UK safety technology company seeking industry partner for field testing of ai-driven hand signal communication system

Summary

Profile type	Company's country	POD reference
Technology offer	**United Kingdom**	**TOGB20250404019**
Profile status	**Type of partnership**	**Targeted countries**
PUBLISHED	**Commercial agreement with technical assistance**	**• World**
Contact Person	**Term of validity**	**Last update**
Enrico FRANZIN	**4 Apr 2025** **4 Apr 2026**	**4 Apr 2025**

General Information

Short summary

The UK SME offers an AI-driven wearable communication system that digitises and verifies hand signals in real-time to improve safety and productivity during heavy lifting operations.

They are seeking technical collaborations for field testing, validation, and operational feedback to refine the product for market readiness, under a commercial agreement with tech assistance.

Full description

The UK safety technology company is developing a wearable, AI-driven communication device designed to improve safety and efficiency in heavy lifting, construction, offshore, and industrial environments where traditional hand signals and two-way radios are used.

The system consists of:

Sensor-equipped gloves capable of detecting and interpreting standardised hand signals in real time.

AI algorithms designed to filter out noise, prevent misinterpretation, and provide data logging for review and safety audits.

The device provides real-time, two-way communication without reliance on verbal or visual contact — improving safety in high-risk environments where noise, distance, or visual obstructions often compromise traditional methods including two way radio communications.

The UK company seeks a Tier One construction or engineering corporation with the capability to sponsor, facilitate, and technically support the field testing, validation, and market preparation of the system during its TRL4 (technology readiness level) stage, with the aim of reaching TRL 7 (system prototype demonstration in operational environment) by the end of the pilot. Any new IP developed would be retained by the company.

The company seeks non-equity collaboration partnership under a commercial agreement with tech assistance.

Advantages and innovations

This new approach offers a step-change in safety communication technology directly addressing the limitations of two-way radios and manual hand signals, the prevailing methods in crane operations and heavy lifting.

The system offers data capture and incident analysis capabilities, that competing methods lack. No existing hand signal or radio-based system automatically logs communications for post-incident review. The data logging and 'black box' functionality enhances health and safety compliance by providing auditable records of communication during operations.

The system eliminates the error-prone human interpretation inherent in hand signals. Current methods rely solely on the crane operator's visual interpretation, which is vulnerable to miscommunication due to a number of factors, distance, obstruction, adverse environmental conditions. By converting standardized hand signals into digital commands in real-time, the system removes the reliance on human interpretation, substantially reducing the risk of errors and missed signals.

This system operates independently of radio frequencies, using direct digital signal transmission, ensuring clear communication even in high-noise, congested environments.

No specialised training or technical knowledge required for use. The technology is designed to replicate standard industry hand signals, ensuring immediate familiarity for riggers, slingers, and operators. Minimal onboarding is required, as users leverage their existing skill sets. This ease of use facilitates seamless scalability across diverse skill levels and site conditions.

Performance improvement - real-time, verified communication. This system establishes closed-loop communication, confirming both the receipt and execution of signals. This critical safety feature provides a layer of assurance absent in current methodologies.

Expected to reduce communication-related lifting incidents by 30%–50%.

Technical specification or expertise sought

The ideal partner is a Tier One constructor/engineering firm with expertise in high-risk lifting operations, safety systems, and innovation adoption. They should have access to heavy lifting assets and controlled testing environments and be capable of providing operational, technical, and HSE (health and safety environment)feedback. A willingness to collaborate on testing, development, and commercial validation is essential.

Access to heavy lifting operations and controlled test environments
Partner should facilitate live or test-site crane operations involving tower, crawler, or mobile cranes. Controlled environments must allow for safe, repeatable testing of signal transmission and operator response, including high-risk scenarios where communication failure risks are heightened.

In-house lifting, rigging, and safety expertise
Access to qualified lifting supervisors, crane operators, and rigging crews familiar with industry-standard hand signals for comparative testing. HSE teams should monitor field testing, assess safety impact, and provide feedback on usability, reliability, and compliance.

Technical capability for system validation
Expertise in safety-critical communication and digital technology integration on large-scale projects. Support for evaluating AI-driven interpretation accuracy, environmental resilience, and signal integrity under operational conditions. Collaboration on data analysis, performance reviews, and integration with site management systems or digital twin platforms.

Engineering and innovation support
Willingness to engage engineering and innovation teams to assess scalability, system design, deployment feasibility, and maintenance needs. Support for exploring integration with site safety systems and equipment.

Commitment to innovation and safety leadership
Strategic focus on improving site safety, digital transformation, and efficiency. Ability to act as an industry champion, supporting regulatory discussions, standard-setting, and broader market adoption.

Stage of development

Under development

Sustainable Development goals

- **Goal 3: Good Health and Well-being**
- **Goal 8: Decent Work and Economic Growth**
- **Goal 9: Industry, Innovation and Infrastructure**
- **Goal 11: Sustainable Cities and Communities**

IPR Status

IPR applied but not yet granted

IPR Notes

Patent pending: Company holds a provisional US patent application the communication system.

Partner Sought

Expected role of the partner

The company is seeking a Tier One industry partner from the construction, heavy lifting, infrastructure, or engineering sectors with direct operational involvement in crane operations, rigging, and complex lifting projects. The ideal partner will have:

In-house safety and innovation teams.

Experience with adopting, testing, and integrating new safety technologies.

The ability to sponsor and support technology field trials.

The partner should be capable of providing access to real-world operational environments and expertise critical to progressing the new system from prototype to market-ready product.

Target Sectors:
Sectors where manual hand signals and 2-way radios remain critical for operational safety and where lifting and rigging operations present significant risk. (e.g. construction, heavy lifting / crane operations, offshore oil & gas etc.

Desired Outcome of the Partnership
The desired outcome is to achieve successful field validation of the new system under real operational conditions, generating the data, feedback, and performance validation required to bring the product to market.

The company envisions a collaborative, non-equity partnership where the partner. The mutually beneficial partnership combines technology with the partner's operational expertise. The benefits to the partner are:

•Jointly develop a global safety system to reduce lifting-related incidents and improve productivity.

• Gain early access to breakthrough safety innovation.

• Establish themselves as safety innovation leaders in the industry.

Type of partnership

Commercial agreement with technical assistance

Type and size of the partner

- **Big company**
- **SME 50 - 249**
- **SME <=10**
- **SME 11-49**

Dissemination

Technology keywords

- **01003003 - Artificial Intelligence (AI)**
- **09001009 - Sensor Technology related to measurements**
- **02006007 - Management of construction process & life**
- **10001002 - Assessment of Environmental Risk and Impact**

Market keywords

- **08006001 - Process control and logistics**
- **08003002 - Hoists, cranes and conveyors**
- **09007001 - Construction companies**
- **09007004 - Engineering and consulting services related to construction**
- **06001003 - Drilling, completion and stimulation**

Targeted countries

- **World**

Sector groups involved

- **Maritime Industries and Services**
- **Construction**
- **Digital**
- **Renewable Energy**