



Data Sharing and Interoperability for Decision Support in Grazing

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data driven agriculture

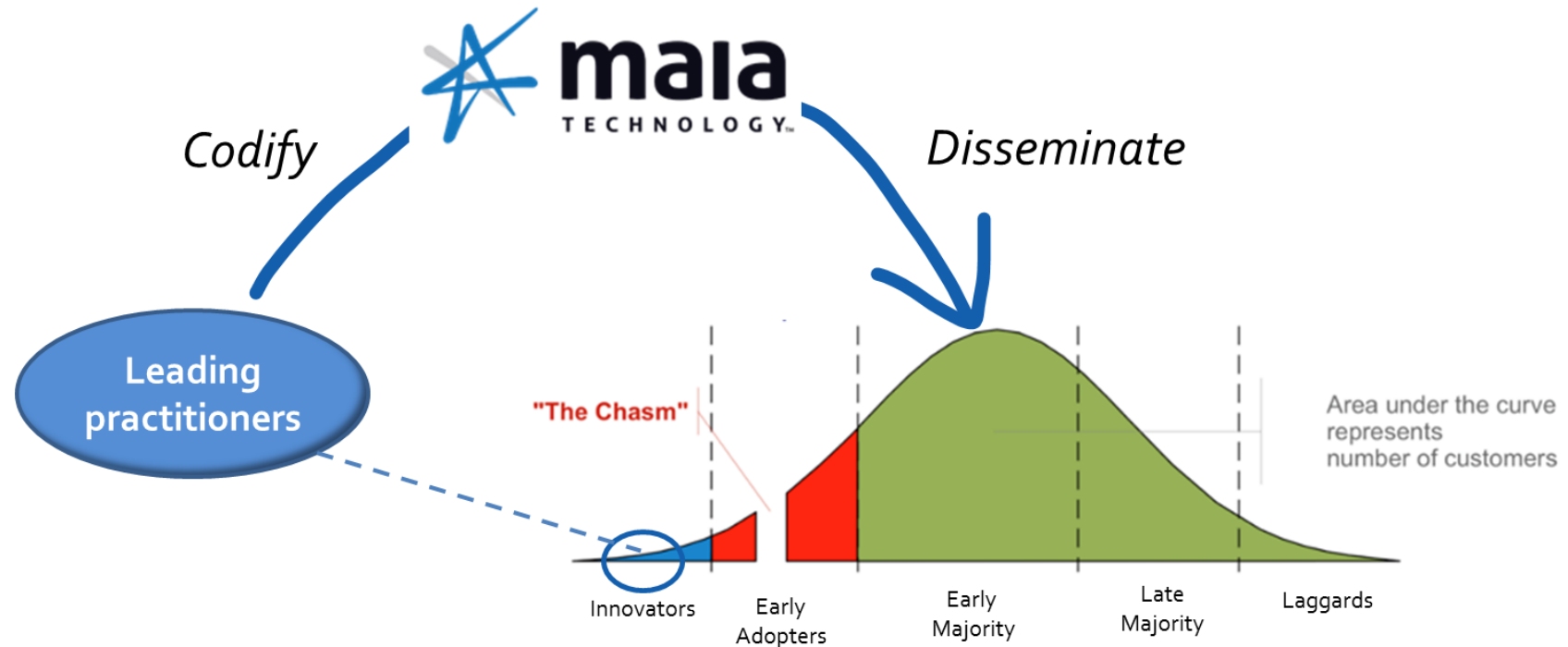
Outline



- Better decisions demand better data
- Interoperability and lessons from other industries
- Software trends relevant to Agriculture
- Towards an architecture for interoperability

A small number of innovative farmers are achieving significantly better results than the mainstream

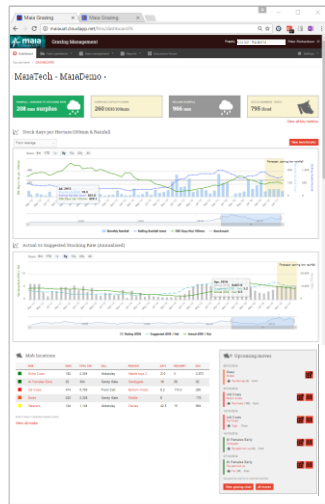
- Our mission:
- Identify the outliers
 - Codify best practice into decision support
 - Accelerate into mainstream



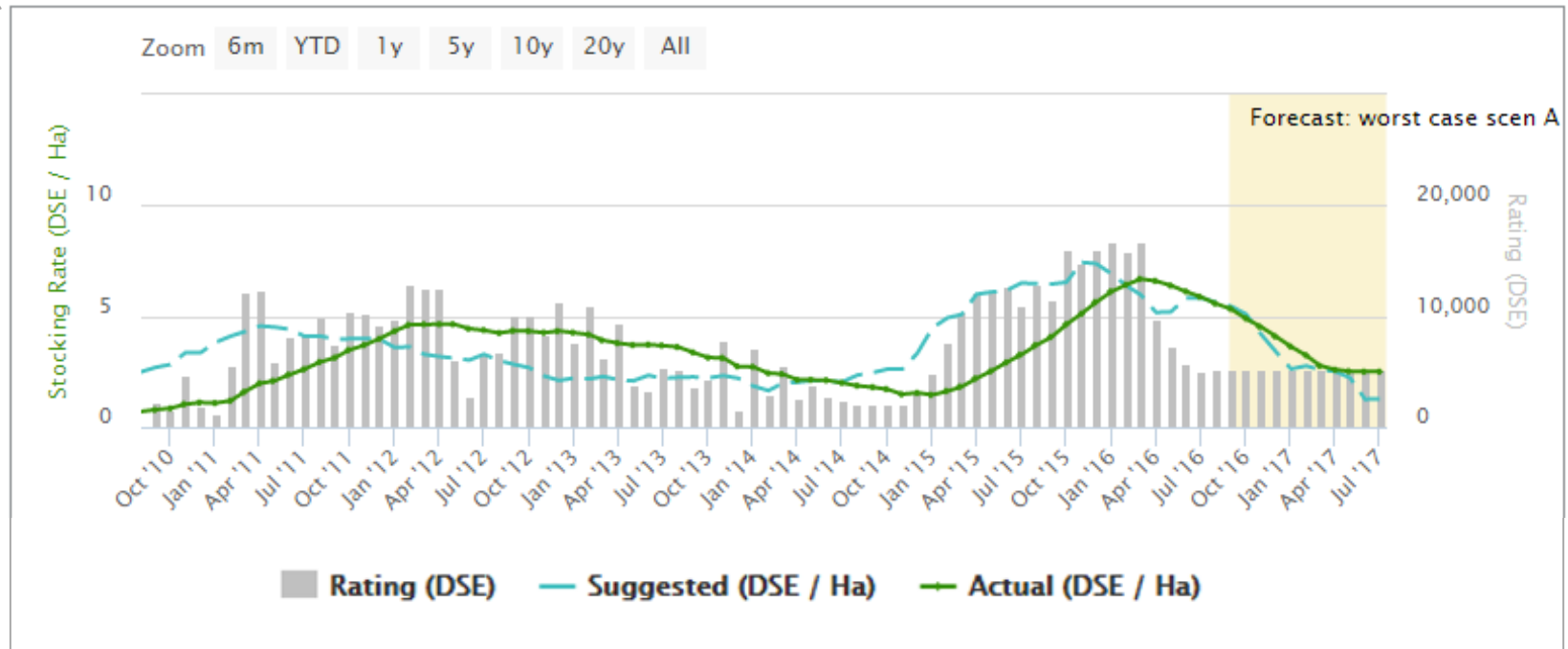
What is maia grazing™ ?



- A grazing management tool that helps farmers achieve optimal production and minimise the impact of drought



 Actual vs Suggested Stocking Rate (Annualised)



What is MaiaGrazing?

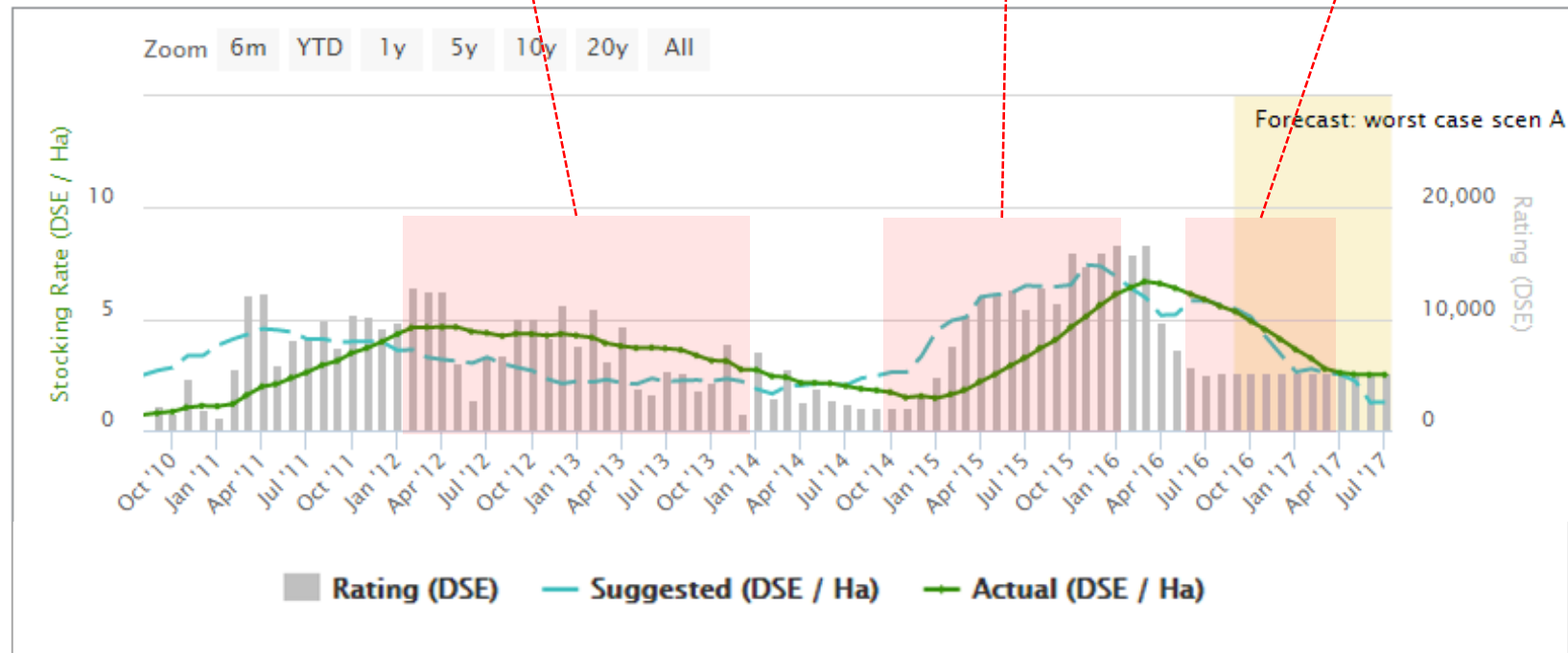


Overstocked!

Understocked!

Tracking...

Actual vs Suggested Stocking Rate (Annualised)



Leveraging data for decisions

Pasture Assessment

Grazing history

Paddock history

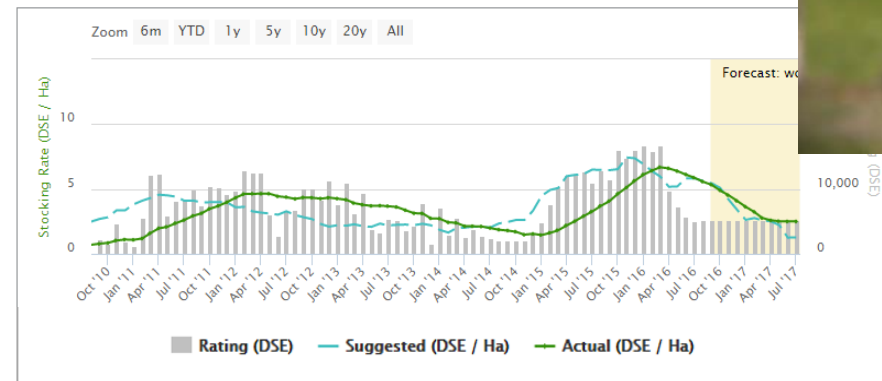
Rainfall

Livestock details

Forecasts/plans



Actual vs Suggested Stocking Rate (Annualised)



But more could be done

Pasture Assessment

Grazing history

Paddock history

Rainfall

Livestock details

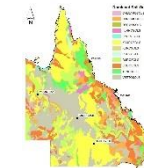
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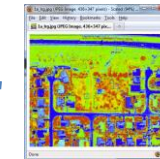
Satellite



Drones



Govt. datasets

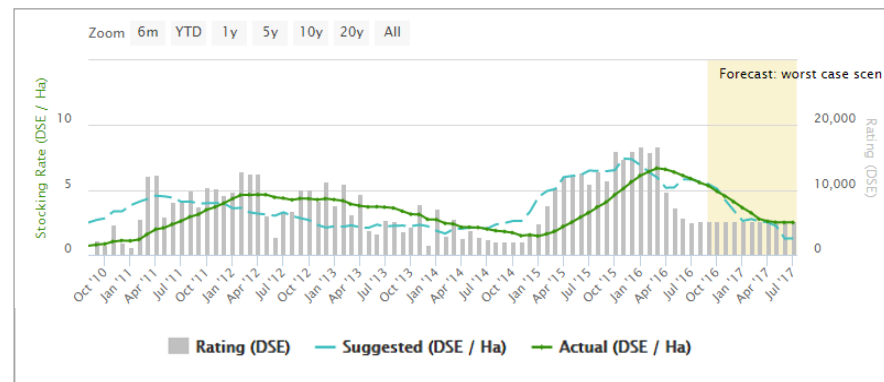


Soil maps



BOM

Actual vs Suggested Stocking Rate (Annualised)



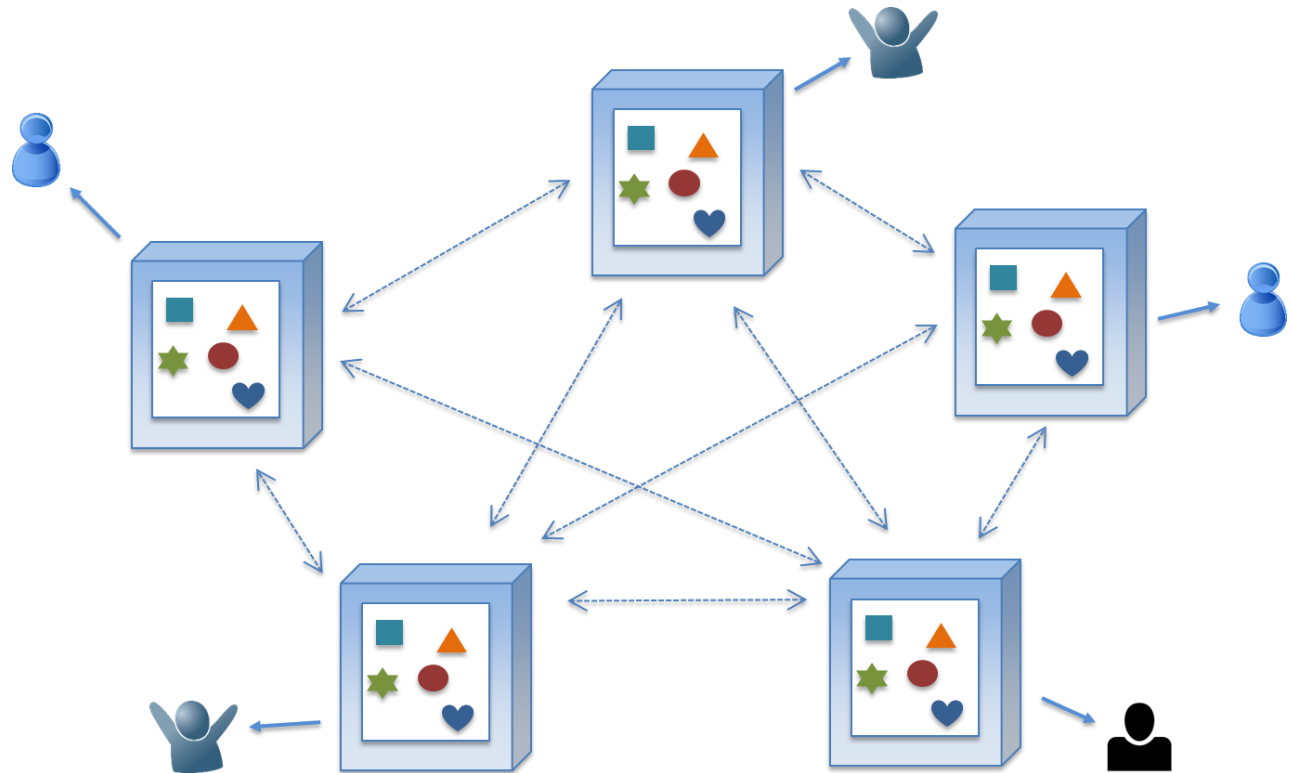
Sensors
Eg. moisture



Laboratories

Approaches to Interoperability

1. Ad-hoc point to point interfaces

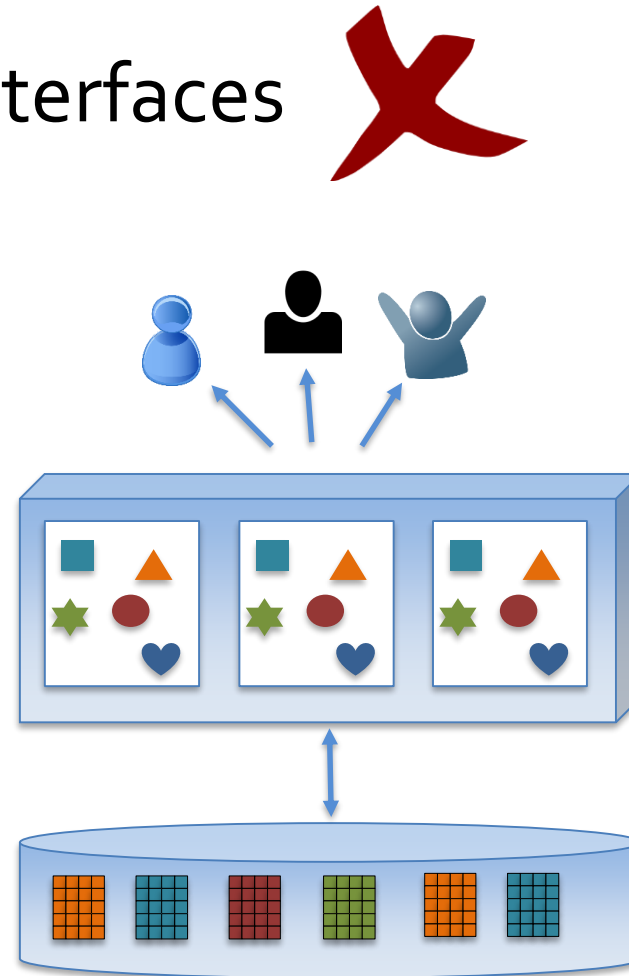


Approaches to Interoperability

1. Ad-hoc point to point interfaces



2. Single Vendor platform



Approaches to Interoperability

1. Ad-hoc point to point interfaces



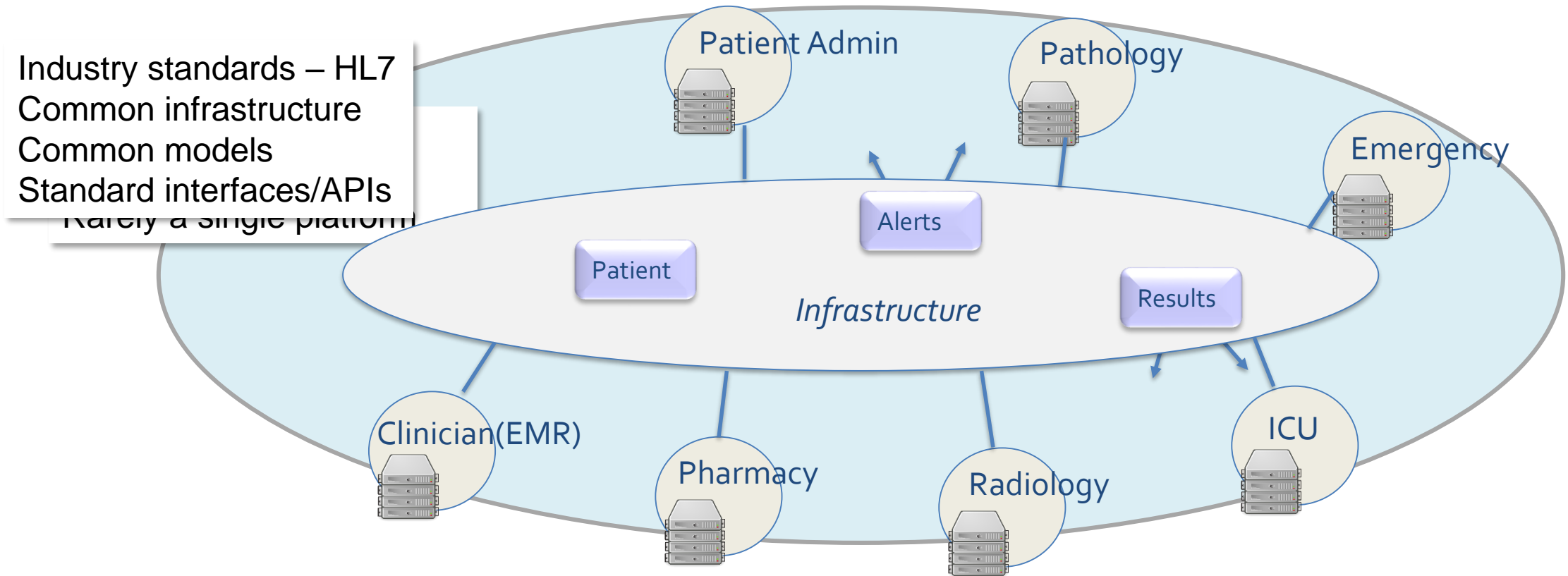
2. Single Vendor platform



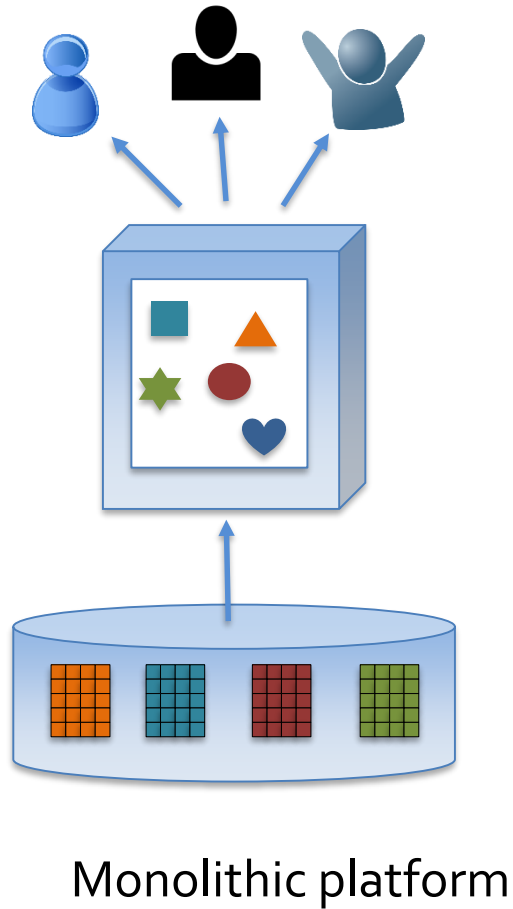
3. Agreed standard models and architecture



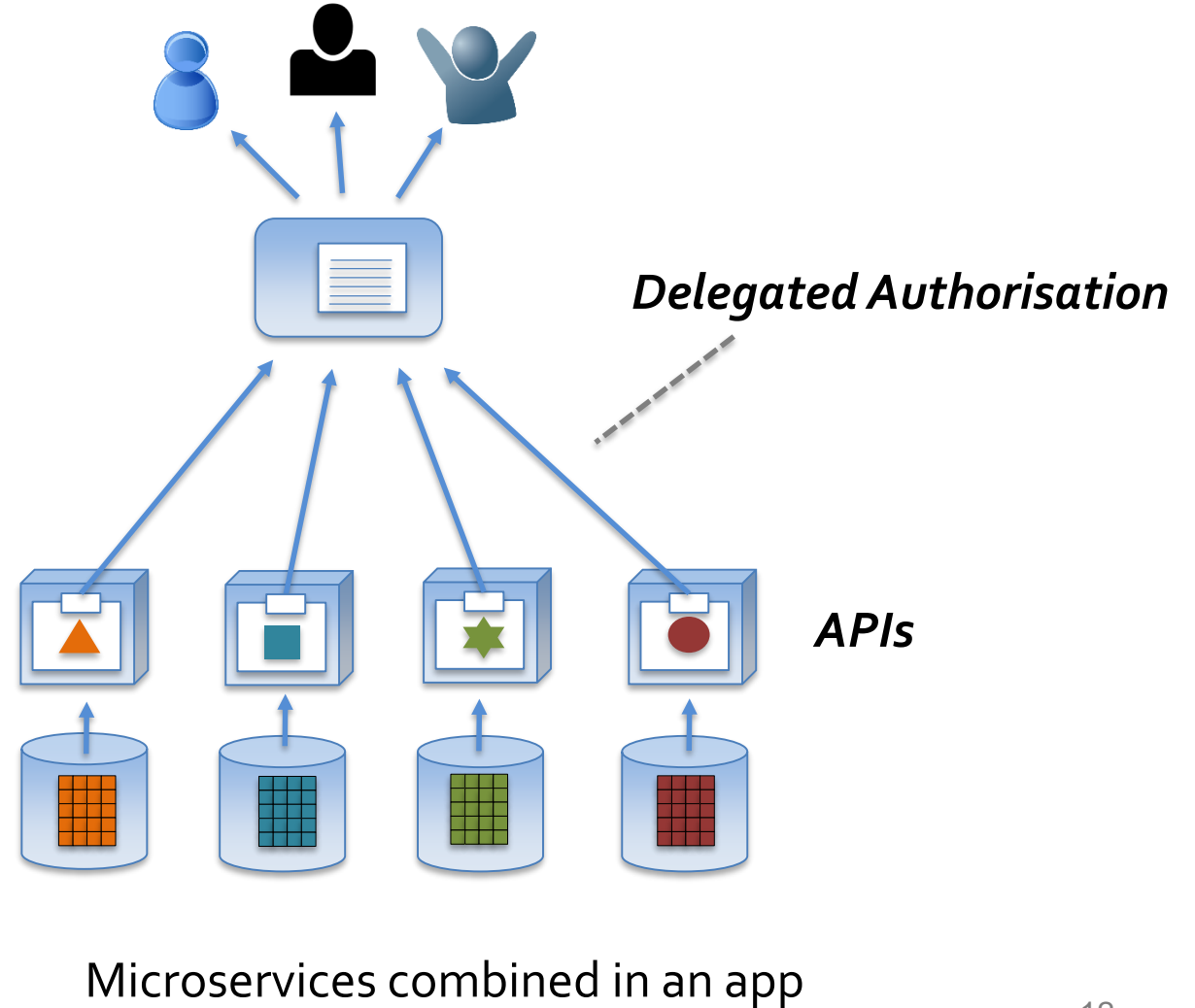
Example: Information in a Hospital



Industry is Moving to Microservices Architecture

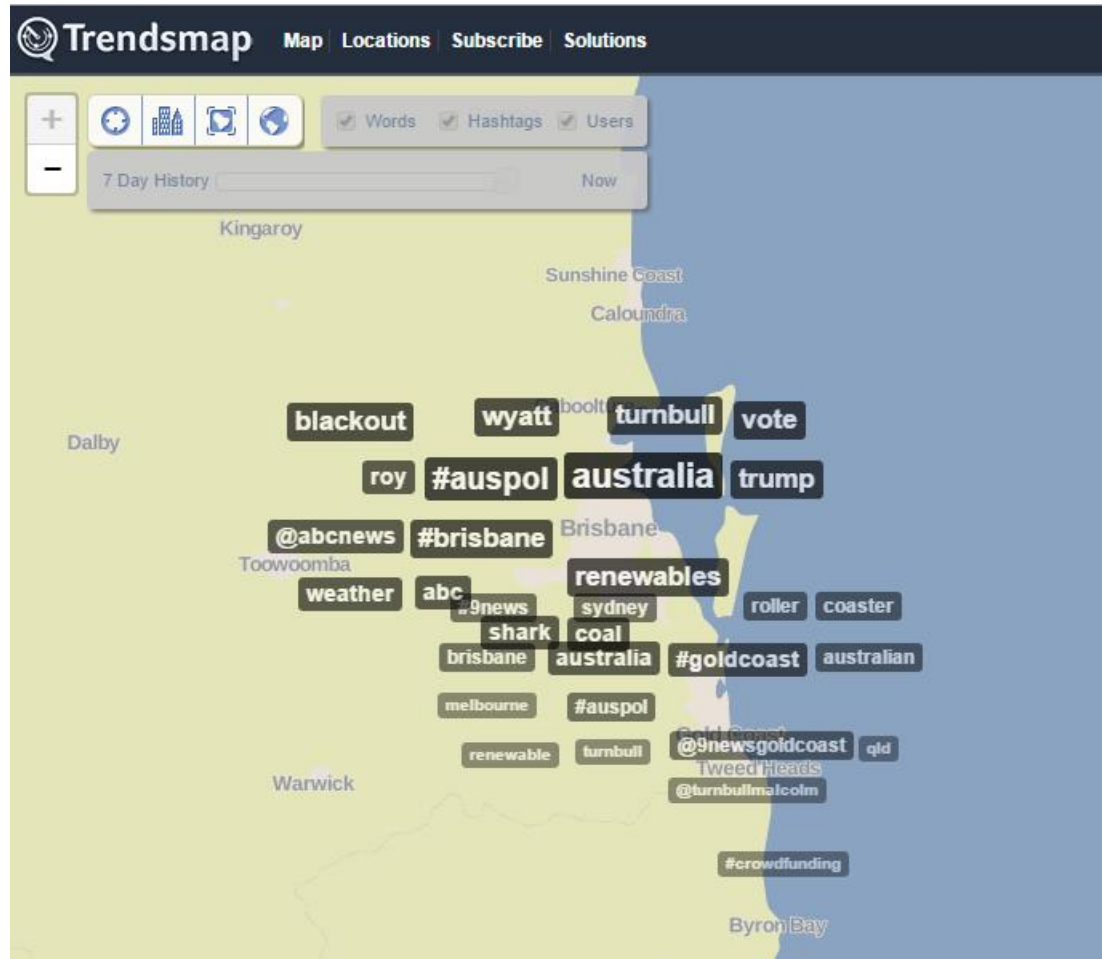


VS



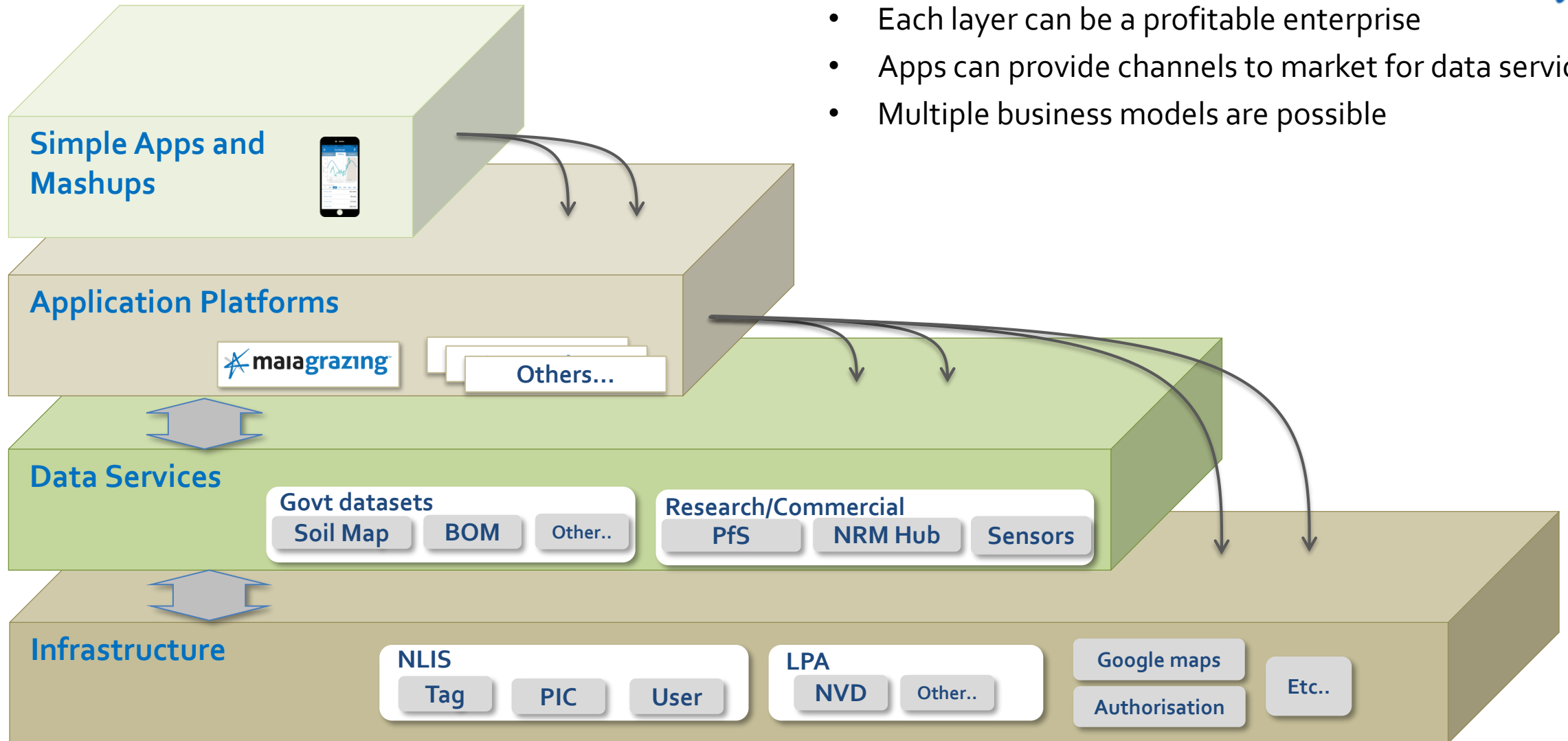
Mashups

Twitter Trends + Google Maps = Trendsmap



Real-time map of Twitter trends across the globe

Towards an Interoperability Architecture for Livestock Ag



- Each layer can be a profitable enterprise
- Apps can provide channels to market for data services
- Multiple business models are possible

An Interoperability Architecture for Livestock Ag



Requires:

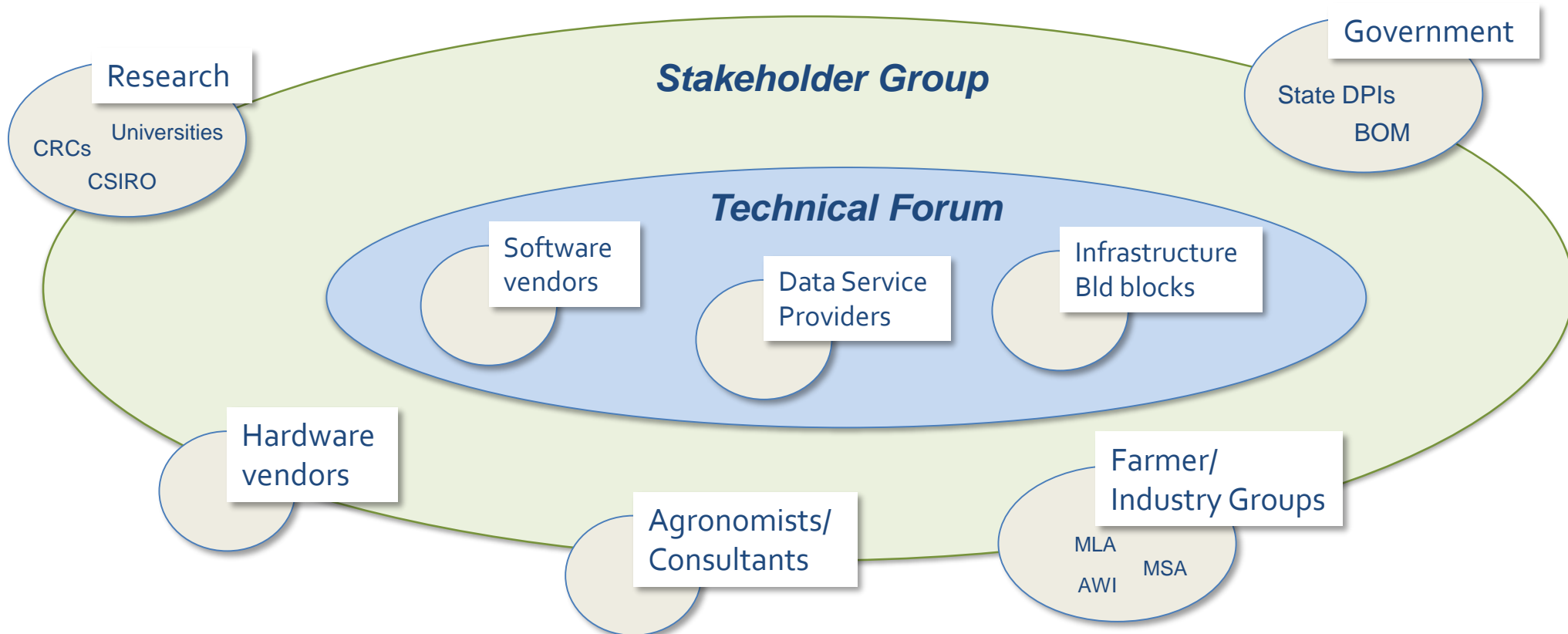
1. Common information models and vocabulary
2. Ag-based Metadata standards and APIs
3. Standardised infrastructure building blocks
4. Consistent authorisation/access control

Overseas examples:

- AgGateway – eBusiness (mainly cropping)
- Open Ag Data Alliance (OADA) – REST APIs for farm data
- American Farm Bureau Federation privacy principles for ag data (USA)
- Farm data code of practice (NZ)
- Farm data standards (NZ)

Can we set up an Australian alliance of ag software/data companies?

- Is MLA the logical convenor of such a forum?
- Recent eNVD workshops a good example





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Thank You

<http://maiatechnology.com.au/>

data driven agriculture