InovecTech

Digital manufacturing transformation for all

InovecTech

100x faster digitisation of manufacturing with AI-driven SW sensors

Presentation for customers

www.inovec.tech

Investment case for InovecTech equity

Main strengths

- Strong, dedicated, efficient and vested **team**
- **Unique disruptive innovation** - enables 100x faster and better quality digitization at 10x lower costs, sales cycle time unusually short for industrials
- Potential **positive impact** on society - saving resources, reindustrialization of Europe with growing public support
- Right **timing** with strong tailwind in AI research and decreasing cost of HW
- **Validated fragmented market** - benefits of manufacturing IT systems are widely understood
- **Proven traction** - validated short cycle time for SMEs, orders from large corporates
- **High retention** - low probability of failure, without any equity investment can grow 2x per year until competitors catch up

Special investment circumstances

- Industrial M&S is traditionally **conservative** and expensive
- **Complex** range of capabilities and public support requires skillful org and **partnership** building
- M&S is now taking off with **limited budget** (bootstrapped), as TRL 8-9 was achieved for some use cases
- Need for (debt) financing of WC - equity financing through direct purchase of equity preferred
- Corporate structure as 3 sister (ltd) companies with **virtual shares**

InovecTech develops SW sensors for manufacturing since their use became feasible in 2020

Boris Fackovec, PhD
CEO, CTO
prev. McK mfg expert, transformation leader

Pavel Kohout
COO
prev. product dvl and tech consulting TTP

UNIVERSITY OF CAMBRIDGE
McKinsey&Company
Imperial College London

Vested star, experienced core IT team

Eduard Kofira
Data scientist

Pavel Kohout Sr.
Sr. Developer
>25 years IT experience

Martin Galajda
Sr. Developer
prev. IBM, DB,AI startups

Michal Trna
Sr. Developer
prev. founded auto OEM IT supplier

Jiri Dolejs
Sr. Developer
prev. CTO, co-founded 4 startups

DIverse extended engineering & team

Antonin Sterzik
HW manager

Anna Tsurkan
Office Manager

Jakub Horak
SW & HW engineer

Thi Hao Do
Data labelling manager

Peter Vanya, PhD
Data scientist

Accomplished Senior Advisors

Jesus Rueda, private equity principal and investor [strategy]
Jiri Matas, global leading professor in AI and Computer Vision [AI & CV]
Zuzana Kukelova, elite academic in Computer Vision [3D imaging]
Martin Cavojsky, CEO of a B2B SaaS startup [devops, hiring, cybersecurity]
Manish Seth, CEO of an industrial tech startup [business building]
Alexandra Mamrillova, head of sales for CZ scaleup [M&S]
Jan Petko, former head of logistics of global steel company [sales]
Andreas Gams, 20 years of B2B sales, EIT [M&S]
Jarmil Vycital, 30 years in B2B sales and innovation funding [grants,S&M]
Ivan Tichov, 35 years of operations consulting [sales]
Lubomir Hulin, former head of lean in global manufacturer [sales]
Tomas Metz, former global head of engineering of top consulting company, mature CTO [technology,strategy]

Over 60 experts, part-timers, students, senior advisers, and top talent to be hired

Top 5 destination for oxbridge graduates in CZ&SK

InovecTech has the right team and positioning for scaling AI in manufacturing

Team & Values

- 60 people, 14 FTEs - high flexibility, range of skills, efficiency, academic collaborations
- **Leader of tech transfer,** working with a range of academics and companies

Recognition & Partnerships

- Recognized by increasing range of trusted bodies - won MSIC, CzechInvest, EIT grants, **EIC seal of excellence**, finalist of czech AI award
- Growing network of distribution partners

Satisfied customers

- Wide range of satisfied customers from large multinationals through local mittelstand, consultancies, to small manufacturers,
- Committed: no CZ or SK customers left from us, building legacy, looking in long term, saving resources on opulent trade fairs or “free first” and focusing all energy on making customers successful

ČVUT FEL

ČVUT CIIRC

Akademie věd České republiky

eit Manufacturing

CZECHINVEST Investment and Business Development Agency

LODZ SPECIAL ECONOMIC ZONE

VUB VRIJE UNIVERSITEIT BRUSSEL

EDIH CTU

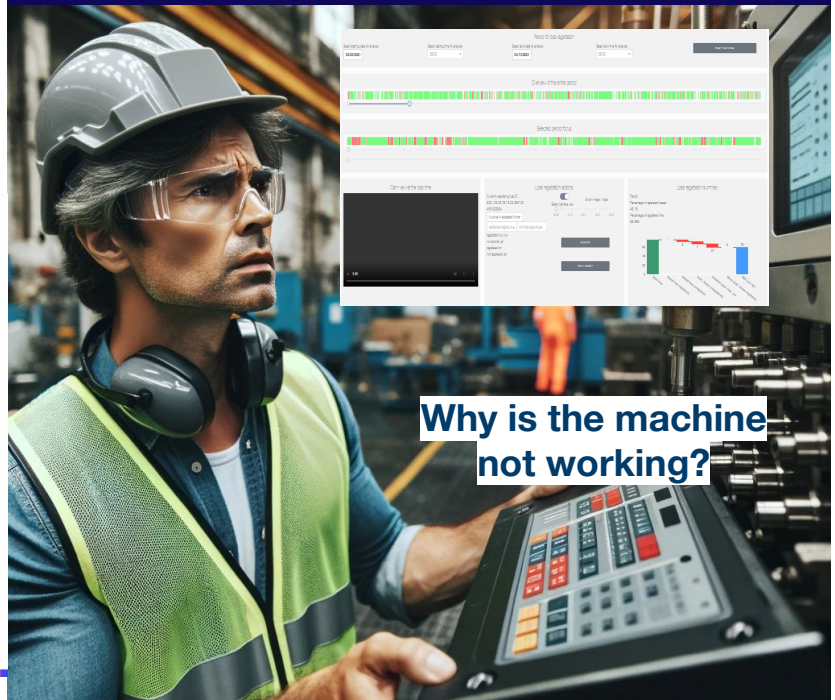
enterprise europe network

InovecTech digitizes manufacturing 100x faster with 100x RoI through AI edge-cloud universal data collection

Warehousing example

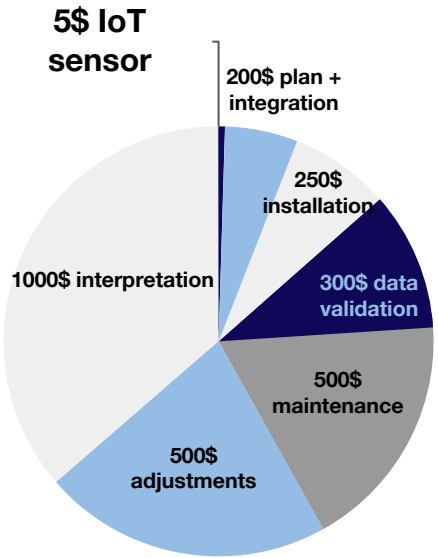
Ctrl-F??

Series production example

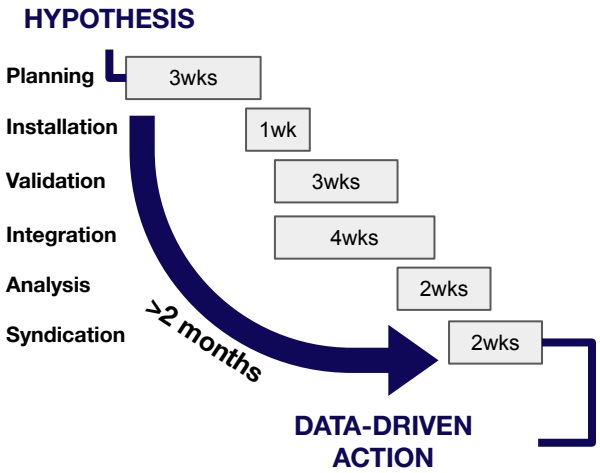


Digitisation of manufacturing has been too slow due to high cost and time of data collection

Total cost of data collection is too high



Time to add a new sensor is too long



Current pain points:

- Plants **drown in data** they do not need, while **missing the right data** for improvements
- Rate of resolving production issues is low, hence equipment **effectiveness is low**
- A large **gap** between **shop floor reality** and process engineering abstraction

Digital image of your shop floor enables “time travel” to install sensors in the past

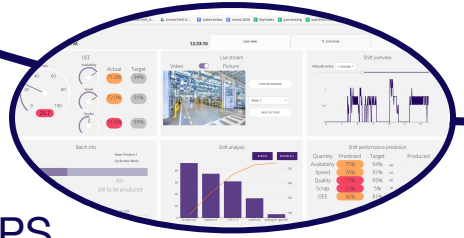
1. Production reality

2. Video footage

3. Big data

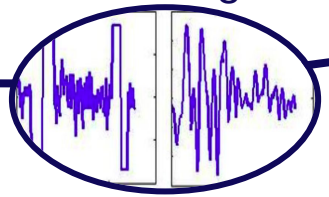
4. SW sensor setup

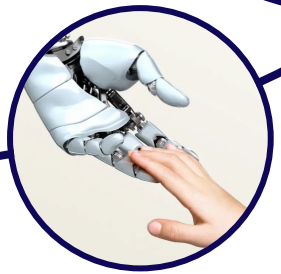
Lead time from hypothesis to data-driven decision within minutes!



7. RCPS

6. Verifiable signal

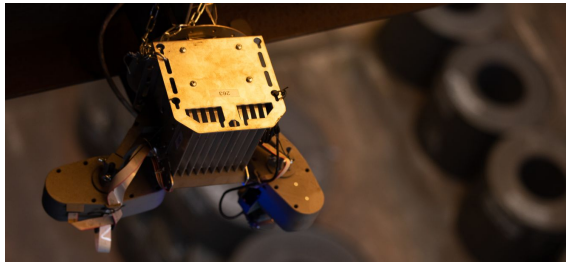




5. Human-in-the-loop AI

Our solution ensures always verifiable interpretable data relevant for decision making

Single universal HW for all use cases

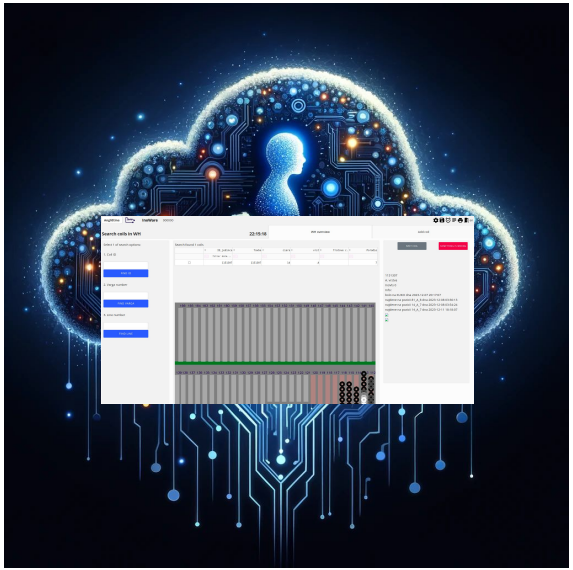


- **Edge device**: adjustable cameras with computer
- Image processing on the edge
- Robust, costs 400E, **installs** in 10min **by anyone** in any plant

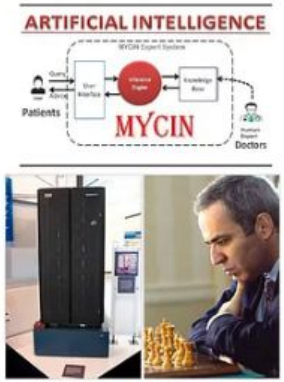
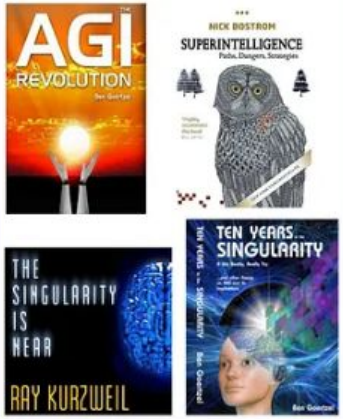
AI sets virtual sensors on 3D images

- **Computer vision** application with interpretable signal
- **Human-in-the-loop AI** sets up a “SW sensor” in seconds
- Sensor **can be installed in the past** (on past videos)

Insights on edge or cloud dashboards



We pioneer Third Wave AI technology for manufacturing

First Wave	Second Wave	Third Wave	Fourth Wave
c. 1970s - 1990s	*c. 2000s - present*	*est. 2020s - 2030s*	*est. 2030s →*
Good at reasoning, but no ability to learn or generalize. • GOFAI - "Good Old Fashioned AI." • Symbolic, heuristic, rule based. • Handcrafted knowledge, "expert systems."	Good at learning and perceiving, but minimal ability to reason or generalize. • Statistical learning, "deep" neural nets, CNNs, RNNs. • Advanced text, speech, language and vision processing.	Excellent at perceiving, learning and reasoning, and able to generalize. • Contextual adaptation, able to explain decisions. • Can converse in natural language. • Requires far fewer data samples for training. • Able to learn and function with minimal supervision.	Able to perform any intellectual task that a human can. • AGI (Artificial General Intelligence), possibly leading to ASI (Artificial Superintelligence) and the "Technological Singularity."
		SingularityNET aigo.ai InovecTech Digital manufacturing transformation for all	

We combine flexibility, common sense, interpretability, and experience of humans with consistency, speed, precision, and cost of machines

Our business relies on cutting edge R&D bringing strong competitive advantage

from DARPA's Three Waves of AI

InovecTech is the first company to provide SW sensors at scale

Example Company / Product	Type	Scaling	Time to deliver	Sensor data ex post	Total cost / machine	Analysis quality	Data handling
Act-in	System integrator	Low scaling (customized service)	3-6 months	no	5-50k EUR	custom	on premise
TULIP	Software platform	Low scaling (API custom)	1-6 months	no	5-50k EUR	custom	cloud / on premise
Konica Minolta	Smart camera solution supplier	Low scaling (custom projects)	1-3 months	needs data scientist	10-50k EUR	custom	cloud / on premise
CERRION, LEELA DELTIA	Computer Vision with AI	Medium, focus on anomalies	n/a (in dvl)	needs data scientist	1-5k EUR + pcm	Varying	mostly cloud
IQHUBS	E2E (sensors / edge / cloud)	Low scaling (insufficient data)	2 weeks	no	1-5k EUR setup + 50-100EUR pcm	only engineering view	cloud
InovecTech / InOEE	Cameras with AI on edge	High (complete data, fast setup)	1-3 days	easy	100 EUR pcm	top world class	cloud + edge

Key advantages:

Data collection system that leads to impact

1. **Universal** - whatever is observable by human eyes
2. **Always relevant** - sensors can be installed “in the past”!
3. **100x faster** - HW installed in minutes, SW sensor in seconds
4. **Reliable and verifiable** - every signal can be easily verified by shop floor staff
5. **Superior RoI** - availability and cost of AI to set a sensor

SW sensors have been proven in production

Extensive testing

Prescription glasses (CEE local)
Revenue 30M USD
Installed 6 devices
Potential 30 devices

Windows (CEE local)
Revenue 40M USD
Installed 12 devices
Potential 16 devices

Food products (CEE local)
Revenue 30M USD
Installed 6 devices
Potential 120 devices

Paper packaging (CEE local)
Revenue 30M USD
Installed 7 devices
Potential 30 devices

Aero supplier (CEE local)
Revenue 3M USD
Installed 6 devices
Potential 10 devices

Consumer goods (CEE local)
Revenue 200M USD
Installed 6 devices
Potential 120 devices

Tier 2 automotive (EU-based)
Revenue 20M USD
Installed 10 devices

Mineral wool (CEE local)
Revenue 20M USD
Installed 6 devices

Integrated in operations

Personal defence (US, CEE)
Revenue 200M USD
Installed 3 devices
Potential 150 devices

Rolling stock (EU-based)
Revenue 350M USD
Installed 50 devices
Potential 100 devices

Tier 2 automotive (EU-based)
Revenue 20M USD
Installed 10 devices

Tier 2 automotive (EU-based)
Revenue 20M USD
Installed 6 devices
Potential 12 devices

Machinery (EU-based)
Revenue 10M USD
Installed 10 devices

Steel mill (US-based)
Revenue 10B USD
Installed 120 devices
Potential 3000 devices

Sales cycle <2 weeks has been validated for InOEE (first contact to product delivered and invoiced)

Trusted by

CZECHINVEST
Investment and Business Development Agency

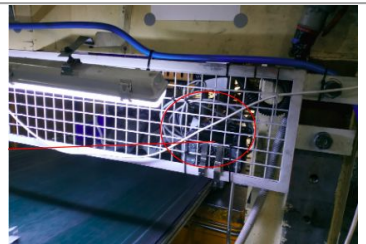
LODZ SPECIAL ECONOMIC ZONE

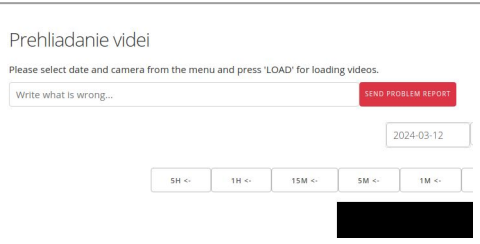
MSIC

eit Manufacturing

SME tier 2 auto supplier digitized its stamping shop operations in a 2-day visit

Situation	Approach	Results
• The new plant uses a variety of aged automatic and manual presses each with its own system • A need to monitor production for improvement (SCT ~1-5s) • Limited IT staff (1 FTE per 50ME revenue, mainly cybersec)	• Week 0: 1h VC for problem definition and installation planning • Week 1: 2-day plant visit, first day 2h trial, setting up access with IT, second day cabling and system testing • Week 2: selection of terminals for operators (smartphone)	• Video recordings of all machines, view inside the molds • SW sensors for monitoring cycle times, OEE • Further custom analyses using export to Google Sheets.





Steel manufacturer manages the main shipping warehouse using digital twin fueled by our SW sensors

Situation

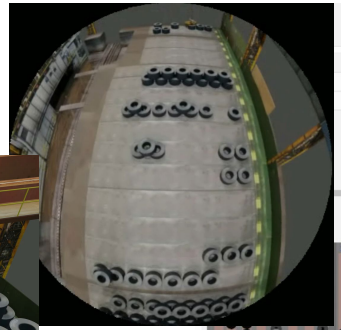
- Legacy warehouse overloaded due to high production
- Warehouse absorbing variability from production and customers

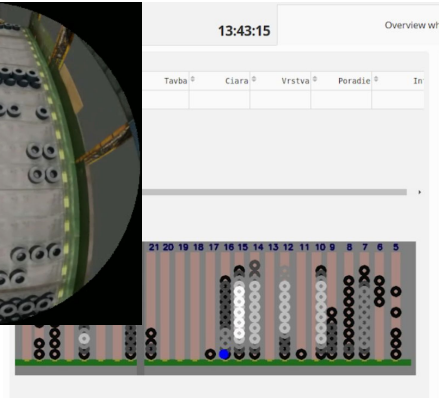
Approach

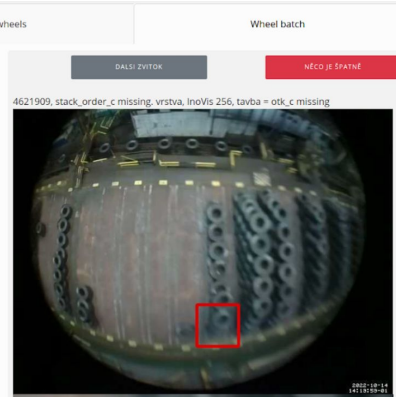
- 120 robust edge devices (100 stationary, 20 on cranes) with 300 cameras
- 100,000 SW sensors to detect material and vehicles

Impact

- Proof of concept for rapid and flexible digitization
- 120k EUR p.a. expected direct savings + ~200k EUR p.a. indirect savings currently being confirmed







We have a strong pipeline of projects: current, new customers, and potential customers

Current customers

- Steel plant - currently 1 hall pilot, discussions to extend into 8-20 halls
- Rolling stocks - standard operations of intralogistics digital twin, pilots on production lines
- Construction manufacturer - standard operations of production monitoring

Interested customers

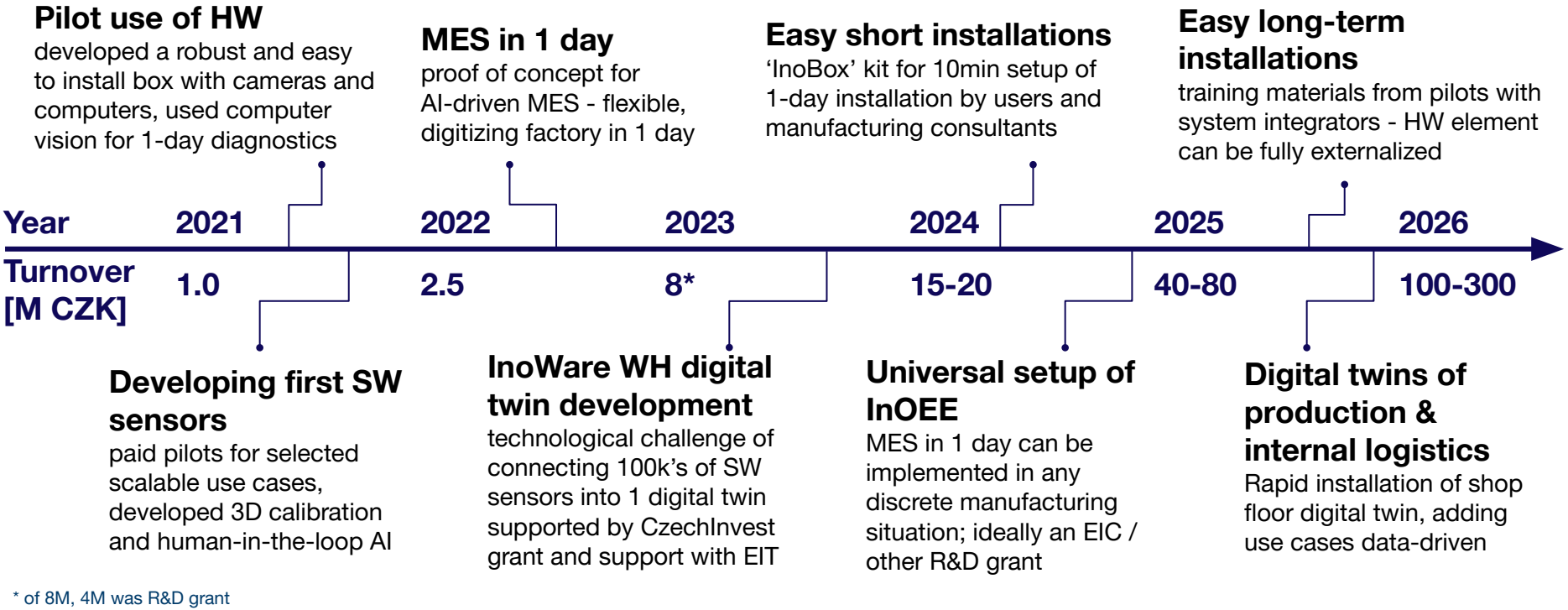
- Collaboration with EIT on access to bold customers
- Aluminium recycling leader letter of support / interest in our technology
- Korean steel service centers interest
- Firearms manufacturer digitization projects opportunity
- Smaller companies - grants OP TAK “Virtualni podnik” and “Technologie 4.0”
- Mid-sized - paper company, auto suppliers, electronics etc.
- Multiple digitization diagnostics

Market (EUR p.a.)

200B - 500B[1]	Addressable gap in global manufacturing
>10B[2]	Addressable EU markets and US at current pricing
500M[3]	20% InOEE penetration of core markets (DACH >1M machines, CZ&SK[4] >150k, PL 300k, other CEE, BeNeLux 700k)
50M[3]	EU steel warehouses
2M	InOEE for 100 CZ SMEs

1 Total addressable market
2 Serviceable available market
3 Serviceable obtainable market
4 Sokol2022 (diploma thesis estimating SK opportunity)

We have successfully piloted InOEE and InoWare cases and will continue improving and scaling our solution



* of 8M, 4M was R&D grant

In global markets, similar companies can easily raise from VCs at high valuations, worth pursuing after 1M ARR

Similar companies raised:

AmperTech
f2016, 16M$

Drishti
f2017, 37M$

Factbird
f2015, 21M$

Neuron SW
f2016, 13M$

Tulip
f2014, 153M$

Relayr
f2013, 67M$

Leela AI
f2016, ~1M$

Cerion
f2021, ~1M$

Deltia
f2022, ~2M$

VC opportunities

(At seed)

- Interest from a heavy industrial CVC (~500kE) if steel use case impact shows sustainable
- Public organizations (e.g. EIT) can co-invest ~500kE
- 4 VCs expressed interest in co-investing
- Focusing on CVCs and specialized industrial tech VCs (smart money) - BMW ventures, Hella ventures

Other capital sources

- Customer prepayments
- One off services - consulting, success fees on transformations
- Banks - for working capital (factoring, PO financing)
- Competitions, grants adjacent projects
- Impact investors / foreign VCs
- ‘Corporate’ bonds
- **Combination deals**
- **Smart money**

We raise 400k EUR of direct equity purchase for R&D and M&S, offering 8% equity (Q1 2024)

Current state:

- 5 full-time + 9 FTE part-time
- Spending 70% on R&D, want to increase M&S from 5% to 35% to boost growth

Raised so far:

- 360k EUR equity (3ME valuation in Q2'22) and debt investment
- 250k EUR in grants
- 300k EUR customer revenues paid for first pilots
- Plan to increase leverage using bank guarantees of NRB (160kE)

We are looking for an investor leading 400k EUR round (bringing >200k) + ideally smart money (business in investor's plant + propagation) for 8% shares

Use of new funds:

- R&D - product development - co-investment of public grants + proof of private investor trust important for public money
- M&S - stronger sales push and marketing (preparation of materials, webinars, cooperation with industry 4 associations, conferences)
- Stronger financial situation for working capital (HW for installation, material for devices) financing - factoring, leasing, WC loans

InovecTech

Digital manufacturing transformation for all

CONTACTS

Inovec Technology s.r.o.
Za Poricskou branou 12
Prague, Czechia

ICO 09252606

Email:
boris@inovec.tech

www.inovec.tech

Feb 2024

Development of our technology is in public interest, hence we can leverage R&D invest with public grants

Past success in grants

- Start-up voucher (12kE)
- Poland Prize (60kE)
- Technologicka Inkubace CzechInvest (170kE)
- EIT boost-up (5kE)

(~50% of turnover)

Current grant opportunities

- Eureka XECS (250kE)
- EIT Innovation Call (600kE)
- OP TAK Aplikace (800kE+)
- SK Plan Obnovy (1ME)
- EIC Accelerator (2.5ME + 6ME investment)
- TACR Trend (400-800kE)
- TACR Sigma, OP TAK Innovation voucher, Marketing, Inovace, Potencial

Grants for customers

- OP TAK Technologie 4.0 (up to 2ME, 60%)
- OP TAK Virtualni podnik (up to 200kE, 40%)
- Technologicke platformy (up to 200kE, 75%)
- Country for the future (up to 1ME, 50%)

Up to several millions EUR grants for our innovation need co-investment

We can leverage each R&D investment >2-times through grants!

M&S require boots in funding to create a strong brand known for top innovation and effective delivery

Cost of marketing

- Membership in organizations
- Presentation at conferences
- Preparation of high quality materials for webinars, workshops, conferences, web
- Content on marketing platforms to boost online presence
- Presence at trades and expositions (can be 50% financed through grants)
- High quality documentation of customer cases, demos
- Targeted paid promotions

Cost of sales

- Workforce in CZ/SK: CRM system, campaign process management, additional capacity for calls, partner development for additional services, negotiation and pricing expert specialist, cold calls
- Increased HW capacity for installations (savings on variable costs possible)
- Contract with a customer for “go & see” (reference visits) / discount or additional services / care
- Sales representatives in PL, A, north of DE, UA