

PITCH DECK

VIRION ASI SANAYI VE TICARET A.S.



PROBLEM



Increasing global Antimicrobial Resistance (AMR) is a major threat to human and animal health. It endangers modern human and veterinary medicine and undermines the safety of our food and environment.



World Organisation
for Animal Health
Founded as OIE

Imagine a world where infections and diseases in humans, animals and plants are impossible to treat. This worst-case scenario could become a reality as bacteria, viruses and parasites develop resistance to the drugs we use to fight them. Antimicrobial resistance, or AMR, has become one of the most pressing health issues of our time.

- **Global Health Threat:** AMR makes infections in humans and animals harder to treat, undermining modern medicine.
- **Environmental and Food Safety Risk:** Resistant strains can spread through the food chain and environment.
- **Economic Impact:** Increases healthcare costs and affects food production and livelihoods.

SOLUTION

Vaccination for Animals

- **Preventative Approach:** Vaccinations reduce the occurrence of diseases in animals, decreasing the need for antimicrobial treatments.
- **Reducing AMR Spread:** Less use of antimicrobials in animals helps slow down the development and spread of resistant strains.
- **Holistic Health Benefits:** Protects human health by ensuring healthier livestock and safer food products.
- **Sustainable Solution:** Vaccinations provide a long-term strategy to combat AMR, aligning with global health and environmental goals.

SOLUTION

A State-of-Art Vaccine Production Plant for

- Enhancing global food security and improving animal health worldwide by ensuring a stable supply of vaccines critical for livestock and poultry health.
- Mitigating international currency fluctuation risks for livestock and poultry breeders by providing a more consistent and reliable source of vaccines, thus promoting global trade stability in agricultural sectors.
- Advancing scientific development in vaccine production on a global scale, with innovations and breakthroughs potentially benefiting countries worldwide, starting with Türkiye.
- Contributing to the economic development not just of Türkiye, but also potentially supporting emerging economies by providing access to affordable and effective animal vaccines, thus fostering global economic growth in the agricultural sector.

COMPANY PURPOSE

Virion Vaccine Industry and Trade Inc. was established in June 2021 in Türkiye

Its purpose is producing veterinary vaccines that protect cattle, bovine, and poultry against incurable virus-borne diseases for the implementation of widespread and effective animal vaccination programs to mitigate the impact of AMR, safeguarding health, the environment, and the economy.

- * FMD (inactivated)
- * BT
- * POX
- * PPR
- * New Castle
- * Gumboro
- * Marek
- * IB
- * Highly Pathogenic Avian Influenza

PRODUCTION TECHNOLOGY

Main components of the vaccine are:

Ultra Purified Water (Water For Injection - WFI)

A special system is required to produce WFI. The TDS value of the water should be $0.2 \mu\text{S}$ which means that no contamination risk.

This technology can be supplied from local manufacturers.

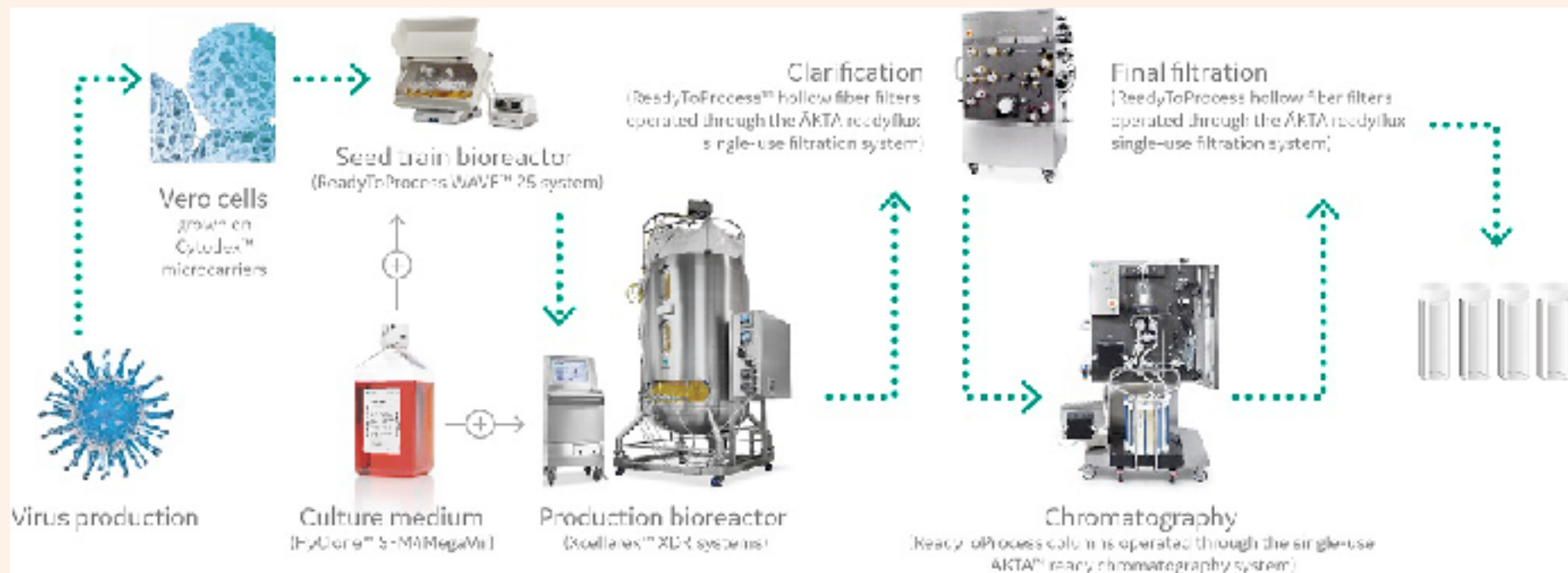
Seed Cell

A special mammalian cell (generally BHK) is required which is able to self reproduce by mitosis proliferation. The seed cell should be supplied from reference laboratories.

Seed Virus

A purified virus seed that the infectivity properties are known is required. The seed virus will be produced in cell culture. The seed virus should be supplied from reference laboratories.

PRODUCTION TECHNOLOGY



STATUS QUO

**VIRION ASI planned a vaccine production plant in Türkiye.
(All the official permissons have been received !)**

Production process and site design is developed under the guidance of FAO experts in accordance with cGMP standards and BSL-3 requirements

Thanks to vaccine experts for their very valuable contribution:

- ★ Virology expert and head of production of Institute Pasteur (Romania's national veterinary vaccines institute) Prof. Dr. Mihai Danes,
- ★ Head of Microbiology Department of Veterinary Faculty of Bucharest University Prof. Dr. Doina Danes.

A knowledge-sharing agreement with Austrian biotechnology company has been signed, ensuring that the project incorporates state-of-the-art technology.

MARKET POTENTIAL

Analysts gathering information from the annual reports of main vaccine producers reported that global market size reached USD 9 billion in 2023, Virion targets 3% of the market, the countries where there is no vaccine production.

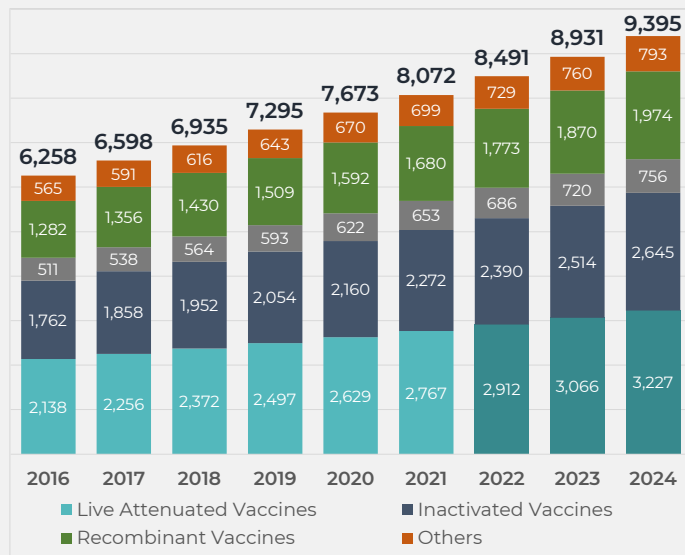
The industry is expected to grow at a steady rate over the next several years, driven by rising demand for vaccines in all over the world due to

- prevent the humans and animals from the risks aroused by increasing anti microbial resistance
- Increase in livestock and poultry population driven by the increase in human population

MARKET POTENTIAL

2.1 Global Veterinary Vaccine Market

Virion Vaccine Industries

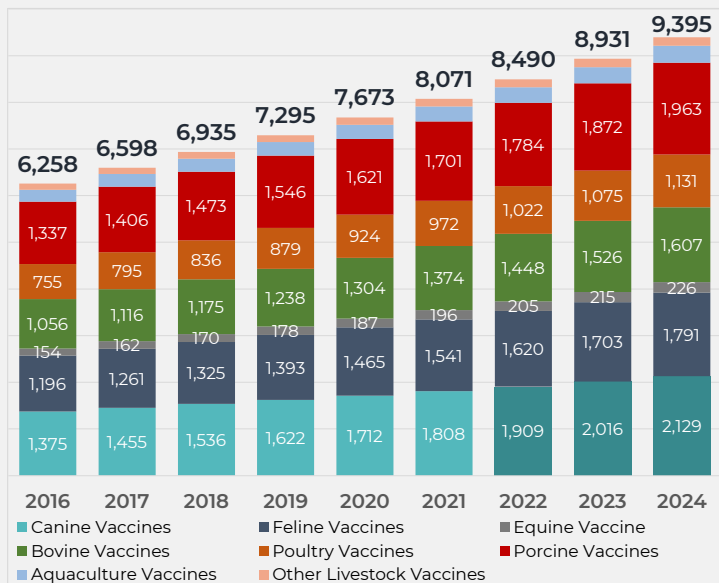


- In the Global Market , **US\$ 7.67 billion** worth of vaccine sales were achieved in 2020 to prevent animal diseases.
- Revenues are projected to reach **US\$ 9.4 billion by 2024**. In the 2020-2024 period, the average growth rate is expected to be **5.19% CAGR**.
- According to the sales figures of 2020, the vaccine market segments are as follows:
 - **34%** Live Attenuated Vaccines
 - **28%** Inactivated Vaccines
 - **21%** Recombinant Vaccines
 - **8%** Toxoid Vaccines
 - **9%** Other Vaccines

MARKET POTENTIAL

2.3 Global Vaccine Market Breakdown

Virion Vaccine Industries



➤ Revenue share of Global Veterinary Vaccines Market by animal species is reported as, **56% livestock animals**, and **44% companion animals**.

➤ According to the **2020 sales figures**, the vaccine market is split down as follows:

- **22%** of Dog Vaccines,
- **19%** Cat Vaccines,
- **17%** Bovine Vaccines,
- **21%** Swine Vaccines,
- **12%** Poultry Vaccines,
- **4%** Aquaculture Vaccines,
- **2%** Other Livestock Vaccines,

COMPETITION

GLOBAL

LOCAL

Prominent companies in this market are

ZOETIS	(USA)
MERCK & Co, Inc.	(USA)
BOEHRINGER INGELHEIM Gmbh.	(Germany)
HIPRA	(Spain)
VIRBAC	(France)

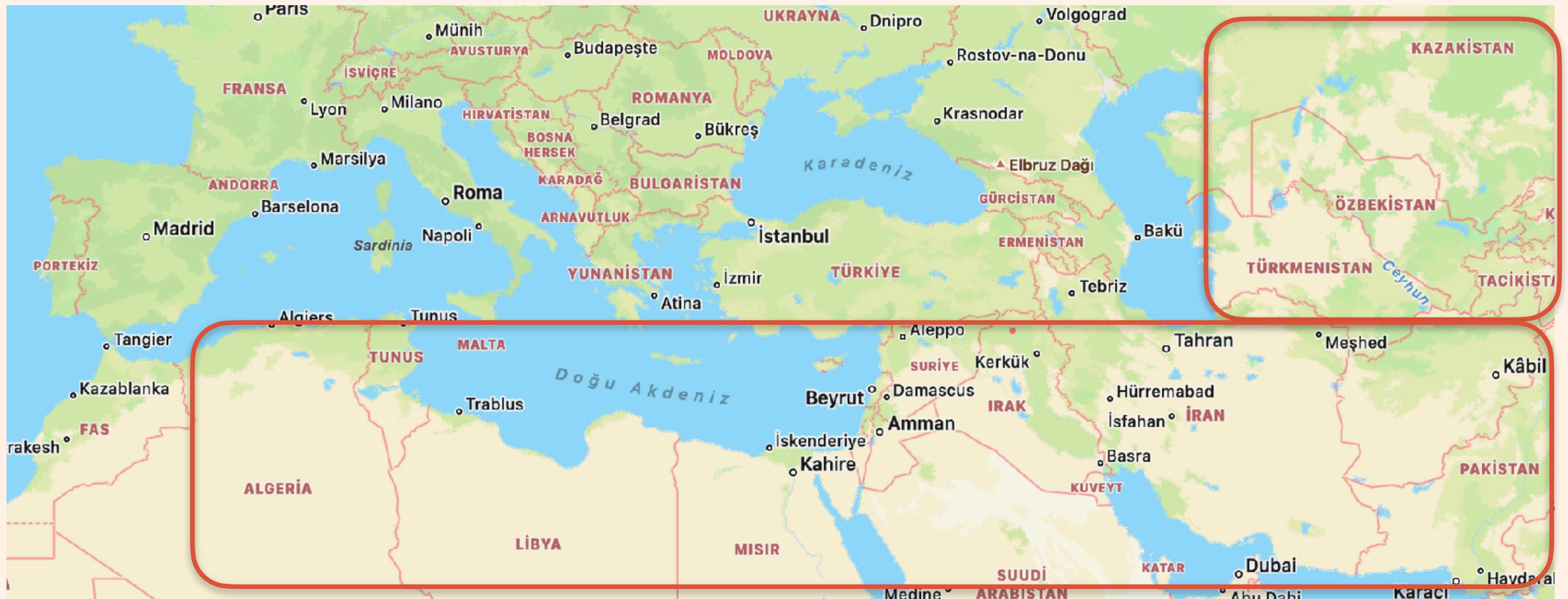
DOLVET (viral vaccines for sheep & goat)
VETAL (Viral vaccines for cattle)
ATAFEN (Bacterial vaccines for sheep & goat)

Both production capacity and the sales of the local companies are very low

Local market is dominated by the global companies.

COMPETITIVE ADVANTAGES

VIRION's strategic location provides a competitive edge by enabling efficient access to target markets and significantly reducing cold chain logistics costs.



COMPETITIONAL ADVANTAGES

Through leveraging state-of-the-art technologies with embedded AI and internationally-renowned expertise, we can unlock multiple strategic advantages, including:

- Reduced production cost.
- Shortened production time.
- Greater production flexibility.
- Sustainable quality control and improved vaccine efficacy

The cold chain is critically important in delivering vaccines to consumers. Due to its location, VIRION has a significant advantage over its competitors for its target market. Thanks to its proximity to the target market, it is possible to maintain the cold chain at cheaper costs.

Being BSL-3 and cGMP design it is possible to produce human vaccines as well after sanitizing the production lines and receiving the legal approval.

BUSINESS MODEL

In the worst case scenario it is estimated that the prices will be lowered to 1/3rd of the actual local and global market prices.

The production rate will be 5% of the total capacity of the plant at the beginning and will be increased to 75% in three years and 90% by the end of five years.

Composition of the sales is estimated to be 30% domestic and 70% export.

Domestic sales;

- Key accounts who are
 - Cattle farms providing meat to the fast food chains
 - National big dairies
 - Big poultries
- Veterinary medicine distribution chains

International sales;

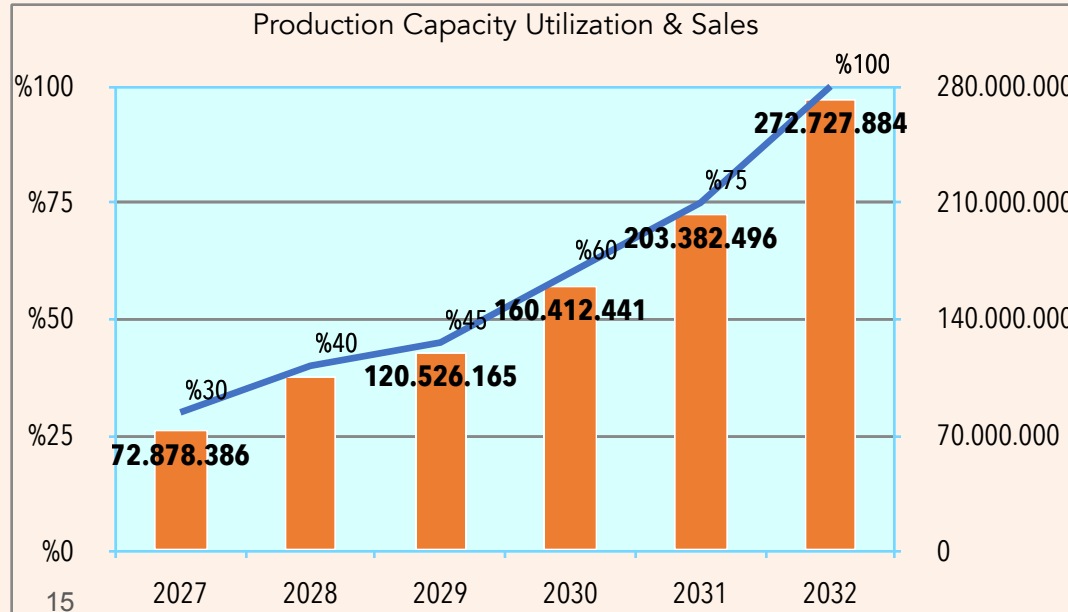
- Wholesale to the country representatives
- **A marketing company out of Turkey will be safer**

ASSUMPTIONS

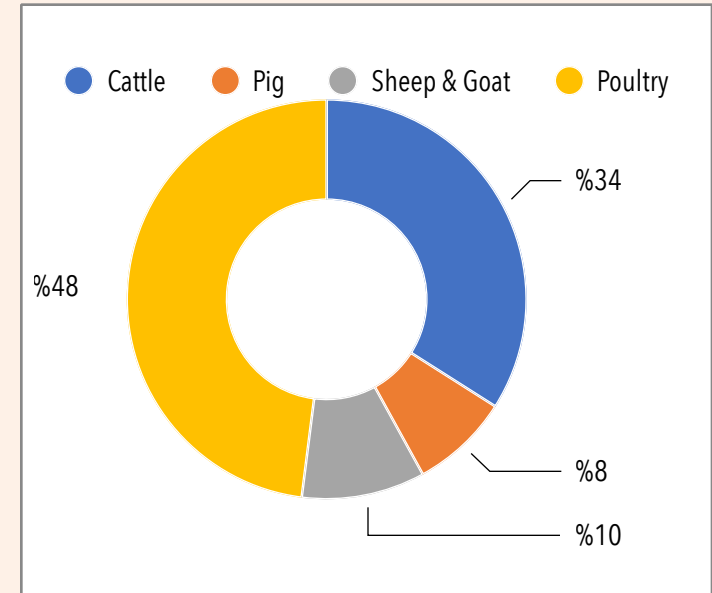


The company will start with 30% of the installed capacity and reach 100% operational capacity in the fifth year.

Due to the high competition the prices would be half of the market wholesale prices.



Composition of Sales



CASH FLOW



Annual Sales Forecast (US \$) x 1000

	Annual Net Production (Doses)	Annual Net Sales * (Doses)	Average Unit price (US \$/Dose)	2027	2028	2029	2030	2031
Capacity Utilization			0,039	OEE 30%	OEE 40%	OEE 45%	OEE 60%	OEE 75%
Vaccines	680.000.000	623.300.000						
FMD (for Cattle)	160.000.000	146.660.000	0,39	17.315	23.087	25.973	34.630	43.288
FMD (for Pig)	40.000.000	36.660.000	0,39	4.328	5.771	6.492	8.656	10.820
POX	160.000.000	146.660.000	0,06	2.661	3.548	3.991	5.322	6.652
PPR	160.000.000	146.660.000	0,04	1.703	2.271	2.554	3.406	4.257
Bluetongue	160.000.000	146.660.000	0,02	894	1.192	1.341	1.788	2.235
	5.320.000.000	4.876.660.000						
Newcastle	960.000.000	880.000.000	0,0027	700	933	1.050	1.400	1.750
Infective Bronchitis	960.000.000	880.000.000	0,0027	700	933	1.050	1.400	1.750
Marek Disease	960.000.000	880.000.000	0,0297	7.830	10.440	11.745	15.659	19.574
Gumboro Disease	960.000.000	880.000.000	0,0070	1.848	2.464	2.772	3.696	4.620
Egg Drop	960.000.000	880.000.000	0,0687	18.137	24.183	27.206	36.275	45.343
Mixed	520.000.000	476.660.000	0,1004	14.356	19.141	21.534	28.712	35.890
TOTAL	6.000.000.000	5.499.960.000		70.472	93.963	105.708	140.944	176.180

CASH FLOW



Operational Expenses (US \$) x 1000

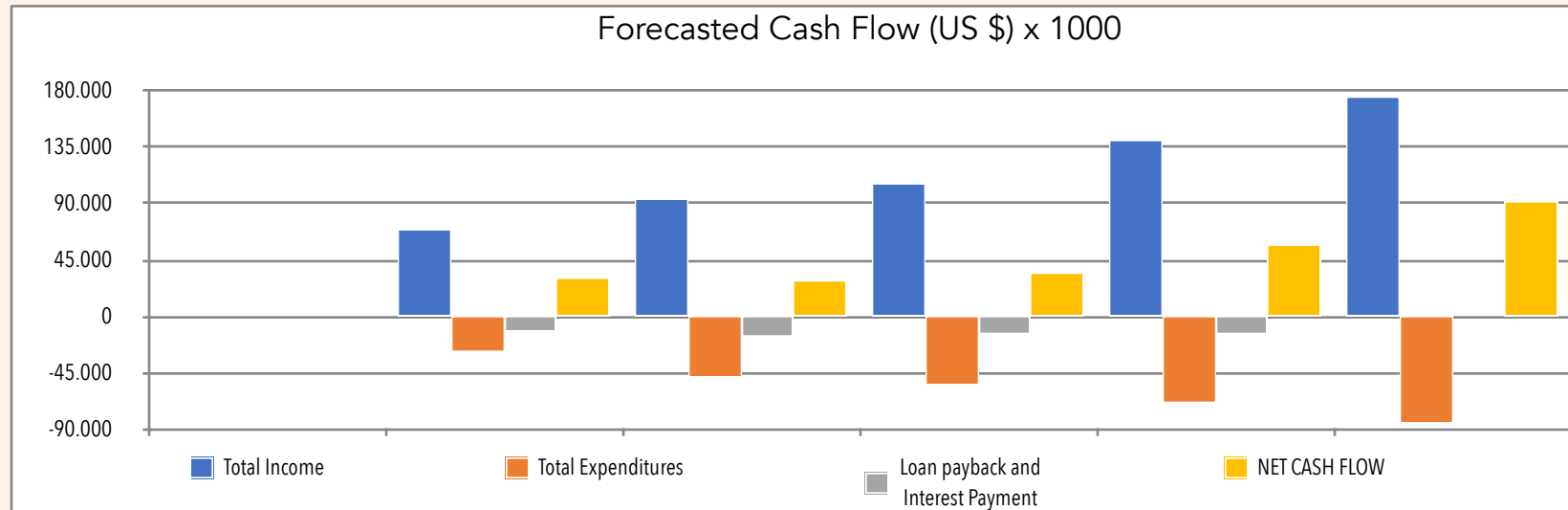
	2027	2028	2029	2030	2031
Packaging & Raw Materials	3.265	4.354	4.900	6.532	8.165
Energy bills	272	275	278	280	283
Employee salaries	2.363	9.917	10.150	10.250	10.353
Operational costs	18	224	1.357	1.503	1.518
Maintenance cost	18	20	22	24	26
Administrative expenses	518	1.520	1.535	1.550	1.570
Marketing & Sales Costs	8.977	12.913	14.846	19.760	25.052
Insurance Fees	13.465	19.370	22.270	29.640	37.580
TOTAL	28.896	48.593	55.358	69.539	84.547

CASH FLOW



Forecasted Cash Flow (US \$) x 1000

	2027	2028	2029	2030	2031
Total Income	70.472	93.960	105.708	140.944	176.180
Total Expenditures	-28.896	-48.593	-55.358	-69.539	-84.547
Loan payback and Interest Payment	-11.208	-16.712	-14.865	-13.034	
TOTAL	30.368	28.655	35.485	58.371	91.633



SENSITIVITY ANALYSIS



It is tested that whether a 40% increase in costs and a 40% discount in prices due to hard competition the Payback time for the loans will reach to 3 years from 2 years which is not a critical change in business plan.

AVERAGE SALES PRICE			3,93 \$¢	%100
TOTAL SALES COST			1,50 \$¢	%100

Sales Price / Total Sales Cost IRR Sensitivity											
Project IRR (%) <i>Unlevered IRR</i>			AVERAGE SALES PRICE (USD¢/Dose)								
			2,36 \$¢	2,75 \$¢	3,15 \$¢	3,54 \$¢	3,93 \$¢	4,13 \$¢	4,32 \$¢	4,52 \$¢	4,72 \$¢
			%60	%70	%80	%90	%100	%105	%110	%115	%120
TOTAL SALES COST (USD¢/ Dose)	2,11 \$¢	%140	%35,8	%41,8	%47,7	%53,7	%59,6	%62,6	%65,6	%68,6	%71,6
	1,96 \$¢	%130	%38,5	%45,0	%51,4	%57,8	%64,2	%67,4	%70,7	%73,9	%77,1
	1,81 \$¢	%120	%41,7	%48,7	%55,7	%62,6	%69,6	%73,1	%76,5	%80,0	%83,5
	1,65 \$¢	%110	%45,5	%53,1	%60,7	%68,3	%75,9	%79,7	%83,5	%87,3	%91,1
	1,50 \$¢	%100	%50,1	%58,5	%66,8	%75,2	%83,5	%87,7	%91,9	%96,0	%100,2
	1,43 \$¢	%95	%52,7	%61,5	%70,3	%79,1	%87,9	%92,3	%96,7	%101,1	%105,5
	1,35 \$¢	%90	%55,7	%64,9	%74,2	%83,5	%92,8	%97,4	%102,1	%106,7	%111,3
	1,28 \$¢	%85	%58,9	%68,8	%78,6	%88,4	%98,2	%103,1	%108,1	%113,0	%117,9
	1,20 \$¢	%80	%62,6	%73,1	%83,5	%93,9	%104,4	%109,6	%114,8	%120,0	%125,3

TRACTION

Immediately after its establishment in 2021,

- Virion purchased 17.400 m2 land in an Organized Industrial Zone
- Brought together an interdisciplinary team of 12 for project development
- Development of production process and draft architectural design completed in the 3rd Q of 2022
- Site Preliminary Approval for the project was granted by the Ministry of Agriculture and Forestry in November 2022.
- The project has been deemed as eligible for the Highest Support Tariff and obtained an State Incentive of USD 30M
- Negotiations started in 2023 with the local banks for a USD 30M project finance
- A contract was signed with Tekeli-Sisa Architecture Partnership for the preparation of architectural design and engineering projects.
- Architectural application design, mechanical and electrical systems design is completed in 2023
- Approval for construction of the facility is granted in January 2024
- A contract was signed with Tepe İnşaat Sanayi A.Ş. as a contractor company.
- Project is in the groundbreaking phase.

INVESTMENT

- Company bootstrapped with 950K€
- The income generation starts with vaccine sales hence certified vaccine production is key.
- For establishing a GMP-standard production facility company is raising USD 7M for private equity with USD 35M post money valuation.
- The investment is need for building the facility and training the first batch of staff

FUNDING REQUIREMENT



Funding is required for two main purposes, turnkey construction of the entire plant and key managers' key employees' monthly salaries, consultancy fees for know-how transfer and auditor fees, office rental in Ankara, validation and certifications fees.

Investment Items	Budget (US \$)
Site Preparation	313.200
Survey & Project Development	362.000
Construction	7.300.000
Mechanical Equipment	8.800.000
Electrical Power Distribution*	5.500.000
Production Equipment	8.000.000
Laboratory Instruments	470.000
CONSTRUCTION TOTAL	30.745.200
Office Equipments	27.000
Management and consultancy fees, employee wages and training expenditures.	4.000.000
GRAND TOTAL	\$34.772.200

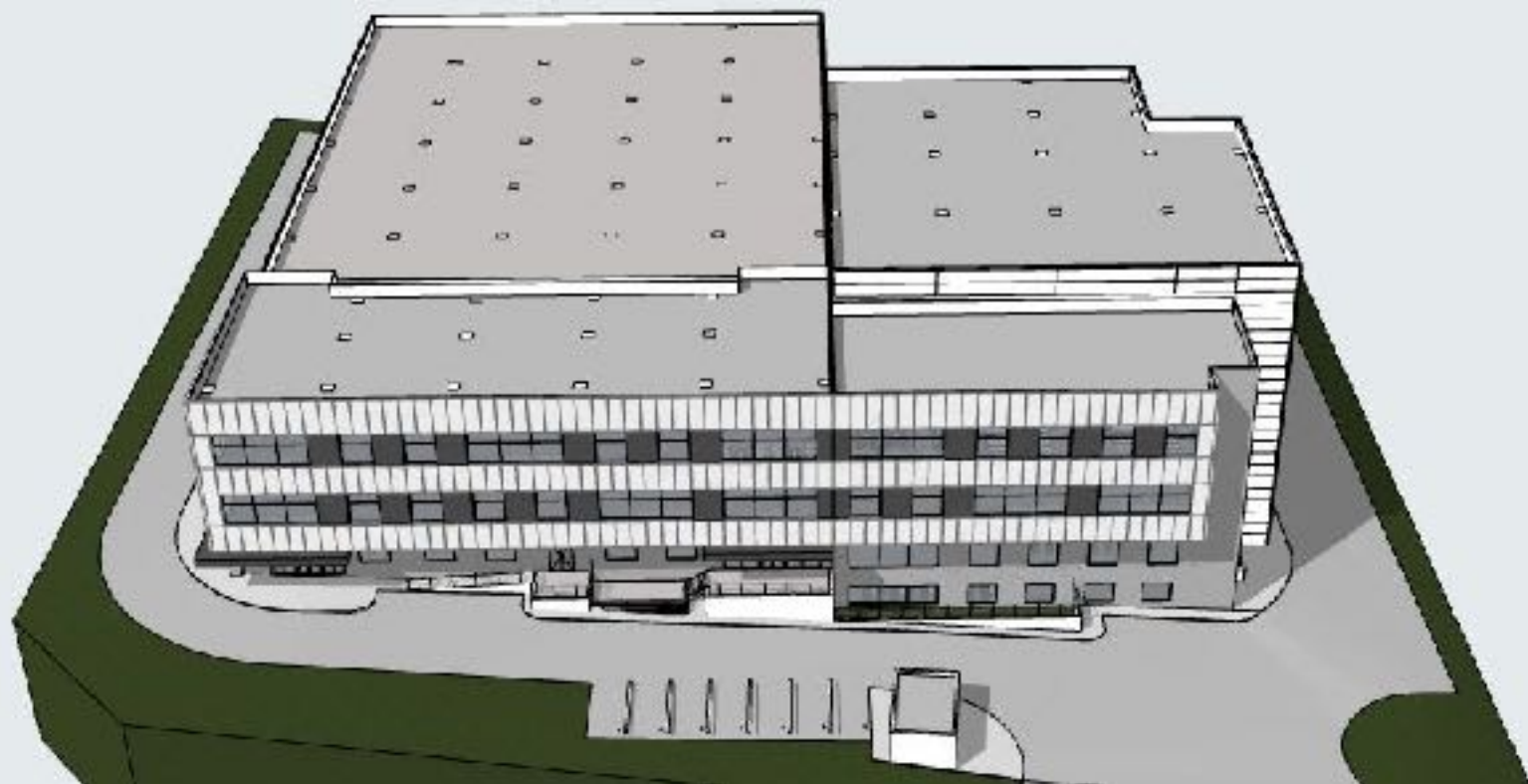
*Electrical Power Supply and Distribution
and Automation for BMS, Instrumentation and Cabling

ACCELERATION

The acceleration is needed for the following topics:

- Building a strong team through effective hiring process and staff training,
- Identifying the early adapters and warm introductions to potential customers,
- Building a short term and long term marketing strategy,
- Access to investment.





Thank you!



Murat TARIM
Executive Member Of The Board



murat.tarim@virion.com.tr



Can KARATAŞ
Finance and Accountant Manager



can.karatas@virion.com.tr