

GTIN 4000001012978

AVOCADO
Origin: New Zealand

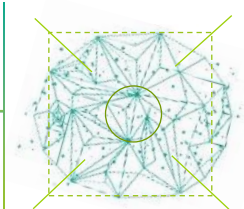
STATUS: OK

Optimal time of consumption

May, 28

Quality

★ ★ ★ ★ ★



AVOCADO
Origin: New Zealand

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Brix	15°
Water	72,8 %
Acid	0,25 %
Net weight	24,0 %
C° storage	12 °C
C° storage	19 °C

Transparency about the
TRUE QUALITY
FRESHNESS & SAFETY
of Fruits & Vegetables

Artificial intelligence for the food supply chain

12 b€ of losses occur in the food supply chain in Europe

1.1 b€



MAERSK
FOODTRACK

Compensation for
spoiled goods
(11% GAGR)

REWE

150 m€

Write-off on
prematurely spoiled
goods (8% GAGR)



Reason: natural variation in quality, safety and shel-life



Reason: natural variation in quality, safety and shel-life

GTIN 4311502991106

tomatoes on the vine
Origin: Baden-Württemberg
Delivered: **YESTERDAY**



STATUS: OK

Dec, 15th

Shelf life

Taste intensity

★ ★ ★ ★ ★

Brix: 7,8°
Water: 94 %
Acidity: 0,6 %
Firmness: 65



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GTIN 4311502991106

tomatoes on the vine
Origin: Baden-Württemberg
Delivered: **TODAY**



**Low shelf
life**

Dec, 9th

Shelf life

Taste intensity

★ ★ ★ ★ ★

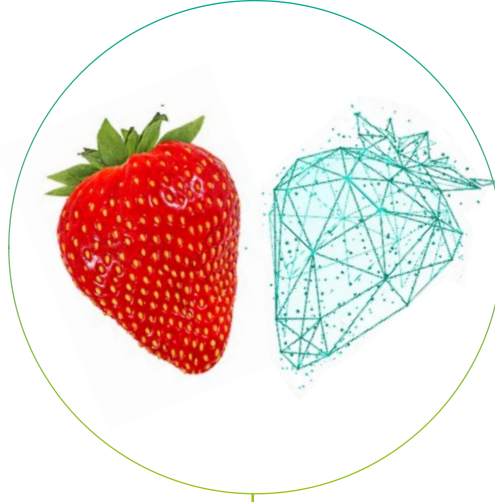
Brix: 7,8°
Water: 92 %
Acidity: 0,3 %
Firmness: 62

Solution: Digital quality assurance as a service

A combination of Hardware and Software. FreshIndex shows the true shelf-life and quality of products through AI.



Plug & Play
Sensors and
Food Scanner



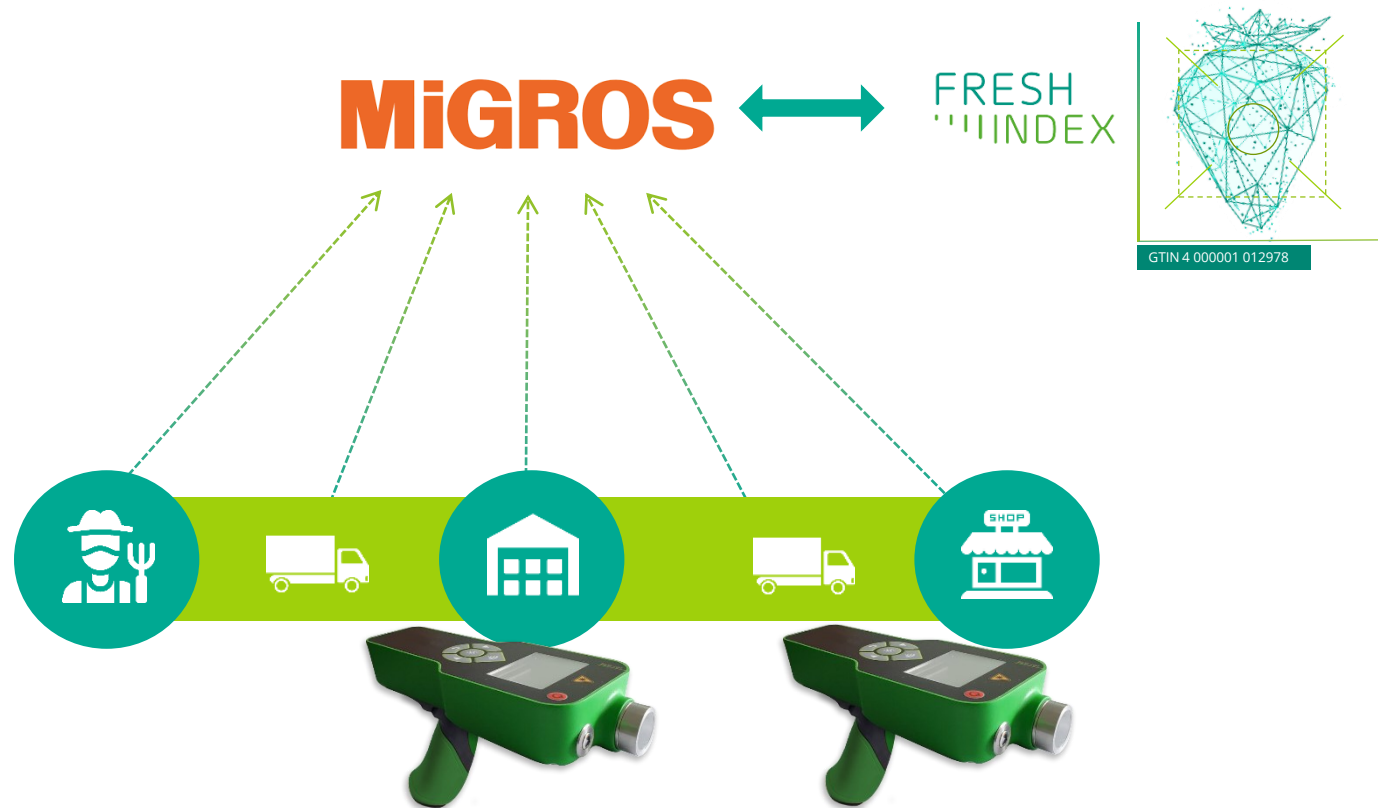
Digital Twin:
Digitize expert knowledge
through AI



Making information
usable in daily
work processes

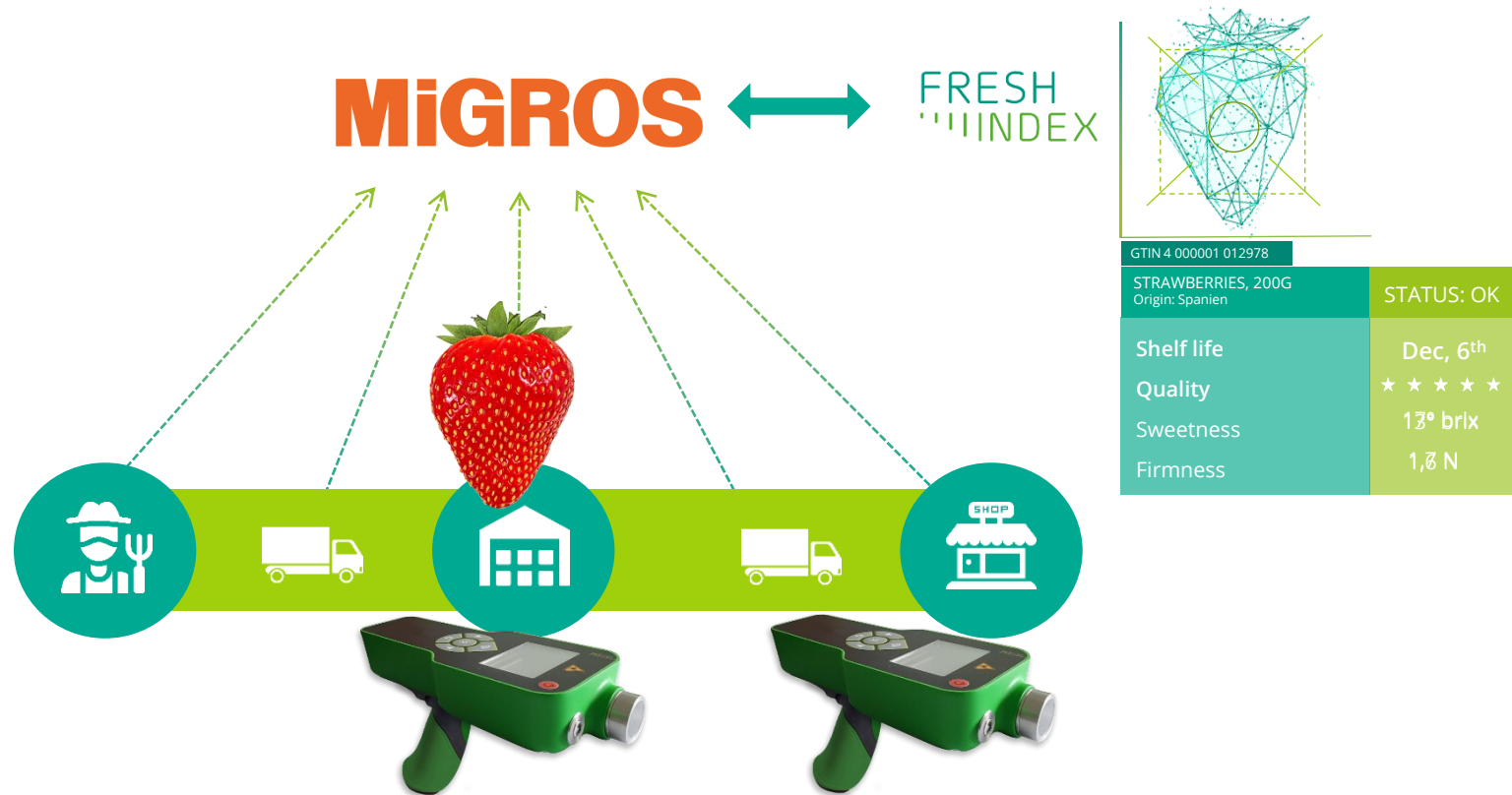
Collect data, evaluate it, generate added value with AI

With our end-to-end, out-of-box solution



Collect data, evaluate it, generate added value with AI

With our end-to-end, out-of-box solution



Our Core Features

Digital food knowledge for daily operations



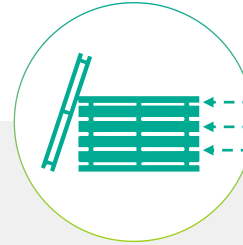
RAPID, NON-DESTRUCTIVE

quality checks
at goods receiving
and at store level



POWERFUL MODELLING

for prediction of quality
and shelf-life at POS



PALLET RESOLUTION

Not a bunch of
measurements but validated
statistical distribution for
each pallet



CLOUD/ ON-PREMIS

Direct connection of quality
data with demand
forecasting and pricing
systems

Customer benefit currently in field validation

Trustworthy brand, sustainability image and high impact for our customers



5x

Increasing efficiency
in quality assurance



30%

Reduced food
losses



20%

Increased
quality awareness
on supplier side



7%

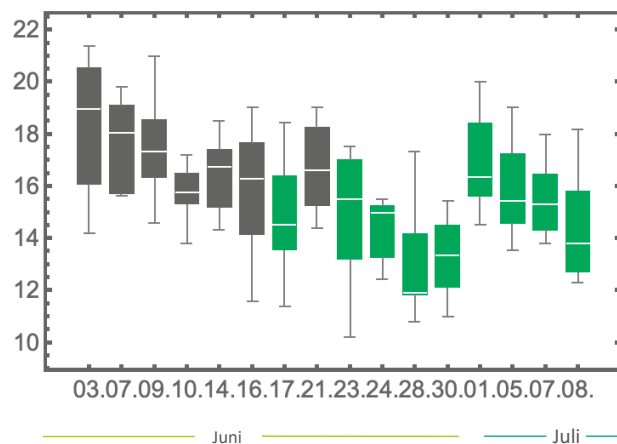
Higher profit
margins by quality sensitive
pricing

Field Application – Quality Trend Evaluation

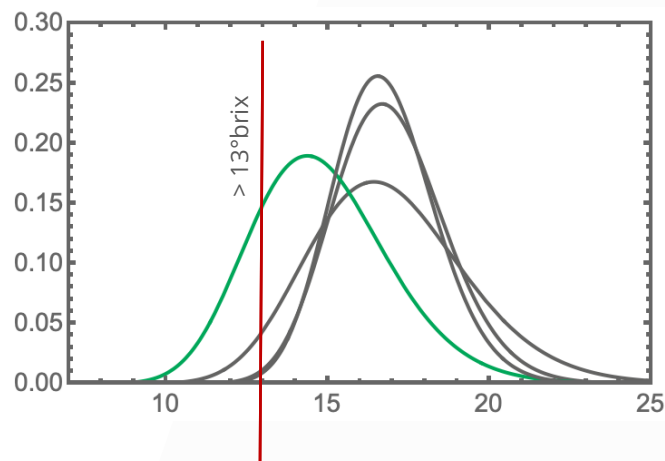
06 – 07/2021 Evaluation of Mango quality during annual supplies shift:

QUALITY EVALUATION

Measurement of 250 random samples



QUALITY DISTRIBUTION BY ORIGIN



RESULT

20 % of Brazilian mangos are below UNECE specification.

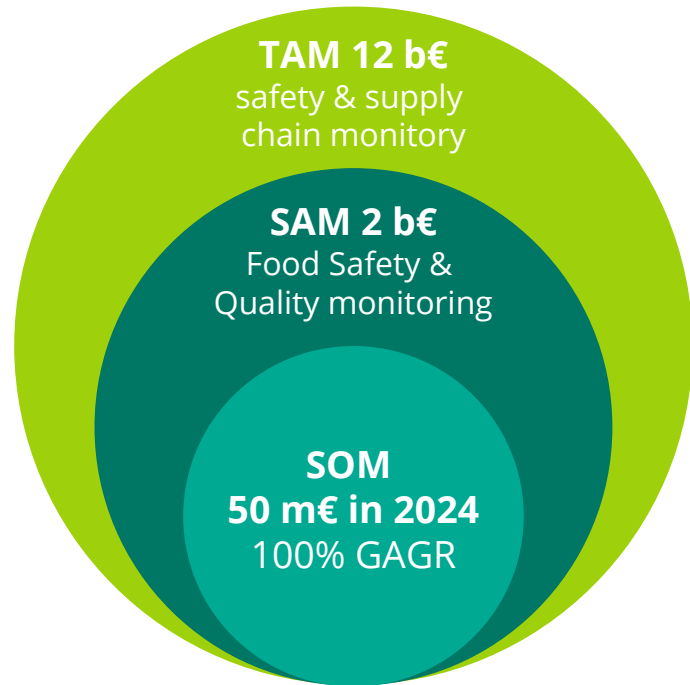
3 KEY SUPPLIERS WITH QUALITY ISSUES IDENTIFIED:

405285297xxxx

405988341xxxx

405285259xxxx

Market & customer segments



OUR CLIENTELE

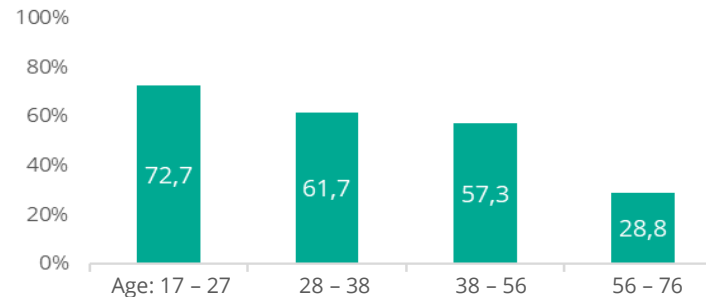
Retail

240.000 stored in EU, highest potential but long acquisition due to corporate structures

Wholesale / importers

High near-term potential; high responsive to value proposition, moderate acquisition efforts.

PROVEN CONSUMER INTEREST (Nielsen, 2020: 1.732 responses)



QAaaS pricing proportionate to cost reduction

CUSTOMER SEGMENT

**Food Wholesale,
Trader & Distributor
(12k in EU)**

**Food retail
markets
(240k stores in EU)**

SAVINGS POTENTIAL CUSTOMER



Efficiency increase: 12 k€



Reduced losses: 20 k€



Efficiency increase: 4 k€



Reduced losses: 3 k€

FRESHINDEX PRICING

10 k€ / warehouse / month

1 k€ / market / month

QAaaS pricing proportionate to cost reduction

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BOTTOM-UP MARKET SIZE:





4,3 b€

Our USPs – we are well prepared for competition

COMPETITION

	FRESH INDEX	Infatab	ZEET	CLARIFRUIT	BIOTRAQ
Supply chain coverage	✓	✓	✓	✗	✓
Direct quality recording	✓	✗	✗	✓	✗
Forecast of the product shelf life	✓	✓	✓	✗	✗
On-premise / Cloud	✓/✓	✗/✓	✗/✓	✗/✓	✗/✓

TECHNOLOGY LEADER

- 1 Online risk quantification @ batch level 
- 2 Full coverage of supply chain 
- 3 "The only promising approach". 
- 4 "Recognized Big Data Tech Stack" 

Deep-tech based on an interdisciplinary team

10 employees, 9 FTEs

Dr. Matthias Brunner
Founder, CEO & Sales
10 J. Sensor-Sales @



Prof. Dr. Christian Fleck
Founder, Head of R&D
Prof. for Systems Biology Head of
Research Group since 2006



Julia Seemüller
Business Development
8 y. Experience in
Consumer Industry



Dr. Octavio Glorio
Solution Architect
10 y. Big Data &
Data Analytics @



Dr. Matthias Heiden
Food Scanners

5 y. CTO at

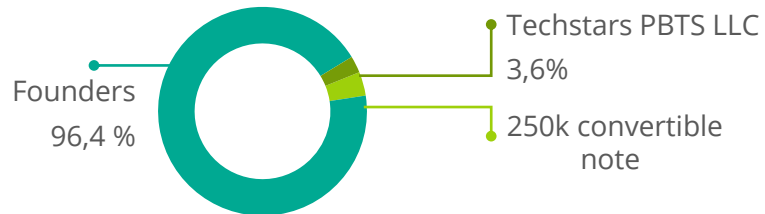


Dr. Dishui Lui
Machine Learning Expert
15 y. ML/AI and
Uncertainty Quantification



Sound company profile with first market traction

We are almost bootstrapped



Currently cash positive, preparing for growth

2019 T/O: 250 k€, Profit: 8 k€, Head-count: 5

2020 T/O: 310 k€, Profit: 7 k€, Head-count: 8

2021 T/O: 480 k€, Profit: 32 k€, Head-count: 10

Current team financed by research grants

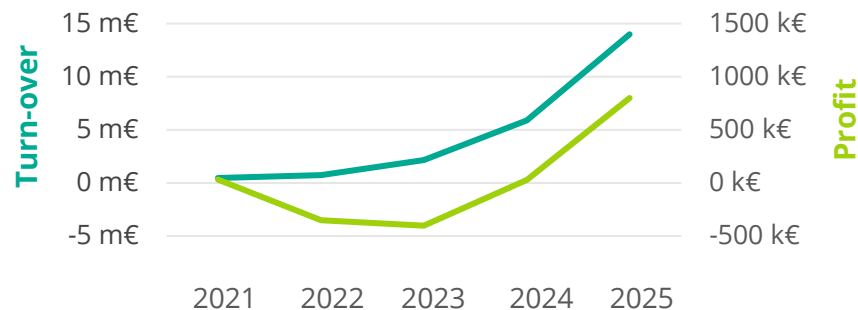
German Ministry of Agriculture : **1.1 m€** (2022-23)

First customer revenue

2020 **METRO**

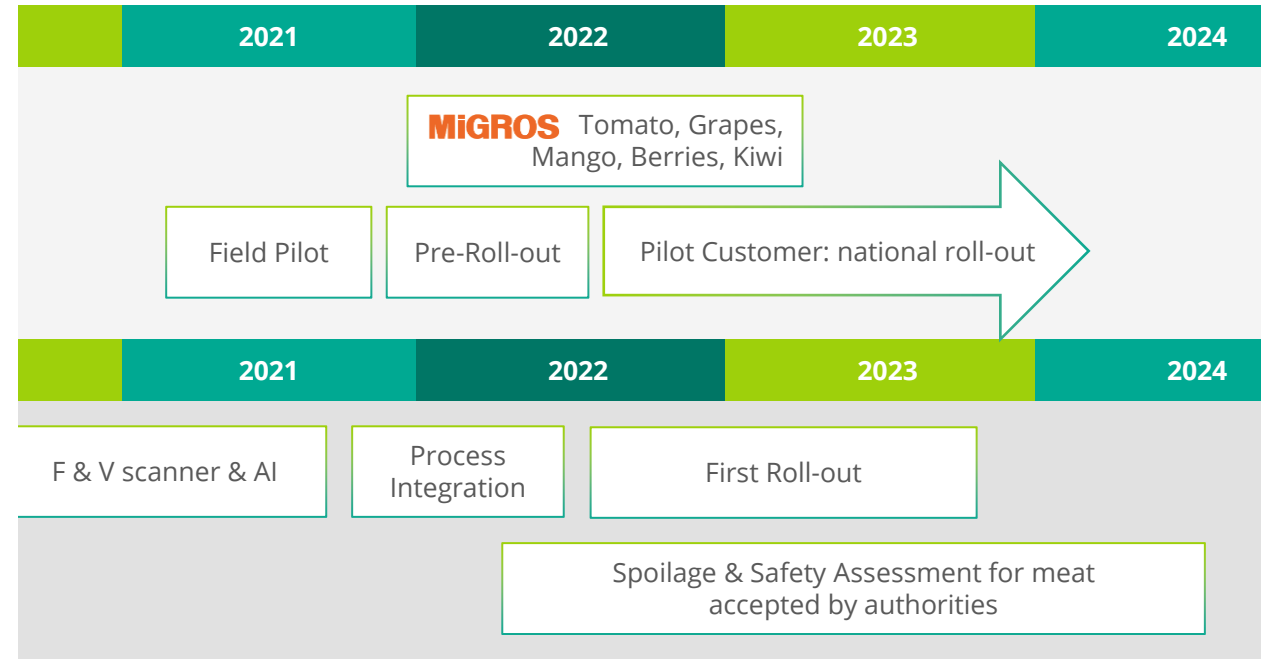
2021 **REWE** **EURO POOL SYSTEM**

Break-even in 2024 at 5m€ revenue



FreshIndex Roadmap

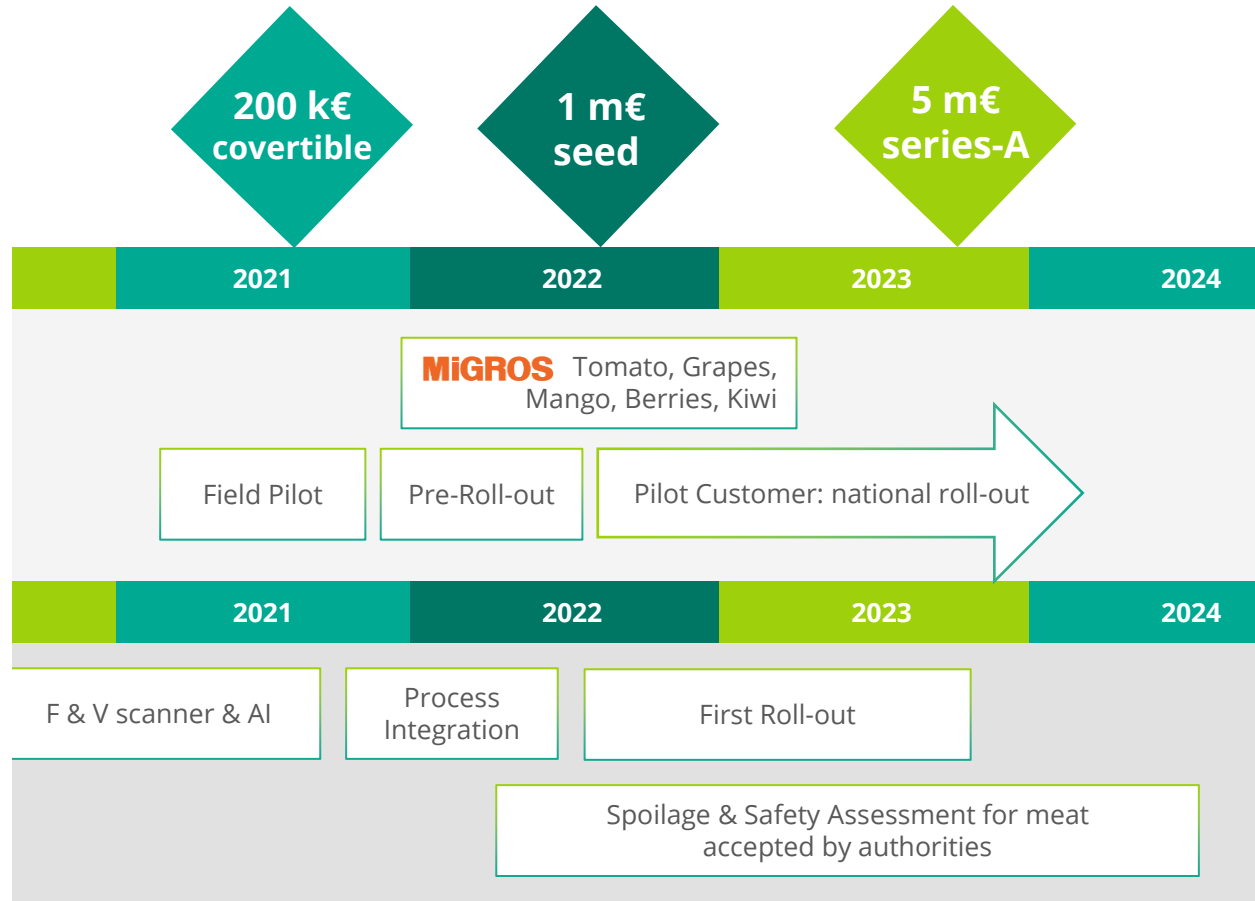
INVESTMENT ROADMAP



CUSTOMER PROJECTS

PRODUCT ROADMAP

FreshIndex Roadmap



INVESTMENT
ROADMAP

CUSTOMER
PROJECTS

PRODUCT
ROADMAP

FRESH INDEX

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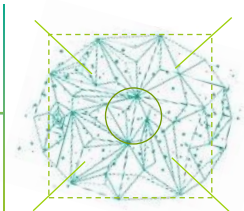
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1 m€
seed

Confirmed market need

Pre Roll-out on-going

National roll-out

2021

2022

2023

CONTACT: Dr. Matthias Brunner - m.brunner@tsenso.com - +49 175 5234 632