



PLANT FACTORY
technologies

Seamless synergy

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About us

We started our way with the development and launch of vertical farms in 2017

3 years later we achieved an outstanding yield productivity, for which we were awarded the Finalist of Vertical Farming World Awards for our own cultivation technology

In COVID-19 years we had to readjust with the market's changes and in 2021 we actively engaged in deep processing of plants

Now we are focusing on the extraction of valuable plant components using advanced technologies





Health

We value people's health and do everything to make our developments beneficial



Respect

We respect our consumers and partners, therefore we offer only high-quality products



Creation

Our company is always striving to create new value to make the world a little bit better



Development

Our employees constantly evolve, so with them our company does





Our mission is to develop advanced technologies and convert it to the goods that could change life quality for the better

We strive to make the highest quality organic products available to our consumers worldwide

We carry out a full cycle of works for the production of high-value substances from the design of a facility to growing plants and processing into finished products

Scope of application



Food colorants



Food flavorings



Pharmaceuticals

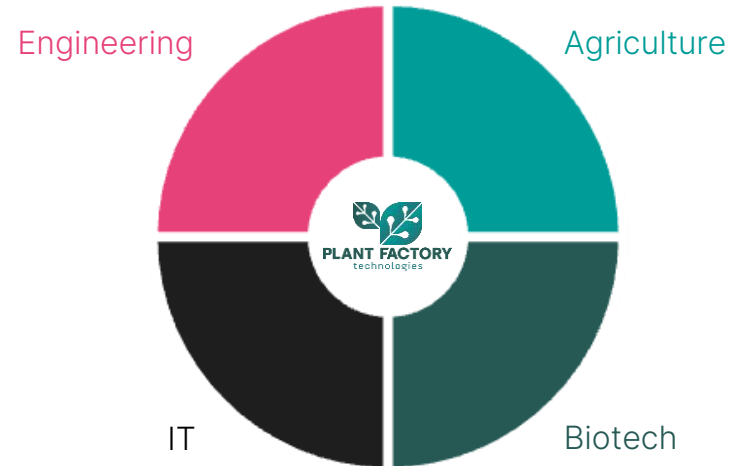


Functional food



Cosmeceuticals

Field of work



VERTICAL FARMING: GENERAL TECHNOLOGY ADVANTAGES



YEAR-ROUND PRODUCTION

Continuous production regardless of the time of year and weather conditions



HIGH QUALITY PRODUCTS

Closed circuit allows to choose an independent microclimate and protects against pests



HARVEST PRODUCTIVITY

Our cultivation system is recognized by the international industry community (finalist of the Vertical Farming World Awards 2021 in the nomination "Best Yield Improvement")



STABLE PRODUCTION INFLOW

The possibility of fine-tuning the production cycle allows to set the terms of availability of products in the required volume



FLEXIBILITY AND SCALABILITY

Modular growing systems allows to quickly place production on various sites, while maintaining the efficiency of using the area



ECOLOGICAL COMPATIBILITY

Production is completely waste-free and requires 99% less water than traditional farming

VERTICAL FARMING: OUR ADVANTAGES IN VERTICAL FARMING



HIGH-PRESSURE AEROPONICS

Nutrition evenly delivered directly to the roots in the spray form



ADAPTIVE LIGHT

In-house built phyto lights allow to adjust the spectrum and intensity



FLOW CHARTS

Optimal growing parameters for each crop according to a specific purpose



MODULAR SYSTEM

Allows to scale production and optimize the use of space



DIGITAL MONITORING SYSTEM

Allows to deeply understand the biology of processes during plant growth and optimize them



SPECIAL PLANTING MATERIALS

Substrates are selected to achieve high planting density of various crops

*All technical solutions are the company's own developments, which allows us not to depend on suppliers, as well as to increase our technological dominance

Process



Processing and AEF



Vacuum dehydrator



CO2 Extraction



Products



Supplements



Organic skin care



Functional Beverages



Medications



Natural colorants
and flavorings



Superfoods

Beneficial features

antimicrobial	anti-inflammatory
anti-diabetic	anti-aging
anticancer	neuroprotective

Market

Market price for 25 mg: €339

\$13M
in
2020

5.9% per year

\$19M
by 2027

Problems and possibilities



Narrow market
Wide applicability and high demand



Difficult to cultivate
Extracted mainly from broccoli grown in the fields

Solution

350

Microgreens from vertical farms

Contains 350 times more Sulforaphane than
1 m² of common cultivating sources



Digitalization

Together with ITMO, leading Russian IT-University, we develop a data center for collecting data from farms and searching for promising connections using neural networks



ITMO UNIVERSITY



Agriculture

We achieve the maximum genetic potential of plants in terms of the level of nutrients



СИБИРСКИЙ
ФЕДЕРАЛЬНЫЙ
УНИВЕРСИТЕТ | SIBERIAN
FEDERAL
UNIVERSITY



Manufacturing

We create production based on high-end technologies



ВСЕРОССИЙСКОЕ
ОБЩЕСТВО
ИЗОБРЕТАТЕЛЕЙ И
РАЦИОНАЛИЗАТОРОВ



Biochemistry

We work with world-class specialists in microbiology, pharmacology, clinical trials



Санкт-Петербургский
Государственный Химико-
фармацевтический
Университет



Wellness

We collaborate with leading nutritionists, gastronomy specialists, cosmetologists



WAYS TO **ADD VALUE**

Foods



Sources of
bioactive
substances



Bioreactor for
vaccines



Seed
materials



Collection and
processing of
scientific data

Creating of
predictable
products

The Nutraceuticals market needs raw materials based on extracts. Thus, more companies are going into Vertical Farming technologies to reduce CapEx and hedge logistical risks.

Nutraceutical market



Vertical farming market



Plant extracts market





Development

In the course of the initial analysis of the local market of organic products in Vietnam, our experts identified potentially promising compounds and BACs that will be investigated first:



Mangiferin

Polyphenol with antioxidant, antibacterial activity. This compound is being studied as an antidiabetic agent (restores the food insulin response), an antitumor agent, an antiallergic and hypocholesterol agent;



Lemongrass & Longan Extracts

In the composition of lemongrass there are chlorogenic acids (green coffee), and in langana - phenolic tonic components close to rhodiola rosea (golden root), which are characterized by a tonic and psychostimulating effect;



Papain

Belongs to the group of proteolytic and can be used as a means of improving digestion and for systemic enzyme therapy;



Fruits of mangosteen

Can be considered as a natural source of manganese and xanthones - a new natural complex of antioxidants that can reduce the instability of cell DNA under environmentally unfavorable chronic effects;



Pitihaya water serum

Can be used for Anti-age technology Dormin - Slowing down the proliferation of skin cells.

*This is not a complete list, but just a few examples

Technologies to be applied at Vietnam market



Vertical farming for intensive cultivation of leafy plants

For example: Ginseng with a high content of BAS; Buckwheat sprouts as an addition to the breakfast cereal product line



Deep processing of all types of plants
e.g. [squalene](#) from amaranth, [sulforaphane](#) from broccoli

Technologies to be developed at the global market



Data Processing with AI

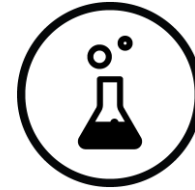
Based on modern industrial solutions, we extract data for scientific processing using AI



Predicted Standardized Products

Based on the wide gathered data, it is possible to create standardized predictive products that open the way to global wellness through personalized preventive functional nutrition, as well as through new medicines

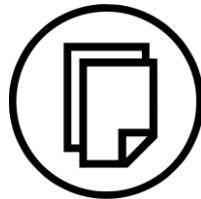
Extraction of valuable substances and it's processing for long-term storage



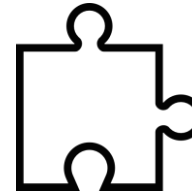
Identification of new promising substances



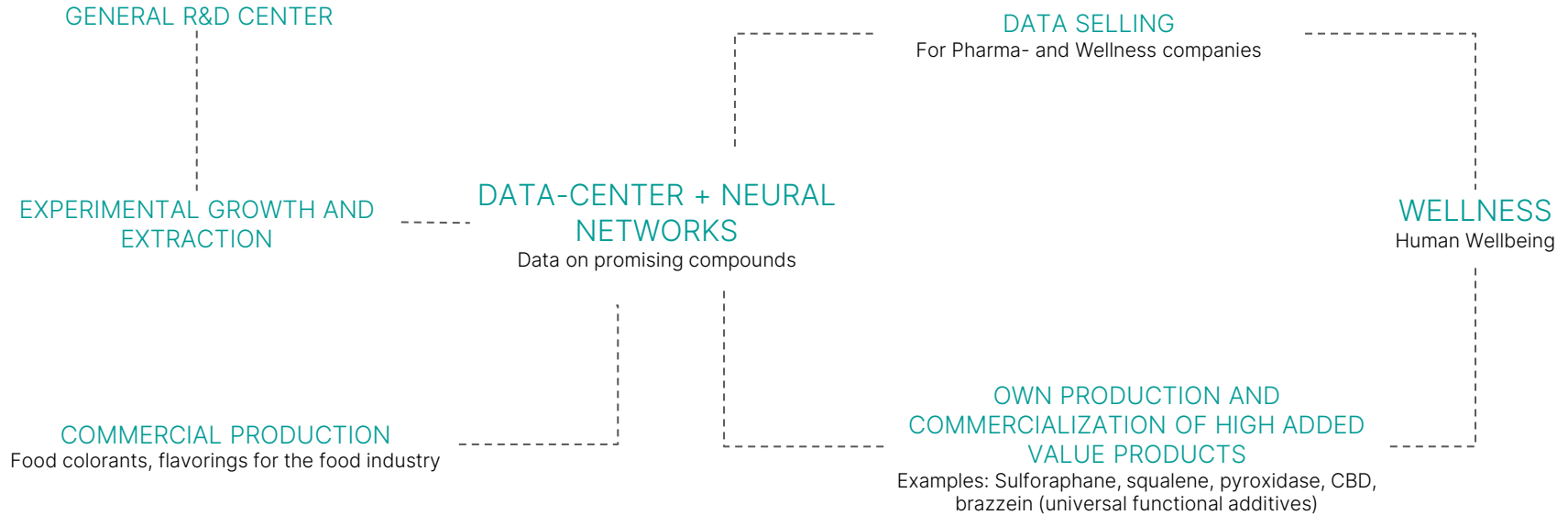
Consolidating the scientific community
Gathering together partners and institutions
Forming a competence center



Process standardization,
patent registration



Selection of the appropriate components for making functional properties



We search for a partner that shares our values and vision

Thank you for your attention.

We will be glad to answer any questions.

Feel free to contact us:



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