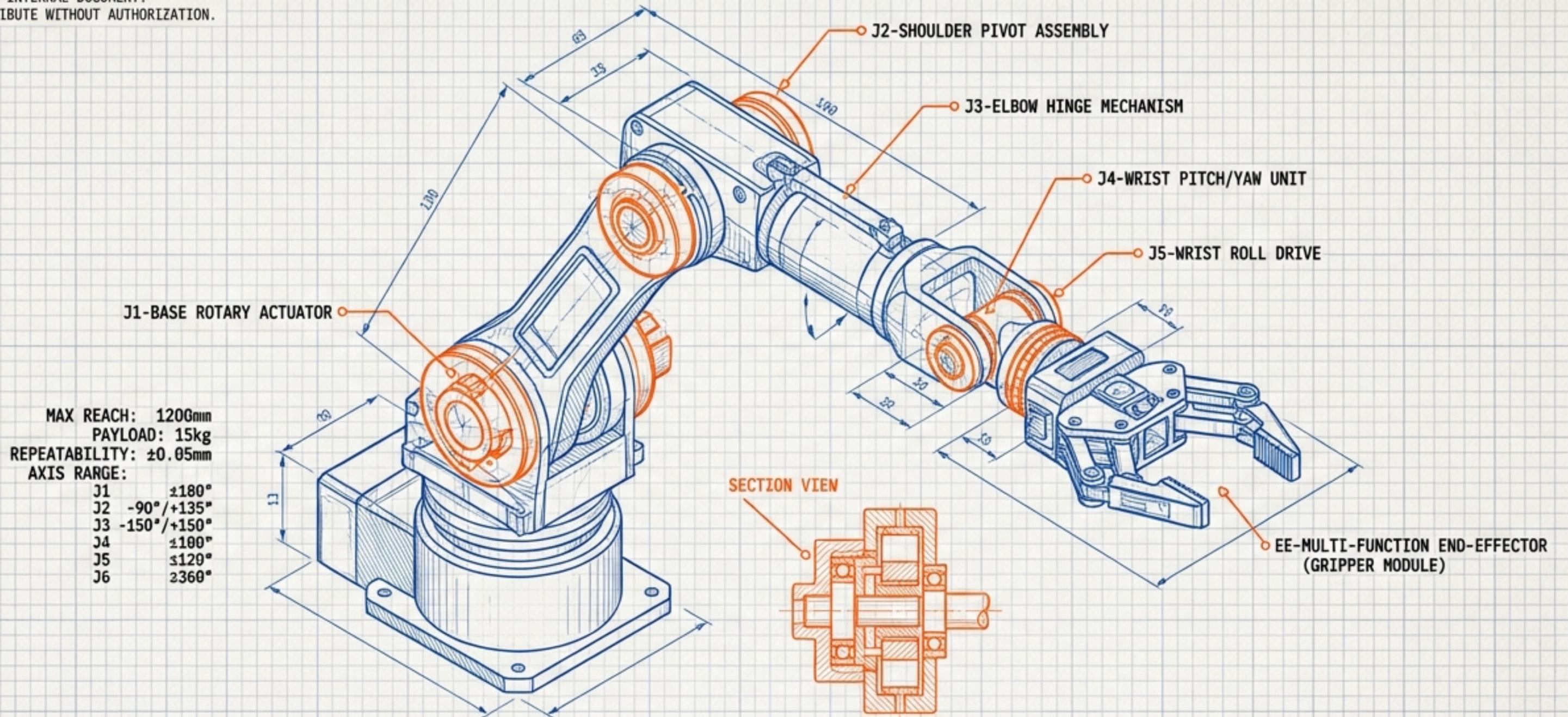


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DO NOT DISTRIBUTE WITHOUT AUTHORIZATION.



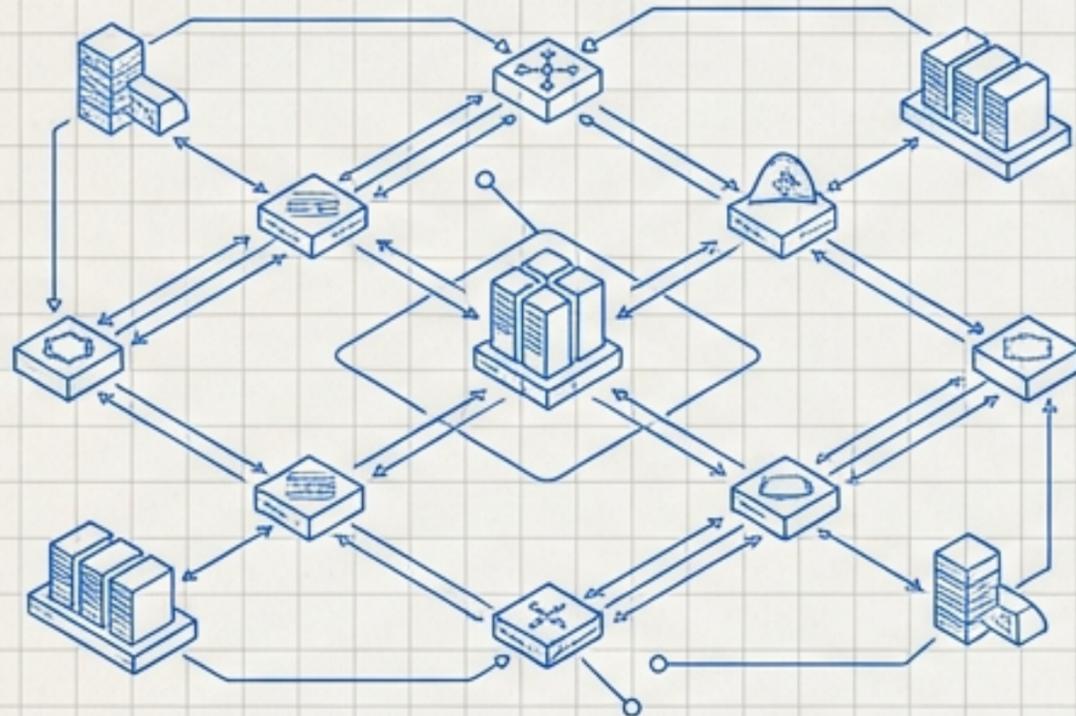
# THE SOVEREIGN HELPING HAND

Product Single Source of Truth: Physical Manipulator

Version: 1.0  
Date: March 10, 2026  
Status: Alpha Prototype / R&D Phase  
Owner: DeReticular Robotics & Cybernetics Division

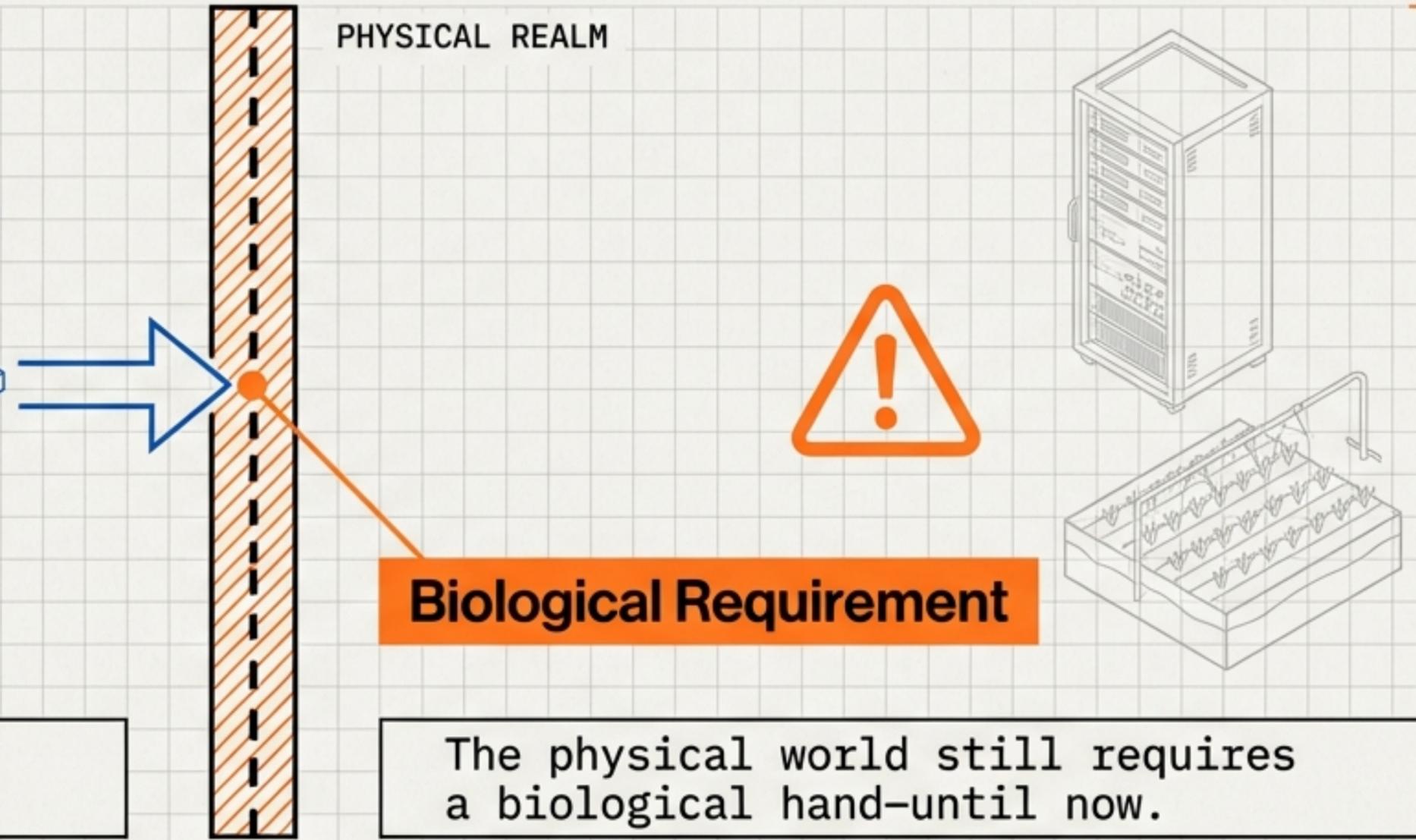
# The Limit of Digital Sovereignty

DIGITAL REALM



DeReticular's architecture has mastered digital sovereignty.

PHYSICAL REALM

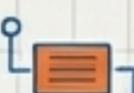


**Biological Requirement**

The physical world still requires a biological hand-until now.

**THE OBJECTIVE:** Bridge the gap between digital logic and physical labor with an untethered, rugged physical manipulator.

# Why Consumer Robotics Fail the Sovereign Standard

DIMENSION	IBM Plex Mono ✗ Standard OEM Cloud Robotics	IBM Plex Mono ✓ The Sovereign Helping Hand
Compute	Cloud-Tethered / Remote Server	100% Edge Compute via Sovereign Sentry Pro
Power Supply	AC Grid / Volatile Lithium-ion 	12V-48V DC Direct, Native Solar/EV Bus compatibility
Telemetry	Proprietary APIs / External Data Mining 	Zero-latency RS485/CAN Bus, logged to Locutus Ledger
Dependency	Firmware lock-in, forced updates 	Open-architecture, operated locally via OpenClaw Foreman

# Hardware Built for Off-Grid Autonomy

TECHNICAL SLIDE

**SKU: SOV-ROBO-HAND**

**MSRP: \$2,899.00 (Base 6-Axis Arm + OpenClaw Interface Adapter)**

**Format: Physical Hardware + Edge Software Container**

**Target Audience: Autonomous Farmers, Mobile Technicians, Remote Microgrid Managers.**

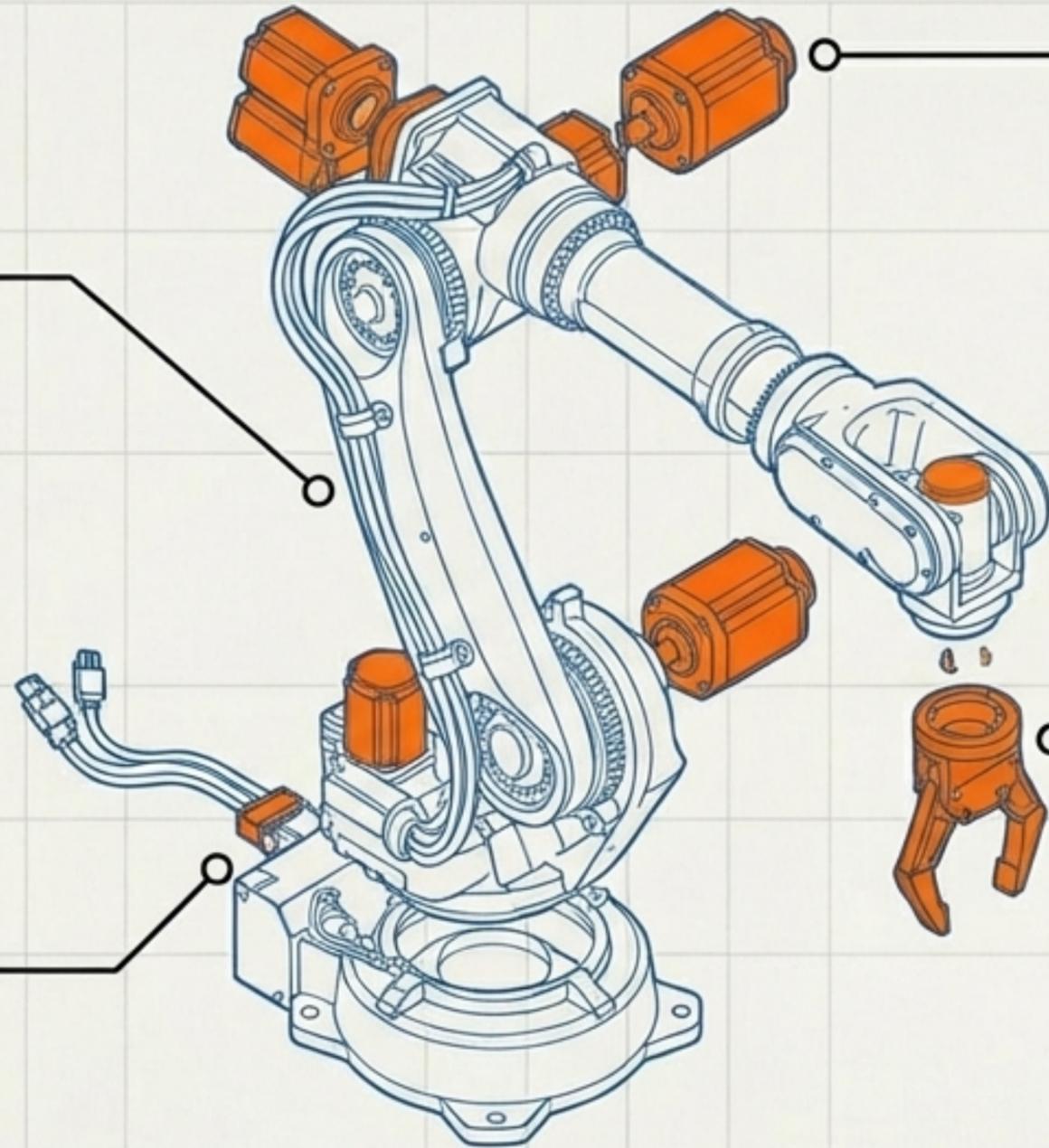
**System Dependency: Requires Sovereign Sentry (Pro) or Nomad Fleet Kit for inverse kinematics compute.**

Stripped of proprietary cloud firmware and driven by a ruggedized DeReticular DC system, this IP67-rated, 6-axis arm executes physical tasks autonomously, logging every movement for Proof of Labor.

# The Muscle: Physical Hardware Architecture

**The Chassis:** Aerospace-grade aluminum 6-axis mechanism. IP67 dust/water resistant.

**Power & Comms Bus:** 12V-48V DC direct input. RS485 / CAN Bus for zero-latency comms. Note: No internal lithium-ion batteries to swell or catch fire.

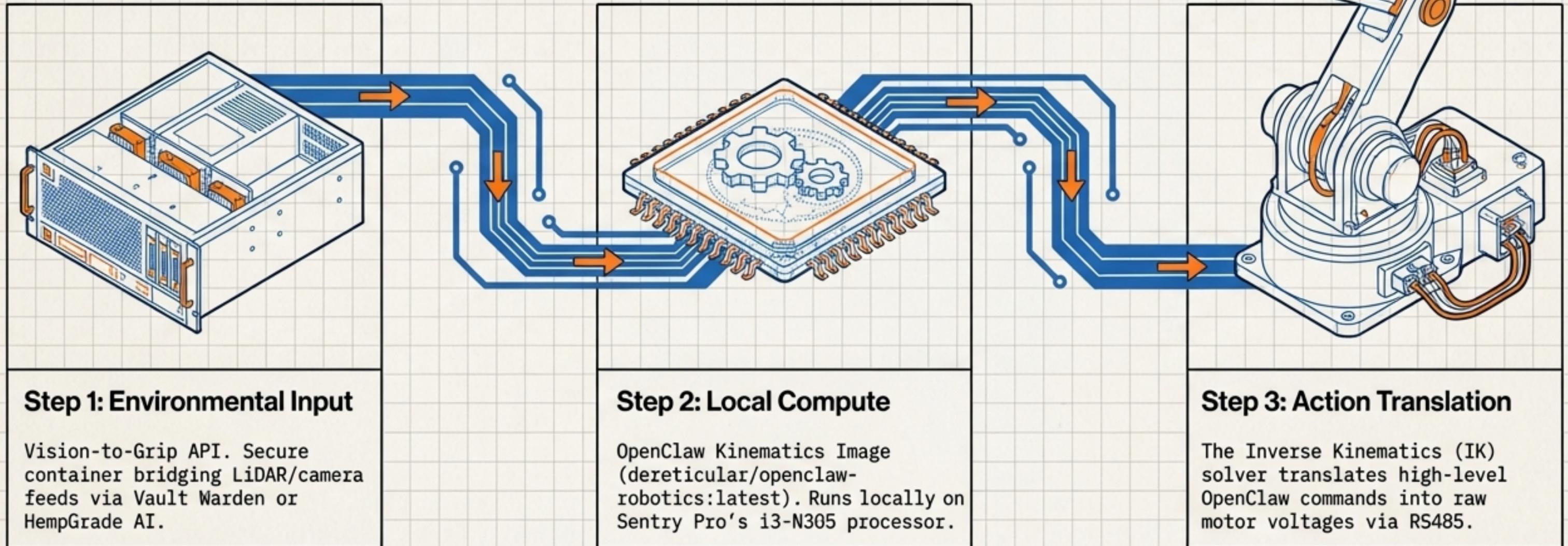


**Actuators:** High-torque brushless DC motors. Equipped with absolute magnetic encoders (retains perfect positional awareness even during total power loss).

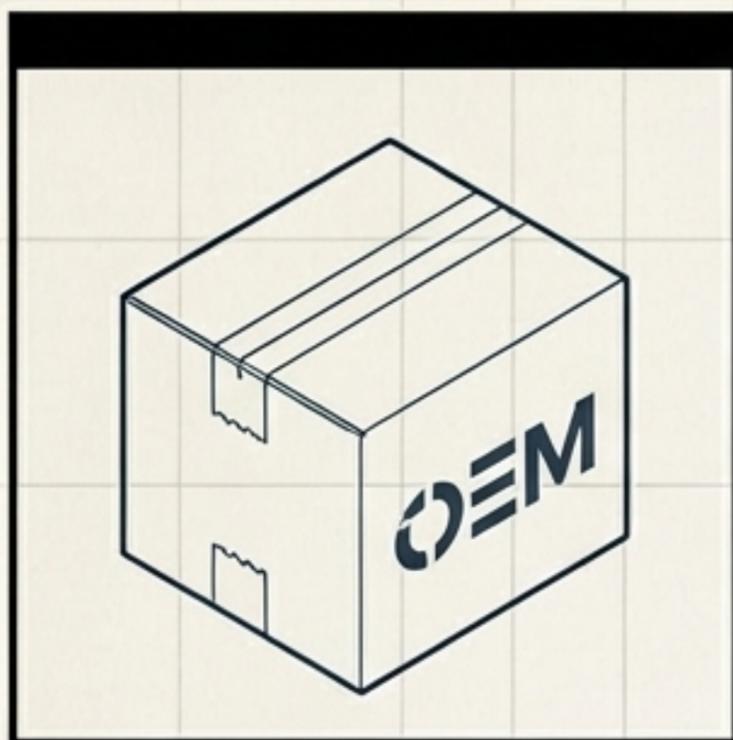
**Swappable End-Effectors:** Ships with a high-friction 2-finger parallel gripper. (Optional: Precision Tweezers, Macro-Camera Mount, Soldering Iron).

**Swappable End-Effectors:** Ships with a high-friction 2-finger parallel, for Mechanism: auctors carrenatoms.

# The Motor Cortex: Edge Compute & Kinematics

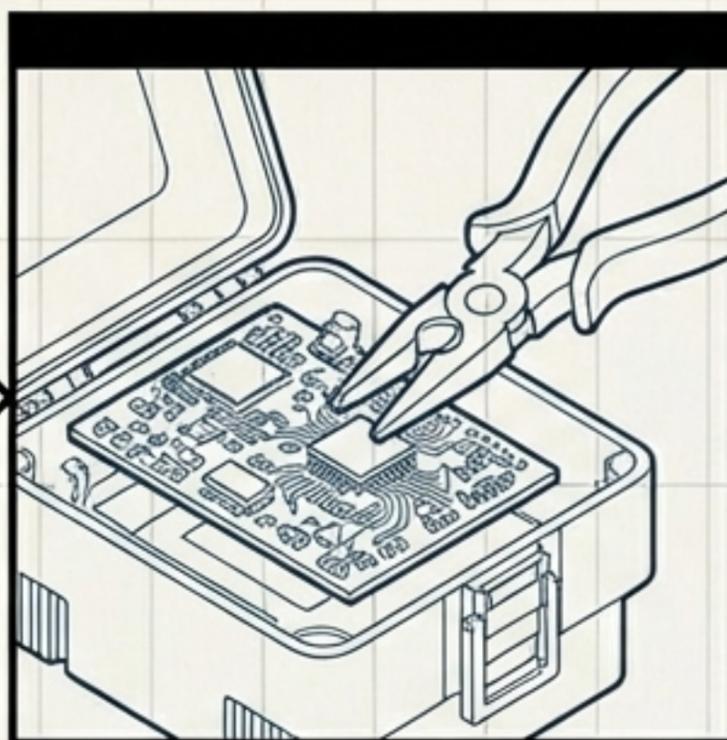


# Phase 1 Deployment: The Retrofit Pipeline



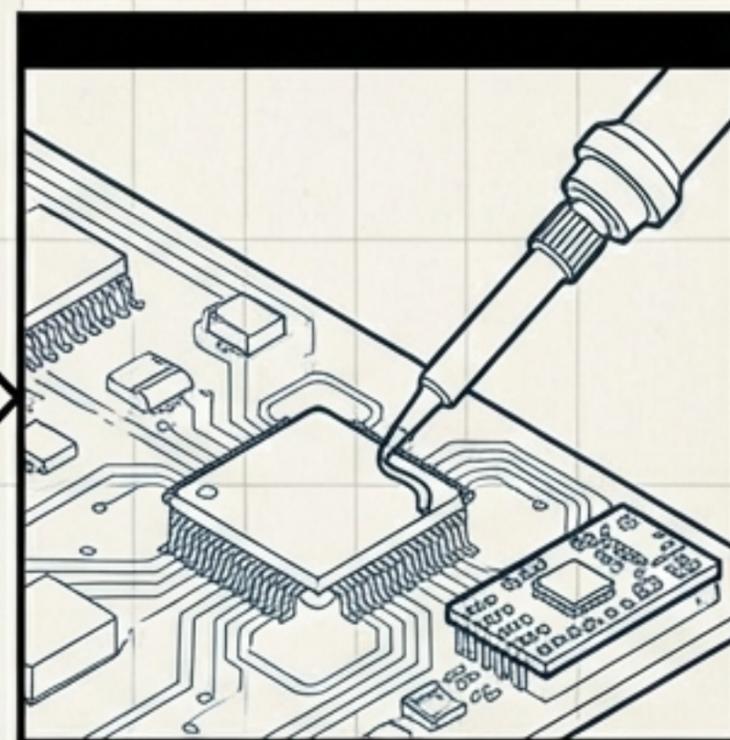
## 1. Procurement

Base robotic arms arrive from Shenzhen OEMs at the Node 3 Workshop.



## 2. The Teardown

Technicians physically gut the OEM Wi-Fi and Cloud controller boards.

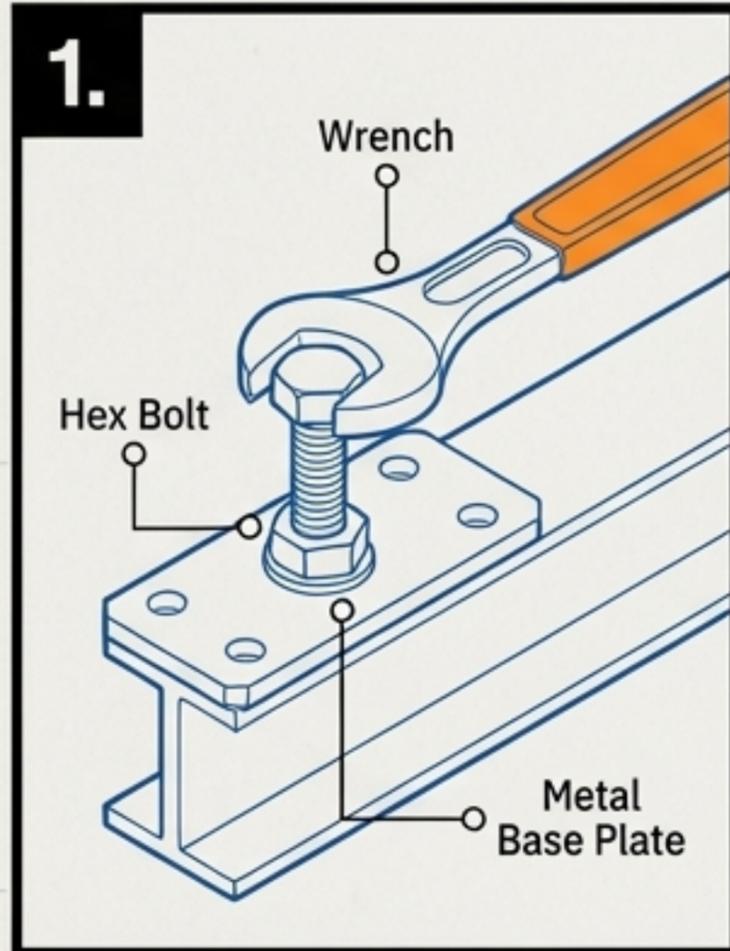


## 3. The Retrofit

A DeReticular RS485 adapter is soldered directly to the motor driver bus.

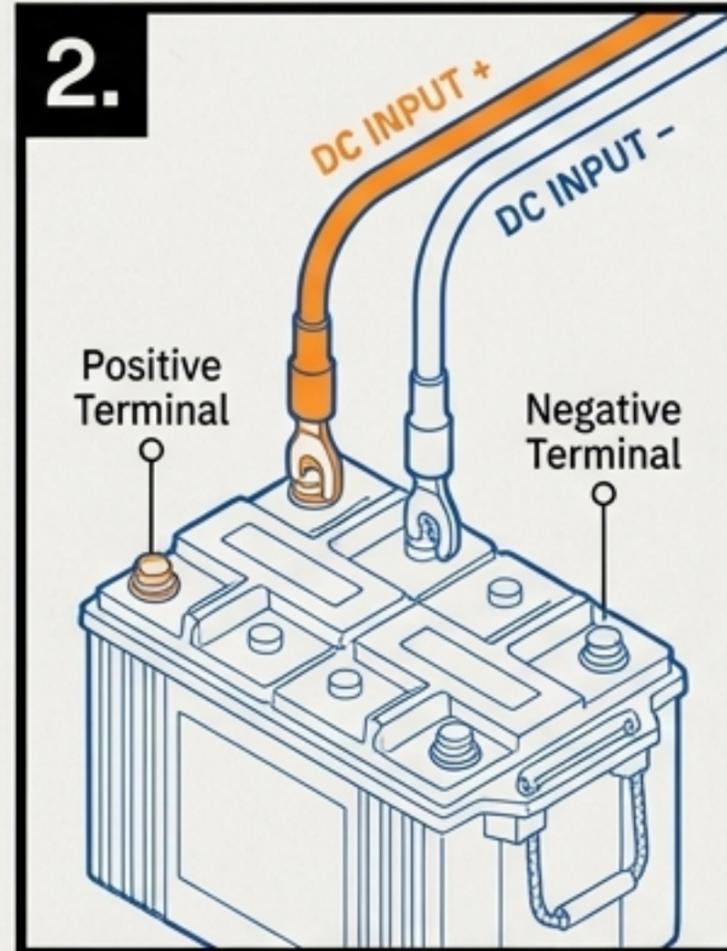
**RESULT: The arm is now completely deaf and blind to the cloud. It is capable of receiving commands only from a paired DeReticular Node.**

# Phase 2 Deployment: Field Installation



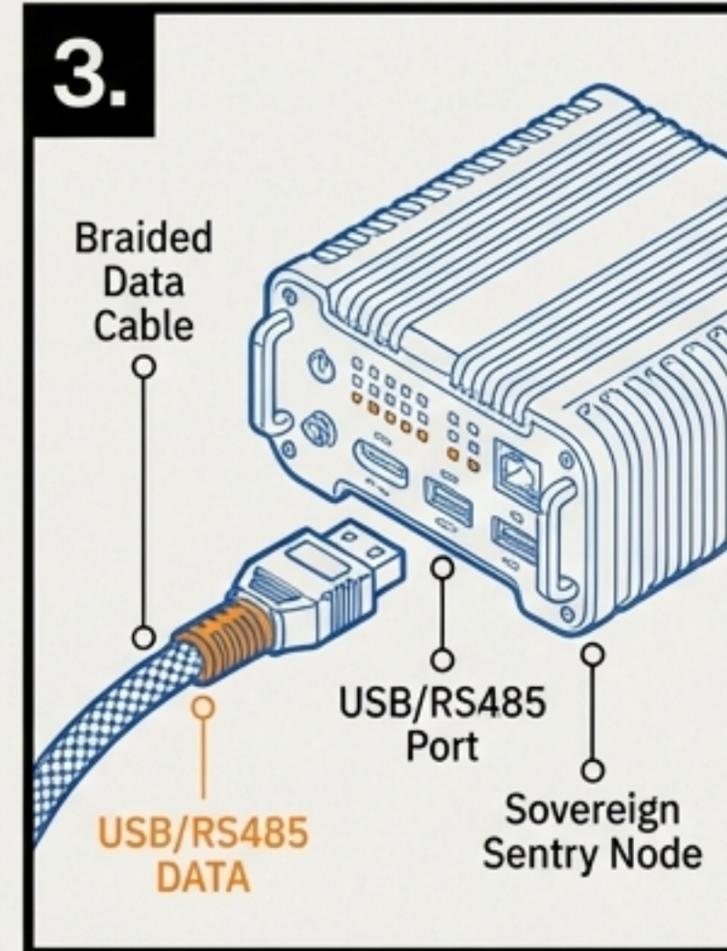
## 1. Bolt

User secures the arm to a stable surface (agricultural rover, workbench, or Kurb Kar bed).



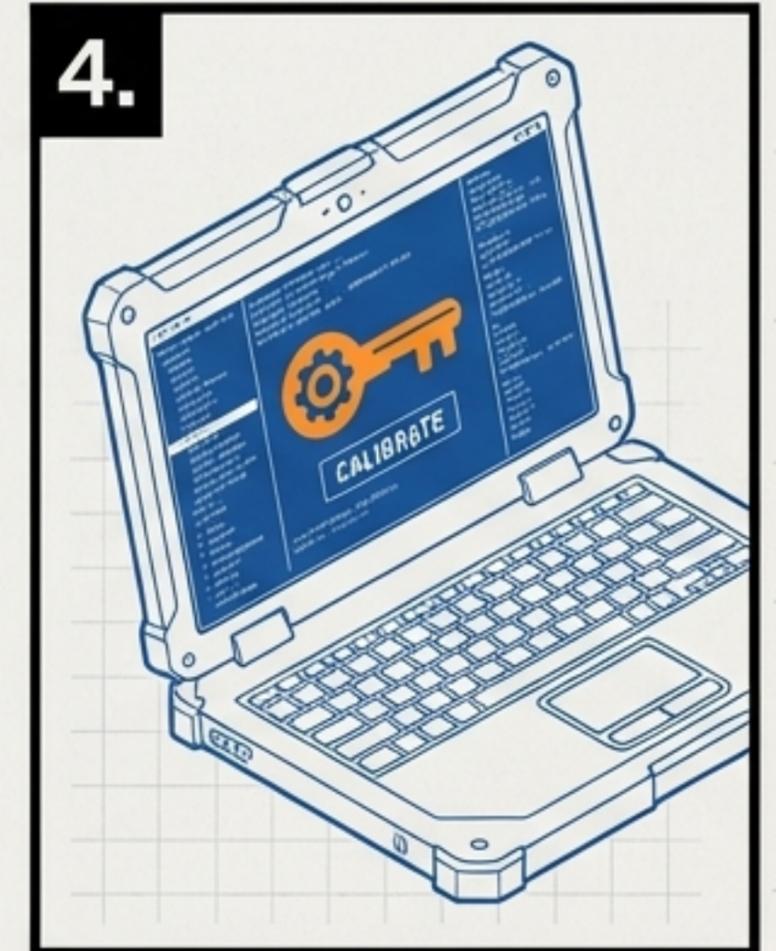
## 2. Wire

User routes the arm's DC input directly to their 12V-48V off-grid battery bank.



## 3. Connect

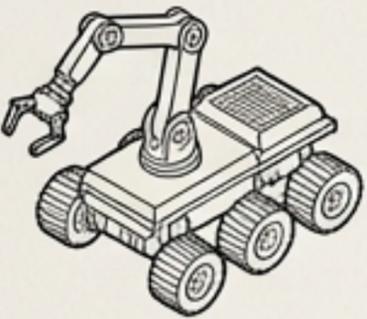
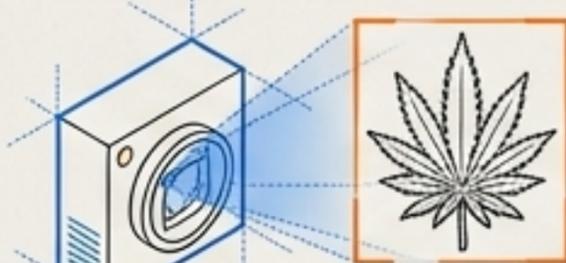
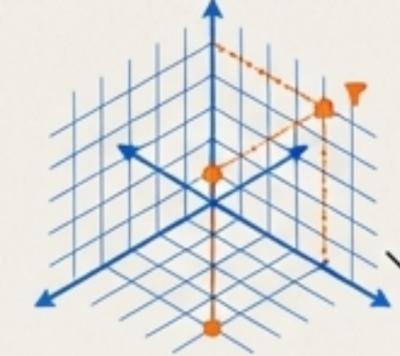
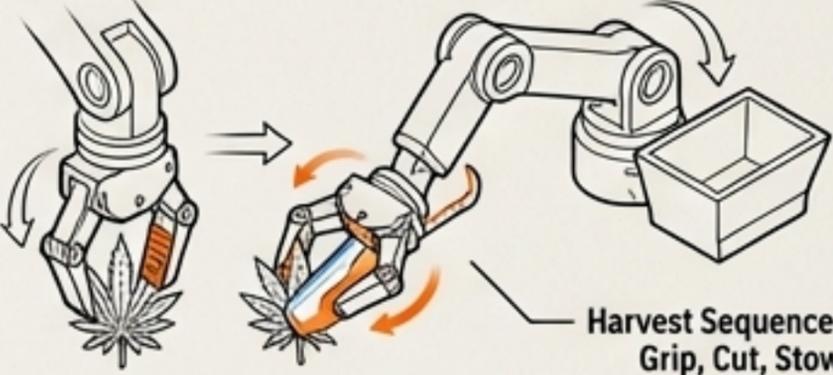
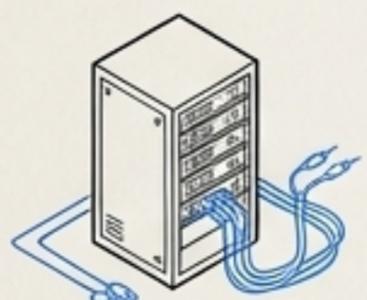
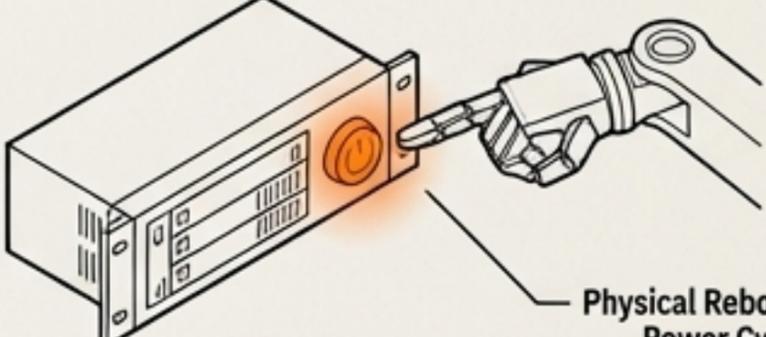
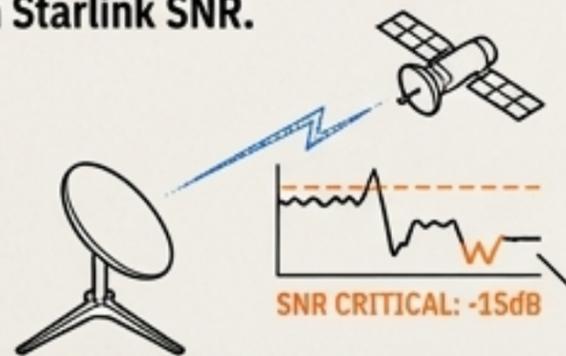
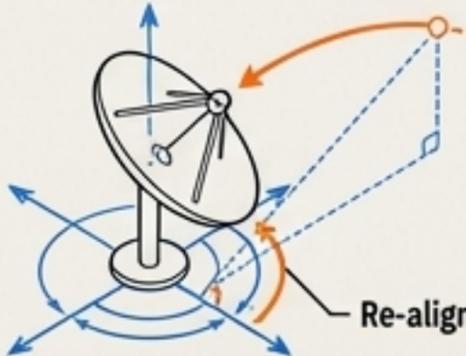
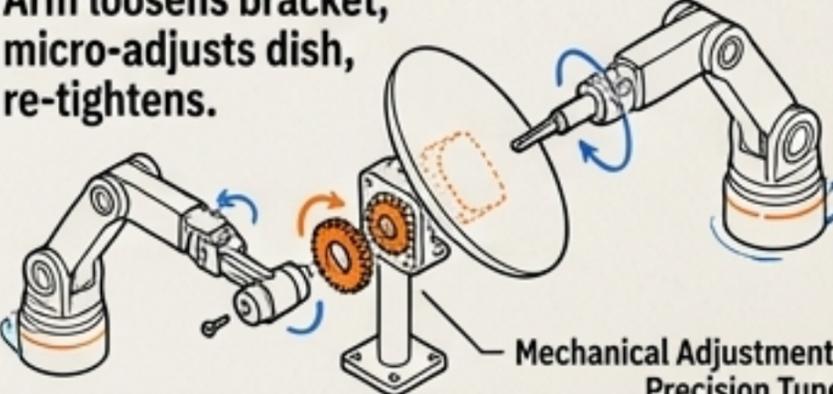
User runs the data cable to the USB/RS485 port on their Sovereign Sentry or Nomad Link.



## 4. Calibrate

User logs into the dashboard via Sovereign Key and initiates Kinematics Calibration.

# Universal Architecture: Trigger to Action

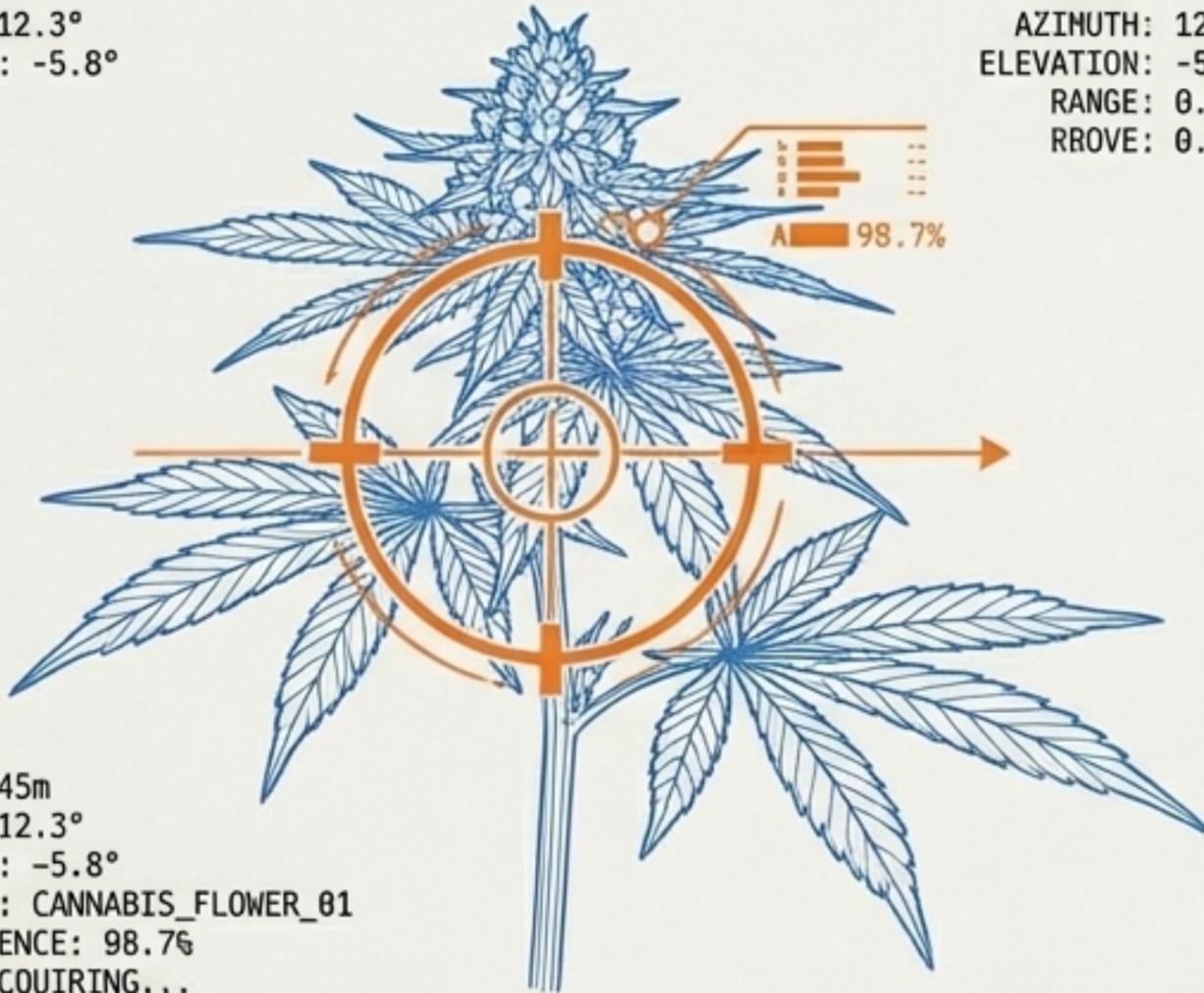
	TRIGGER	LOGIC	PHYSICAL ACTION
<b>Environment 1: Agriculture</b> 	HempGrade AI detects mature flower.  AI Detection: Mature Flower	OpenClaw calculates 3D coordinates.  3D Coordinates Calculated	Arm grips, cuts, places in hopper.  Harvest Sequence: Grip, Cut, Stow
<b>Environment 2: IT Infrastructure</b> 	SSH fails / Server hardware freeze.  Critical Alert: Hardware/SSH Failure	SysAdmin sends encrypted Telegram command.  Secure Channel Remote Command: Encrypted Auth	Arm physically depresses server power button.  Physical Reboot: Power Cycle
<b>Environment 3: Off-Grid Comms</b> 	Sentry detects critical drop in Starlink SNR.  SNR CRITICAL: -15dB Signal Loss: Sentry Alert	OpenClaw calculates optimal angle.  Re-alignment Calculation: Optimal Path	Arm loosens bracket, micro-adjusts dish, re-tightens.  Mechanical Adjustment: Precision Tune

# Operational Profile: The Ag-Bot Harvester

R2:31.373 W:R-2.+350.238 Uzn:8.020.348 He:±1.39.44 E:R-16.28.932 D:N-16.28.985

RANGE: 0.45m  
AZIMUTH: 12.3°  
ELEVATION: -5.8°

RANGE: 0.45m  
AZIMUTH: 12.3°  
ELEVATION: -5.8°  
RANGE: 0.45m  
RROVE: 0.35m



RANGE: 0.45m  
AZIMUTH: 12.3°  
ELEVATION: -5.8°  
TARGET\_ID: CANNABIS\_FLOWER\_01  
AI\_CONFIDENCE: 98.7%  
STATUS: ACQUIRING...  
MODE: HARVEST\_SEQUENCE

MODE: HARVEST\_SEQUENCE

## Scenario Context

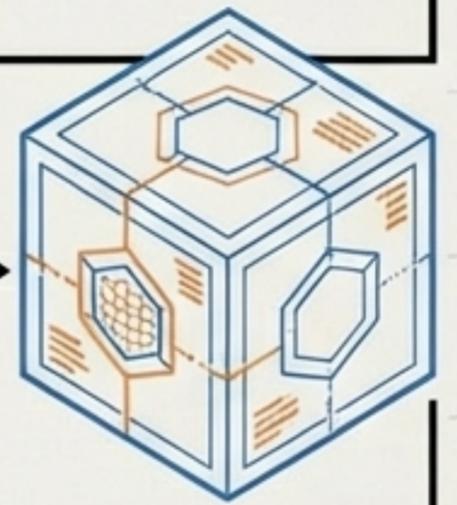
A farmer utilizing the Nomad Fleet Kit on a mobile rover.

## The Execution

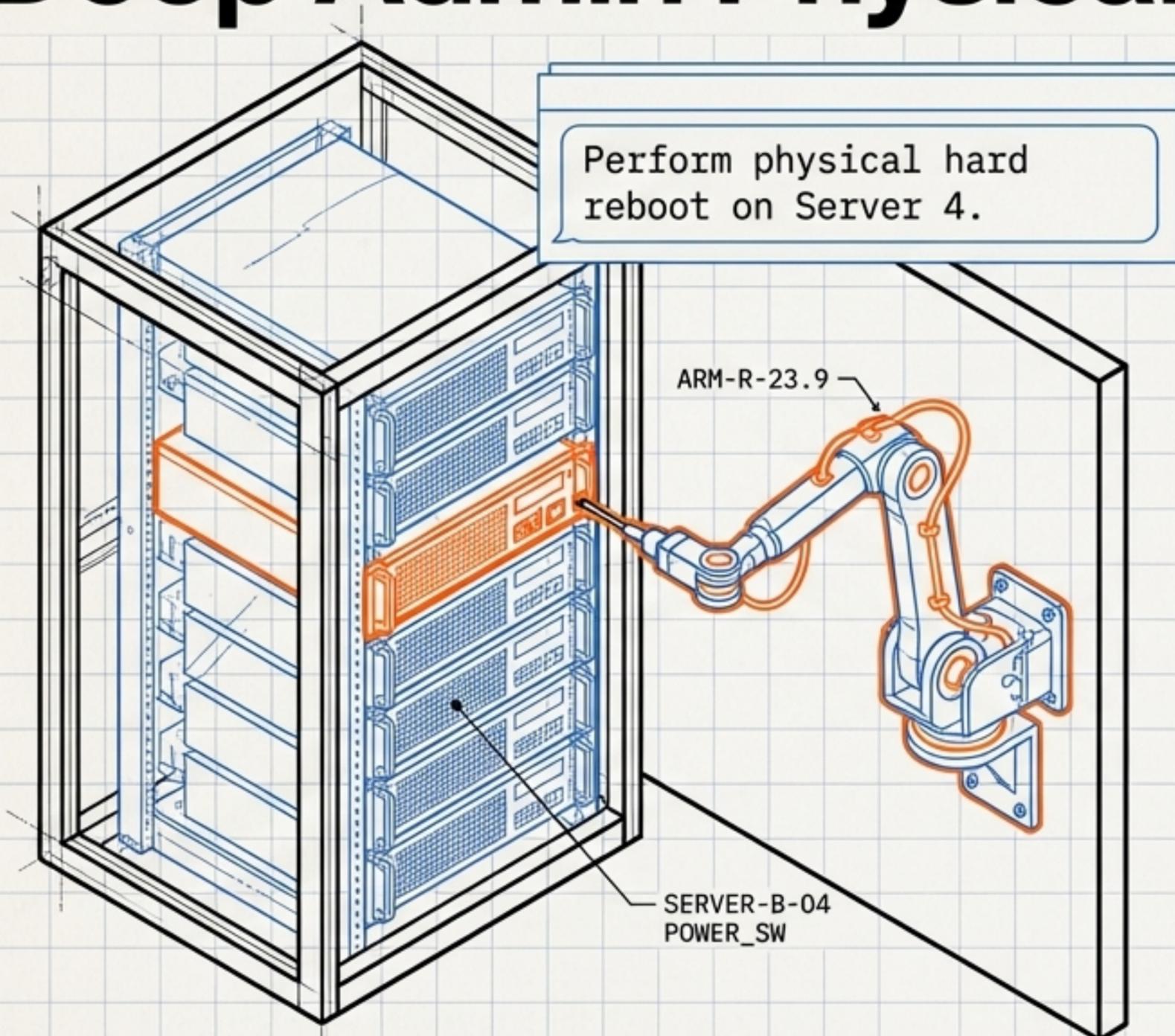
Rover's camera runs HempGrade AI locally. Upon detecting yield, the Helping Hand extends, delicately grips the stem, cuts it, and places it in the hopper.

## Ledger Integration

Proof of Harvest block is instantly minted on the Locutus Ledger, permanently timestamping geographic location and spectral quality.



# Operational Profile: Deep Admin Physical Failover



## Scenario Context

A remote server rack experiences a catastrophic hardware freeze that SSH protocols cannot resolve.

## The Command

The SysAdmin sends a secure, encrypted Telegram message to the OpenClaw Deep Admin bot directly.

## The Action

The robotic arm reaches out, depresses the physical power button on the frozen server for exactly 5 seconds, waits, and presses it again to trigger a clean reboot.

# Operational Profile: WISP Antenna Alignment

TECHNICAL ENGINEERING

## Scenario Context

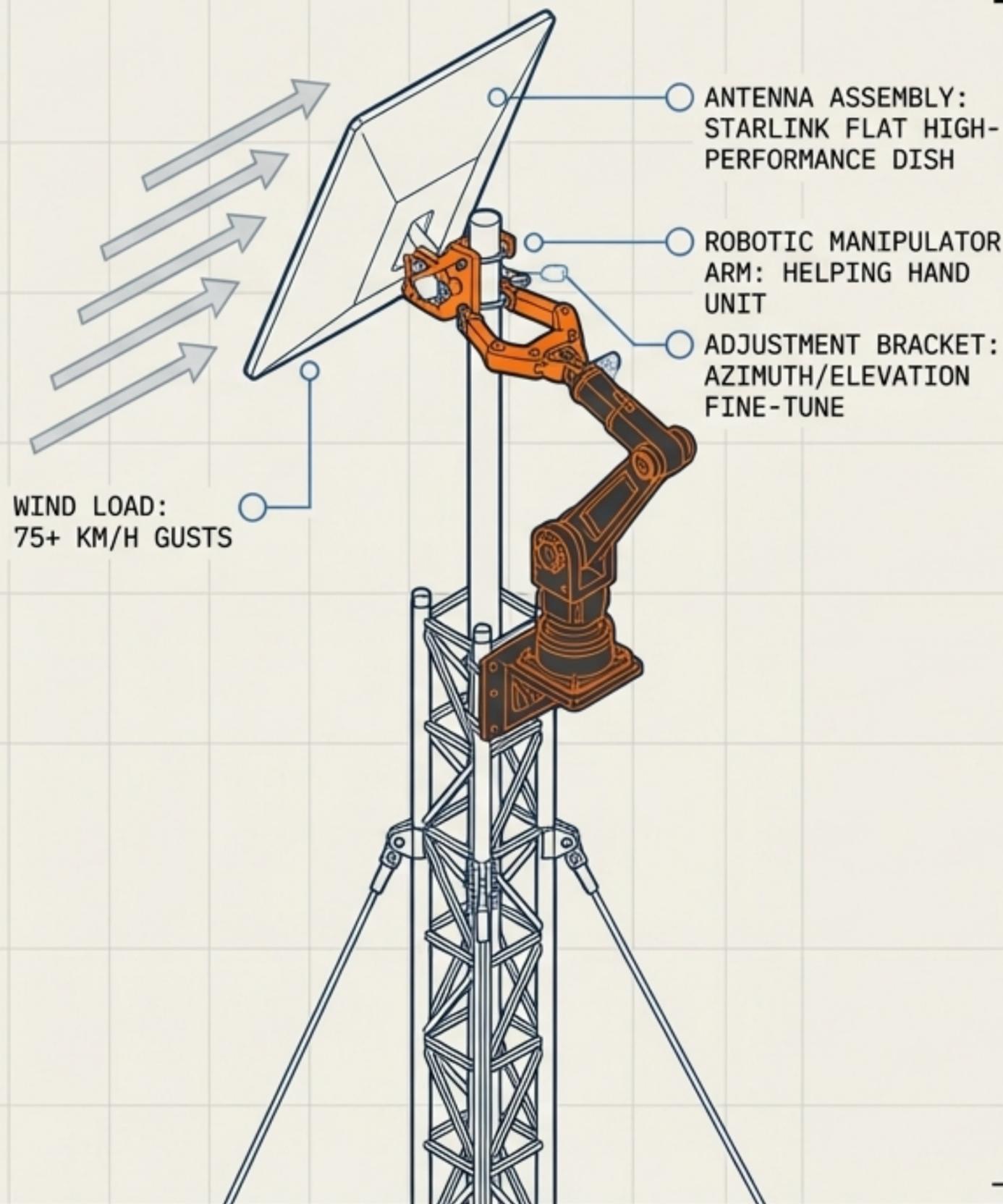
High winds knock a Mesh Beacon or Starlink dish out of alignment at a remote, off-grid installation.

## The Trigger

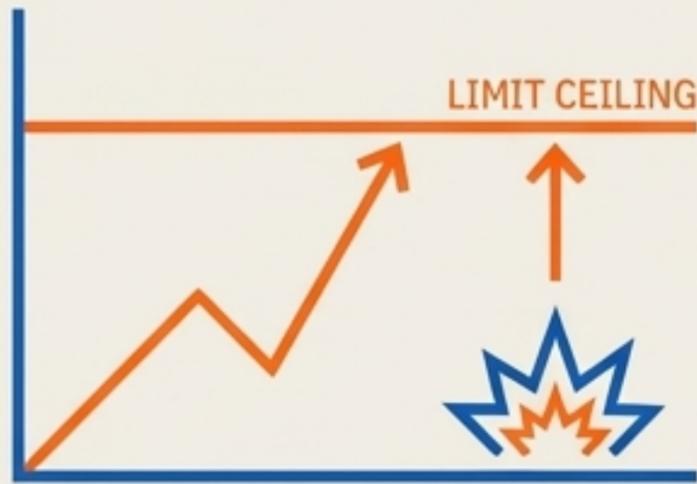
The Sentry Edge Node detects a critical drop in the Starlink SNR (Signal-to-Noise Ratio).

## The Action

The Helping Hand automatically reaches up, loosens the mounting bracket, micro-adjusts the dish azimuth and elevation until the signal peaks, and securely re-tightens the mount.

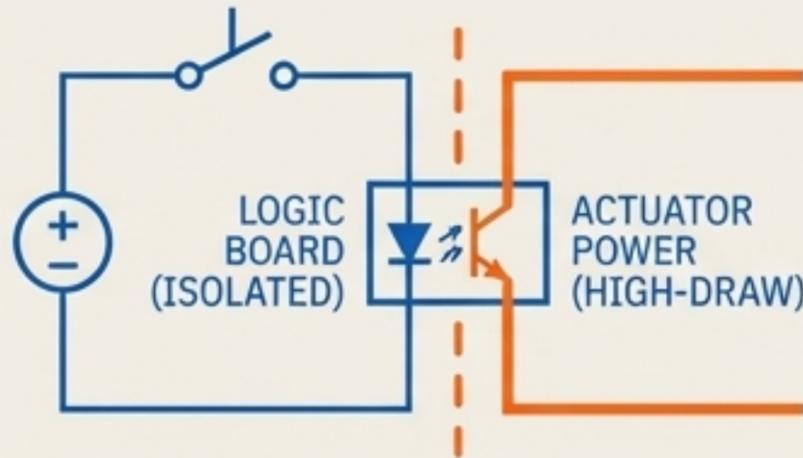


# Hardware Safeguards & Risk Mitigation



**R-KIN-01: Collision Mitigation**

<b>Risk:</b>	Pathfinding intersects with human/equipment.
<b>Remedy:</b>	Strict hardware torque limits programmed to Cobot standards. Unexpected resistance triggers immediate limp Safe Mode.



**R-PWR-01: Isolated Power**

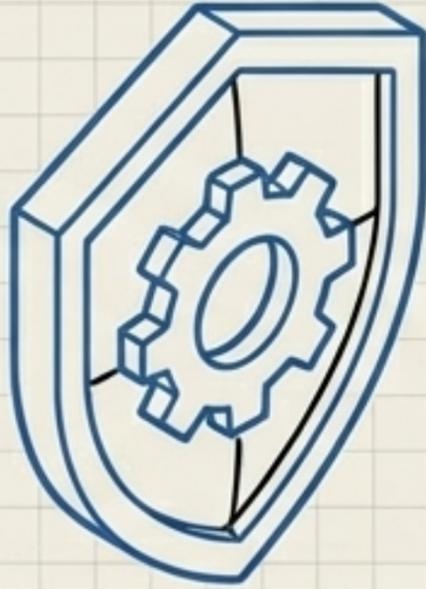
<b>Risk:</b>	Heavy actuator loads cause brown-outs.
<b>Remedy:</b>	Arm is wired via an opto-isolated relay. The Sentry's logic board is completely separated from high-draw motor controllers.



**R-SEC-01: Hardware Key Auth**

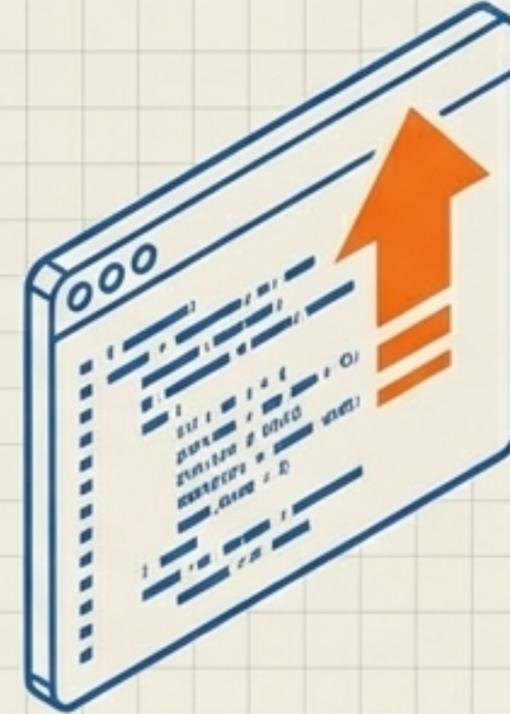
<b>Risk:</b>	Network compromise leads to physical damage.
<b>Remedy:</b>	High-Torque actions require tapping a physical Sovereign Key (NFC) against the Node, or explicit encrypted Signal bot approval.

# Support SLA & OTA Evolution



## Hardware Wear & Tear

- 1-Year limited hardware warranty covering servos and joints.
- Condition: Subject to strict adherence to stated payload limits.



## Over-The-Air (OTA) Evolution

- Continuous OTA updates for the OpenClaw Inverse Kinematics solver to refine pathfinding efficiency.
- Upcoming Gestures: Pushing libraries for complex mechanical tasks, including Standard Solder, Turn Knob, and Pull Lever.