Explaining the Value of GIS to Management

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This is hard!

Key Elements for Success

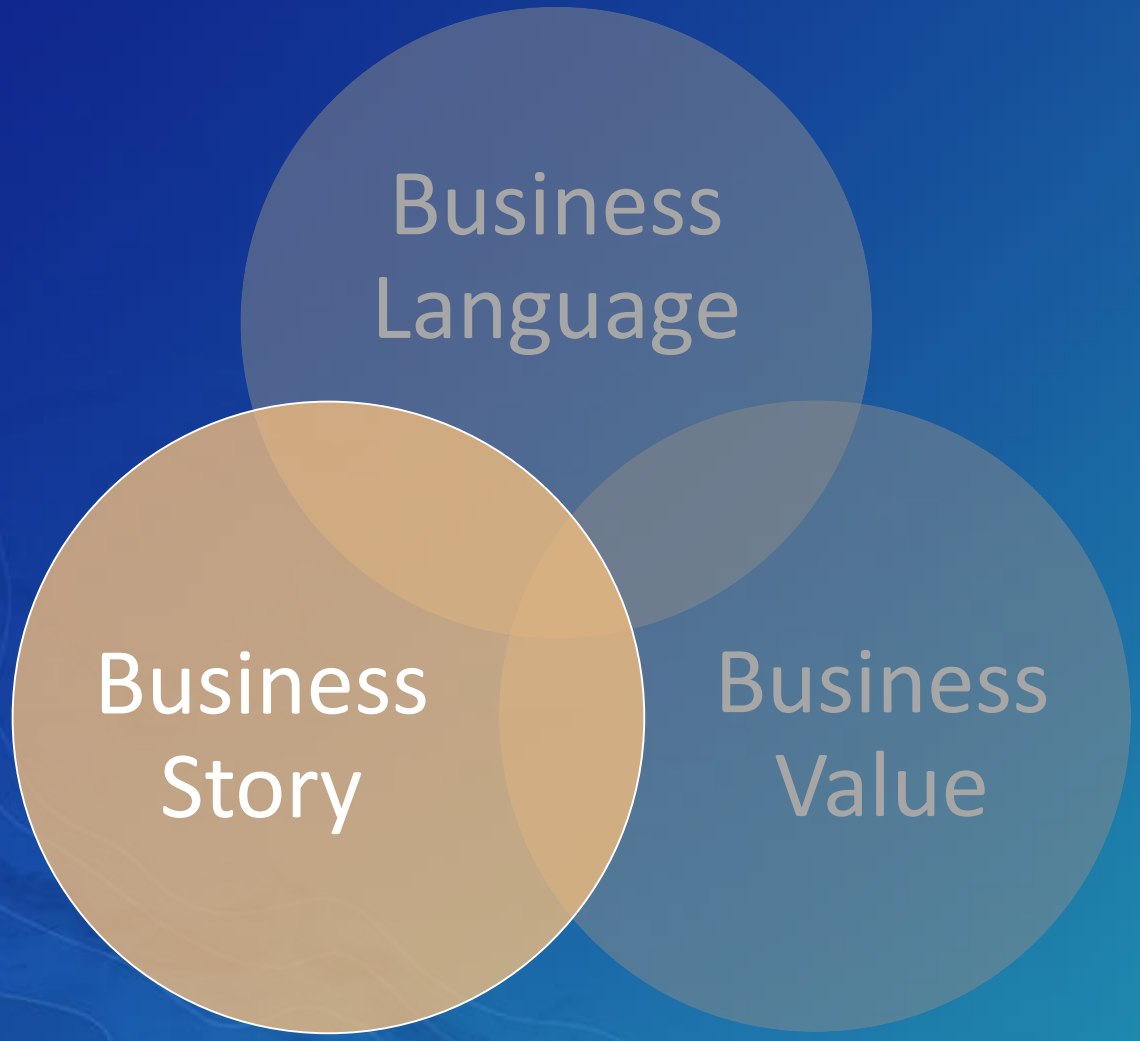
- No Particular Order
- No Particular Priority
- Some overlap

- Business Leaders Speak Many Dialects
  - Technical Disciplines
  - Business Lingo
- GIS Teams Speak Many Dialects
  - GIS, Tech, Data Analysis

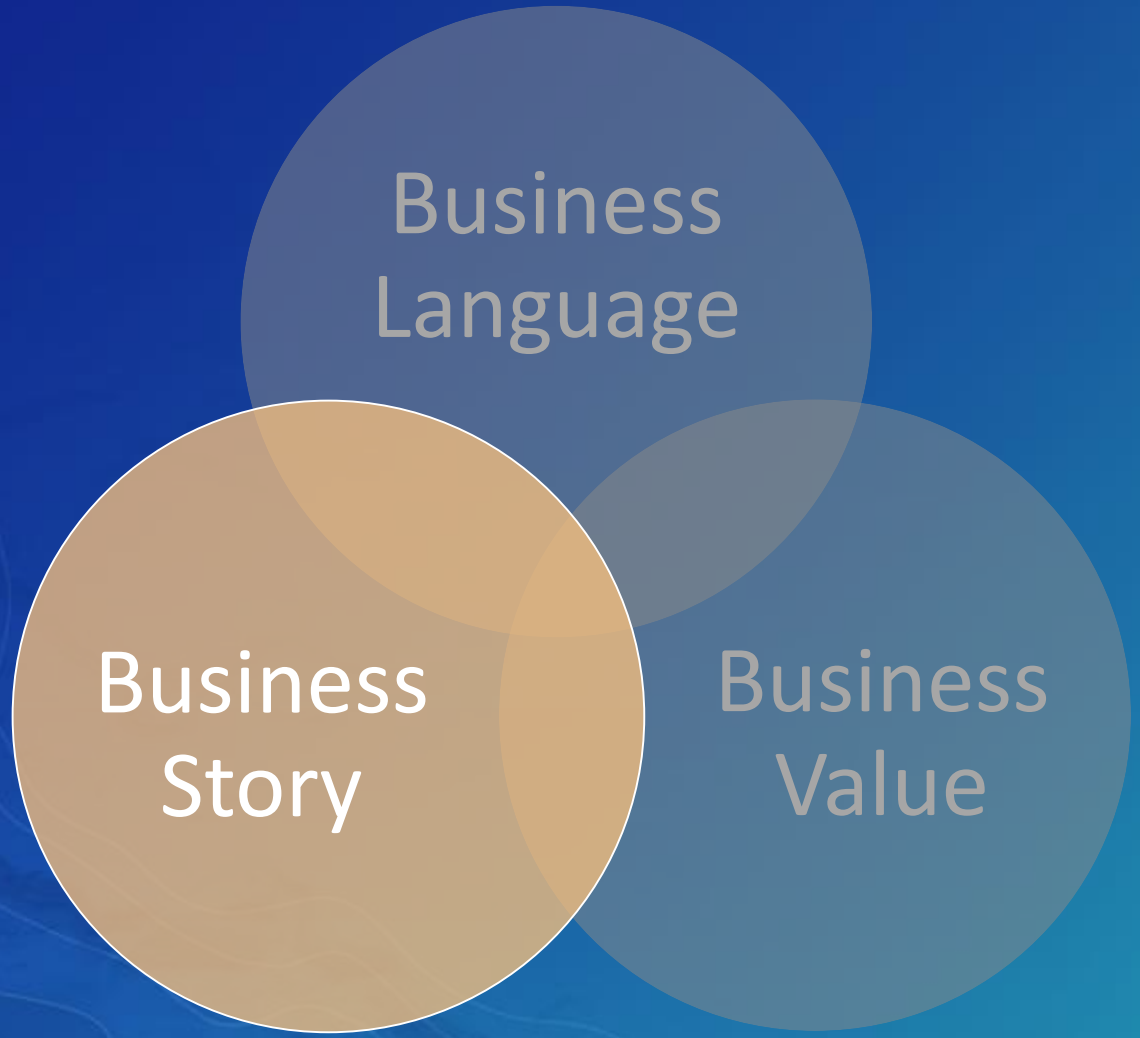
- Learn the Lingo for Success
  - Key Business Disciplines
  - The Language of Business Motivation

- Tech Value is
  - Key to Generating Business Value
  - Not Self-Explanatory

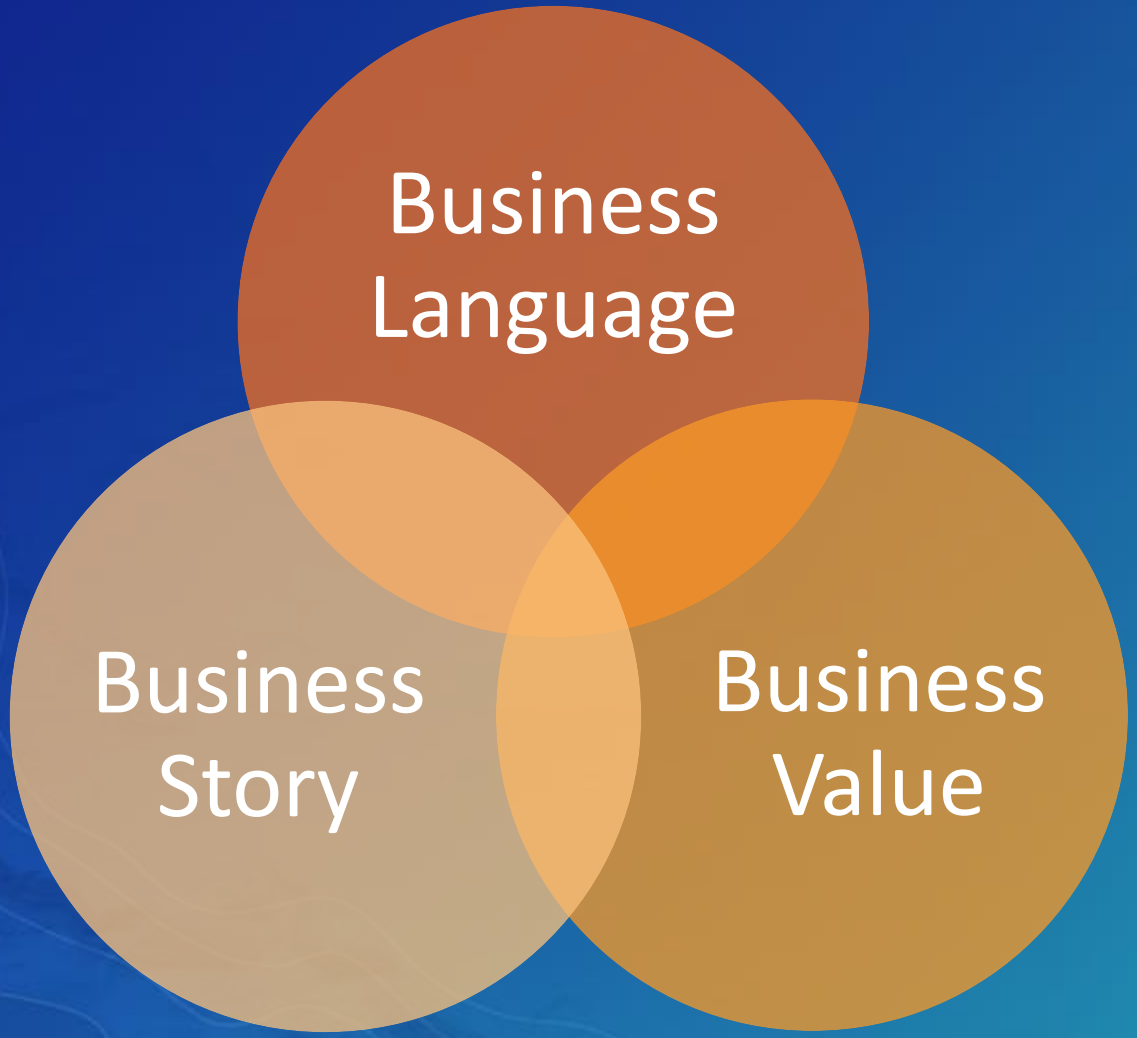
- Learn to Translate…
  - Tech Terms => Business Terms
  - Tech Contributions => Business Value



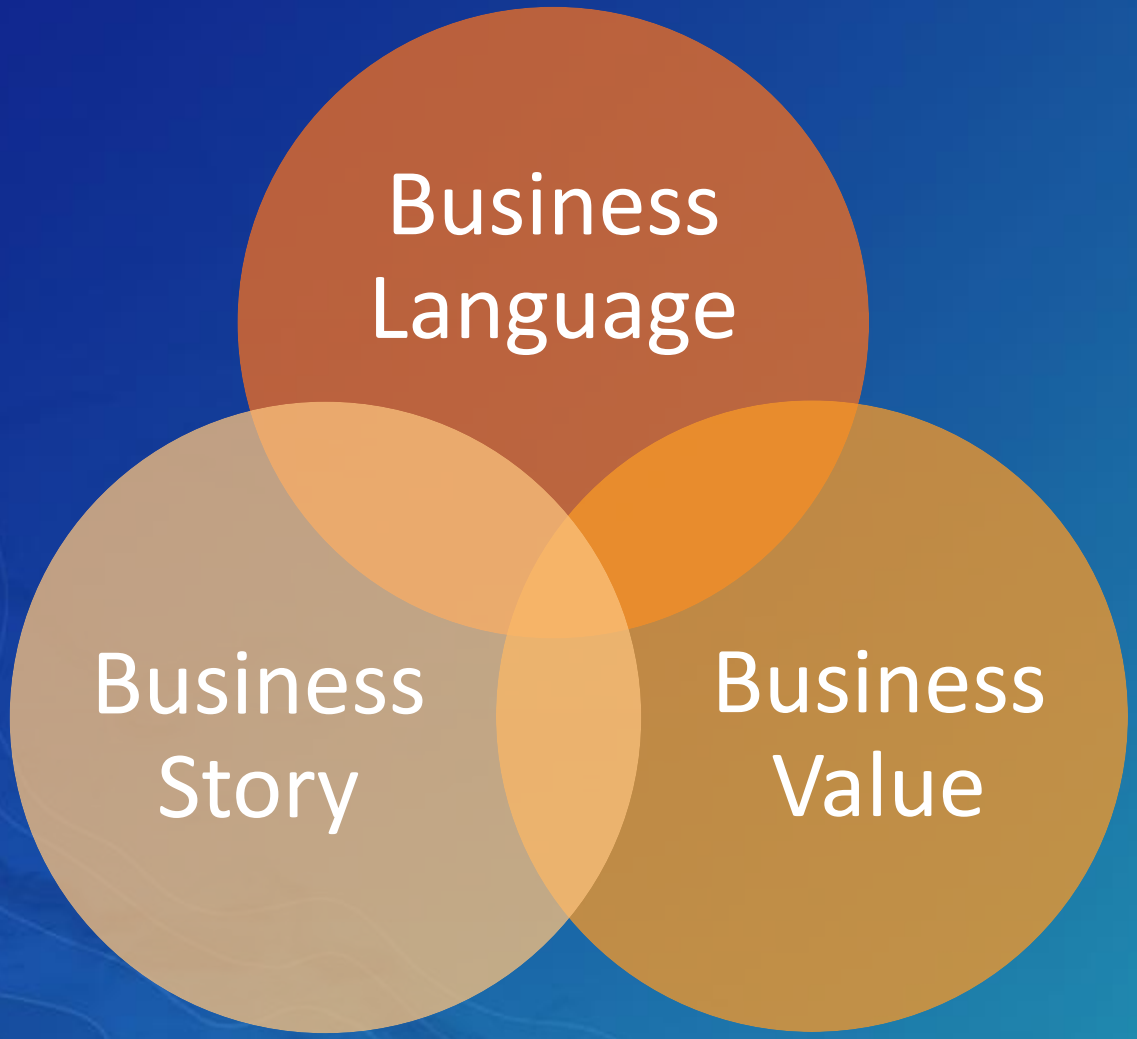
- Organizations Consist of People Performing Many Tasks
- Each Person is a Hero



- Learn Key Business Stories
- Arm Your Organizations Heroes with GIS



- Business Teams Might Not Speak Your Dialects
- GIS Does Not Easily => Business Value
- Your Organizations Employees Need Your Help to Save the Day



- GIS Teams Can…
  - Learn Business Dialects
  - Connect GIS to Business Value
  - Arm Business Teams with GIS

Business Language

Interpreting the business language of motivation

Pipeline
Water Resources
Banking
Telecommunications
Insurance
Water Utilities
Emergency/Disaster Management
Land Administration
Highways
Natural Resources
Environmental Management
Government
Railways
Additional Industries
Resilient Communities
Survey
Intelligence
Petroleum
Mapping | Statistics | Imagery
Oceans
Gas
Public Safety
Sustainable Development
Elections & Redistricting
Urban & Regional Planning
Economic Development
Architecture, Engineering,
Utilities & Communication
Defense
Retail
Education
Transportation
Health & Human Services
Federal, State, Local
Climate, Weather, and Atmosphere
Law Enforcement
Mining
Electric
and Construction (AEC)
Real Estate
Airports & Aviation
Business
Media & Entertainment
Agriculture
Public Works
Public Transport
Homeland/National Security
Facilities
Forestry
Ports & Maritime
Conservation
Fire and Emergency Services
Manufacturing
Supply Chain
Emergency Call-Taking, CAD, and RMS

Many Dialects of Business

Inspections
Engineering
Construction Trades

…AHJ …abutment …hip

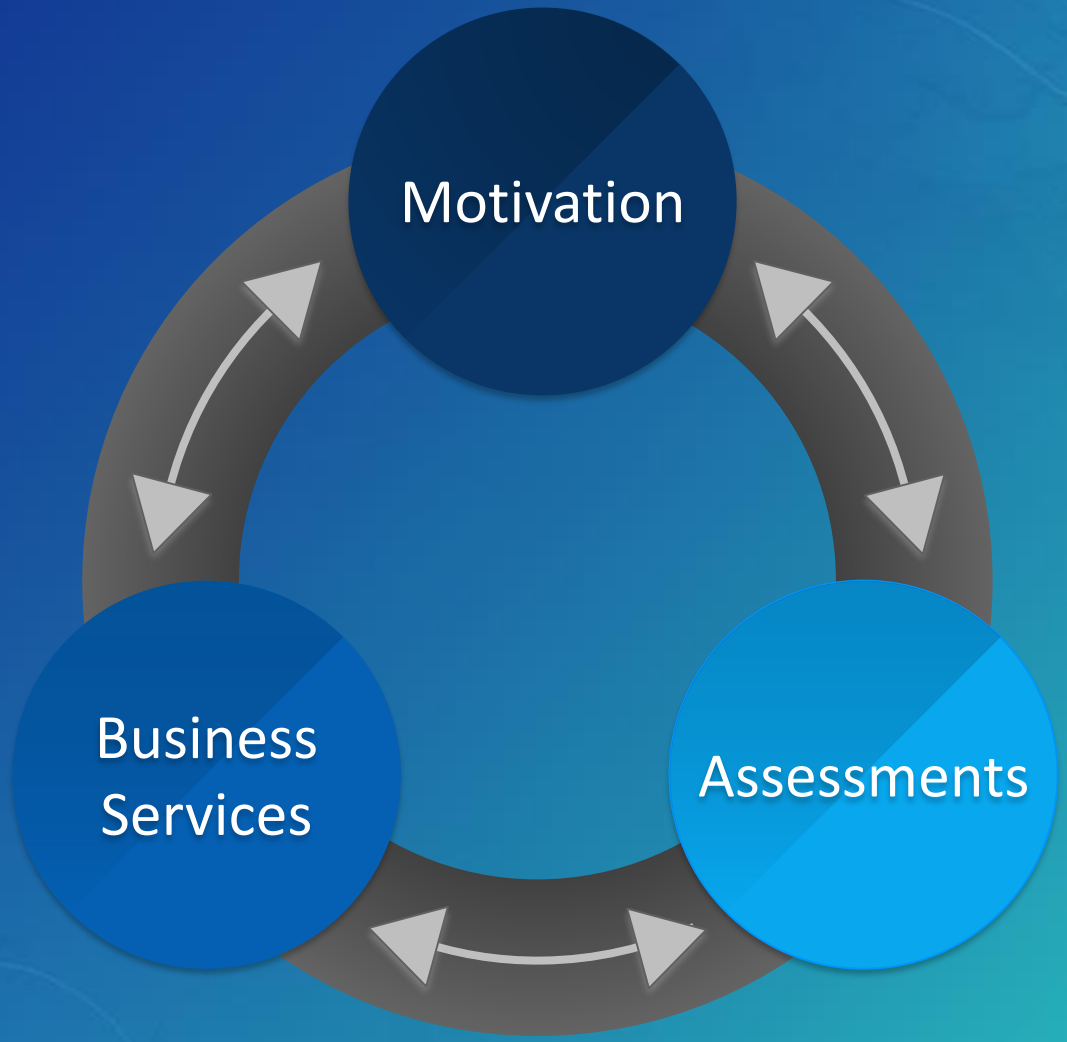
GAP… offense… physiognomy…

Criminology
Forensics
Penology

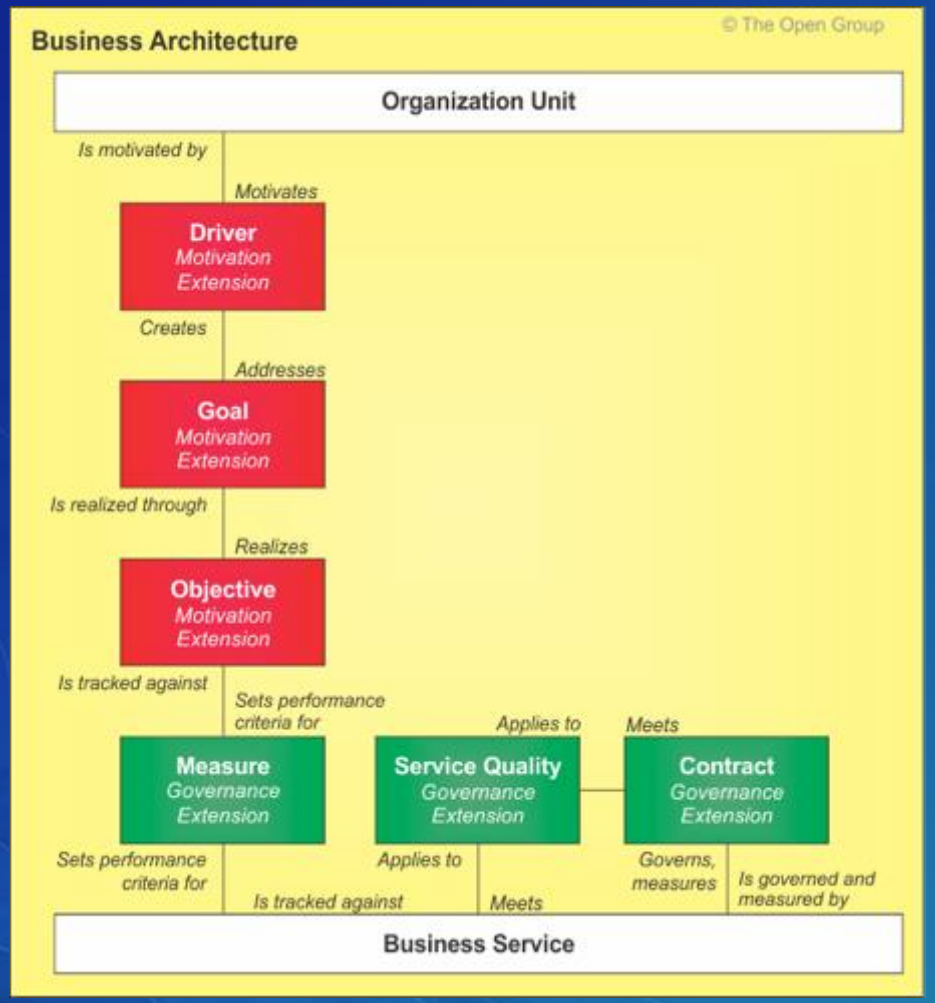
consignment… receiver… deadhead…

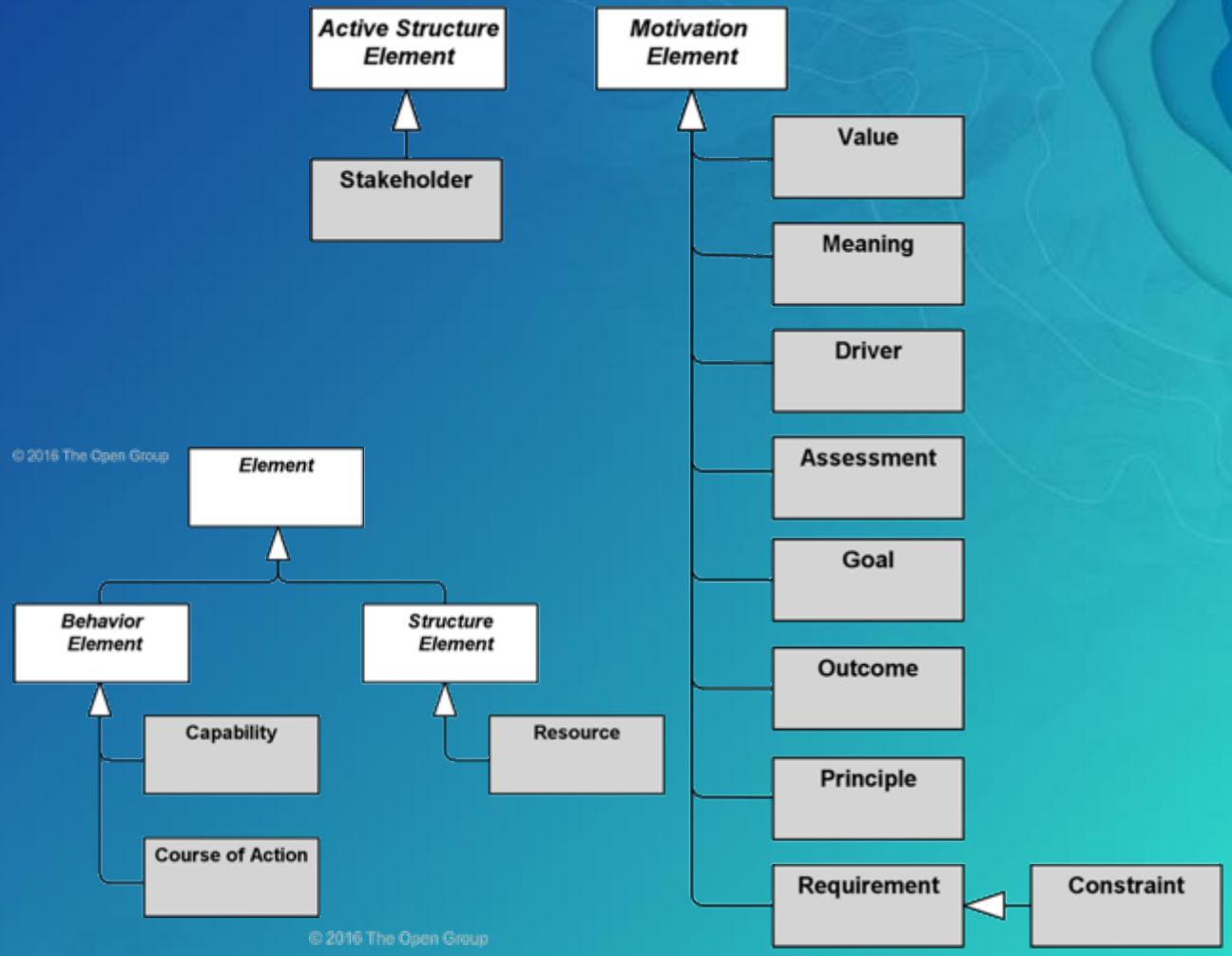
Transportation Safety
Transportation Engineering
Maritime Operations

One Language to Rule Them All…



Other approaches can be a bit complex…





We need to ***reduce violent crime***…
Is there anything we can do to help?

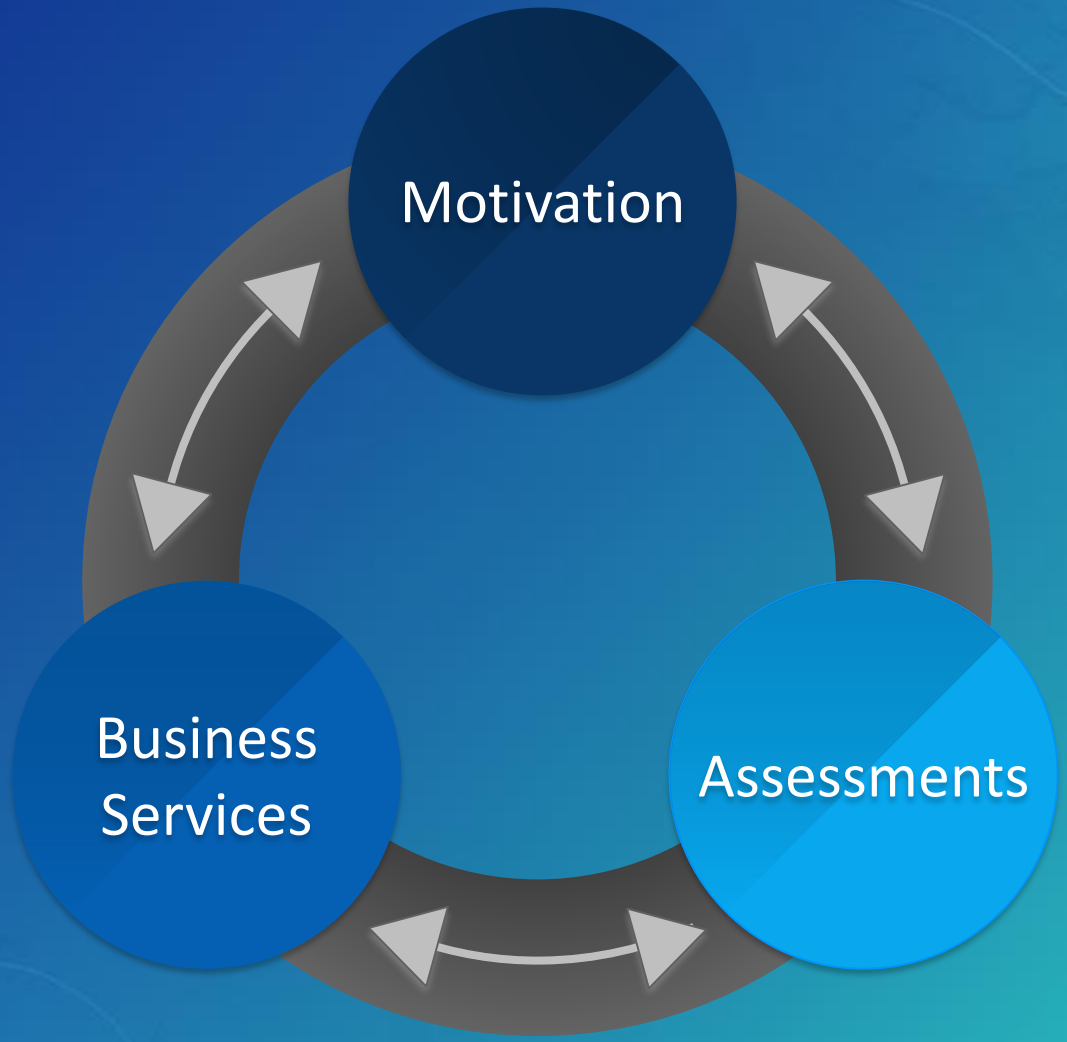
We need to ***reduce violent crime***…
…???…

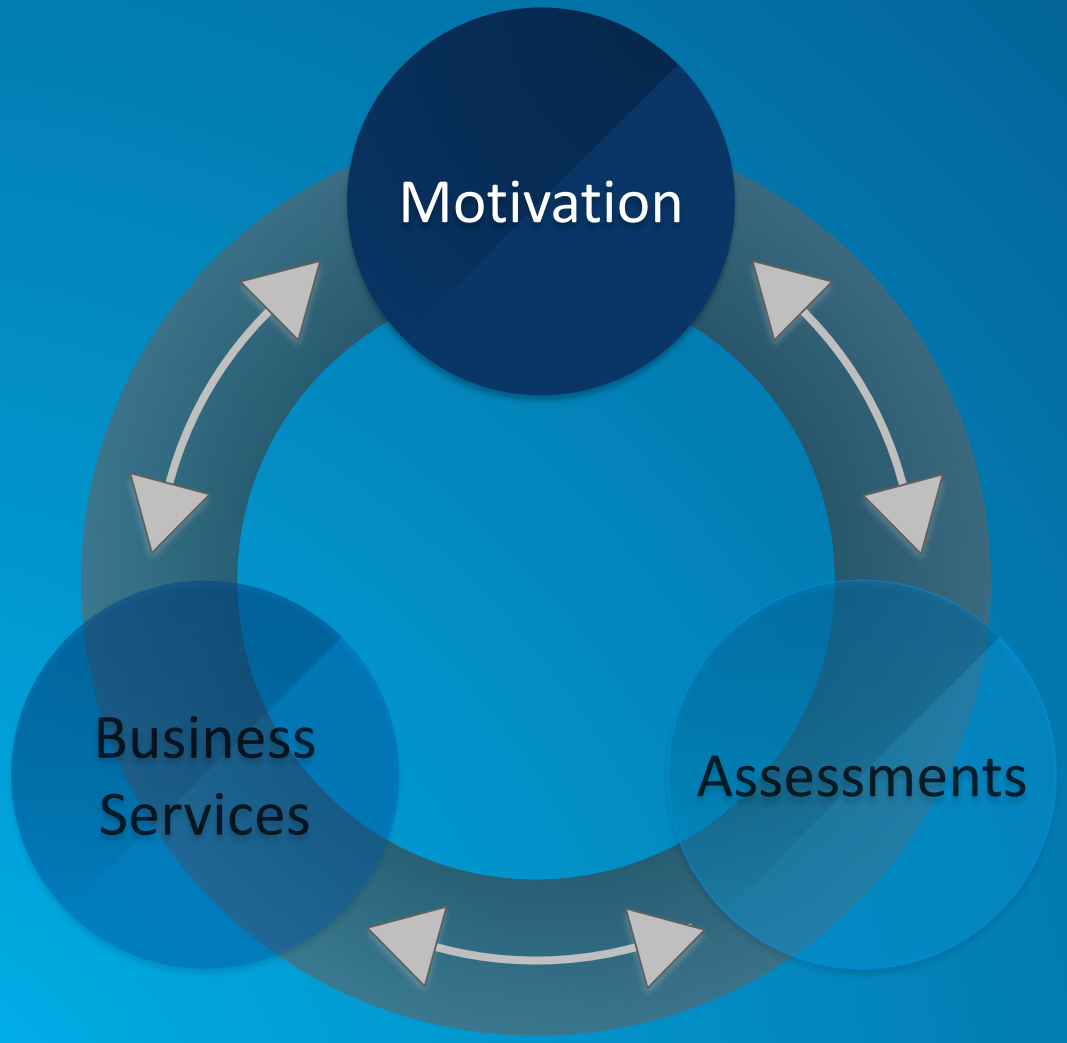
We need to reduce violent crime…
We have some ***maps*** and ***apps***…

Sounds interesting but ***how*** can that help exactly?
…generate ***online maps*** for your ***users***…

Sounds interesting but how can that help exactly?
…???…

One Language to Rule Them All…





Describes the Need to Change

- Drivers & Trends
- Goals & Objectives

Respond by

- Seeking more information

Motivation

Examples

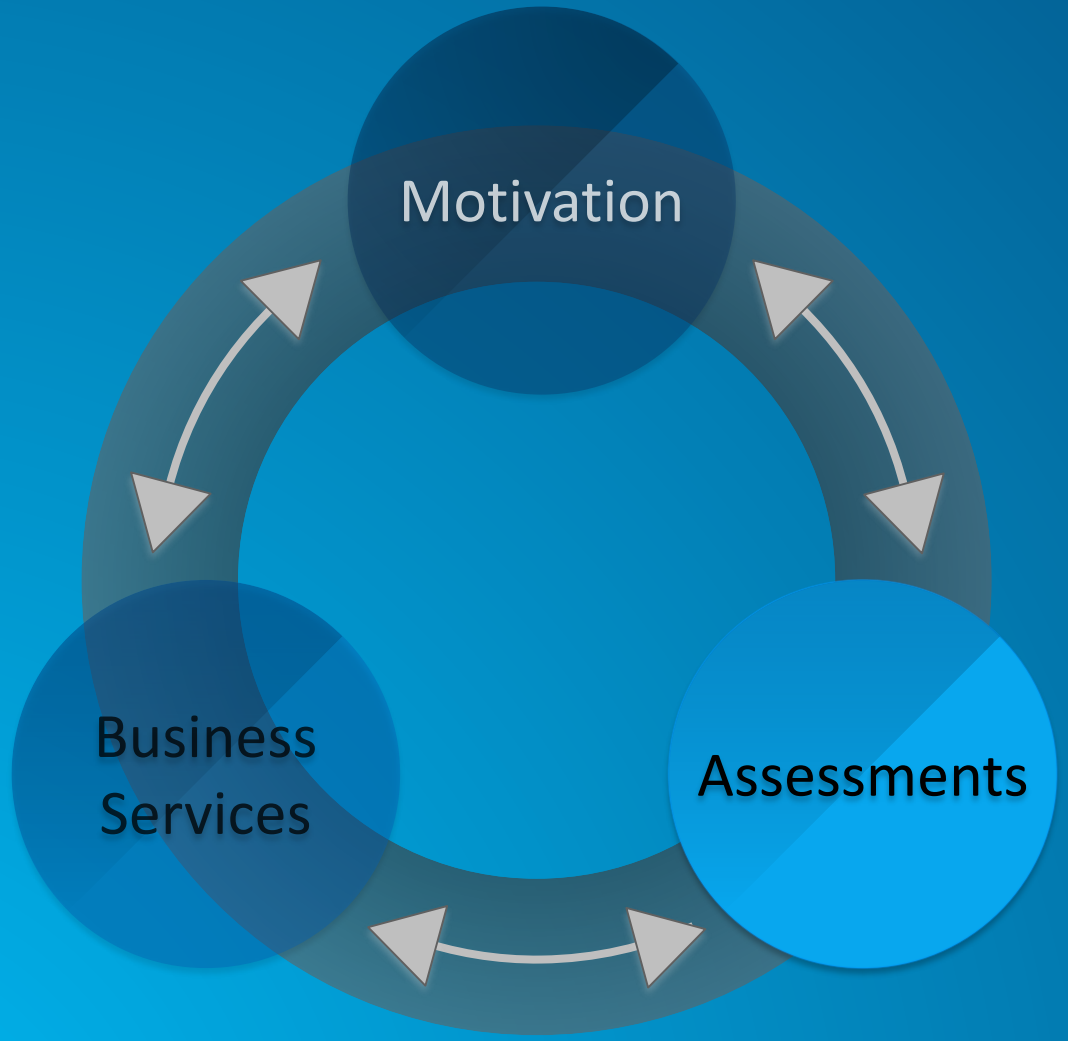
Drivers & Trends

- Need to protect life
- Need to create awareness
- Desire to achieve top ranking
- Reacting to slowing new supply
- Consider future cities initiatives

Goals & Objectives

- Reduce violent crime
- Increase sales
- Optimize operations
- Stop delivering packages to the wrong place

We need to reduce violent crime…
Which…?
How much…?
Known causes…?



Describes Business Impact

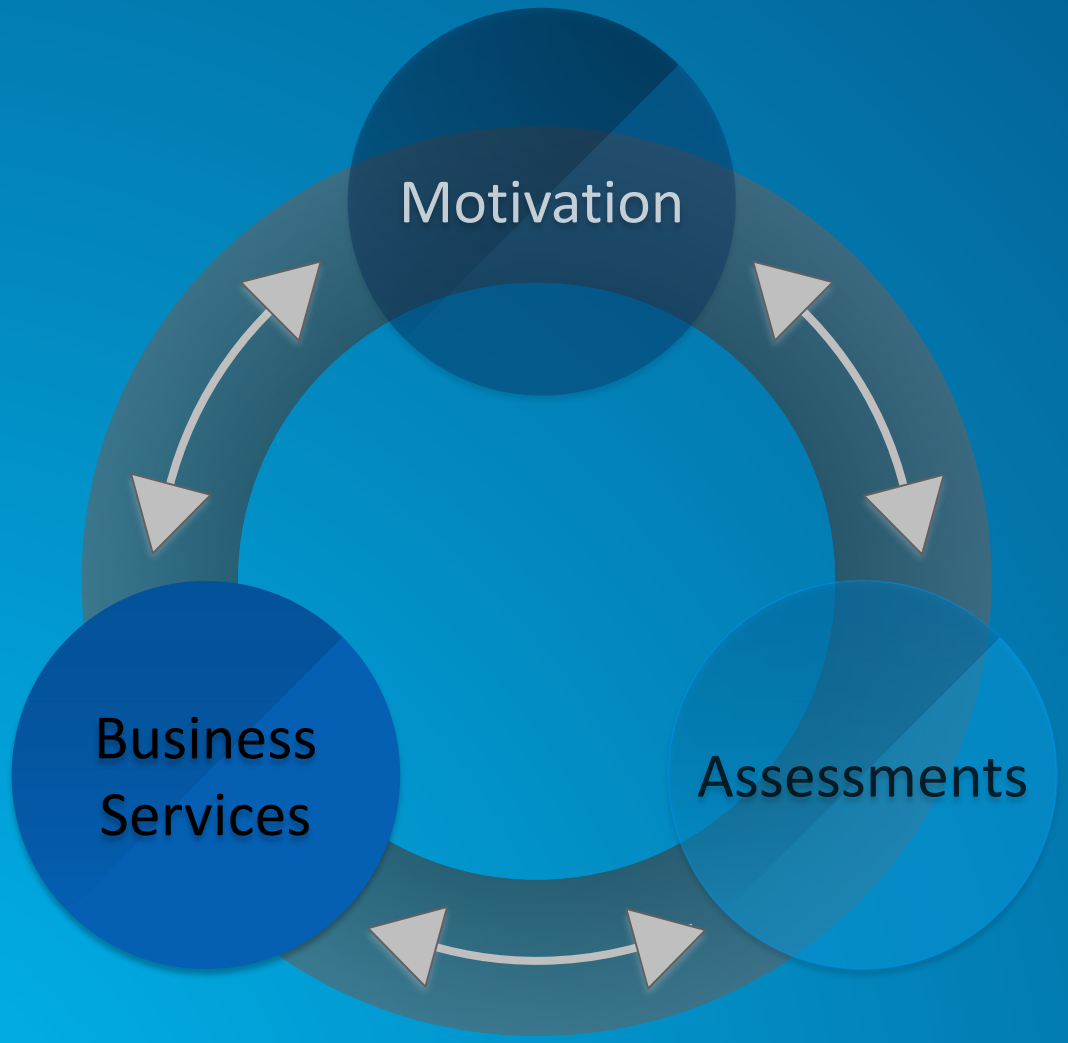
- Performance & Outcomes
- Customers & Environments

Respond by

- Exploring Analysis & Prediction

…*uptick* in shootings, poverty *rising*…
…*current* state vs *preferred*…

…uptick in shootings, poverty rising…
…use GIS to ***find patterns*** in ***areas*** of ***concentration***…



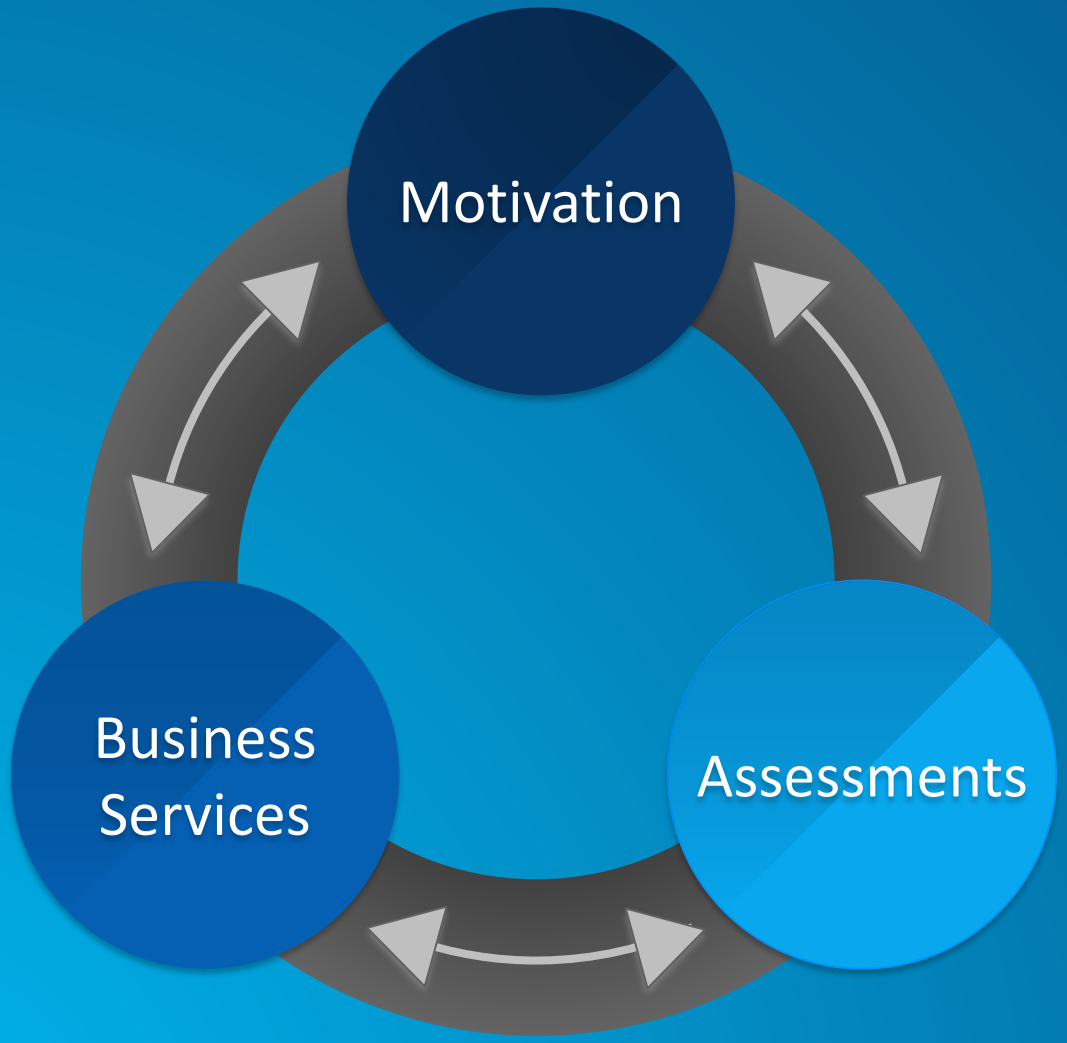
Describes Offerings and Ops

- Products & Services
- Processes & Capabilities

Respond by

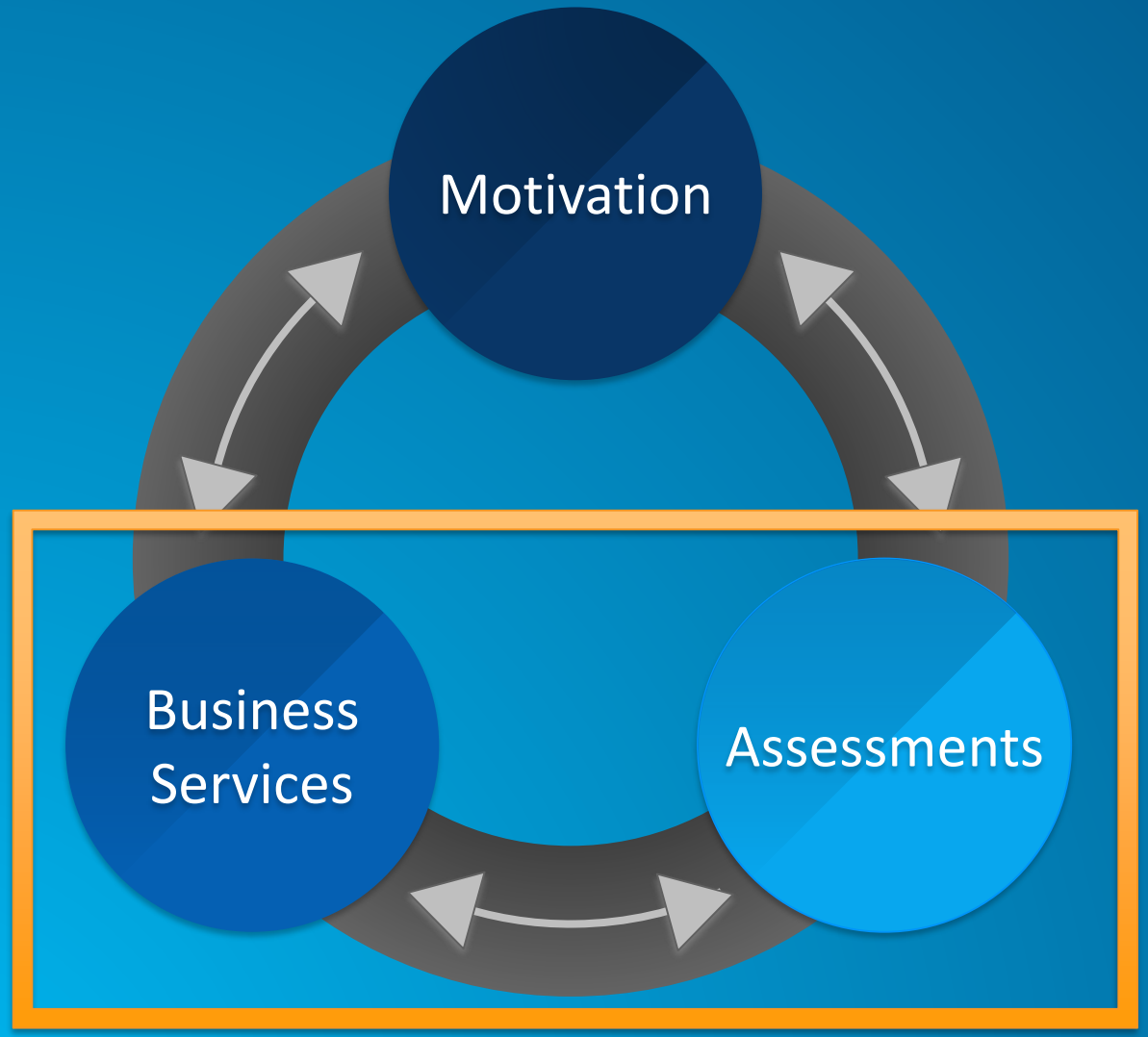
- Exploring Automation & Enabling

...requires **new patrol strategies**...
...**enable** by **informing** & **automating**...



Basic Relationships

- Motivation Requires Assessment
- Motivation Impacts Business Services
- Business Services Improve Through Assessment



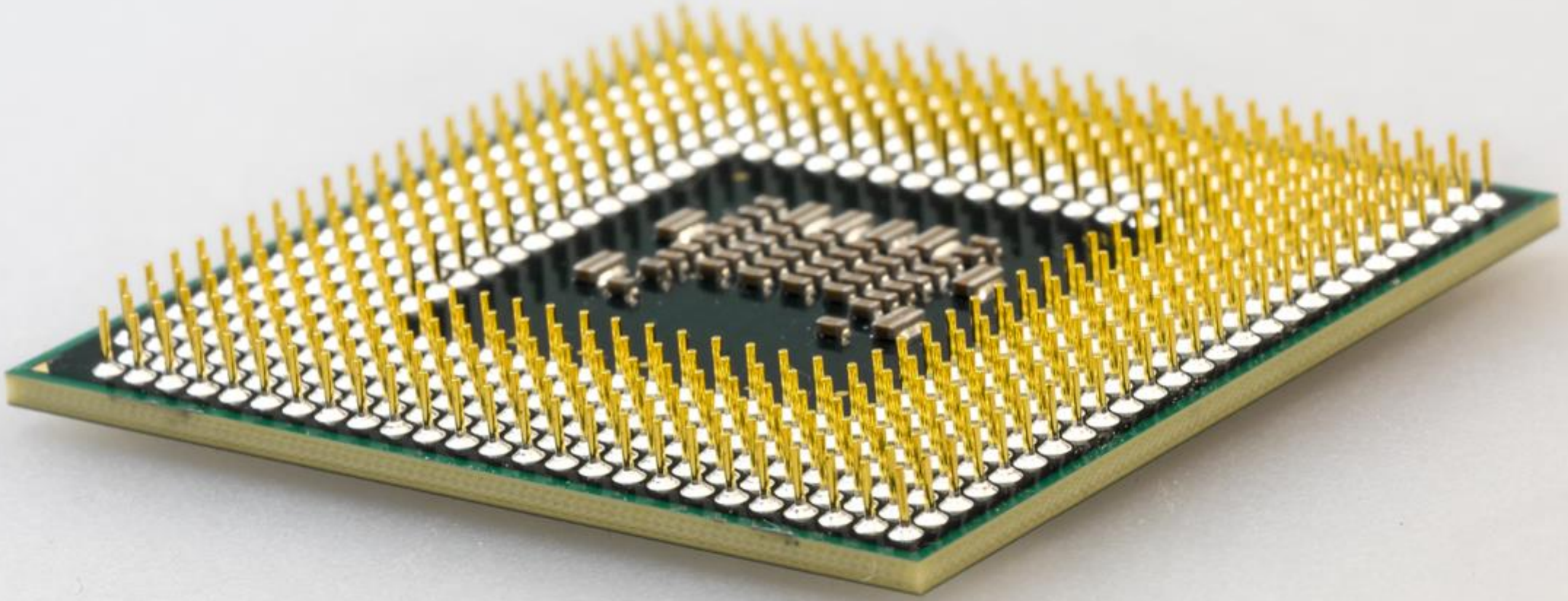
GIS Delivers Value

- By Enabling and Performing Assessments
- By Enabling and Automating Business Services

Business Value

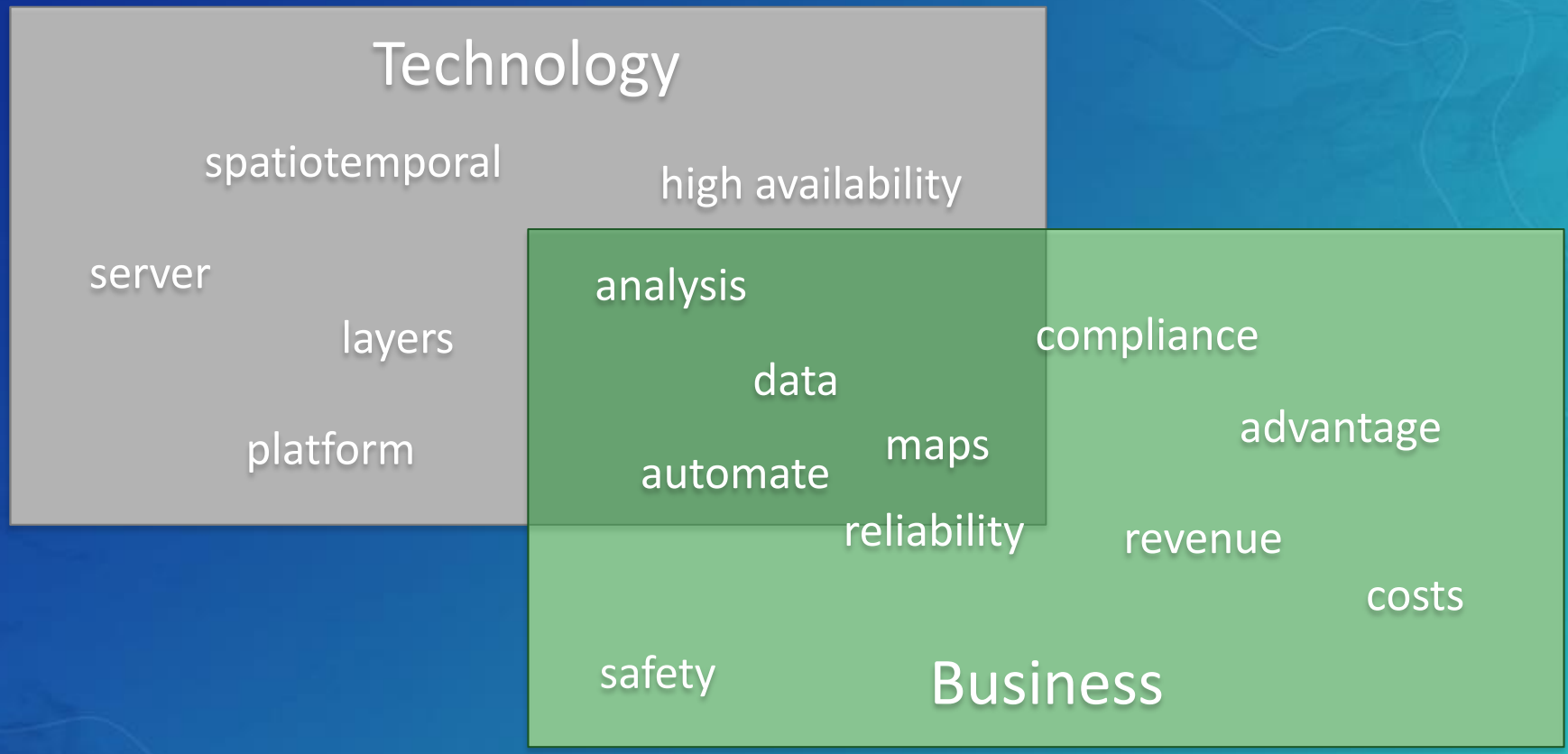
Describing how GIS delivers business value

Technology is amazing



How?

How?


Technology
spatiotemporal
high availability
server
layers
platform
analysis
data
maps
automate
reliability
compliance
advantage
revenue
costs
safety
Business

Technology Value

Spatiotemporal

High Availability

Data / Maps

Analysis / Trends

Data Quality & Accuracy

Business Value

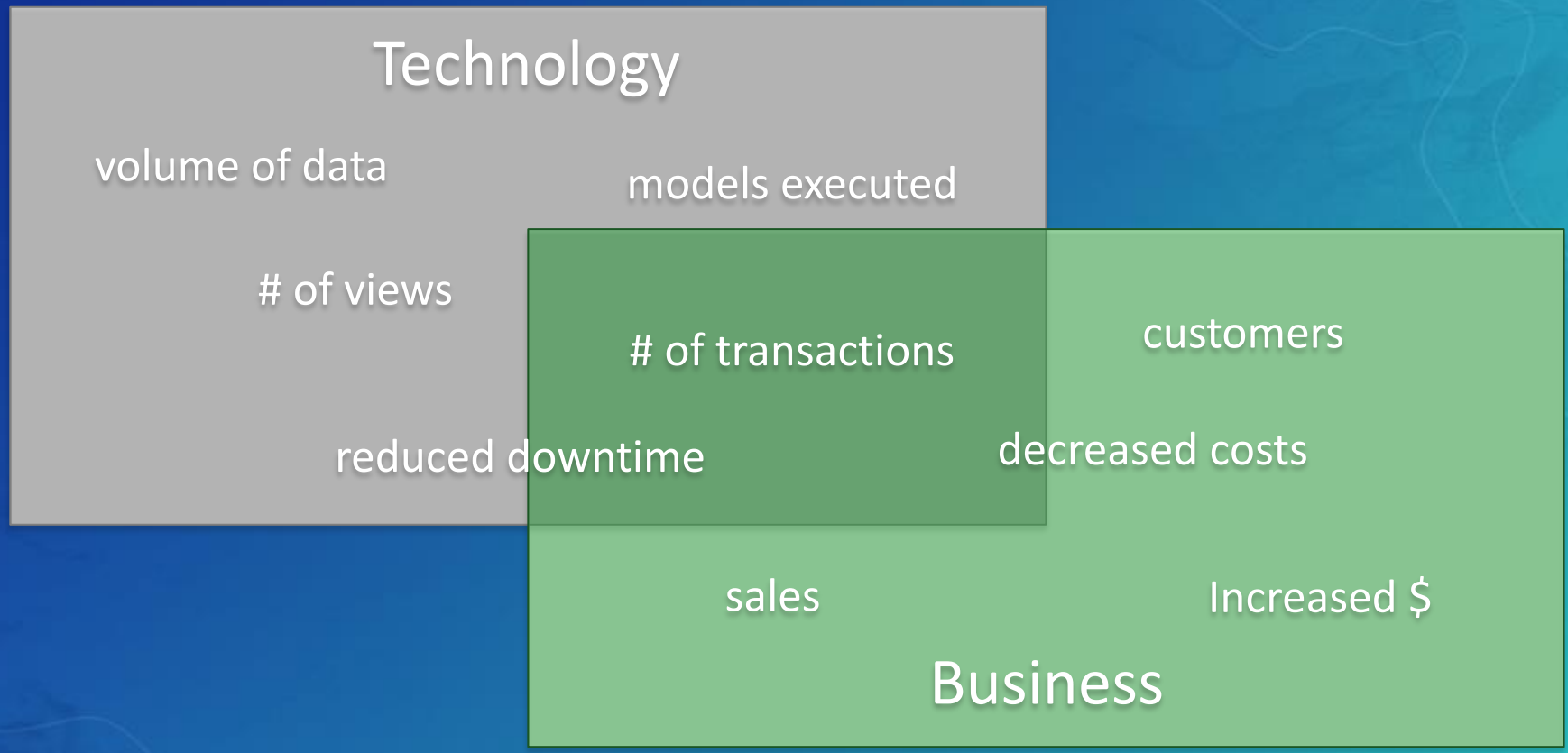
Real-time / Instant

Reliable / *Always working

Better-informed Decisions

Getting ahead of the curve

Compliance / Safety


Technology
volume of data
models executed
# of views
# of transactions
customers
reduced downtime
decreased costs
sales
Increased $
Business

Technology Value

Generates 100s of maps

1000s of views

Many TBs of data

Executes tons of models

Business Value

Supports the efforts of many users daily

Manages massive amounts of critical information

Providing answers in seconds instead of minutes, minutes instead of hours

...requires new patrol strategies…
…enable by *informing* & ***automating***…

...requires new patrol strategies…
…*find patterns* in areas of concentration…

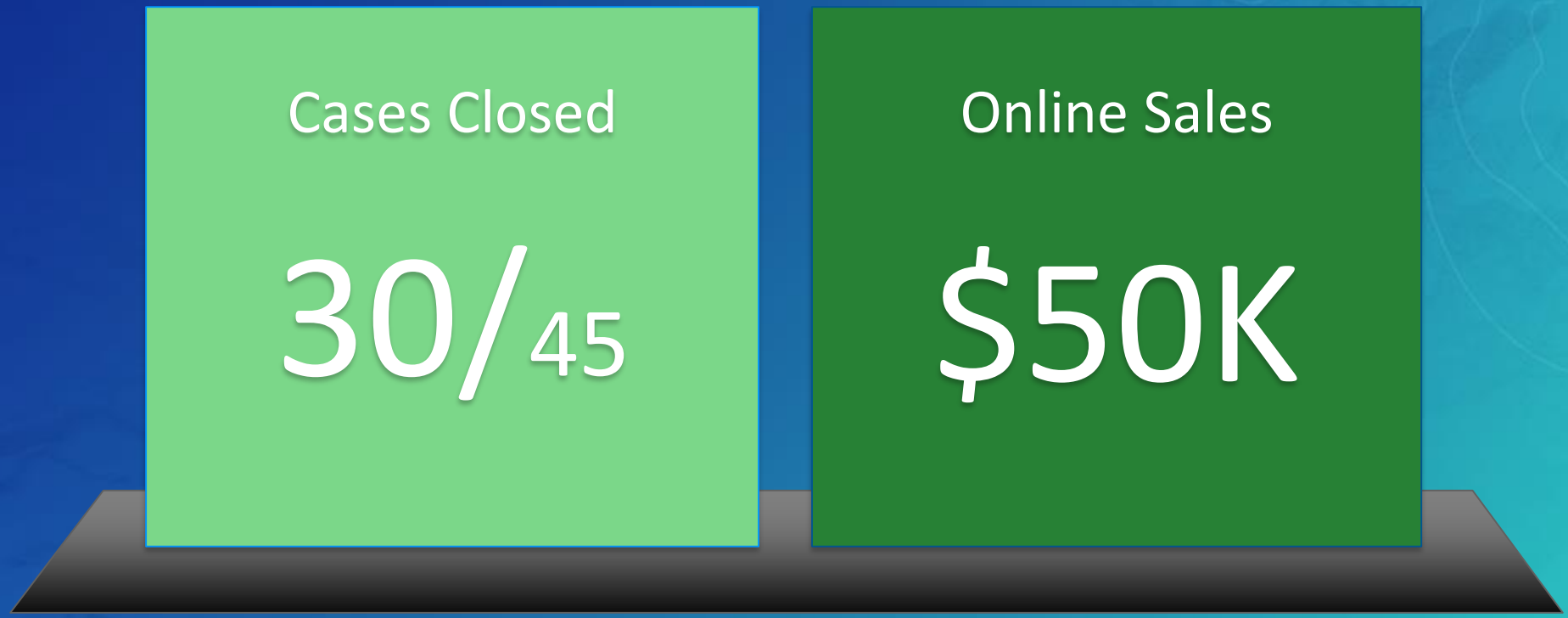
...requires new patrol strategies…
…enable teams to ***find the best places to deploy***…

***Really*? Tell me more.**
…***informing*** your ***users*** whenever, wherever...

How GIS/Tech teams sometimes describe value…

Focused on impact to the platform

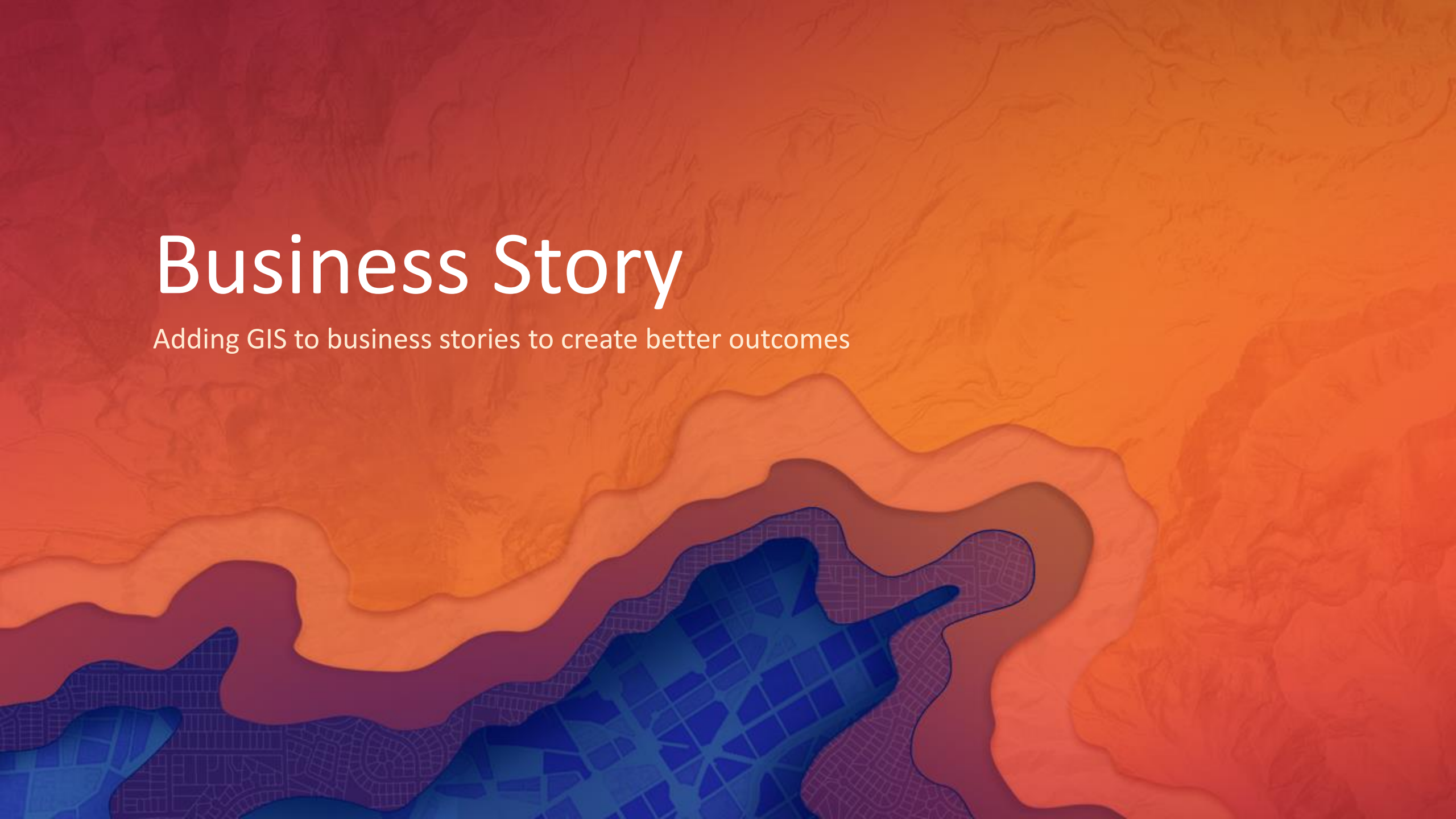
How GIS teams really generate value…



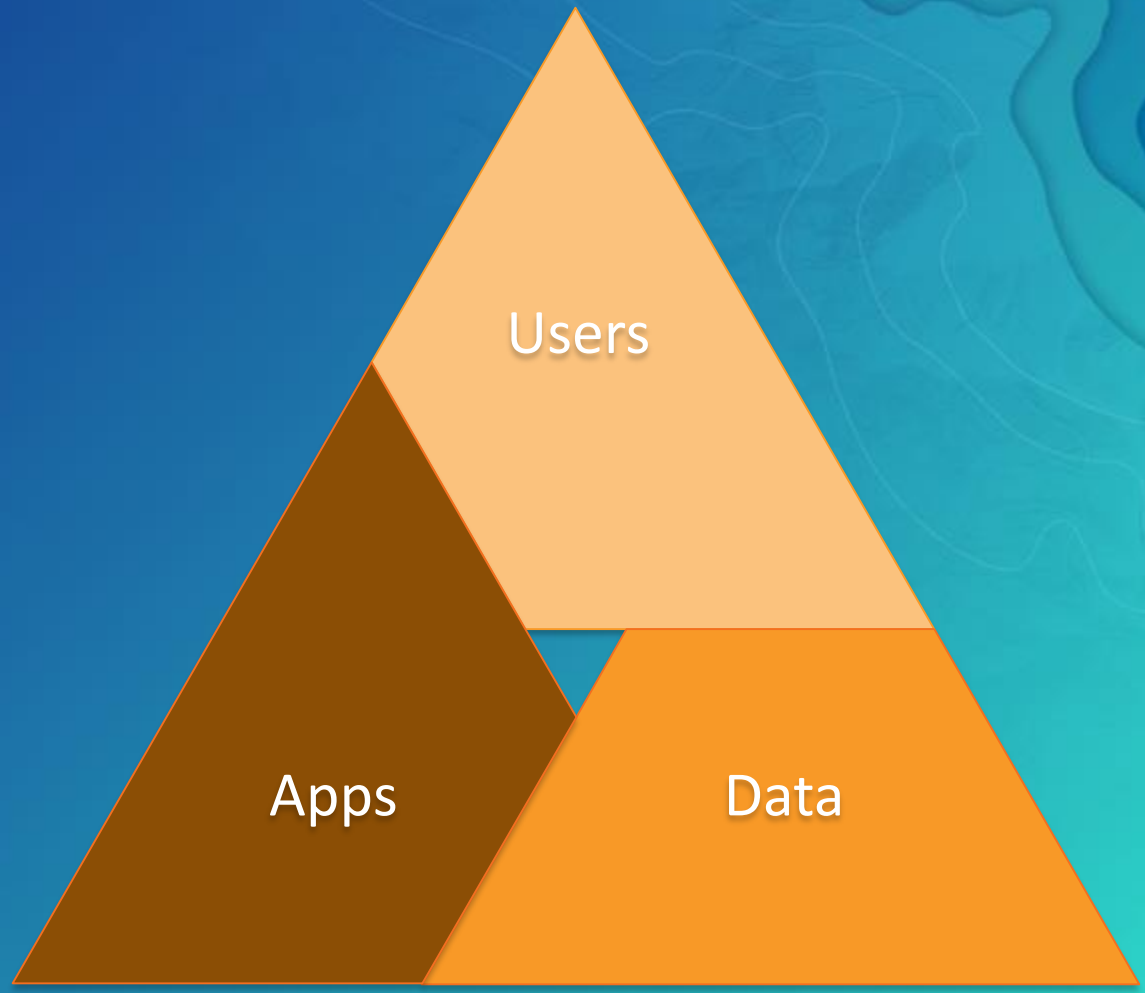
Focused on impact to the business

Business Story

Adding GIS to business stories to create better outcomes



GIS professionals say…

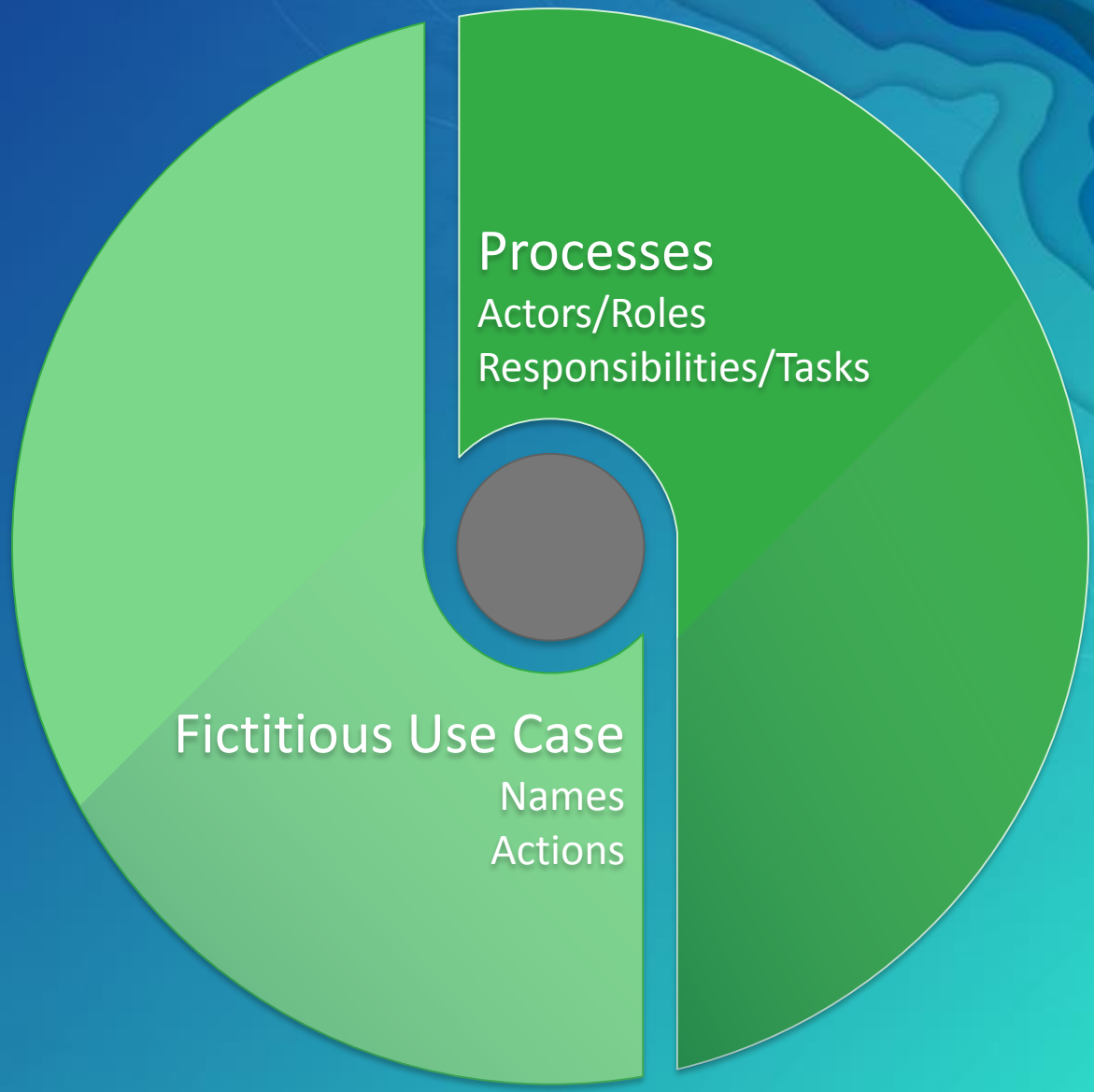


Thinking of users, apps, and data…

Q: What do the users need?

A: Data, Apps, Maps

Types of Stories



Thinking of processes…

Roles and Responsibilities

Q: What do the detectives need?

A: …to identify and locate suspects…

Thinking of use cases…

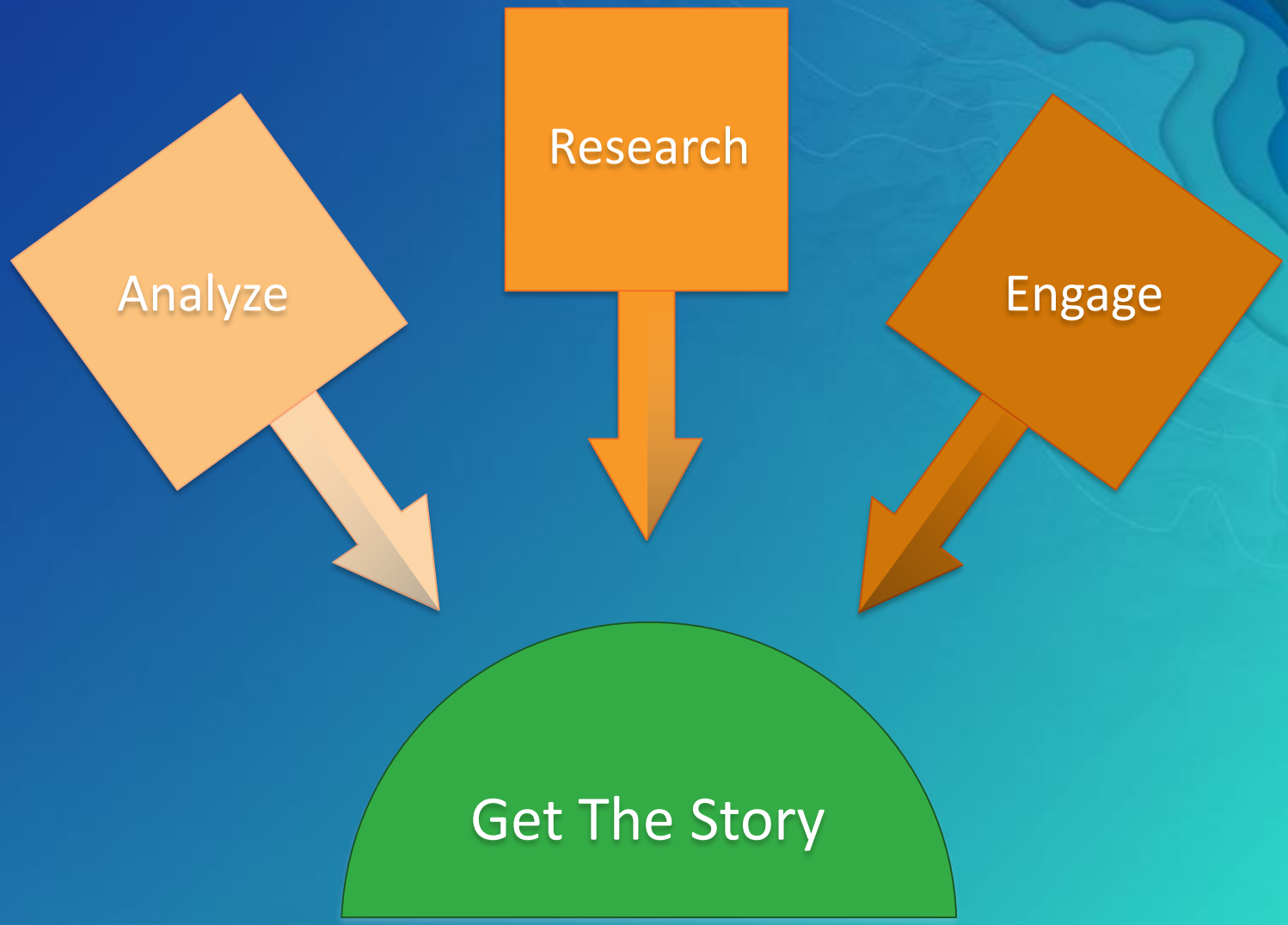
Names and Actions

Q: What did detective Maxwell need to do?

A: …track down the shooter and known associates…

This is hard!
Remember?

How do you get there?



...requires new patrol strategies...
...enable *teams* to *find the best places* to deploy...

...requires new patrol strategies…
…enable *your commanders* to find the best locations to deploy *patrols*…

Really? Tell me more.
…*informing* your *users* whenever, wherever...

Really? Tell me more.
…***commanders*** can see ***patrols in the field*** and respond as the situation changes...

Really? Tell me more.
…*officers on patrol* can stay connected to *command* and see *calls* and *incidents* around them...

Resources

Process and Capability Models

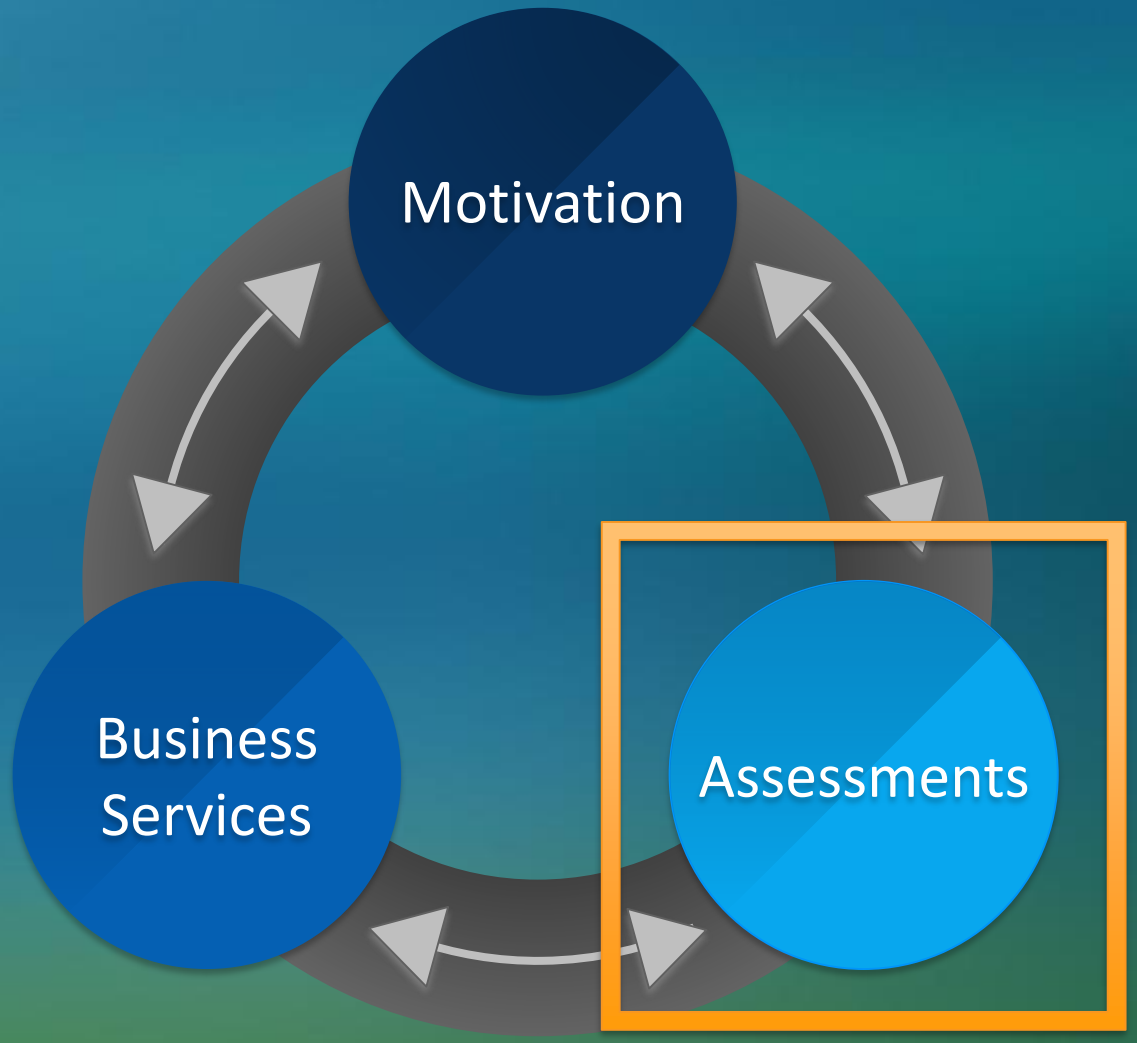
Examples of Models and other Resources

Title/Description	Url
Federal Enterprise Architecture: Business Reference Model Taxonomy of business functions and services for the Federal Government. Some elements can be adapted for state and local government.	https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/egov_docs/fea_v2.pdf
Local Government Capability Framework [In Progress] A capability framework for local government currently under development.	https://www.lgnsw.org.au/key-initiatives/capability-framework
Association of Retail Technologies Standards (ARTS) Business Process Models (BPM) Business Process models for the retail industry.	https://nrf.com/resources/retail-technology-standards/business-process-models-0
Water Research Foundation A not-for-profit research collaborative that provides industry insights and practical solutions to the water community.	http://www.waterrf.org/

Motivation to Assessment

Making Motivation Measurable

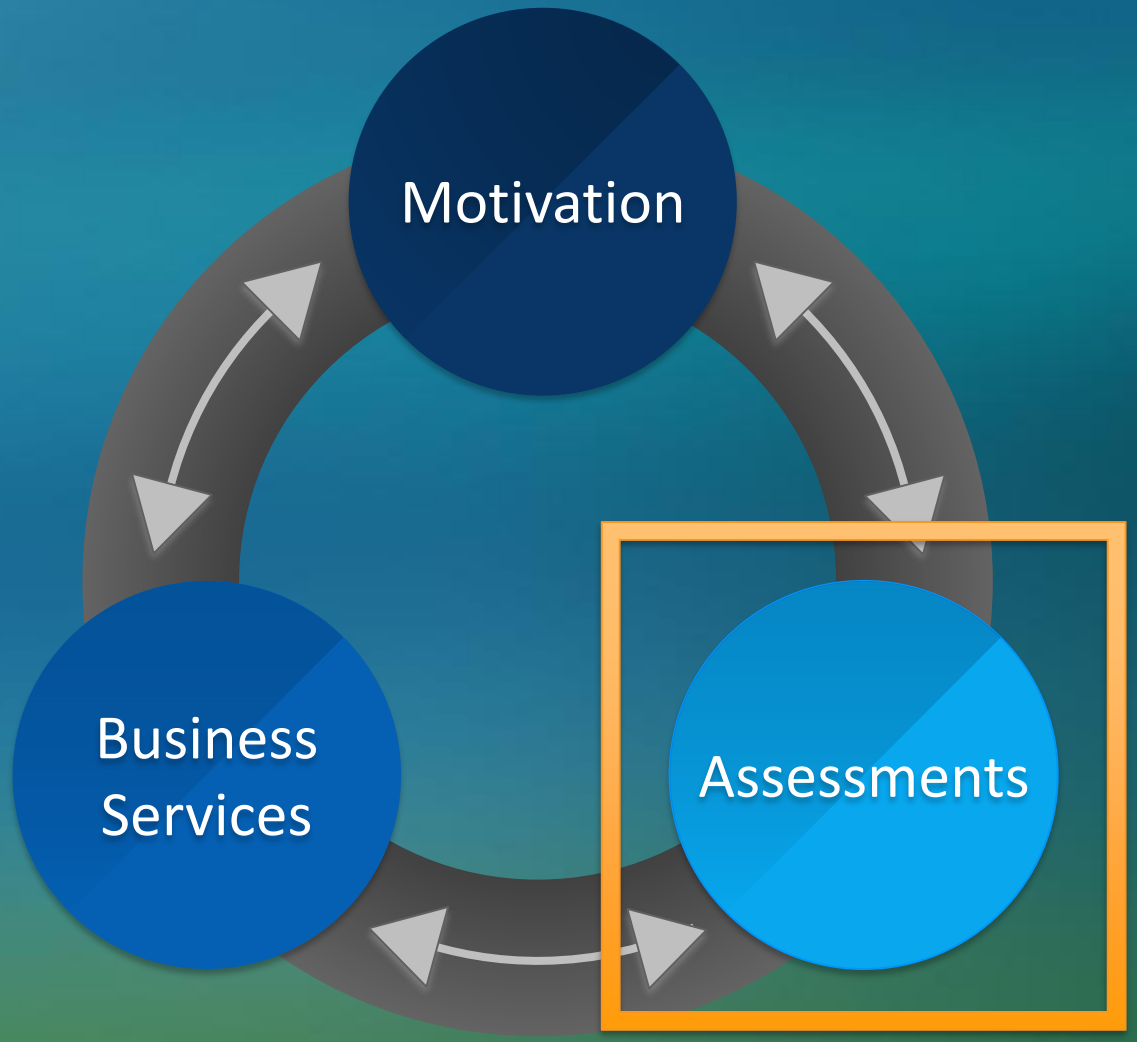
- Regardless of the type of motivation (Driver, Trend, Goal, or Objective)…
  - Identify Metrics and Targets
  - Identify Indicators



Motivation to Assessment

FICTITIOUS EXAMPLE

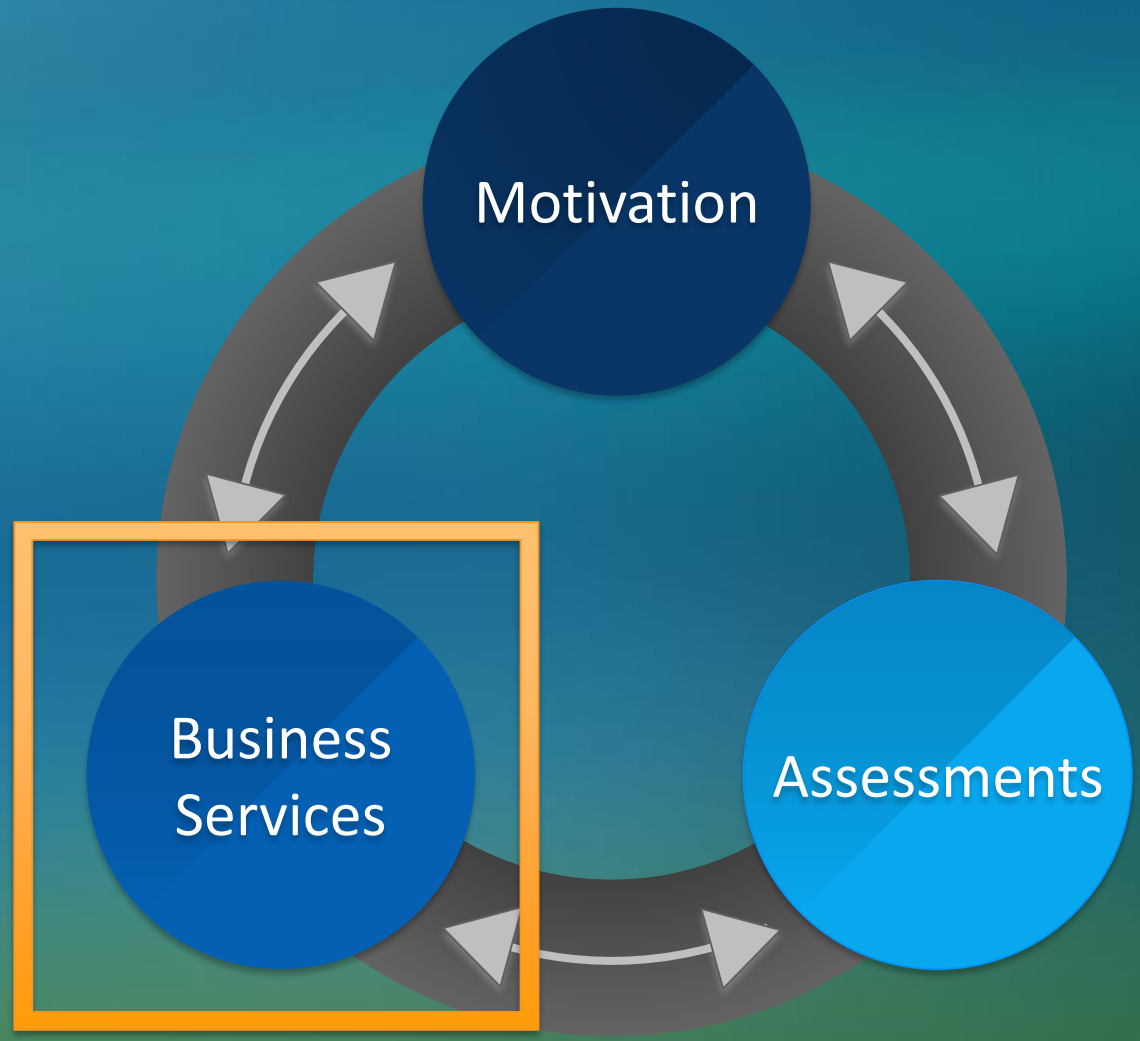
- Reduce Violent Crime
  - Metrics and Targets
    - Shootings [Number of, Rate]
    - Robberies [Number of, Rate]
    - Murders [Number of, Rate]
  - Indicators
    - Drug Related Incidents
    - Poverty



Motivation to Business Services

Making Motivation Actionable

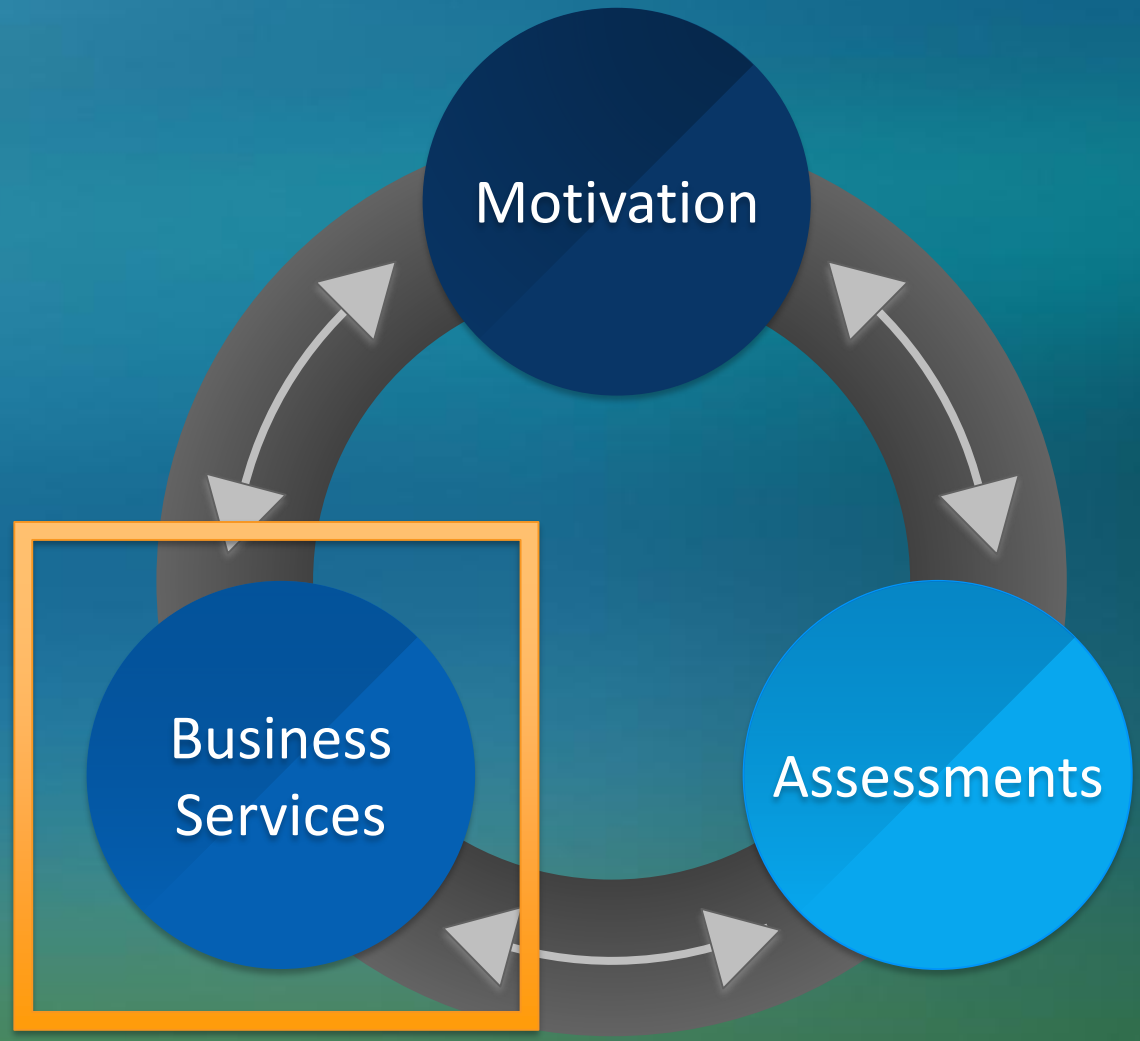
- Regardless of the type of motivation (Driver, Trend, Goal, or Objective)…
  - Identify Impacted Products and Services
  - Identify Impacted Processes
    - Roles and Responsibilities
  - Identify Impacted Information Systems
    - Apps and Data Systems



Motivation to Business Services

FICTITIOUS EXAMPLE

- Implement New Patrol Strategies
  - Impacted Services
    - Citizen Protection
    - Crime Prevention
  - Impacted Processes [Roles & Responsibilities]
    - Commanders
    - Patrols
    - 911
  - Impacted Information Systems
    - CAD
    - Incident Database
    - In-vehicle Computers
    - Vehicle and Officer Cameras
    - Vehicle GPS and Sensors



Strategic Alignment of GIS

Highlight the use of GIS capabilities in the planning, execution, realization, and monitoring of major change initiatives

Strategic Initiative	Time Frame	Planning	Execution / Realization	Monitoring / Assessment

Key

✓ – Used/To Be Used

Strategic Initiative Use of GIS Capabilities

Highlight the location platform needs of strategic or change initiatives

Change Initiative	Time Frame	External Collaboration	Internal Collaboration	Self-Service Mapping	Dashboards	Mobile Data Access	Mobile Data Collection	Real-time GIS	Big Data	Advanced Desktop GIS	App / Data Integration

Key

✓ – Used/To Be Used

Organizational Unit, Process, or Capability GIS Capability Usage

Highlight the degree of use of GIS Capabilities by Organizational Units, Processes, or Capabilities [Current or Future]

Organizational Unit, Process, or Capability	External Collaboration	Internal Collaboration	Self-Service Mapping	Dashboards	Mobile Data Access	Mobile Data Collection	Real-time GIS	High Volume / Throughput Data	Advanced Desktop GIS	App / Data Integration
Service Qualities										

Key

● – Full Use

◉ – Limited Use

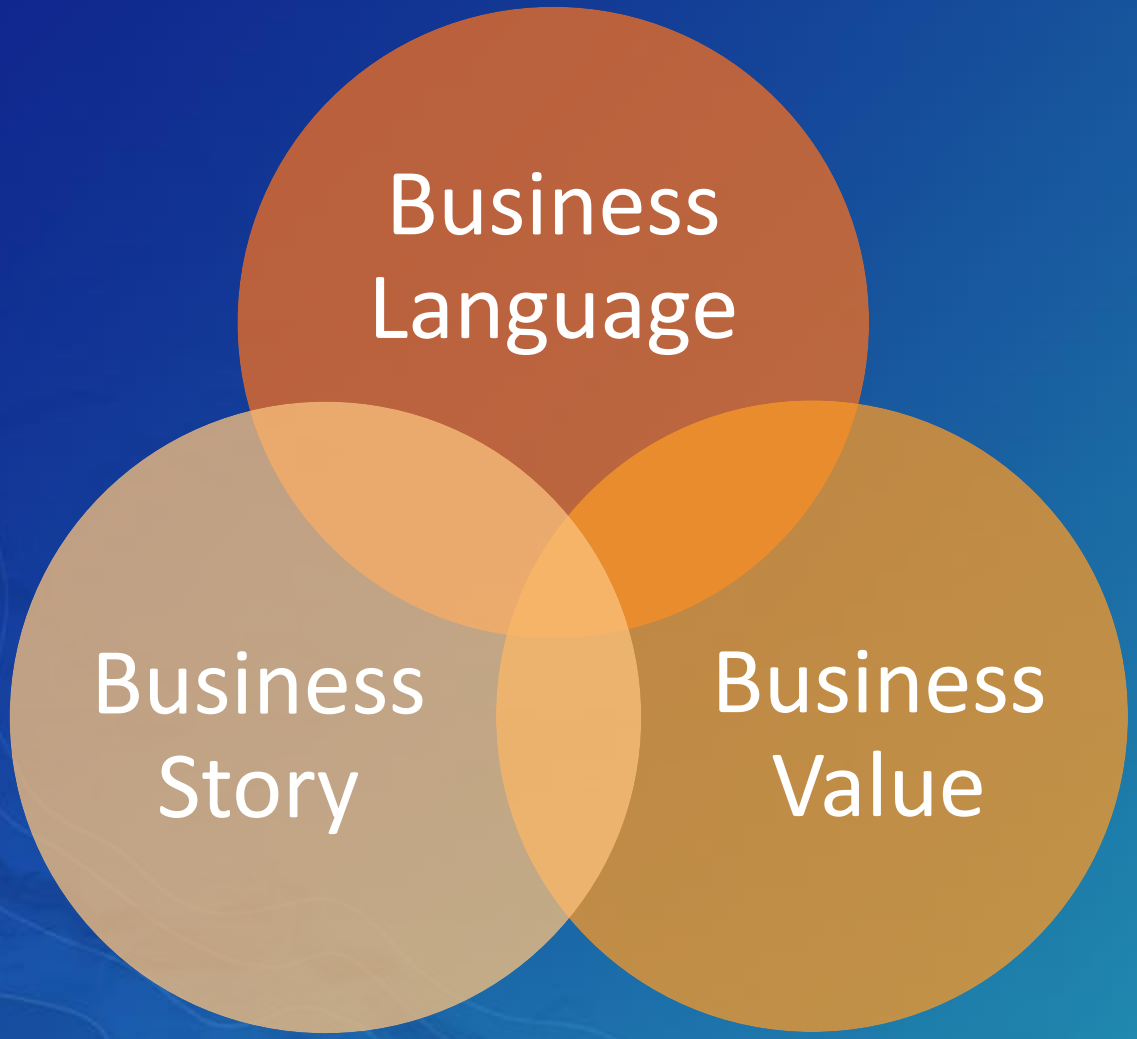
○ – Not Used

L – Low
M – Medium
H – High

A – Availability
P –Performance

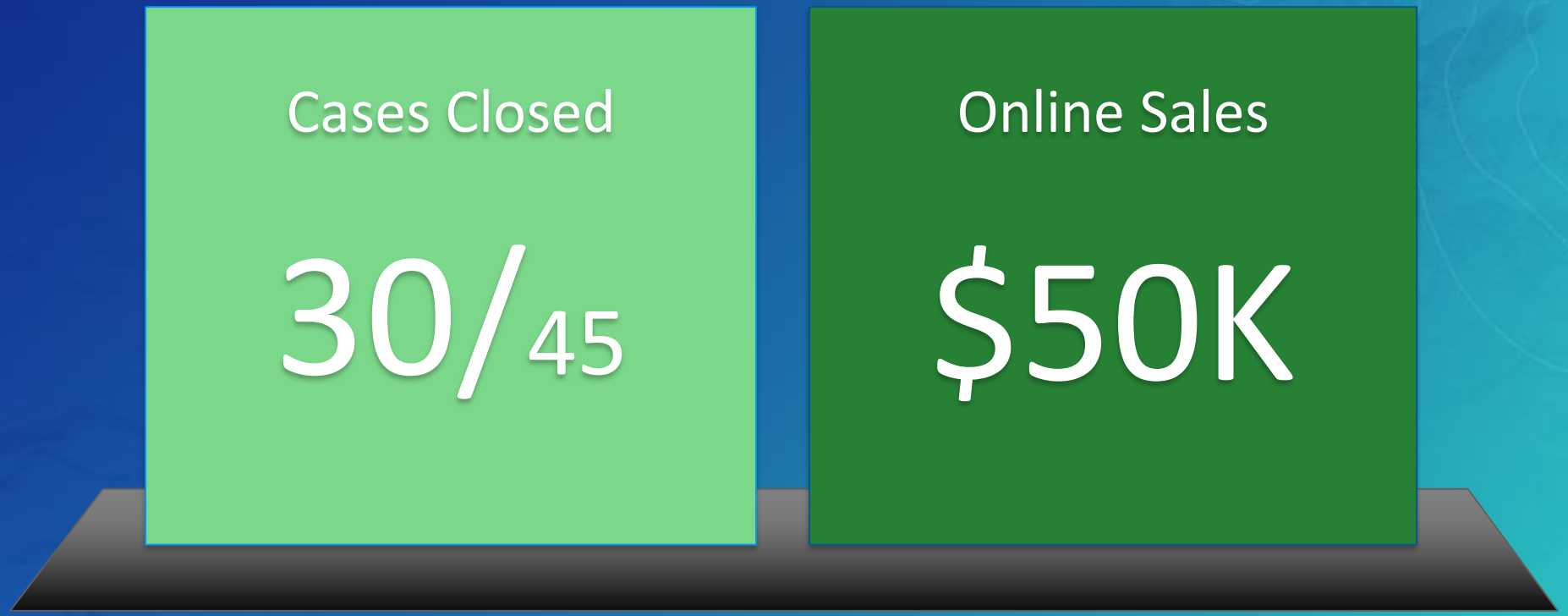
Key Takeaways

This is hard!



- Learn Business Dialects
- Connect GIS to Business Value
- Arm Business Teams with GIS

Focus on the impact to business…



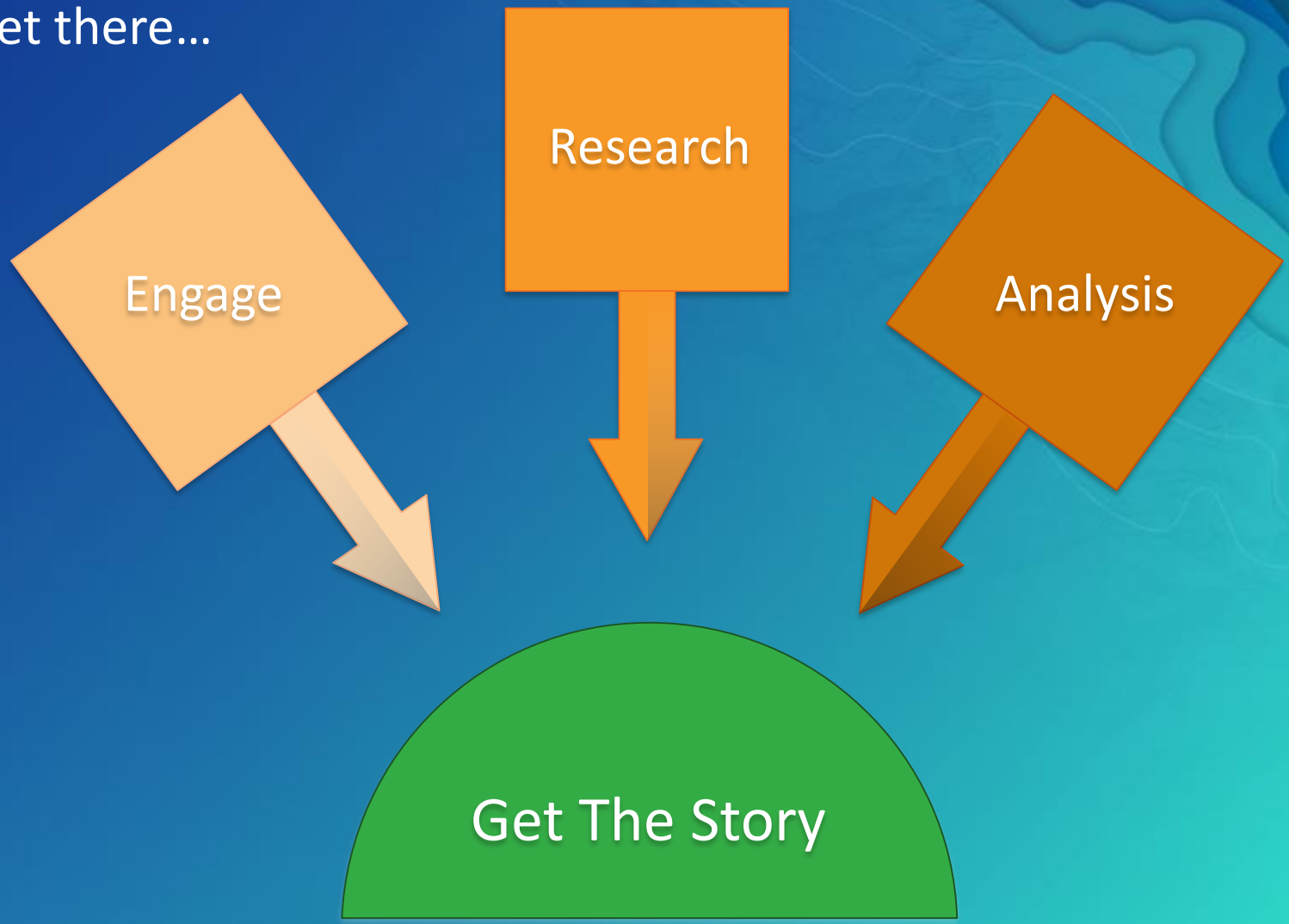
Inform them with impact on activities, costs, and revenues

Think about the people trying to save the day…

Q:	What did need to detective Maxwell do?
A:	…track down the shooter and known associates…

Arm them with the tools they need to succeed

I don’t care how you get there…



Sounds great! Just let me know what you need from me…

Questions???

…and maybe answers :)

esri
THE
SCIENCE
OF
WHERE