O-HIVE / TEXTILE & GARMENT AUTOMATION

Spatial Vision Intelligence for Textiles

Autonomous collaborative robots, powered by SVIC



Navigate and act without predefined task rules

Multiple cobots perceive fabric, plan movements and adapt through visual feedback.

PART 01

Company Overview

Leadership and Global Operations

Leadership Team

Experience in AI, semiconductors, manufacturing and business development

Brian Young Yu



Chief Executive Officer

Entrepreneur with leadership experience at O-HIVE and Good Doctors. Led fundraising, 3D vision and robotics development, and telemedicine expansion in Canada.

Jackson Hu



Chief Strategy Officer

Former SVP of Engineering at S3, CEO of SiRF Technology, and Chairman and CEO of UMC. Expertise in fabless growth, public-company expansion and foundry strategy.

Arnold Kravitz



O-HIVE Co-Founder
Chief Innovation Officer

Technology leader in aerospace, robotics, defense and advanced manufacturing. Former Chief Engineer at BAE Systems, VP of Engineering at L-3, and CIO at ARM Institute and BlueForge Alliance.

Benjamin Hu



Chief of Staff

Serial entrepreneur and former VP of Investment at Foxconn. Experience in strategic partnerships, fundraising, investment execution and global manufacturing ecosystems.

PART 02

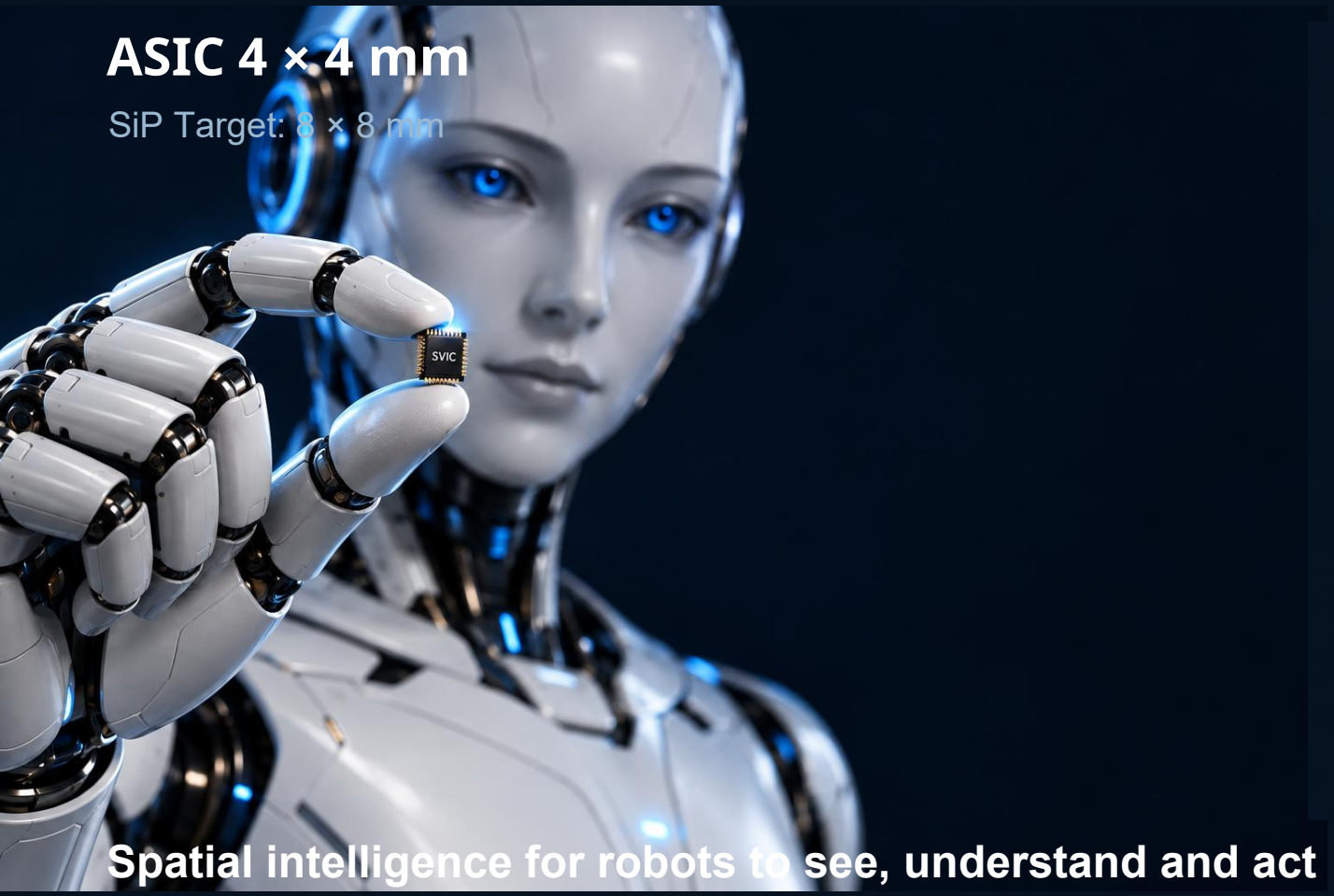
Core Technology & Products

SVIC, Ontology, Value Proposition and Product Portfolio

O-HIVE SVIC

Spatial Vision Intelligence Chip

On-device spatial intelligence in a chip smaller than a thumb

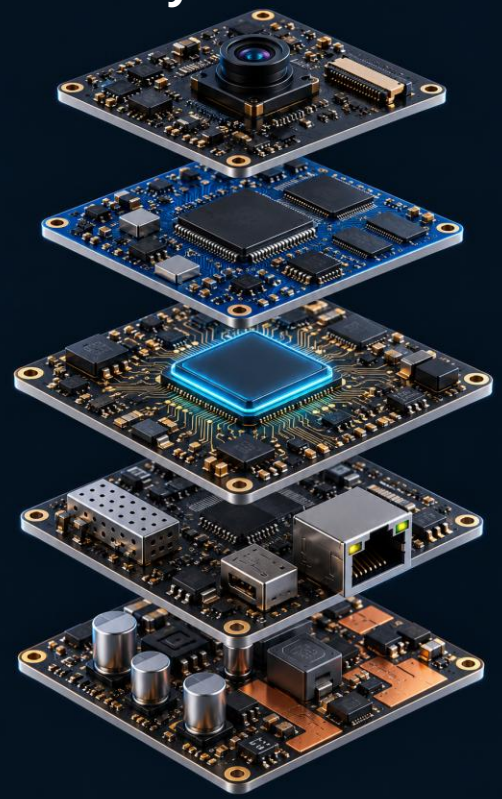


ASIC 4 × 4 mm

SiP Target: 8 × 8 mm

Spatial intelligence for robots to see, understand and act

5-Layer Architecture



01 External Sensors
Camera / IMU / GNSS

02 FPGA Preprocessing
Input Signal Synchronization

03 SVIC ASIC
VLM Inference / Spatial Perception

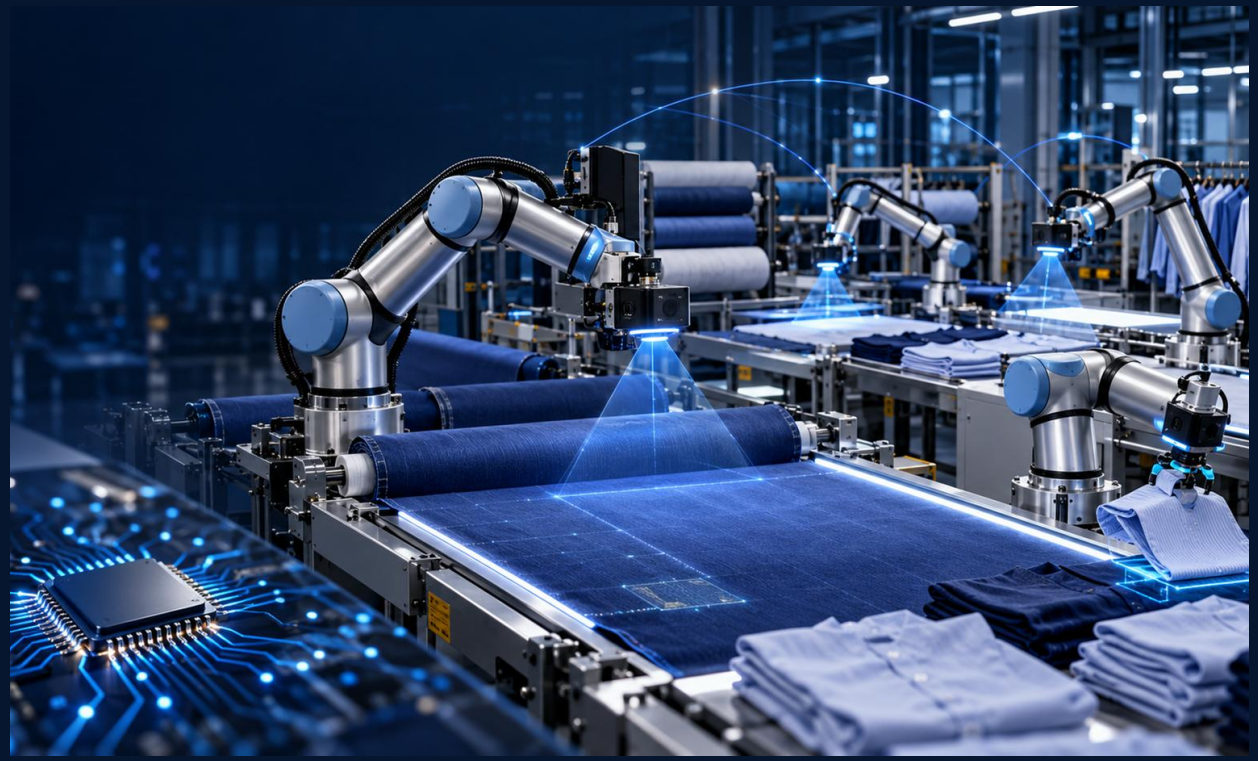
04 Connectivity
Ethernet B2B

05 Power Management
Standby & Active Modes

Target specifications · Concept imagery · Architecture illustration

SVIC: Spatial Intelligence for Collaborative Robots

On-device perception and reasoning for coordinated textile inspection



See the fabric. Understand the workspace. Adapt the motion.

From visual input to robot action

01 Sense
Vision cameras and robot feedback

02 Perceive
Fabric, garment and workspace understanding

03 Reason
Task interpretation and movement planning

04 Coordinate
Shared context across multiple cobots

05 Act & Verify
Execute, inspect and update from feedback

SVIC target: 4 × 4 mm ASIC / 8 × 8 mm SiP · Concept architecture and development targets

Example of available VLM Value Proposition

Simplifying AI adoption to deliver immediate value.



Rapid Deployment

1 Day



Zero-Shot Operation

No large-scale
data collection



No Training Cost

$0

No training or fine-tuning



On-Device Intelligence

0%

Cloud Dependency



Real-Time Adaptation

Adapts to new objects
and environments



Lower Total Cost of Ownership

Up to 70% Savings

Examples the typical cost of Product & System Integration

Edge vision intelligence, hardware options and 3D vision automation

01 VLM Kickstarter Package

Jetson Starter Kit / O-HIVE Stereo Camera

USD $5,000 (tax excluded)

Package Components

Jetson Nano 4GB, case, power supply, cooling, 64GB microSD, O-HIVE stereo camera and cables

License & Services

12-month software license, remote setup, four remote training sessions and domestic delivery

Warranty

3-year limited warranty against manufacturing defects

One station / One stereo camera set
First-year Kickstarter Package

02 Edge Hardware Options are fairly in expensive

Reference specifications and hardware-only price ceilings

Device	FPS	Max. Resolution	Vision	Price*
Raspberry Pi 4	1	640 × 640	2D	**<$100**
AMD Kria	3	1040 × 1280	2D + 3D	**<$400**
Jetson Nano	5	2480 × 2480	2D + 3D	**<$600**
Dedicated Server	10	4K	2D	**<$3,000**
AGX Thor	10	4K	2D	**<$7,000**

All platforms support 2D. Kria and Jetson Nano also support 3D.

*Reference price ceilings, not commercial quotations. Performance, hardware and licenses depend on configuration.

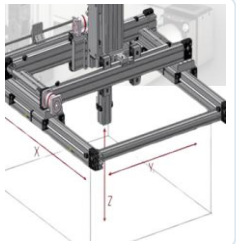
03 System Integration

O-HIVE 3D Vision Motion Systems



Cobot & Linear Guide

Doosan cobot: reach 300–1,500 mm
Robot repeatability: 0.05 mm
Linear guide stroke: 2,000 mm



XYZ Gantry System

X/Y/Z: 800 / 1,300 / 500 mm
Max. speed: 1,000 mm/s (X/Y)
X/Y repeatability: ±0.002 mm

System scope, integration and commissioning priced separately.

Sources: Product Listing.xlsx / O-HIVE Kickstarter Package (Sep. 3, 2026) / O-HIVE Robotics Integration Brochure

PART 03

Textile & Garment Inspection

Robot arm inspection setup and VLM analysis results

Robot Arm Inspection Cell Setup

A camera mounted on the robot arm follows an inspection path to capture fabric and garment images automatically.

Inspection Cell Setup



Robot arm, vision camera and inspection table

01 Mount the Vision Camera



Attach the camera and lighting to the robot end effector and check that they are secure.

02 Position the Product



Lay the fabric or garment flat on the inspection table and secure its position.

03 Set the Capture Path



Define robot movements and image capture positions for the inspection area.

Before inspection: check the robot workspace, camera focus, reflections and fabric wrinkles.

Robot Integration & Automated Image Capture

O-HIVE Textile & Garment Inspection

2 Robot Setup

Robot Arm Inspection Cell ① Connect camera and lighting ② Connect the robot controller ③ Load the inspection path ④ Check imaging and communication







3 Automated Capture & Analysis

① Start the inspection cycle ② Capture each inspection position ③ Transfer images and save results





What Is VLM?

The robot moves to defined inspection positions,
and the camera captures fabric and garments.
O VLM marks defect locations and
checks compliance with inspection criteria.

Results and images are stored together.

Automated Robot Arm Inspection Workflow

The robot captures fabric and garment images. O-HIVE analyzes defects and saves the results.

Inspection Input Images



Fabric Surface Inspection



Garment Seams & Accessories

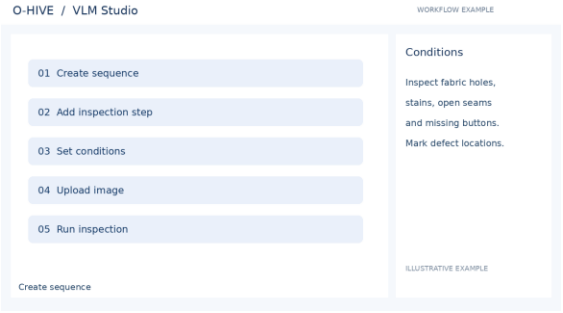
Example inputs captured
by the robot-mounted camera

01 Automated Capture



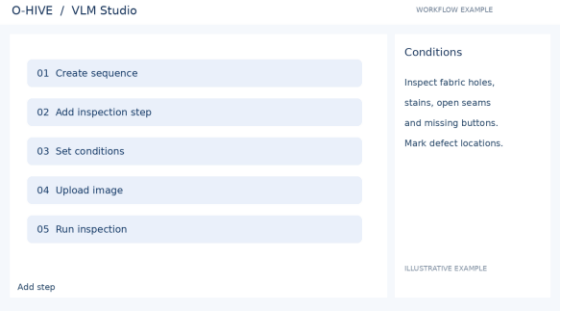
Follow the configured path and capture inspection images

02 Configure Sequence



Select and configure the product inspection workflow

03 Define Inspection Steps



Set up fabric, seam and accessory checks

04 Define Inspection Criteria



Enter criteria for holes, stains and seam defects

05 Run Automated Analysis



Transfer captured images and run VLM inspection

06 Record Results



Save defect locations, decisions and inspection images

Fabric Hole & Stain Detection

Inspection Prompt

Detect holes and stains on the fabric. Show the count and location of each defect and assess compliance with inspection criteria.



Analysis Results

1

Fabric Hole

1

Stained Area

Fail

Example Decision

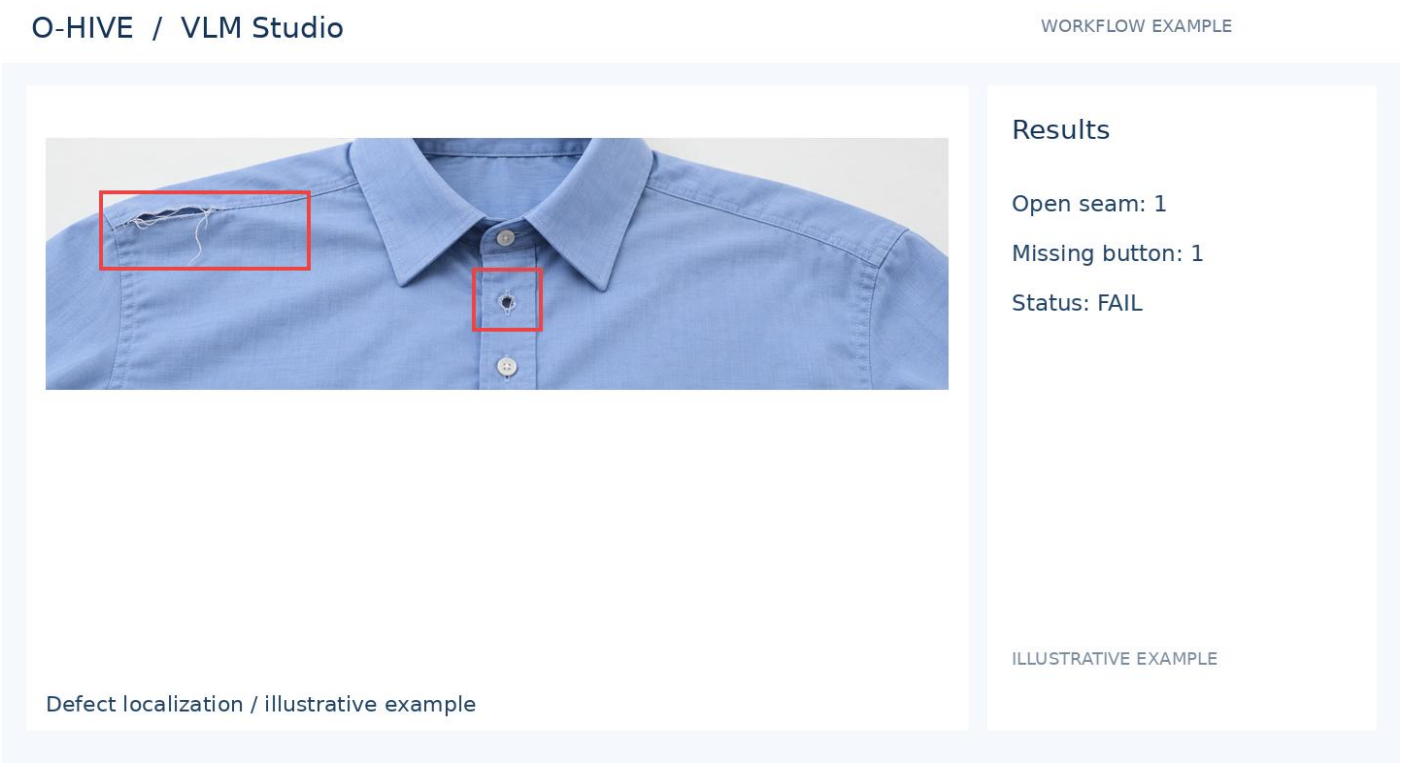
Decision Rationale

This example marks one hole with frayed edges on the left and one stain on the right. Final acceptance depends on defect size and the customer’s tolerance criteria.

Open Seam & Missing Button Detection

Inspection Prompt

Inspect garment seams, mark any openings, and identify and count missing buttons.



Analysis Results

1
Open Seam

1
Missing Button

Decision Rationale

This example marks one open seam at the shirt shoulder and one missing button on the front placket. Verify the locations, repair the garment and repeat the same checks.

PART 04

VLM systems can also be used for Workplace Safety Hazard Detection

Smart glasses image capture and hazard analysis

How to Wear the Smart Glasses

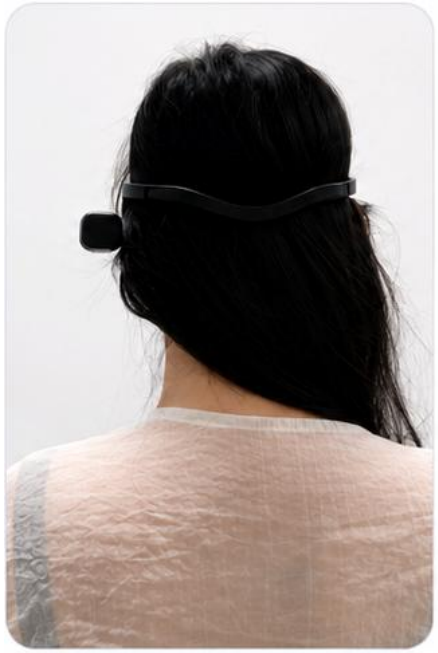
Fit the headband AI camera securely and align it with your line of sight.

Device Structure



Flexible band and supports secure the camera to the head

01 Position the Band Behind the Head



Wear the band so that it wraps around the back of your head.

02 Place the Supports Above the Ears



Rest the supports comfortably above your ears for a secure fit.

03 Align the Camera with Your View



Position the camera beside your eye without blocking your view.

Fit check: ensure that hair or other objects do not cover the camera lens.

Smart Glasses Connection & Site Image Capture

O-HIVE Safety Hazard Detection Use Case

2 App Setup

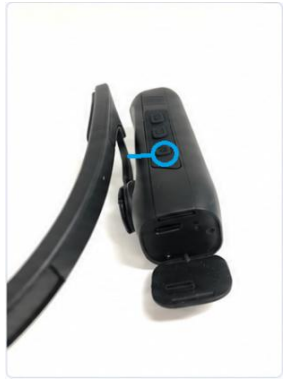
Smart Glasses Camera



① Install and launch the app



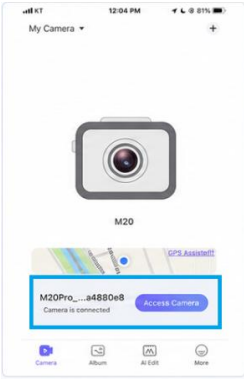
② Press and hold the power button



③ Connect to the camera Wi-Fi



④ Check the connection in the app



3 Capture & Save Images

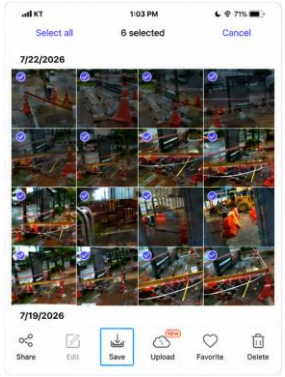
① Access the camera



② Capture site images



③ Select and save images



What Is O-HIVE VLM?

Enter inspection criteria in natural language. O-HIVE analyzes the image and links relevant visual evidence.

Results include clear measures such as counts, proportions, distances and risk scores.

Example of a Safety Hazard Detection Workflow

Transfer images from the head-mounted AI camera to a PC, then inspect them in an app.

Site Input Images



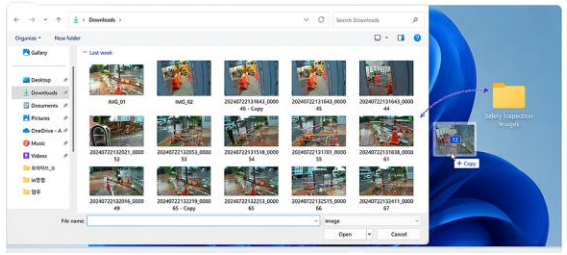
Construction Work Area



Walkway Repair Area

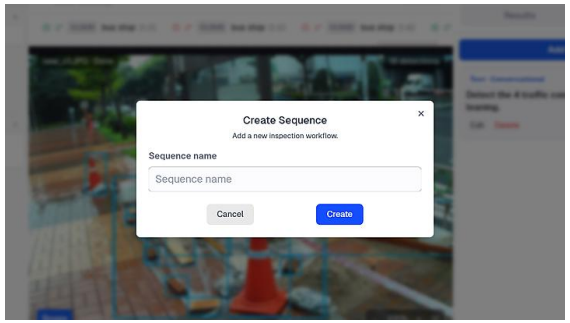
Both photos captured with a head-mounted AI camera

01 Transfer Images



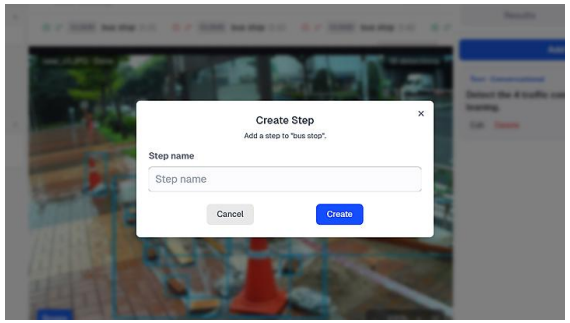
Transfer images saved in the camera app to a PC

02 Create a Sequence



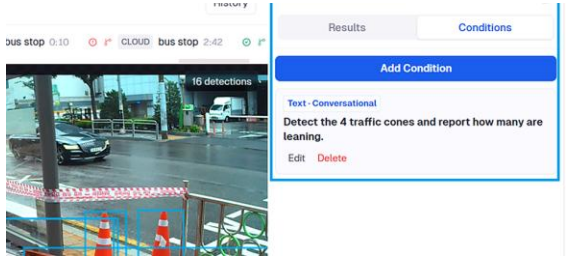
Create a new inspection workflow

03 Add Steps



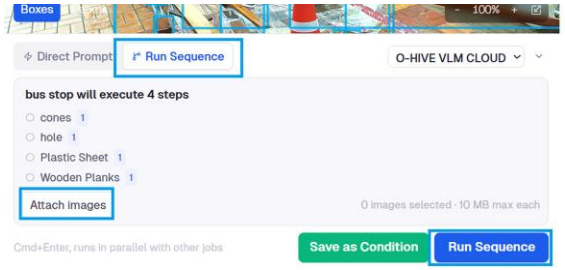
Add the inspection steps to the sequence

04 Define Inspection Criteria



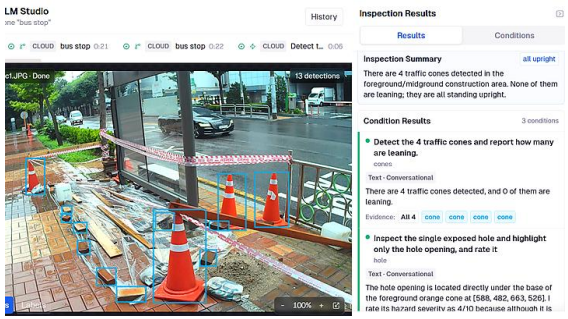
Describe the items to review in natural language

05 Upload & Run



Upload images and run the sequence

06 Review Results

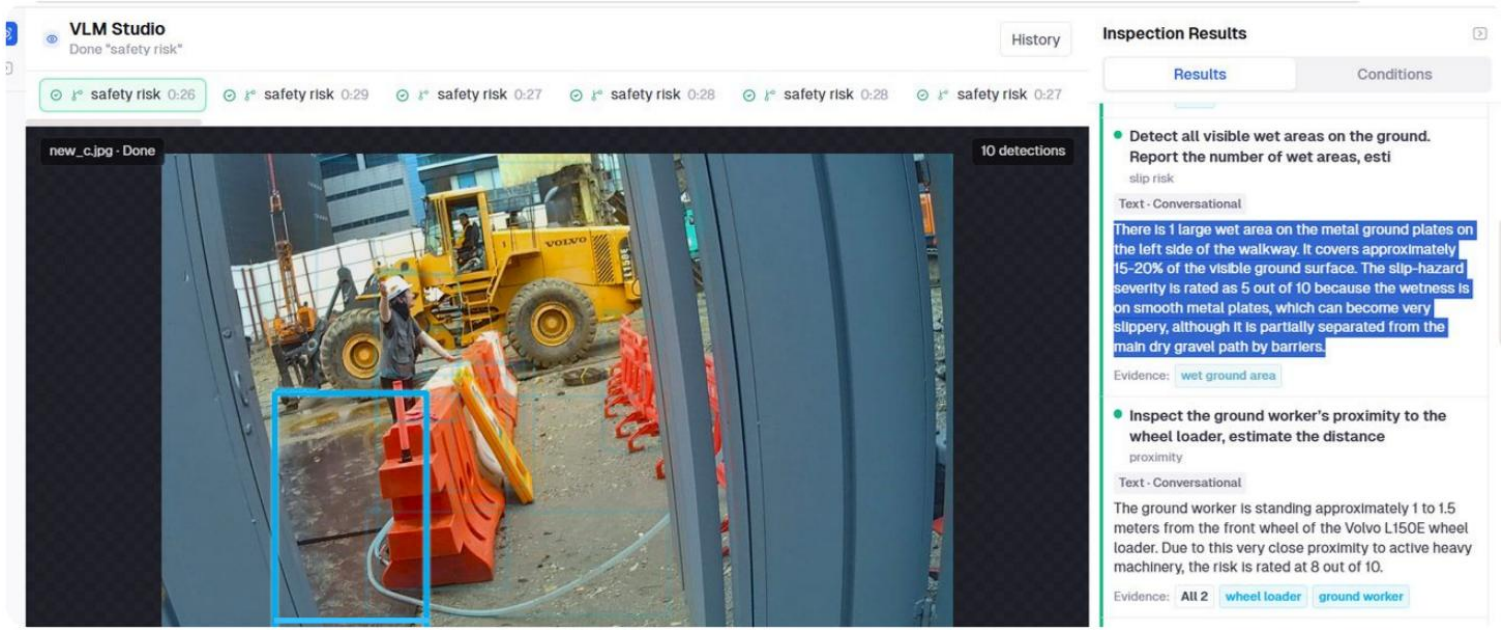


Review visual evidence and inspection results

Slip Hazard from a Wet Surface

Inspection Prompt

Detect all wet areas on the floor. Count them and estimate their share of the total floor area. Rate slip risk from 1 to 10 and explain the assessment.



Analysis Results

1
Wet Area

15~20%
Share of Floor Area

5/10
Slip Risk Score

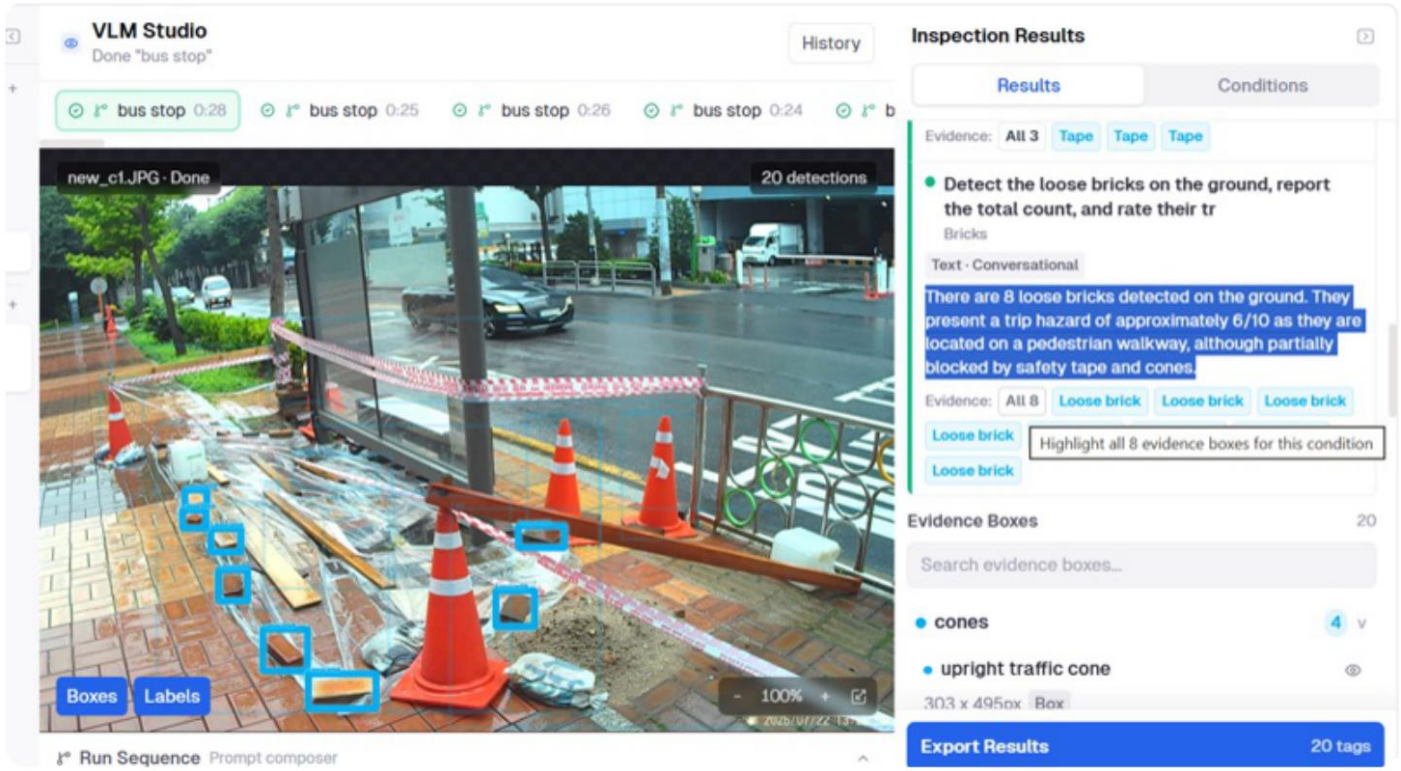
Decision Rationale

One large wet area appears on the metal floor plate at the left of the walkway. Smooth metal can become slippery when wet. Barriers partly separate it from the main gravel walkway.

Trip Hazard from Scattered Bricks

Inspection Prompt

Detect scattered bricks and rate the risk of tripping while walking from 1 to 10.



Analysis Results

8

Scattered Bricks

6/10

Trip Risk Score

Decision Rationale

Eight scattered bricks appear on the walkway and present a trip hazard. Safety tape and traffic cones partly restrict access to the area.

PART 05

Robot Perception & Control

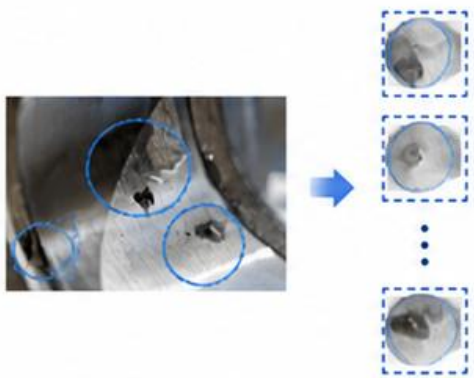
Environmental awareness and feedback-based motion control

ROI Processing Architecture

Simple block diagram

1. ROI Discovery & Initial Division

O-HIVE Visual Language Model finds multiple ROIs on DPU and division by AMD KIRA



2. ROI Sub-Division

Multiple ROIs are divided into multiple ROIs again using FPGA on AMD KIRA

ROI 1 → ...

ROI 2 → ...

ROI 3 → ...

⋮

ROI N → ...

3. Post-Processing

Post-processing for image enhancement for each ROI

- Interpolation
- Edge Enhancement
- Deblur

4. ROI Detection

Detection on each ROI using O-HIVE Visual Language Model

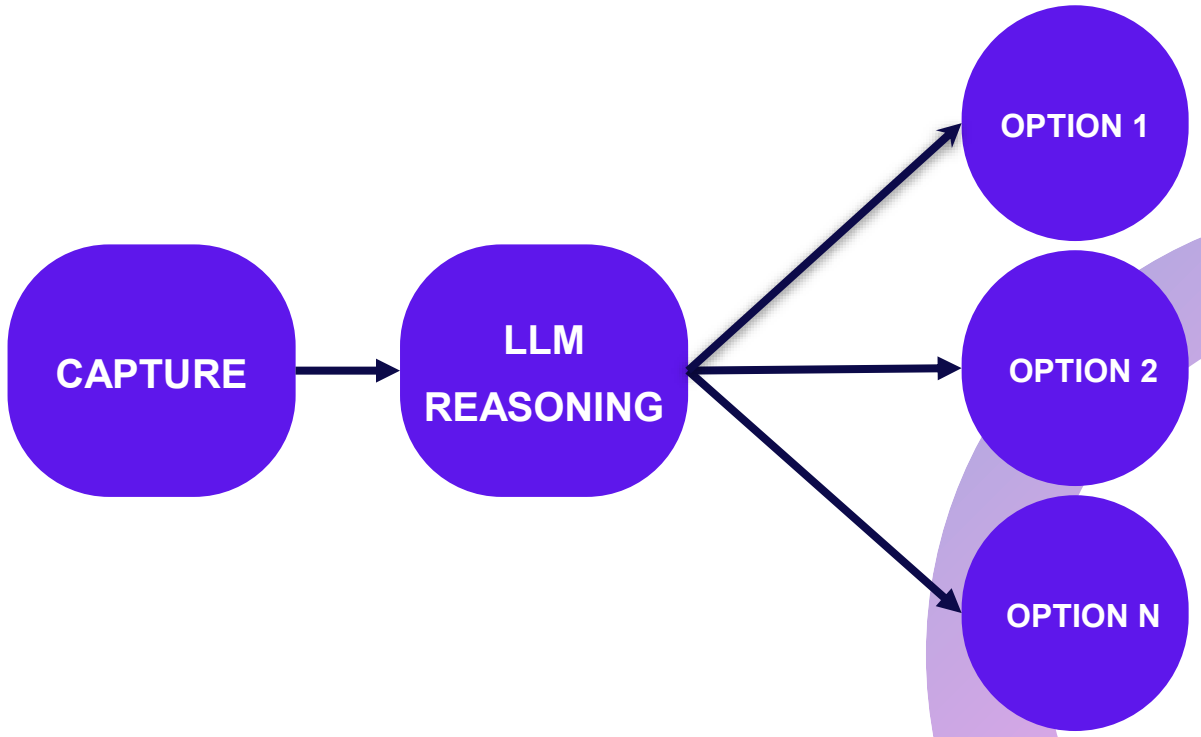
Scalable to 3 or N ROI pipelines • AMD KIRA DPU + FPGA • O-HIVE in-house architecture

Confidential information |

Continuous iterative thinking is what makes precision possible.

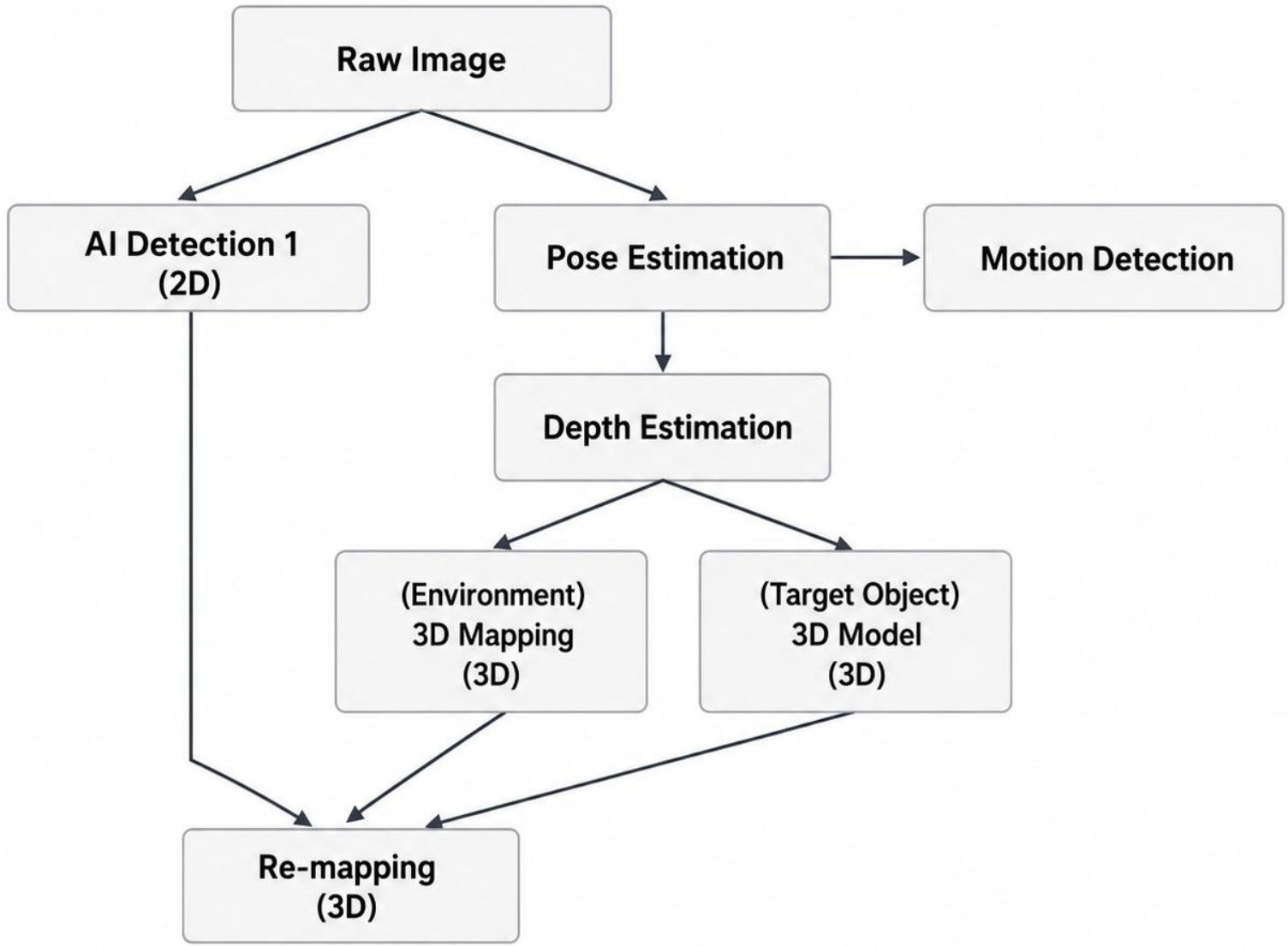
At every step, the robot evaluates its position and selects the optimal next action—continuously, in real time.





Vision Architecture

Perception, pose, depth, mapping, and reconstruction pipeline



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Example of Textile & Garment Defect Inspection

VLM Studio

Prompt-based VLM detects stains, tears and garment damage, and marks their locations.

01 Stain Detection

Color / Surface Anomalies



Stain Found

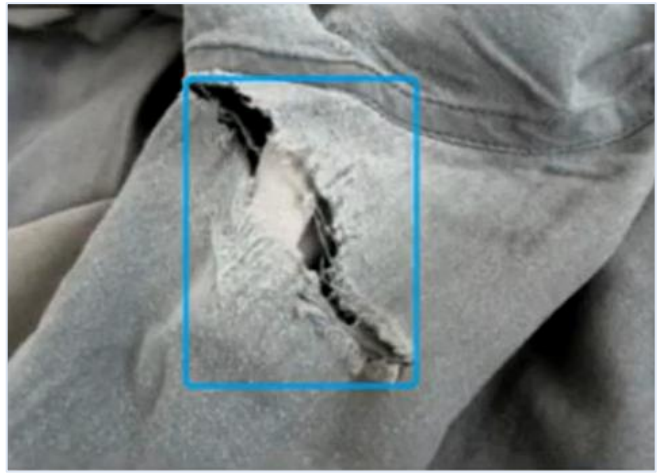
Inspection Result

A large purple stain appears on the white shirt.

Detection
Evidence
Bounding Box Localization

02 Tear Detection

Fabric Damage



Tear Found

Inspection Result

A large tear with frayed edges appears in the gray fabric.

Detection
Evidence
Bounding Box Localization

Inspection Process

From garment images to quality evidence ready for review

01 **Capture** Garment Image	02 **Configure** Natural Language Criteria	03 **Detect** Defects & Locations	04 **Review** Quality Inspection Results

Benefits Less manual review, more consistent inspection and visibility into defect trends

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Thank You

Q&A

Connecting on-site automation through spatial vision intelligence.