



# Monitor bees with AI

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**Artjom Kurapov**

Founder at Gratheon  
Engineer at Clarifai

# Why

## Loss of bee colonies

varroa mites and diseases  
starvation, stealing state, hornets  
drone-laying queen or queenless state



## Mismanagement

neglect to treat, requeen or feed  
lack of knowledge  
poor hive construction,

## Hardship of beekeeping

lack of observability, time and attention-critical,  
frequent inspections, unscalable physical labor  
aggressive bees, allergies, city apiaries  
alcohol washing, pesticide exposure



# Solution

app

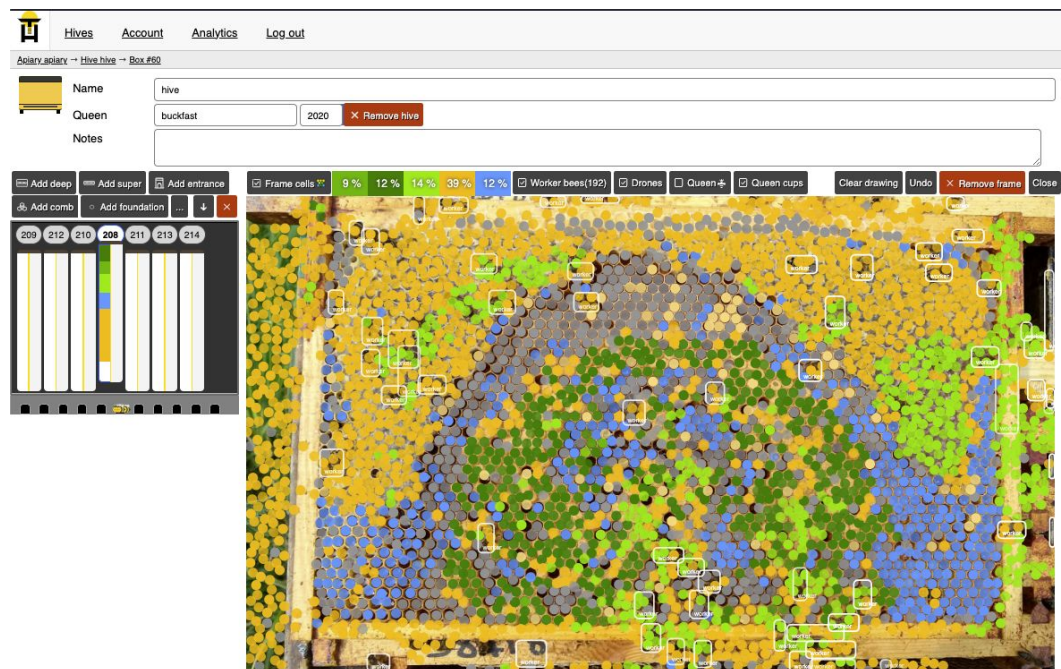
Software as a service for beekeepers to organize and monitor their apiary

- ✓ Queen, varroa mite detection
- ✓ manage apiaries, hives, frames, photos
- ✓ detection of bees on frame photo
- ✓ detection of frame cell types
- ✓ detection of queen cups
- ✓ API available with tokens
- ✓ LLM advisor

- Re-train on user data
- Manual inspections
- Analytics (graphs) to find correlations
- Phone app, offline mode
- Alerts

Competitors:

beescanning.com, apizoom.app, apiarybook



# Solution

app

telemetry

Hive entrance video monitoring / IoT device

- ✓ Incoming/Outgoing bee counter.
  - Hornet detection
  - video streaming (old phones, raspberry-pi, wifi required)
  - edge computing (nvidia jetson)
- Analog sensors (temperature, humidity, audio, weight) + lorawan
- Smart home / home assistant / tuy a integration



## Competitors:

- 👁 apic.ai
- 👁 beemate.buzz
- 👁 beep.nl
- 👁 beehero.io



# Solution

app

telemetry

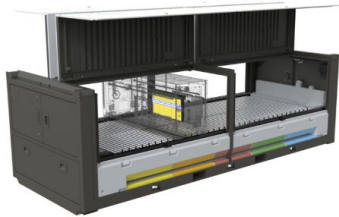
robot

- Single-beehive single-box (nest) frame operating robot with cameras (wifi required)
- Full beehive (sound, weight, humidity control)
- Stationary version initially
- Moving robot to inspect multiple hives (keeping colonies separated)

Competitors:

beewise.ag

beehero.io



beewise



# Market opportunity

app

telemetry

robot

World wide - 94M **colonies** in 2020, 101.6 M **colonies** in 2021

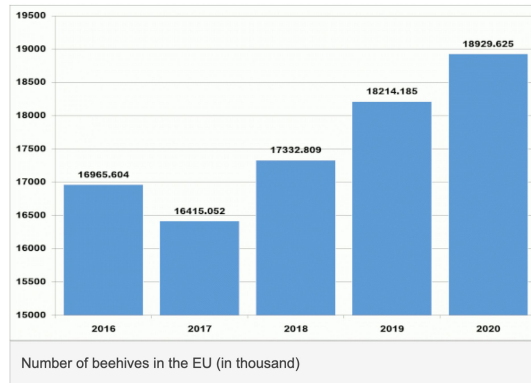
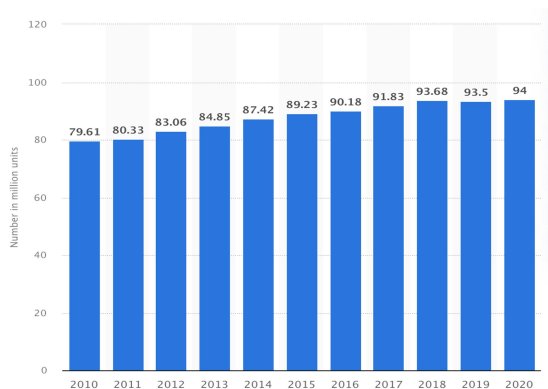
Europe - 620k **beekeepers**, 19-25M colonies

Estonia - 6425 **apiaries** (PRIA sources)

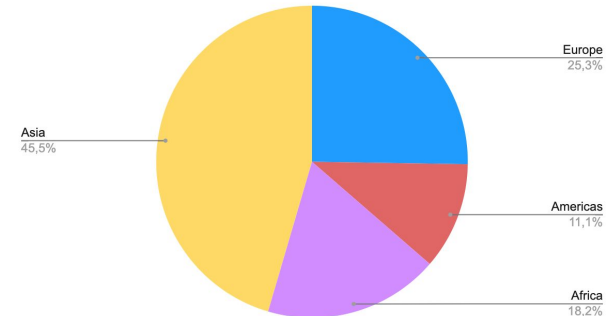
Target customers - **hobby beekeepers** (B2C)

Early adopters - tech-enthusiasts

5% market share \* 2M beekeepers \* 15 EUR = 18M EUR YoY



Bee colonies world wide ~100M in 2021



# Pricing strategy

## Community

free

5 hives max

## Essential

**15** EUR / month

2 weeks trial, annual billing

- ✓ More AI detection features
- ✓ Timeline
- ✓ Sharing
- ✓ Alerting
- ✓ Telemetry API

## Professional

**5** EUR per beehive per month  
+ **10** EUR per user per month

(All of Essential plan, plus)

- ✓ Analytics + Demographic breakdown
- ✓ Multiple users
- ✓ Inventory management
- ✓ Video streaming playback

## Autonomous robotic single-colony beehive

**50** EUR / month (rent, annual billing)  
3000 EUR (initial retail price)

# Join the team



## Artjom Kurapov

CEO / software engineer / beekeeper  
part-time, (ex-Pipedrive, Clarifai)



## Reinis Indans

GIS / Fullstack engineer  
(part-time)



## Nataliia Kinash

Applied ML, Datascientist

Looking for:

- 🐝 Fullstack engineer
- 🐝 Embedded / mechanical engineer
- 🐝 Beekeeper / PM / Community relations



# Invest in Gratheon

- Raising **630K** EUR in pre-seed round
- Runway: **18 months**
- For: **team of 4** + contractors help
- Scope:
  - Robotic nest PoC
  - Video processing / entrance counter
  - Better infrastructure
  - Increase AI model precision
  - Phone app

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