


# Saving £12Bn+ Using Open Source

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A decorative graphic featuring a large, light blue dashed circle that frames the central text. Scattered around the perimeter of this circle are various smaller circles in different colors: teal, yellow, green, orange, and pink. Some of these circles are solid, while others are hollow or have a dashed outline. The overall design is modern and vibrant.

**Vision:** A global  
~~collaboration~~ ecosystem to  
harness the power of data  
for better lives

A decorative graphic featuring a large, light blue dashed circle that frames the central text. Various colored circles (blue, green, yellow, orange, red, pink) are scattered around the perimeter of the dashed circle, some solid and some hollow. The text is centered within the circle.

Leave no one behind

Endeavour to reach the  
furthest behind first



# SUSTAINABLE DEVELOPMENT GOALS



# Open Source

◉ Wardley Mapping	◉ Apache NiFi
◉ Platform Design Toolkit	◉ Apache Kafka
◉ GeoMesa	◉ Apache HBase
◉ LandSat	◉ Apache Spark
◉ Jupyter	◉ GeoServer

# Strategy

# Strategy

- © [Wardley Mapping](#) - Creative Commons
  - Strategy
- © [Platform Design Toolkit](#) -Creative Commons
  - Platform business model

# How did we save £12Bn+

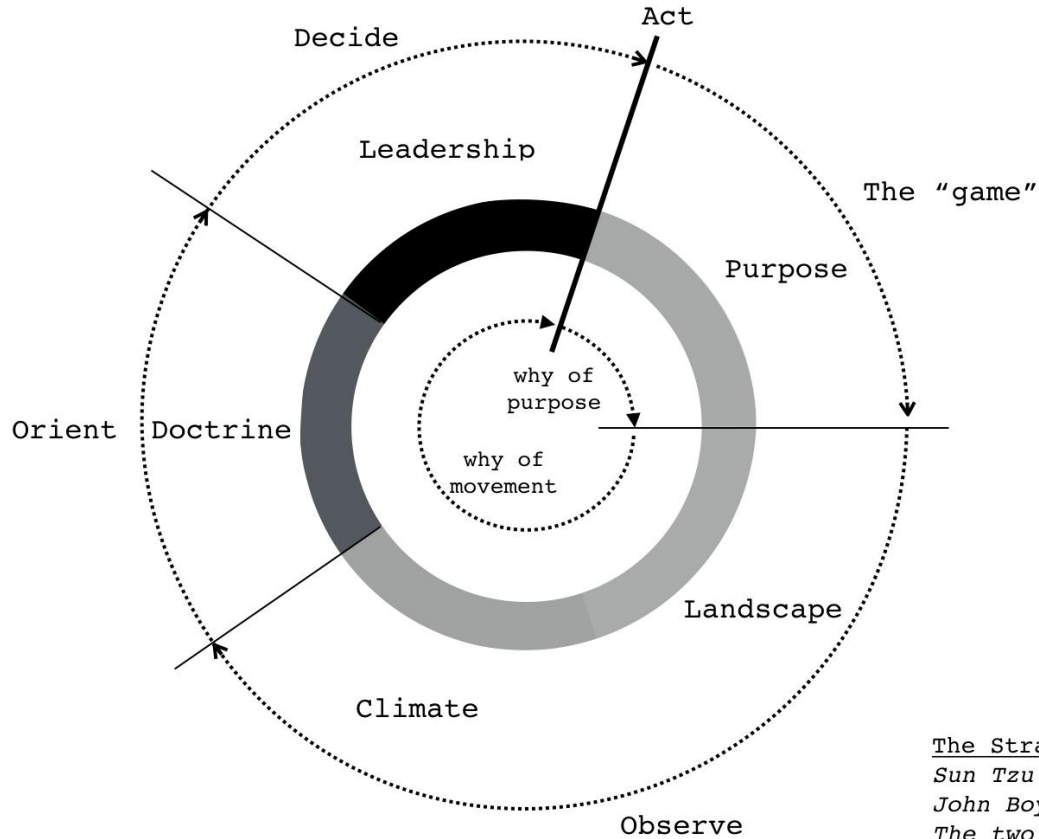
- © UK Office for National Statistics produces official statistics on the economy
- © 12 Weeks to produce official figures (2008 Financial Crash). Each week costs the UK economy £1 Bn
- © Using Open Source we were able to reduce this to a weekend



The background features a light blue dashed circle that passes through the center of the text. Various solid-colored circles in teal, lime green, orange, and pink are scattered around the page. Some of these circles are partially enclosed by dashed lines of the same color. A large teal ring is in the top left, a large yellow ring is in the bottom right, and a large orange circle is on the right side.

# Wardley Mapping

# Strategy Cycle



The Strategy Cycle  
Sun Tzu's five factors  
John Boyd's OODA loop  
The two types of why

		Type	Traditional	Next Generation
Strategic Play ↑	Organisation	Structure	Departmental	Service / Cell (two pizza, self organising)
		Culture	Inertia	Fluid / Game-able
		Corporate Focus	Profit	Disruption
	Strategy / Tactical	Open source	Cost Reduction	Weapon (reducing barriers, centre of gravity etc)
		Learning	Analysts	Ecosystem (ILC, alliances, suppliers etc)
		"Big" Data	Used	Driven By
	Practice	Resilience	N+I	Design For Failure
		Failure Testing	Disaster Recovery	Chaos Engines (Chaos Monkey, Master of Disaster etc)
		Capacity	Scale Up	Scale-out (distributed)
		Technique	Single Methods (agile or lean or six sigma)	Mixed Methods (agile + lean + six sigma)
		Deployment	Change Control	Continuous
	Activity	Infrastructure	Enterprise Class	Commodity (volume operations of good enough)

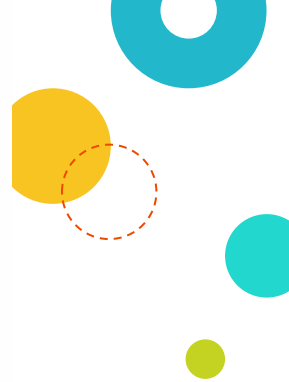
Simon Wardley, Leading Edge Forum, CSC, 2011



----- Strategic Play ----->



----- Uses Open to Compete ----->





# Open Source as a Weapon

- © **Chancers:** This group ranks low on both axes despite many of the companies being aware of the games being played against them. **They often believe that open technology won't impact them** and this group is most likely to make ad hoc technology, operational and implementation choices.

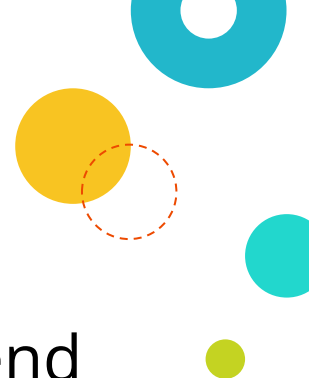


# Open Source as a Weapon

- © **Believers:** Provide open technology but **tend not think clearly about impact on value chains.** Often provide "open by default".



# Open Source as a Weapon

- © **Thinkers:** While these companies tend not to use open technology to compete, **they do consider impacts on their – and competitors' – value chains** in decisions they make.
- 



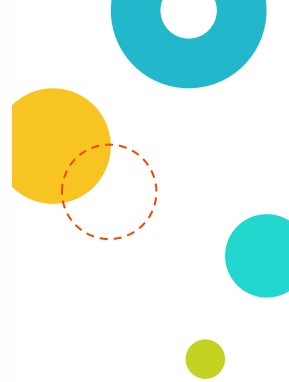
# Open Source as a Weapon

- © **Players:** These companies **use open technology as a means to compete** and think clearly about the impact of choices on their – and competitors' – value chains.



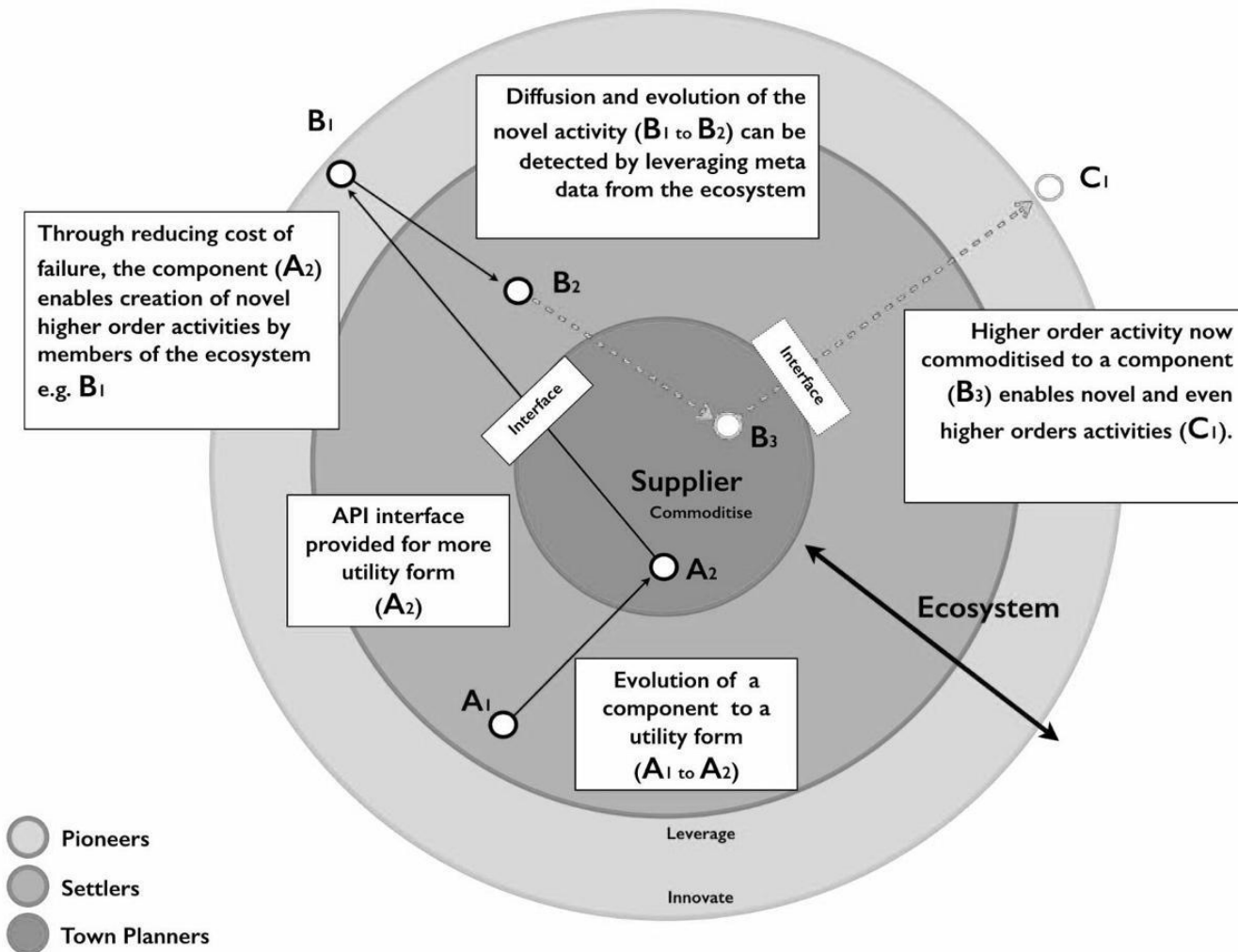


Strategic Play



Uses Open to Compete



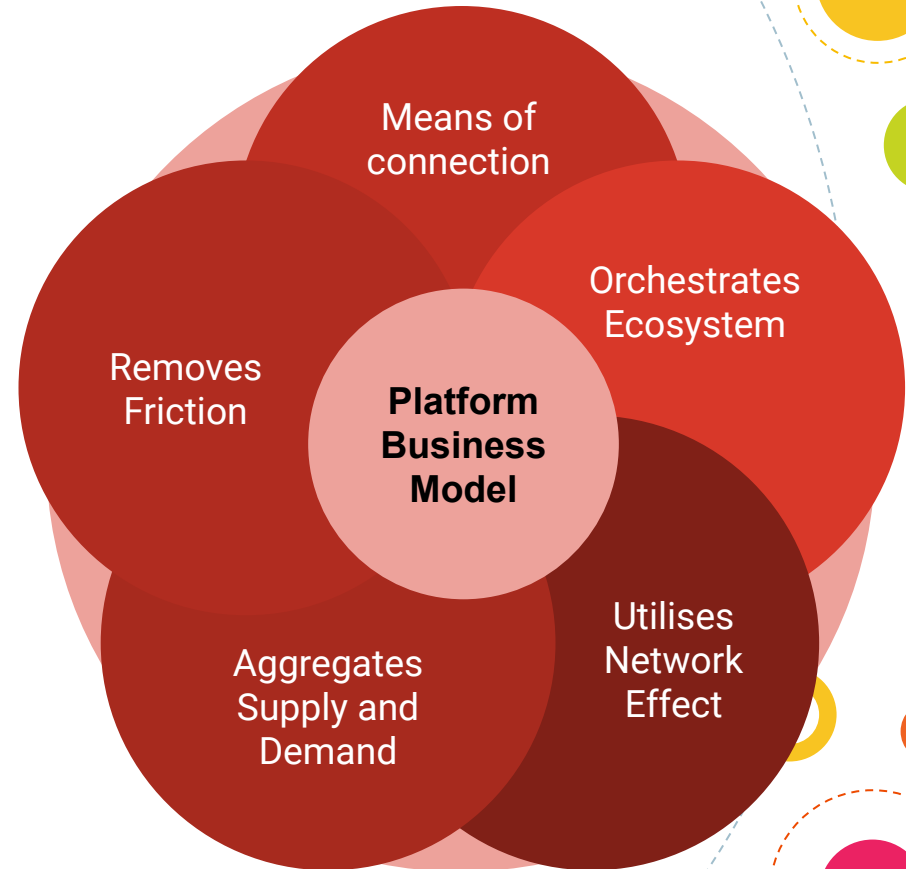


The background features a white canvas with several abstract elements: a large cyan ring in the top-left, a smaller cyan circle next to it, a lime green circle in the top-right, a green circle with a dashed outline next to it, a pink circle in the middle-right, an orange circle in the bottom-right, a yellow ring in the bottom-right, a lime green circle in the bottom-left, and a small yellow circle next to it. A large, faint dashed blue circle is centered behind the text.

# **Platform Business Model**

# Platform Business Model

- ◎ A means of connection
- ◎ Orchestrates an ecosystem
- ◎ Utilises the network effect
- ◎ Aggregates supply and demand
- ◎ Remove frictions
- ◎ Can have more than one type of value exchange going on



# Platform Business Model

A platform organisation **facilitates value exchanges** between two or more interdependent groups in an ecosystem

The owner/orchestrator of the platform **does not typically own the means of production**, but instead the **means of connection** (bringing providers and consumers together)

# Platform Business Model

At its core, a platform organisation is a design pattern that allows the ecosystem's participants and the ways they **interact to evolve, viably, reusing core components and services to reduce the cost of variety and innovation**



# Platform Business Model

The 'so what' attraction of platform organisations is their potential to **generate more and different forms of value, at lower total cost**, than a pipeline business or one-off transactions in the market



# Platform Business Model

It is generally the case that the **value of a network goes up with the number of nodes** – the phenomenon called '**network effects**'

# Platform Business Model

The more platform organisations orchestrate, the more they **learn and the more actively they can curate the membership** of their ecosystems

# Platform Business Model


They are also one of the best organizational structures for **enabling rapid evolution**

# Platform Business Model

The **rate of innovation** is no longer dependent upon the physical size of the platform but **the size of the ecosystem of consumers.**

# Platform Business Model

**All members of the ecosystem can provide information on improvement**, quality control, reliability and price sensitivity. In other words, the **bigger the platform gets the more innovative, efficient and customer focused it becomes**

The background features several large, colorful circles in teal, lime green, orange, and yellow. Some of these circles are solid, while others are dashed outlines. A thin, light blue dashed line curves across the slide, passing behind the text.

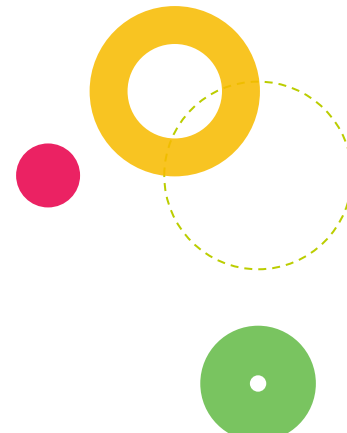
# **How did we save £12Bn?**

Analyse anything that moves



# Location Analytics Service



- ◎ Visualise and Analyse Location Data
    - ◎ AIS
    - ◎ ADS-B
    - ◎ Mobile Phone
    - ◎ IOT / Smart Devices
    - ◎ “Anything that moves”
  - ◎ Real time data feeds
  - ◎ Visualise and Analyse Anything That Moves
- 

# Big Datasets

100,000,000,000+

ADS-B Records

40,000,000+

AIS Records / Day



# Location Analytics Service

## © Stack

- GeoMesa
- Apache [NiFi](#)
- Apache [Kafka](#)
- Apache [HBase](#)
- Apache [Spark](#)
- [Jupyter](#)
- [GeoServer](#)



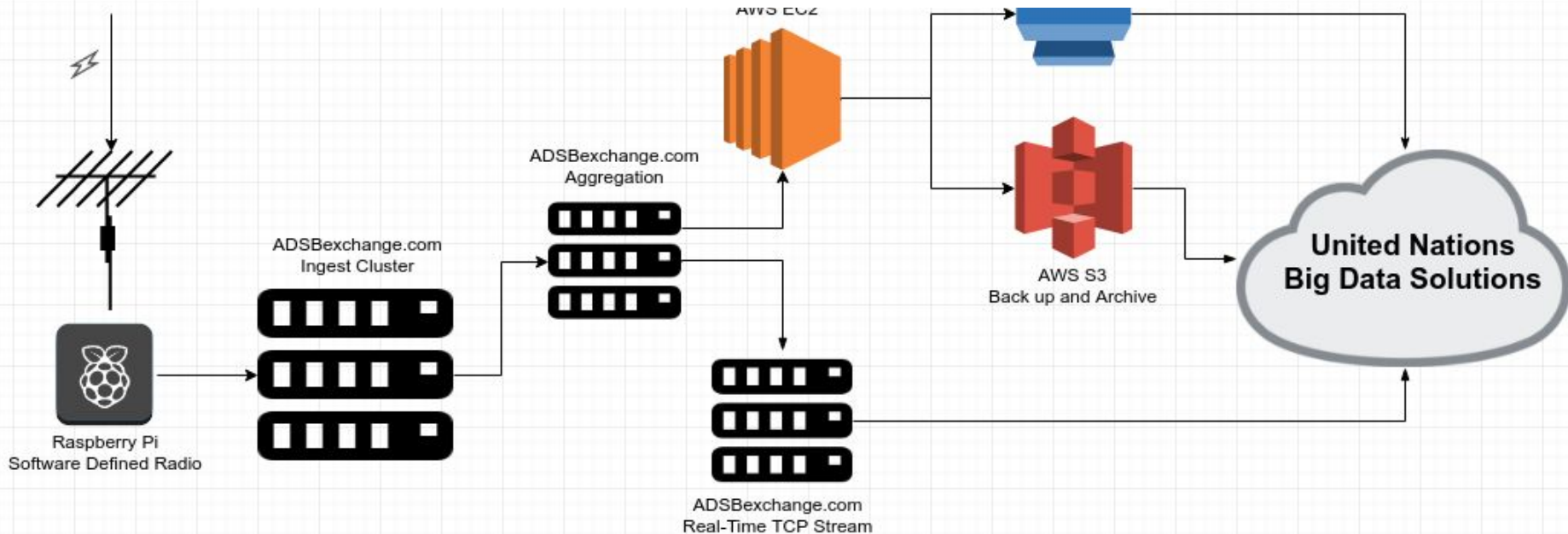
# Location Analytics Service

- © [DSTL Report](#) - Benchmarking of Big Data technologies for ingesting and querying geospatial datasets

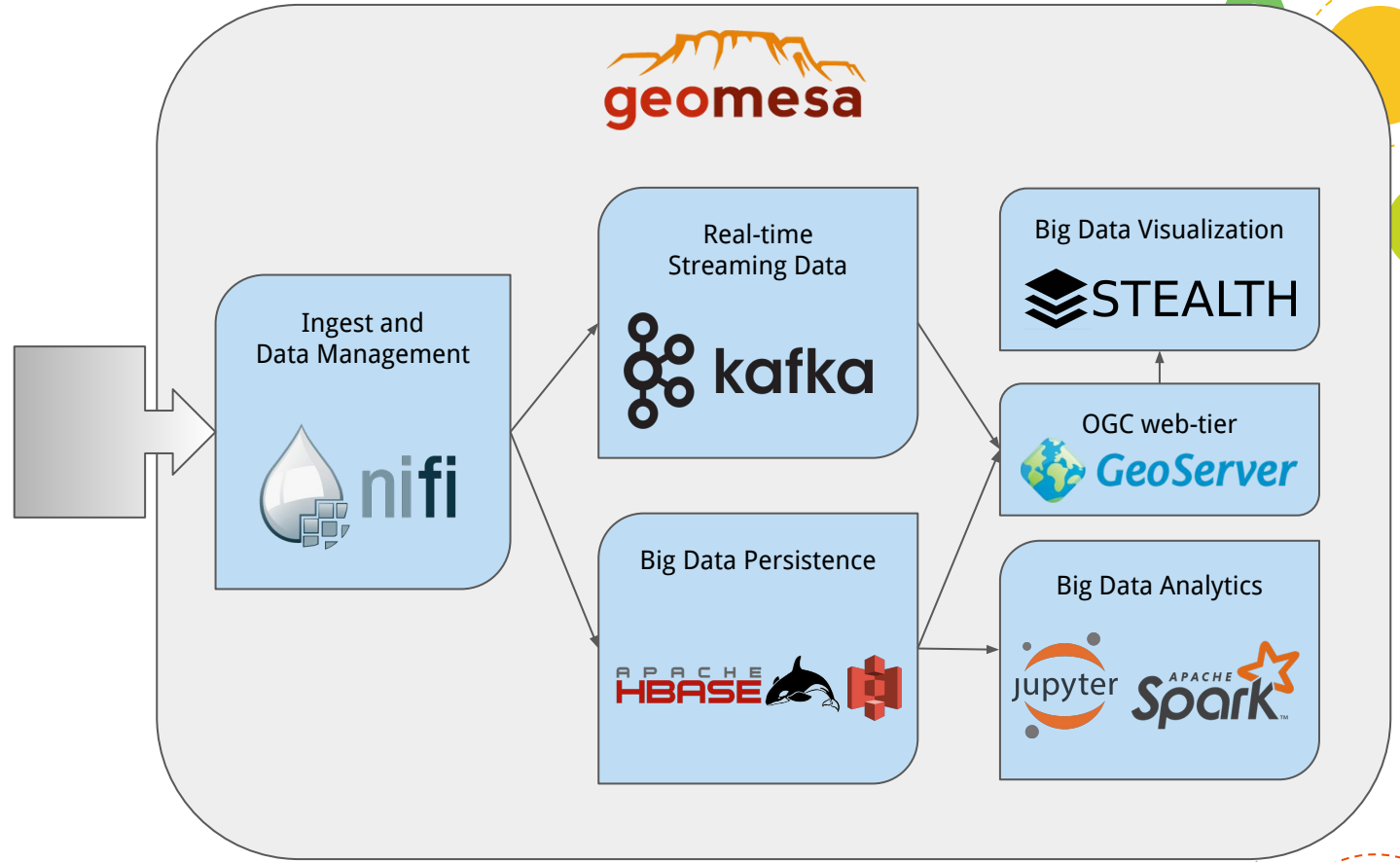


10,000+ Aircraft Tracked in Real-Time (Every Second) Daily  
600,000,000+ Aggregated Data Points Every 24 Hours  
30 Petabytes of Data Transfer Monthly  
3,000 Ground Based Receivers Deployed Globally

1090Mhz ADS-B Transmiss



## Data Sources





# Shanghai - Flights





# Shanghai - Cargo Ships



# Resources

- © [UN Global Platform](#)
- © [Wardley Mapping Books](#)
- © [Platform Design Toolkit](#)
- © [Simon Wardley](#) (Creator, Wardley Mapping)
- © [Simone Cicero](#) (Creator, Platform Design Toolkit)
- © [Innovate, leverage, commoditise](#)
- © [Data Science Campus](#)



Thanks!



Any questions?

You can find me at @mcraddock