SMART Building Consulting

SBIoT

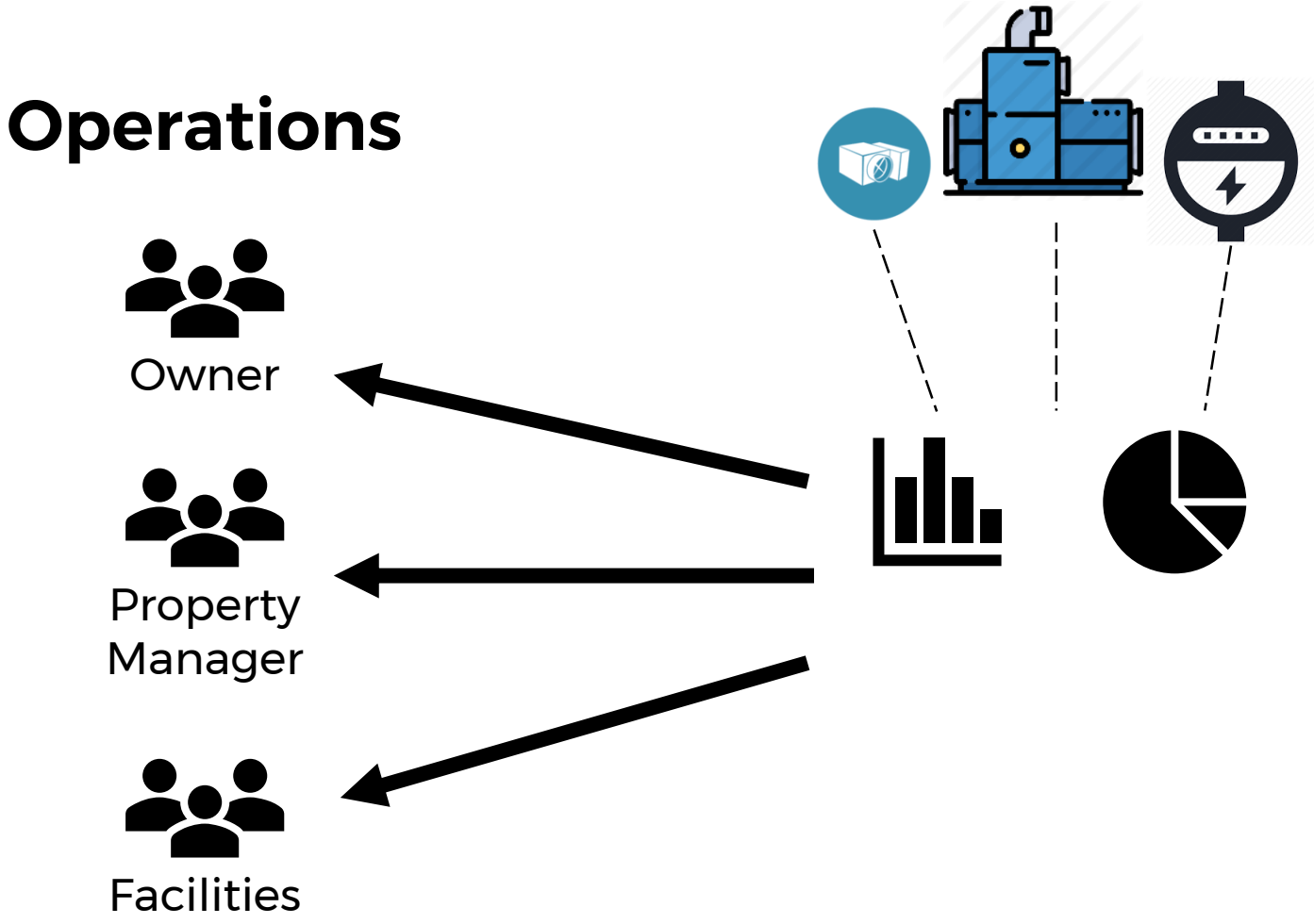
November 9th, 2018

Background

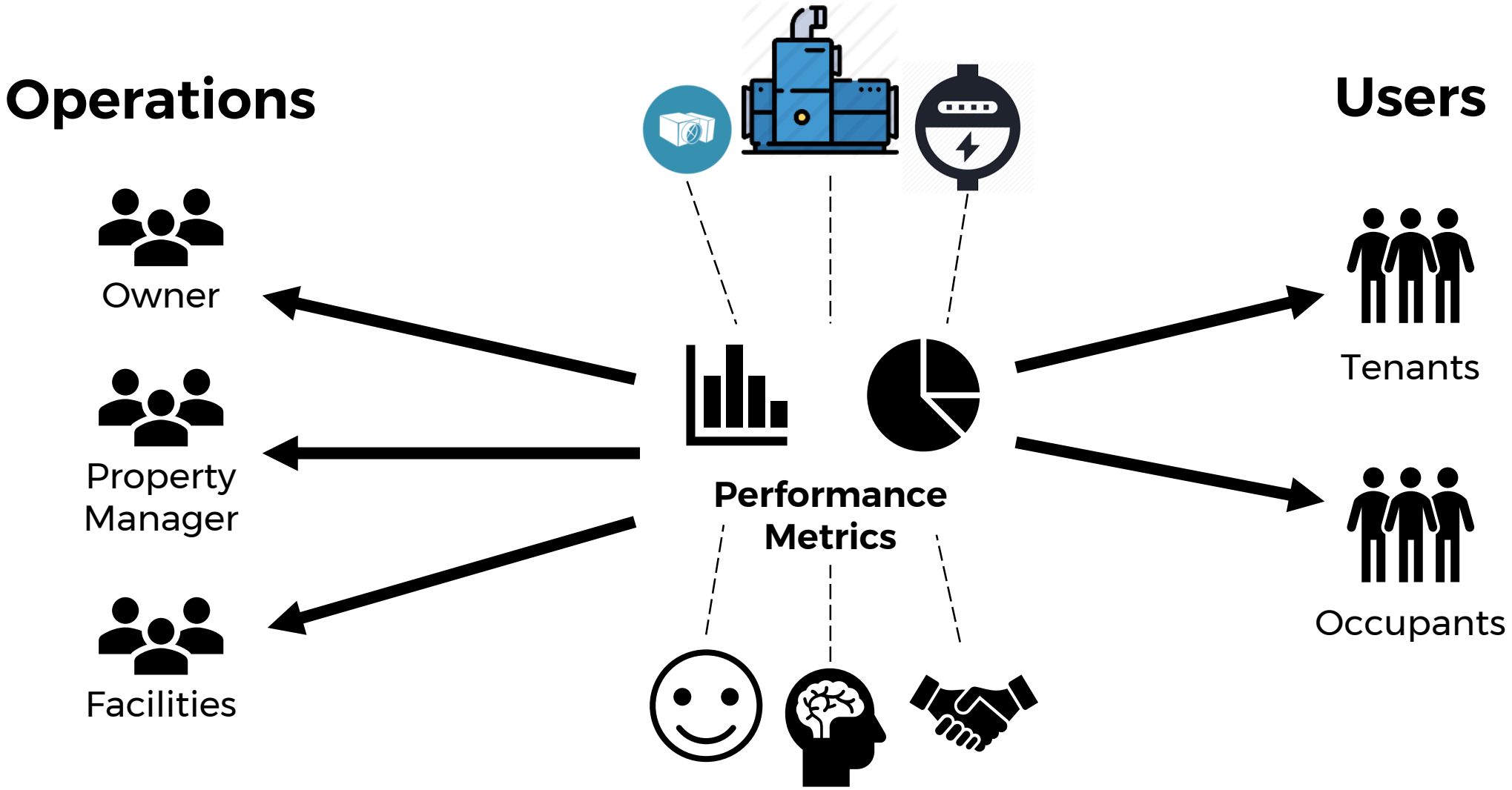
M.S. Architectural Engineering – Building Systems (Aug. 2017)

Gregor Henze

Building Performance Evaluation

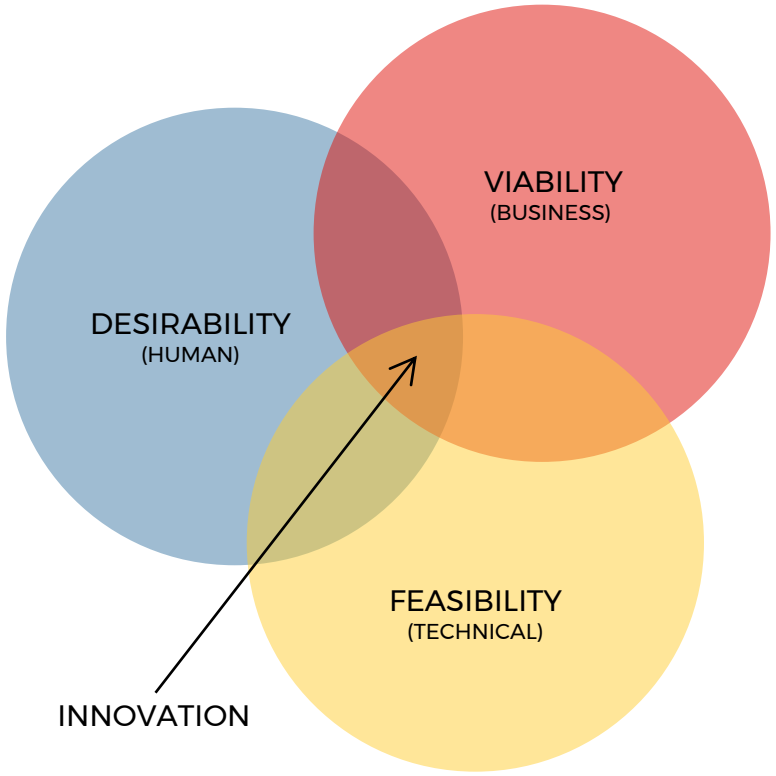


Building Performance Evaluation



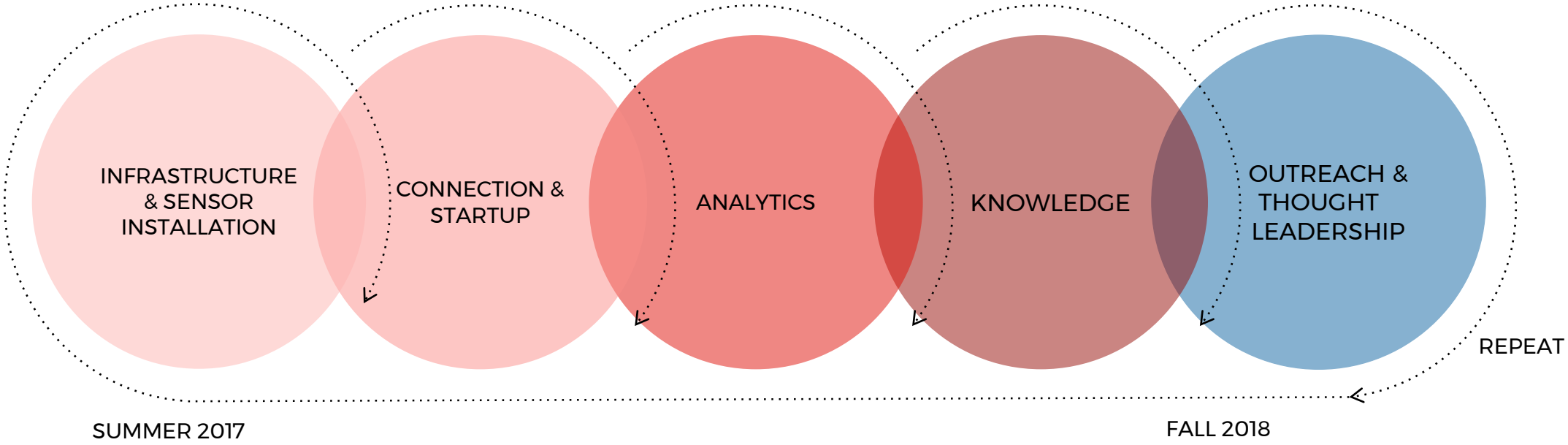
Our SMART Mission

- Develop expertise in digital consulting and delivery
- Research and test data-driven solutions for the built environment (**HANDS ON!**)
- Nurture a culture of cross-disciplinary thinking




ThinkBOLDR
INNOVATION CENTER

ThinkBOLDR Lab Timeline

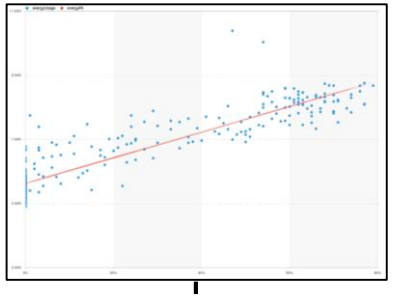


Network

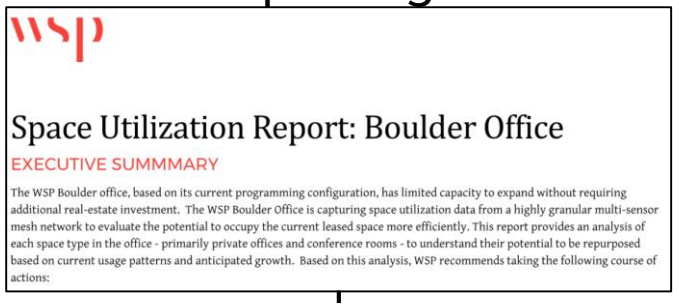
Servers

Sensors

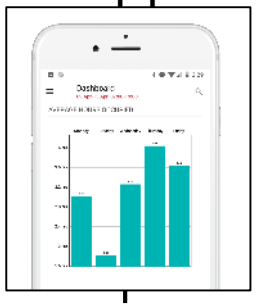
Visualizations



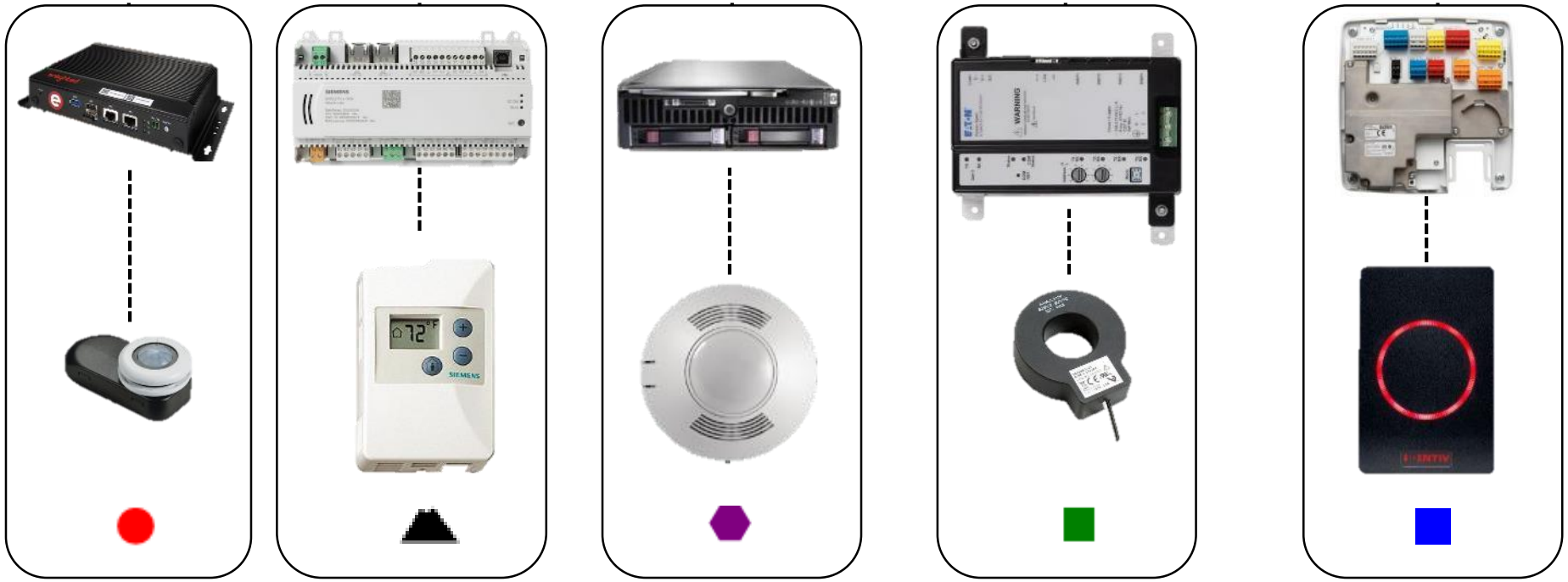
Reporting



App



Integration Platform



Sensor Install

Multisensor

- Light Levels (lux)
- Temprature (F)
- Occupancy (TRUE/FALSE)

Door Reader

Events:
- Range-enter
- Trigger
- ...

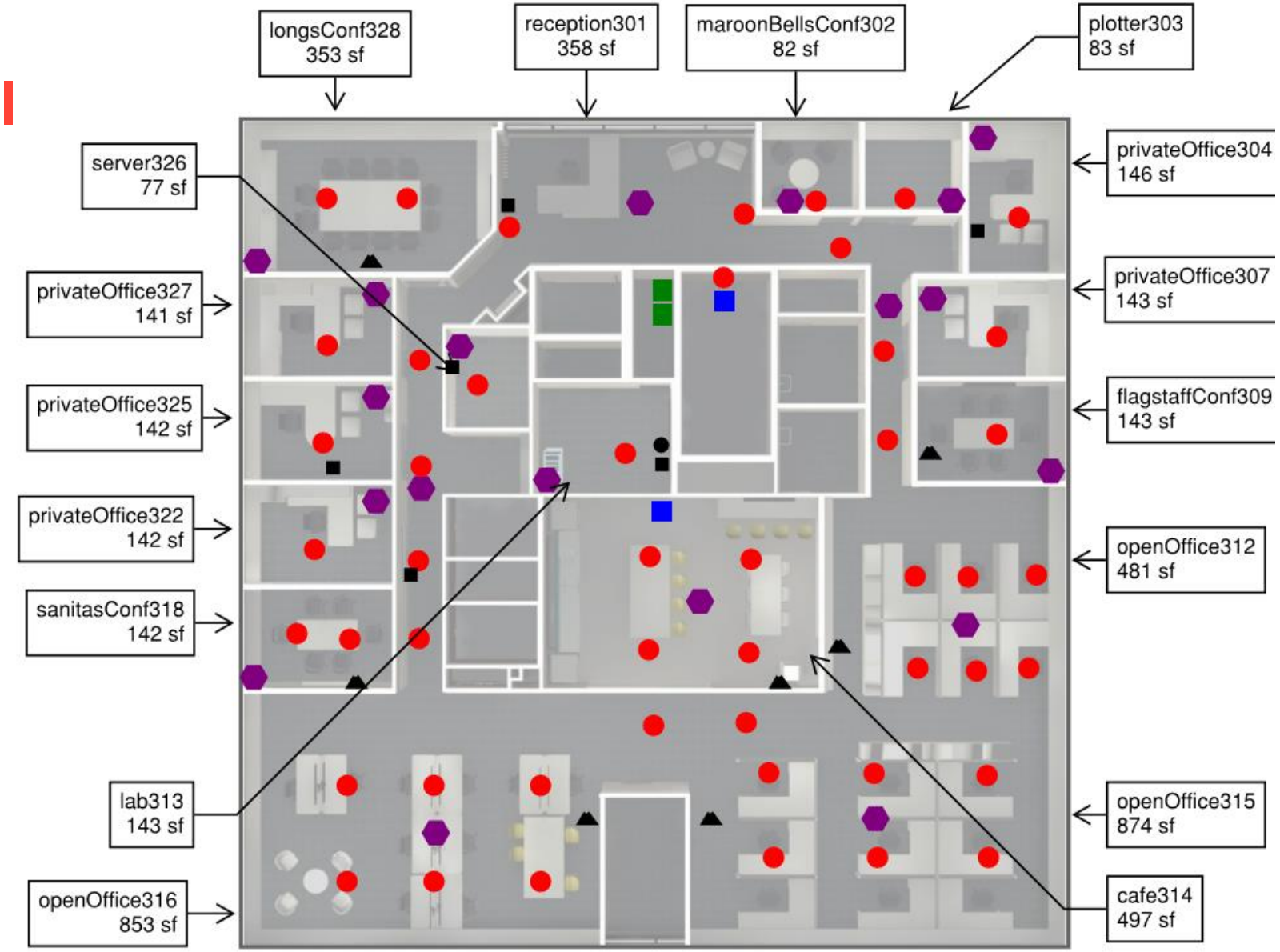
Occ Sensor

- Occupancy (TRUE/FALSE)

Branch Circuit Meter

- Energy (kWh)
- Power (kW)

▲ Temp, RH, CO2
■ Temp, RH
● CO2, VOC

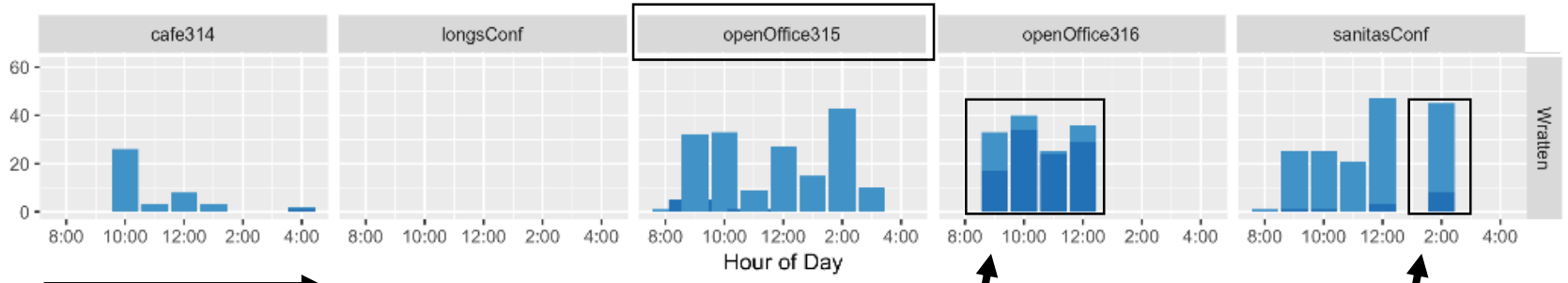


What can we actually learn from it?

Where do employees spend their time?

By space

By Person



Throughout the Day

Morning at his desk

Afternoon meeting

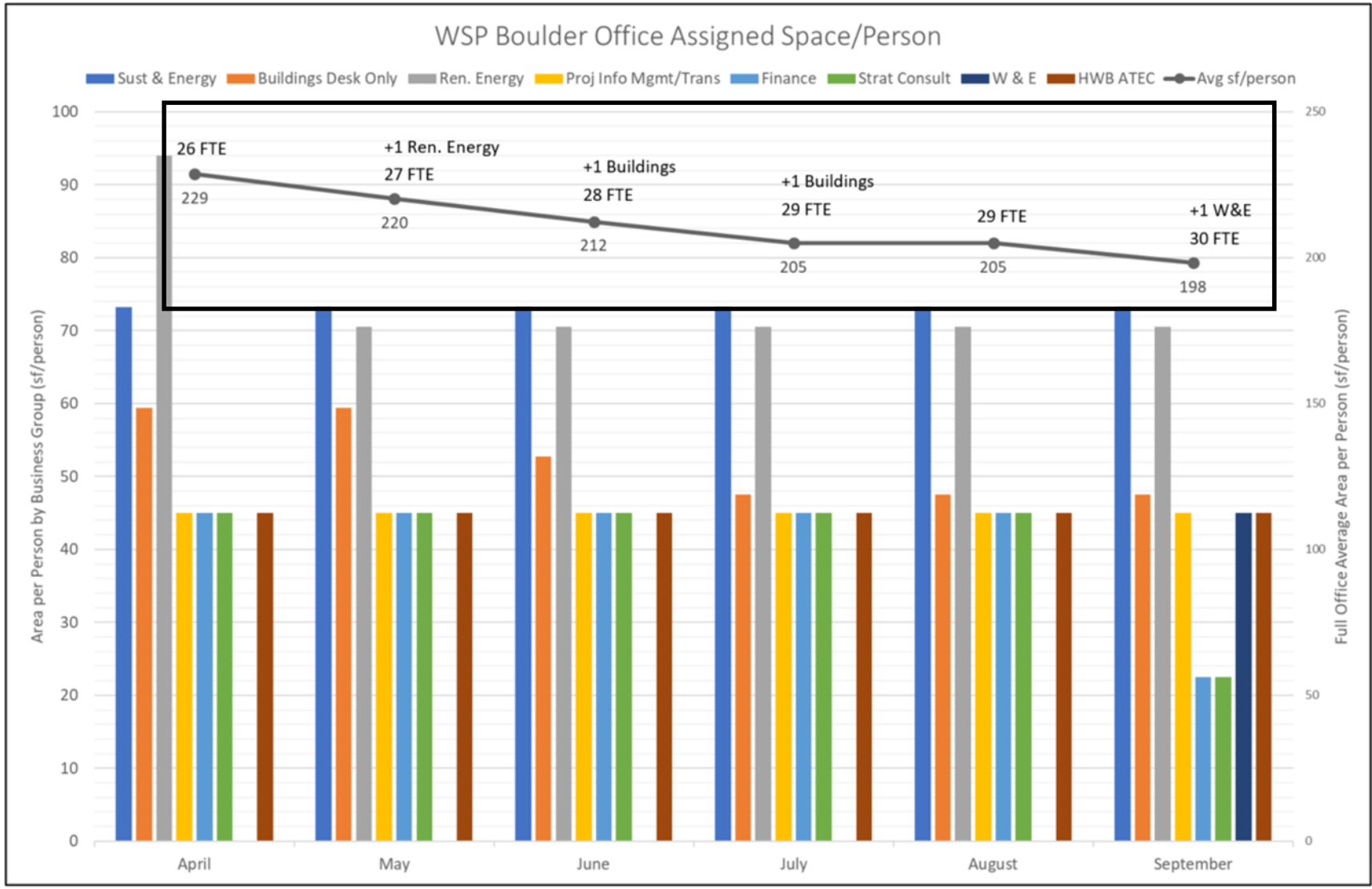
Traditional space planning

Space allocation per person decreases from:

229 sf/person

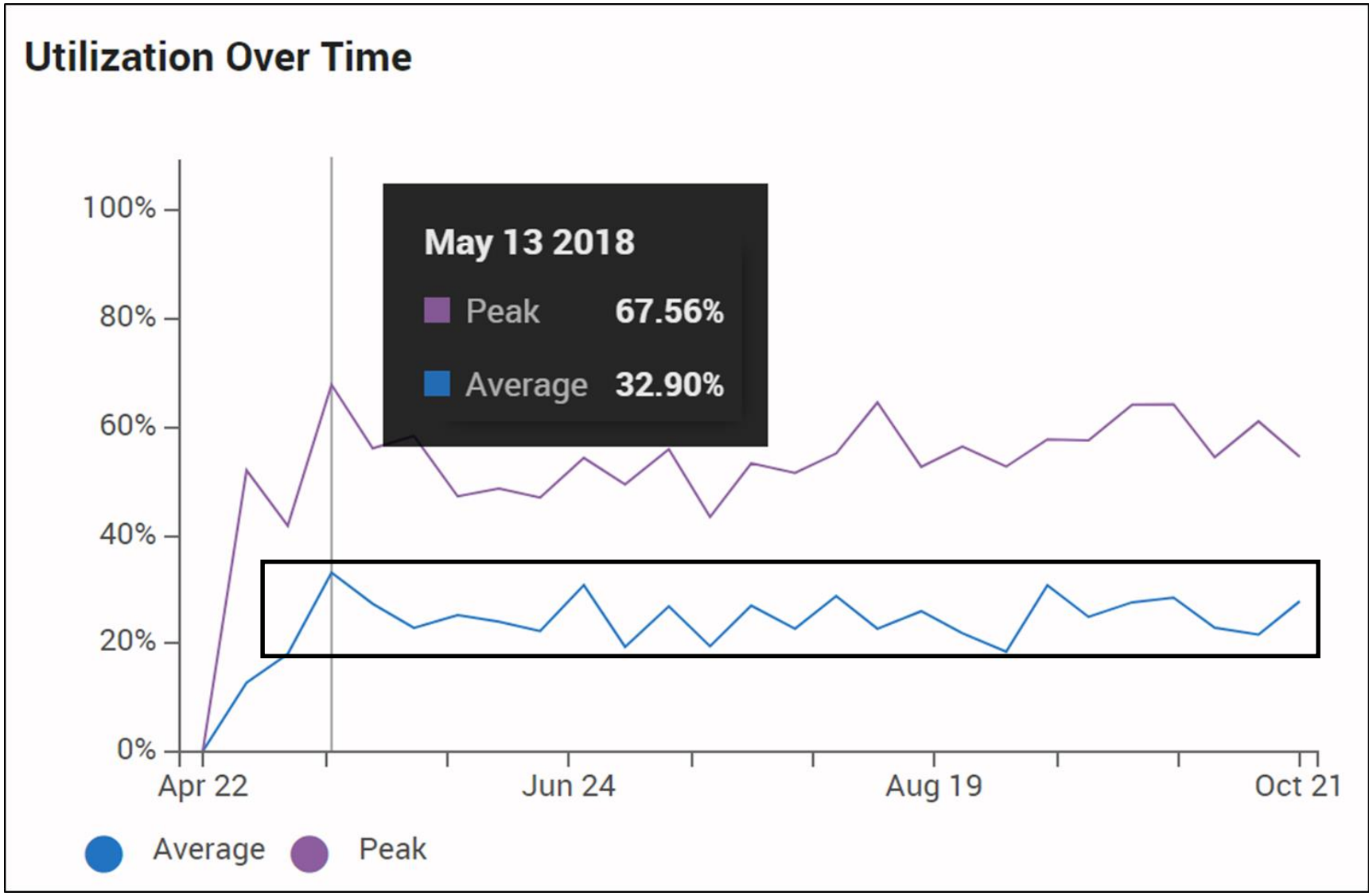
198 sf/person

over the previous 6 months.



Data driven space planning

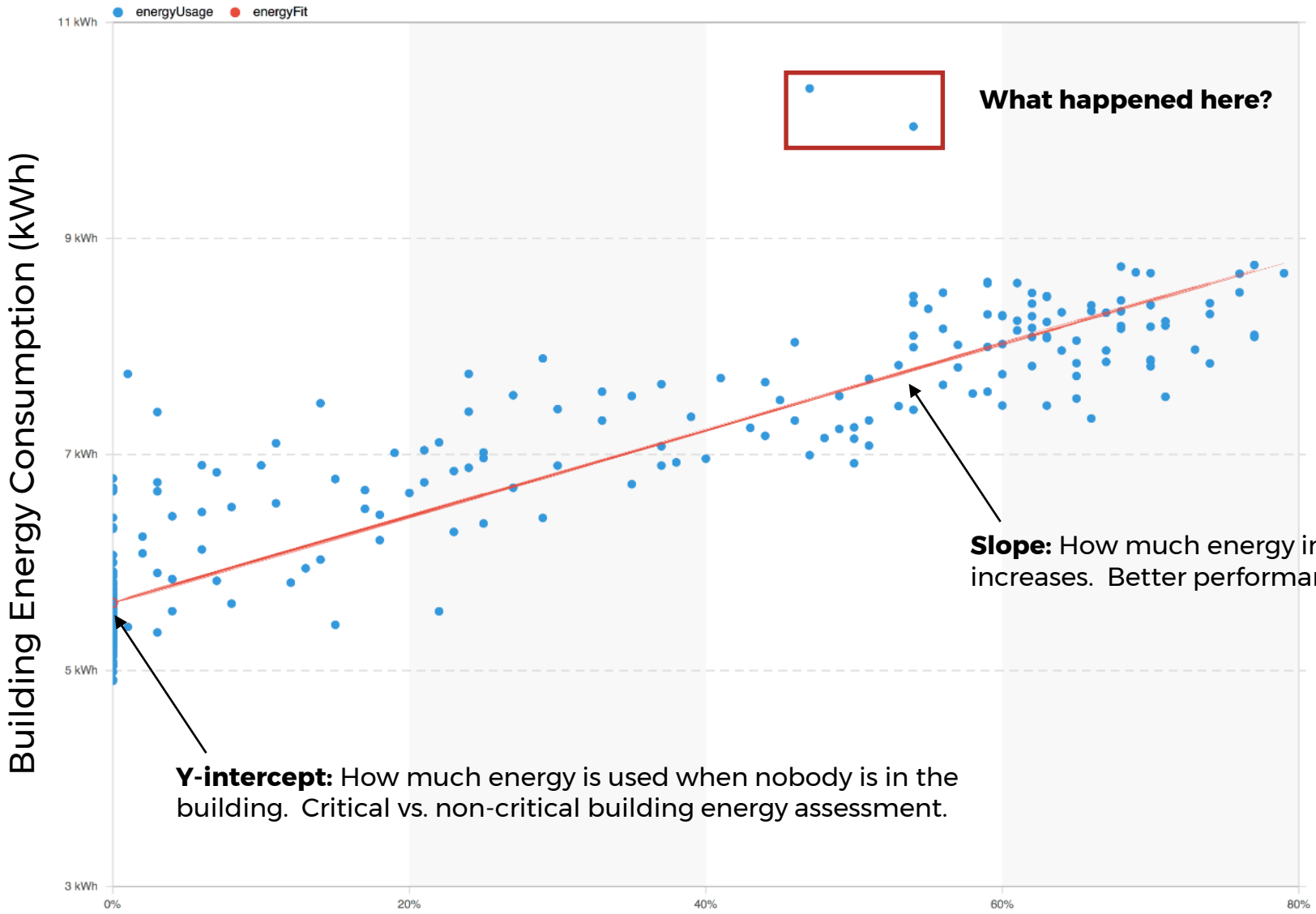
Utilization remains consistent.



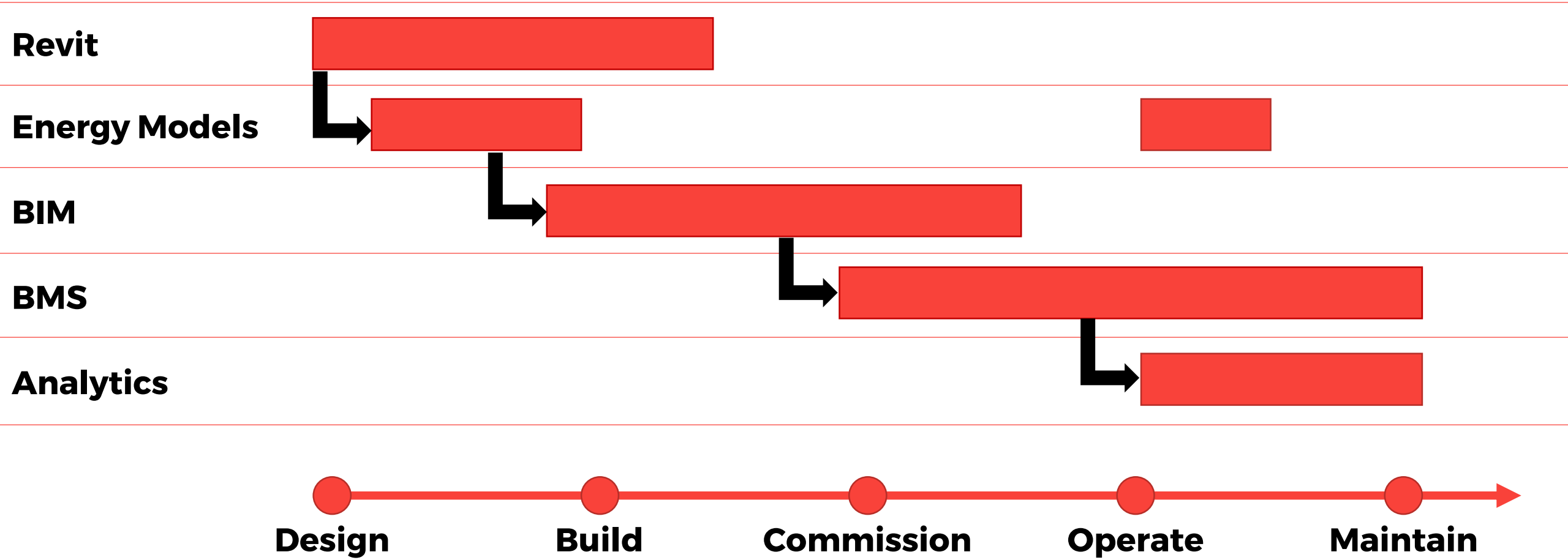
Data Driven Facilities Management

wsp

EUI the best we can do?



Next Steps – Tool Lifecycle



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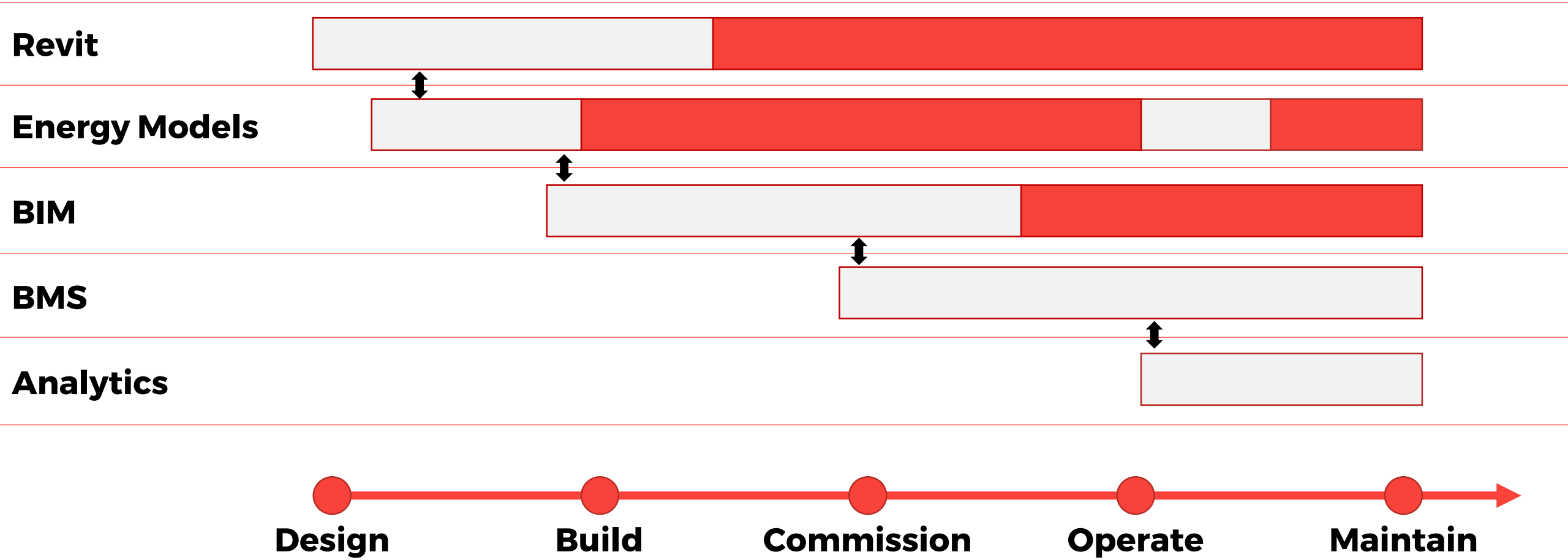

Key Takeaways

- The power of show and tell – brainstorm (with developers)!!!
- SMART Building Consulting =

  Architectural Engineering +

  Network Engineering +

  Software Architecture +

  Data Analysis…?
- Consulting Engineers need to be doing R&D and gain hands-on experience with IoT

Questions?

Cory Mosiman