National Fire Authority
FIJI

Geographic Information Systems contribution to
NFA's Modernization Program

FGIMC Meeting
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NFA Background

- Government body established under the National Fire Service Act of 1994 with Headquarters at Argo Street, Walu Bay, Suva.
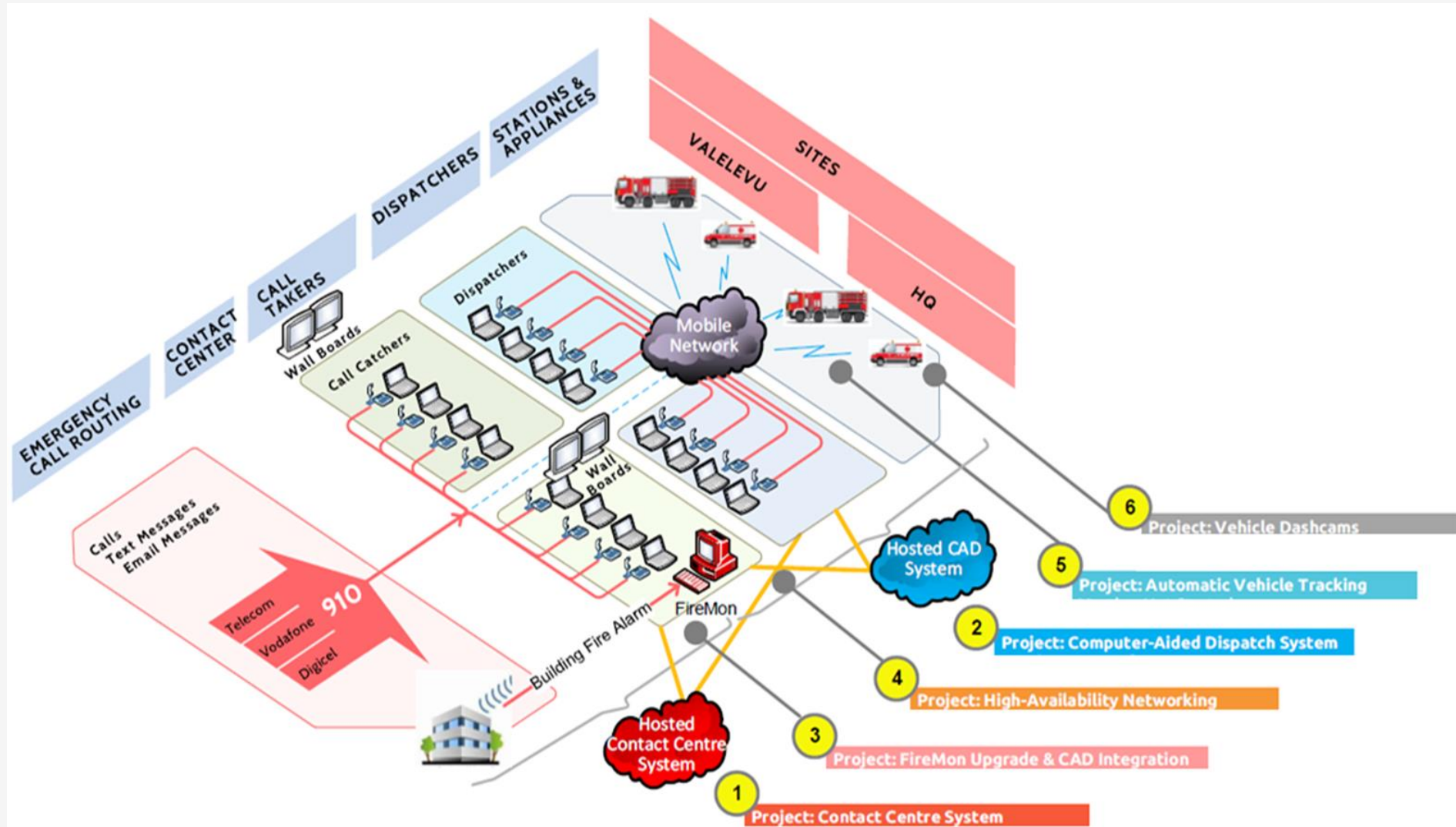
  Provides:

  - ➤ Fire, Ambulance and Rescue services within Fiji that will **protect life, property and economic activities**.
  - ➤ Real-time monitoring of Fire Alarms in Buildings connected to the NFA's Fire Monitoring Network.

- Consists of 21 Fire Stations around the country.

  Central: (9) Levuka, Korovou, Pacific Harbour, Navua, Lami, Suva, Valelevu, Nakasi, Nausori
  Western: (7) Rakiraki, Tavua, Ba, Lautoka, Nadi, sigatoka, Korolevu
  Northern: (5) Labasa, Savusavu, Seaqaqa, Nabouwalu, Taveuni

- Launched the "910" NFA dedicated toll-free national emergency line in **October of 2021** providing access to Emergency Services provided by NFA.

- The Authority is undergoing a modernization program of its information and communications technologies and capabilities **with the goal of improving the management and response to Fire Incidents and Emergency Services.**

National Fire Authority – National Command Centre Evolution

- Prior to April 2021, Emergency calls on "910" were decentralized by Regions and handled at 3 distinct Regional Command Centres:
  - Western division received by Lautoka Fire Station
  - Northern division received by Labasa Fire Station
  - Central division received by Suva Fire Station
- Proposed communication architecture was to set up a single, centralized **National Command Centre (NCC)** for the NFA at its Head Office in Walu Bay, Suva (Primary Site).
- The **Centralized (National) Call Centre System and Computer-Aided Dispatching (CAD) System** projects commenced with **scoping and tender assessments in 2018-2019**
- Implementation of both projects commenced in **November 2019** with key stakeholders such as the **Ministry of Lands & Mineral Resources, Telecommunication carriers, Fiji Roads, Fiji Police, EFL and WAF.**
- The system went **LIVE in April 2021 and on 27th February 2023,** His Excellency The President of the Republic of Fiji officially launched NFA's Emergency Digitization Project.

National Fire Authority – Modernization Program

National Fire Authority – National Command Centre

Integration of GIS to CAD System

- Pinpoint exact addresses and street names when logging an incident.

- Dispatching nearest Emergency Vehicle to an incident.

Integration of GIS to CAD System

- More Incident-Related Information made available to Emergency Vehicles.

Integration of GIS to CAD System

- NFA's CAD application using layers compiled by the Ministry of Lands and Mineral Resources on Vanua GIS.
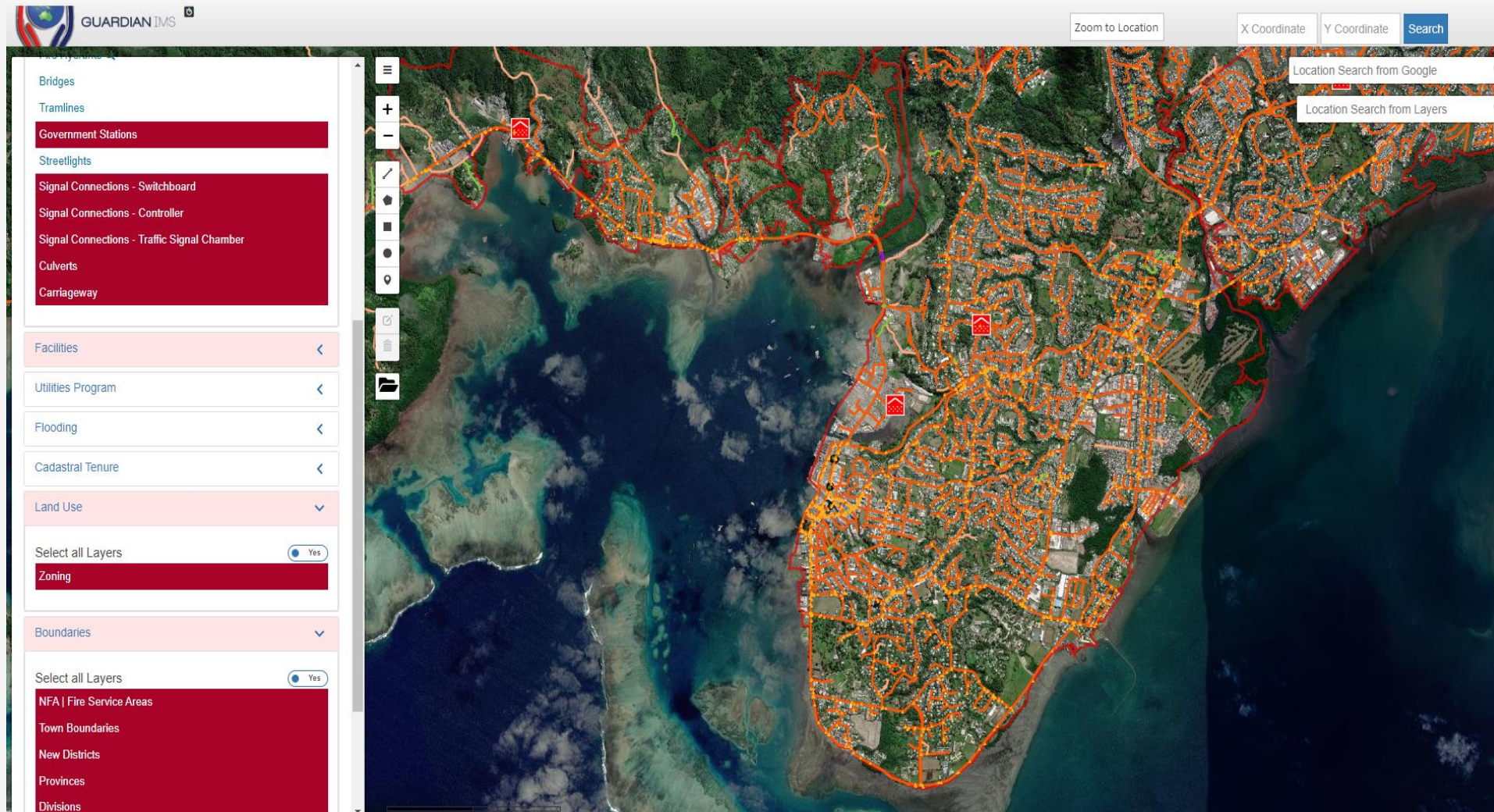
Integration of GIS to CAD System

- NFA's CAD System Heat Map

Future Plans ....

- Location of the Emergency Calls

Knowing Where Help Is Needed

Proven results leading location accuracy for emergency services:
- Identifying a caller's location **30 seconds faster**, on average
- Reducing search & rescue time by up to **4.5 hours**
- Saving **55-100bn EUR** over 10 years

Active 3D Network Location

Provides network location along **X** (longitude), **Y** (latitude), and **Z** (altitude) axes for all network types and devices.

Most Accurate and Reliable Location Data

Integrates with all network types from **2G-5G** for accurate location data. Mobile Network Operators reduce time to actionable network location data by **75%** and can improve location accuracy from several kilometers to **<50 meters**.

Advanced Mobile Location (AML) Technology

Captures critical **AML data** from smart devices for **PSAP** operators and integrates with next generation emergency services networks such as 911 or 112.

Law Enforcement Location Intelligence

Providing real-time location data in addition to historical information, SS8 solutions track a suspect's location using **device, SIM**, and **IP addresses** as well as:
- Proximity Alerts
- Geo-fencing
- Border Alerts (roaming)

Emergency Services Location Intelligence
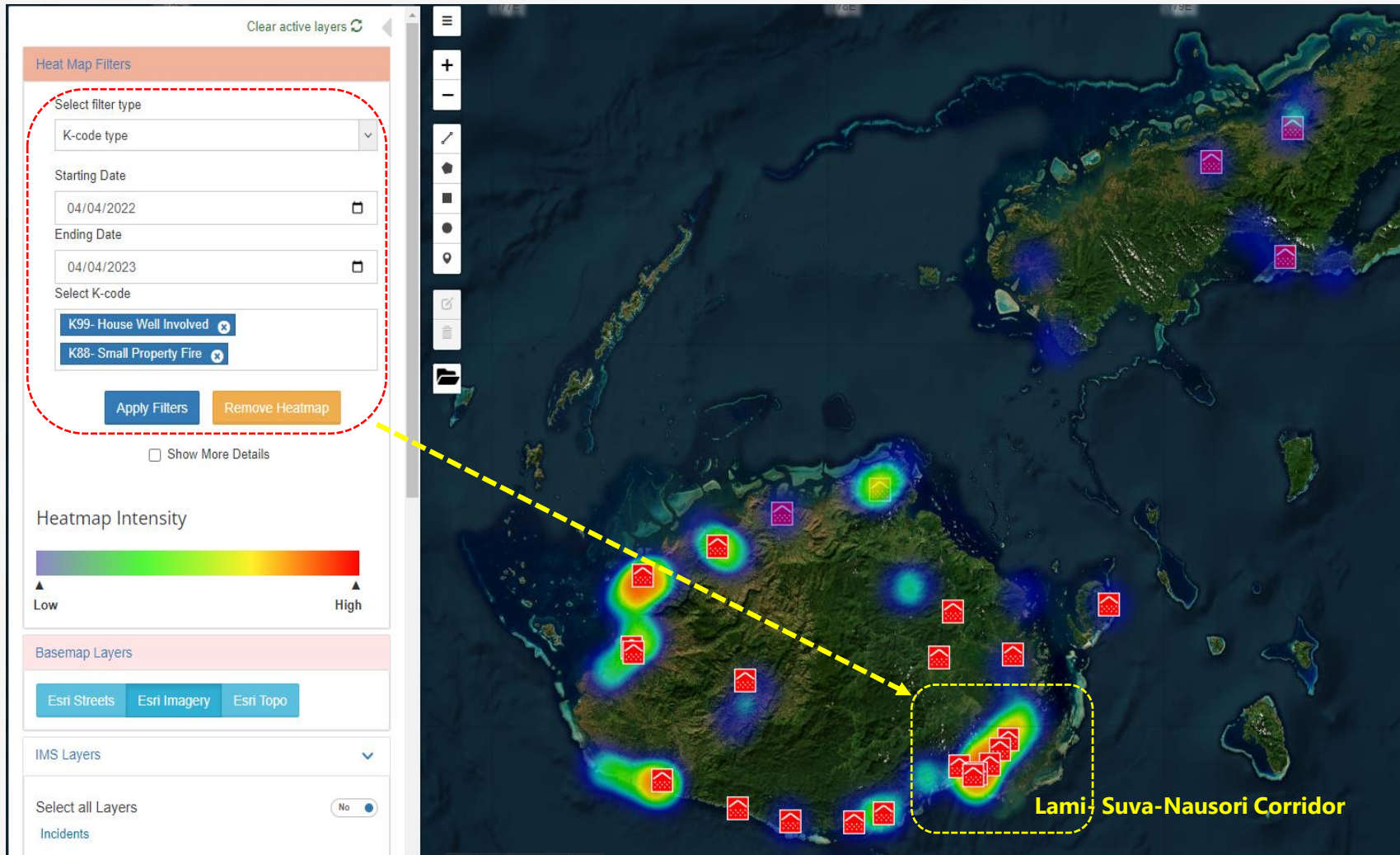
Supports all Public Safety Answering Point (**PSAP**) structures with highly accurate, reliable, and fast caller location. Cell Broadcast and Traceable Disaster Alert capabilities.

Tracking, Monitoring, and Analytics

SS8's Intellego XT ingests large volumes of data; performs tailored queries in real-time; and graphically renders multi-dimensional relationships, geolocation maps, and event timelines for subjects of interest.

Resource: https://www.ss8.com/resource/location-intelligence-infographic/

Summary

- Information collected from VanuaGIS spatial coordinates for land boundaries, area or size, road and street names, names of waterways, and government facilities are used to create interactive queries (user-created searches), analyze spatial information, edit data in maps, and present the results of all these operations to the CAD application.

- The Centralized Contact Call Centre and CAD projects lead the transformation of the Authority's existing paper-based emergency management operations to a fully digitized process. Both projects enable NFA to deliver end-to-end incident logging, status tracking, and updates until the incident is closed.

- It is clear that the NFA's Computer-Aided Dispatch application with GIS capabilities has become a valuable management tool to improve the effectiveness and efficiency of incident management by introducing a combination of facilities, equipment, personnel, procedures, information, technology, and communications operating among emergence response organizational structure and it has been accepted worldwide. The NFA CAD System can cater for other Agencies of Government if needed.

- Implementing CAD Systems in Fiji amongst other agencies **(Fire & Rescue Services, Law Enforcement, Emergency Medical Services, Disaster Management)** of Government will create a good platform for coordinating and communicating among all Search, Rescue and Emergency Services and will enable effective and efficient incident management and response in the country.

Thank you