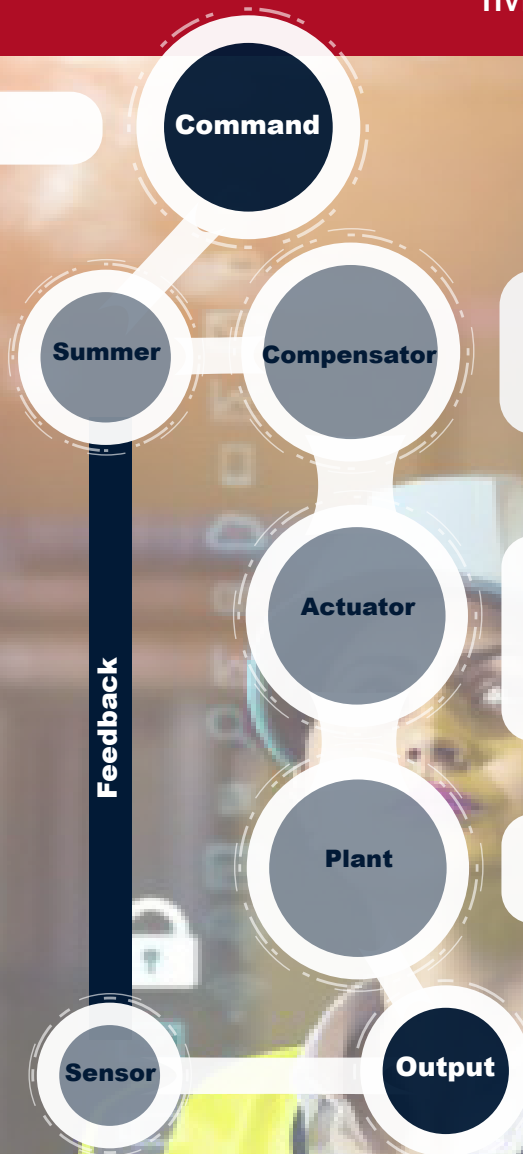


Design Elements

The difference between the commanded value and the actual (measured) value. This function may be done in hardware or software.

Feedback: Measurement of system output with the effects of a disturbance.

Device that senses the current value of the output parameter, which is used for feedback.



Mathematical function that is applied to the error signal. May be done in hardware or software.

Device that influences (or changes) the response of the plant. It accepts as an input a low level signal and converts that to a stimulus.

Object to which control is applied.

What Is A Control System?

A set of components and processes that work together to manage, regulate, and operate the behavior of a system.

Control System Benefits

- Consistency, Efficiency, & Scalability
- Reduced Cost
- Enhanced Safety
- Real-Time Monitoring



Innovative control systems set you apart from competition in both product performance and business results. Understanding existing technology and investing in the right solutions maximizes product development returns.

Control Systems Engineering

Focuses on:

- Modeling a diverse range of systems (mechanical, thermal, optical, etc.)
- Controller design (or control algorithms) that cause systems to behave in a desired manner, regardless of external environment disturbances

Where Are Control Systems Used?

- Climate Control
- Industrial Automation
- Traffic Control
- Motion / Motor Control
- Surgical Robotics
- Medical Devices
- Entertainment Systems
- Agricultural Growing Facilities
- Water Treatment
- Power Distribution



Boston Engineering Control System Design Expertise

Boston Engineering is a leader in the development of custom control systems. Whether the challenge is to design a new control, increase reliability, improve performance, or synchronize responses, we thrive on solving the toughest control system challenges.



System complexity

The more complex the system, the more difficult it is to design an effective control system



Uncertainty & variability

Operating in environments that are characterized by high levels of unpredictable variation in disturbances



Trade-offs

Managing and designing for the trade-offs between competing objectives in the same system



Implementation constraints

Providing an effective solution with limited computational resources, sensor capabilities, time allocation, and/or budgets that impact the complexity of a control system design



Time delays

Difficulty of designing a system that responds quickly and accurately to changes without appreciable time lag from control action trigger to end response



Ready to begin your next Control System Design?

Don't leave complex designs that rely on layers of integration to slow down your team, extend deadlines, or even worse: cause a project failure. Make sure you have access to the knowledge and capabilities to make that happen. **Contact Boston Engineering today.**