

### Proposed Approach

- Developers of the first (UK patented) robotic device that can move inside dry bulk;
- Plenty of synergies with the calls as technological innovation provider;
- The main application is substituting human presence in dry bulks and aggregates for performing dangerous, dull, dirty (monitoring) and tasks in such extreme environments;
- Application in the agricultural, raw materials, minging and dry bulk freight and handling sectors in Europe and Globally.
- PARTNER: key player/s, or otherwise involved, in the wider dry bulk handling sector, which can contribute with:
  - Technological expertise ( explosion-proof expertise, automation and efficiency, etc...);
  - access to market and user feedback.

### Organisational Capabilities

- Startup with strong internal robotic engineering expertise;
- Exclusive knowledge of proprietary technology for locomotion in bulk solids;
- Extensive knowledge in the Agri-food sector, with particular reference to the grain supply chain.

### Experience

- EIT Food - Seedbed & FAN;
- Techcrunch Battlefield 2021;
- Successfully completed various IUK projects;
- Hello Tomorrow 'Food and Agriculture' Track Winner;
- Current tech-trials in UK & Italy (agROBOfood).
- Non Exec. Dr Jonathan Knight - ex Head of R&D and crop protection, AHDB.

### Administrative Information

We are mainly interested of becoming project partners.

Gianlorenzo De Santis  
Industry Liaison and Operations Executive  
Santo@crover.tech | +44 (0)7543573423  
Crover Ltd | <https://www.crover.tech/>

# HORIZON-CL4-2022-HUMAN-02-01TOPIC / DIGICUST

Your  
Organisation  
Logo / Brand

## Proposed Approach

What is your understanding of the part of the problem you can solve?

What part of the Scope do you want to address? **Be specific.**

If you are looking for partners, what type of partners are you looking for?

## Organisational Capabilities

What skills, capabilities, facilities does your organisation have that will be vital for this project?

Is your organisation academic, SME, big business, etc (and explain the benefits to this project of whichever you are)

## Experience

What previous, relevant, work or track record can you bring to the team?

Include your ability to attract the 'Big Names' in the sector (e.g. leading academics, major thought leaders)

## Administrative Information

Are you planning on being the Coordinator or a Partner?

Your contact details including:  
Name, email and phone number  
What country are you from  
Your organisation's PIC



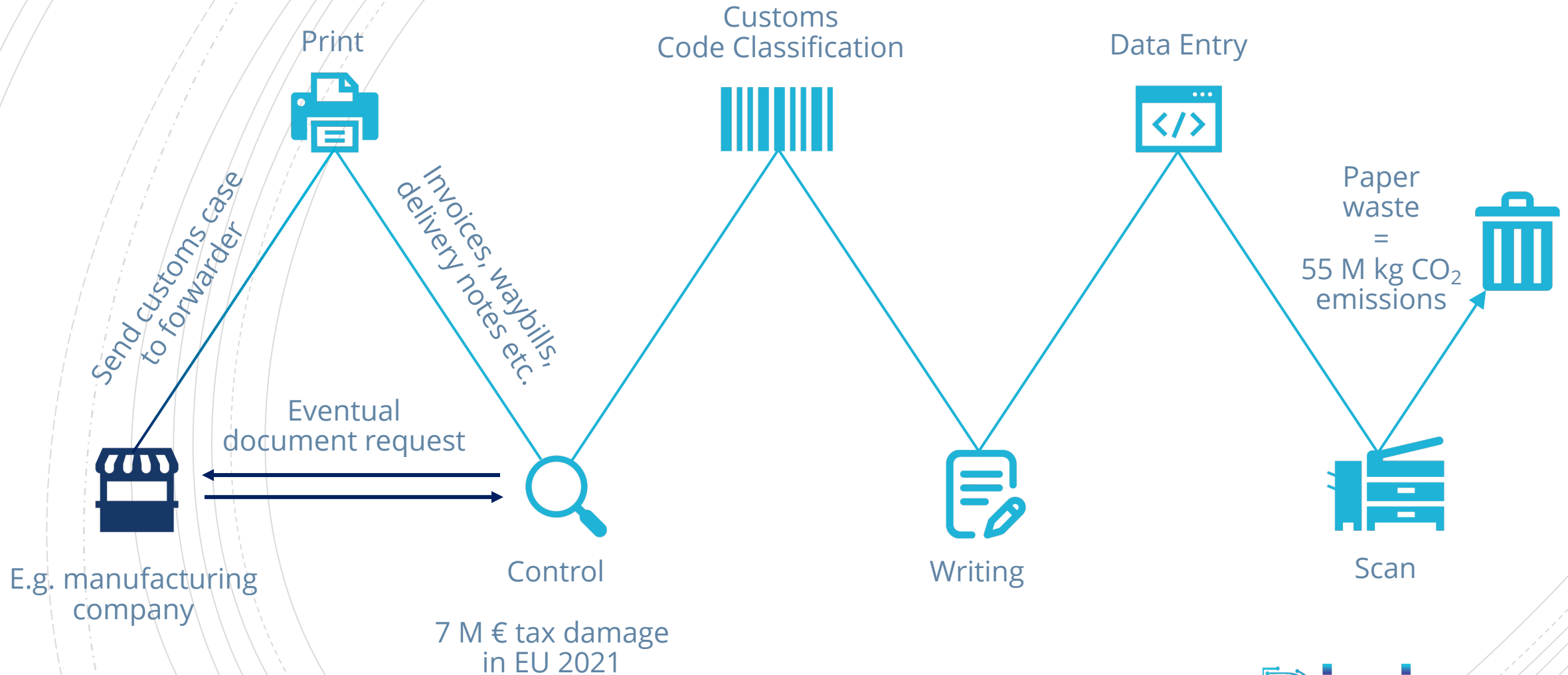
HORIZON-CL4-2022-HUMAN-02-01



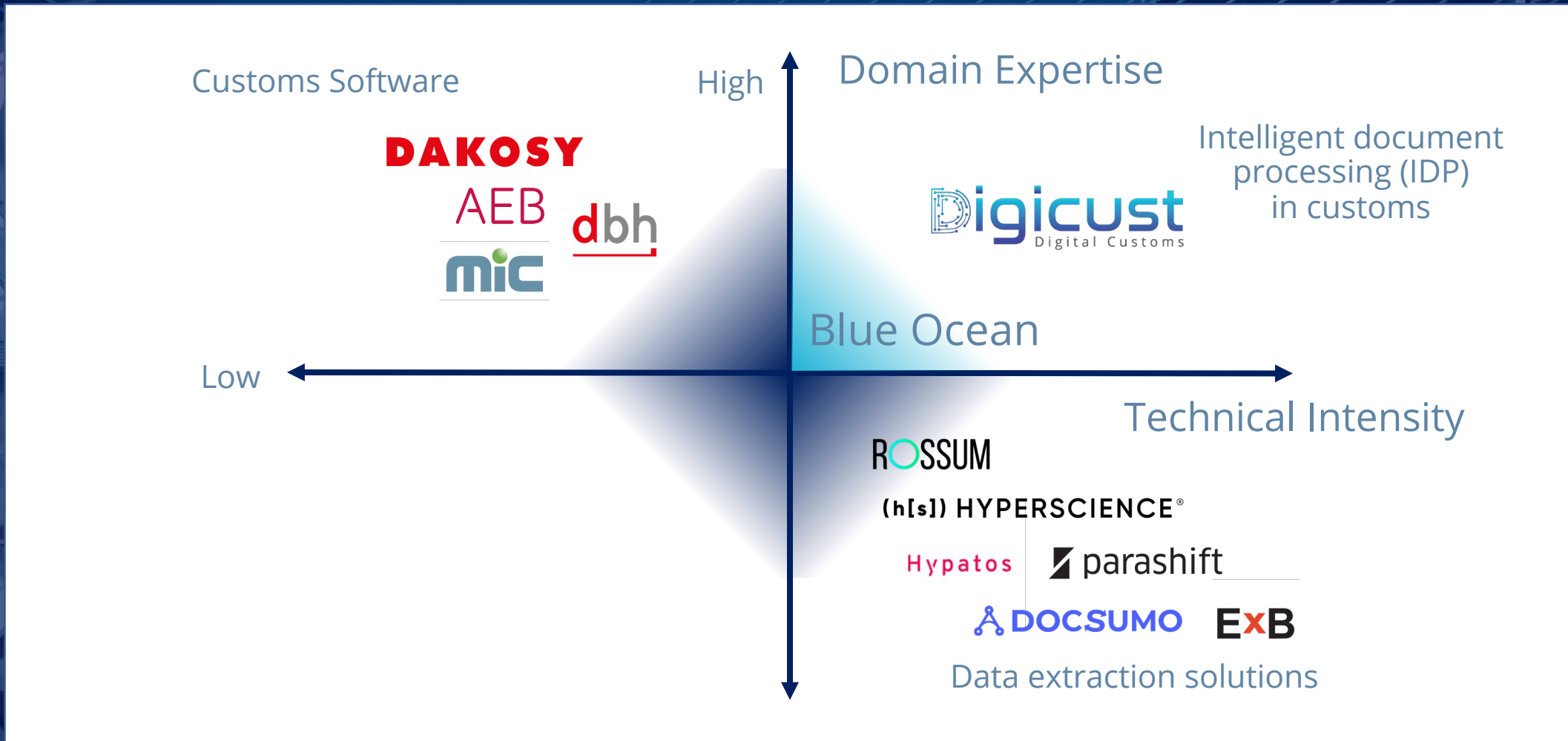
90% UNSTRUCTURED DATA  
55 to 65% Annual Growth Rate

Source: MIT Technology Review Survey 2020

# CONSEQUENCES: BUREAUCRACY



# COMPETITION – WHY NOT ABLE TO SOLVE ISSUES?



Source: Based on market research and solution analysis; businessplan, p. 42

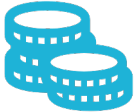
# Customs Declaration

## Example: Export

<b>EUROPÄISCHE GEMEINSCHAFT</b>		<b>VERFAHREN (1)</b>		MRN 22DE590171081026E6	
Versender/Ausführer (2) COOPER CROUSE HINDS Sanator-Schwartz-Ring 26 59494 Soest DE		EU Z		MRN 22DE590171081026E6	
Nr. DE3299724		Zollamt (3)		Ausstellungsdatum	
		1   47   S		03.02.2022 09:38 Uhr	
Empfänger (8)		A. Ausfuhrzollstelle		Hauptzollamt Karlsruhe Zollamt Heidelberg Dischingerstr. 8 69123 Heidelberg	
Eaton MEDC LtdCrouse-Hinds UK Division DORSET ROAD ME12 1LP SHEERNESS GB		<b>EUROPÄISCHE GEMEINSCHAFT</b>		MRN 22DE590171081026E6	
Anmelder/Vertreter (14)		<b>LISTE DER WARENPOSITIONEN - AUSFUHR</b>		Vorzugskg (5)	
Nr. DE329972		Pos.-Nr. (32)		2   47	
[1] COOPER CROUSE HINDS Sanator-Schwartz-Ring 26 59494 Soest DE		Anzahl und Art der Packstücke, Zeichen und Nummern der Packstücke (31.1)		Warenbezeichnung (31.4)	
Kennzeichen des Beförderungsmittels beim Abgang (18)		Versender/Ausführer (2)		Empfänger (8)	
3		Kennzeichen des Beförderungsmittels beim Abgang (18)		Warennummer (33)	
FR000740		Kennnummer der Sendung (Unique Consignment Ref. Nr.) (7)		Summarische Anmelldung/Vorregistr. (40)	
Ausgangsstellle (29) FR000740		Vorgeliegte Unterlagen/Beschreibungen (44.3)		Container-Nr. (21.3)	
Nummer des Zollverschlusses (52a)		Besondere Vermerke (44.7)		Nummer des Zollverschlusses (52b)	
--		Verfahren (37)		Ausfuhrland (15a) Bestimmungsl. (17a) Rohmasse (kg) (35)	
Zeilchen und Nummern - Container für - Anzahl und Art		UNCL (44.4)		Verfahrenskriter. Code für die Zahlungsweise (52c)	
1		1. 1 PX, Palette 3122-1		Anmelldungsart (11) Statistischer Wert (46)	
		2. 1 PX, Palette 3122-2		Eigenmasse (kg) (38)	
		3. 1 PX, Palette 3122-3			
		4. 1 PX, Palette 3122-4			
		5. 1 PX, Palette 3122-5			
		6. 1 PX, Palette 3122-6			
DE3299724 COOPER CROUSE HINDS Sanator-Schwartz-Ring 26 59494 Soest (DE), Deutschland		39199080		ohne	
Internationale Unterlagen: TIN325 R:991892873 Ausstellungsdatum: 03.02.2022 Proformarechnung TY901 R: nicht von der Liste der Güter mit doppeltem Verwendungszweck (Anhang I der Dual-use-VO) erfasste Güter		1000 DE GB 039		0,05	



8 hours

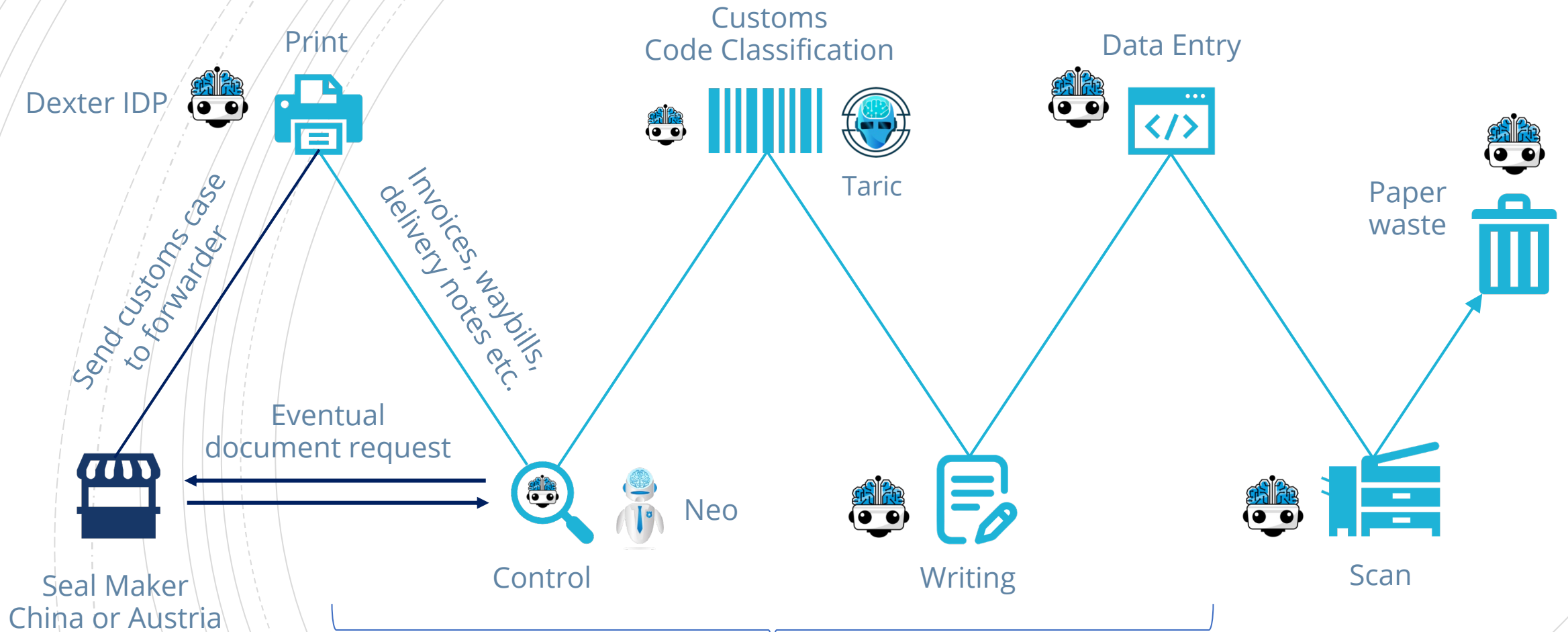


250,- € costs



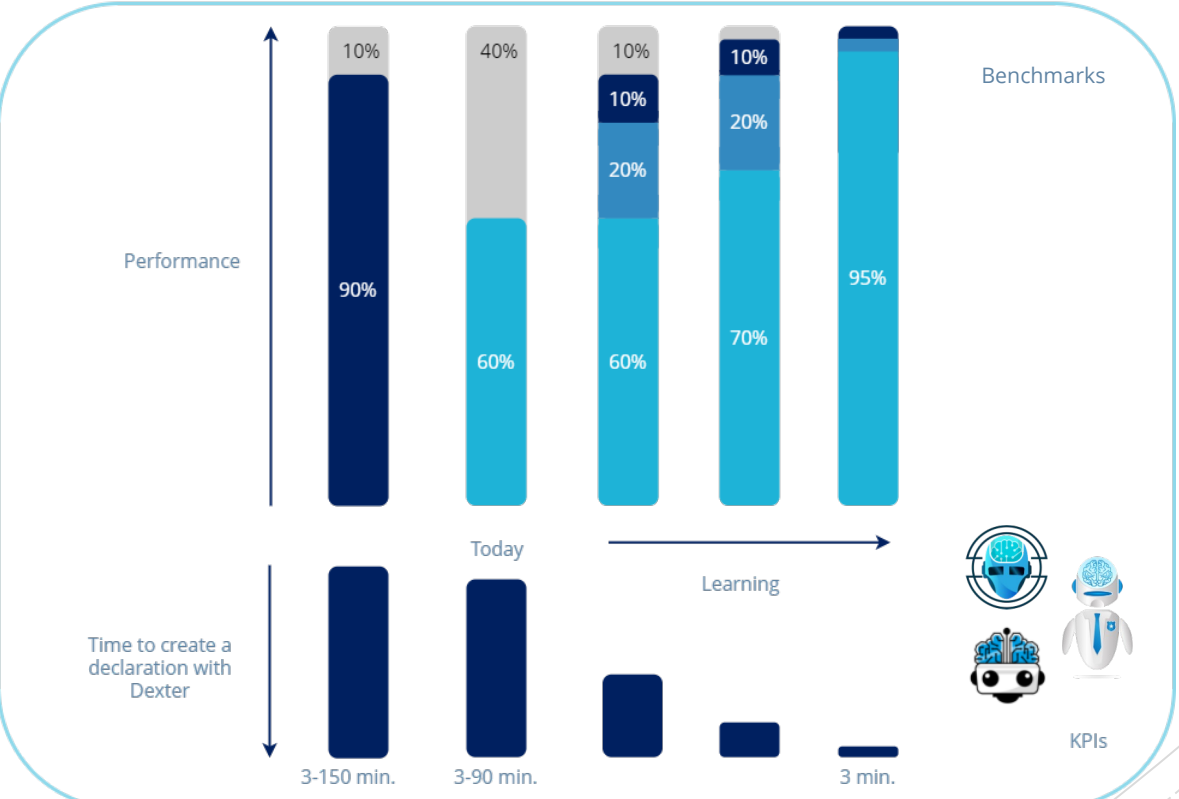
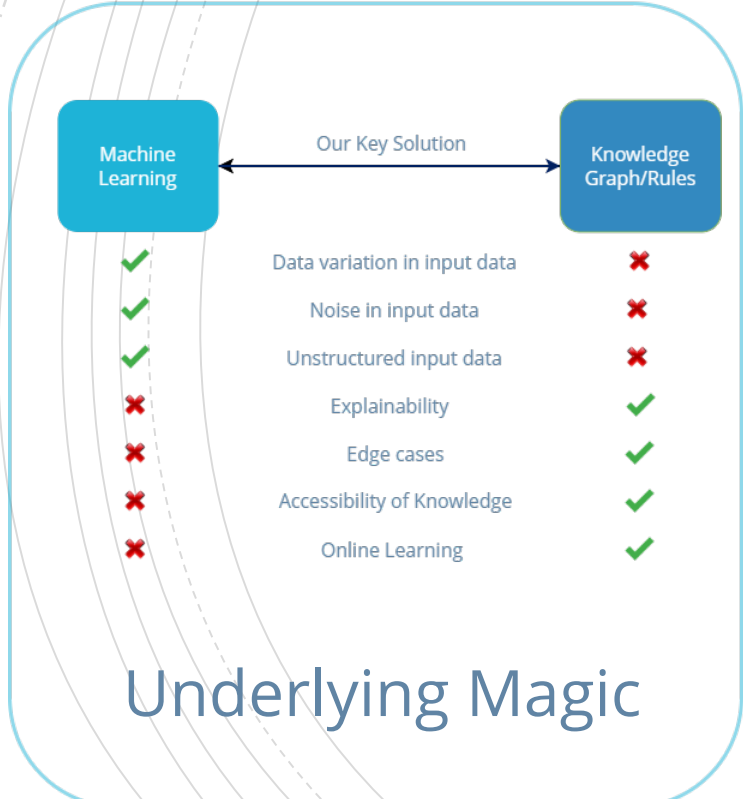
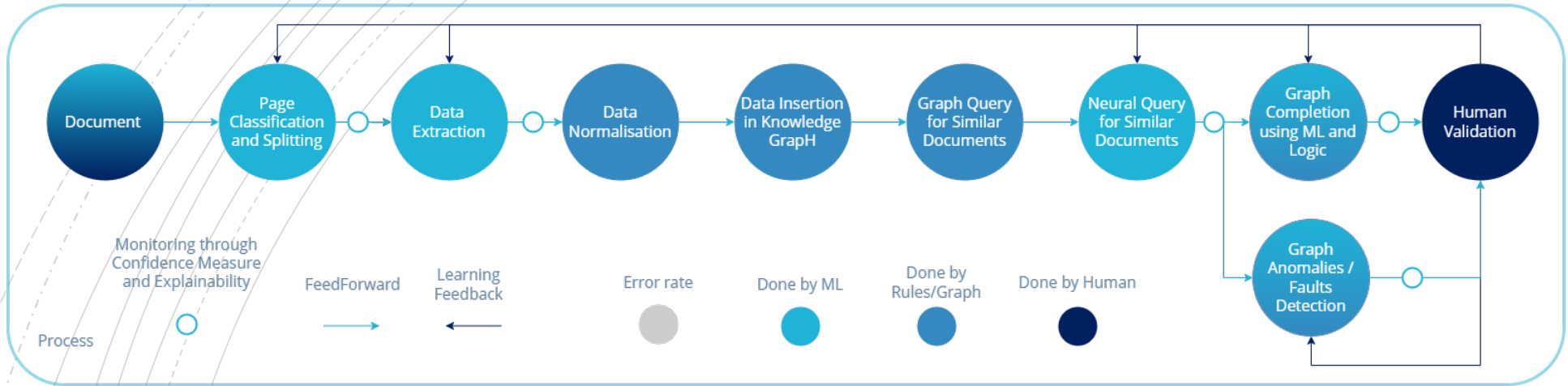
Labor shortage

# HYPERAUTOMATION IN CUSTOMS



Human-centered approach with virtual customs robots integrated in AI-based customs software Digital Customs resulting in a cycle of structured, qualitative data, continuous learning and trustworthy AI.





# STRATEGIC VIEW



## Vision

Internet of Customs (IoC) and scalable automation globally



## Mission

Sustainable customs clearance



## Efficiency Gains

- 78% time decrease
- 64% cost decrease
- 67% mistake decrease



## Social Impact

- Avoiding 4.7 B € tax damage
- Avoiding 13 M Kg CO<sub>2</sub>
- 2-3 days supply chain speed up



## Tech Impact

- Solving DL black-box
- DL stability issues
- DL large data requirement

# References

## Distributors



## Current & Planned Integrations



Rising Star 2022 Category  
Disruption & Innovation

## Customers & Short-Term Prospects



# RIGHT MIX OF PASSION AND EXPERIENCE



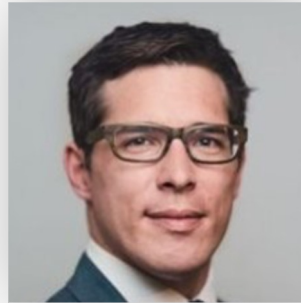
**Borisav Parmakovic, MA**  
*Chief Executive Officer*  
8+ years in customs  
60% shares



**Ahmad Haj Mosa, PHD**  
*Chief Technology Innovation Officer*  
13+ years in AI  
5+ years in tax technologies  
15% shares



**Thomas Übellacker**  
*Chief Operating Officer*  
6+ years in software eng.  
10% shares



**Michael Lisci, BA**  
*Chief Customs Officer*  
18+ years in customs  
5% virtual shares



**Manuel Strausz**  
*Senior Software Engineer*  
19+ years in software eng.  
5% shares



**Matthias Pfeiler, BA**  
*Chief Marketing Officer*  
3+ years in marketing & sales  
5% shares

Plus:

- 2 data scientists
- 4 software engineers
- 1 DevOps engineer
- 4 data annotators

# ACHIEVEMENTS



**5.500.000 €**

ARR sales pipeline &  
150.000 € ARR



**700.000 €**

Investments  
raised



**10.000+**

Declarations processed  
of 600+ companies

**Contact Information:**  
**PIC 890196840**  
**Borisav Parmakovic, M.A.**  
**Tel: +43 680 151 52 96**  
**E-Mail: [info@digicust.com](mailto:info@digicust.com)**  
**Website:**  
**[www.digicust.com](http://www.digicust.com)**  
**[Based in Austria](#)**



HORIZON-CL4-2022

DIGITAL-EMERGING-02-05 AI, Data and Robotics for Industry optimisation

DIGITAL-EMERGING-02-06 Pushing the limit of physical intelligence and performance (RIA)

DIGITAL-EMERGING-02-07 Increased robotics capabilities demonstrated in key sectors

## Custom digital sensor systems with embedded AI for edge-computing wireless sensor network and IoT applications

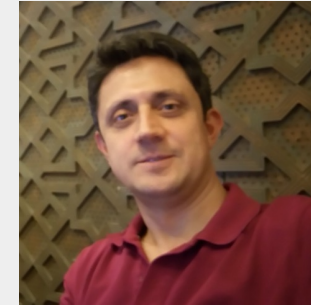
- Smart cities, environment, manufacturing and transportation.
- SigMote for edge-computing cloud-connected embedded AI applications.
- Preventive maintenance, fault/anomaly detection, process control, factory automation/optimisation, workforce health/safety, low-latency actuation, and digital twin based on real sensor data.
- DataMote for IoT data collection and cloud-side AI.
- AI (ML / deep learning) algorithm development for specific use cases.
- Electronic design, embedded coding, cloud-side application software.
- System design and application development on AI-specific hardware.



### SigMote DSP sensor platform

- Custom embedded drivers
- Algorithm and application code
- Low-latency, multitasking RTOS
- Audio, image/video, vibration
- External sensor integration
- Wired/wireless connectivity
- Sensor node or gateway

- Bring in our proven hardware, AI, DSP, and software technology and expertise.
- Expert electrical-electronics-computer engineering team on digital signal system design, signal analysis, acoustic/audio signal processing, computer vision, machine/deep learning algorithms and data fusion.
- Connections with global industrial companies in Turkey.
- Developed solutions for various real life problems.
- Looking for industrial partners with challenging use cases.
- Participate as a partner or technical coordinator.
- Currently, taking part in 3 Horizon Europe proposals, 2 of which we have developed from our own ideas and solutions.



Dr. Nail Cadalli

Founder / CEO / CTO

SIGNALTON (PIC: 893939682, SME)

METU Technopark, Ankara, Turkey

Tel: +90-533-348-3873

Email: [nail.cadalli@signalton.com.tr](mailto:nail.cadalli@signalton.com.tr)

Web: [www.signalton.com.tr](http://www.signalton.com.tr)



# TOPIC NUMBER AND NAME

## Proposed Approach

HORIZON-CL4-2022-HUMAN-02-01:AI for human empowerment (RIA)

HORIZON-CL4-2022-HUMAN-02-02: European Network of AI Excellence Centres

HORIZON-CL4-2022-DIGITAL-EMERGING-02-05: AI, Data and Robotics for Industry optimisation

We are concerned about :

1-Human-robot collaboration and human-robot interaction to build the next level of perception, visualisation, interaction and collaboration between humans and AI systems.

2-Foundational research and emerging and novel approaches improving the technical performances of AI-based systems.

3- AI or learning systems adapting production or services workflows to changing environments, dynamic and unpredictable resource constraints and to the capabilities and restrictions of humans and transferring results from one domain to another.

## Experience

Firat university includes a lot of expert human-robot collaboration, human-robot interaction, and mobile robots including applications of modelling, estimation, prediction, recognition, and detection.



## Organisational Capabilities

Firat University is a state university based in Elazig, Turkey. The university was founded in 1975 . Firat University is one of the best in terms of Engineering and Technology.

Firat university offers an expertise for the combination of AI and robotics.

## Administrative Information

We are planning to join as a partner, WP Coordinator.

Aysegul Ucar, Professor of Engineering Faculty, Mechatronics Engineering Department, Firat University, 23119, Elazig, Turkey

Tel: +90 2370000 6358/6341

+90 507 623 18 10

E-mail: [agulucar@firat.edu.tr](mailto:agulucar@firat.edu.tr)

[aysegulucar@gmail.com](mailto:aysegulucar@gmail.com)

<http://rai.firat.edu.tr/en>

<http://www.firat.edu.tr>

PIC: 968782263

# HORIZON-CL4-2022-DIGITAL-EMERGING-02-05 AI, Data and Robotics for Industry optimisation (including production and services) (AI, Data and Robotics Partnership) (IA)

## Proposed Approach

- Smart Industry: Predictive analysis of holistic and integrated data structures for the data produced in industry
- Creating data relations, artificial network patterns and models by using holistic big data structures, artificial intelligence machine learning and deep learning algorithmic approaches
- Improvements by means of “Quality and Assurance”, “Maintenance Operations”, “Inventory Management”, and “Energy” modules enhancing with RPA - Robotic Process Automation techniques
- Obtaining results to decrease the production costs and quality issues and increasing operational efficiency.
- Developing AI integrated Decision Support & Early Warning Systems

Partners Sought \* Use Case Providers - \* Energy System/Device/Data Providers - \* MAS/MES Providers - \* IoT/M2M Device and/or System Providers - \* Big Data Providers & System Integrators

## Experience

Turkish Consortium can take role in the following 6 areas by using their ability in AI, deep learning, machine learning, RPA, manufacturing, platform development, business process improvement, big data collecting & modeling;

\* Technology provider / \* Software & platform developer / \* AI integrator / \* ERP expert & developer /\* Data provider services/ \* Use case provider

We recommend the following approach for renewal of the processes and infra-structures along with Industrial 4.0 transition; Holistic & Integrated Solutions with Big Data & AI.

## Organisational Capabilities

- Smart Industry: Smart Energy/Smart Inventory Management/Smart Plant Maintenance/Smart QA Solutions
- AI Services for Smart Solutions with Machine Learning and Deep Learning.
- Modular Integrated Platform with Big Data
- Data Collection & Result Presentation on SAP
- The following Systems as the Data Provider for the Integrated Platform:
  - Mobile Inventory Management
  - (Advanced) Traceability
  - Track-and-Trace Systems
- Data integration from different sources of devices and/or Systems (IoT/M2M/MES/MAS/QA...)
- Operational process improvement along with Industry 4.0 transition
- AI integrated algorithm development for decision support & early warning systems.

Turkish consortium consists of 3 SMEs and 1 big company as a use case provider

## Administrative Information

Planning to be a Partner

Burç UZALP, [burc.uzalp@fssoftware.net](mailto:burc.uzalp@fssoftware.net),

+90.552.4989197

Turkey

PIC : 891427382

# (HORIZON-CL4-2022-HUMAN-02)



## Proposed Approach

The project is an innovative human resources solution using artificial intelligence-powered technologies consisting of NLP (Natural Language Processing), Audio/Image Processing and Machine Learning.

The innovative and distinctive aspect of the product is the personality inventory modeling and the appropriate placement for the job and position.

Competencies we are looking for are NLP and Audio/Image Processing.

## Organisational Capabilities

Appcent is a SME, which provides technology transformation services with a team of 150 people.

Our competencies for R&D&I:

Mobile Application Development

Data Mining

Big Data Analysis

Decision Support Systems

Recommendation Engine Development

IoT Tools Development

AI Based Mobile Platform Development

Deep Reinforcement Learning

NLP

## Experience

Appcent is an award-winning technology company specialized in fin-tech and e-commerce that builds mobile applications across the Turkish and Middle East market for many well recognized brands such as Unilever, Allianz, Metro, Mavi, Hepsiburada, NetWork and Sketchers.

Our R&D department has successfully developed and managed innovative machine learning projects funded by TUBITAK (The Scientific and Technological Research Council of Turkey), as well as self-funded IoT projects.

## Administrative Information

We are planning on being the Coordinator for an innovative human resources solution project. We are also looking for a consortium to contribute our competencies.

Sezgi Şenel Belhan - [sezgi.belhan@appcent.mobi](mailto:sezgi.belhan@appcent.mobi)

Firat Peker - [firat.peker@appcent.mobi](mailto:firat.peker@appcent.mobi)

Turkey - PIC 889190271

# DIGITAL-EMERGING-02-06 – Justinmind

## HRI and AI for co-creation platforms



### Proposed Approach

- AI applied to collaborative Rapid Prototyping Platforms (co-creation and real-time participation).
- Scope: Develop promising and innovative robotic concepts. More specifically, the creation of the HRI (Human-Robot interfaces) for next-generation Robots and Cobots, including the use of AI.
- We are looking for organizations that can complete our knowledge and with experience building and working with Robots and applied AI.

### Organisational Capabilities

- +3Million users worldwide in +180 countries.
- XR, WebXR, Mobile XR and high-end device XR (Oculus Quest II, HTC Vive Focus Plus, or Magic Leap One.) More info in <https://www.justinmind.com/vr-ar>
- User Interface simulation, Data visualisation and Digital Twin using Augmented/Mixed Reality on top of the real device. Experience in 3D Graphics (Java FX).
- Detailed competencies in: <https://jimp.co/Competencies>
- Justinmind is an **SME** based in **Barcelona** with offices in the United States.

### Experience

- Software engineering experts, Justinmind Tool has +4 Million lines of code.
- Expertise working with **AI/ML** and Big Data sets: billions of data points from user activity in our platform since **2013**.
- Expertise in writing winning proposals: <https://jimp.co/XRProject>
- Application Simulation: <https://jimp.co/SimulationTask>
- Featured Project:
  - **Prototyping the future of healthcare with SEI and Justinmind**  
<https://jimp.co/Medicare>
- Detailed experience in: <https://jimp.co/CL4>

### Administrative Information

We can join/build consortium as a **Partner**.

Justinmind - <https://www.justinmind.com/xavier.renom@justinmind.com>

+34 616163160

Barcelona (**Spain**)

PIC: 971002496



**AIRBORNE  
ROBOTICS**

Alex Fraess-Ehrfeld, CEO  
[alex@airborne-robotics.com](mailto:alex@airborne-robotics.com)

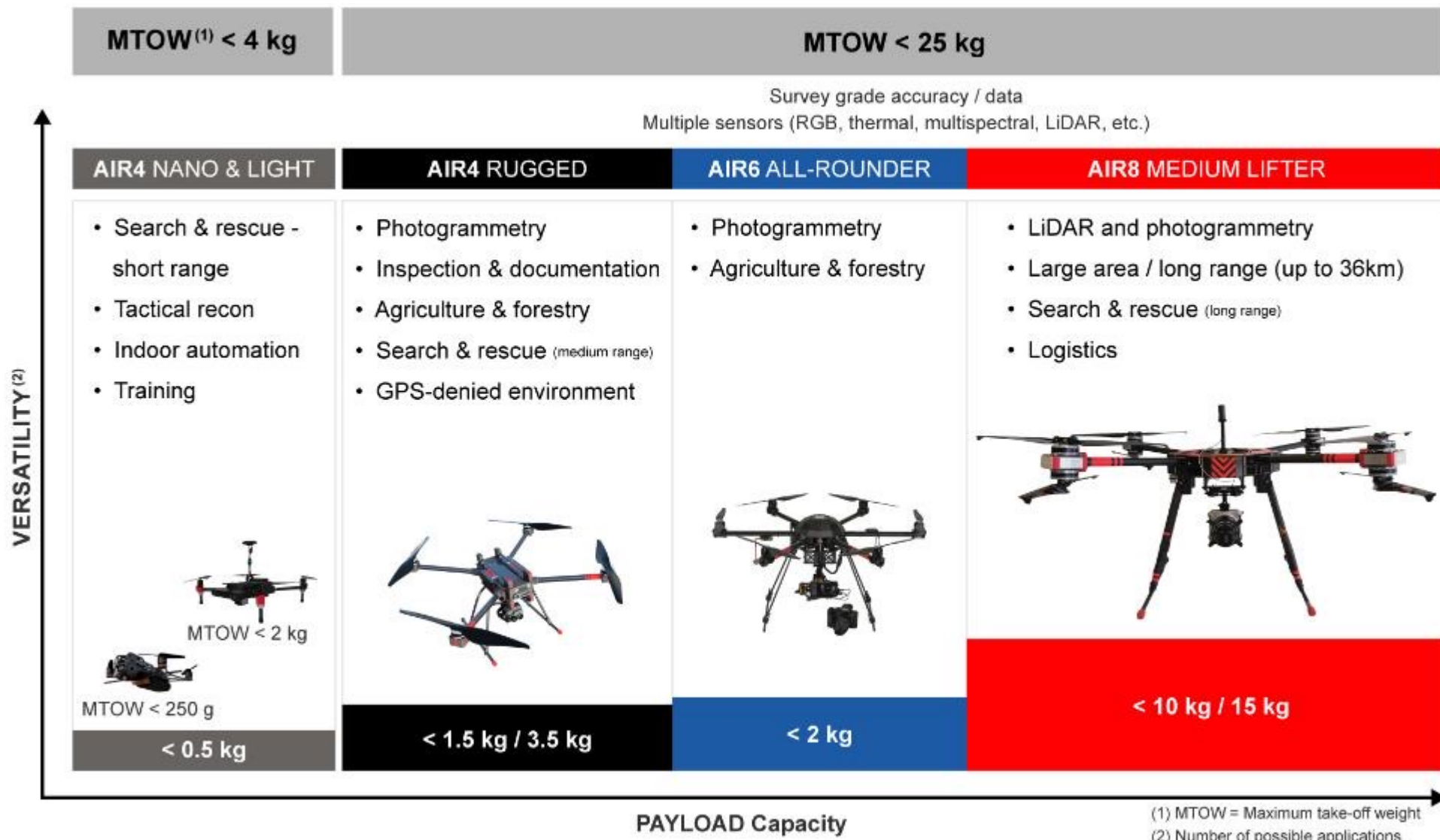
# **NEXT GENERATION DRONES**

Autonomy and system-of-systems integration



# WHAT? – COMPLETE PRODUCT RANGE

... FOR MEANINGFUL MISSIONS



(1) MTOW = Maximum take-off weight

(2) Number of possible applications

# WE BELIEVE IN FULL AUTONOMY

... ACROSS VARIOUS SUB-SYSTEMS

Future Flight Challenge Phase 2 Winner: Dr-SUIT

## DRONE SWARM FOR UNMANNED INSPECTION OF WIND TURBINES

Battery Health Management,  
Hybrid Comms Systems and  
Operational Platform for  
Autonomous Offshore  
Wind Farm Inspection



Image Credit: Orsted

**AIRBORNE  
ROBOTICS**



**OCEAN INFINITY**

**Bentley Walker**  
satellite broadband networks



# WE WANT TO SHAPE THE FUTURE

## ... WITH STRONG FORWARD THINKING PARTNERS

WINNER OF UKRI'S COMPETITION: UK-CANADA  
ENHANCING AGRICULTURAL PRODUCTIVITY AND SUSTAINABILITY

# ROOTDETECT

SCIENTIFIC ASSESSMENT. BETTER DECISIONS.

## Remote Detection and Precision Management of Root Health

- Early and rapid detection of clubroot
- Data acquisition and analysis
- Precise mapping of affected field patches
- Damage assessment and management support
- Full system autonomy and AI

Enabling farmers, agronomists, researchers and public stakeholders of canola / oilseed rape to reap the benefits of precision agriculture and to gain valuable information invisible to human eye. Drone-based aerial imagery delivered frequently, efficiently and widely spread in order to act early and to mitigate losses. AI-enabled customized solutions to monitor and maintain your crops.

**AIRBORNE  
ROBOTICS**



**UK Research  
and Innovation**



## TECHNICAL USP:

- **Safety**  
(drone redundancy)
- **Top specs**  
(payload/ flight time)
- **Wind & water resistant**  
(65% power reserve)

## SERVICE USP:

- **Fast results** (less downtime)
- **Regulatory compliance** / reliability
- **Knowledge** (vertical sector knowledge, skilled UAV pilots)

▶ **Turnkey Systems Manufacturer:  
Technology, data collection and analysis in one**

**AIRBORNE ROBOTICS Ltd**  
London  
United Kingdom

**AIR6 SYSTEMS GmbH**  
Klagenfurt  
Austria

**AIR6 SYSTEMS GmbH**  
Munich  
Germany

**CONTACT:** Alex FRAESS-EHRFELD  
alex@airborne-robotics.com

**Project Title:** Physically Intelligent Collaborative Robot (PICBOT)

**Duration:** 36 (42) months

TRL: 2-3 → 4-5

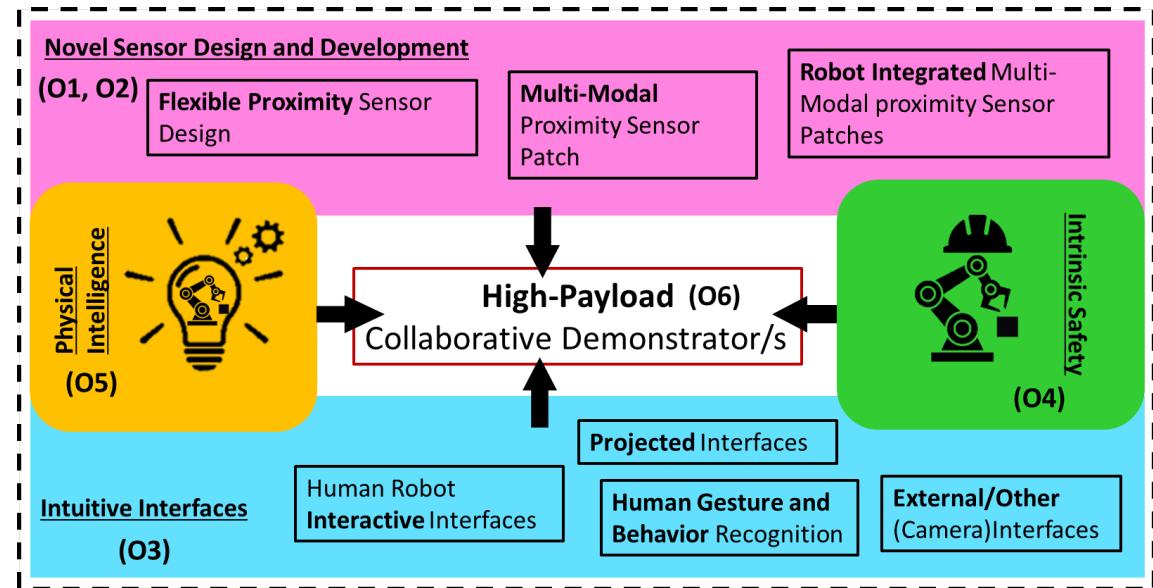
**Aim:** develop **intrinsically safe physically powerful** robotic systems with proximity sensing capability for human-scale **collaborative tasks**

## Current Partners

- Fraunhofer IFF
- End User (Healthcare)
- Robot Manufacturer (Healthcare)

## Partners Required

- AI Expert in **Sensor fusion and Decision Making (Digital Twin)**
- **SSH experts**  
(use case evaluation, requirement analysis)
- Tech Provider  
**Artificial flexible *intelligent* robot skin**



## Please contact:

Sharath Chandra Akkaladevi, Robotics and Automation Systems, Profactor GmbH;  
[Sharath.akkaladevi@profactor.at](mailto:Sharath.akkaladevi@profactor.at) Tel: +43(0)7252/885-325

# HORIZON-CL4-2022-DIGITAL-EMERGING-02-06

## Pushing the limit of physical intelligence and performance (RIA)

### Proposed Approach

Ability to process outputs from quantum sensors and make decisions based on it will become more important for advanced robotics as quantum technologies mature. For this purpose, we suggest an AI system based on quantum analogues of conventional circuit elements (inductors, capacitors, resistors and/or memristors) employed in the quantum reservoir computing (QRC) paradigm.

The quantum reservoir acts as a nonlinear signal preprocessor diabatically mapping the quantum input signal on the ground and excited states of the reservoir. Mapping errors are suppressed by quantum feedback. The read-out states are then used to train a conventional (classical) neural network. Due to the specifics of QRC approach, the requirements to the physical scale and quantum coherence of the structure are modest and can be satisfied with the currently available technologies.

We would be looking for partners with experimental capabilities in the area of quantum superconducting or photonic devices.

### Experience

Alexandre Zagoskin is one of pioneers and leading experts in the field of quantum technologies and quantum engineering, a co-founder of D-Wave Systems Inc. (the world's first commercial quantum computer manufacturer) and the author of "Quantum Engineering: Theory and Design of Quantum Coherent Structures" (Cambridge University Press, 2011).

The quantum theory group at Loughborough has a track record and active collaborations with a number of leading research groups in the field of quantum technologies in the UK, EU, Canada and Japan.



### Organisational Capabilities

Loughborough University is among the leading research universities in the UK, with state of the art experimental and computational facilities.

Loughborough Physics Dept. has an extensive expertise in quantum materials, quantum engineering, topological materials, spintronics and memristive devices and closely collaborates with the Departments of Computer Sciences and Mathematics.

### Administrative Information

I plan to be the Coordinator of the project.

Alexandre Zagoskin PhD FInstP CPhys FHEA  
Reader in Quantum Physics  
Department of Physics  
Loughborough University  
Loughborough LE11 3TU  
[a.zagoskin@lboro.ac.uk](mailto:a.zagoskin@lboro.ac.uk)

# 05 - AI, Data and Robotics for Industry Optimisation

## Proposed Approach

What is your understanding of the part of the problem you can solve?

Industrial robots are widely integrated within the network ecosystem, for remote interaction i.e., update and maintenance purposes. As such, robots can be compromised via attacks through system vulnerabilities, misconfigurations, insider’s physical attacks etc. Whilst there are technology/products that are focusing on the security hardening of the robotic system, our novel development addresses the market gap using real-time anomaly detection and prevention system dedicated to commercial robots.

What part of the Scope do you want to address?

We address industrial robotic security and risks concerns by implementing a machine learning based real-time anomaly detection to learn robots operation behaviour automatically, monitor the robot behaviour and alert anomalies found, and to the extent of stopping the current robotic action. This involves modelling a real-time anomaly detection system and implementing a boundary model that allows the robot to react in proportion to the severity of the risk.

If you are looking for partners, what type of partners are you looking for?

Here, we are in the process of building a POC system and are seeking a collaboration with the robotic industry to explore the potential of this technology in technical and commercial terms.

## Experience

What previous, relevant, work or track record can you bring to the team?

ROS-PCON team has recently won CyberASAP2022/23 funding for building a POC with fundamental features. During this programme our team contacted a number of robotic companies in UK and abroad to construct a value proposition and market validation.

Currently our development process is in early stages of negotiating towards joining the NVIDIA Isaac programme but we have made considerable progress with a number of UK Robotic R&D organisations such as AMRC.

## Organisational Capabilities

What previous, relevant, work or track record can you bring to the team?

Currently there are four academic researchers developing the POC of ROS-PCON.  
 Professor Wei Jie (Project Lead) - Senior Researcher  
 Don Munasinghe (PhD researcher in RoboSec),  
 Professor Johnathan Loo (Chair Prof in AI)  
 Dr Qiang Hung (AI Specialist)  
 The University of West London’s Department of engineering provides, robotic manipulation tools and engineering guidance for the project development.

Is your organisation academic, SME, big business, etc ?

ROS-PCON venturing towards to be a spinout company of the University of West London.

## Administrative Information

Project Coordinator: Don Munasinghe

Your contact details:

Name – Don Munasinghe

Email- [21485961@student.uwl.ac.uk](mailto:21485961@student.uwl.ac.uk)

Phone Number - +447437718090

Country – United Kingdom

PIC – 955172484



## Proposed Approach

Sensors (for Robots, IIoT, object detection, voice and image recognition, etc) consume too much power, need to communicate to cloud and are not very fast to react!

Application of Neuromorphic Computing Systems inspired by the biological Concepts of human brain with AI/ML abilities. Realizing Edge Computing instead of Cloud and implementation of Analog Neuromorphic Signal Processing on Chip.

Looking for Partners with in-depth know-how in Accelerated Neural Networks and Machine Learning or interested end users of Robots, IoT, object detection, voice and image recognition.

## Experience

We have worked on the development of numerous integrated circuits (ASICs) for different Sensor products like MEMS Microphone, Accelerometer, Micro-Projector (with MEMS Mirror), Mobile Phones, LiDAR, IoT.

We bring strong expertise in Analog/Mixed-Signal ASIC development as interface to MEMS and Sensors. This expertise can be utilized to develop Ultra-Low Power Analog Neuromorphic Computing Chips with AI/ML abilities for Ultra Low Power Always on Sensors.

## Organisational Capabilities

Ultra Low Power Analog IC Design, System Architecture of Sensor products

SAND MicroSystems is a small service company developing Micro Chips (ASIC) for miniaturized MEMS/Sensor products like: Microphone, Accelerometer, Optical Sensors, LiDAR, IoT, etc.

## Administrative Information

We plan to be a partner.

Your contact details including:

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