Building automation in Alaska

What you need to know

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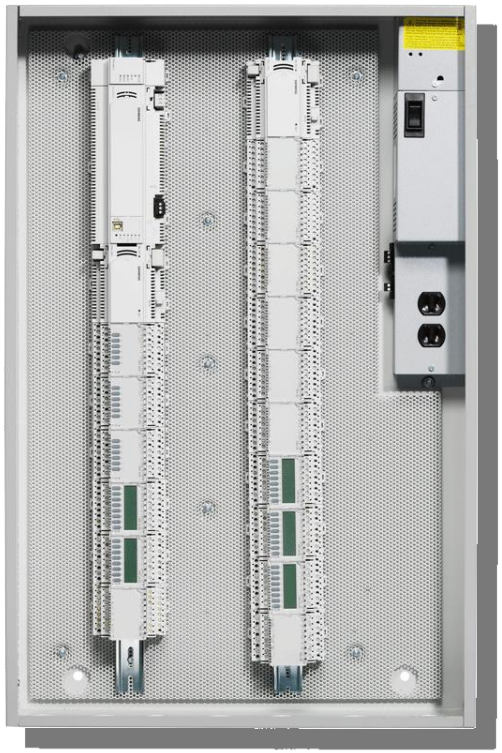
What are we talking about?

- What Are BAS systems
- What Can they Do?
- Benefits / Costs
- How are They Designed & Installed?
- What Can Go Wrong?
- How to Avoid Problems

What Are Building Automation Systems?



Servers & Applications

- Operator Workstations
- User interface servers
- Status Dashboards
- Data storage
- Reporting
- Integration of other data

Network Controllers

- Supervisory Control
- Scheduling, alarming Trending
- Communicates with field controllers
- Protocol Translators

Field Level Controllers

Stand alone devices which execute control algorithms and routines, reports status, receives supervisory commands

- Boiler Control
- VAV Boxes
- Lighting Controller
- Chiller Controller
- Door Controller

Field Devices

Sensors

Actuators

Motor Contactors

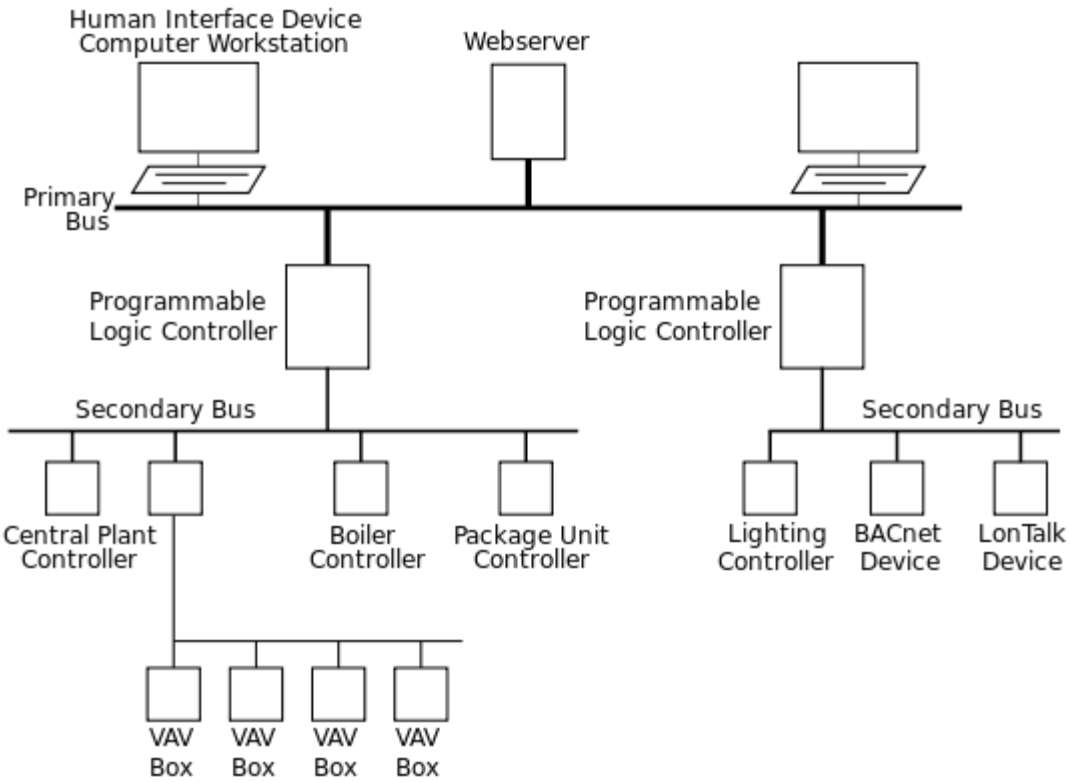
Lighting Contactors

VFDs

Annunciators

Etc.

How are they Connected?



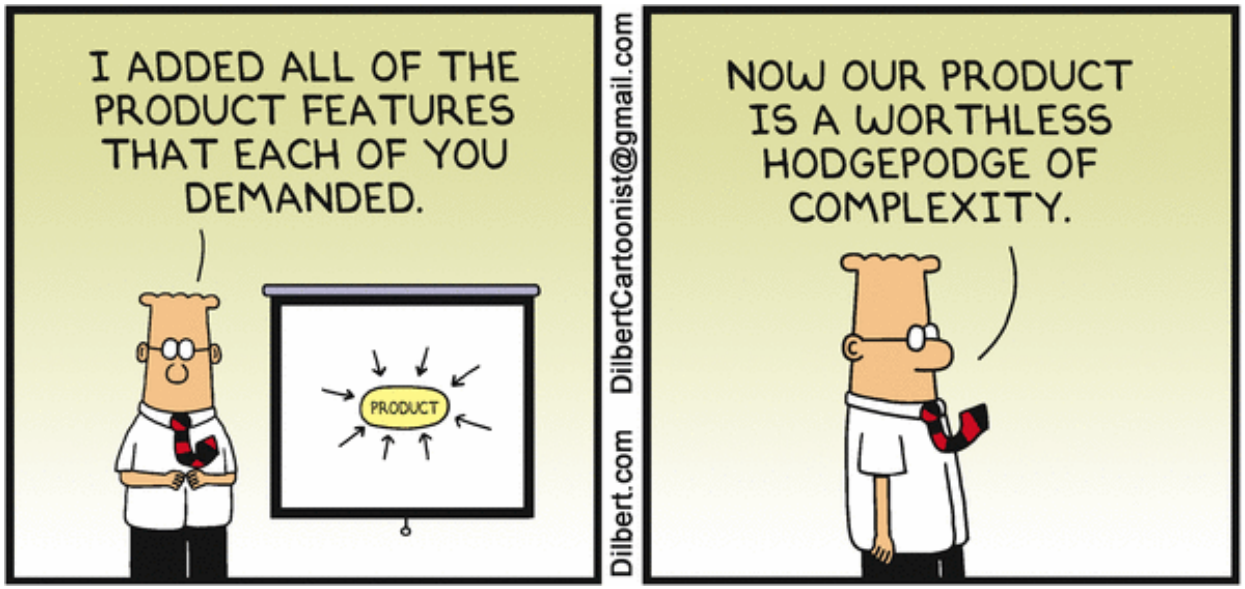
What can a Building Automation System Do?

BAS Benefits

- Efficiency
- Uptime
- Equipment Life
- Work Productivity
- Reporting
- Insight

BAS Cost

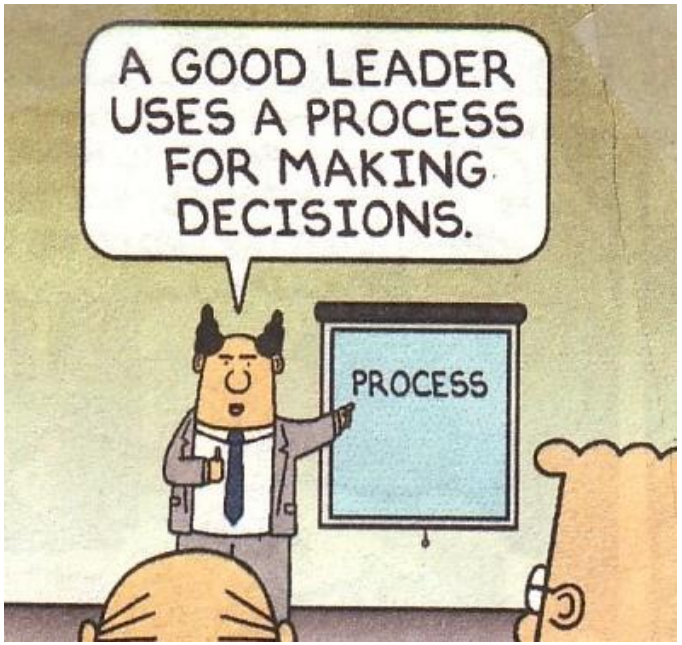
Complexity



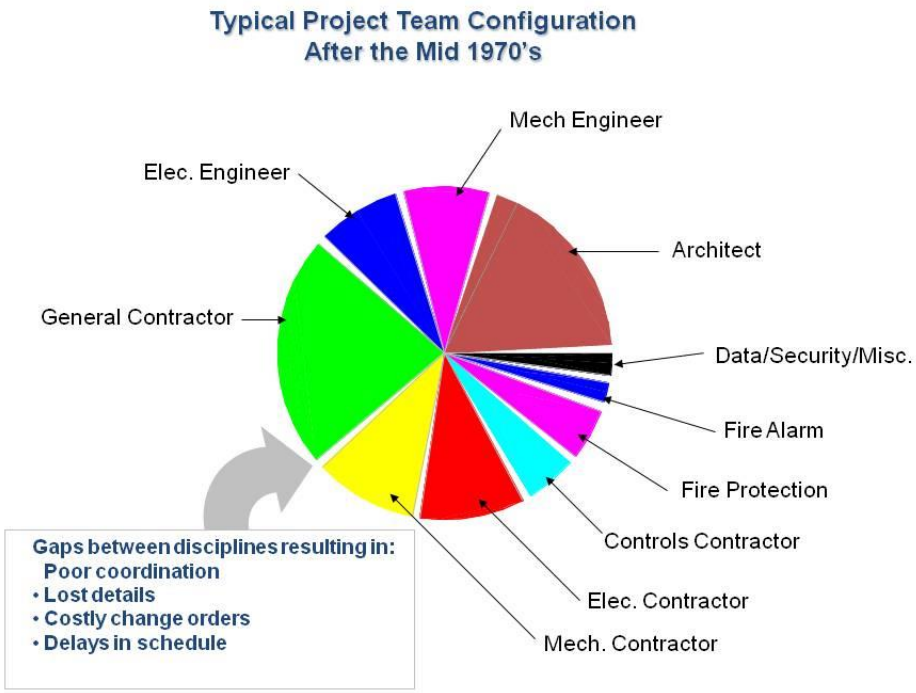
How are BAS Systems Designed & Installed?

Owner's Role- Sets scope for what control system should do and verifies scope is met.

May work collaboratively with engineer and controls contractor



Commissioning Agent: Makes sure the building performs per the owner's expectations

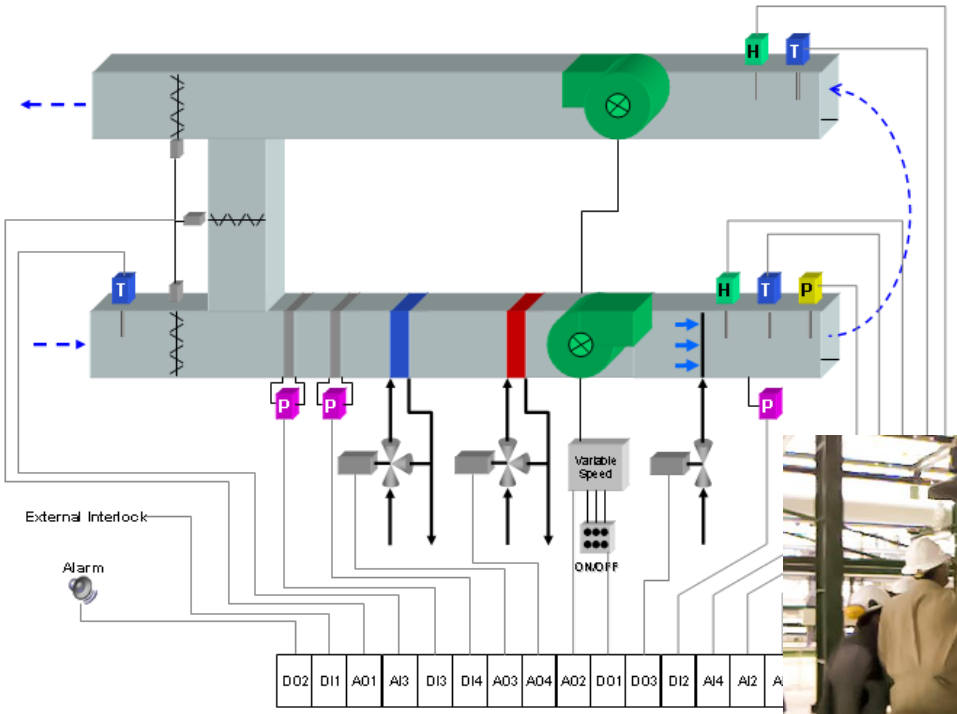


Consulting Engineer: Specifies the BAS system to meet owner's scope

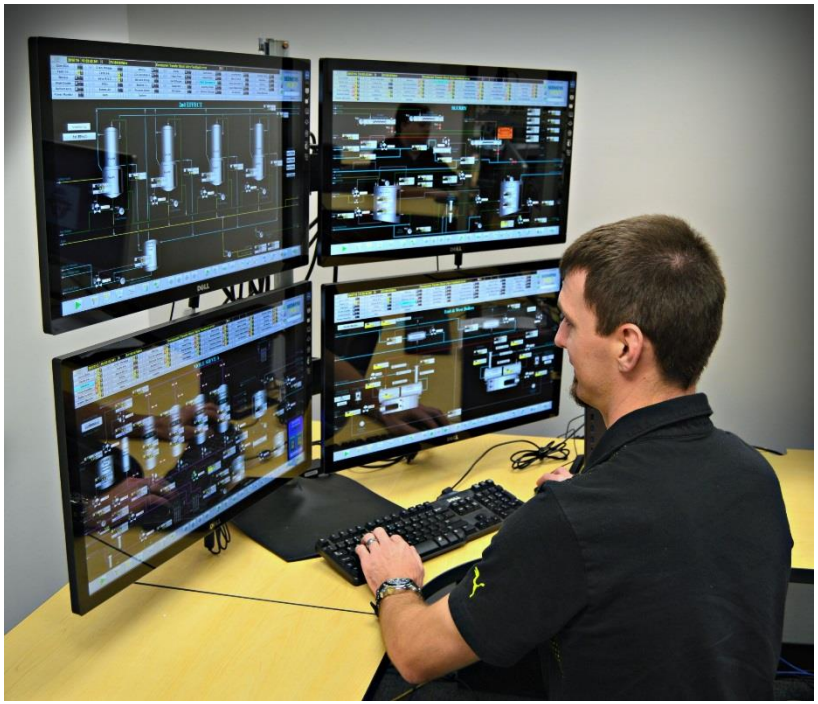
Typically creates performance specifications, may go into greater detail for complex systems.

"Does 'high-rise' refer to the building or the budget?"

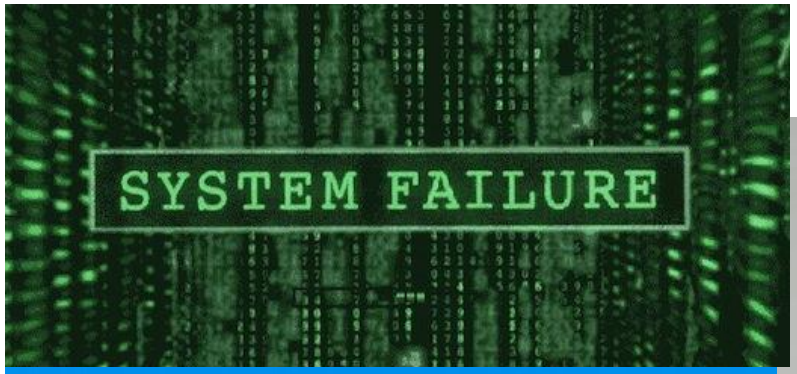
Installer: Designs and Provides the BAS System specified by the engineer



Operator's Role- Responsible for ensuring BAS system is operating as designed.



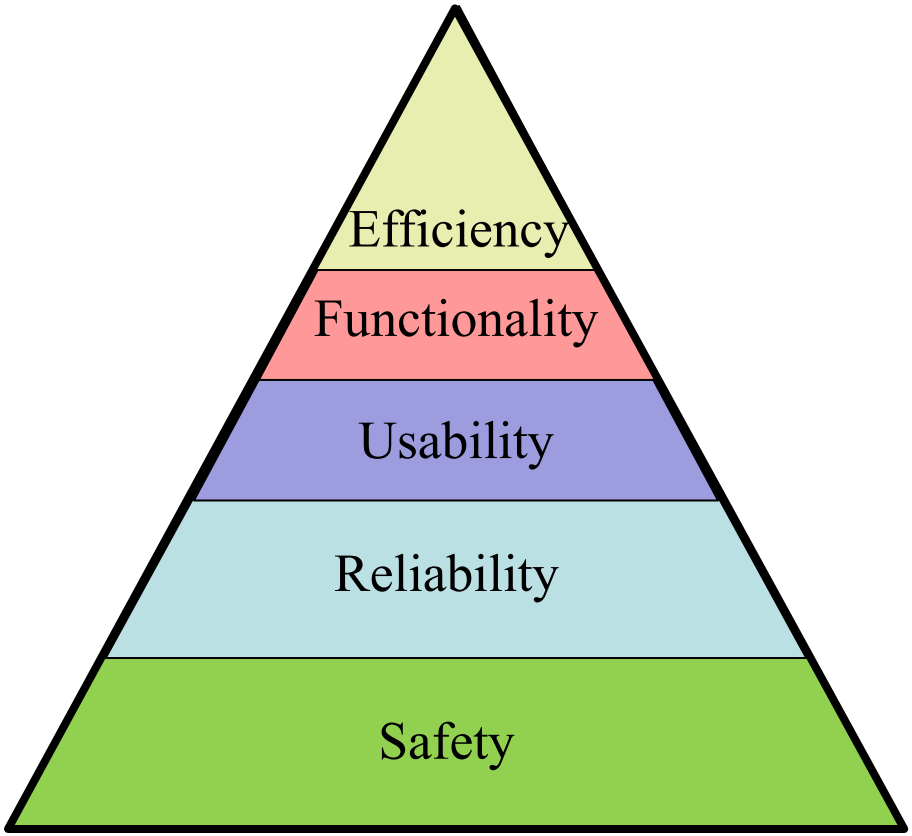
What can go wrong?



Control Panel in Toksook Bay

Pick the Right Level of Automation for your needs

Control System Hierarchy of Need



Owner Involvement is Important

Involve Maintenance

Maintenance workload and budget may be impacted

"I'm sending you to a seminar to help you work harder and be more productive."

After Installation..

- Even a well designed and installed control system breaks frequently.
- Typical life expectancy for a BAS system is 10 years.
- Maintain thorough documentation of the system for as long as you want to operate it.
- Plan to maintain training on the system.
- Monitor Energy Consumption
- Monitor Manual overrides

The End