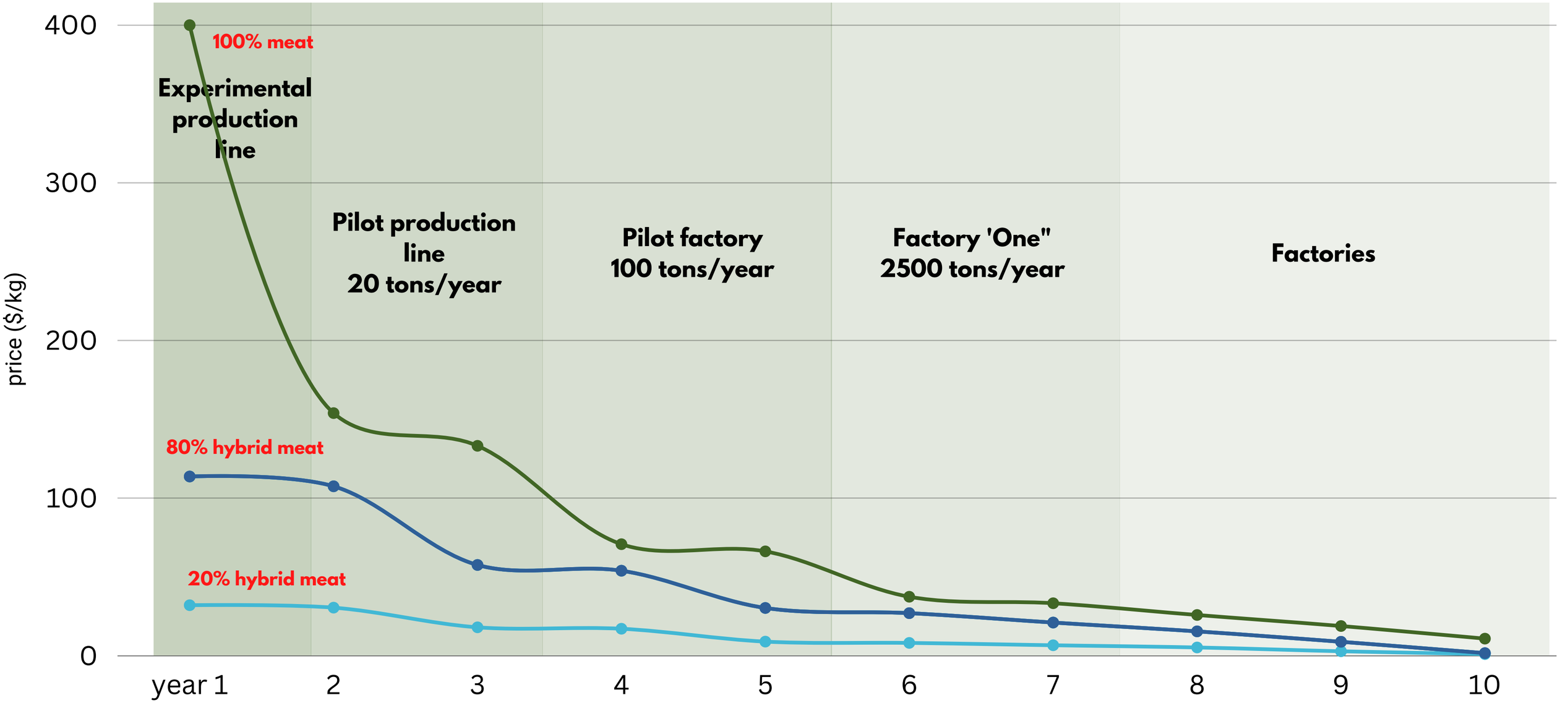
unstructured "hybrid" meat

(20% meat / 80% plant)

12500 tons/year

1,5 $

Evolution of price for 100% pure meat and hybrid meats



Exit Strategy

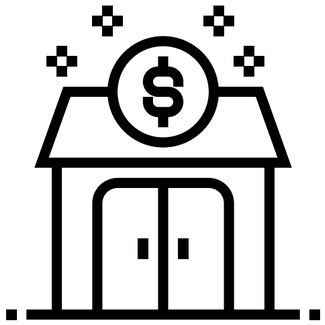
Acquisition by conventional meat producer

Advanced discussion with 2 companies

Example in Spain of recent acquisition by an existing meat producer : https://www.newfoodmagazine.com/news/164994/jbs-completes-biotech-foods-acquisition/

IPO within the next 24-36months

Advanced discussion with actors like Kryptown (France), Bit2me (Spain) in order to create within the next few months a **secondary market**



Valuation : EUR 10m (independent valuation report available under NDA)

***% Offered**: 10%*

Estimated return : *20 times (look at current competitors valuation like UpsideFood)

Estimated exit : 24-36 months

Be part of our community. We will do exclusive webinar with our shareholders every quarter

Recap

Future Unicorn
With competitors raising at billion dollar valuations, our pre-eminent technology will propel us to unicorn status too.

Foodtech will be the the next big trend, join now
As food shortage and environmental situations are at the forefront of most of our discussions, foodtech will become a major topic in the startup space, luckily it's still early stage.

A pioneering team
20+ years of research and development from the inventor himself, combined with pioneering AI scientists and world-class entrepreneurs, Fudzs' team is pioneering

Environmentally perfect
Using our technology at large scale will simply help save the environment.

Animal-free, Cruelty-free
Clean meat marks the end of slaughter houses and unethical mass-production

We're good for your health
Because we control the nutritional profile of the products, we can make ensure healthy, GMO-free, and risk-free meat.

Unrivalled technology
We can literally do anything, at a fraction of the cost, and a fraction of the time.

Fudzs

CREATING SCALABLE, EFFICIENT AND AFFORDABLE CULTIVATED MEAT

Fudzs.

Presentations are confidential, please do not share without Fudzs autorisation

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@fudzsfood

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Fudzs

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Annexes

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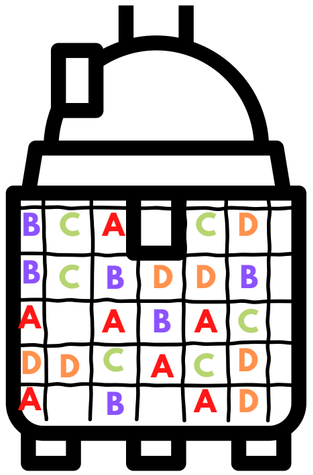
Factories

June 2023

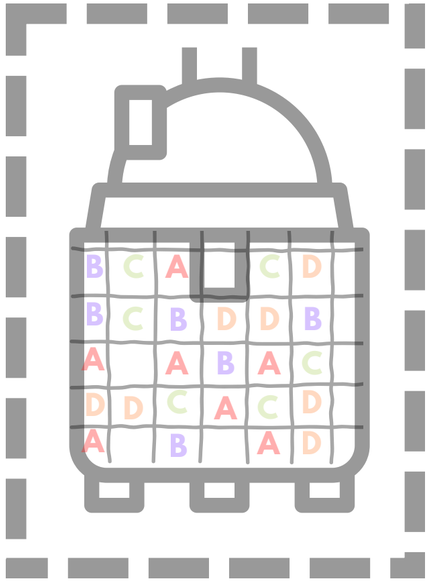
Simulation and digital twin to optimise bioreactors



Real bioreactor

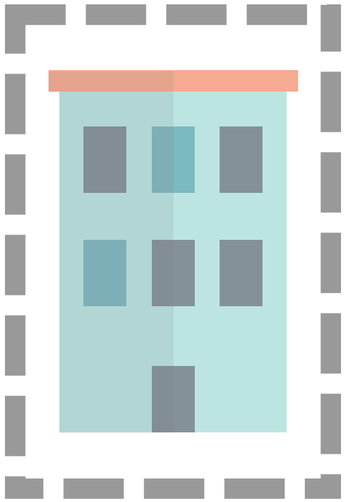
Real experiment results and data

Physical optimisation thanks to realistic 3D simulations



Digital twin bioreactor

DT will be used to create a DT of factories

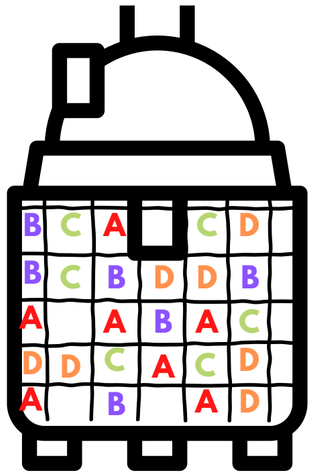


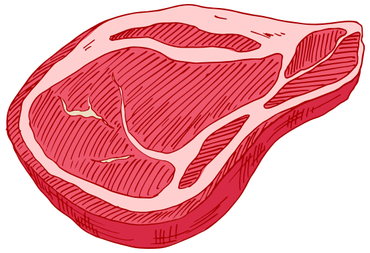
- Factory building
- Bioreactor grid optimisation
- Factory mantenance
- People training
- Factory evolution

AI to optimise production and reduce cost

Input parameters

cell type
medium porosity
temperature cycle
pressure
maturation time
electromecanical stimulation
bioreactor size
cells density
etc.

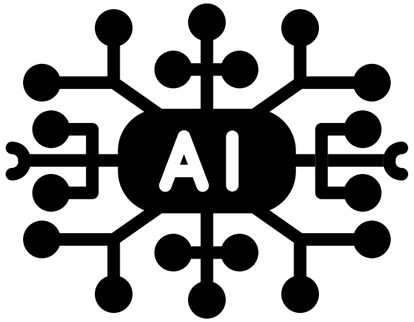




Output parameters

power consumation
waste type
meat type
% of fat
tenderness
look
taste
cost per kg
etc.

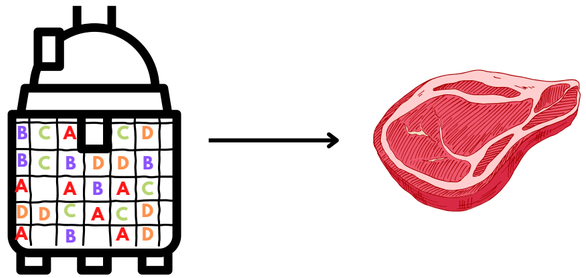
Optimisation of Parameters



External parameters

regulations and laws
health
market studies
technological evolutions
environmental needs
etc.

Blockchain to enforce trust in production



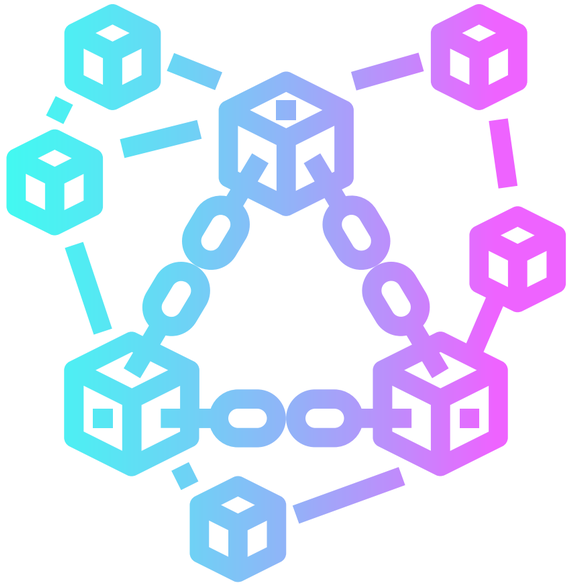
Batch of products

confidential parameters

private database

public parameters

public database



Independent validators
Nutritionists
Suppliers
Distributors
Shops
Consumers
Regulation authorities
etc.

"Blockchain technology is not a magic wand to create trust but to enforce transparency between the producer and the consumer"

Project F 1

Because our innovation wont stop here

Space and hostile environments production ready

Why to ship a steak with 70% water from Earth? We will ship only a small amount of cells and dehydrated nutrients. With recycled water, astronauts will produce their steaks locally. It will also work in hostile environnements (artic, dry desert, underwater, etc.)

Fudzs.

Alternative fuels for humankind

Tailored-made meat

Our technology is versatile. Our meat could be adpated to customer very needs, for health or nutritional purposes (low fat, added omega-3 fatty acids or vitamins, etc.)