

## One-Ingredient and Zero-Waste, Delicious Plant-Based Meat For the Planet.



planetarians.com San Francisco CA

Food Technology Sustainability B2B Agriculture

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### Highlights

- 1 🌍 Patented Zero-Waste and Zero-Emissions Technology
- 2 💰 Our cost is 90% lower than other plant-based meat, making us profitable from 1st year
- 3 😋 Delicious umami flavor and juicy meat-like texture that customers love
- 4 🌱 All the protein of traditional meat, sustainably made from one plant byproduct
- 5 🤝 Partnerships with restaurants and manufacturers already in the works

### Our Team

**Aleh Manchuliansau** Founder and CEO

10 patents, serial entrepreneur, 2 exits (StandOut, ExpressPay), 2 successful running companies (MOBYS, SOLAR-Si).

**Jamie Valenti-Jordan** Engineer

Launched manufacturing facilities with \$17M+ budget at Just, Campbells, Del Monte.

**Max Barnhouse** Chef

15 years in healthy cooking

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### TL;DR: Our Technology is Redefining Alternative Meat

Our patented technology gives our product a meaty texture, delicious flavor, and up to 26% protein (the same as animal meat, much higher than other methods), creating a unique one-ingredient plant-based meat at a 90% cheaper cost than

other alternative meat processes.

## From 100%FOOD to A Better Protein Solution

Our journey started seven years ago as a CPG company making and selling 100%FOOD, nutritionally complete drinks. By the time we reached 1 Million servings, our success was noticed, and competitors crowded the market. Without access to another cash injection, we thought about how we could further develop our technology to optimize the costs of protein - the most expensive ingredient in our drinks.

Protein extraction discards valuable nutrients such as fiber and loses up to 25% protein during processing. By creating our Planetarians' zero-waste process to keep all the other nutrients in place, we're unlocking extremely low costs - 90% cheaper than traditional plant-based proteins.

When we discovered this, we faced a fork - we could continue being a CPG company and develop more CPG products across multiple categories, or we could develop our technology further to create a better protein solution with added sustainability benefits for the world. The choice was obvious to us.

Our initial iterations packed all the protein and texture into the product, but faced challenges with the visual aesthetic and color. After further iterations we found ways to achieve perfect BBQ meat color, and the ability to add variance between products. Additionally, we tweaked our technology to provide a great tasting meaty flavor. Achieving a delicious flavor is generally a very costly portion of alternative meat formulations, but our new solid-state fermentation approach limited the additional costs and was even endorsed by the scientific community and featured by GFI in the [State of The Industry Report: Fermentation](#).

## The Nuts and Bolts of Alternative Meat Technology

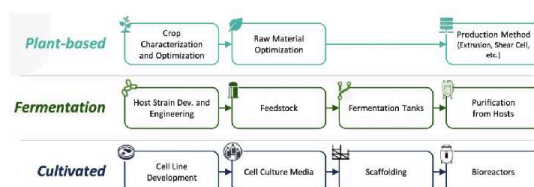
There are currently three popular methods of creating alternative meats: protein extraction, fermentation, and cell-based meat.

Plant-based meat manufacturing requires the extraction of proteins. These concentration and isolation processes mean a discard of the secondary nutrients. For instance, after extraction, 52.5% of Soybean meal nutrients are discarded. In addition, roughly one-fourth the total protein is lost to the extraction process itself. The result is *less than a third* of the initial calories end up in your food. Math for low protein-containing peas is even worse.

On the other hand, proteins manufactured by fermentation - where bacteria or fungi convert glucose into protein - are great in terms of efficiency. Small size organisms require a fraction of the energy used by cows, but require specific sugar sources which in turn discard up to 90% of the available nutrients in the sugar plants as well.

And on the farthest end of the spectrum, a cultivated/cell-based meat manufacturing process requires the creation of entirely new ingredients.

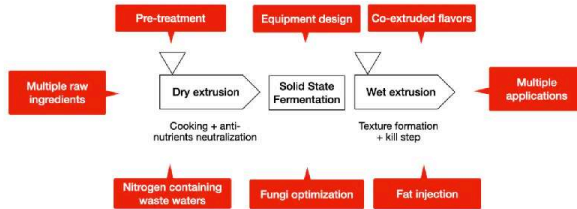
## Key methods of making alt. meat



We at PLANETARIANS developed a technology that uses fermentation to convert the carbohydrates in the plants into additional protein without extraction. Then the entire biomass is converted into alternative meat with great taste and juicy texture.

Our approach does not require chemicals typical for isolation, uses only a fraction of the water compared to fermentation (0.5:1 instead of 20:1), and does not generate any byproducts - everything that goes in comes out as the meat. This means our product is as clean as organic foods, with no chemicals or additional processing.

## PLANETARIANS' Roadmap



## So, How Does it Actually Taste?

Our technology is able to create some variance between flavors to more closely match chicken or BBQ, but the base product has a great umami flavor. Umami is one of the five basic tastes, typically associated with cooked meat and broth. This means there is a world of possibilities for how the meal ends up tasting based on the flavors imbued into the product.

Our chefs continually are experimenting with new flavors and palettes, from a pulled "pork" bowl to a burger.

And the stats don't lie either! Our current Net Promoter Score is 8.28 and keeps getting higher.

## Clean flavor is easy to tweak

Chicken salad, beef stew, pulled pork, lamb shawarma, jerky...



## The Alt. Meat Market

The alternative protein market is large and growing fast, however, products are still sold at a significant premium to animal protein. The growth rate for the U.S. plant-based food market more than doubled in 2020, as sales surged 27% to \$7 billion, according to the [Plant-Based Foods Association \(PBFA\)](#) and [The Good Food Institute \(GFI\)](#). The plant-based meat market today is, in ways, reminiscent of the plant-based milk market when it was in its early stages of rapid growth. Today, plant-based milk accounts for 15.2 percent of all dollar sales for retail milk. Assuming the plant-based meat category has the potential to reach market share parity with plant-based milk, that represents a 14-point growth in plant-based meat's share of the total meat market. This opportunity is worth \$14 billion.

The plant-based meat market (sub-category of plant-based market) grew even faster with sales up 45% in 2020 (source: [SPINS](#))

## Our Path Into the Future

While we have plans for a customer-facing brand, we are primarily focused on a B2B model which means that our patent-protected alternative meats can be sold and packaged to anyone for use in their own products. This opens us to larger

volumes across the board and increases the impact on the planet that we can have.

In the second half of 2021, we will grow our local San Francisco restaurant partnership to showcase our meats so you all can try them and share them with your friends. We will collect POs from restaurants, food service companies, and deli departments of retailers and are looking to expand from the Bay Area very soon.

In parallel, several large companies are following our progress and evaluating samples, contributing to our \$2M pipeline of future orders.

PLANETARIANS was granted a patent on the core technology, but continuous R&D is in our blood; there are more patent applications filed and more to come.

## Model: we sell alt.meat on par with beef

Key customers: retailer's private labels, foodservice, brands

	Demo	Commercial	Full scale
Capacity, meat	1,000 MT/yr	2,400 MT/yr	10,000 MT/yr
Capital	\$1.5M	\$3.2M	\$11.2M
Costs	\$1.00/kg	\$0.70/kg	\$0.60/kg
Revenue if sold for \$4/kg (wholesale beef price)	\$4M	\$9.6M	\$40M
Margin if sold for \$4/kg (wholesale beef price)	75%	82.5%	85%

PLANETARIANS meat is more profitable than animal meat. Payback time for the CAPEX invested <1 year.

## Why You Should Invest (How We Make 💰💰💰)

Our technology allows us to manufacture at a fraction of the current cost of meat. Selling on par with beef, we can fulfill orders with 75% margin.

Invest and help us to unlock the path to \$1.3B valuation. Once we launch the demo facility, valuation will be based on discounted revenues from 20-year projections, protected by patents.

To make that happen we need to:

- Bring products to the market. (250K goal) Your initial investment will help us bring our products to the market, run more market-product fit tests and extend our intellectual property protection.
- Launch a demo facility to cut costs and prove unit economics. (1.5M goal) Your larger investment will be primarily used for demo plant equipment and orders execution from our b2b customers.

## PLANETARIANS Team



Accelerator:

techstars

Notable investors:

SUSV Barilla

Manufacturing partners:

CLEXTRAL Food Processing Technology Center Inc.

The scientific community supports our tech:

2020 Featured in Good Food Institute State of the Industry Report: Fermentation

2019 AgFunder Innovation Award Winner Most Innovative US Startup Pre-Series A

2018 Planetarians' sunflower Chips Recommended by Today's Dietitian

