

How AI is shifting the build calculus

Chang Sau Sheong

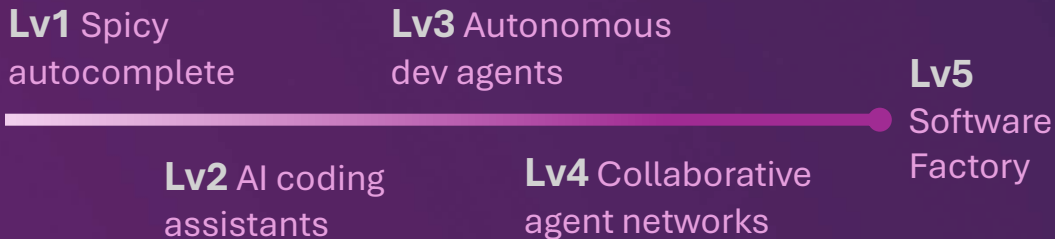
Deputy Chief Executive & Chief Technology Officer

Government Technology Agency of Singapore

AI is *reshaping* the way software is built

INDUSTRY LANDSCAPE

Five levels of AI engineering



IMPLICATIONS

The bottleneck is inverting.

Engineering capacity is no longer the constraint. Decision speed is.

Code may not be the durable artefact anymore.

Specifications, domain models and decisions matter more than code.

Team structures are about to shrink dramatically.

Vendor engagement and project economics needs reexamination.

AI isn't just changing software engineering. It's reshaping everything, from how we write code to how we think about what code even is. For government, this is both an extraordinary opportunity and a challenge. We need to rethink how to decide, govern and learn - **and how vendor partnerships look like.**

GovTech is operating at L2 → L3.

Here are some of the things we are doing.

EQUIP

AI coding assistants

Copilot and Claude Code as standard offerings. Credits per engineer per month; installed by default on developer devices with guardrails.

EQUIP

Agent Prime Directives

Centrally managed context packs: golden paths, IM8 controls, reusable prompt skills. Open to community contributions, centrally maintained, locally consumed.

EQUIP

AI code review

In-house review tool for bugs, security and IM8 compliance. As AI coding tools increase code volume, this helps catch issues in both human and AI generated code before production.

GOVERN

Code classification

Code classified separately from system data, unlocking safe AI tool use. Governance as graph traversal across agent configurations.

ENABLE

Legacy modernization with AI

Graphiqode analyses legacy codebases to build visual dependency graphs, extract business rules, and generates documents, feeding modernisation agents.

ENABLE

Embedded infrastructure

Building the enabling structure that supports AI in SWE. Backstage, GovPaas, ShipHats, RabbitDeploy and Astrolabe form a fully auditable idea-to-production pipeline.

ENABLE

Formal verification

Research collaboration into mathematical proof of correctness for AI-generated code, targeting high-risk systems where human review cannot scale.

EMPOWER

People and teams

Investing in junior engineers who embrace AI-native workflows. Active intervention and uplifting programmes for senior engineers. Pathways for supervisory engineering.

WHAT WE ASK OF INDUSTRY

***AI has changed
our approach.
Our partners
also need to
demonstrate
the shift and
outcomes.***

UPLIFT YOUR PEOPLE

Build AI skillsets and fluency as a baseline

AI must be embedded across your entire team, from engineers to business analysts, in how you work, review, and test. Partners who have been building with AI show it clearly in their proposals and their delivery.

EQUIP YOUR PEOPLE

Use the right AI tooling

We expect partners to bring modern tooling. AI-assisted development, test automation, and CI/CD are not optional extras.

CHANGE HOW YOU DELIVER

Smaller, faster teams

Use a methodology that demonstrates real AI leverage, with measurable gains in speed, quality, and issue resolution. Show up with a working prototype. Not a slide about one.

Government is *modernising*, creating new surface areas for collaboration.

We are not asking you to change into a void. **We are changing too.** GovTech's AI strategy, modernisation and AI transformation efforts are broad and deep. This creates new classes of partnership opportunity.

PILLAR 01

Every officer augmented

150,000+ officers need AI embedded in their daily tools and workflows. Opportunity to build assistants, integrations, and vertical capabilities on top of the platform.

150,000 officers

PILLAR 02

Citizen developers building

Officers closest to the problem, who are not engineers can now prototype and deploy. Partners who enable this - through tools, training, and templates - are accelerating the whole ecosystem.

New innovation

PILLAR 03

Engineering with AI leverage

Software delivery cycles are compressing. Partners who match that pace — with AI-assisted dev, faster testing, and leaner teams — are better positioned for every project.

Dev acceleration

AI+X

Transformation and modernisation

The opportunity is AI applied to a domain - policy, healthcare, education, transport – transforming the domains end to end. This may be at the agency level, ministry level, or functional level.

Domain transformation

CROSS-CUTTING PILLAR

GOVTECH CENTRAL
PLATFORM AND TOOLS

A common foundation to build on. AI initiatives, modernization efforts and transformation are built on a common government AI platform. This platform provides the key AI capabilities, connectivity, security, and governance. **Partners who build here reach every agency.**

From AI-enabled to AI-native government

AI-native is a WOG redesign opportunity, and the initial investment into that is an **AI-native platform** which government will be built on.

Why it matters now

What is AI-native

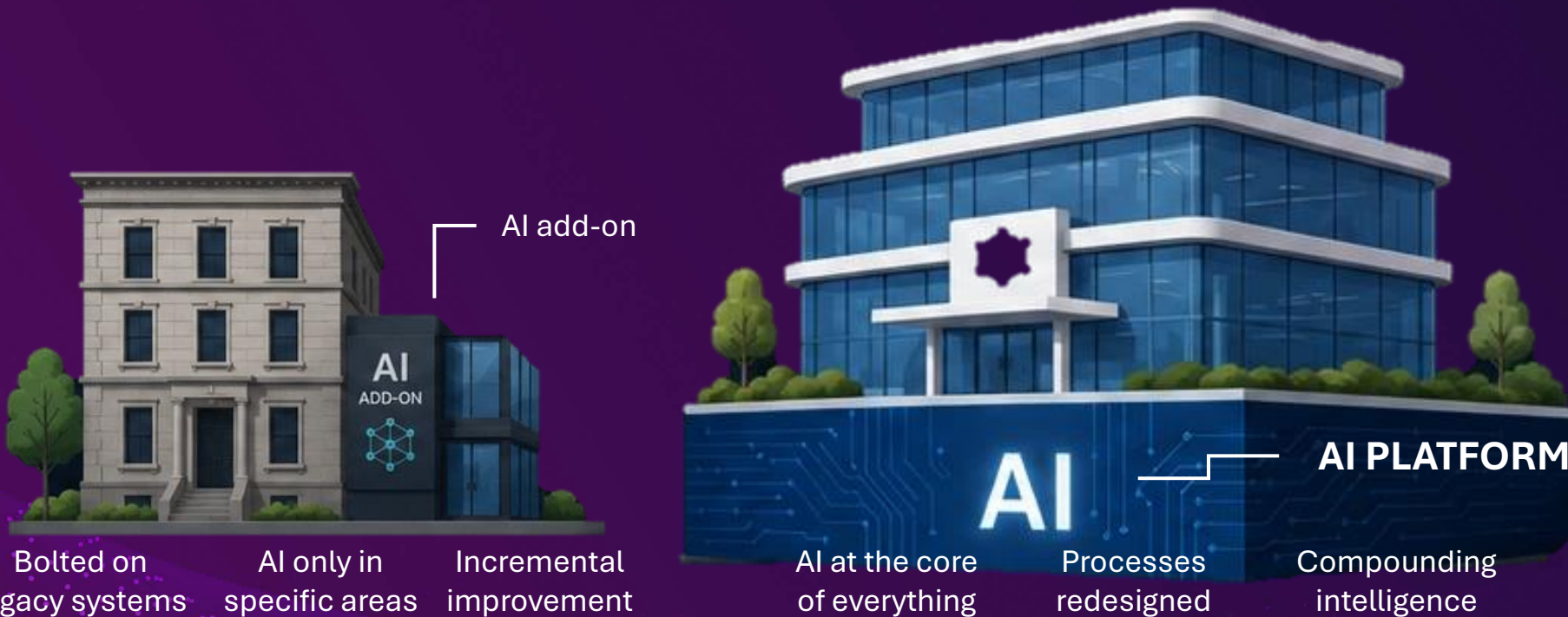
Similar to cloud-native, it is not just moving software onto the cloud, but a redesign.

NOT a pilot era anymore

Public service is at an inflexion point. Experimentation are maturing to operations.

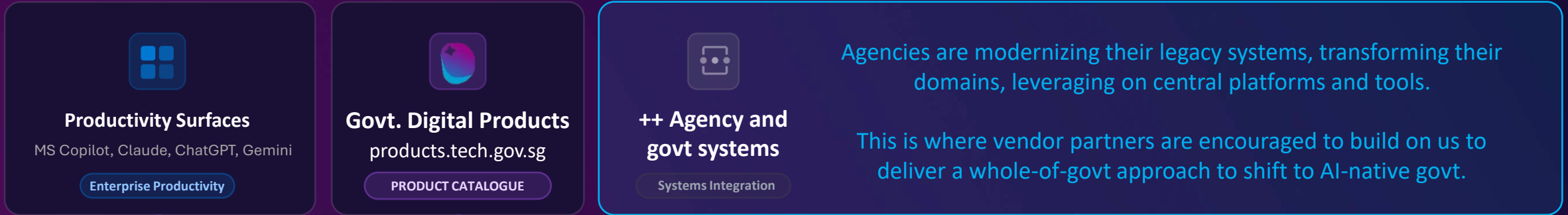
Agentic AI will accelerate

Agentic capabilities will amplify impact, autonomy and speed across the public sector.



Adopt central platforms. Deliver faster, safer.

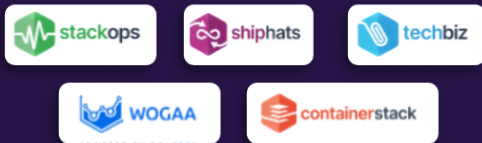
PlatformAI provides a single, compliant AI foundation – so you can help agencies build solutions on the platform quickly and safely, leveraging unified compliance, models and capabilities, and secure connectivity to government systems.



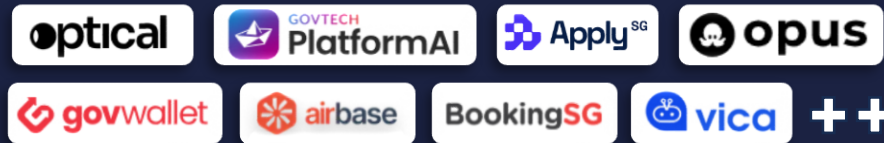
GovTech's central platform and tools

POWERED BY  GOVTECH SINGAPORE

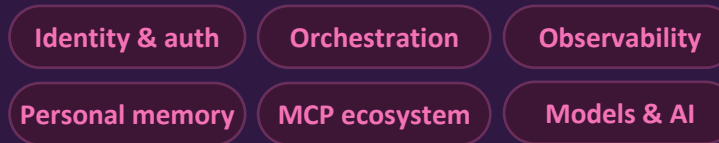
Tooling



WOG platforms products



AI platform and agentic harness



Security & compliance

Model & data residency



Data access & control

M365 · GWS · Slack · DataHive



Observability & govnce

Single pane of glass



Institutional memory

Context that persists



Managed throughput

Token resilience

Thank You!

