



BESPIN R  **i D**

DAFITC 2024

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Approved for Release



An RSAF startup that delivers **solveware**
to bring **smarts** and **smiles**
to our Air Force and our airmen and airwomen



SAF to hand over home recovery programme to MOH

Anjali Raguraman

The Singapore Armed Forces (SAF) will hand over management of the Covid-19 home recovery programme to the Ministry of Health (MOH), Defence Minister Ng Eng Hen said yesterday.

He did not indicate when this handover would take place.

He wrote on Facebook that SAF commanders and other personnel tasked to manage the programme – which has become the default mode of care for Covid-19 patients with no or mild symptoms – have performed well.

“They streamlined processes, introduced digital solutions as well as ensured the right care for different groups of residents infected with Covid-19,” he said.

He said now that the programme is stable, “it is a good time to hand over” to MOH, adding that a team of SAF advisers will “continue to remain embedded to ensure a smooth transition”.

The home recovery programme, which was piloted on Aug 30, initially faced teething issues, with members of the public saying they were unable to reach MOH for advice on their specific situation and

were at a loss over what to do next.

Subsequently, the Home Recovery Task Group was set up by the SAF on Sept 29 to help scale up and bolster the programme.

Dr Ng shared that more than 450 personnel from the Singapore Army, Republic of Singapore Navy and Republic of Singapore Air Force (RSAF) were deployed.

Full-time national servicemen worked as home recovery buddies. They provided the first line of contact to patients placed on the programme, assisted them with administrative procedures and ensured that communication channels remained open.

Dr Ng also said that the RSAF's Innovation Office developed digital solutions, along with an automated SMS system, to streamline working processes that enabled a seamless management of large amounts of data from different parts of MOH.

“A big thank you to our servicemen who stepped up when duty called, and for making a positive difference in helping residents recover safely at home,” he added. “This prevented our healthcare system from being overwhelmed.”

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GOOD JOB BY SERVICEMEN

They streamlined processes, introduced digital solutions as well as ensured the right care for different groups of residents infected with Covid-19.



DEFENCE MINISTER NG ENH HEN, on how the SAF commanders and other personnel tasked to manage the programme performed.



THE STRAITS TIMES

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Dr Ng also said that the RSAF's Innovation Office developed digital solutions, along with an automated SMS system, to streamline working processes that enabled a seamless management of large amounts of data from different parts of MOH.

Borne from roots of the RSAF's innovation journey, forged and formalised in times of crisis with the Home Recovery Task Group during COVID-19



Public Sector Transformation COVID-19 AWARDS CEREMONY 6 JULY 2022

RiD

Who we are

RAiD – a RSAF ‘startup’



Frequent, Rapid & Stable
Updates of IKC2 Software



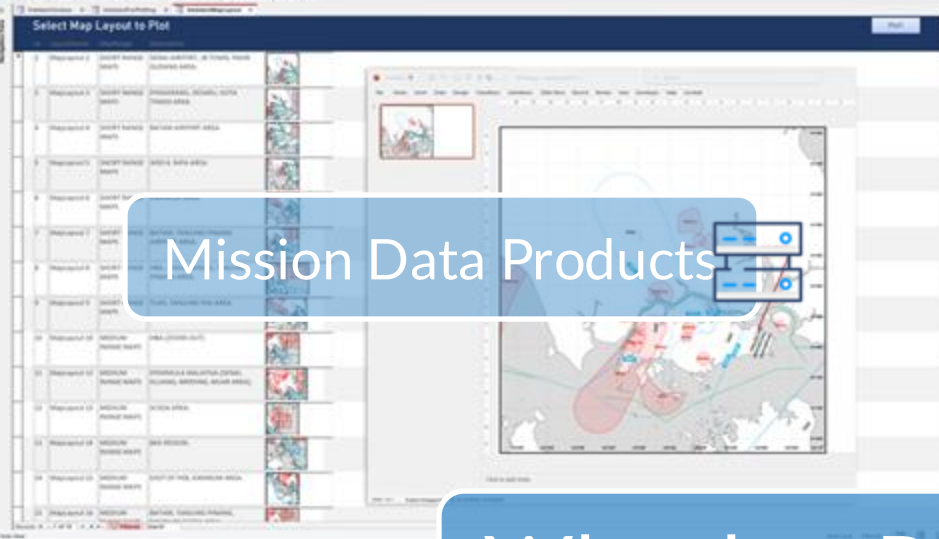
Rapidly developed solutions
for ad-hoc urgent ops



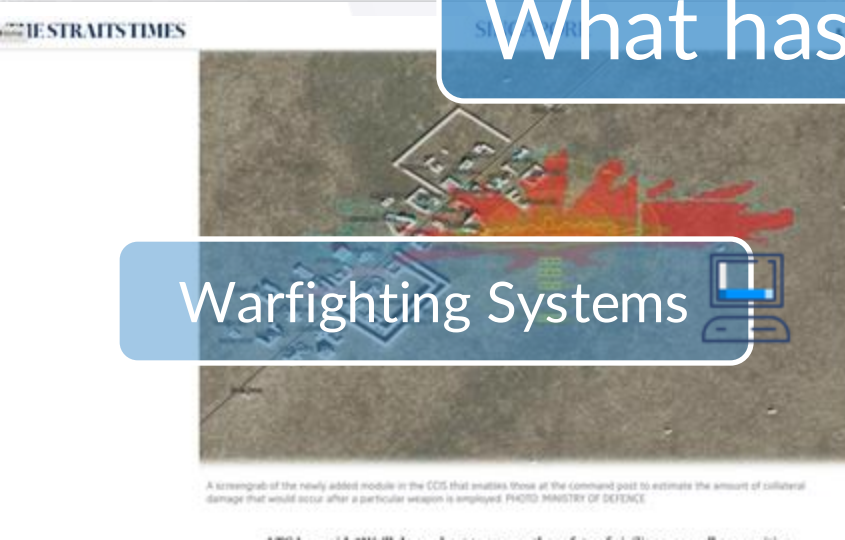
Data products that provide
cognitive superiority to warfighter



Impactful innovations that enable
new business models



What has RAiD built?



Partnerships

Our key to growth



MINDEF/SAF Digital Ecosystem

Collective approach to address different segments and demands of a growing digital ecosystem



WoG Partnerships

Sharing of WoG best practices, leveraging WoG stack and tools for specific uses cases



U.S. AIR FORCE



BESPIN

Foreign Partners

Benchmarking against leading defence partners who are ahead in this digitalisation journey



CloudMile

OLLION



Microsoft



ST Engineering

Industry Vendor-Partners

Knowledge transfer from industry, leveraging industry know-how to remain at speed of relevance



BESPIN

Mobile Center of Excellence

Certified MDaaS Pipeline, CtF, MOSS – all part of BESPIN's cutting-edge software delivery toolchain.

Co-development with BESPIN – safe, secure, yet agile.

How our partnership started

7 months from LoU to being on the ground for BESPIN and RAiD



REPUBLIC OF SINGAPORE AIR FORCE

AND

UNITED STATES AIR FORCE

INNOVATION AND DIGITALISATION

LETTER OF UNDERSTANDING

11 April 2022

OFFICIAL CLOSED (RSAF & USAF ONLY)

provide any financial or non-financial contribution to the other for any purpose. Existing or future international agreements (e.g. Treaties, Memoranda of Agreement, Data Exchange Agreements, Project Agreements, Foreign Military Sales cases, Acquisition and Cross-Servicing Agreements) may be used as the mechanism to carry out any decision made by the RSAF or USAF.

Kelvin Khong Boon Leong
Major General
Chief of Air Force

Singapore

Date: 11 Apr 2022

Charles Quinton Brown, Jr.
General
Chief of Staff of the Air Force

United States

Date: 11 Apr 2022



Software developers from the Republic of Singapore Air Force visit Air Force Materiel Command's BESPIN software factory. RSAF product manager Wong Koh Keong (center) asks questions during a demonstration. (US Air Force photo by Melanie Rodgers Cox)

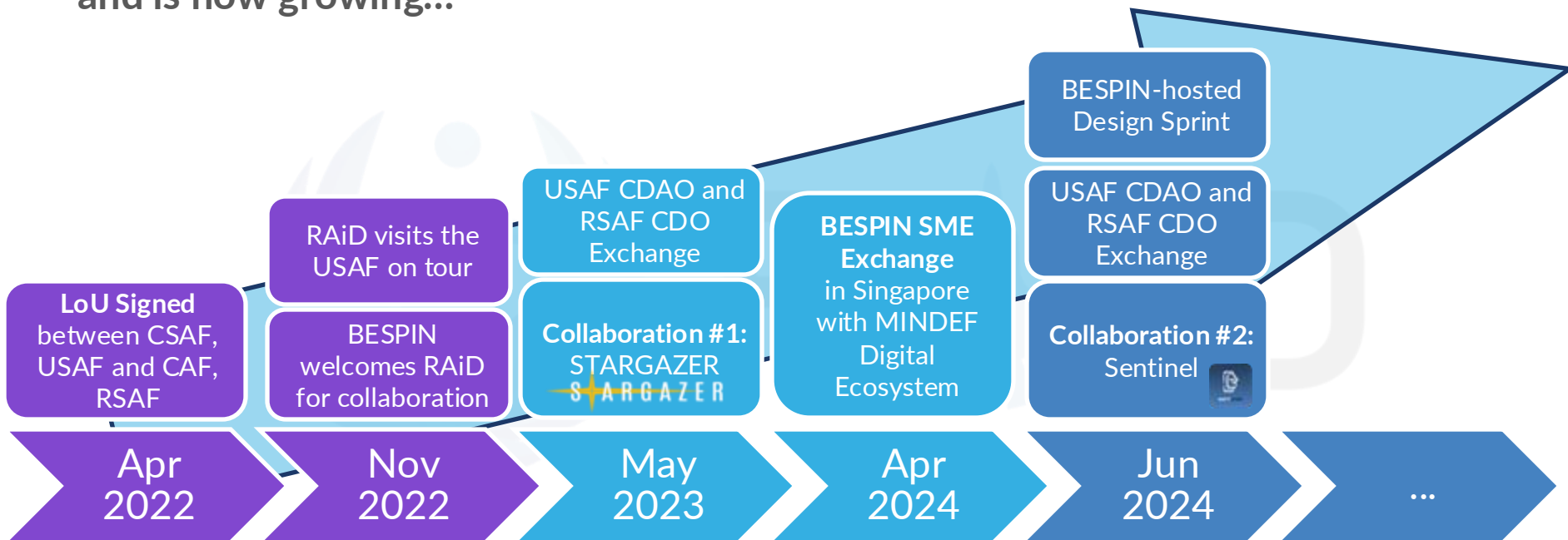
BESPIN establishes partnership with Singapore Air Force software developers



December 8, 2022

+ Follow

How our partnership started and is now growing...



Growing and blossoming partnership beyond product development:
BESPINxRAiD as a platform to connect allies' digital ecosystems

How our partnership started and is now growing...



BESPIN SME Exchange –
Singapore (Apr 2024)



DoD Software Factory Design Sprint
– Montgomery (Jul 2024)

BESPIN x RAiD – the core bridge for allies' digital ecosystem to connect



A changing operational landscape

The need for co-developing a useful product - Sentinel



What are we preparing for?

Linear development, more firepower?

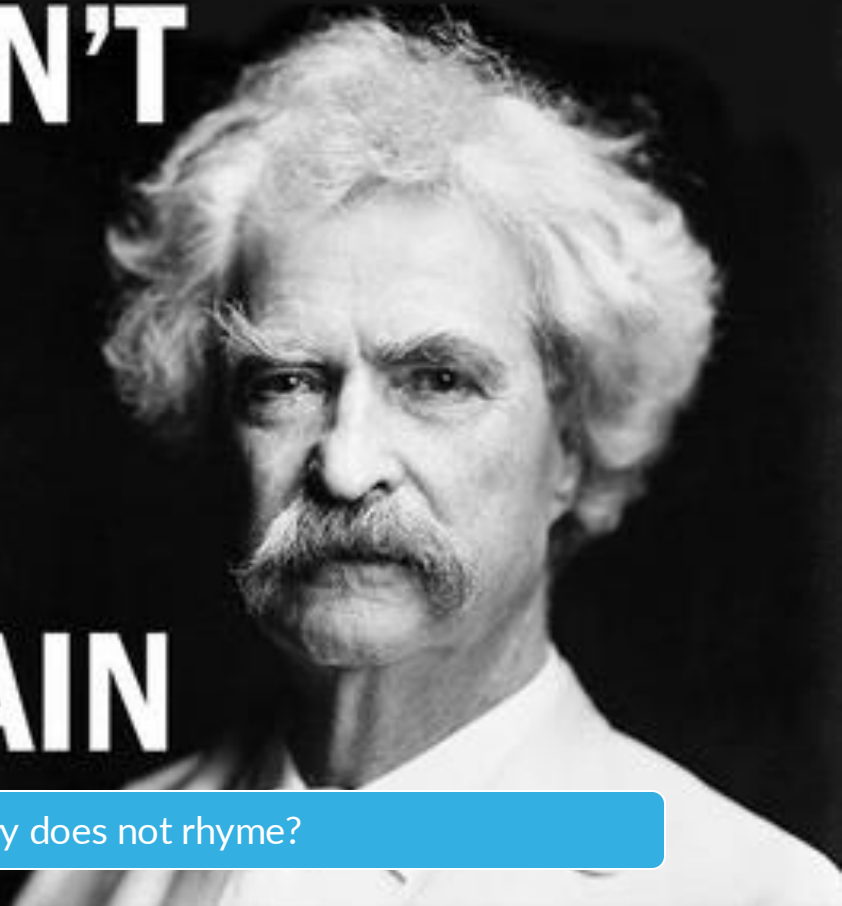
Are there blindspots we do not see?

What do we do?



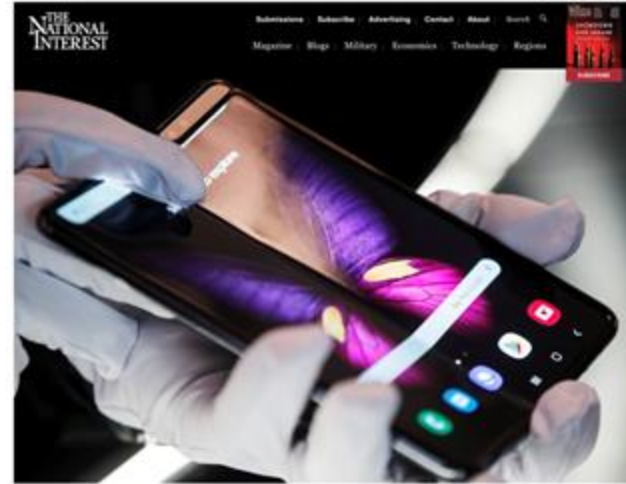
**HISTORY DOESN'T
REPEAT ITSELF
BUT IT OFTEN
RHYMES
-MARK TWAIN**

How do we make sure that history does not rhyme?



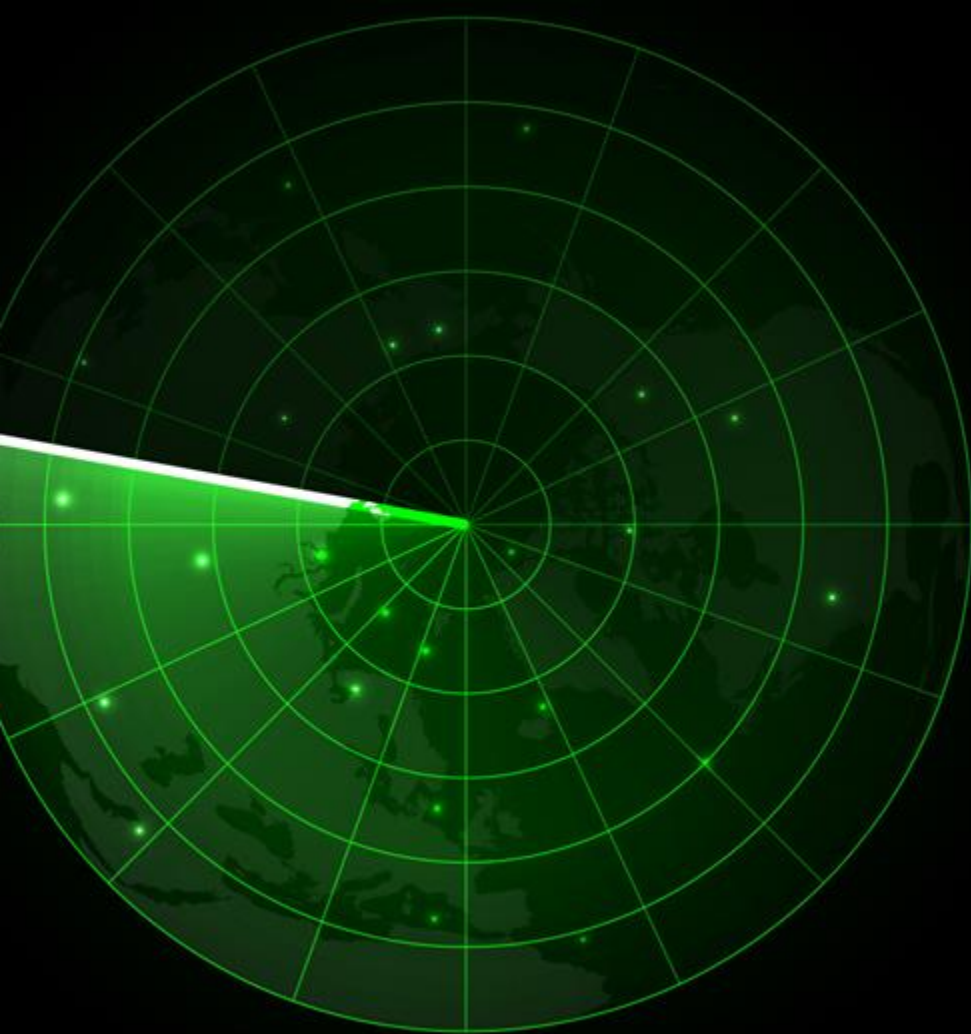
We disrupt ourselves.

With mobile technology - pervasive and available in everyone's hands



BESPIN

Mobile Center of Excellence



Concept

Mobile-First Sensing

Today's conflict is volatile, uncertain, complex and ambiguous (VUCA)

Threats will pop up faster than we can manage them, and sensors are high-value targets that will go first, blinding us

How might we better make sense of threats that pop-up and appear in our blind spots?

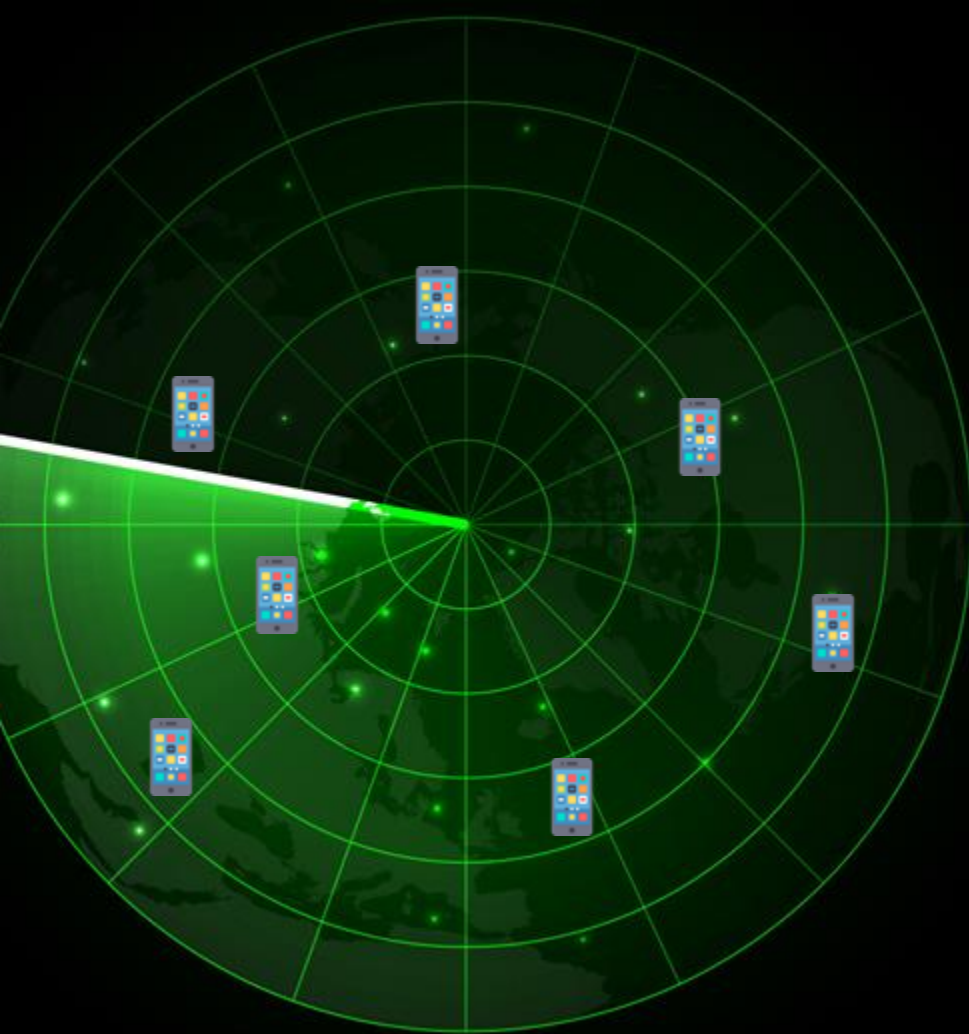
Concept

Mobile-First Sensing

In everyone's pockets is a powerful piece of technology
– the mobile phone

We can leverage this to crowdsource real-time intelligence to cover blind spots!

How might use this additional layer securely and quickly?



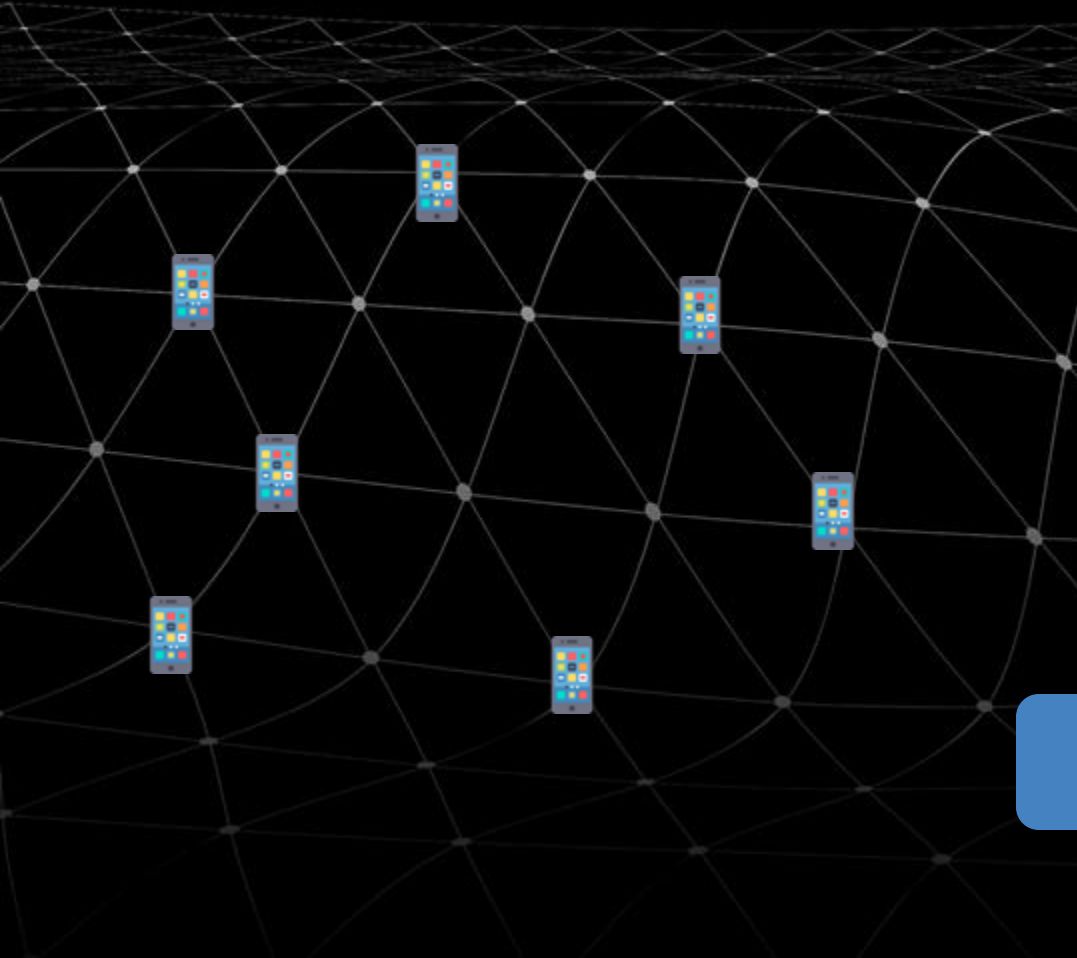
Concept

Mobile-First Sensing

Not just another layer of redundancy, but creating a distributed, resilient network

Harder to disrupt and disable with so many more pieces in play

How do we keep this distributed network strong, as an additional layer for information superiority?





Innovation is the ability to see
change as an opportunity - not a
threat

— *Steve Jobs* —

As Telegram's Popularity Soars, Is It 'A Spy In Every Ukrainian's Pocket'?

Share
f X ...
Print



SWI swissinfo.ch

Swiss perspectives in 10 languages

Ukraine spy agency says Telegram platform blocks its key bots



Telegram:

A quick, usable prototype for disseminating data (intelligence)

but is it safe?

Good enough, but we can do better.



How Ukraine is using mobile phones on 6ft poles to stop drones

Simplistic acoustic sensors, first tried a century ago, make a comeback to protect against threat from Russia

Joe Barnes, BRUSSELS CORRESPONDENT
26 March 2024 • 6:36pm

Related Topics
Explained Ukraine war, Russia-Ukraine war, Mobile phones



THREATS ▾ DATE ▾ STORIES APPLY ▾ OPFOR ▾ TRAINING ▾ RESOURCES

SEARCH

NEED ASSIST

Smart Phones Playing Prominent Role In Russia-Ukraine War

08/10/2023



Mobile Phones:

A cheaper and pervasive alternative for sensors (it's in everyone's pocket)

how might we tap on the data securely?

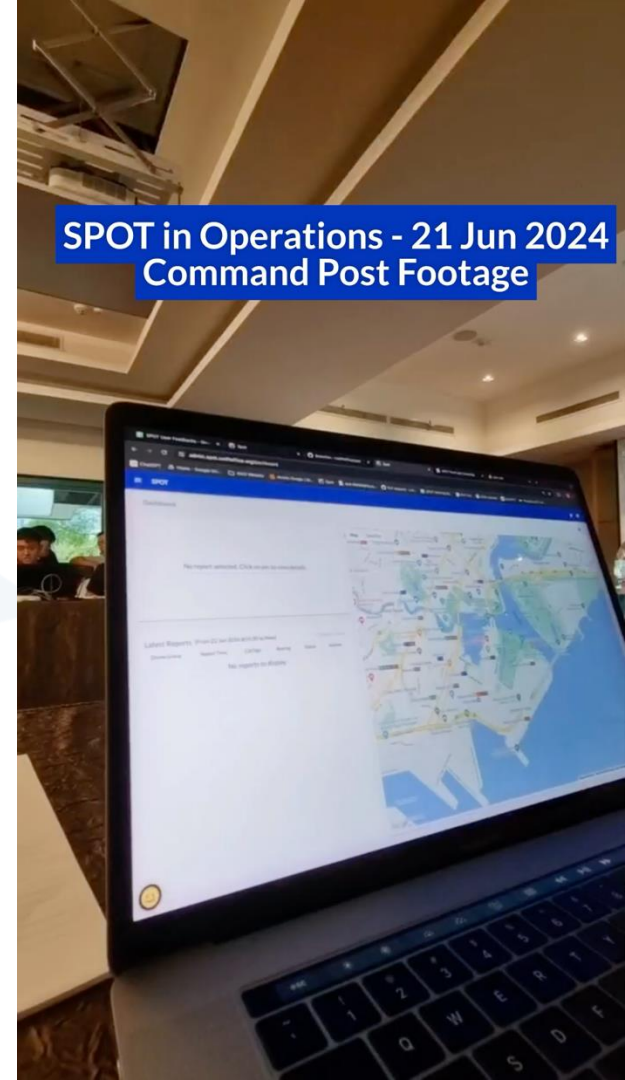


Singapore Police Force – mobile Sentinel for counter-drone operations

Mobile Technology in Action

Not Just a Concept – Real Operational Use

SPOT in Operations - 21 Jun 2024
Command Post Footage



Existing Problems and Limitations



Detection limitations during operations with existing physical sensor systems



Fragmented C2 systems for reporting data, and source of truth issues



Results in **Long Time Taken** from Detection to Action

Closing the OODA loop as soon as possible in near-peer and hybrid conflicts will change outcomes



**Crowdsourcing intelligence, enhancing sensemaking
for a mobile-first military**



SrA Jacques Kohn,
UX Designer

ME4 Shao Zhe Lam,
Fullstack Developer

MAJ Yeechien
Cheot, Team Lead



Ms Kayla Luther,
Deputy CTO

SrA Anthony
Hoang, Mobile Dev

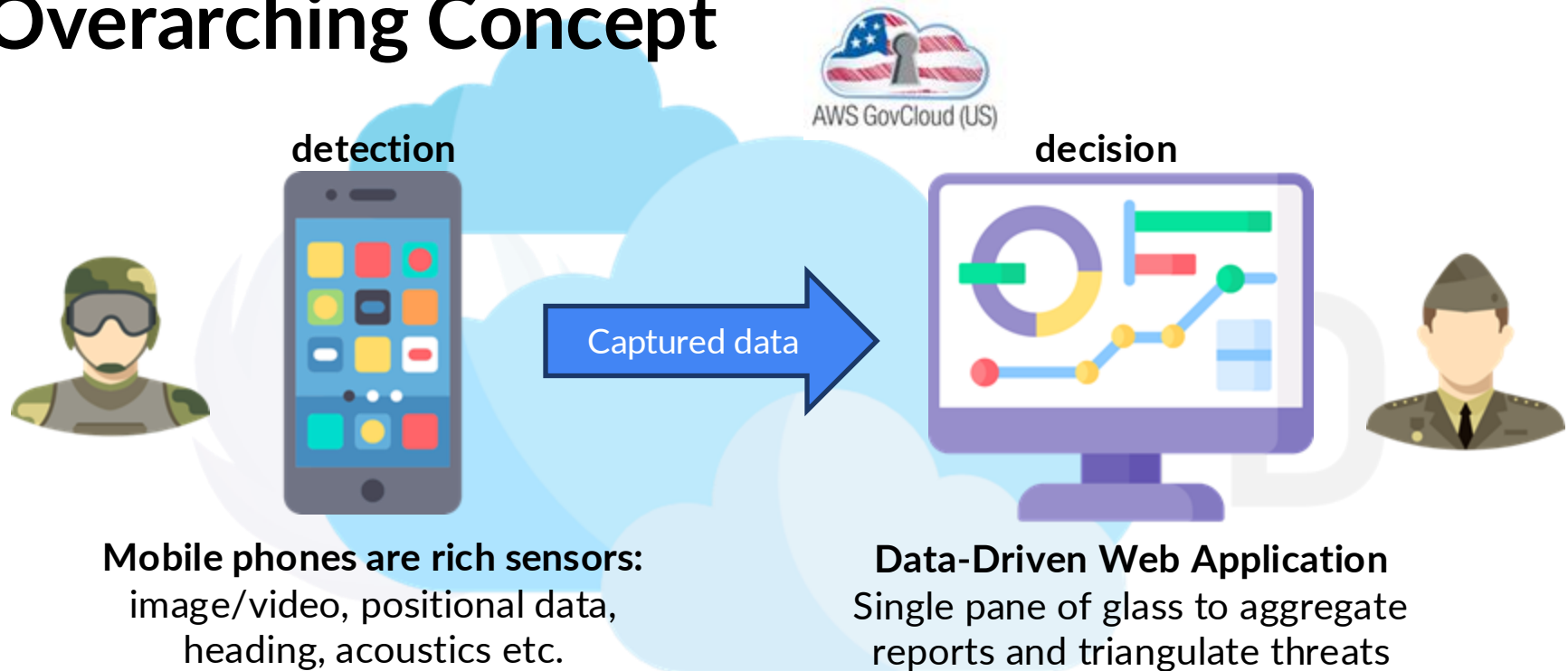
ME4 Edgar Liu,
Solutions Architect

SrA Christopher
Pham, Cloud Ops

ME4 Gregory Foo,
Fullstack Developer

SrA Steven Song,
Mobile Dev

Overarching Concept



Every Man a Sensor – made possible with tapping data from mobile phones in a secure manner.
not limited to just drone threats, but can be adapted to a myriad of threats in an evolving landscape

Sentinel is a **crowdsourcing intelligence tool** designed to **serve as an additional layer for threat triangulation and management** in hybrid conflicts.

It offers a **twofold solution (mobile and web)** for to **alleviate cognitive load** of commanders and ground spotters, by securely **transmitting source of truth data** to tighten the OODA loop.



Collecting Source of Truth:
image/video, positional data,
heading, acoustics etc.

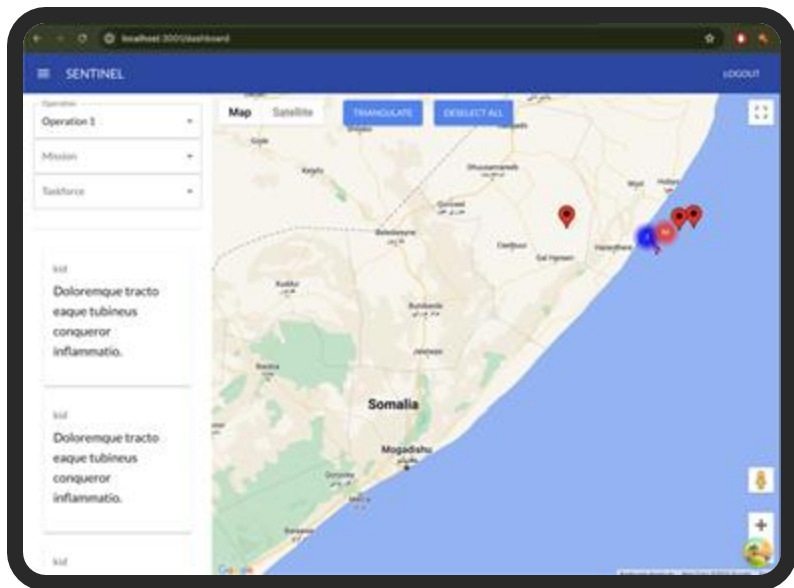


Triangulate Threats:
Augment existing sensor
suite to better zone in and
identify threats



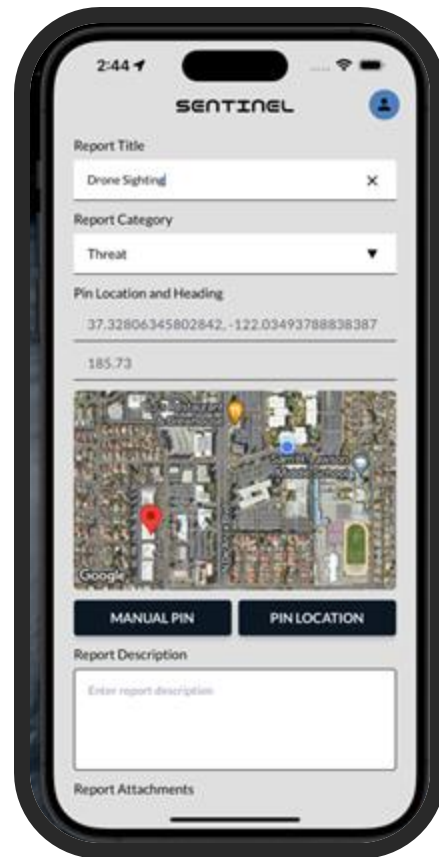
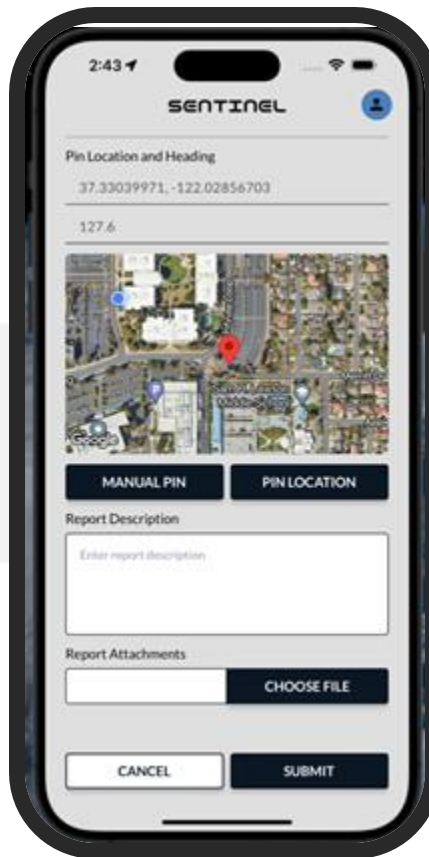
Closing the OODA loop:
Information superiority in a
shorter time to enhance
decision-making

Sentinel – the mobile toolkit to enhance cognitive and information superiority for warfighters in time-critical scenarios



Product Demo

In just 6 weeks (25 working days)!



What we have achieved

In just 6 weeks (25 working days)!

Small team effort builds our training wheels to respond to real-world problems, rapidly developing and deploying useful products into a operational context

Ready-to-field
product for
**immediate
operational
use**

Full,
working
product on
**AWS
GovCloud**

Secure
Product -
**75% CtF
achieved**

Just 25%
more to
scaling the
product to
**more users
across the
DOD!**

Foundation
for digital
collaboration
to flourish

New
partners
and
friendships!

Questions?

RED

