

# GIS as Spatial Engineering

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# ARUP

# ARUP



# Engineering Projects

Flood defence schemes



Highways



Site development



Surface water management



Rail



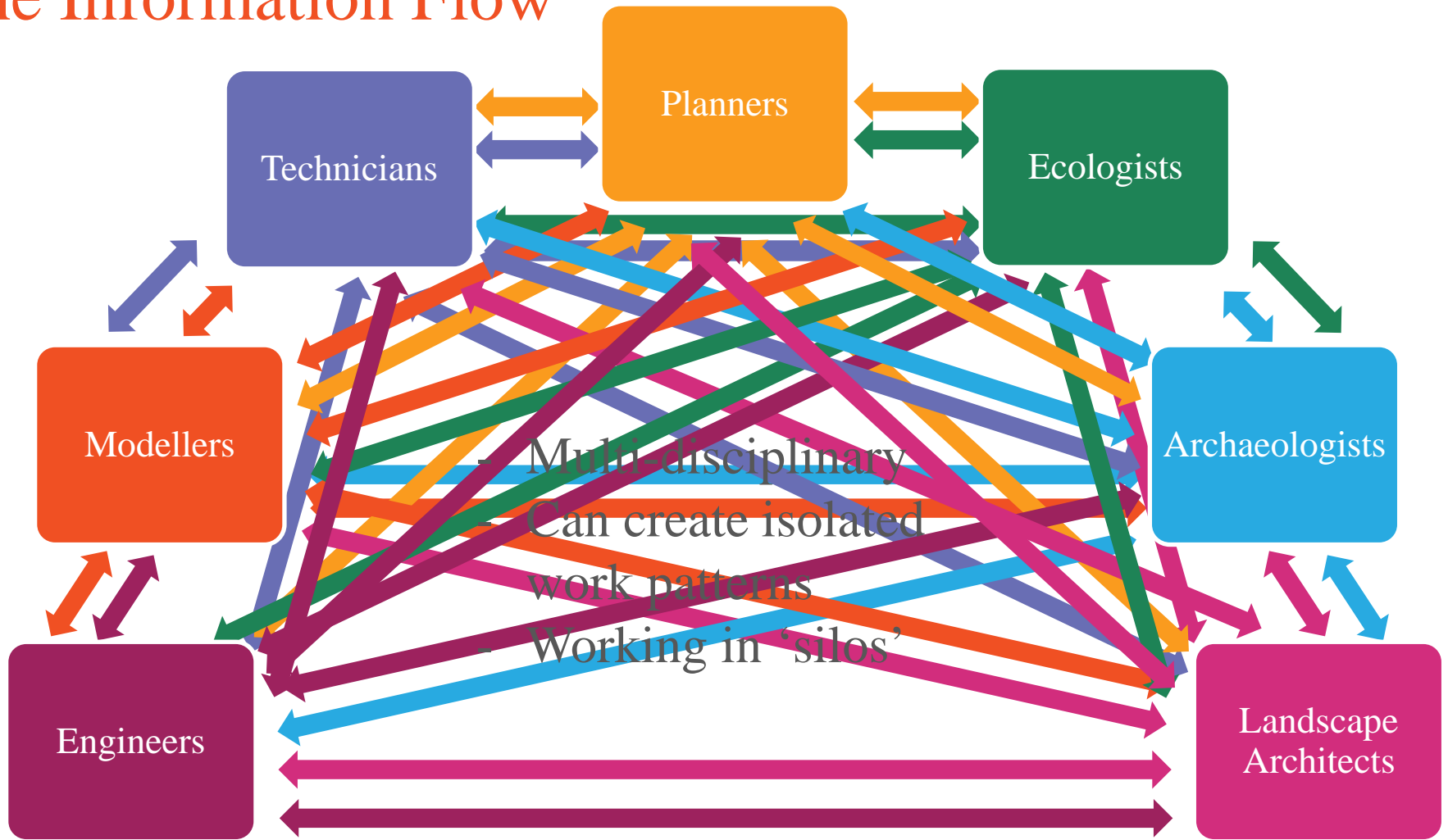
Sewer management



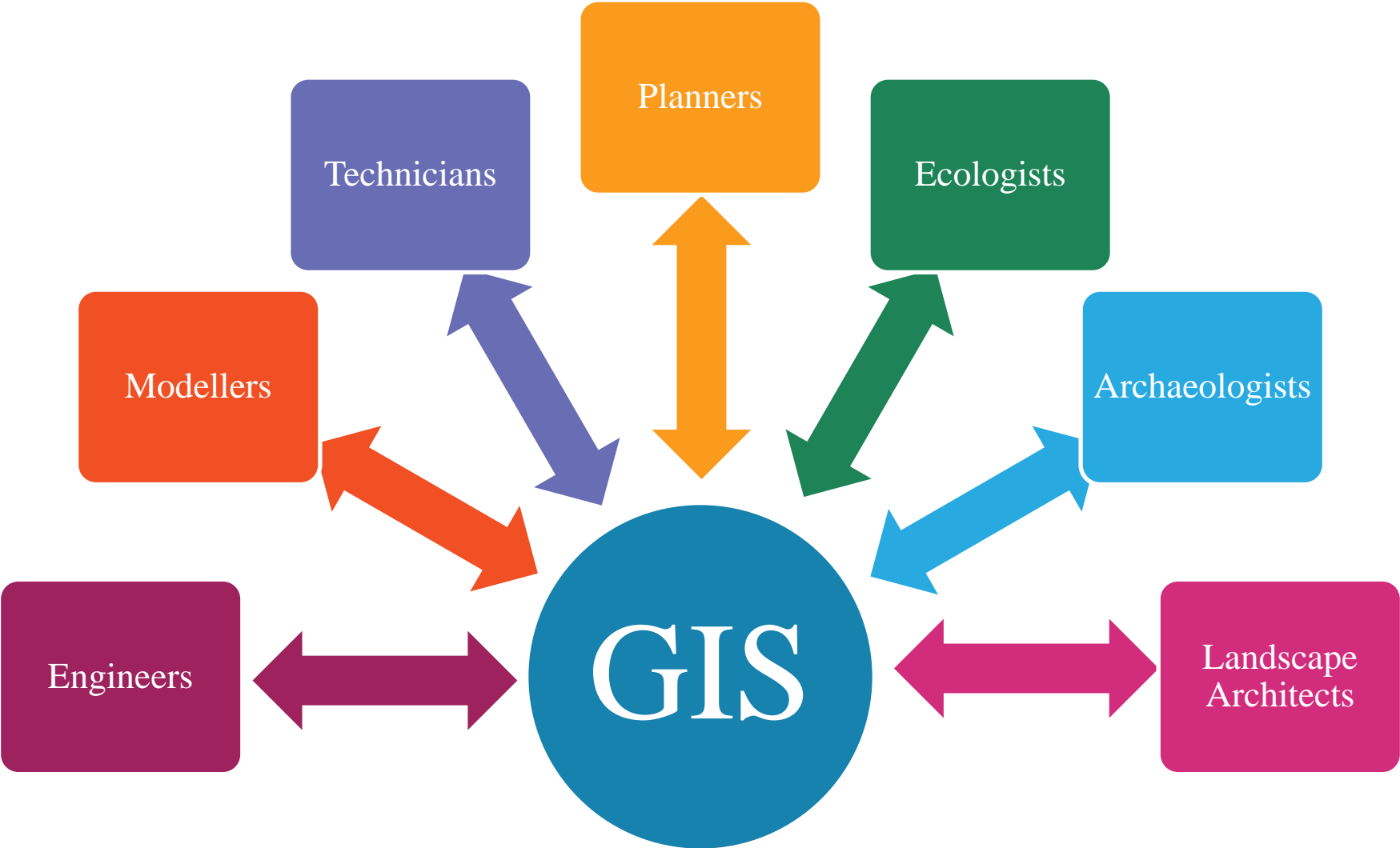
Bridges



# The Information Flow

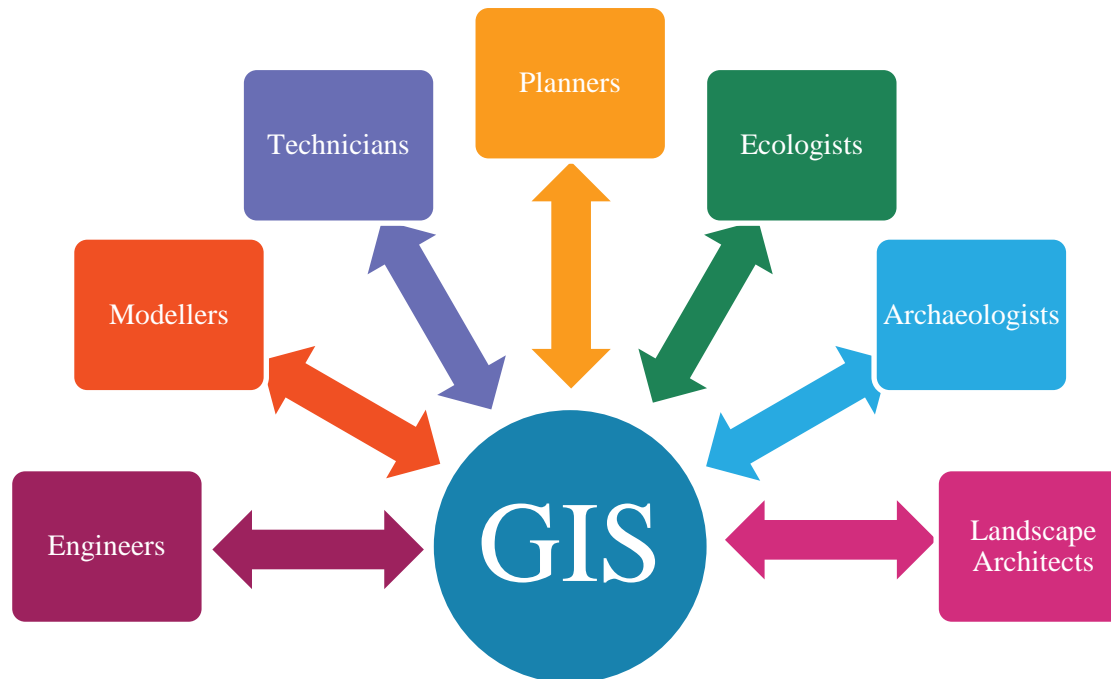


# The Information Flow



# Role of GIS

- Acts as a central hub for all data related to a project
- Conduit through which all data/information passes between team members
- Platform for implementing standards across a project



# But what about BIM....

GIS: Geographic **INFORMATION** Systems

Vs

BIM: Building **INFORMATION** Modelling



*Built Environment*

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*Built Environment*

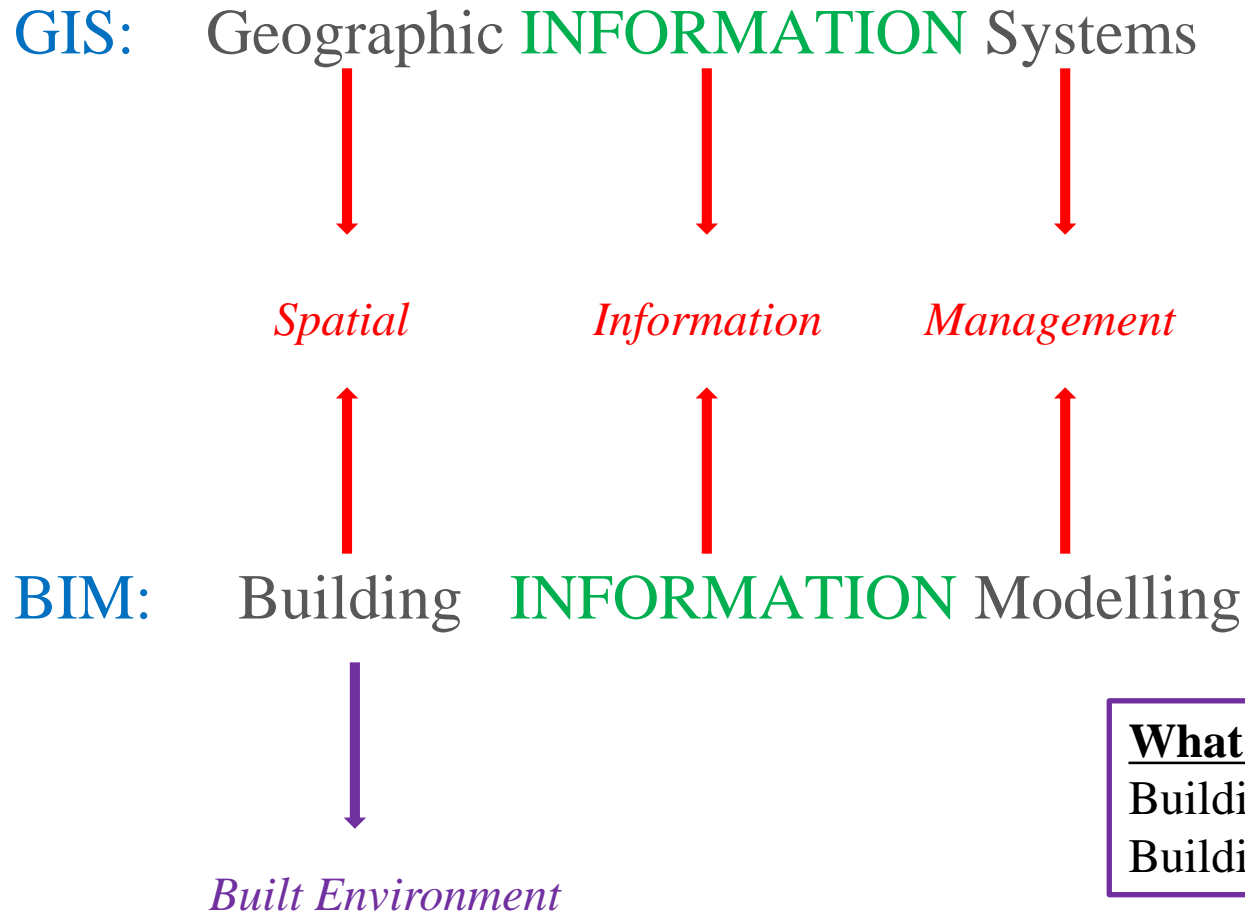
**What's in the word "building"?**

Building as a thing?

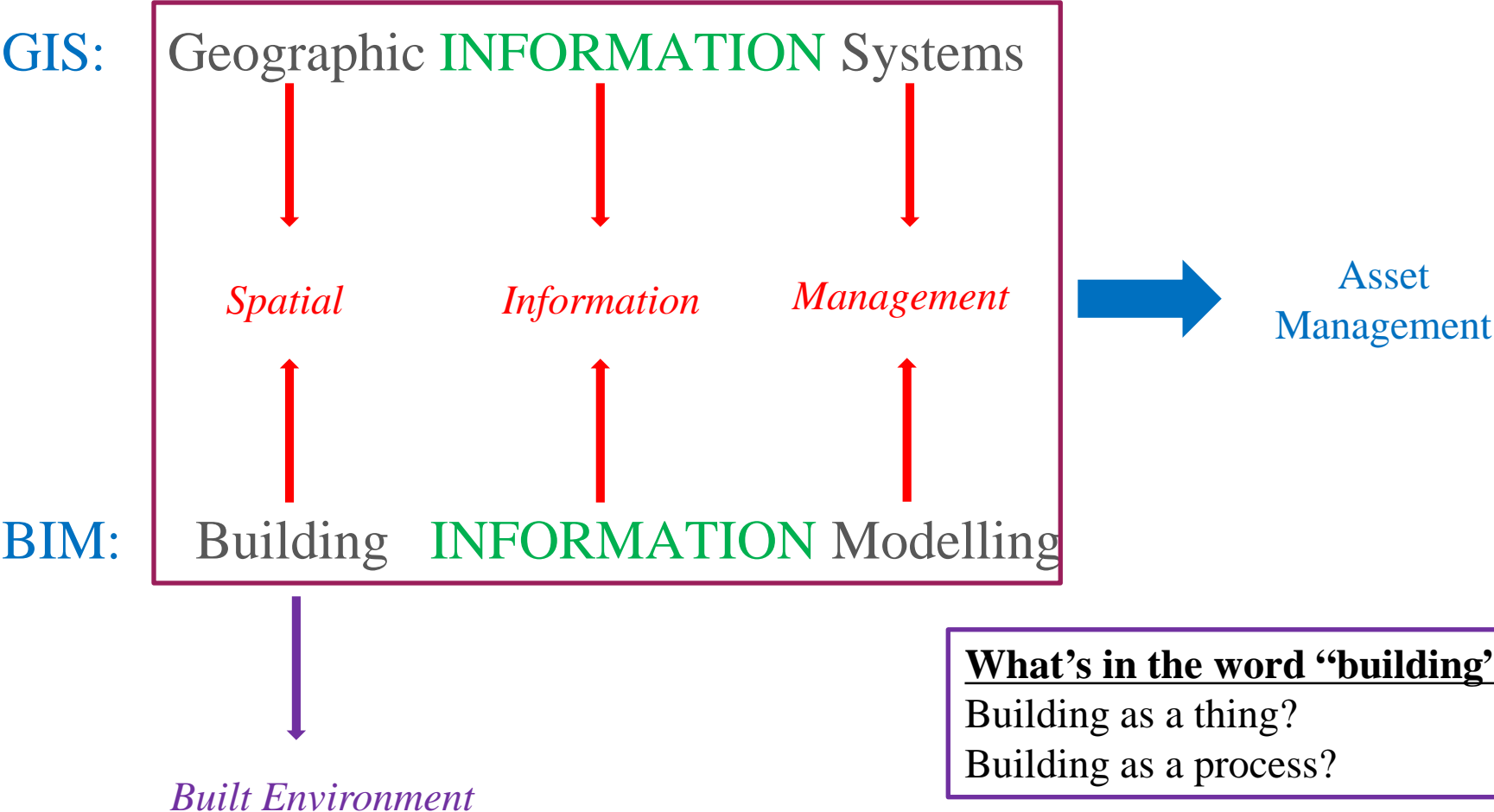
Building as a process?



# But what about BIM....



# But what about BIM....



# What do all of these have in common?

Flood defence schemes



Highways



Site development



Surface water management



Rail



Sewer management



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What do all of these have in common?

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Water management



Rail



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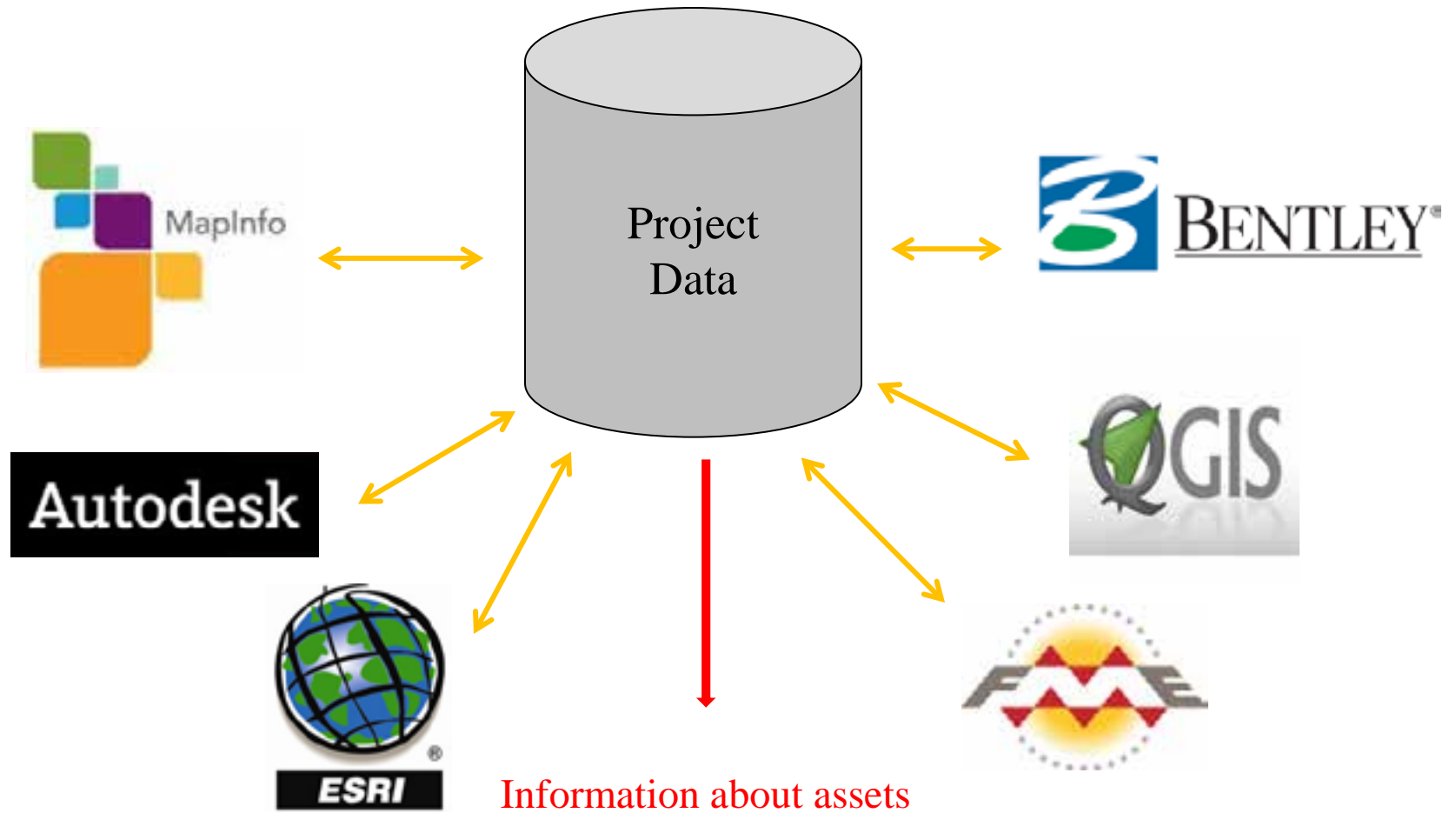


Bridges

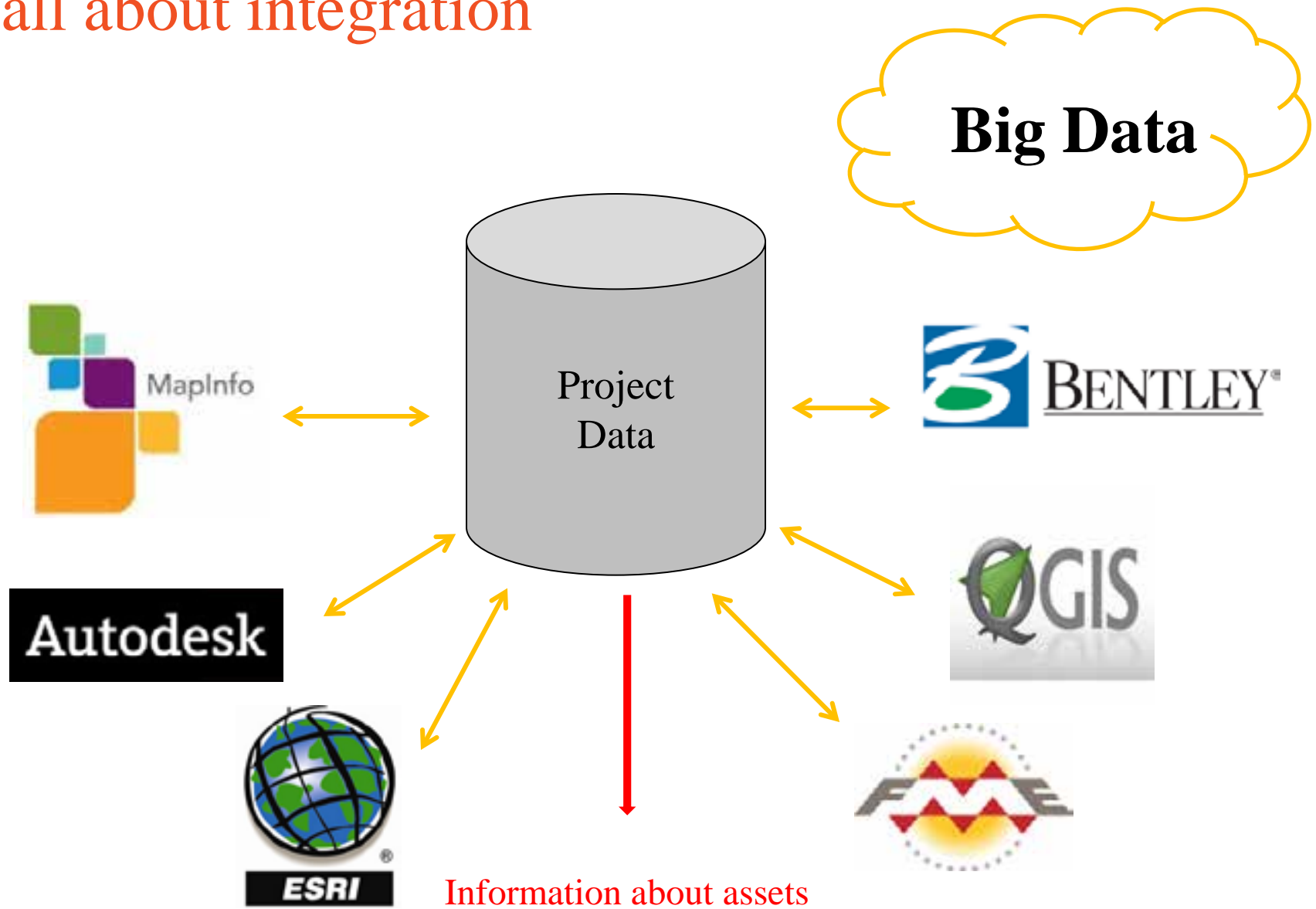


**ASSET MANAGEMENT**

# It's all about integration



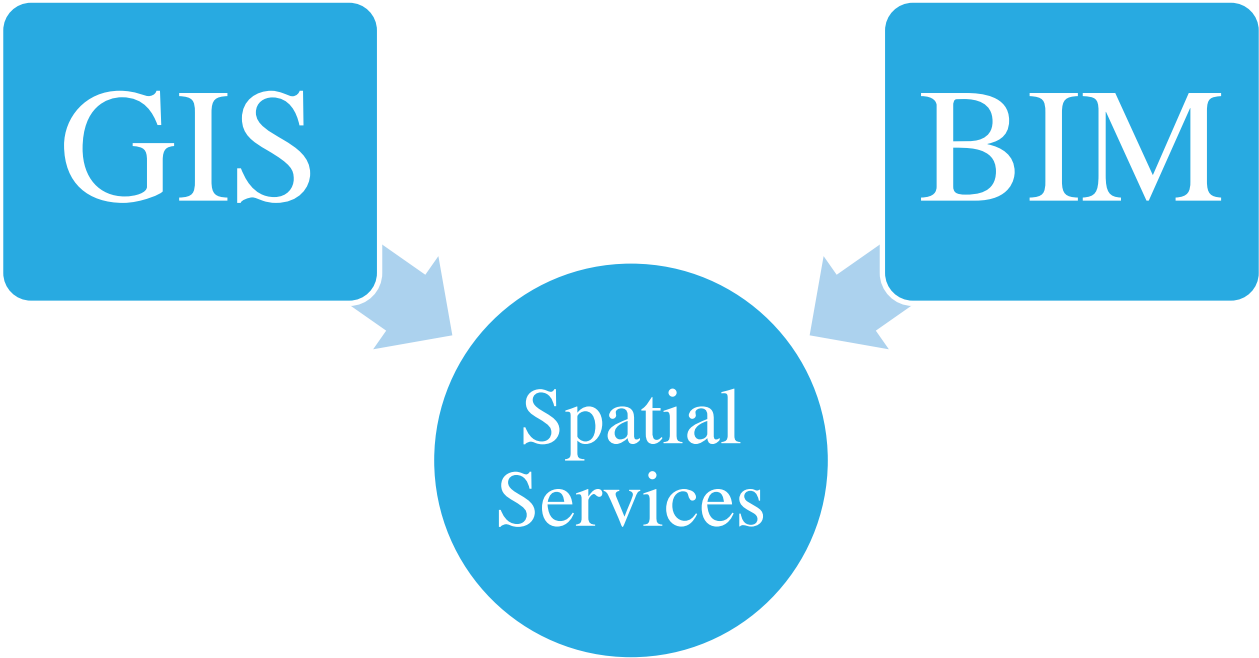
# It's all about integration



# What is the role of GIS?

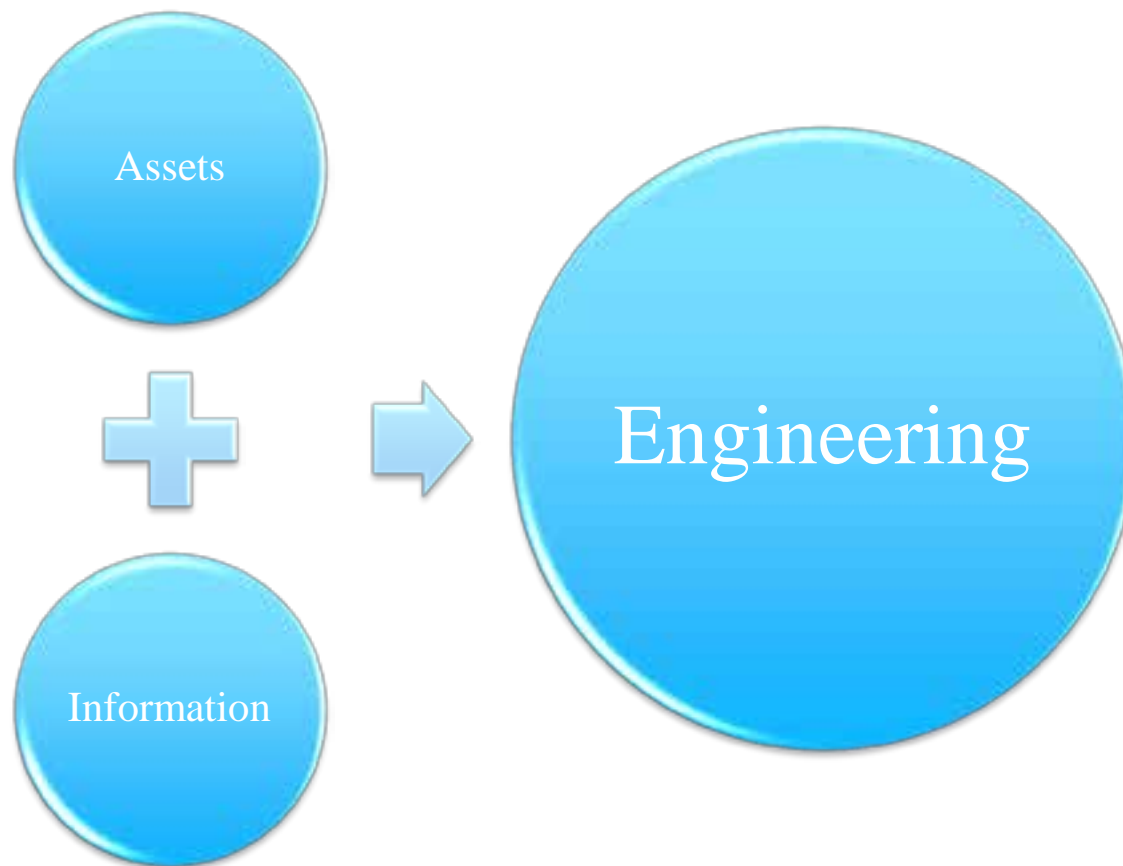
- Data visualisation?
- Data sourcing?
- Data analysis?
- Data conversions?
- Data management?

# What is the role of GIS?

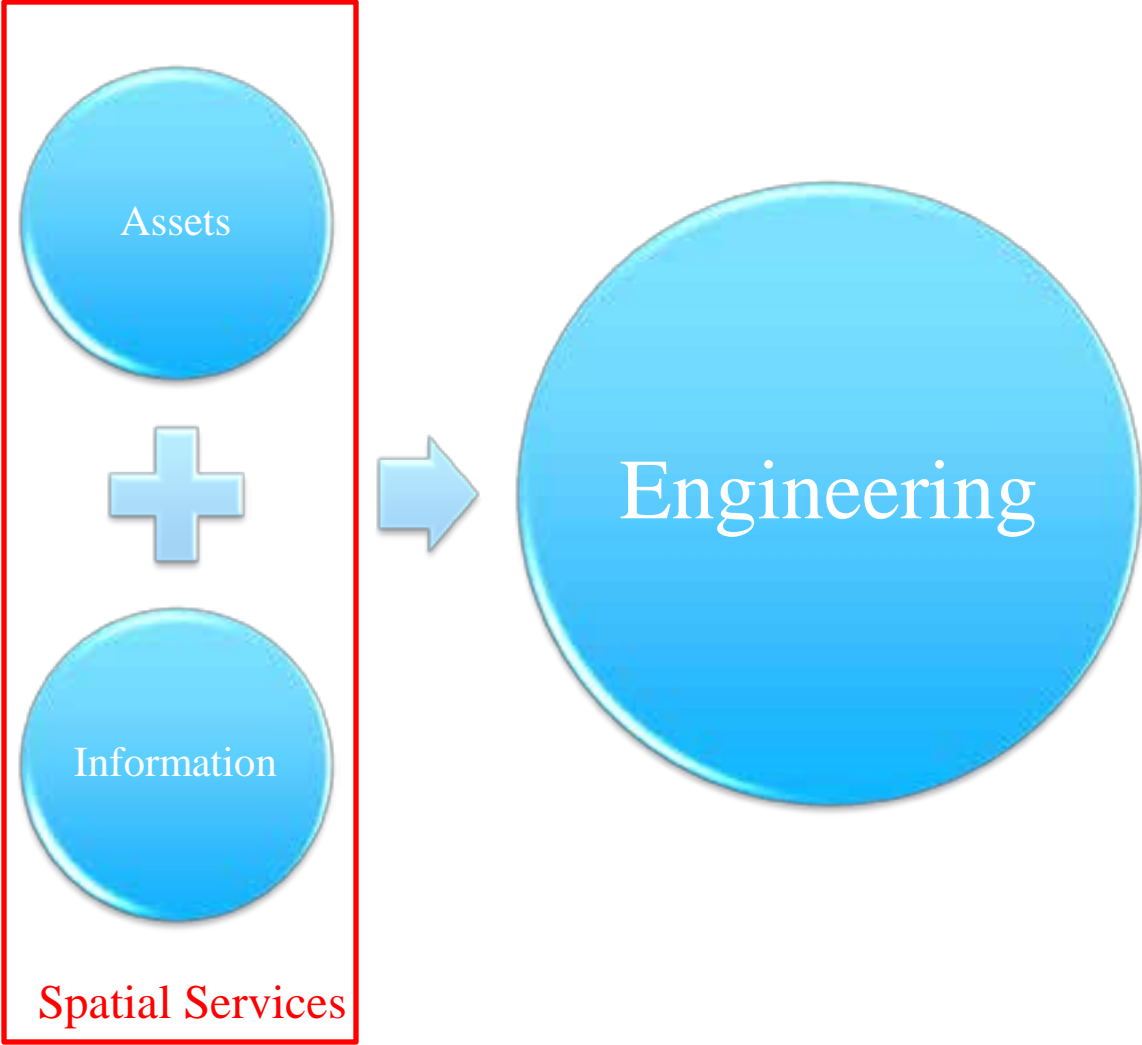




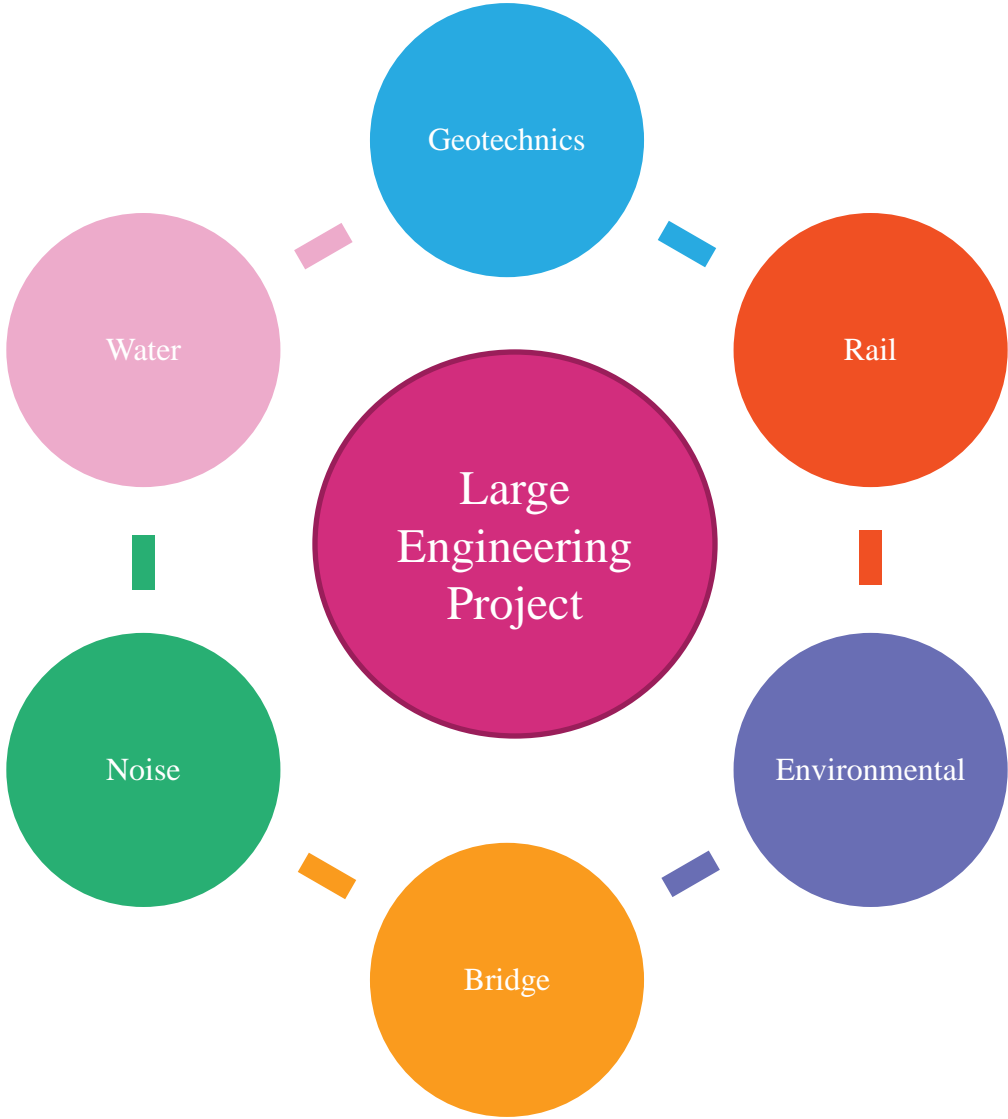
# GIS and Engineering



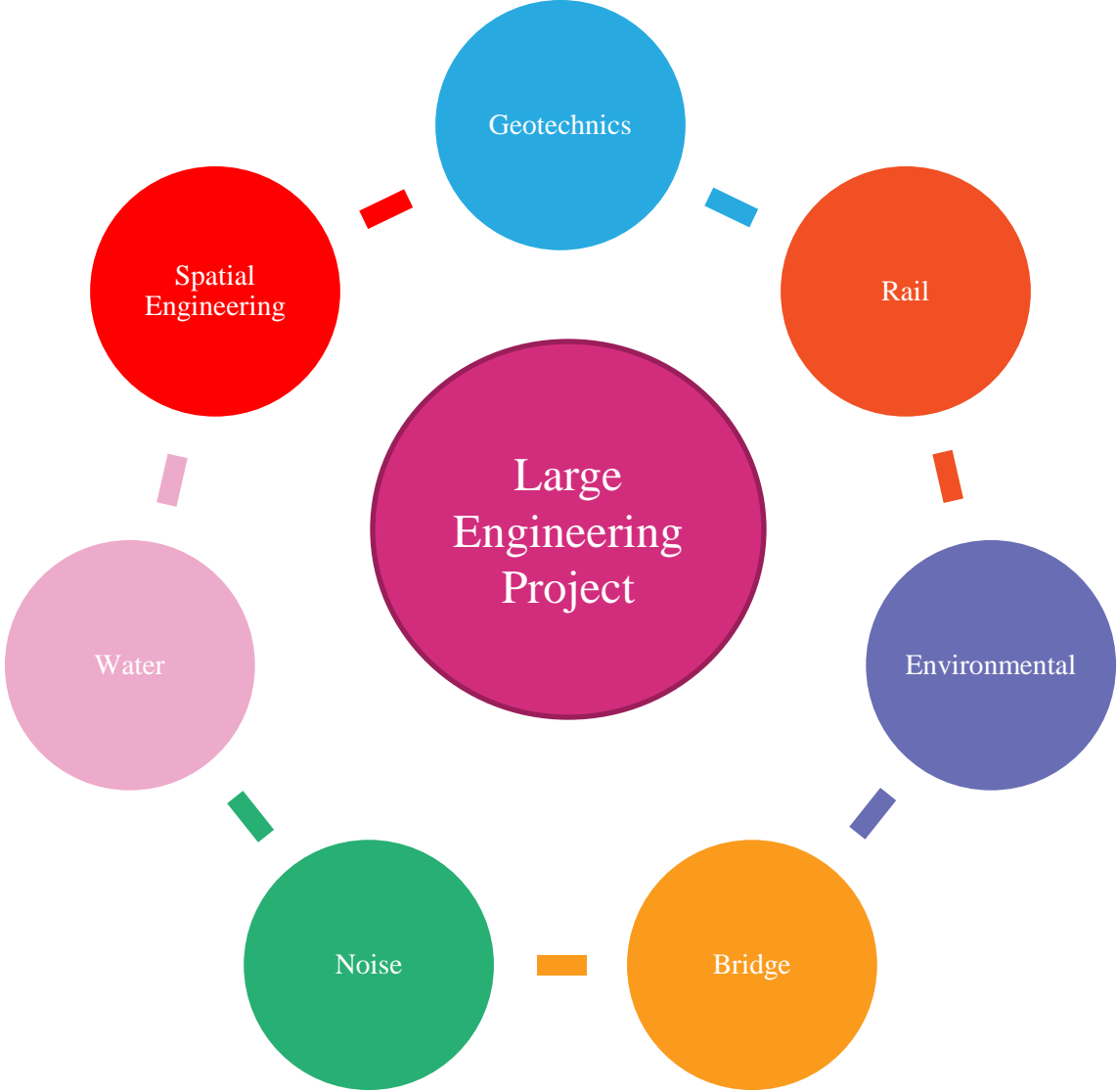
# GIS and Engineering



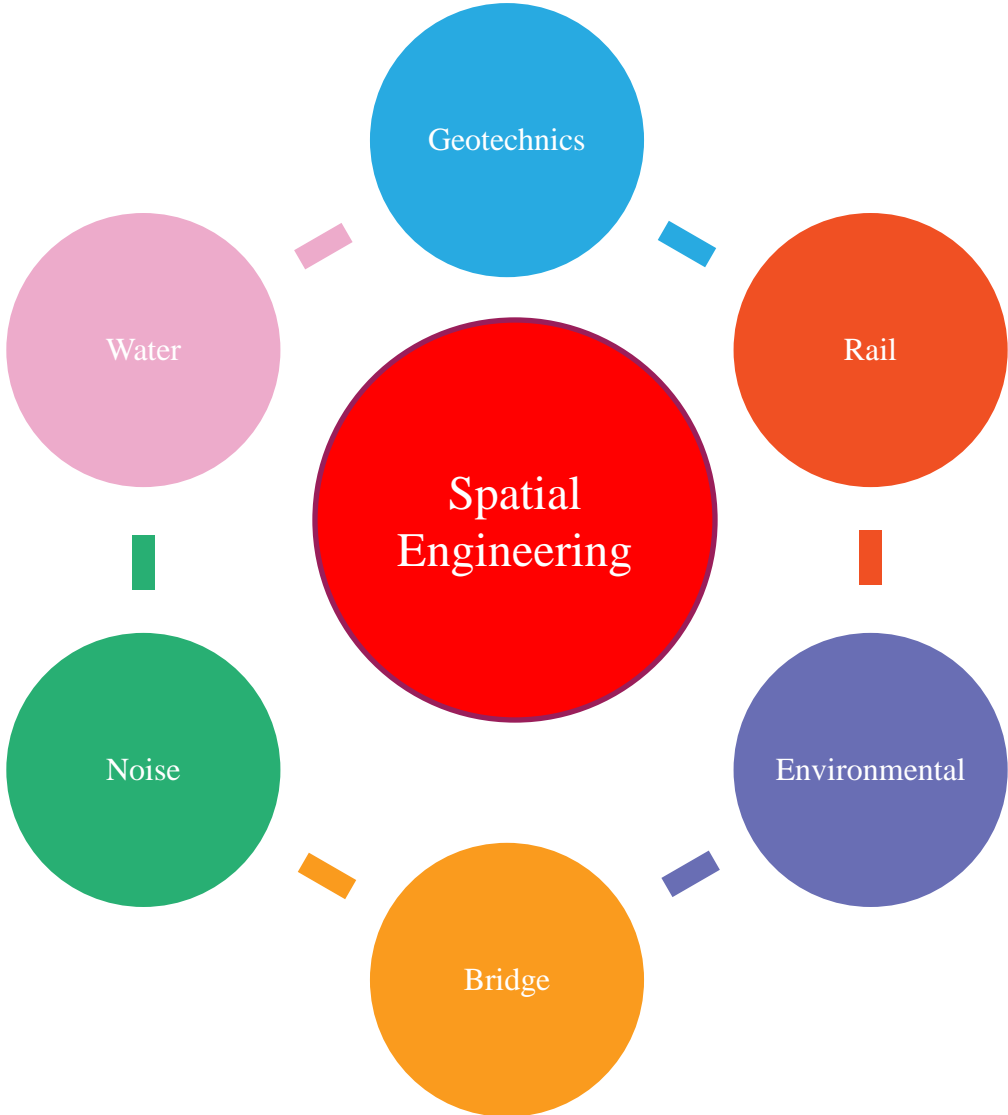
# GIS and Engineering



# GIS and Engineering



# GIS as Spatial Engineering



# Barriers

- Common misconception of GIS. Not just a pretty map!
- GIS and BIM are not at war with each other
- Engaging all disciplines and overcoming preconceived ideas
- Promoting understanding of full capabilities



Questions?

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