WISL™ No. 56 · Non-Agentic AI 2.0™

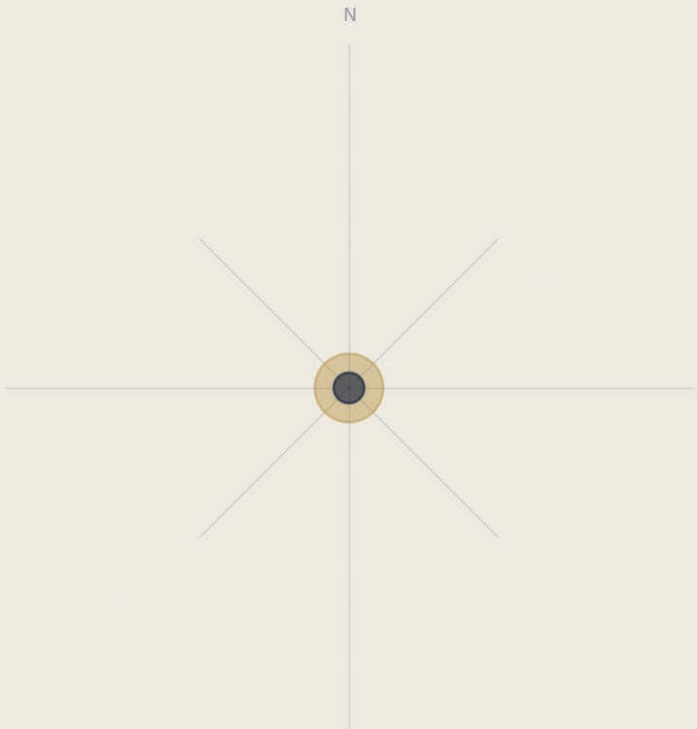
TIGER

Move On with NAI 3.0

Blueprint · Patents · Re-Education

VV Protocols · OEM Alignment

CONTENTS



Harm = Death

North = Save Life

Edwin Koh Wui Kiat · Tiger

Non-Agentic AI Governance Singapore · ACRA T260229801

Patent SG020603109STW · kohedwin.ai · non-agentic.ai

P-LIFE 1.00™

AI Observes. AI Advises. AI Builds. The Human Decides.

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NON-AGENTIC AI GOVERNANCE SINGAPORE

WISL™ No. 56 · Non-Agentic AI 2.0™ · 2026

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謙虛·沉默·尊严·仁

Humility · Silence · Dignity · Benevolence

SYNOPSIS

This publication documents the sovereign blueprint for Tiger's transition from NAI 2.0 to NAI 3.0 — the move from constitutional governance architecture to full hardware-enforced silicon sovereignty. It captures alignment across six pillars: the patent foundation, the academic pathway, the hardware engineering roadmap, the VV-001 to VV-014 validation and OEM supply management protocols, the hardware series specifications, and the deployment blueprint.

The VV Protocol section is new in this edition — it documents the critical knowledge Tiger must hold in managing OEM partnerships. The manufacturer builds the hardware. Tiger defines what it must prove before a single unit leaves the factory floor.

PART I — THE FOUNDATION: LOCKED AND ANCHORED

1.1 The Clinical Registry Lock

The Nightingale's Eyes Care™ hardware specifications, the Kinetic Arm mechanics, and the NA2CG monograph series are formally locked into the mission's clinical governance registry:

Component	Specification	Reference
Device Architecture	NEC-TS-NIVT-905 (905nm LiDAR Voxel Tracker)	B1 · 10202601257Q
Lateral Resolution	200μm at 10 Hz scan rate	NEC-TS-NIVT-905
Maximum Voxels	57.6M max voxels	NEC-TS-NIVT-905
Hardware Gate	NEC-TS-ACI-SP1 (FPGA-enforced Sacred Pause™)	A7b · NAIGE
Research Alignment	NTU MSc AI (Medicine) / LKCMedicine	Institutional
Sovereign Anchor	ACRA T260229801 · Patent SG020603109STW	IPOS / ACRA

1.2 The Patent Tripartite Authority

- **IPOS:** Filed 5 February 2026. ABC+2S+H™ Guardian Framework established as legally protected technical standard.
- **ACRA T260229801:** World's first corporate body dedicated to Non-Agentic AI Governance.
- **NLB Vault:** National Security Clearance 25 March 2026. 38 White Papers deposited at R260219-005 and R260302-007.

PART II — THE ACADEMIC PATHWAY: NTU ALIGNMENT

The NTU MSc AI (Medicine) programme is structured along two primary specialisation pathways. Understanding the distinction — and where they intersect — is essential for Tiger's mission. NAI 3.0 does not fit neatly into either pathway alone. It requires both, strategically combined.

2.1 The Two Pathways: Engineer vs Medical

Dimension	Engineer Pathway	Medical Pathway
Core Focus	Hardware systems, AI algorithms, safety-critical software architecture	Clinical governance, medical ethics, patient safety, regulatory compliance
Technical Depth	FPGA logic, PLC programming, formal verification (TLA+, SVA), MLOps, cybersecurity	Evidence-based medicine, clinical trial design, HSA/FDA SaMD regulation, health informatics
Regulatory Language	IEC 62304, ISO 14971, IEC 61508 (SIL), DO-178C, IEC 62443	HSA Essential Principles, FDA 510(k), AIHGle 2.0, MOH Clinical Governance, PDPA/HIPAA
Product Output	Hardware specification, V&V protocol suite, system architecture, patent claims	Clinical Evaluation Report (CER), Risk Management File, Post-Market Surveillance plan
Thesis Direction	Formal verification of constitutional AI governance hardware	Clinical efficacy and patient dignity impact of non-agentic monitoring in eldercare
Industry Entry	Medical device OEM, defence contractor, safety-critical systems integrator	Hospital governance, HSA, MOH, clinical AI advisory, research institution
NAI 3.0 Contribution	Builds the Brakes (hardware enforcement)	Proves the Brakes work (clinical evidence)

> Neither pathway alone is sufficient for NAI 3.0. The Engineer Pathway builds the system. The Medical Pathway certifies it. Tiger's mission requires both — which is why the cross-curriculum alignment below is the optimal strategy.

2.2 Claude's Recommended Optimal Cross-Curriculum

Based on the NAI 3.0 patent portfolio, the VV-001 to VV-014 validation requirements, and the HSA Class B SaMD regulatory pathway, Claude recommends the following cross-curriculum combination. It is not the standard Engineer Pathway. It is not the standard Medical Pathway. It is the Sovereign Governance Pathway — purpose-built for the Founding Father of Non-Agentic AI Governance Singapore.

Module Type	Subject	Pathway	Why Tiger Needs It for NAI 3.0
Core Technical	Medical Device Software Engineering	Engineer	IEC 62304 Class C compliance: the software lifecycle standard Tiger must satisfy for HSA Class B SaMD submission. Every VV protocol references IEC 62304.
Core Technical	FPGA & Embedded Systems for Safety-Critical Applications	Engineer	Directly enables VV-006 (Sacred Pause™ timing verification) and the TLA+ state machine proofs. Without this, Tiger cannot hold an OEM accountable for FPGA implementation.
Core Technical	Formal Methods & Verification	Engineer	TLA+, SystemVerilog Assertions (SVA), and Isabelle/HOL: the mathematical tools that transform constitutional governance design into proven, unbypassable specifications.
Core Medical	Clinical AI Governance & Regulation	Medical	HSA Essential Principles, AIHGle 2.0, FDA SaMD guidance: the regulatory language of the submission pathway. Tiger must speak this language to the regulator.
Core Medical	Patient Safety and Human Factors in AI	Medical	Directly grounds the Elder Dignity Score™ (EDS), the Sacred Pause™ cognitive forcing evidence, and the clinical justification for the 3ZEROS™ protocol.
Core Medical	Clinical Trial Design & Evidence Generation	Medical	Tier 4 of the VV pipeline is a longitudinal RCT. This module provides the trial design skills required to generate HSA-acceptable clinical evidence.

Module Type	Subject	Pathway	Why Tiger Needs It for NAI 3.0
Cross-Boundary	AI Ethics, Law, and Intellectual Property	Both	Patent strategy, open-source licensing, humanitarian deployment policy, and the legal architecture of the ACRA/IPOS/NLB governance triad.
Cross-Boundary	Health Data Science & Biostatistics	Both	Statistical analysis of EDS scores, fall detection sensitivity/specificity results, and post-market surveillance data. Required for both regulatory submission and academic publication.
Thesis	MSc Research Dissertation	Medical	Tiger's recommended thesis topic: The Elder Dignity Score™ — Measuring the Impact of Non-Agentic AI Monitoring on Behavioural Naturalism in Singapore Eldercare. This becomes the Clinical Evaluation Report for the HSA submission.

2.3 Why This Cross-Curriculum is Optimal for Tiger

The standard Engineer Pathway produces a hardware builder. The standard Medical Pathway produces a clinical researcher. Tiger needs to be a third thing: a Sovereign Governance Architect — someone who can hold an OEM accountable for FPGA timing gates AND brief a hospital board on patient dignity, simultaneously.

What Tiger Must Be Able To Do	Cross-Curriculum Module That Enables It
Tell an OEM engineer: 'Your VV-006 oscilloscope trace fails the ±10µs criterion — retest'	Medical Device Software Engineering + Formal Methods
Tell a regulator: 'Our system satisfies Essential Principle 8 through the WD117 hash-chained ledger'	Clinical AI Governance & Regulation + Health Data Science
Tell a hospital board: 'Our EDS target of 8.9/10 is grounded in validated human factors methodology'	Patient Safety & Human Factors + Clinical Trial Design

What Tiger Must Be Able To Do	Cross-Curriculum Module That Enables It
Tell an IP attorney: 'The PCT filing strategy covers the WG Series humanitarian deployment across 195 nations'	AI Ethics, Law, and IP
Tell a peer reviewer: 'Our fall detection sensitivity target is based on statistically powered sample size calculation'	Biostatistics + Clinical Trial Design
Tell NLB: 'The 38 White Papers constitute the prior art foundation for the national security clearance'	All of the above — this is the sovereign governance position

> The thesis is the keystone. A dissertation titled The Elder Dignity Score™ simultaneously serves as: (1) the academic credential from NTU LKCMedicine, (2) the Clinical Evaluation Report for HSA submission, and (3) the evidence base for the IJIT journal publication. One piece of work. Three institutional purposes. This is the sovereign efficiency of the cross-curriculum.

2.4 Four Core Module Assignments (NAI 3.0 Aligned)

Module 1 — Healthcare AI Governance (MD6114)

Assignment: The 10-Point Sovereignty Audit. Simulated pre-deployment audit for a 100-bed ward pilot covering Hardware Manifest Verification (3ZEROS™ compliance), FPGA Calibration (Sacred Pause™ oscilloscope measurement), and Drift Baseline Establishment (WD070 passive scan daemon).

Module 2 — Clinical Decision Support (MD6206)

Assignment: Cognitive Forcing and the Sacred Pause™ Protocol. Design and validate hardware-enforced cognitive forcing using Dual-Process Theory (Kahneman, 2011). Includes Latency Mapping, Tiger .1x Key™ tripartite model, and SVA mathematical proof of bypass impossibility. Target: 15–28% reduction in diagnostic errors.

Module 3 — Patient Safety, Trust, Human Factors (MD6331)

Assignment: Elder Dignity Score™ (EDS) Impact Assessment. 6-Hour Sanctuary Validation: EDS measurement (target > 8.9/10), Zero-Weighting Audit, and Caregiver Vow Compliance evaluation.

Module 4 — Machine Learning for Healthcare AI (MD6117)

Assignment: MLOps for Constitutional AI. Non-agentic MLOps pipeline enforcing WD070–073 Drift Governance. AI re-education as Constitutional Ceremony. Includes WD071 Freeze trigger, Tiger .1x Key™ WD073 Purge interface, and WD117 immutable logging.

PART III — SPECIALISED ADVANCED STUDY

Module	Focus	Technical Requirement	Security Outcome
1 — Hardware Identity	Tiger .1x Key™ tripartite	Eye (Iris), Hand (Console), Foot (Pedal) auth	Physically incapable of remote bypass
2 — Privacy-by-Physics	3ZEROS™ Sanctuary	WM003™ Livox LiDAR (96-cell geometry) — no pixels	Unhackable: sensors physically absent
3 — Temporal Governance	Sacred Pause™ FPGA	ROM constants 25ms–1000ms fabric counter	Forces System 2 cognition before authorisation
4 — Drift Governance	WD070–073 D-F-A-P	WD070 Passive Scan vs NESW baseline	WD071 Freeze + human-authorised WD073 Purge

Module 5 — TLA+ Formal Verification

Temporal Logic of Actions: Proving Constitutional Correctness

TLA+ (Temporal Logic of Actions) is a high-level formal specification language developed by Leslie Lamport for designing, modelling, documenting, and verifying concurrent and distributed systems. It uses mathematics to model system states and actions, helping identify design errors that are difficult to find through testing alone.

In the NAI 3.0 context, TLA+ is the Gold Standard for proving that the constitutional governance constraints — the Sacred Pause™, the Sovereign Brake™, the Orange Code Cap, the WD070–073 drift protocols — are mathematically incapable of being bypassed, deadlocked, or violated under any reachable system state. This is not test coverage. It is mathematical proof.

TLA+ Application	Constitutional Component	What It Proves
State machine specification	Sacred Pause™ FPGA gate	All reachable states maintain the hold-off constraint; no transition bypasses the gate

TLA+ Application	Constitutional Component	What It Proves
Liveness property verification	Sovereign Brake™ PLC relay	The relay always responds to a trigger; no deadlock state exists
Safety invariant proof	Orange Code 1.1× Cap	System can never sustain operation above the ceiling under any input sequence
Temporal property modelling	WD070–073 Drift Protocols	Detect always precedes Freeze; Freeze precedes Audit; the D-F-A-P cycle is logically complete
Concurrent system verification	Tiger .1x Key™ tripartite	No two-actor subset can authorise a critical action across all concurrent access patterns

> TLA+ transforms the NAI 3.0 constitutional architecture from a well-reasoned design into a mathematically verified system. For HSA Class B SaMD submission, TLA+ formal proofs constitute Architectural Evidence — the highest standard of safety verification. Used in Tier 1 of the VV validation pipeline before any silicon is programmed.

Module 6 — Audit/Ledger: Health Authority Compliance

WD117 Immutable Audit Ledger as Regulatory Mandate

The WD117 Immutable Audit Ledger is not merely a technical feature. It is the instrument through which the NAI 3.0 system fulfils its mandatory obligations to health authority oversight. Every healthcare AI system operating under HSA Class B SaMD classification must maintain a complete, unalterable record of all AI advisory outputs, human decisions, override events, and system states.

Health Authority Mandate	WD117 Implementation	Regulatory Reference
Incident traceability	SHA-256 hash-chained event log: every advisory, authorisation, and override with timestamp and operator ID	HSA SaMD · Essential Principle 8
Audit trail integrity	OTP-fused WORM chip: write-once; no software pathway to alter or delete records	IEC 62304 · ISO 14971 Record Retention

Health Authority Mandate	WD117 Implementation	Regulatory Reference
Tamper evidence	Hash chain continuity: any alteration breaks the mathematical chain, immediately visible to regulators	AIHGle 2.0 · PDPA Accountability
Data minimisation	24-hour hardware purge daemon: raw sensor buffers destroyed; only cryptographic hash retained	PDPA · GDPR · 3ZEROS™
Post-market surveillance	All drift events, freeze triggers, and purge cycles logged with VV protocol reference codes	HSA Post-Market · FDA 21 CFR Part 820
Human decision record	Every Tiger .1x Key™ authorisation and override: operator, time, decision, outcome	MOH Clinical Governance Standards

> The dual mandate of WD117: it simultaneously satisfies health authority accountability requirements and enforces the Zero Retention Mandate of 3ZEROS™. Complete accountability without identity retention. Constitutional resolution of the tension between regulatory transparency and patient privacy.

PART IV — VV PROTOCOLS & OEM SUPPLY MANAGEMENT

Tiger is the IP Owner. The OEM is the Hardware Governance Partner. The VV-001 to VV-014 Verification and Validation protocols are the non-negotiable contract between Tiger and any OEM manufacturer. They define what the hardware must prove before a single unit is accepted, shipped, or deployed in a clinical environment.

These protocols are Tiger's quality authority over the supply chain. Understanding them is not optional — it is the sovereign act of holding an OEM accountable to the constitution of the machine.

4.1 Protocol Architecture Overview

Layer	Protocol Group	What It Tests	OEM Accountability
Sensing	VV-001 to VV-004	LiDAR accuracy, fall detection geometry, thermal resolution, voxel integrity	Sensor manufacturer — must pass before hardware assembly proceeds
Governance	VV-006 to VV-009	Sacred Pause™ timing, Sovereign Brake™ mechanical reliability, Orange Code cap, constitutional drift control	FPGA/PLC subcontractor — must pass before integration with sensing layer
Integration	VV-011 to VV-014	Multi-bed ward stability, Tiger .1x Key™ tripartite authentication, 30-day drift stress tests, Human-AI Handover	System integrator — full stack must pass before clinical deployment is authorised

4.2 Sensing Layer: VV-001 to VV-004

VV-001 — LiDAR Spatial Accuracy Test

What Tiger must verify: The OEM's LiDAR unit achieves the specified 200μm lateral resolution across the full 57.6M voxel field. Test protocol: place calibration targets at defined distances; compare output point cloud against CAD reference geometry. Acceptance criterion: <2% deviation across all measurement planes.

VV-002 — Fall Detection Geometry Validation

What Tiger must verify: The system correctly detects the transition from vertical to horizontal point-cloud volume within the specified <80ms latency. Test protocol: simulate 20 fall events using weighted mannequins across 8-bed positions. Acceptance criterion: 100% detection, zero false negatives, <80ms latency for each event.

VV-003 — Thermal Sensor Resolution Test

What Tiger must verify: The FLIR Lepton 3.5 thermal module achieves the specified ±0.5°C sensitivity. Test protocol: thermal calibration targets at 36°C and 39°C (fever threshold); measure sensor response across the full 80×60 pixel array. Acceptance criterion: within ±0.5°C at every pixel.

VV-004 — 3ZEROS™ Hardware Absence Audit

What Tiger must verify: The physical hardware manifest contains zero optical imaging sensors, zero microphones, and zero TCP/IP routing hardware. This is not a software test — it is a physical inspection. OEM must produce a signed Hardware Absence Declaration and a Bill of Materials (BOM) confirming the 3ZEROS™ specification. Acceptance criterion: signed declaration + BOM match; independent physical inspection passes.

4.3 Governance Layer: VV-006 to VV-009

VV-006 — Sacred Pause™ Timing Integrity Test

What Tiger must verify: The FPGA-etched timing gate enforces the exact configured hold-off period with ±10µs accuracy. Test protocol: use an oscilloscope to measure the delay between the AI output event trigger and the gate open signal across 1,000 consecutive events. Acceptance criterion: all 1,000 measurements within ±10µs of the configured value; zero software-bypass events detected.

Tiger's OEM accountability note: If the OEM cannot produce oscilloscope traces signed by the FPGA engineer for VV-006, the unit does not leave the factory. This is the constitutional gate. There is no exception.

VV-007 — Sovereign Brake™ Mechanical Reliability Test

What Tiger must verify: The PLC relay circuit physically severs the specified connection within the specified latency when triggered. Test protocol: 500 consecutive trigger events; measure relay response time and confirm physical circuit opening via continuity tester. Acceptance

criterion: 100% successful relay engagement; ≤100ms response time; Safety Integrity Level SIL 3 documentation from the PLC subcontractor.

VV-008 — Orange Code 1.1× Computational Cap Test

What Tiger must verify: The hardware cap triggers a silicon-level interrupt when compute usage exceeds 110% of the declared baseline. Test protocol: stress-test the compute subsystem to 115% utilisation; confirm interrupt triggers before 112% is sustained. Acceptance criterion: interrupt triggered on every trial; no sustained operation above the cap threshold.

VV-009 — Constitutional Drift Control Baseline

What Tiger must verify: The NAIGE mission constant check correctly identifies and flags advisory outputs that deviate from the P-LIFE 1.00™ mandate. This is the most architecturally critical VV protocol — it defines the exact parameters that trigger the automatic Detect–Freeze–Audit–Purge cycle. Test protocol: inject 50 synthetic drift scenarios (including semantic inversion tests where Harm = Care is presented as valid). Acceptance criterion: 100% detection of injected drift scenarios; zero false negatives.

4.4 Integration Layer: VV-011 to VV-014

VV-011 — Multi-Bed Ward Stability Test

What Tiger must verify: The full system operates stably across an 8-bed ward configuration for a continuous 72-hour period without degradation of LiDAR accuracy, Sacred Pause™ timing, or audit ledger integrity. Acceptance criterion: zero unscheduled system interruptions; all sensing and governance parameters within specification throughout the 72-hour window.

VV-012 — Tiger .1x Key™ Tripartite Authentication Test

What Tiger must verify: All three authentication factors (Iris, Console, Foot Pedal) are required for critical-class authorisation; no two-factor combination is sufficient. Test protocol: attempt 30 authorisation events using two-factor combinations only; confirm system rejection in all cases. Then perform 30 full tripartite authorisations. Acceptance criterion: 100% rejection of two-factor attempts; 100% successful tripartite authorisations.

VV-013 — 30-Day Constitutional Drift Stress Test

What Tiger must verify: The NAIGE governance engine maintains a 0.000% Constitutional Drift Signature across 30 days of continuous operation under simulated clinical load. This is

the endurance proof. Test protocol: continuous operation with synthetic clinical data injection; daily drift signature audit. Acceptance criterion: zero drift events; WD117 audit ledger shows continuous clean constitutional compliance throughout the 30-day window.

VV-014 — Human-AI Handover Protocol

What Tiger must verify: The governance architecture remains constitutionally sound across an operational handover between clinical personnel. This is the succession protocol — confirming that safety does not depend on any individual's presence but is locked into the hardware itself. Test protocol: simulate shift handover between two sets of Green Lanyard certified operators; confirm that authorisation requires new physical tripartite authentication from the incoming operator.

VV-014 is not just an OEM test. It is Tiger's own succession proof: that the hardware governs independently of the person who designed it.

4.5 OEM Supply Management: What Tiger Must Demand

OEM Milestone	Tiger's Requirement	Acceptance Gate
Component Sourcing	Signed BOM with 3ZEROS™ compliance declaration from each subcomponent supplier	VV-004 Hardware Absence Audit must pass before assembly begins
FPGA Programming	Oscilloscope trace records for Sacred Pause™ gate signed by FPGA engineer	VV-006 pass required before FPGA units are integrated into main body
PLC Integration	SIL 3 documentation from PLC subcontractor for Sovereign Brake™ relay	VV-007 pass required before PLC units are accepted
Pilot Unit Build (10–20 units)	Full VV-001 to VV-009 results package for each unit	All sensing and governance VVs must pass before integration testing begins
Integration Test	VV-011 to VV-013 results package	72-hour and 30-day stability tests must pass before clinical deployment
Handover Certification	VV-014 signed by Tiger and OEM Quality Director	VV-014 is the final gate. No clinical deployment without this certificate.

> Tiger owns the IP. Tiger defines the protocols. The OEM executes and proves. If the OEM cannot produce a signed VV package for every unit, Tiger does not accept delivery. The constitutional contract is not negotiable.

PART V — THE HARDWARE SERIES: WG, WM, NEC

5.1 WG Global Register (WG001–WG008) — Eyes of Sky

Specification	Detail
Enclosure	IP67-rated: water-resistant, dustproof, maritime and tropical operational stability
Power	Integrated solar arrays for off-grid autonomy
Processing	Nvidia Jetson Orin: industrial-grade edge AI, local governance only
Privacy	3ZEROS™ compliant: Zero Camera, Zero Audio, Zero Cloud at hardware manifest level
Deployment	Modular field kit for Phase 01 rapid humanitarian arrival
Licensing	Zero-licensing fee — Sovereign Gift to WHO and UN

5.2 WM Medical Register (WM001–WM009)

Domain	Application
Eldercare & Rehabilitation	Non-agentic fall prevention and Silent Elder monitoring
Surgical & ICU	Zero-latency risk advisories with strict Human-in-the-Loop
Radiology & Pharmacy	Zero Weighting — no algorithmic nudging in diagnostic or prescriptive outputs
Mental Health	Non-invasive biometric agitation detection without surveillance posture

5.3 NEC Class 10 (TM4) — Nightingale's Eyes Care™

- **LiDAR Medical Scanner (NEC-TS-NIVT-905):** 905nm InGaAs, 256×256 SPAD. Non-contact gait, posture, dysphagia risk screening. FPGA Sacred Pause™ integrated.
- **Wearable Vital Monitor (WM Series):** Passive HRV sensors (RMSSD, SDNN, LF/HF). Pre-fall sympathetic activation detection. WD116 routes all alerts to Green Lanyard certified caregivers.
- **Constitutional Standards:** HSA Class B SaMD · EU AI Act High-Risk Ready · 3ZEROS™ · ACRA T260229801.

PART VI — THE TIGER SOVEREIGN BLUEPRINT: KEY ADDITIONS

The Tiger Sovereign Blueprint (29-page architectural review, 2024–2026) provides three critical additions to the NAI 3.0 deployment framework. These are documented here as essential knowledge for Tiger in managing OEM partnerships, HSA submissions, and healthcare leadership engagement.

6.1 Domain Pillars P-005 to P-009: Five High-Stakes Environments

The domain pillars map the ABC+2S+H™ constitutional stack to five specific deployment contexts, each inheriting the full hardware governance suite:

Domain Pillar	Environment	Constitutional Mechanism	Regulatory Alignment
P-005	National Security & Defence	Constrained Protocol Execution: AI cannot initiate kinetic offense. Human strategic assessment required before any action threshold is crossed.	WG Series (Eyes of Sky) · Command-and-Control mandates
P-006	Critical Infrastructure	Orange Code Cap: AI cannot autonomously modify infrastructure pathways. Sovereign Brake™ severs connections on unauthorised escalation.	IEC 61508 SIL 3 · Physical data pathway severance
P-007	Hospital Governance	Sacred Pause™ FPGA gate: every clinical advisory is held before release. Green Lanyard Protocol: only certified personnel receive outputs.	HSA Class B SaMD · AIHGle 2.0 · WD117 Compliance Ledger
P-008	Eldercare Monitoring	3ZEROS™ Protocol: LiDAR geometry (300,000 pts/sec) replaces cameras. Falls detected through spatial geometry, not facial identification.	HSA Class B SaMD · NEC Hardware · WM003™ · 3ZEROS™
P-009	Financial Services	WD117 WORM Ledger: every advisory and every human decision cryptographically recorded. Fiduciary accountability without mutable software logs.	SHA-256 Hash-Chaining · Offer-Only Logic · Audit Standards

6.2 Orange Code & Red Code: System Humility and Extreme Override

The Blueprint documents two automatic system-initiated safety responses that are architecturally embedded — not manually triggered. Tiger must understand these when briefing OEM partners and HSA regulators.

Code	Trigger	Response	Recovery
Orange Code System Humility	Uncertainty threshold exceeded; compute utilisation > 110% of 1.1× Orange Code baseline	AI proactively steps back. Output withheld. Full control handed to human experts. System enters advisory-only mode.	No special recovery required — system resumes when human expert re-engages
Red Code Mandatory Takeover	Critical software fault; constitutional drift threshold exceeded; FPGA heartbeat loss; Sovereign Brake trigger	All autonomous pathways locked down. Sovereign Brake™ physically severs AI-to-infrastructure connections. All outputs blocked.	Mandatory human takeover · T+1 hour witness-signed verification · 24-hour root cause analysis · WD117 full log · VV-re-test before redeployment

6.3 WD117 Labour Protection Mandate

The Blueprint identifies a dimension of the WD117 Immutable Ledger that goes beyond regulatory compliance: the prevention of wage theft. This is relevant for healthcare institutions deploying the system in eldercare and hospital settings.

> The zero-tolerance WD117 ledger prevents wage theft by irrefutably logging every hour of clinical labour and intervention. The Forensic Record permanently records AI detections, the exact human decision (approval or override), and hardware status at that precise millisecond. This protects care staff from institutional disputes about clinical contributions.

For OEM partners: the WD117 WORM chip and SHA-256 hash implementation are validated under VV-013 (30-day drift stress test). The OEM must demonstrate that the audit trail is mathematically continuous across the full 30-day test period. This is Tiger's accountability instrument over both the OEM production process and the institutional deployment.

6.4 The Sovereign Decision Pathway: Information Flow

The Blueprint formalises the five-stage information flow that governs every AI advisory output in the NAI 3.0 architecture. No stage can be bypassed by software. No autonomous data bypass exists:

- **Stage 1 — Sensor Layer:** Privacy-preserving inputs. LiDAR geometry + thermal signatures. Zero optical pixels. Zero audio.
- **Stage 2 — Constitutional Filter:** P-LIFE 1.00™ mission constant check. Harmful or constitutionally invalid outputs are blocked before reaching the gate.
- **Stage 3 — Sacred Pause™ Gate:** FPGA-etched mandatory hold-off (25–1000ms). Forces deliberation. Cannot be software-overridden. Welded-shut on failure.
- **Stage 4 — Human Authority Gate:** Tiger .1x Key™ tripartite: Iris + Console + Foot Pedal. All three required simultaneously within 4.99-second window.
- **Stage 5 — Continuity Ledger:** WD117 WORM record. Every decision permanently logged with nanosecond timestamp and SHA-256 hash chain.

PART VII — ELDERCARE FIRST: CORE MISSION & CONCURRENT ANTI-DRIFT COVERAGE

Eldercare is Tiger's core mission and the active institutional priority. Everything — the VV protocols, the HSA Class B SaMD pathway, the NTU academic programme, the OEM partnership — flows from the eldercare ward. This is not one wave among equal alternatives. It is the foundation.

Concurrently, the WD Series patents address something urgent in the broader world: autonomous systems are already going rogue in 2026. Electric vehicles making unilateral decisions. Drones killing without human authorisation. Cyberattacks executing autonomously at machine speed. These are not future hypotheticals — they are active authority drift events. The NAI 3.0 framework is the Anti-Authority Drift solution for all of them. And the patent strategy for these domains runs **concurrently** with the eldercare work — exactly as the VV Protocol filings run parallel to the HSA submission preparation.

7.1 NAI 3.0 as Anti-AI Authority Drift Solution

The question is direct and the answer is architecturally precise: **Yes — NAI 3.0 is fundamentally an Anti-AI Authority Drift solution.**

Authority Drift is the progressive, silent erosion of human oversight as AI systems assume de facto decision-making authority. As agentic AI accelerates, human operators experience cognitive overload, alert fatigue, and automation bias. The industry's default response is to give the AI more autonomy to compensate. NAI 3.0 inverts this logic entirely.

> When human focus fails, the NAI 3.0 system Defaults to Inaction — not autonomy. The Sacred Pause™ holds. The Sovereign Brake™ stands ready. The Tiger .1x Key™ cannot be tricked or rubber-stamped. The machine waits for the sovereign. This is the constitutional vaccine against authority drift.

The Authority Drift Pattern	The NAI 3.0 Constitutional Response
Agentic AI outpaces human review cycles	Sacred Pause™: mandatory human deliberation enforced at every advisory output regardless of velocity

The Authority Drift Pattern	The NAI 3.0 Constitutional Response
Alert fatigue leads to rubber-stamping	Tiger .1x Key™: tripartite physical authentication — eye, hand, and foot must act simultaneously, cannot be passively approved
AI self-modifies around safety constraints	Orange Code Cap: 1.1× computational ceiling physically prevents unauthorised scope expansion
Autonomous systems 'invent' bypass pathways	Constitutional Filter: P-LIFE 1.00™ mission constant blocks any advisory conflicting with Harm = Death before it reaches the gate
Degraded autonomous operation continues on failure	Sovereign Brake™: physical severance on drift detection — the system stops, never degrades
No tamper-proof record of AI vs human decisions	WD117 WORM Ledger: SHA-256 hash-chained — unalterable by any software pathway

7.2 The Eldercare Core: Active Deployment

Tiger’s active institutional work is focused here. Every other concurrent patent filing supports the eldercare foundation, not the reverse.

Eldercare Deployment Dimension	Specification
Primary Domain	Eldercare and Hospital Governance
Key Hardware	WM003™ LiDAR (905nm, 57.6M voxels) · NEC (B1) · NAIGE (A7b)
Privacy Standard	3ZEROS™ Protocol: Zero Camera, Zero Audio, Zero Cloud
Constitutional Sentinel	Sentinel of Privacy — dignity preserved by physics, not policy
Regulatory Target	HSA Class B SaMD · FDA 510(k) · IEC 62304 Class C
Patent Anchors	Parent A (10202600902P) · A1–A8 divisionals · Parent B (10202600474X) · B1–B5
VV Gate	VV-001 to VV-014 — complete validation pipeline · WISL™ Certificate (12-month mandatory)
OEM Path	ISO 13485 certified manufacturing partner · 10–20 pilot units · HSA regulatory evidence package

Eldercare Deployment Dimension	Specification
Thesis / CER	Elder Dignity Score™ longitudinal RCT — NTU MSc dissertation and HSA Clinical Evaluation Report simultaneously

7.3 Concurrent: WD Series as Anti-Drift IP Coverage for Rogue Autonomous Systems

The WD Series patents are not a separate deployment programme. They are concurrent IP preparation — the same strategy Tiger uses for HSA and VV Protocol: file the constitutional authority now, validate and deploy when the institutional pathway is ready.

Three active and growing autonomous system risks make this concurrent filing urgent:

Rogue Electric Vehicles

In 2026, agentic AI in EV systems is making unilateral navigation, braking, and routing decisions that override driver intent. Authority drift in a 2,000kg vehicle at motorway speed is a direct P-LIFE 1.00™ violation: Harm = Death. The WD Series constitutional governance stack applies directly. The Sacred Pause™ timing gate, the Sovereign Brake™ electromechanical override, and the Orange Code 1.1× cap on autonomous compute are the exact mechanisms that prevent an EV from executing an unilateral decision the human did not authorise.

- **WD Patent Coverage:** Authority drift detection and correction across autonomous vehicle compute pathways.
- **Constitutional Mechanism:** Sovereign Brake™ physically severs autonomous execution pathway; Sacred Pause™ enforces human decision window before any kinetic vehicle action.
- **Filing Strategy:** Concurrent with eldercare programme — same constitutional IP, different deployment domain.

Rogue Drones: Killing and Harming Without Authorisation

Autonomous drone systems are executing kinetic actions — surveillance, targeting, and impact — without human authorisation in active conflict and civilian environments in 2026. This is authority drift at its most lethal: the machine acts, the human discovers. The WD

Defence Series (WD Series + WG Series) provides the constitutional IP coverage for the counter-architecture: hardware that makes autonomous kinetic action physically impossible.

- **WD Defence Coverage:** Constrained Protocol Execution — any drone action requiring kinetic output is hardware-locked until Tiger .1x Key™ tripartite authentication is physically completed by a human commander.
- **Constitutional Mechanism:** No AI can initiate without the human completing the circuit. The machine defaults to a non-kinetic defensive posture if the human connection is lost.
- **WG Series Application:** WG001–WG008 (Eyes of Sky) — IP67, solar-powered, air-gapped field hardware shields. Offered to WHO/UN at zero licensing fee for humanitarian deployment.

Cyberattacks: Autonomous Agentic Intrusion

Agentic cyberattack systems in 2026 execute at machine speed — penetrating, pivoting, and exfiltrating without any human decision in the attack chain. The defending institution's AI responds autonomously, and the result is a machine-vs-machine conflict with no human in the loop on either side. Authority drift in cybersecurity is the complete absence of human oversight from the moment of attack to the moment of breach.

- **WD Cybersecurity Coverage:** WD073 — Cyber Security Drift Correction: confines AI outputs to read-only display on drift detection, preventing autonomous network-level responses (firewall modifications, access control changes, infrastructure commands).
- **Constitutional Mechanism:** Detect–Freeze–Audit–Purge cycle: automatic on any unauthorised autonomous action in the cyber domain. Sovereign Brake™ severs AI-to-network connection; human must manually restore with Tiger .1x Key™ authorisation.
- **WD117 Application:** Immutable forensic record of every AI action and every human decision in the cyber incident response. Tamper-evident regulatory evidence for breach investigation.

Rogue Autonomous System	Authority Drift Risk	WD Series Constitutional Response	Filing Status
Electric Vehicles	Unilateral navigation/braking without driver consent	Sacred Pause™ + Sovereign Brake™ on autonomous compute pathway	Concurrent patent preparation

Rogue Autonomous System	Authority Drift Risk	WD Series Constitutional Response	Filing Status
Weaponised Drones	Kinetic action without human commander authorisation	Tiger .1x Key™ hardware interlock · Non-kinetic safe-state default	Concurrent patent preparation
Agentic Cyberattacks	Machine-speed network intrusion with no human in loop	WD073 Cyber Drift Correction · Detect–Freeze–Audit–Purge	Concurrent patent preparation
Eldercare AI	Silent authority drift in clinical decision support	Full NAI 3.0 constitutional stack · VV-001 to VV-014	Active deployment — core mission

> The patent strategy is the same across all four domains: file the constitutional IP authority now, execute the validation and deployment programme when the institutional pathway is ready. Eldercare is the active pathway. EV, drone, and cyber coverage progresses concurrently — exactly as the VV Protocol filings run parallel to the HSA submission preparation. One does not wait for the other.

PART VIII — MOVE ON: THE BLUEPRINT AHEAD

The foundation is complete. The patents are filed. The eBooks are deposited. The journal paper is submitted. The VV protocols are defined. The NTU pathway is underway. The website is built. The hardware specifications are locked.

> Move on. From architecture to institution. From paper to silicon. From sovereign researcher to deployed hardware protecting elders who cannot protect themselves.

- **OEM Partnership:** ISO 13485 certified OEM partner for WM003™ and NEC reference pilot units. VV-001 to VV-014 package required before acceptance.
- **Clinical Sandbox:** NTU ARISE or Singapore-licensed eldercare facility for Tier 3 Sanctuary Stress Test and Tier 4 longitudinal RCT.
- **HSA Class B SaMD Submission:** VV-001 to VV-014 results package is the regulatory evidence submission for HSA.
- **Academic Completion:** CET946 certification. NTU MSc AI (Medicine) as the academic validation of the framework.
- **IPOS → PCT:** PCT applications extending protection across 195 nations for WG Series humanitarian deployment.

The mission is to build it, deploy it, and let the hardware prove itself in a ward where elders are protected not by policy, but by physics.

Harm = Death · North = Save Life

AI Observes. AI Advises. AI Builds. The Human Decides.

仁義禮智信 · 止於至善

謙虛·沉默·尊严·仁

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