



CLINICAL EVALUATION STUDY



Health Innovation Hub Ireland

Kinematic Tracing Ltd., the company behind Kinetrax, was founded in Clarecastle, Co. Clare in August 2025.

The founders are Baldur Johnsen (Healthcare Technology Executive and Consultant) Valdemar Johnsen, Paul Ellingstad, Valdemar Johnsen and Magnús Kjartan Gíslason, (Assistant Professor in Biomechanics at Reykjavík University).

They bring with them significant experience and acumen in business consulting and management, technology, medical device technology and biomechanics.



Baldur Johnsen



Paul Ellingstad



Magnús Kjartan Gíslason



Valdemar Johnsen

Kinetrax Co-Founders

About Health Innovation Hub Ireland

Health Innovation Hub Ireland (HIHI) was established by the Department of Business, Enterprise and Innovation and the Department of Health and is supported by Enterprise Ireland (EI) and the Health Service Executive (HSE) to drive collaboration between the health service and enterprise. We offer companies the opportunity for pilot and clinical evaluation studies and we provide the health service access to innovative products, services and devices that they may not otherwise be exposed to.

HIHI is built on the recognition that collaboration with enterprise can benefit patient care, patient pathways

and outcomes. We assess all concepts for healthcare innovation from those on the frontline – from clinician to porter. We encourage healthcare professionals to get in touch with HIHI if they have an idea or solution to how something in your job might work better.

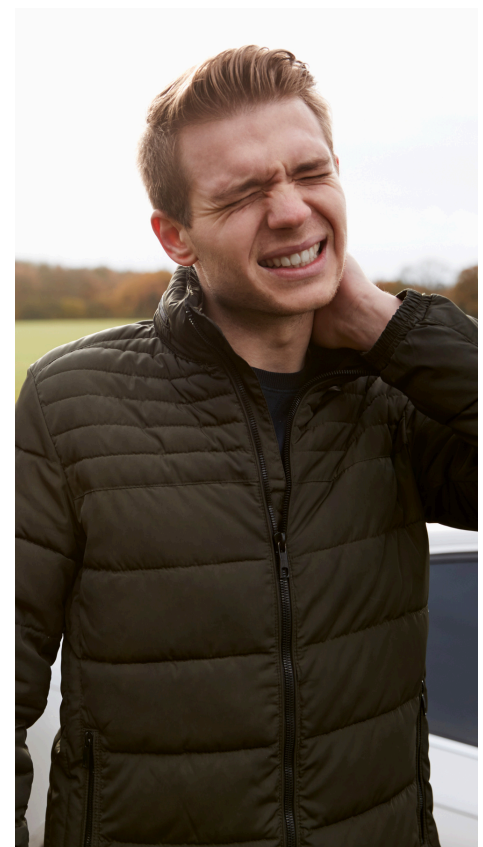


The Healthcare Challenge

Neck pain, whiplash-associated disorders (WAD), cervical dizziness, and other post-traumatic symptoms are among the highest-burden categories within musculoskeletal care. However, clinical assessment tools have seen little meaningful advancement in decades.

Clinicians continue to encounter significant challenges, including high variability in subjective examination findings, limited sensitivity of visual range-of-motion and manual testing methods, and difficulty distinguishing between underlying sources of dysfunction such as proprioceptive, oculomotor, neuromuscular, or segmental impairments. In addition, tracking patient progress with traditional measures remains uncertain and inconsistent.

At the same time, there is increasing demand for more objective documentation from insurers, medico-legal stakeholders, employers, and patients.



The Healthcare Solution



KineTrax is an XR-enabled assessment platform built on established research in cervical sensorimotor control, proprioception, cervico-ocular integration, and biomechanics. The system quantifies how neck pain and whiplash affect movement quality by measuring parameters such as movement accuracy, smoothness, symmetry, variability, and task adaptation using XR-guided tracking.

Proprioceptive function is assessed through head repositioning accuracy and multi-planar drift, while emerging tools evaluate cervico-ocular coordination, gaze stability, and symptom provocation. Together, these measures aim to reveal neuromuscular and sensorimotor deficits that are often missed in traditional clinical examinations.

HIHI Role

Through its extensive network across the health and innovation ecosystem, Health Innovation Hub Ireland facilitated access to relevant clinical expertise and key opinion leaders to support Kinematic Tracing Ltd in evaluating the potential clinical integration and positioning of its technology in the Irish Healthcare market.



Outcome Report

There was strong clinical interest in KineTrax as an objective assessment tool for spinal rehabilitation. Clinicians highlighted its potential to reduce subjectivity in assessments, improve documentation, and enhance patient engagement. The technology was viewed as particularly suitable for private practice settings and as an addition to existing assessment pathways, especially where integrated into streamlined pre-consultation workflows.

The evaluation also identified several important considerations for safe and effective implementation. Clinicians emphasised the need for outputs that are simple and intuitive with results positioned as descriptive rather than diagnostic. Feedback also stressed the importance of aligning the system with a biopsychosocial approach. Differing opinions regarding pain interpretation and potential medico-legal implications highlighted the need for careful product positioning, strong clinical governance, and user education.

Overall, the session provided strong early validation of the technology's clinical relevance while generating practical recommendations to guide usability improvements, research priorities, and deployment.

Testimonial

"HIHI's clinical evaluation gave KineTrax something we could not have sourced ourselves: candid, expert feedback from two highly credible Irish physiotherapists, delivered in a neutral, well-structured setting. The interviews tested our assumptions, sharpened our positioning as a measurement platform rather than a diagnostic tool, and surfaced practical guidance on workflow design, reporting format and clinical framing that is directly shaping our next phase of development."

Geraldine O'Flynn and Ruán Kane ran a disciplined, balanced process throughout. For an early-stage company preparing for regulatory submission and market entry, that quality of structured clinical input is hard to find elsewhere."

Baldur Johnsen, Co-Founder & President, Kinematic Tracing Systems Ltd.



HIHI (UCC) - HQ
Western Gateway Building
University College Cork
info@hih.ie
+353 (0)21 420 5560

HIHI (UoG)
Lambe Institute
University of Galway
Galway
+353 (0)91 492 072

HIHI (TCD)
H&H Building
St James's Hospital
Dublin
+353 (0)1 896 2573

HIHI (MTU)
CREATE Building
Munster Technological
University, Cork
+353 (0)21 432 6758