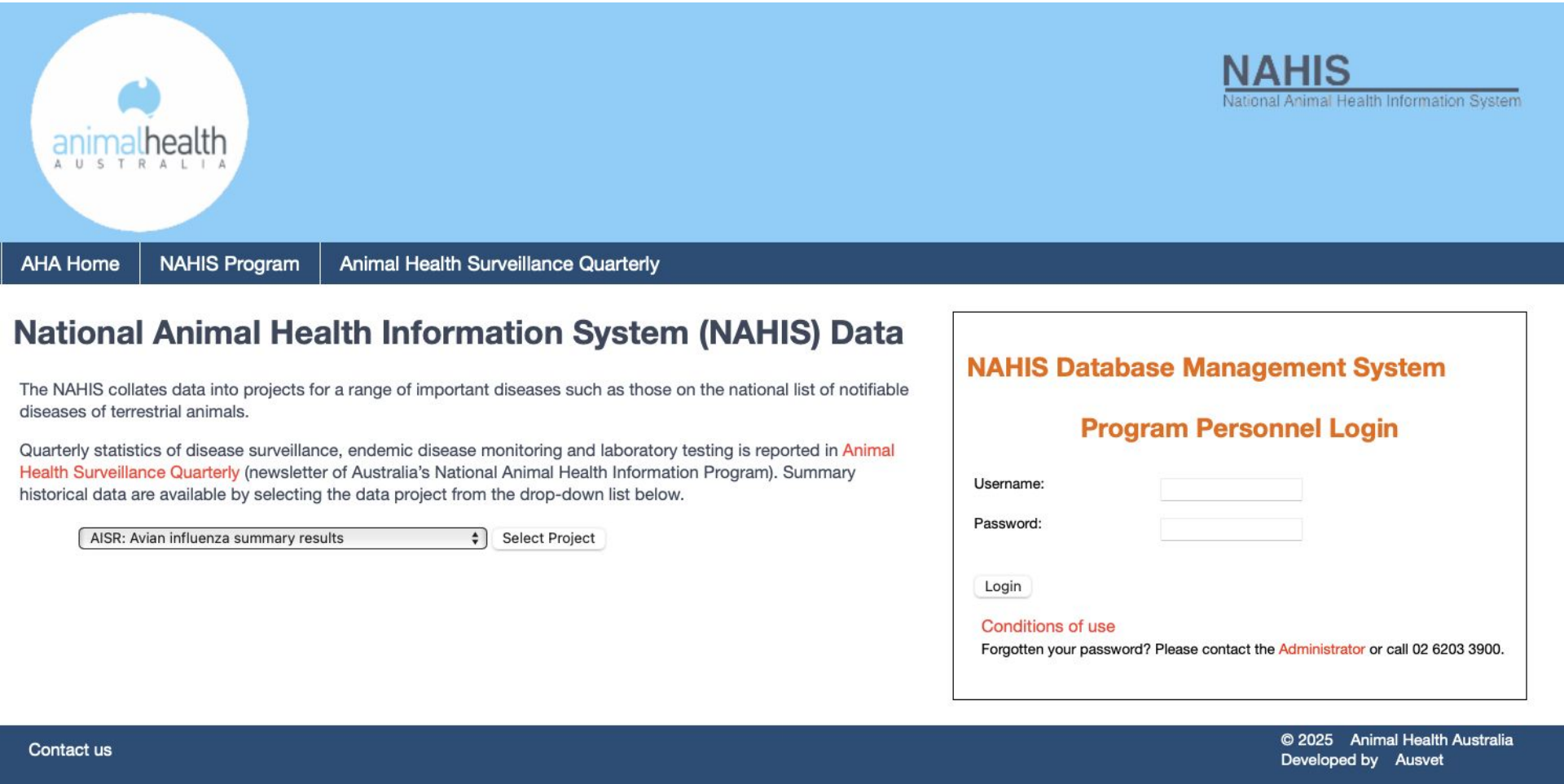

AUSVET

Central Animal Health Database Updates Update

or, NAHIS, NAMP & EDIS … where are we at?



Pre-History

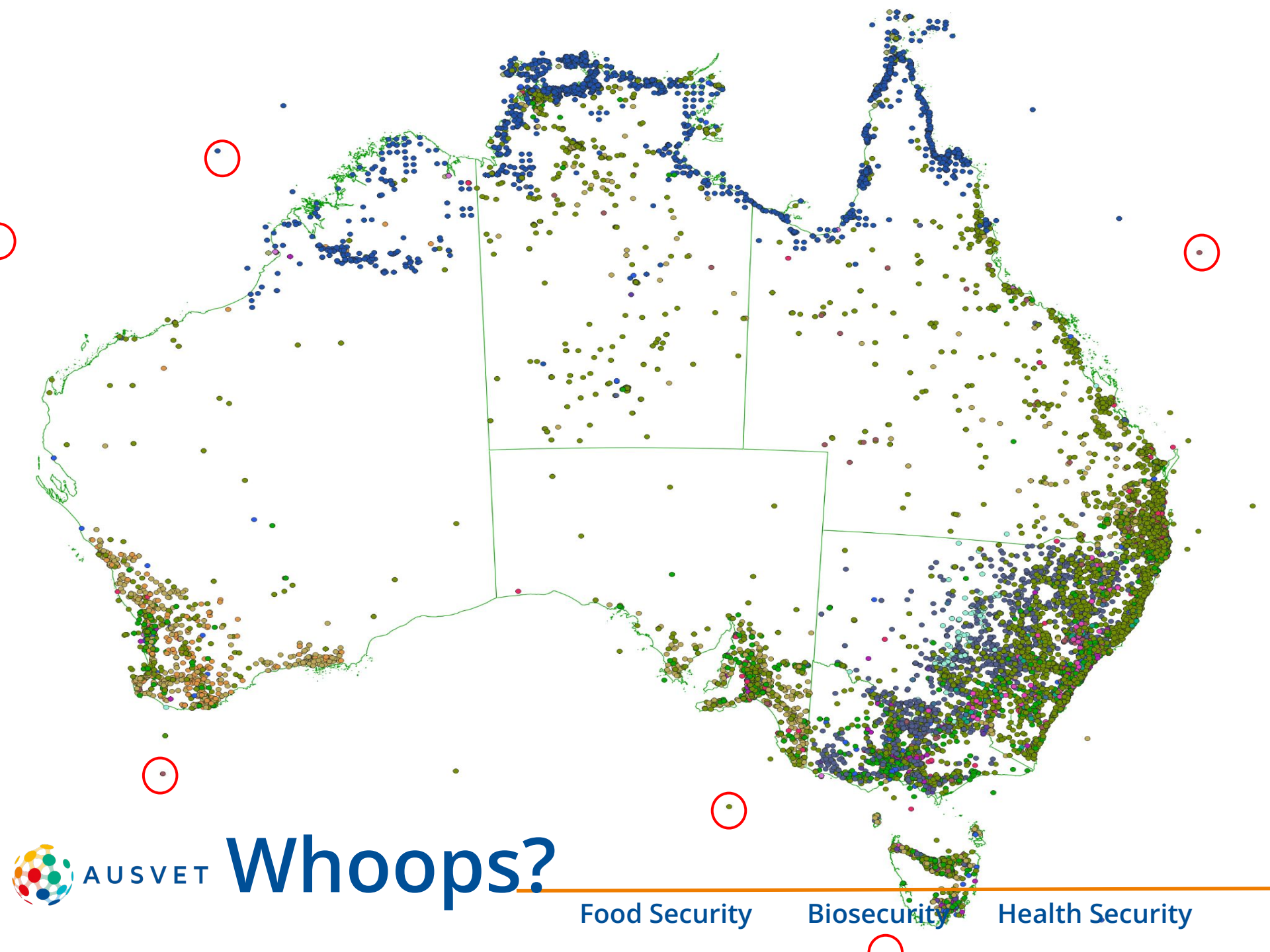
- The “concept” of a national computerised system dates back to the BTEC programme, where a measly $500k bought 20 minicomputers, and a lot of 8” disks.
- Was a single national programme.
- Everything else was a state based problem, so the second iteration of NAHIS was planned and designed to receive summary data.

NAHIS - Origins & Initial System

Foundation 1993–1995	• Implemented in 1993. • Became a core programme of AAHC in 1995.
Early Management & Transition Pre–2006	• Funded by AHA but managed by the Department of Agriculture — summary data emailed to Canberra • Management transitioned to AHA in late 2005 following Rob Cannon's retirement.
Initial Web–Based System Early 2006	• Developed by Ausvet (National Surveillance Coordinator) to manage costs. • Database-backed, running on AHA's SQL Server. • Key Challenge: Addressed data access controls, ensuring states couldn't see other jurisdictions' data until validated by the Chief Veterinary Officer (CVO). • The original code base was written enthusiastically over a period of four weeks (for about $20,000). The brief was to absorb 22 different projects that were previously hand merged on a quarterly basis into an automated system.

Key Developments & Enhancements

Feature Expansion	2006	Public interface, mapping system, and National Transmissible Spongiform Encephalopathy (NTSE) programme incorporated.
	2007	NAMPInfo system integrated; high-quality charting and email solution for 5000+ subscribers added.
	2008	Integrated wiki for broader data summaries and collaborative reporting.
Database Migration & Data Integrity 2010		Mapping revealed data quality errors, leading to migration to a spatially-enabled PostgreSQL database. Benefits: Saved over $100,000/year in licence fees; enabled significantly improved data checking (e.g., preventing incorrect cross-jurisdictional disease reporting, aiding NAMP)
Incorporation of other Programmes		Endemic Disease Information System (EDIS). APAV register & payments. National Bee Pest Surveillance Programme (NBPSP)



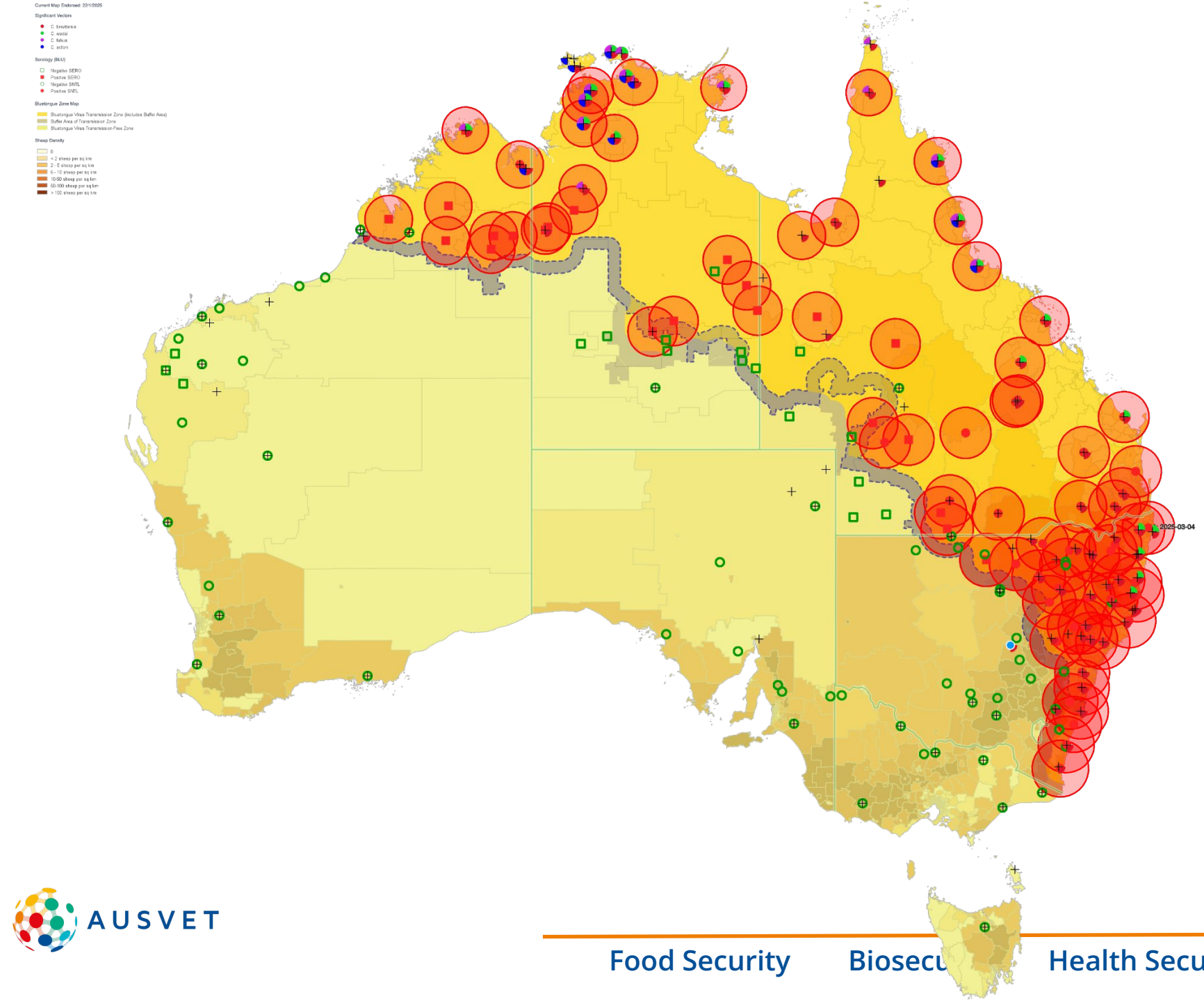
AUSVET

Whoops?

Food Security Biosecurity Health Security

Modernisation & Current Capabilities

Cloud Migration 2016	Triggered by difficulties with a failed backup server. Migrated to cloud-based infrastructure. Key Benefits: • Reduced hosting costs by approximately two-thirds. • Vastly improved data security and scalability. • Simplified system updates.
Advanced Features Post-Cloud	Development of a fully ‘slippery’ mapping system (displaying multiple data layers simultaneously). Improved data display system.
Integration & Impact	Coupled with the Meat & Livestock Australia (MLA) Livestock Data Link project. NAHIS has evolved into a robust, scalable, and cost-effective system central to Australia's national animal health surveillance and reporting Three Active Programmes,



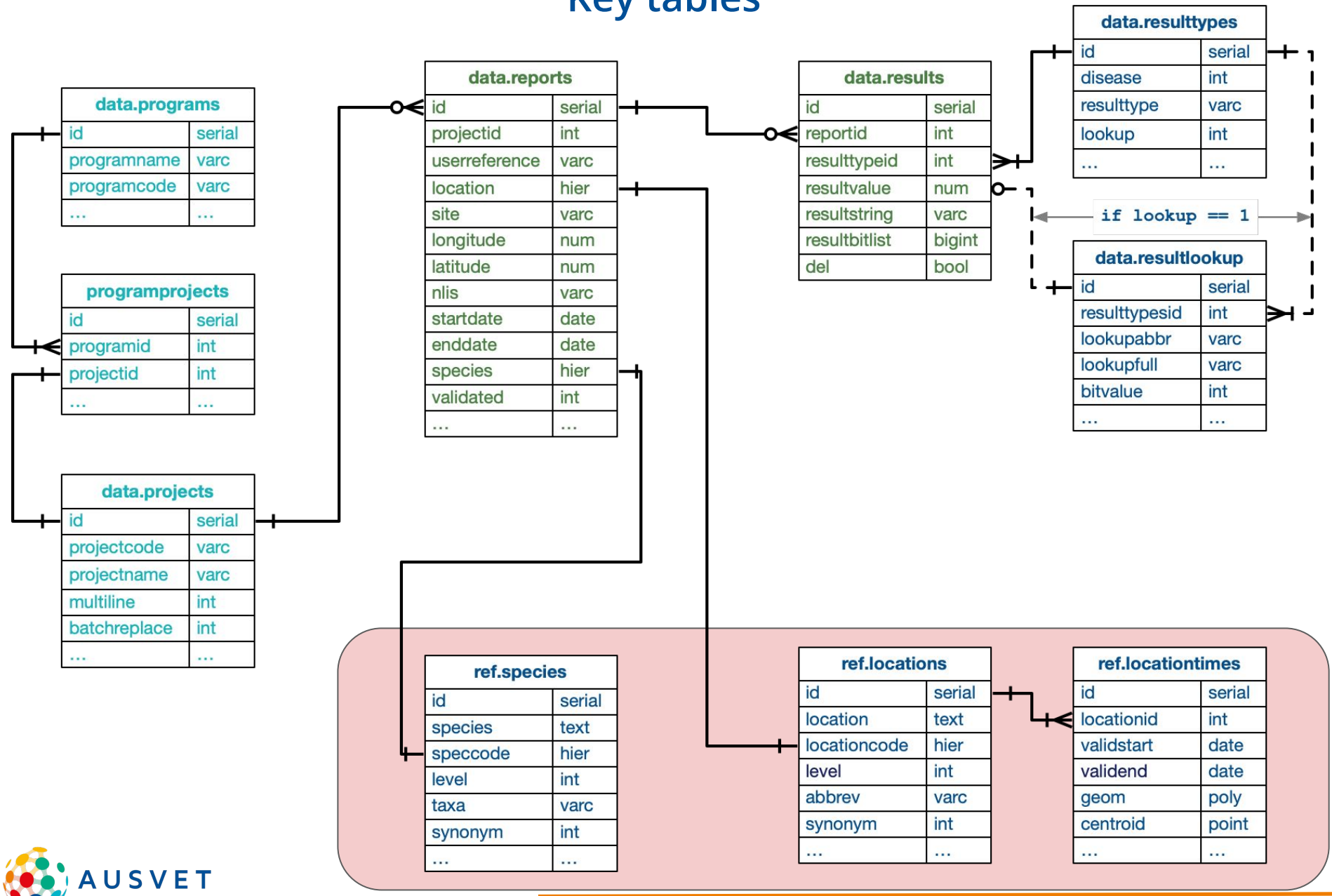
AUSVET

Food Security Biosecu Health Security

Is it a database

- Yes, fully relational spatial database
- Uses a key event concept (a report) which can be a point in time and space, or a period, and / or an area
- Some careful management of the time ranges and spatial ranges makes cross project and cross programme analysis relatively straightforward.
- Spatial capacity most used in NAMP (ie automated email alerts for “out of zone” results).

Key tables



AUSVET

Food Security Biosecurity Health Security

Some other novel things

- Managed the AHA mailing list - single list of subscribers
- At one stage was receiving nightly updates from some laboratories around the country ← not summary data?
- Created summary reports for the sentinel hive project.
- Created a digest system that could link outputs and specific epidemiological input and create a monthly summary report.

And how much data do we have?

Last night: **40,108,076** data points

Results - Total reports and date range for active projects by programme

Download

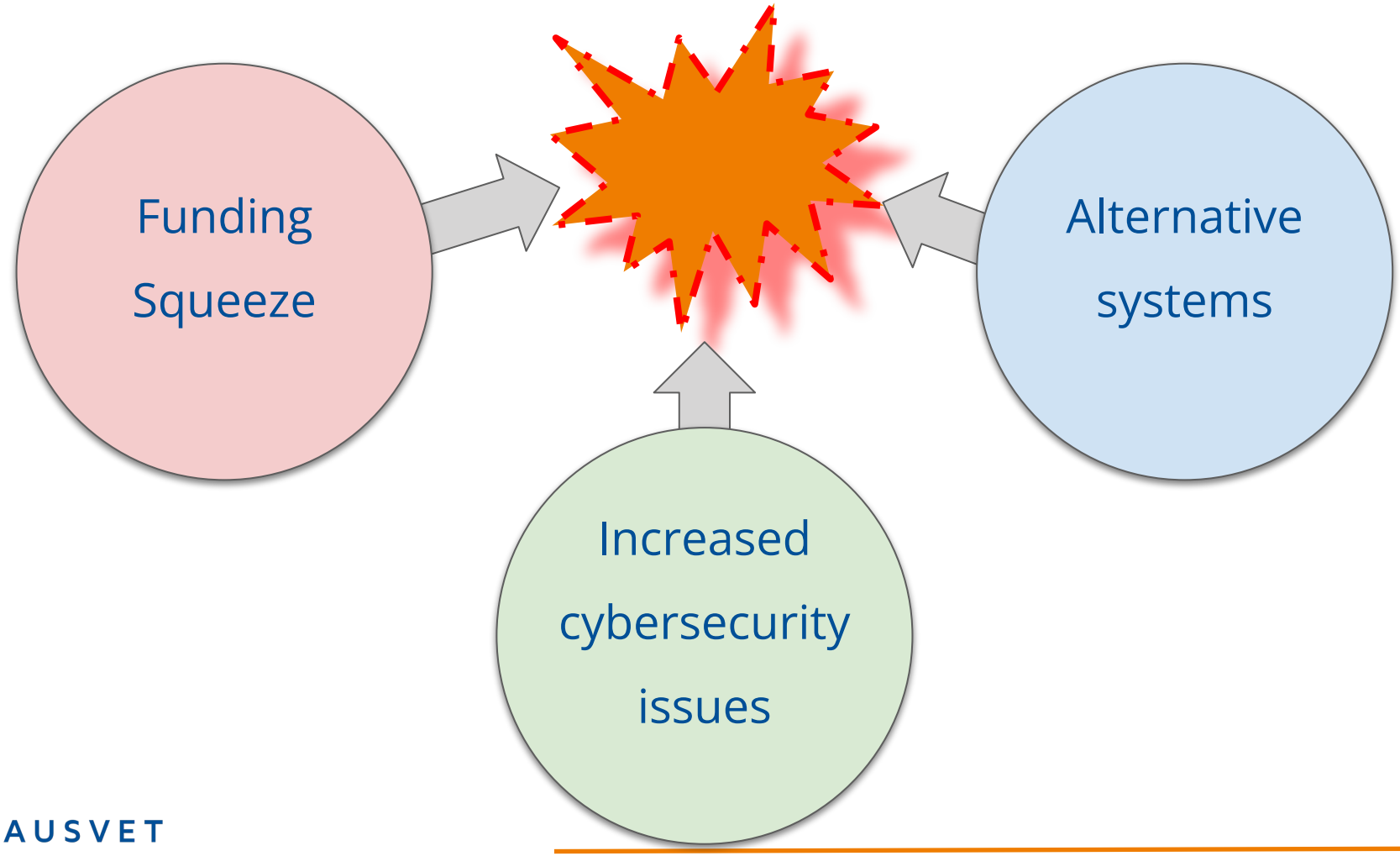
Edit query 475

Total reports and date range for active projects by programme

program_id	program	projects	reports	from_date	to_date
1	NAHIS	57	374838	1982-07-01	2025-04-10
2	NAMP	18	135112	1970-01-20	2025-07-01
3	EDIS	5	615560	1990-07-01	2025-05-13
Total		80	1125510	1970-01-20	2025-07-01

© 2025 Animal Health Australia
Developed by Ausvet

The last five years



What's been happening this year?

Cyber security updates:

- redeployed solution - contemporary operating systems and improved user access
- increased component isolation
- real-time failover
- replacement of deprecated software library components
- update of banking integration.

What's been happening this year?

- New hosting servers (upgraded to 2024 LTS servers)
- PostgreSQL 16
- Elastic containers (for mapping)
- Upgrade of core software components (php8, python3)
- Automated deployment of infrastructure
- 0Auth for sign-on

And what would we love to do…

100% focus on function and security, but some future ideas:

- More granular data (not just quarterly reports)
  - Spatio-temporal scanning of data
- Better spatial resolution - or fix arrangements?
- Better use of other readily available data (labs, abattoirs, other research, NLIS, BOM, etc
- Integrate more explanatory models / ML

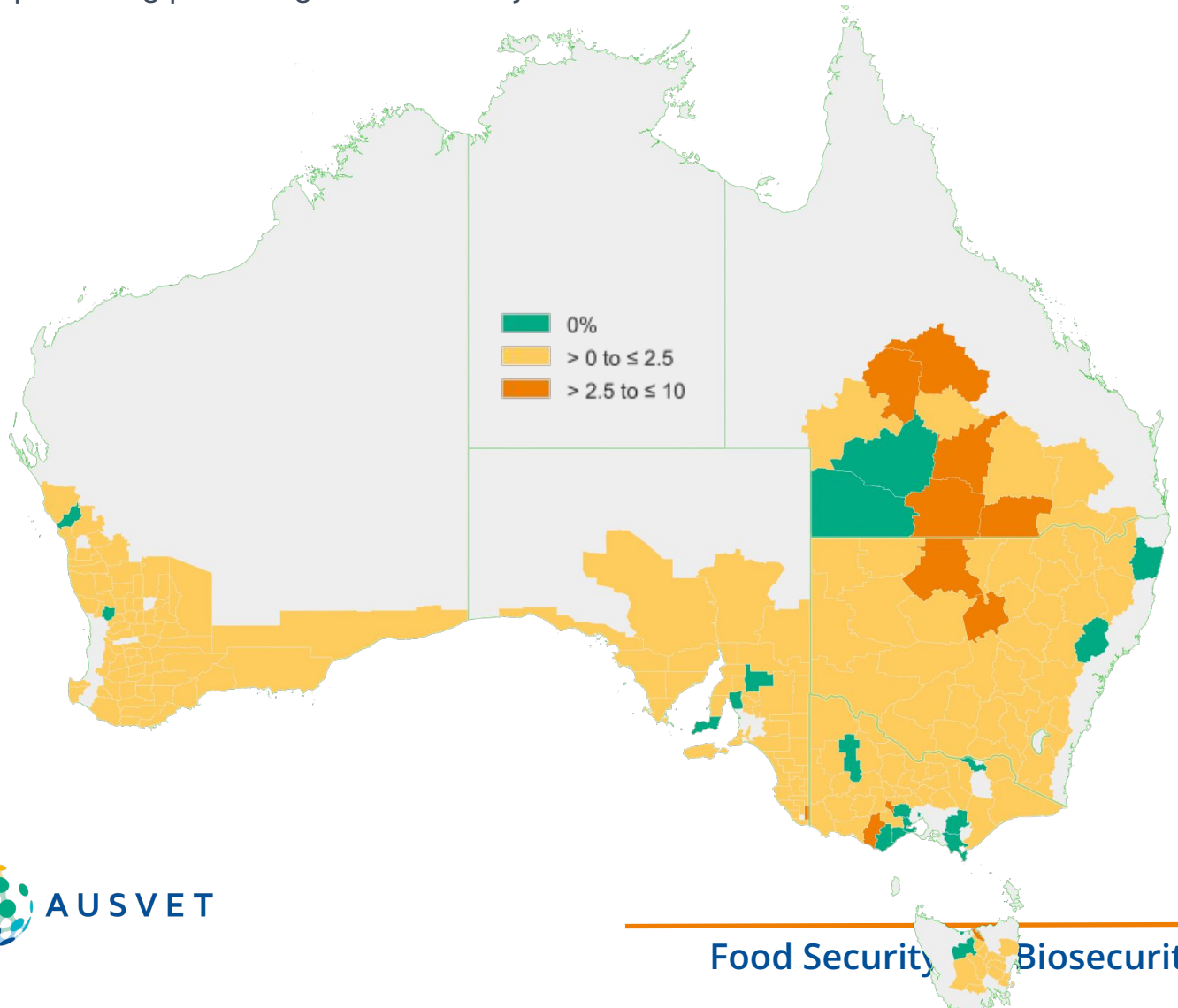
Some thoughts…

Highly customisable

- AHA team can create a new project in a few hours
- Can have automated detections
- Emergency response role?

Questions?

Map showing percentage of animals by LGA with arthritis from 01/01/2025-31/03/2025



https://aus.vet/

AUSVET

Food Security Biosecurity Health Security

WHO ARE WE AND WHAT DO WE DO?

Solve complex health problems in the real world.

Specialised and responsive, yet large enough to manage global solutions.

Surveillance

Research & Modelling

Information

Risk Analysis

Data Analysis

Policy & Programs

Biosecurity & Outbreak Investigation

Training

3
Offices
AUS / IDN / VNM

35
Team members

55
Countries worked in

29
Years of Operation

AUSVET

Food Security **Biosecurity** **Health Security**