



INNOVATE | ENGINEER | DELIVER



# **HOPE Technik**

**(The engineering company)**

**Daniel Nia**

# INTRODUCTION

Founded in 2006, HOPE Technik has been developing and delivering **Professional Service Robots & Special vehicles** globally.

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## SYSTEM INTEGRATION SERVICES



**Robotics & Automation**



**Special Vehicles**



**Manufacturing**



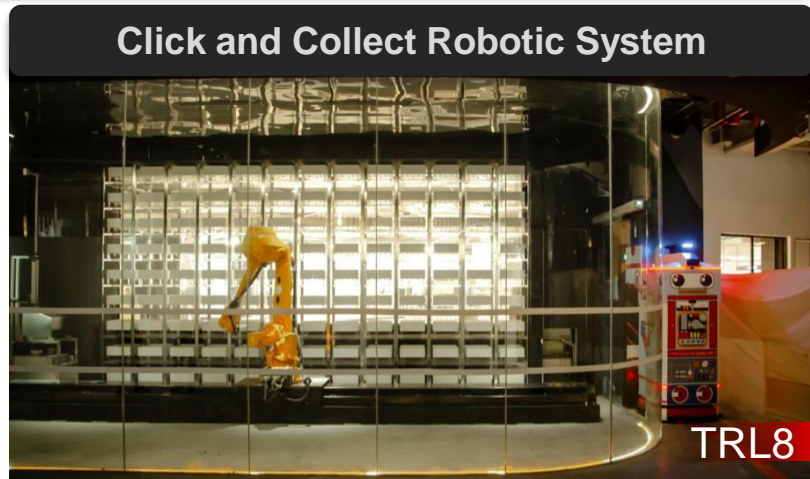
**Food Cooking**



Leading the development of innovative technology through the provision of customized engineering products and solutions for various industries



## BEACON-Robotics Middleware Framework

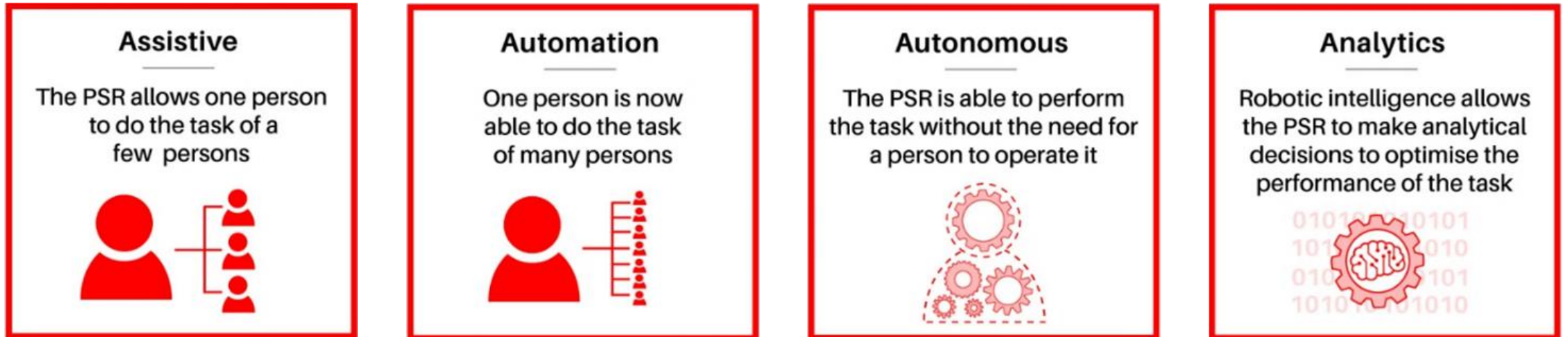




# **HOPE Technik – Our Robotics Journey**

# PROFESSIONAL SERVICE ROBOT - 4As

HOPE Technik pioneered the methodology of the '4As' of Professional Service Robot (PSR) to crystalize the benefits that they generate across the different categories.





# **HOPE Technik – Our Robotics Journey – First 5 years**



# The Beginning – The first 5 years

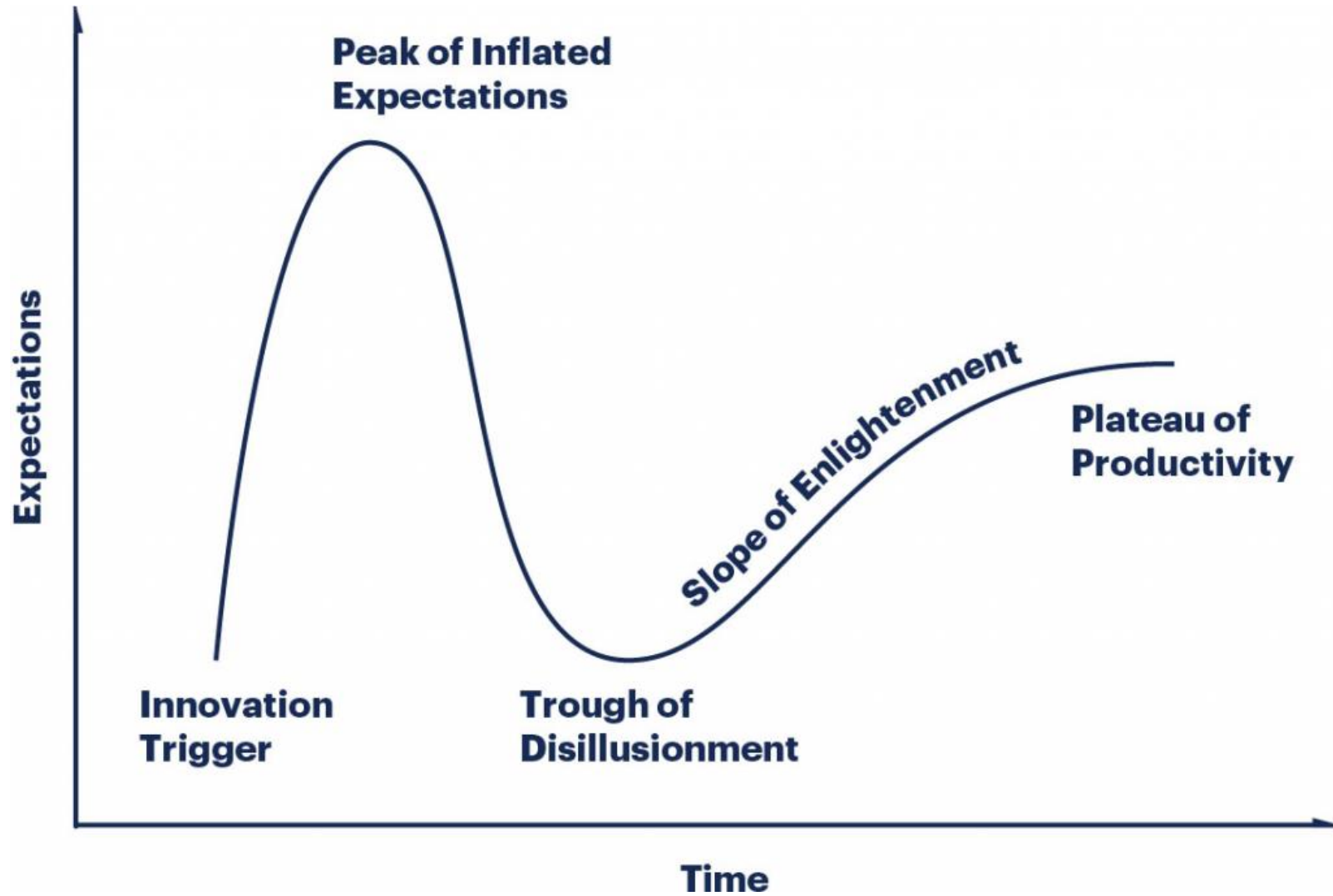


- We want to make Engineering in Singapore proud!
- Main Reason for developing a robot : As long as it is fun!
- Every day robots back in 2006
- Drones
- Small robots (UGVs) with 4 wheels or track based. Simple payload.



# **HOPE Technik – Our Robotics Journey – Next 5 years**

# Gartner Curve



# Warming up – The Next 5 years (2010s)



# Social and P&L

# Realisation of Drone Industry



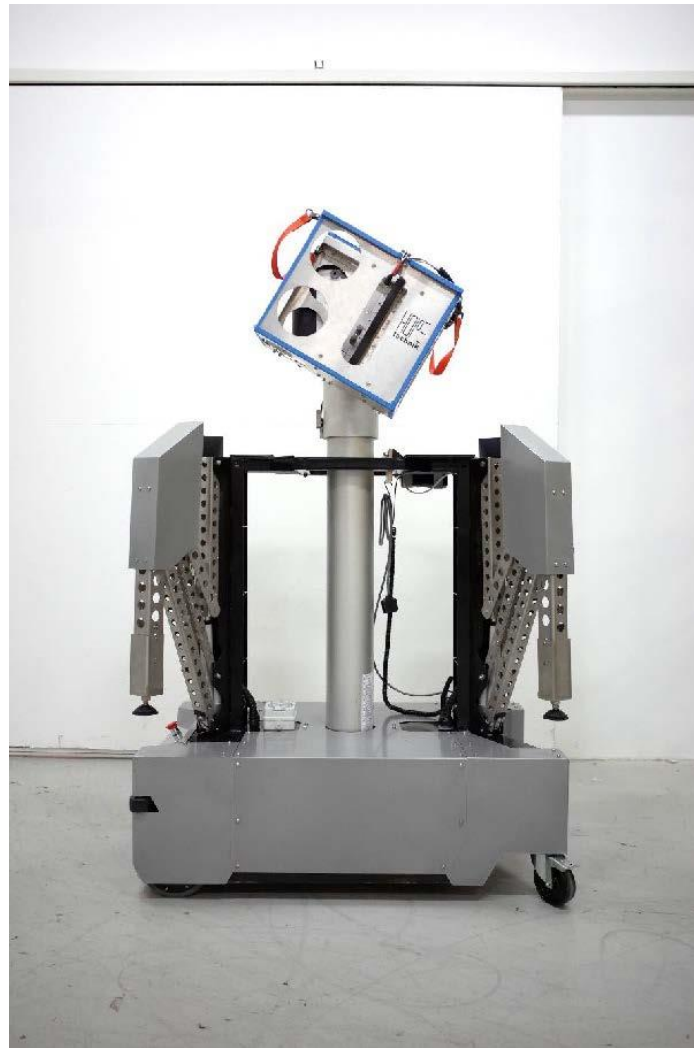
DJI Mavic 3

Flight Time  
46min

Video Resolution  
4K

**S\$ 2,049.00 - 5,500.00**

# Custom Robots



# Exoskeletons





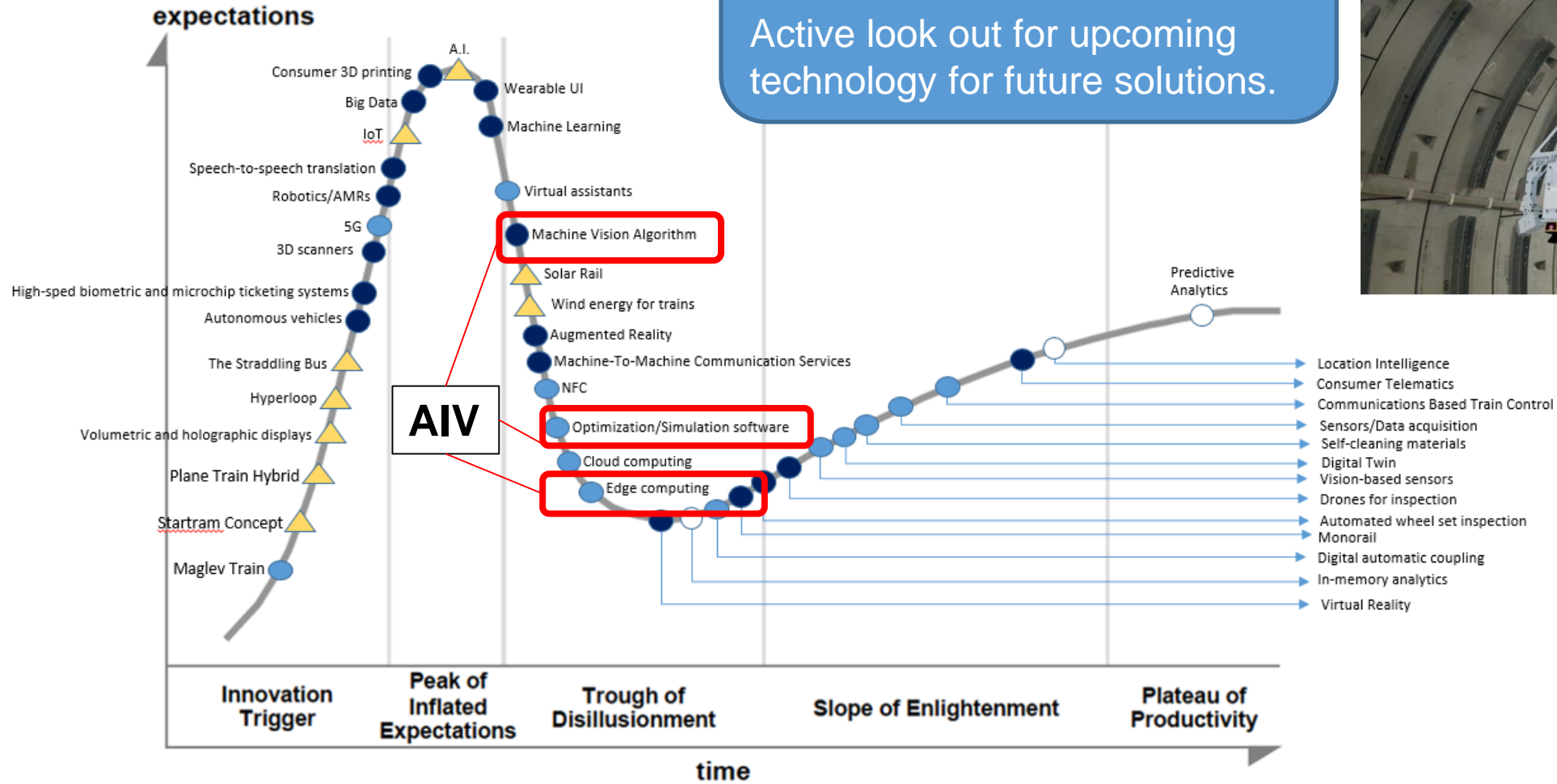
# SESTO™





# Gartner Curve

Embrace current technology and maximise benefits.  
Active look out for upcoming technology for future solutions.



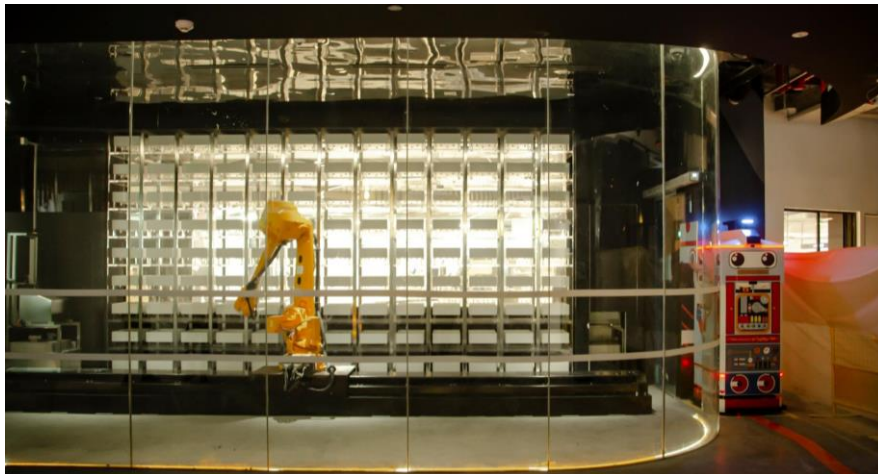
Plateau will be reached:

- Less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ More than 10 years
- Obsolete before plateau



# **HOPE Technik – Our Robotics Journey – Recent years**

# Pushing boundaries





# IOT and Robotics vertical farming



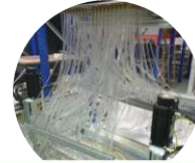
### Elle-Packager

Elle-Packager packs the required number of heads of vegetables into individual sealed bags, complete with our branding and printing of date of packaging and batch #.



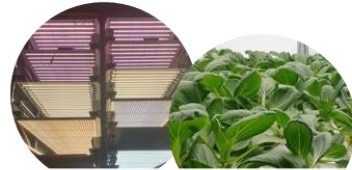
### Elle-Foamer

Elle-foamer picks sheets of sponge then cuts and inserts the sponge pieces into the Stage 123 trays.



### Elle-Sower

Elle-Sower sows one seed into each cube of growing sponge, with every seed inserted to the consistent optimum depth into the sponge



### Elle-Rack

12m tall growing units with 9 layers of trays. Each rack is bio-isolated and independent of each other.



### Elle-Harvester

Elle-Harvester harvests the vegetables by cutting off the head of leafy produce, and then its disposes the roots and cleans and disinfects the pots for reuse.



### Elle-Transplanter 4-5

Elle-transplanter 4-5 spreads the Elle-pots again, reaching the final spacing in the growth cycle.



### Elle-Transplanter 3-4

Elle-transplanter 3-4 transplants seedlings into the Elle-pots and doubling the distance between plants.



# Robotics Middleware Framework (RMF)

**Logistics & Deliveries**



**Security Robots**

**Cleaning Robots**

**Security Robots**




# **HOPE Technik – Our Robotics Journey – Now & Beyond**

# New Robots & after COVID-19





# Now and beyond



Carbon™ human-like general intelligence

human-like full body mobility

max payload of 25 kg / 55 lbs

human-like hands with fine dexterity

max speed of 5 kph / 3 mph

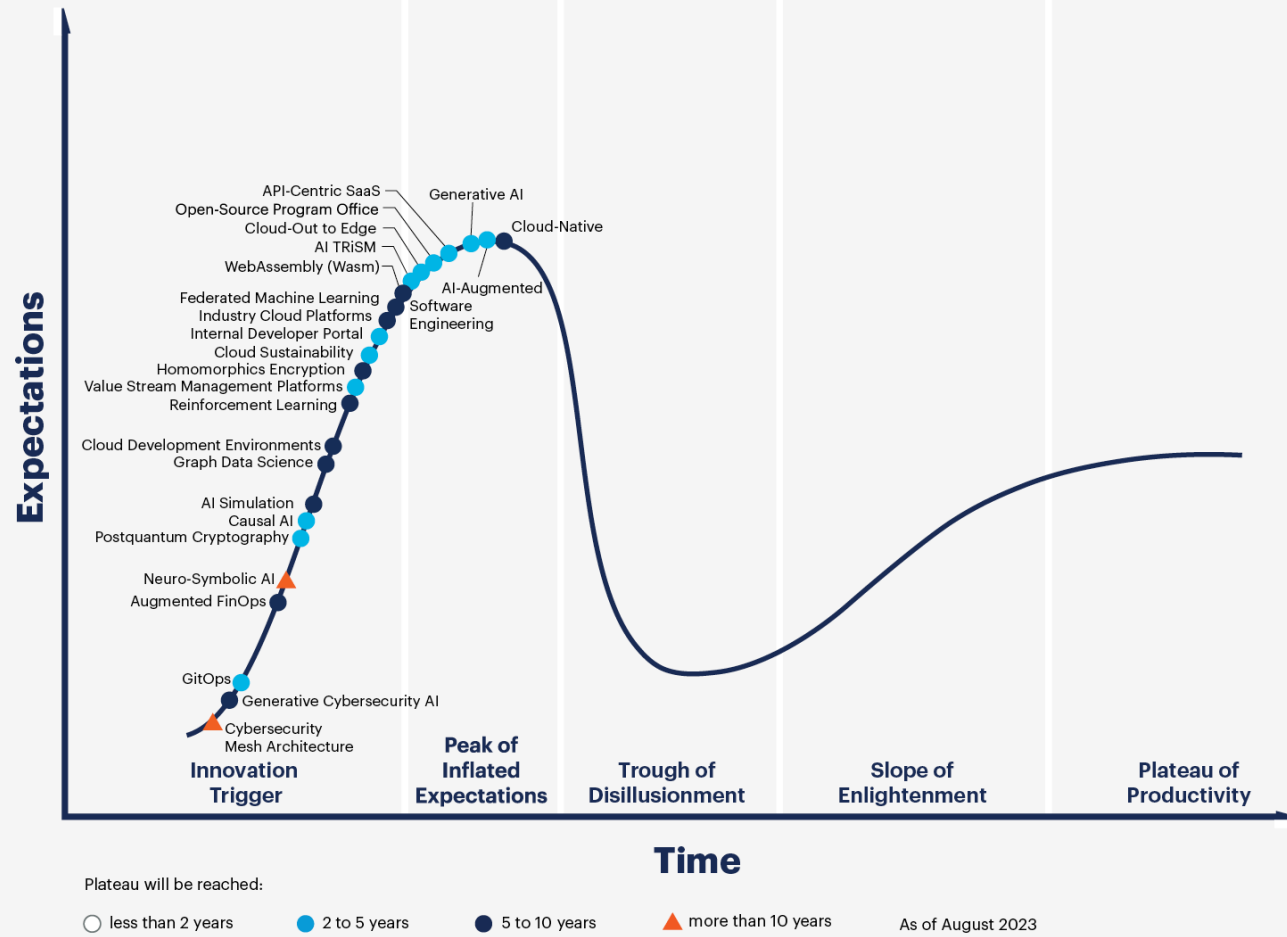
Height 170 cm / 5 ft 7 in

Weight 70 kg / 155 lbs

\*Final production specifications may vary



## Hype Cycle for Emerging Technologies, 2023



All AI related technologies are at or before Peak of Inflated Expectations.

# Evolution of robotics

## Front end

- Drones
- AMR
- UGV
- PSR
- QUGV
- Bipedal

## Backend

- Cloud
- IOT
- Cyber Security
- Digital Twin (+Edge)
- Beacon (RMF)
- Big Data

## Intelligence

- AI



A large version of the HOPE technik logo, with "HOPE" in red outlined letters and "technik" in bold black lowercase letters.

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