

# CANONIC

Bringing precision  
to medical cannabis

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# Agenda

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Introduction

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Our technology

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Evogene group

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Summary

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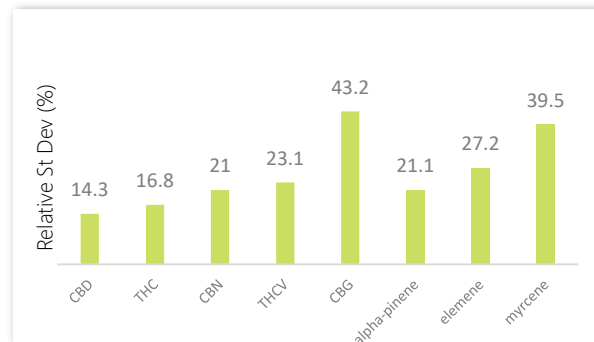
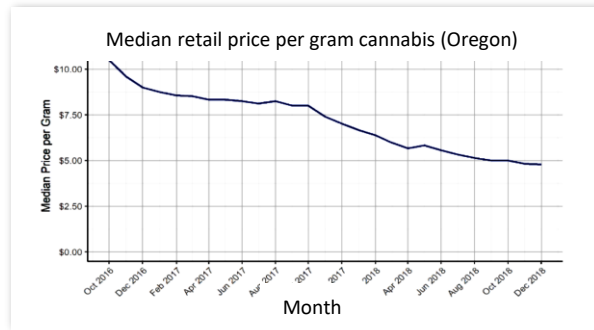
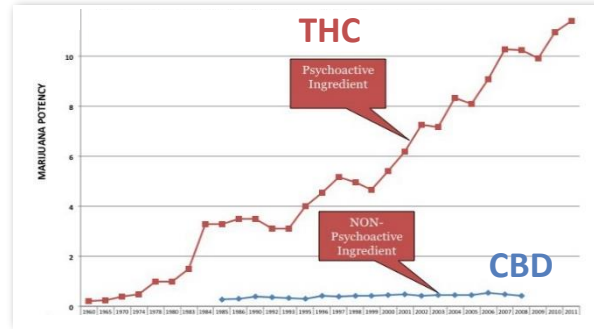
## Our mission

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To bring to market medical cannabis products with unique genomic profiles for greater cannabinoid Specificity, Yield and Stability.

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# Key Market challenges



## CANNABINOID SPECIFICITY

Specific medical indications require tailored active compound profiles. To date, breeding mainly pushed THC levels

## CANNABINOID YIELD

Legalization is driving steep declines in market prices, giving advantage to high yield products

## CANNABINOID STABILITY

Substantial variations within varieties produce inconsistent products and therefore inconsistent results

# Tackling market challenges...

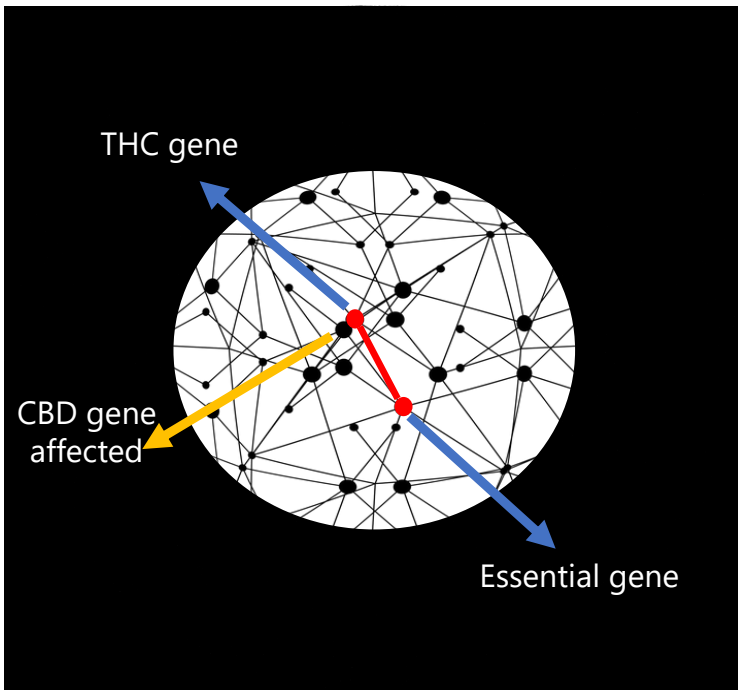
## Our solution

Based on established world-class genomic expertise and technology we create specific genomic profiles to address market challenges – cannabinoid specificity, yield and stability.

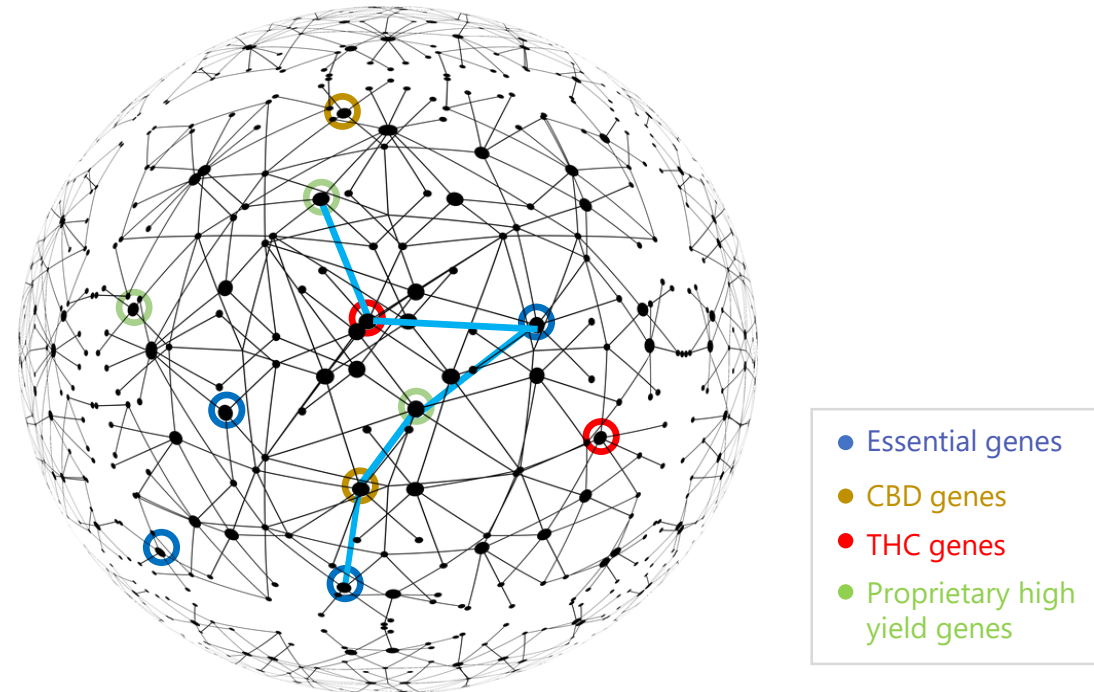
# Our solution

Using computational power (Artificial Intelligence, Big Data) to decode the cannabis genome & identify the specific genomic profiles that overcome market challenges

## Current cannabis genetic mapping



## Canonic: seeing the bigger picture





# Cannabis – the optimal crop for our solution

## Fact 1

Cannabis has been caught in a time capsule with no access to innovation and technologies

**Small intervention - huge impact**

## Fact 2

Cannabis can be grown for at least 3 growth cycles in a year

**Triple development speed**

## Fact 3

Cannabis is grown in a controlled environment

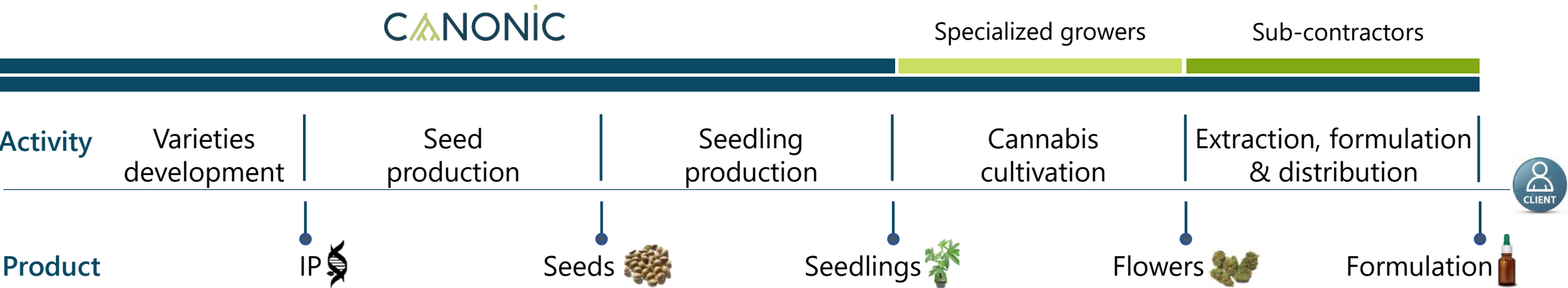
**Consistent performance**

Canonics technology platform enables fast & efficient, non-GMO product development



# Go-to-market strategy

Canonic aims to quickly and cost effectively reach the end user, by leveraging proprietary genomic expertise and outsourcing elements of the value chain.



Variety development through advanced breeding, seed production and seedling production, will be conducted in-house, while cultivation, formulation and distribution will be conducted through partnerships.

# Product lines under development

## Stable enhancement of **total plant** compounds



### MetaYield+ Unican+



**Type1:** Increased trichomes prevalence  
*[increased active compounds per plant]*

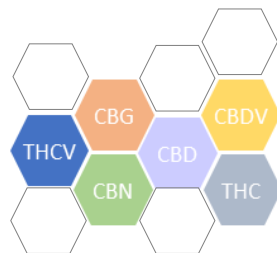


**Type2:** Dwarf - early flowering  
*[increased yield per area]*

## Stable enhancement of **specific active** compounds



### Precise+ Unican+



**Type1:** Increased content of known active compounds [e.g. CBG/CBC]

**Type2:** Increased content of uncharacterized active compounds [CBx]

# Canonic's team

## Management



**Ofer Haviv**  
**Chairman of the board**  
Evogene CEO and President



**Dr. Arnon Heyman**  
**CEO**  
Former VP and GM Ag seeds division  
Evogene, CTO BondX technologies



**Dr. Inbal Dangoor**  
**Head of R&D**  
Former Biotech Trait Manager,  
Ag seeds division Evogene

## Advisory board



**Dr. Yossi Tam**  
**Cannabinoid clinical research**  
Director, Multidisciplinary Center for  
Cannabinoid Research of the Hebrew university



**Dr. Yariv Brotman**  
**Plant metabolic pathways**  
Senior Lecturer at Ben Gurion University  
& Max Planck institute of Molecular Plant Physiology



**Dr. Moshe Bar**  
**Plant breeding**  
Founder and CEO of Biotagate. Previously Global Head of Scouting  
and Strategic Projects at Syngenta and VP R&D at Zeraim Gedera

# Agenda

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Introduction

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**Our technology**

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Evogene group

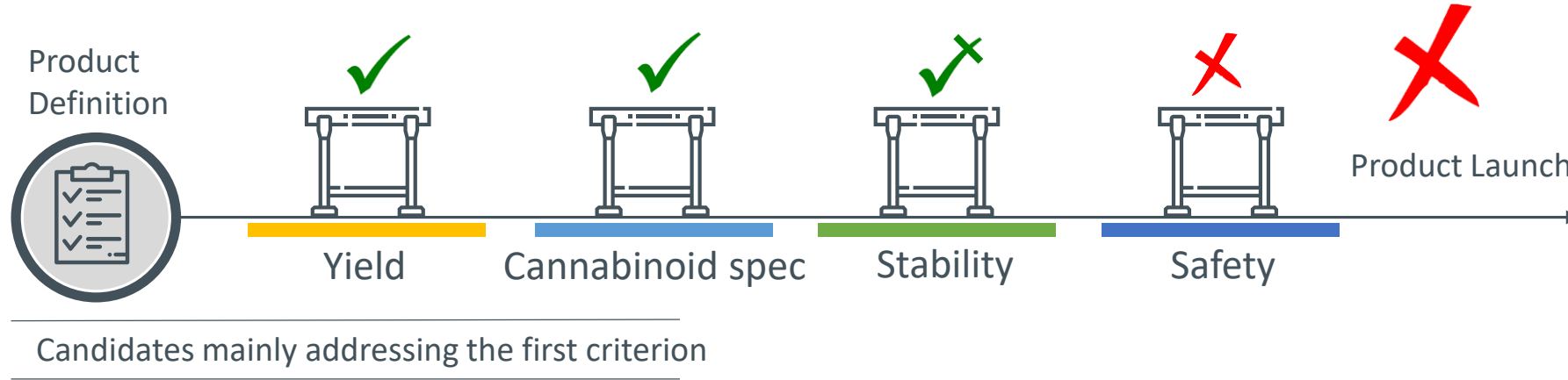
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Summary

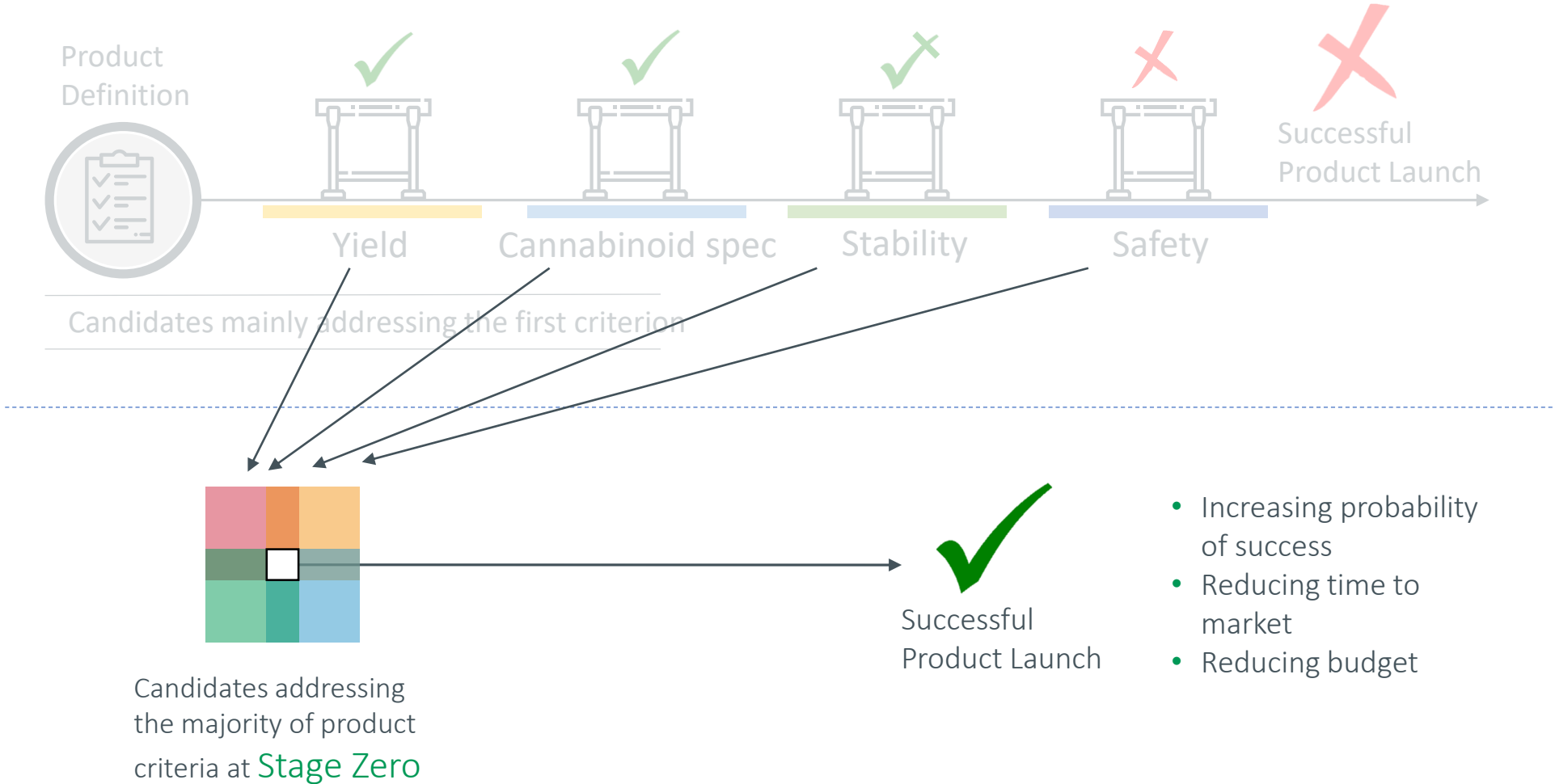
# The Challenge

## Product development common practice

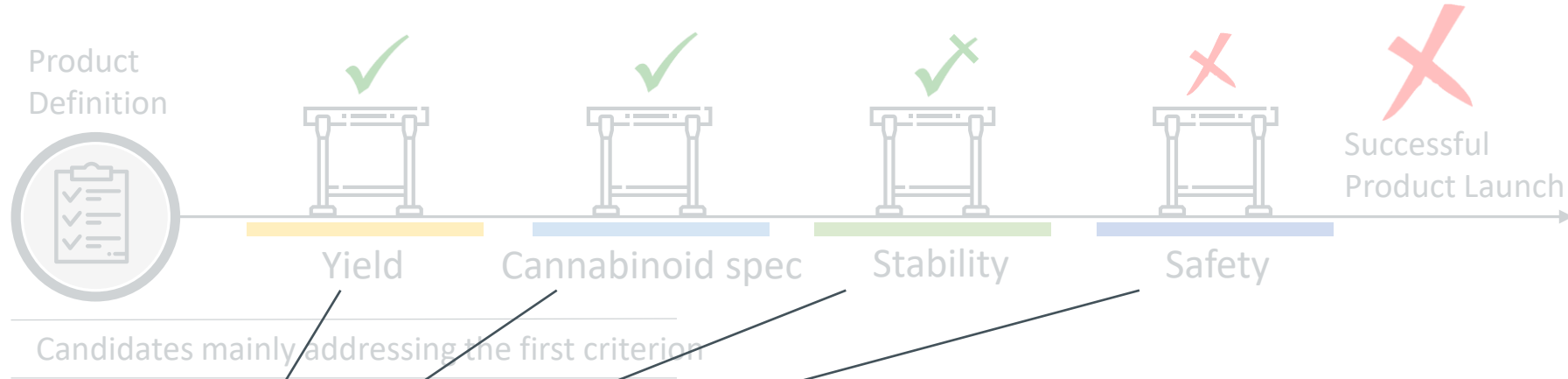


# The desired solution

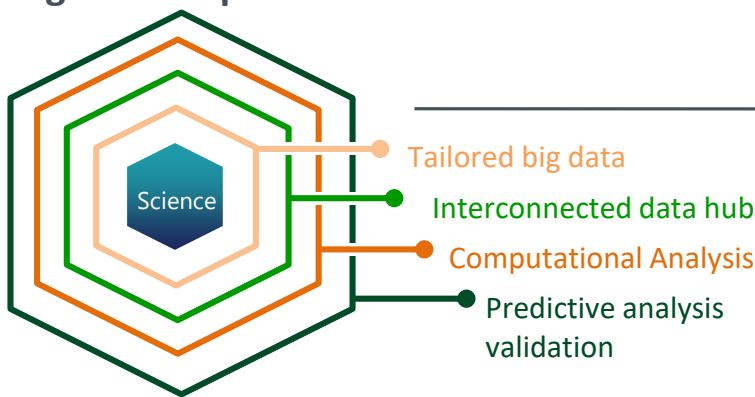
## Candidates with the highest probability of success



# Our solution – the CPB platform



## Evogene CPB platform



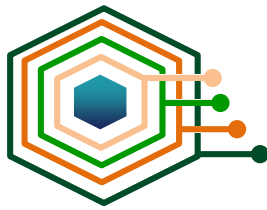
- Increasing probability of success
- Reducing time to market
- Reducing budget

CPB: Computational Predictive Biology platform

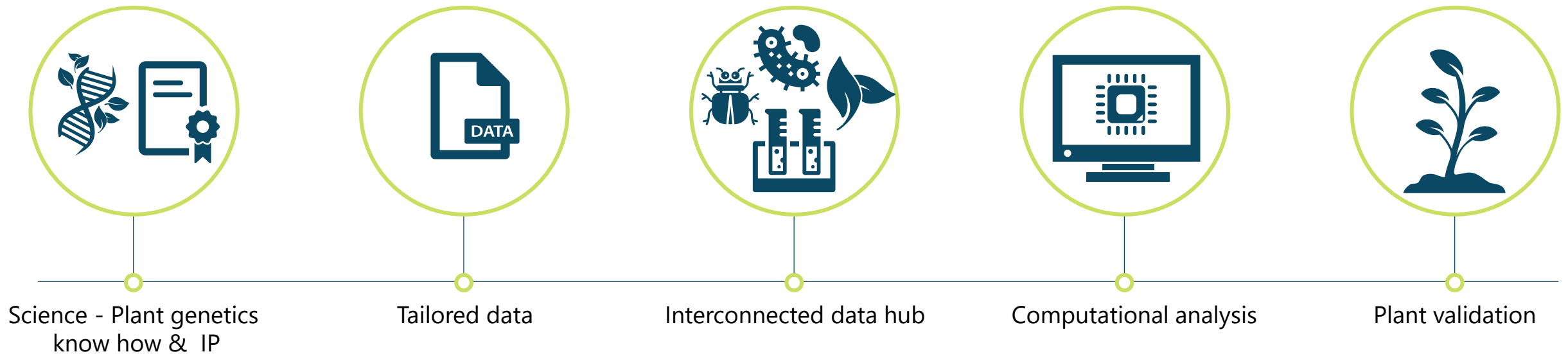




# Enabling technology (Evogene's CPB)& IP



Canonic holds exclusive access to assets along the entire innovation value chain for improved varieties development



Innovation will transform the cultivation, processing, sale, and consumption of cannabis in legal markets (New Frontier data 2019)

# Science - Plant genetics know-how & IP



## Access to an immense know-how & IP portfolio



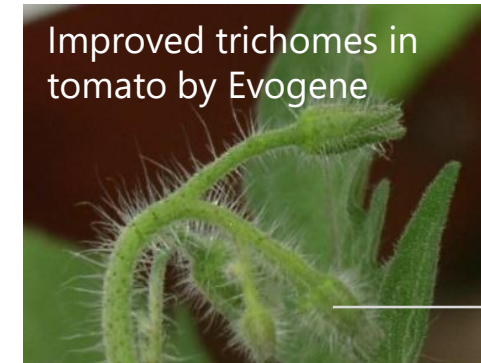
**Within the top 10 companies in the world holding plant genetics know how & IP**

### Proprietary IP portfolio relevant for Cannabis:

- | Trichomes
- | Growth rate and phenology
- | Plant architecture
- | Abiotic stress tolerance
- | Disease resistance

## Example - trichome enhancement

**Cannabinoid concentration is effected by the trichome population**



Wild type



Modified type

# Tailored data

## High quality data



- > 200 plant species
- >  $3 \times 10^9$  data points
- > 1000 experiments
- > 10 Omic data types



### Canonic Announces Initiation of Cultivation and Breeding of Cannabis Varieties with Unique Genomic Profiles for the Development of Medical Cannabis Products

This announcement follows successfully importing a collection of widely genetically diverse cannabis lines, establishing specialized R&D facilities, and receiving regulatory approval from the Israeli Medical Cannabis Agency (IMCA)

**Rehovot, Israel – November 6, 2019** – Canonic, a wholly owned subsidiary of Evogene Ltd. (NASDAQ, TASE: EVGN) focused on the development of medical cannabis products, announces today the initiation of its cultivation and breeding program of cannabis varieties with unique genomic profiles for the development of medical cannabis products. The initiation of cannabis cultivation follows: (1) successfully importing widely genetically diverse cannabis lines originating from different territories, (2) establishment of cannabis dedicated R&D facilities, including greenhouses, a molecular lab and tissue culture rooms and (3) receipt of the required regulatory approvals from the Israeli Medical Cannabis Agency (IMCA).

Canonic achieved an important milestone with the import of a genetically diverse seed collection of cannabis lines originating from different territories. These seeds were specifically selected to be the foundation of Canonic's advanced breeding program and product pipeline consisting of *MetaYield* - medical cannabis products with a stable increase of total plant active compounds, and *Precise* product line - medical cannabis with a stable increase of specific plant active compounds.

*"The genomic data of the new varieties imported will be used to expand its genomic database and to be integrated in the CPB's computational platforms in order to accelerate development efforts"* (Canonic PR, 6.11.2019)



Highly structured information infrastructure enabling maximization of predictive power from big data

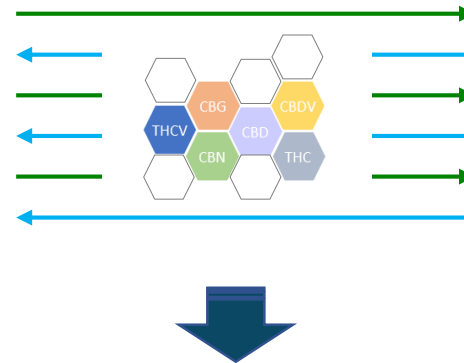
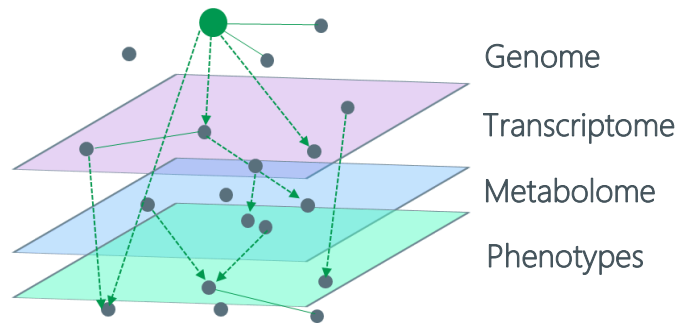


# Interconnected data hub



## Plant data

Multi layered, connectivity within and across layers using proprietary functional algorithms



## Clinical data \*

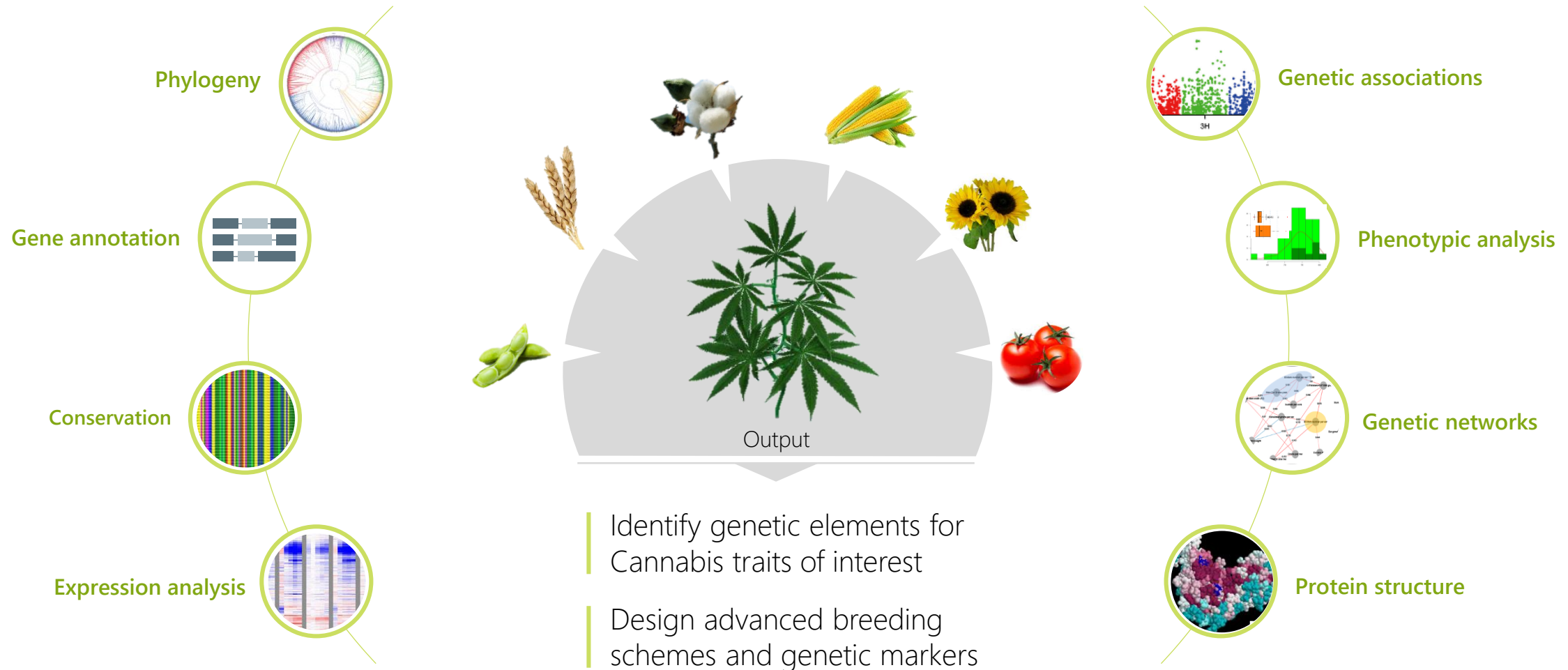
Variety based clinical effects

	1	2	3	...	...	N
Variety 1	✓	✓	✗	✗	✗	✓
Variety 2	✓	✗	✗	✓	✗	✓
Variety ...	✗	✓	✗	✗	✓	✗
Variety N	✗	✗	✓	✓	✓	✗

\* Under development

Deep understanding of causal plant-patient relationships enabled via data hub and AI methods

# Computational analysis – utilizing artificial intelligence





# Plant validation



- Evogene's farm with Canonic greenhouses (including quarantine greenhouse)
  - 22,000 sqf for cannabis plant development, among the largest R&D sites in Israel
  - The greenhouses integrate the latest technologies for climate control, daylight control, fertilization and irrigation
- *Good Security Practice (GSP) approval and possession license for cannabis from the Israeli Medical Cannabis Agency (IMCA)*



# Plant validation



- Molecular labs and tissue culture facilities fully equipped for cannabis R&D
- *Good Security Practice (GSP) approval and possession license for cannabis from the Israeli Medical Cannabis Agency (IMCA)*





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Introduction

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Our technology

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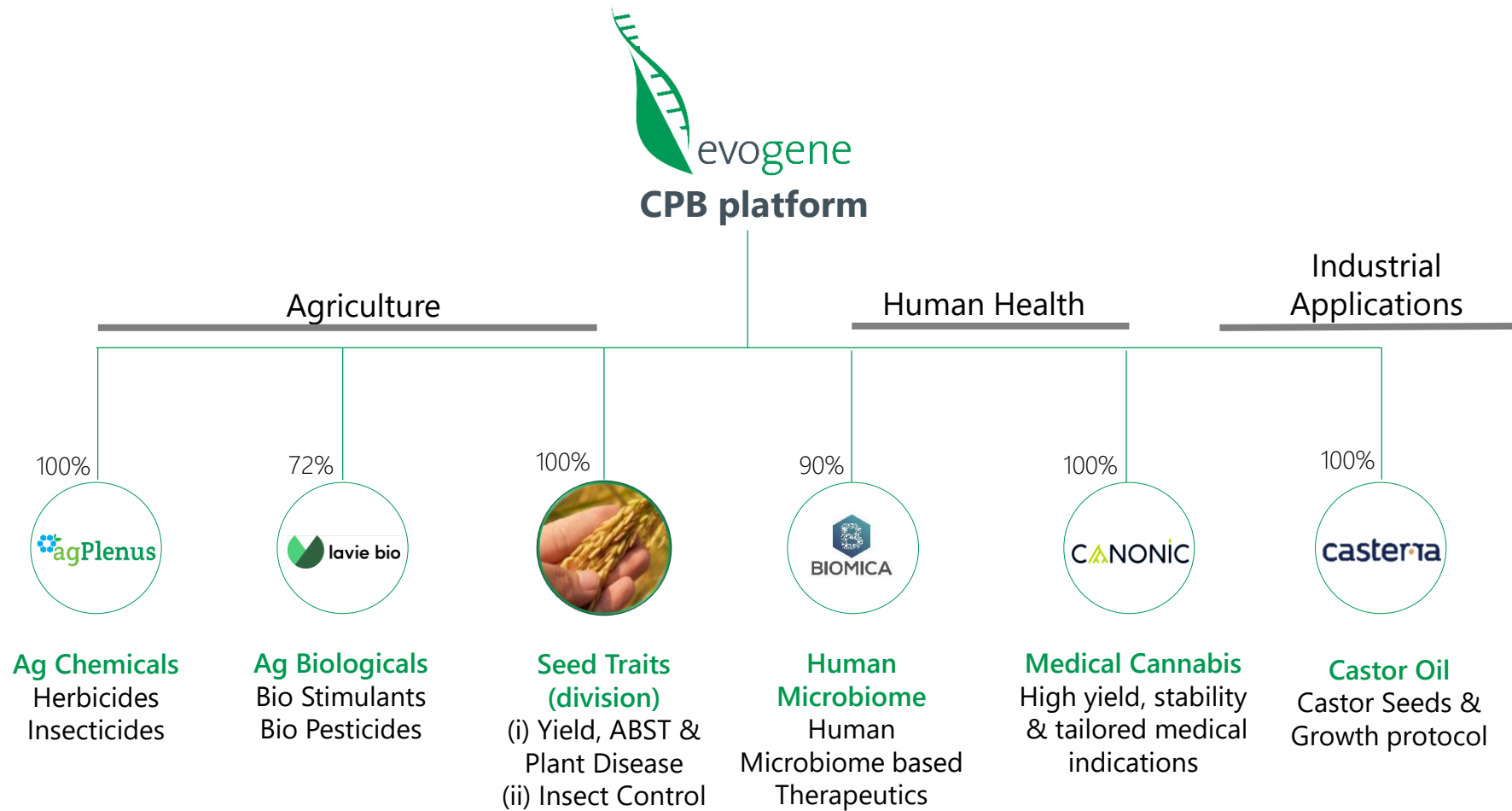
**Evogene group**

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Summary

# Evogene – parent company



# Evogene- a world leading biotech company

## MISSION

We revolutionize the product development process in life-science based markets through the use of a unique Computational Predictive Biology (CPB) platform.

## OUR TECHNOLOGY – THE CPB PLATFORM

Utilizing artificial intelligence and other algorithms on unique biological BIG DATA with deep understanding of life-sciences, focusing on product candidates addressing the majority of product criteria at 'Stage Zero'.

## CPB CAPABILITIES FOR PREDICTION OF INNOVATION

- Genetic elements – controlling desired biological processes
- Small molecules – active ingredients for chemical based products
- Microbes – active ingredients for microbial based products

## TARGET MARKETS AND CURRENT ACTIVITIES

- Agriculture – Ag-Chemicals, Seed Traits, Ag-Biologicals
- Human Health – Human Microbiome, Drug Discovery, Medical Cannabis
- Industrial Applications – Castor oil

## CORPORATE STRUCTURE

Evogene and the CPB platform at the heart of a group of subsidiaries, each focused in different life-science based markets, with exclusive access to the CPB platform for their field of activity, providing their main competitive advantage for their product development pipeline.

## FINANCIAL FUNDAMENTALS

- Cash position - \$ 46 M (June 30, 2019), no debt
- Listed on TASE (2007) and NASDAQ (2013)

## MAIN COLLABORATIONS WITH WORLD-LEADING COMPANIES



# Agenda

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Introduction

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Our technology

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Summary

# Milestones roadmap



**2019**

- ✓ Establishment of R&D growing facility
- ✓ Build cannabis core collection
- ✓ Establish initial cannabis database
- Complete at least two cannabis growth cycle
- Establish agronomic protocols



**2020**

- First trait demonstrated
- Complete three cannabis growth cycles
- Complete establishment of proprietary cannabis database & computational infrastructure
- Expand core collection of cannabis varieties



**2021**

- Finalize development of first improved variety
- Pre-commercial stage
- Develop extraction & formulation process
- Analyzed clinical effect based on dedicated research

# Summary

**Canonic aims** to develop and bring to market medical grade cannabis through a revolutionary genomic approach

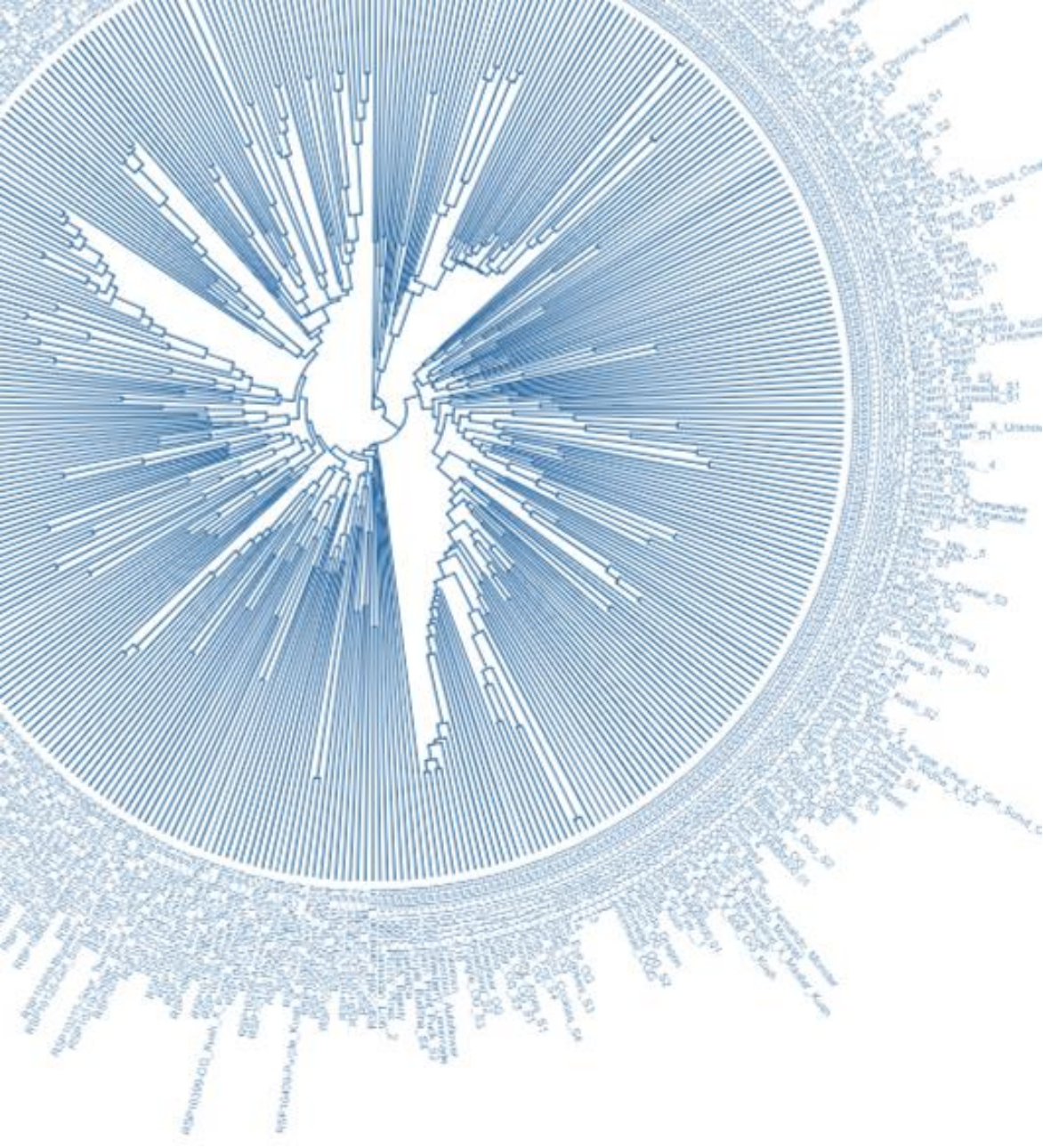
The market is growing fast and the **main challenges** are – improving yield, stability and tailored medical products

Using computational power (Artificial Intelligence, Big Data) to decode the cannabis genome & identify the specific genomic profiles that overcome market challenges

We have exclusive access to **Evogene's CPB technology platform, IP and infrastructure** for the development of medical cannabis products. We harness more than 10 years of experience and reputation in plant genomics

**Go-To-Market strategy** - Variety development through advanced breeding, seed production and seedling production, will be conducted in-house, while cultivation, formulation and distribution will be conducted through partnerships

**Two products line:** (I) Stable enhancement of total plant compounds (II) Stable enhancement of specific active compounds



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