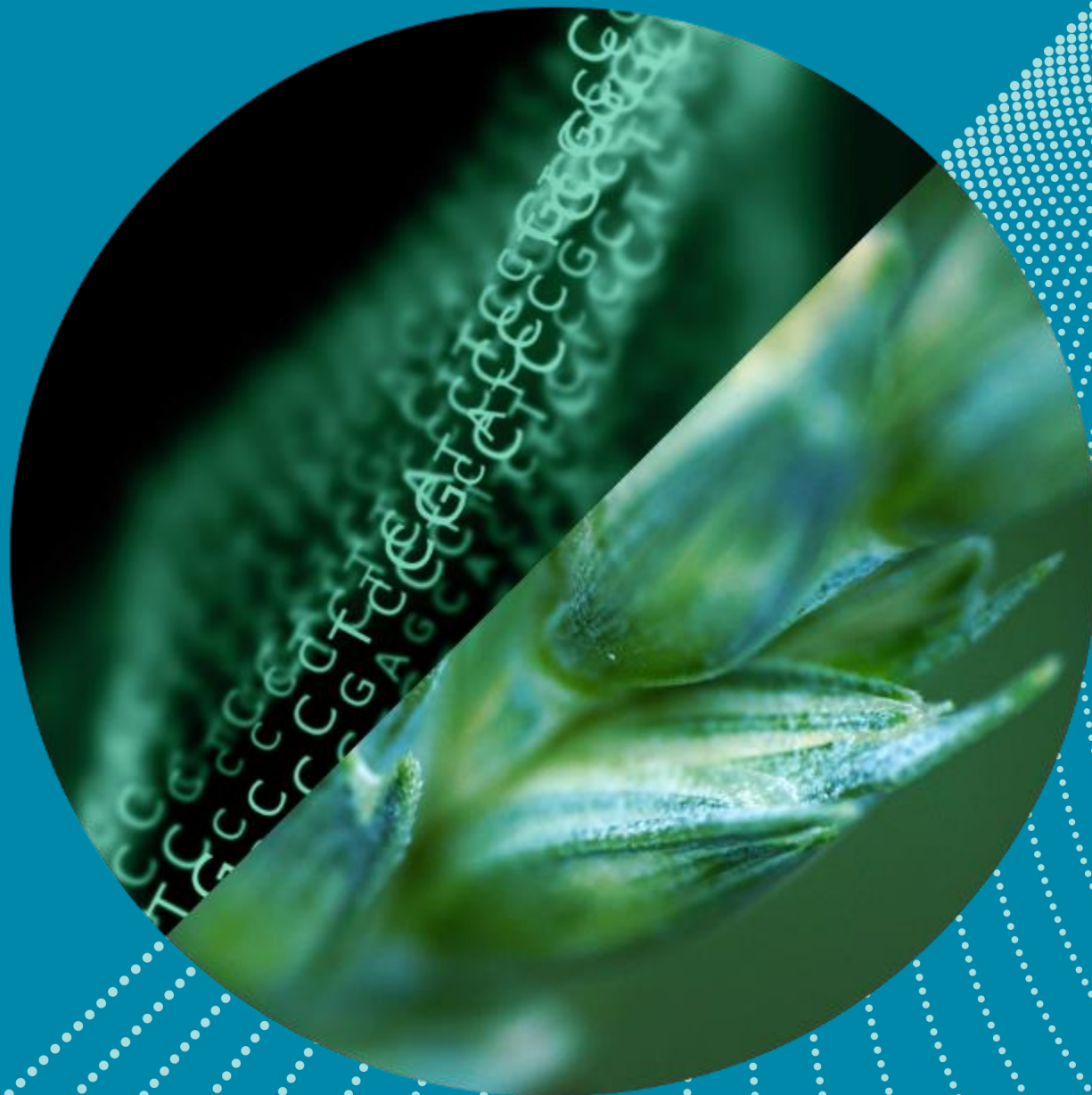


nrgene

# Capital Markets Presentation

MARCH 2023



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# Agenda

- About NRGene
- The Company's Technology and Activities
- Business Models
- Innovative End-Products Development
- IP Development Projects in Return for Royalties
- Global Trends Impacting the Company's Activities
- Financial Results' Highlights



# About NRGene

NRGene Technologies Ltd. is an AgTech company engaged in research and development of IP-based technological products. The company develops varieties and traits of crops and animals, using its technology in the field of artificial intelligence (AI), to analyze genetic information based on Big Data, in order to accelerate and improve the natural development of crops and animals in the global agriculture and food industry.

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2009

Company founded

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2015

Product launch

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2021

IPO on the Tel-Aviv Stock Exchange (TASE)

+300

Projects completed between 2015-2022

30

Countries

\$46M\*

Total bookings

\* As of the reporting date (from commencement of commercialization); An amount of \$3M is included in the backlog as of the reporting date.



# NRGene's Artificial Intelligence (AI) Technology was Validated by Leading Companies Worldwide

A proven technology that has been successfully implemented in over 300 projects across various industries

## Accelerated

Significantly reduces the development time of new varieties

## Reliable

Successful product implementation in the world's leading breeding companies

## Unique

Unique technological solution that enables identification of the most relevant genetic composition, based on proprietary databases



2015

Launch of genomics analysis solutions (services)

2017

Multi-year subscription agreements of the AI-based technology solution (genomic platform)

2021

Strategic decision to focus on the IP development projects of varieties and traits of crops and animals

2022

Commencement of IP development for new varieties (end-products) in emerging markets

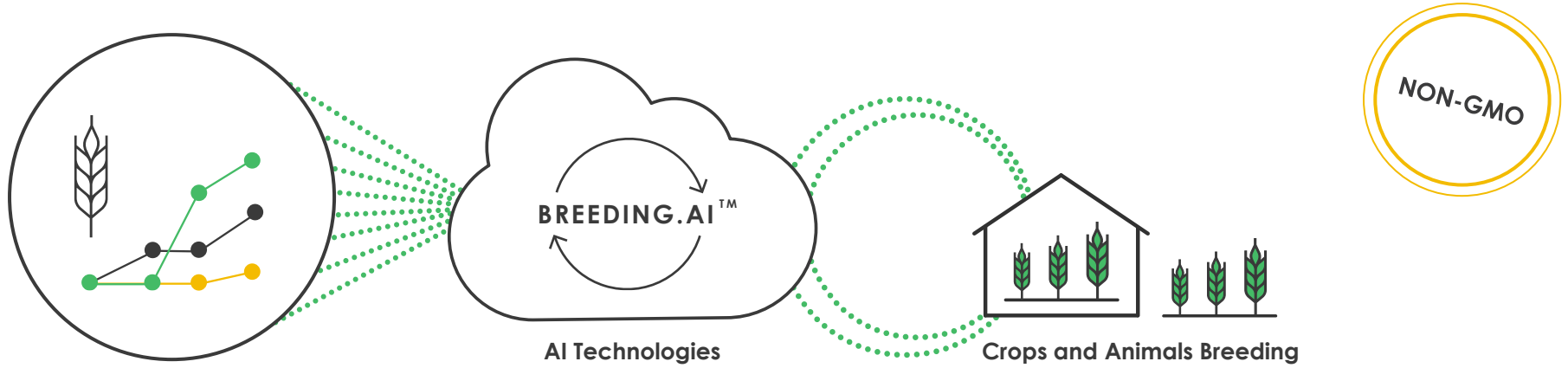
2023

Expected revenues from royalties (varieties and traits)\*

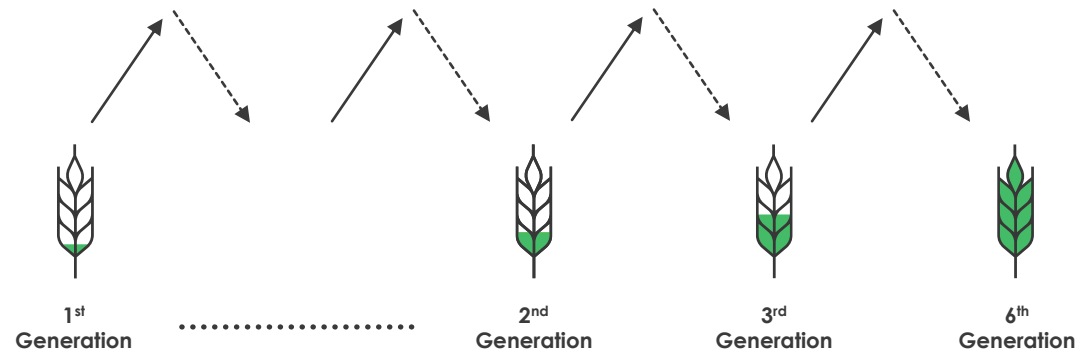
2024

Expected end-product commercialization (varieties and traits)\*

# NRGene's Technology



- Multi-year Data:**
- Field performance
  - Climate
  - Genomics data
  - Soil and Irrigation
  - Pests and diseases



**NEW ENRICHED VARIETY**



Increasing productivity with each generation

**The benefits**

- ✓ Reduces development time
- ✓ Reduces costs
- ✓ Increases likelihood of success

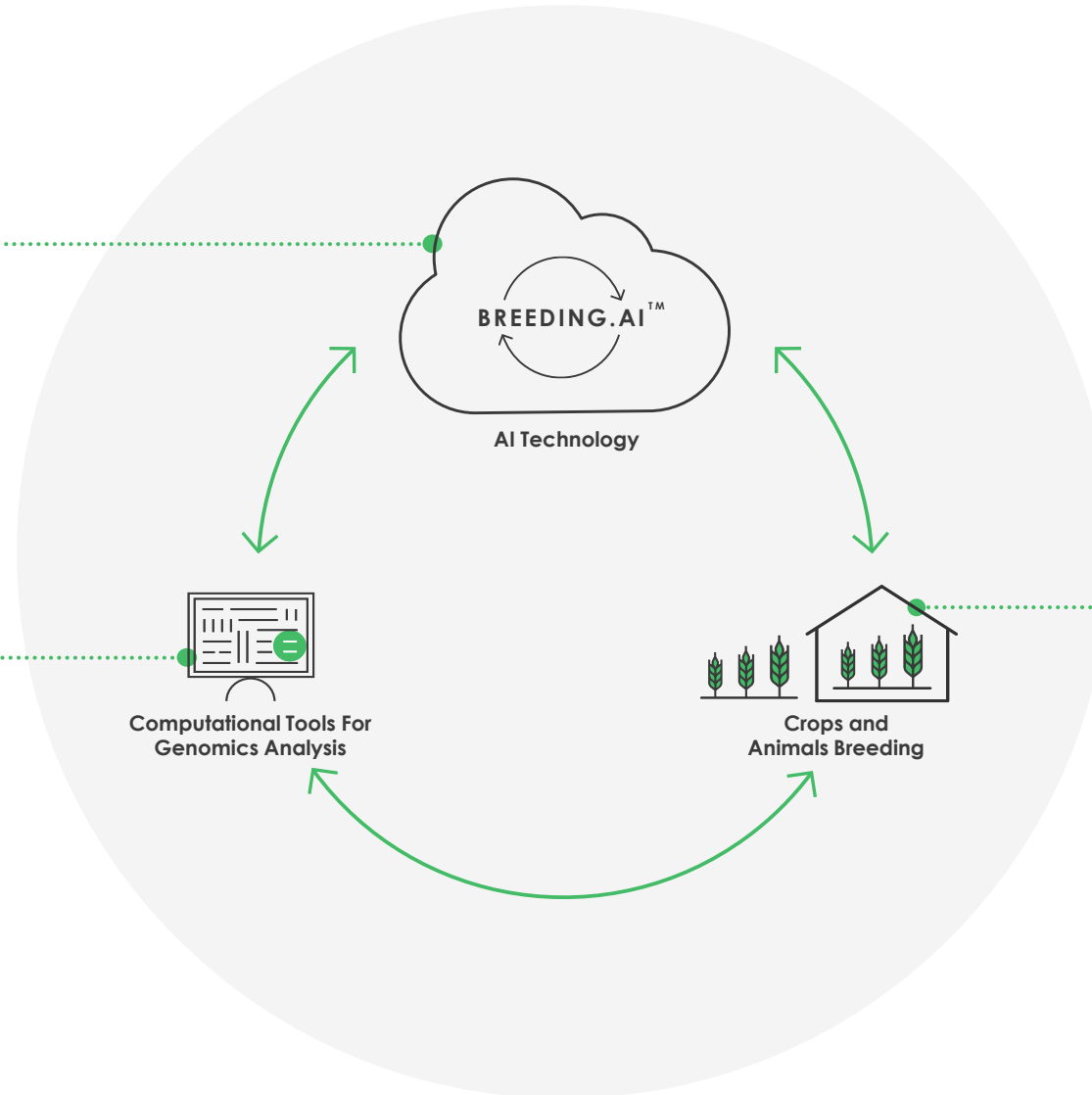
# The Company's Activities

## AI Technology

A cloud-based analytical platform with proven results in hundreds of projects across dozens of species (crops and animals). The system predicts improved genetic combinations and provides optimized and accurate natural breeding programs.

## Computational Tools For Genomics Analysis

Utilizing AI and Big-Data solutions to analyze genetic information to accelerate and improve the natural breeding of crops and animals in the global agriculture and food industries.



## Crops and Animals Breeding

Natural breeding activities in experimental greenhouses/fields to improve varieties and traits of crops and animals based on computational predictions and according to the project's goals.

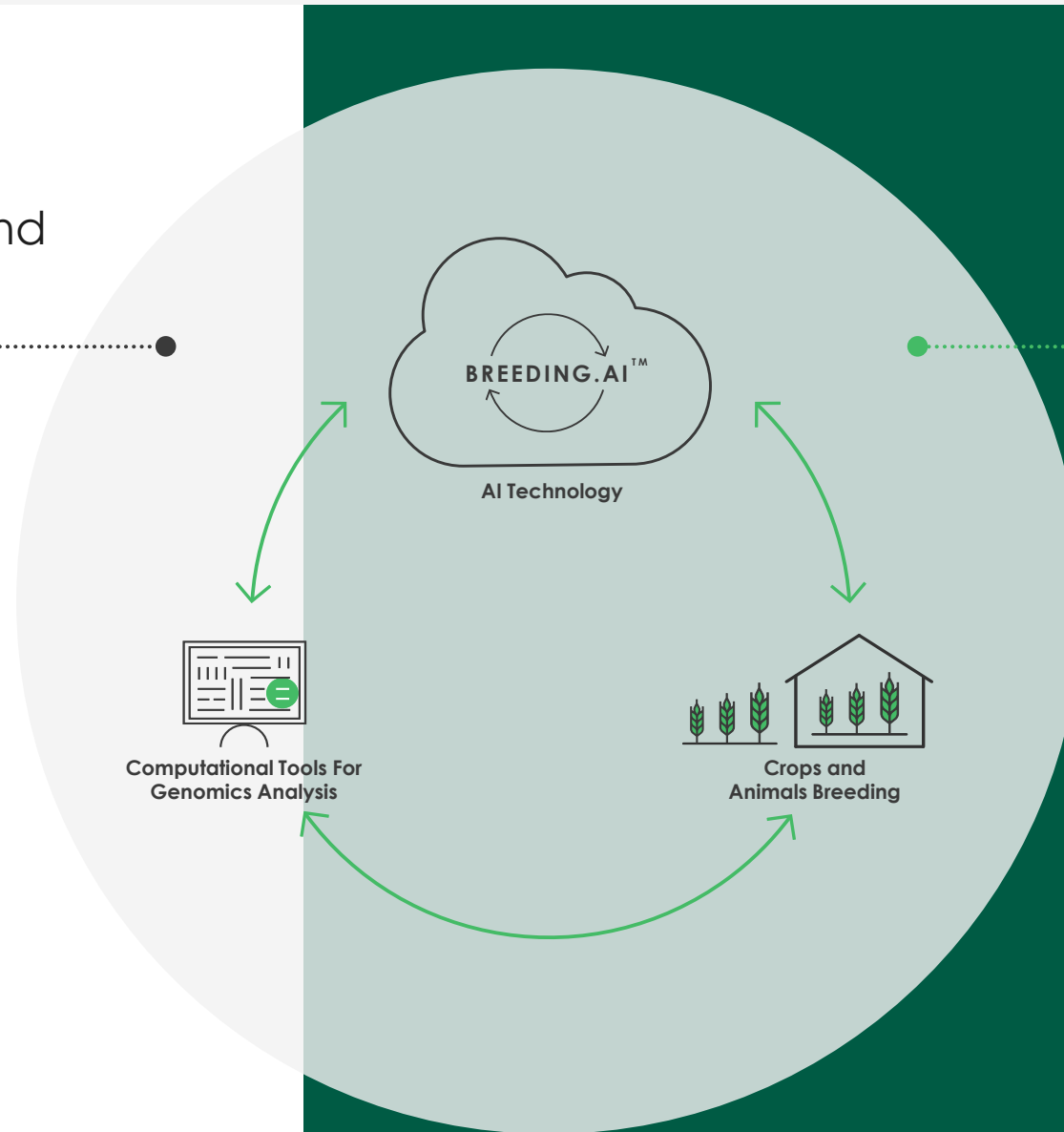
# Business Models

## Subscription agreements and genomics analysis services

- Strategic Collaborations



- Genotyping (DNA tests)



IP development of traits and varieties

Crops and Animals



Revenues from royalties and/or end-product sales

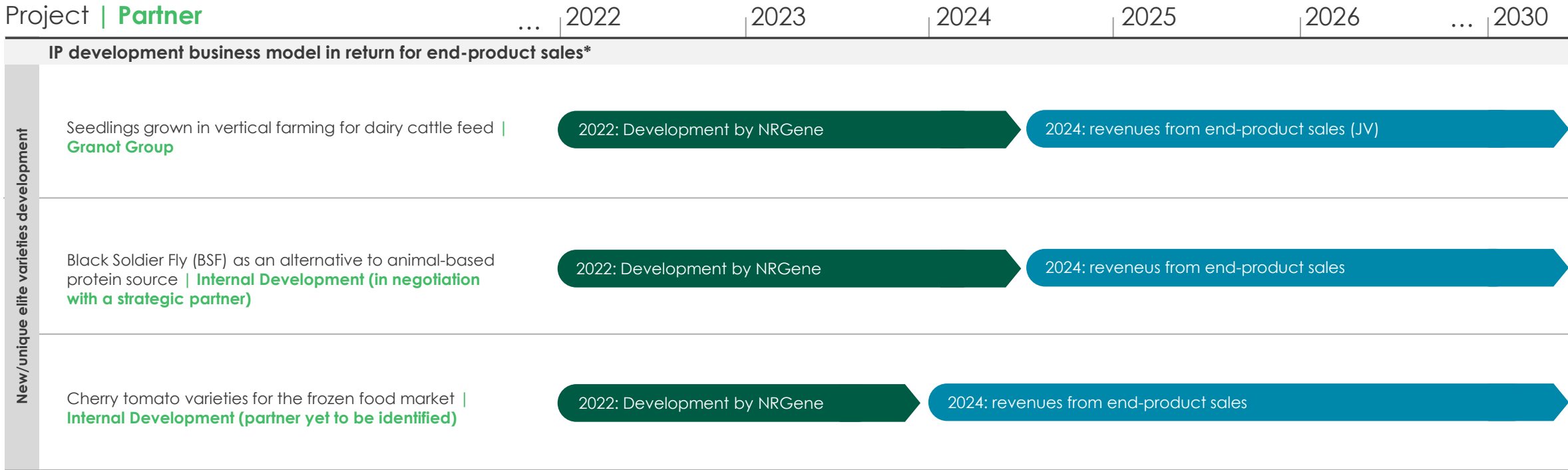


# NRGene Engages in Partnerships to Develop Varieties and Commercialize End-Products

Strategic collaborations ensure a complete presence in the agriculture value chain and maximizing value creation for the end-customer



# Innovative End-product Development in Emerging Markets



\* Revenues from end-product sales are subject to successful completion of a project's development, collaboration with partners, implementation, market conditions, and customers' demands.

\*\* The Company is evaluating additional projects and partners in this business model, which may not occur, due to factors beyond the Company's control.

# Seedlings Grown in Vertical Farming for Dairy Cattle Feed

Strategic collaboration with the Granot Group to develop and commercialize elite wheat varieties\*



Dairy cattle feed market\*\*  
**\$68.5B** in **2021**  
expected to grow to  
**\$78.3B** by **2026**



A dairy cow's daily feed cost  
**\$6** to **\$9**



Seedlings can replace up to  
**30%** of cow's feed



## Main goals:

- ✓ Reducing dairy cattle feed cost
- ✓ Improving cow's nutrition and health
- ✓ Minimizing the environmental footprint

\* By the Company's subsidiary in Canada.

\*\* <https://www.marketdataforecast.com/market-reports/dairy-cattle-feed-market>

\*\*\* In comparison to hundreds of commercial elite varieties tested by the Company.

\*\*\*\* The dairy cows daily feed cost, the percentage of feed replacement, the successful development of the elite varieties, the establishment of the equally owned company, the products' commercialization date, the Company's entitlement for revenues from end-product sales, the potential market size and the partnership's revenues from the products' commercialization, are based on the Company's estimations and forecasts, based on market research and assumptions of the market size and market penetration rate, and may occur in a different way than expected, or not occur, due to factors beyond the Company's control.

## ● August 2022

Collaboration agreement with Granot Group

## ● November 2022

First milestone: identification of wheat varieties that are optimal for seedling growth\*\*\*

## ● 2023

Evaluation of additional crops suitable for vertical farming

## ● 2024

Expected establishment of a JV (50%-50%) for worldwide wheat grains production and commercialization

## ● 2024

Expected launch of the first elite varieties for commercialization

# Black Soldier Fly (BSF) as an Alternative to Animal-Based Protein Source

Increasing the efficiency of the BSF for commercial scale manufacturing as a key driver of circular economy and sustainability



**\$3.4B**

Estimated BSF market size by 2030\*



**34.7%**

CAGR



**\$2,500 per ton**

BSF protein's average price



## Main goals:

- ✓ Increasing larvae size and shortening the development and growth time
- ✓ Generating genetic database representing the BSF's wide genetic diversity
- ✓ BSF adaptation to different organic agricultural byproducts
- ✓ Optimization of the feed conversion rate

\* <https://www.globenewswire.com/en/news-release/2021/09/13/2295798/0/en/Black-Soldier-Fly-BSF-Market-is-Expected-to-reach-3-4-billion-by-2030-at-a-CAGR-of-34-7-During-the-Forecast-Period-of-2021-to-2030-Exclusive-Report-by-Meticulous-Research.html>

\*\* The successful development of the BSF varieties, the development of improved BSF variety date, the completion of genomic infrastructure establishment date and the products' commercialization date, the Company's entitlement for revenues from end-product sales, the potential market size and the revenues from the products' commercialization, are based on the Company's estimations and forecasts, based on market research and assumptions of the market size and market penetration rate, and may occur in a different way than expected, or not occur, due to factors beyond the Company's control.

● **2022**  
Development of BSF's genomics infrastructure

● **January 2023**  
Joining the BSF consortium of the Israel Innovation Authority

● **July 2023**  
Development of improved BSF variety expected to reach first milestone

● **September 2023**  
Expected completion of genomic infrastructure establishment

● **2024**  
Expected first elite varieties' commercialization for customers and partners

# Cherry Tomato Varieties for the Frozen Food Market

Naturally Dried, Stored Frozen, Consumed Fresh



x4

More vitamins (compared to common cherry tomato)



0

Chemicals



+1 year

Shelf life (stored frozen)



## Main goals:

- ✓ Reducing production costs by implementing open field cultivation and mechanical harvesting
- ✓ Through improvement of the taste and texture, the product will remain fresh even after freezing
- ✓ Cost reduction of freezing, transportation logistics
- ✓ Reduced level of product loss across the supply chain
- ✓ Designed for the institutional market (such as caterings, restaurants and hotels) and the end-customer

February 2022  
Project launch

November 2022  
Alpha hybrid varieties selection

February 2023  
Production of Alpha hybrid varieties

2024  
Expected commercialization in Israel

2025  
Expected commercialization in Europe

2025  
Expected production of Beta hybrid varieties

# IP Development Projects in Return for Royalties

The revenue potential in significant projects (to date):

Project	Expected development period*	Commercialization status	Expected year of initial royalties	Potential annual market size (seeds/varieties)**	Expected royalties (throughout the project's lifetime)***
ToBRFV resistance in tomatoes	2020-2022 (Completed)	<b>In commercialization</b> (10 signed agreements)	2023	\$500M <	\$24M
High-quality cherry tomato varieties	2021-2023	<b>Not started</b> (A commercial arrangement with partner)	2026	\$25M <	\$10M
Alternative protein from Pea and Hemp	2021-2023	<b>Not started</b> (A commercial arrangement within the consortium in Canada)	2025	\$350M <	\$20M
Clubroot resistance in canola	2021-2025	<b>Not started</b>	2025	\$550M <	\$115M

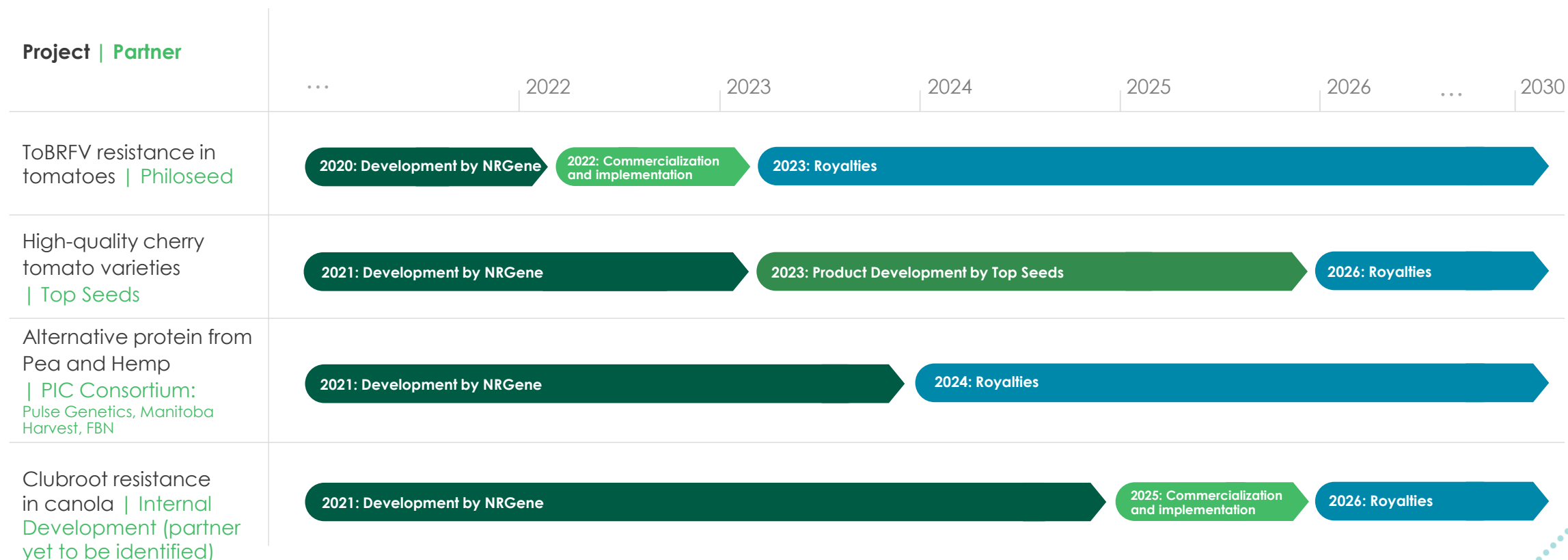
\* Until the completion of an Alpha product for its commercialization.

\*\* Based on the Company's estimation of market size, market penetration rate, market share potential and average royalties' rate.

\*\*\* Company's estimation is that the project's lifetime is at least 10 years from the commencement of commercialization. The expected revenues from royalties in the table are based on the above estimations.

\*\*\*\* The Company is evaluating additional projects and partners in this business model, which may not occur, due to factors beyond the Company's control.

# IP Development Projects in Return for Royalties - Status



\* Revenues from royalties are subject to successful completion of a project's development, the Company's partners, implementation, market conditions, and customers' demands.

\*\* For additional information about other projects in this business model, also see chapter A of the Company's 2022 Annual Report.

# Genotyping (DNA Tests)

Leveraging NRGene's technology to generate recurring revenue through long-term engagements with customers

Overview of genotyping's market penetration (starting in Q4, 2020)

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**\$3.2M**

Total booking\*

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**↑16%**

Increase in bookings (signed agreements) since 2021

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**↑80%**

Customers growth since 2021\*

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**↑ 30-70%**

Customer and partner's savings\*\*

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**\$20M**

Expected cumulative revenue until 2026\*\*

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**Key crops:**

maize, soy, canola, wheat, pea, tomato, and more

\* As of the reporting date, the Company has 11 agreements with customers for the provision of DNA tests services.

\*\* Based on the Company's estimations and forecasts, based on the Company's experience, market research and assumptions of the market size and market penetration rate.





# Food Security and Sustainability

## Global Trends Impacting the Company's Activities



Increasing populations and rising living standards are driving an increase in the global demand for food.



Reduction in arable land and water resources for agriculture, combined with extreme climate changes, affecting global agricultural production.



The negative impact of animal-based industries on global climate change is fueling the rapid growth of plant-based food and alternative protein sectors.



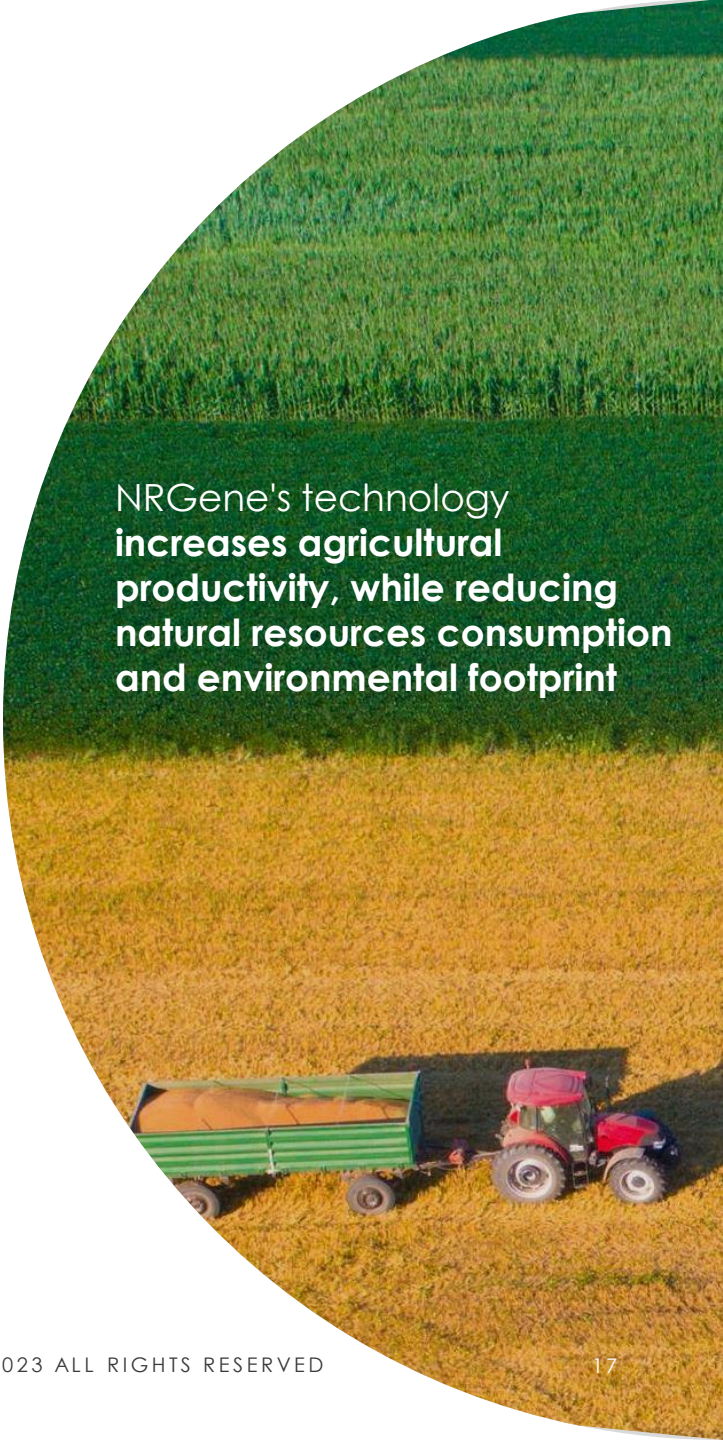
A continuous shortage of wheat, maize, sunflower oil, etc., is expected due to the war between Russia and Ukraine.



The expansion of agricultural crops increases the risk of disease outbreaks, which results in higher chemical use and lower yields.



Significant increase in the use of fuel substitutes from soybean, corn, canola, and wheat as a result of increasing oil prices.



NRGene's technology **increases agricultural productivity, while reducing natural resources consumption and environmental footprint**

# 2022 Financial Results Highlights\* (US Dollars in Thousands)

Financial data	2022	2021	Comments
Revenues	3,159	4,463	End of subscription agreement with Bayer (December 2021), partially offset by increase in revenues from genomic services; Focusing on long-term projects (DNA tests and strategic collaborations) and IP development projects of traits and varieties (crops and animals).
Adjusted Gross Margin	56%	60%	Decrease in portion of revenues from providing access to software (Bayer) out of total revenue mixture during the reporting period.
Adjusted EBITDA	(4,584)	(7,143)	Focusing on building infrastructure for medium/long-term growth in IP development projects and reducing sales and marketing expenses accordingly.
Total Backlog**	2,895	4,662	Decrease in one-time service-based projects, partially offset by commercialization of IP development projects and DNA tests.
Cash and short-term deposits	12,284	22,872	Decrease in cash and short-term deposits is mainly due to investment in building infrastructure for IP-based business model and DNA tests growth, and repayment of financial obligations (credit line and long-term loan).
Short-term and long-term loans	-	2,285	Repayment of a credit line and long-term loan to a banking institution.

\* The complete financial results (audited) are included in the consolidated financial statements as of December 31, 2022. For additional information, also see the Company's Board of Directors Report.

\*\* The total backlog as of the reporting date is approximately \$3 million dollars. This backlog excludes the payments that the Company is expected to receive under the scope of the collaboration agreement with Granot Group. For further details, see section 26.2.6 in chapter A of the Company's 2022 Annual Report.

# Questions?



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Thank you!