



Avant Meats' first prototype of cultivated cells from croaker fish, a species sought after for its swim bladder for fish maw. The ingredient is embedded inside.

## AVANT MEATS

### *It started with a question...*

Conventional animal agriculture consumes unsustainable amounts of fresh water and food crops, produces enormous amount of animal waste and about 15% of global greenhouse gases. While going plant-based is the most effective answer, it has only minority popularity. Driven by world population explosion and the rapidly growing middle class, meat consumption increases relentlessly.

"If the pace of willing adoption of more plant-based meals in their lifestyle cannot surpass the overall increase of meat consumption, is there a pragmatic solution to help with the future of our planet?" This was the question in Carrie's mind for some time. Then she learnt about cultivating animal protein using cell technology, a method that uses a lot less amount of natural resources and energy to produce meat. A voice inside her said that if she did not act on this idea, she would regret it. With some courage, she quit her job in Oct 2018 and set off on the journey. The goal is to offer a pragmatic way to reduce harm to the environment and animals for anyone who is not keen to swap significant amounts of their food to plant-based.

### *Finding a co-founder is hard enough...*

imagine finding a scientist co-founder. Perhaps, the universe is also curious about how 'cultivated meat' can happen in China. One day in Oct 2018, Mario stumbled across a LinkedIn ad. His own biotech startup started four years ago, has been in post-R&D stage with mainly sales and operational activities. He was thinking what would be the best next challenge for him.

### *Technology is very important...*

commercialisation is equally important. The goal is only considered accomplished when a significant proportion of meat consumed are produced by this more sustainable method. Therefore, despite that we are a technology company, we also care a lot about how to popularise it. Our mission is to enable, through our technologies, the production of the new generation of meat that are higher quality, healthier, safer, cleaner and more sustainable. At the same time, we constantly ask ourselves what is the best way this food of the future enters this part of the world?

### *We envision a future...*

in which our technologies are implemented around the world. Then, not only can marine life thrive when left alone to proliferate, we can also have fish on our plates whenever we want and no matter how far we are from the sea. No more worrying about air freighting or needing to deliver our fish quickly.

### *Be part of our journey...*

leave your contact details with us using the link from our webpage. We look forward to hearing from you.



# AVANT MEATS

## *What we actually do...*

is taking cells from a fish and capturing those healthy self-regenerating cells. Self-regenerating cells exist naturally in all animals for self-healing. We then continue to cultivate the cells by feeding them the required nutrients. These nutrients are no different from what we need, such as glucose, vitamins, minerals and amino acids. The difference is that instead of having the animals digest foods so that the nutrients fuel the growth of the component cells of their muscles, we feed the cells directly, eliminating the 'agent'. The 'agent', i.e. the animal body, is a very inefficient machine for feed-to-protein conversion. The efficiency is only about 10%. No surprise. Animals are not born to become our food. They have their life, e.g. moving around, keeping their body warm, that use a lot of energy.

## *We see great prospects...*

and so do analysts who have reviewed this new technology. Combing growing world population and per capita consumption, the global meat market is projected to grow at 3% CAGR reaching 1.4 trillion USD in 2030 and 1.8 trillion USD in 2040. AT Kearney estimate that cultivated meat will have 10% market share, i.e. 140 billion, by 2030 and will continue to grow to 35% market share by 2040. Global market value of fish for human consumption will reach 96 billion USD in 2023, including 73 billion USD processed fish products.

## *The reason we start with fish...*

is that intensive fishing has endangered a number of species. Critically depleted marine ecosystems struggle recreating. Half of our fish now is from

fishing and half from fish farming. Increase in capital and resources input on fishing is not proportional to output since supply is inelastic. Fish farming is just the aquatic version of the horror story what happens to land farm animals, e.g. antibiotic abuse driving superbugs etc. In addition, by 2030, China will consume 35% of world fish and seafood produce. Annual per capita consumption of China, about 40 kg, is double the global average.

## *Cultivated fish meat and proteins...*

are our R&D focus. We are working on the type of fish fillet that is common and versatile on western and eastern menus. Fish maw is our pilot product idea because of its simpler composition, thus lower production cost and initial investment to produce as compared with more complex meat. It also has a much higher selling price. Fish maw is defined as the dehydrated swim bladder of certain species. Traditionally, Chinese consume fish maw to help recovery from illness. Nowadays, it is a delicacy and is consumed for general health nourishment. All R&D and learning curves from the pilot product are essential steps for fish fillet which is the next product in our pipeline.

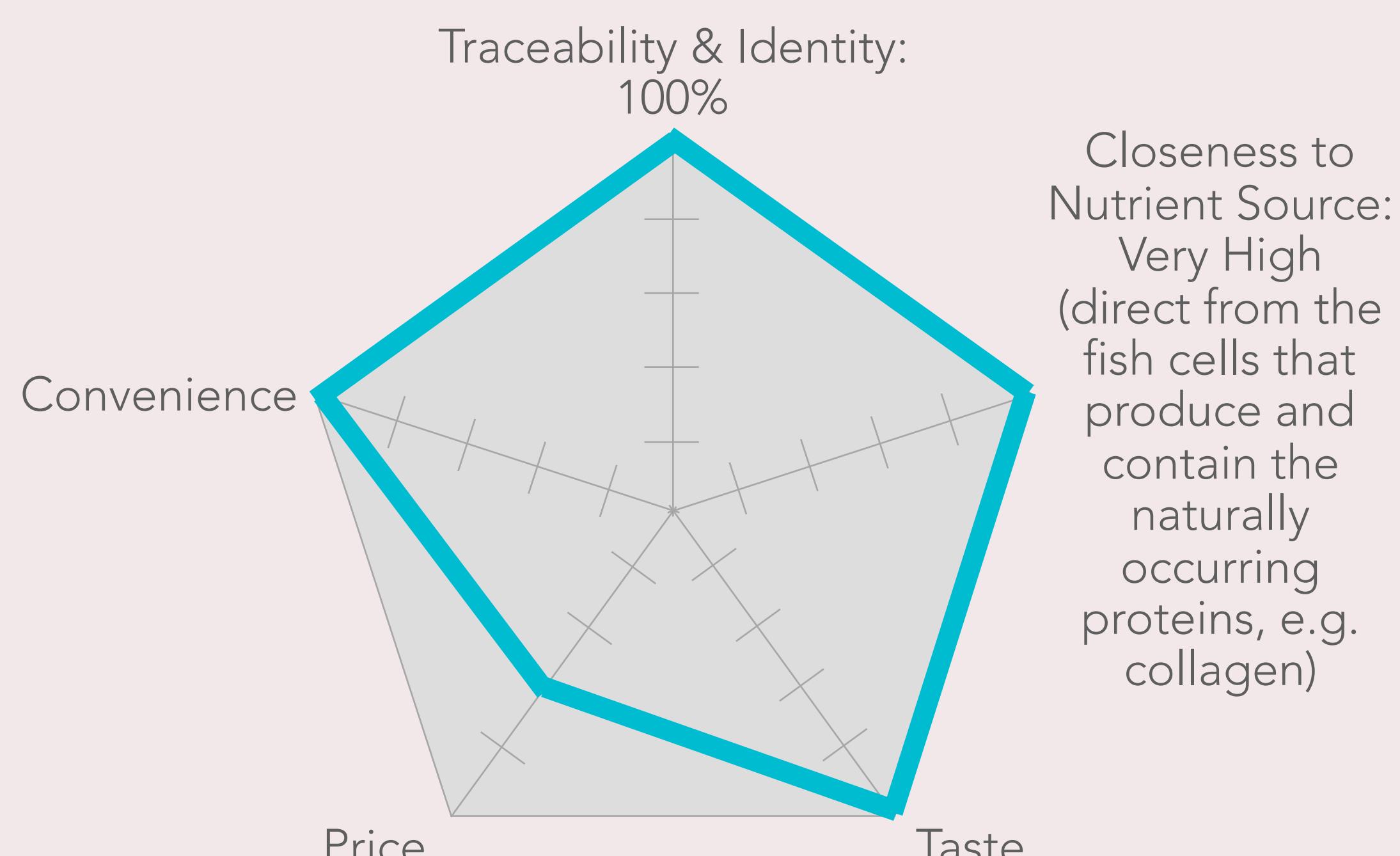
## *One year ago, it was just an idea...*

and now our laboratory is in full operation in the Hong Kong Science Park. Having successfully raised a small pre-seed round, we have become a full-time team of four including three R&D staff members. We look to complete our product development and cost reduction to reach pilot production in late 2022 / early 2023.

[www.avantmeats.com](http://www.avantmeats.com)

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Cultivated Fish Meat and Proteins



Conventional Fish Meat and Proteins

