KOSIVIRA GOLDEN HORIZON LTD

DetectAid

Funding pitch deck

A wrist-worn assistive wearable with an open-ear earpiece for obstacle awareness, mobility cues, and emergency escalation.

CONCEPT-STAGE PRODUCT
Prototype build and accessibility evaluation



Funding a measurable first demonstrator

DetectAid combines wrist-based sensing, spoken guidance, tactile alerts, and SOS workflows in an everyday wearable.

01

The need

Many people need safety and mobility support that does not depend on looking at a screen or relying on hearing alone.

02

The product

A watch and open-ear earpiece concept that can present guidance through speech, wrist vibration, or both.

03

The funded result

A working demonstrator, measured test results, and a costed plan for the next build.

Independent movement can become stressful when critical cues are missed

DetectAid addresses situations where a person needs to understand nearby obstacles, movement options, or a potential emergency quickly.

The experience today

01

Obstacle uncertainty

People, animals, and objects can enter the wearer’s path from more than one direction.

02

Limited access to cues

A screen-only alert excludes people who cannot reliably see it. Audio-only alerts do not work for everyone.

03

Delayed escalation

A person in distress may be unable to place a call or describe what is happening.

Design principle

Essential information should reach the wearer through the cue they can use at that moment.

A wearable designed around spoken and tactile information

The product concept moves sensing from the earlier neck-worn idea to the wrist, paired with an open-ear earpiece.

Wristwatch

Directional obstacle awareness
Distinct wrist vibration patterns
Tactile SOS control
Heart-rate display and incoming-message notifications

Open-ear earpiece

Spoken movement cues
Obstacle and pedestrian alerts
Emergency workflow updates
Keeps the ear open to surrounding sound

The user can receive key cues through speech, vibration, or both.

Five connected capabilities

Each workflow has a defined intended behaviour and a validation question.

01

Obstacle awareness

Identify nearby people, animals, and objects in front of, behind, or beside the wearer.

02

Walking guidance

Use Stop, Continue, Forward, Backward, Left, and Right cues only when evidence supports the movement cue.

03

Accessible alerts

Pair spoken cues with distinct wrist vibration patterns for essential information.

04

SOS workflows

Manual SOS uses a tactile hold. Automatic SOS requires unusual pulse and a separate danger signal, then offers cancellation.

05

Pedestrian signals

At compatible crossings, translate the pedestrian phase through speech and vibration. Treat stale or mismatched data as unavailable.

Designed for different ways of receiving information

DetectAid aims to support people with different sensory needs without forcing a single alert method.

01

Blind and low-vision people

Cues reduce reliance on a visual screen.

02

Deaf and hard-of-hearing people

Wrist vibration can carry essential alerts.

03

Older adults

Simple controls and emergency workflows can support confidence and independence.

04

Autistic people

Cue intensity and frequency can be tested with different sensory preferences.

Participant feedback will guide cue intensity, frequency, comfort, and control design.

Evidence already in place

The current work reduces product ambiguity before the first hardware build.

1
Interactive software test bench

4
Enclosure concepts ready for comparison

6
Core workflows shown in the software demo

1
Initial sizing model set

What a reviewer can try today

Set a nearby obstacle, select a clear direction, apply a sustained unusual pulse with a simulated danger signal, and switch the pedestrian phase from Wait to Walk to Clearance. The test bench uses simulated distance, direction, pulse, danger, pedestrian phase, and contact attempts.

Safety boundaries built into the concept

DetectAid should guide careful movement and escalation. It must not make unsupported safety promises.

1

Movement cues need a clear path

The system should only suggest a direction when its sensing evidence supports that cue.

2

Automatic SOS requires two conditions

The concept requires a sustained unusual pulse plus a separate danger signal, followed by a cancellable countdown.

3

Crossing data must match the location

Stale, disconnected, or mismatched pedestrian signals should be treated as unavailable.

Critical disclosure

Emergency-service access depends on local support, connectivity, and the approved calling route.

Build plan and measurement framework

The first demonstrator focuses on fit, sensing, alert performance, and accessibility evaluation.

1

Wrist sensing and fit

Test sensor angles, targets, distance, lighting, arm position, and direction.

2

Alerts and SOS

Measure latency, vibration recognition, check-in errors, cancellation, and contact escalation.

3

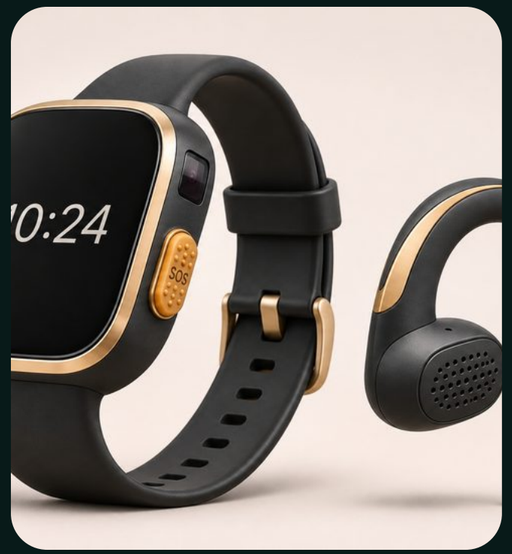
Crossing and accessibility

Test phase translation, stale data, wrong-crossing conditions, disconnects, comfort, and cue preferences.

Each test produces evidence for the next enclosure, firmware, and pilot decision.

Four enclosure concepts await evidence-based selection

Fit, sensor placement, tactile button usability, and user comfort will determine the preferred design.



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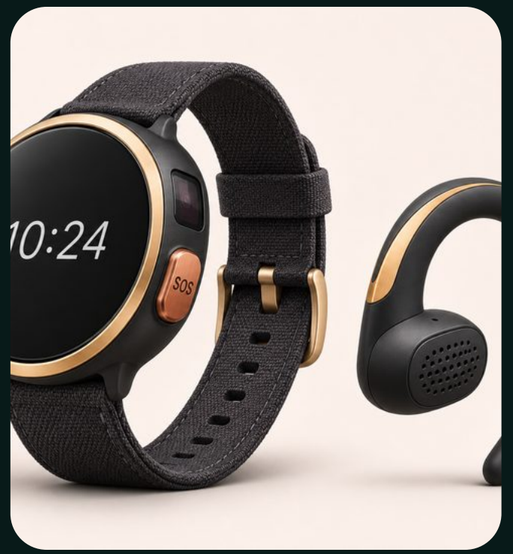

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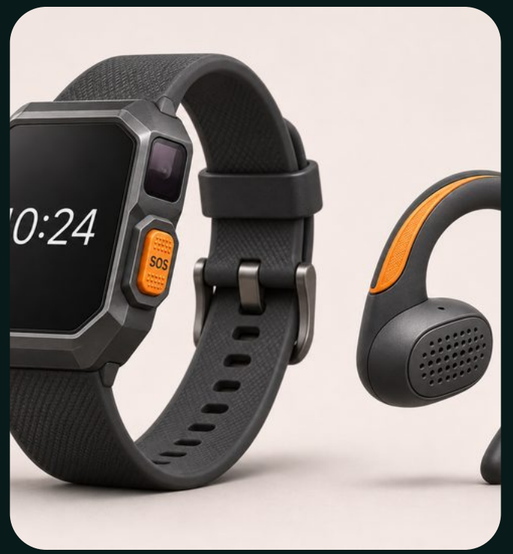

Sport



Everyday

A supervised route to user and partner feedback

The pilot pathway starts with controlled sessions and grows only with evidence, consent, and appropriate partners.

01

Controlled bench tests

Establish sensing coverage and alert behaviour before user sessions.

02

Supervised accessibility sessions

Assess comfort, cue preferences, comprehension, and cancellation behaviour with intended users.

03

Partner-supported pilot planning

Seek relevant accessibility, mobility, transport, and community partners before broader testing.

Evaluation questions: Can the wearer understand the cue? Is the alert tolerable? Does the control feel safe and simple?

A paid assistive product with affordability built into the design process

Commercial viability depends on a product users value, a supportable cost structure, and responsible distribution.

01

Customer value

Greater awareness of surroundings, accessible cues, and a simple route to request help.

02

Price discovery

Use component costs, fabrication evidence, and user feedback to set an affordable paid-product price.

03

Distribution

Explore community partners and support organisations as routes to trusted product access.

Commercial assumption to validate: users and partners will see enough value in combined mobility and emergency support to pay for the product.

DetectAid is planned as a paid product. Pricing and channel choices remain to be validated.

What funding unlocks

The requested amount and currency should follow supplier quotes, eligible-cost rules, and the chosen application.

01

Electronics and fit

Distance and heart-rate sensors, controller, haptic output, tactile controls, audio hardware, power, and assembly supplies.

02

Design and fabrication

CAD work, print iterations, adjustable wrist mounts, and earpiece fit evaluation.

03

Integration

Firmware, earpiece pairing, a companion app or test calling connection, and compatible signal integration where available.

04

Testing and reporting

Bench equipment, accessibility evaluation, participant support where eligible, and the engineering report.

Milestone outputs for the funded build

The goal is evidence a funder can review, not a claim that the concept is ready for broad deployment.

01

Wearable demonstrator

A wrist-worn prototype paired with an open-ear earpiece.

02

Engineering report

Measured detection coverage, cue accuracy, SOS test outcomes, and remaining limitations.

03

Next-build plan

Costed components, selected enclosure direction, and evidence required before wider use.

Decision gate: only expand testing after measured performance, usability evidence, and partner readiness support the next step.

From demonstrator to evidence-led pilot

The timeline should be dated after procurement quotes and partner availability are confirmed.

01

Build

Assemble controller, sensors, haptics, tactile control, power, wrist mount, and earpiece connection.

02

Measure

Record coverage, misses, latency, cue recognition, cancellation success, and system failures.

03

Refine

Choose enclosure and sensor placement using the test results and user feedback.

04

Prepare pilot

Confirm supported scope, partner roles, consent approach, and next-build budget.

Dates and budget are intentionally left open until quotation and partner checks are complete.

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DetectAid

A funding opportunity to turn a tested software concept into a measured assistive wearable demonstrator.

Seeking support for hardware build, engineering integration, accessibility evaluation, and a costed next-step plan.

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Thank you