HSIMC

ENGLISH EXECUTIVE SUMMARY · P2 · W0-004

From Stone and Thread to Shared Intelligence

Fixed W0-004 edition

A Credit-Card-Sized Starting Point for Local Making and Global Participation

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Bring your existing capability. Deliver one reproducible function. Make GenAI plans become real value — now, here, globally.

1. The opportunity: close the distance between an AI plan and a real outcome

Generative AI can now produce designs, code, instructions, analyses and alternatives at extraordinary speed. The physical world moves differently. A useful result still depends on material, machines, tools, people, space, time, permission, safety, manufacturing constraints and a clear way to decide whether the result is acceptable.

OpenAI's 3 November 2026 publication, *Accelerating engineering for the physical world*, describes advances in using AI across mechanical design, electronics, software, simulation and manufacturing, and invites engineers, engineering firms and software vendors to help shape this effort around real tools and problems. HSIMC responds with an independent proposal: make existing real-world capabilities easier to discover, combine, verify and reuse across teams and locations.

The basic unit is deliberately simple: **a defined result, at a named place and time, under agreed conditions, completed by a responsible party and verified by evidence.** That result may be a sample, a processed material, an inspected part, a stored item, a completed handover or a controlled physical action. The aim is not to automate everything. It is to shorten the path from a GenAI plan to a useful and accountable change in the real world.

2. Start with what people already have

The white paper begins with a familiar physical reference: the planar footprint of a standard credit card. The card is not presented as proof that a complete computing device already fits inside a bank-card form factor. It is a **starting point**: familiar, portable, easy to print, easy to attach to an object, and suitable for QR or NFC entry into a larger capability.

From that starting point, intelligence can be distributed across several layers: a printed or textile surface, a small electronic module, a local computing node, an existing machine, and cloud services. A maker does not need to manufacture every layer. Different contributors can deliver different functions against the same interface and acceptance conditions.

This is why ordinary materials and familiar tools matter. Construction-material streams can be explored for new component uses. Conductive thread, sewing and embroidery can be explored as functional layers when combined with existing chips and modules. Printing can produce markings, alignment features, electrodes, labels and user interfaces. A workshop can contribute a jig; an engineer can contribute an algorithm; another team can contribute a camera adapter or a test procedure.

The contribution should be small enough to understand and strong enough to reproduce: **one function, with clear inputs and outputs, conditions of use, a responsible contributor, a version and an acceptance check.**

3. Participation needs authority, not only connectivity

HSIMC organizes collaboration around three ideas:

- **Resource** — what is available: a person, place, machine, material, dataset, service or other capability, with its conditions and current status.
- **Authority** — who may read, decide, operate, share, accept or withdraw that capability.
- **Evidence** — what was observed, tested, delivered, accepted or rejected, with enough version and provenance information for another party to understand the result.

These business-level objects are distinct from Model Context Protocol terminology. In MCP, **tools** are callable operations and **resources** expose data or context to clients. In the 28 July 2026 specification, MCP is explicitly stateless at the protocol level: each request carries the information needed to process it, and state that spans requests must be referenced by an explicit identifier. HSIMC uses that model as an engineering foundation while keeping real-world state where it belongs: equipment status, work reservations, custody, authority, operation receipts and evidence remain persistent.

This distinction is important for global collaboration. A new engineer can join from another client, device or network without relying on hidden conversational memory, while the physical work remains tied to explicit identities, permissions and records. A retry should not manufacture a second physical effect. A historical receipt should not be mistaken for a fresh observation. A public QR or NFC entry should not silently grant device-control authority.

4. Develop together before hardware ships

The current shortest hardware route is based on the T736 module and the engineering assets already accumulated around it. The route is:

cloud simulation and application development → parallel hardware and interface work → remote reference-board validation → configuration freeze → shipment → local binding, recovery and continued operation.

This changes the usual sequence. Software teams do not need to wait for final hardware before they start. Hardware teams do not need to wait for a complete customer application before they standardize power, interfaces, connectors and recovery paths. Local makers can prepare fixtures, printed samples or functional surfaces while remote teams develop against the same contract.

The evidence boundary remains explicit. C0-005 is a documentary hardware baseline. C0-007 is a source-verified simulator. C0-008 records 14/14 Azure remote simulation checks from 10 November 2026. The real T736 was not reachable during that recorded test, and H0-001 did not perform a new physical probe. Card-sized hardware remains a design target. These records support continued engineering; they do not constitute physical-board acceptance or a finished product claim.

A proposed first shared function is sample alignment and inspection: one team produces a marked sample or fixture, another develops image processing against fixed inputs, and a later physical adapter binds a real camera and target device. The same contract can then be tested at a second location. The important outcome is not merely that one demo works, but that another team can reproduce the function and understand what changed.

5. Real-world applications can share a method without pretending to share the same safety case

The same collaboration model can be explored across manufacturing, storage, logistics and assisted mobility, while each physical use case keeps its own acceptance requirements.

A small factory may need a low-frequency transfer of material from storage to a machine, then from the machine to a temporary holding location and finally to a third-party logistics handover. The practical problem is often not a lack of sophisticated automation. It is that the demand is occasional, the space is tight, and the useful equipment already exists. A shared or detachable capability can therefore be more valuable than permanently automating every pallet, trolley or workstation.

The earlier project exploration began with discarded pallets and progressively moved toward detachable power, UWB positioning and reuse across existing carts. That discussion is treated as an exploratory design thread, not as validated performance data. Its strategic lesson is broader: **low-frequency local demand can still create value when a small number of capabilities are scheduled across many existing assets.**

Other selected pathways include airport and hotel baggage handovers, empty-cart return, and future assisted-mobility research. The common method is to define the resource, authority, handover conditions, acceptance evidence and economic boundary. The physical engineering remains separate. A cargo-cart result does not validate a wheelchair. A UWB observation does not by itself authorize movement. A simulation result does not prove a safe physical deployment.

6. Measure useful value, not activity for its own sake

The project proposes three parallel accounts rather than one inflated impact number.

Cash results record realized revenue, actual avoided cash cost and incremental operating cost. Released staff time only becomes a cash saving when it actually reduces overtime, outsourcing or another expenditure, or supports additional paid work.

Capability results record time to an accepted sample, waiting, setup, rework, useful capacity, independent reproduction and the effort needed for a second team to continue the work. These measures are often the earliest evidence that the collaboration model is improving engineering or operations.

ESG results record material and energy use, waste and repair, access and participation, labour and compensation, decision rights, evidence quality and accountability. The 17 UN Sustainable Development Goals provide a wider outcome lens. The strongest proposed early pathways for this white paper are skills and learning (SDG 4), decent work and small enterprise (8), industrial participation and innovation (9), reduced inequalities (10), responsible consumption and production (12), and partnerships (17). This is an editorial relevance assessment, not a claim that HSIMC has already delivered verified impact against those goals.

The United Nations' 2030 Agenda states that the 17 goals are integrated and indivisible and includes the pledge that "no one will be left behind." The corresponding UN development guidance emphasizes identifying who is being left behind and why, meaningful participation and accountability. HSIMC extends that principle into its own GenAI-physical-era design question: **who can participate in producing useful capability, under what conditions, with what authority, and who receives the value?**

7. A global network can begin with one local contribution

This white paper does not require a new factory, a new robot fleet or a complete hardware platform before participation begins. A contribution may be a material sample, a sewing or printing process, a machine hour, a fixture, a camera image, an adapter, a local test site, an algorithm, an inspection method or an accepted service window.

The participant declares what can be provided, where and when it is available, who is responsible, what use is permitted and how success will be checked. Teams then connect these contributions through explicit interfaces and work records. The result can be improved locally, reproduced elsewhere and, where appropriate, turned into a commercial service or maintained compatibility profile.

The proposed invitation is:

> **Bring your existing capability.**
> **Deliver one reproducible function.**
> **Make GenAI plans become real value — now, here, globally.**

The ambition is global, but the test is practical. Can one real contributor deliver one useful function on agreed terms? Can another team reproduce it? Can the people involved understand the cost, authority, evidence and value? If the answer is yes, the network has something real to build on.

Evidence and publication status

This is the **English Executive Summary** for P2. It is an independent HSIMC proposal. It does not claim endorsement by the United Nations, OpenAI, the MCP project, ISO, or any named ecosystem partner. Proposed material, hardware, mobility and impact pathways remain subject to the evidence level stated in the underlying project records.

Current inherited engineering boundary: C0-005 documentary hardware baseline; C0-007 source-verified simulator; C0-008 historical Azure remote simulation record (14/14 on 10 November 2026); H0-001 did not re-probe the physical T736; card-sized hardware remains a design target.

P2 publication status in W0-004: English summary content is evidence-reviewed and prepared as matching HTML and PDF. Physical printing and physical NFC writing/read-back have not yet been performed.

Selected source notes

1. United Nations, *Transforming our world: the 2030 Agenda for Sustainable Development*: https://sdgs.un.org/2030agenda
2. United Nations Sustainable Development Group, *Leave No One Behind*: https://unsdg.un.org/2030-agenda/universal-values/leave-no-one-behind
3. OpenAI, *Accelerating engineering for the physical world*, 3 November 2026: https://openai.com/index/accelerating-engineering-for-the-physical-world/
4. Model Context Protocol, specification dated 28 July 2026, Base Protocol: https://modelcontextprotocol.io/specification/2026-07-28/basic/index
5. Model Context Protocol, Tools: https://modelcontextprotocol.io/specification/2026-07-28/server/tools
6. Model Context Protocol, Resources: https://modelcontextprotocol.io/specification/2026-07-28/server/resources
7. HSIMC, *Card Phone and Cloud Development — Cross-Project Hand Off H0-001*, 11 November 2026.
8. HSIMC, *White Paper Editorial Master W0-001* and *Publication Production Plan W0-002*, 11 November 2026.