

The Capital Project Challenge

Presentation to



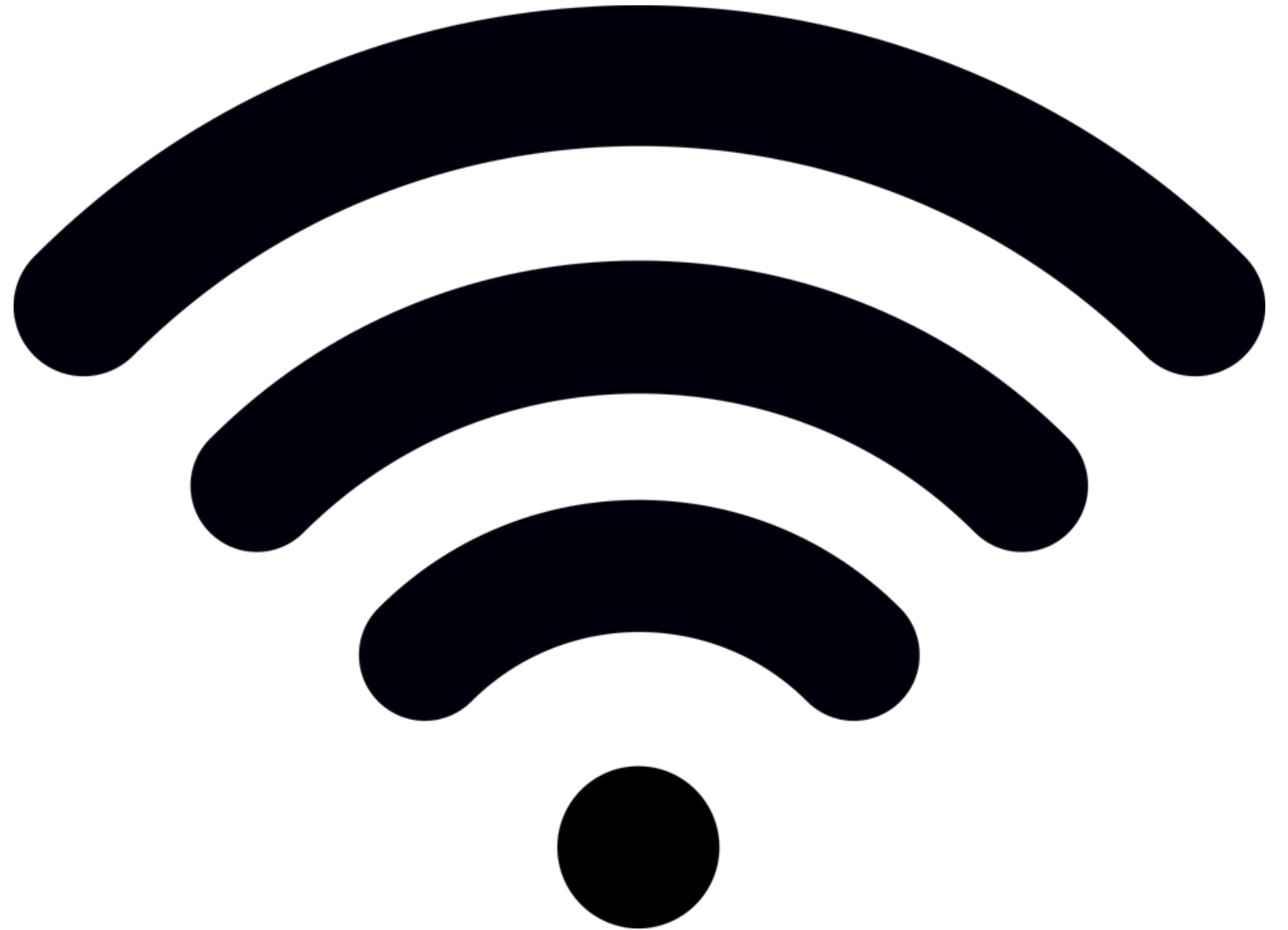
Scott Turner
Senior Consultant



Wireless Myths! Wired vs. Wireless



***Myth: It is
the same
as WiFi***



***Myth:
Wireless is
unsecure***



***Myth:
Wireless is
unreliable***



***Myth:
Wireless is
expensive***



Our Challenge

More
Technology

Retiring
Workforce

Inexperienced
Workers

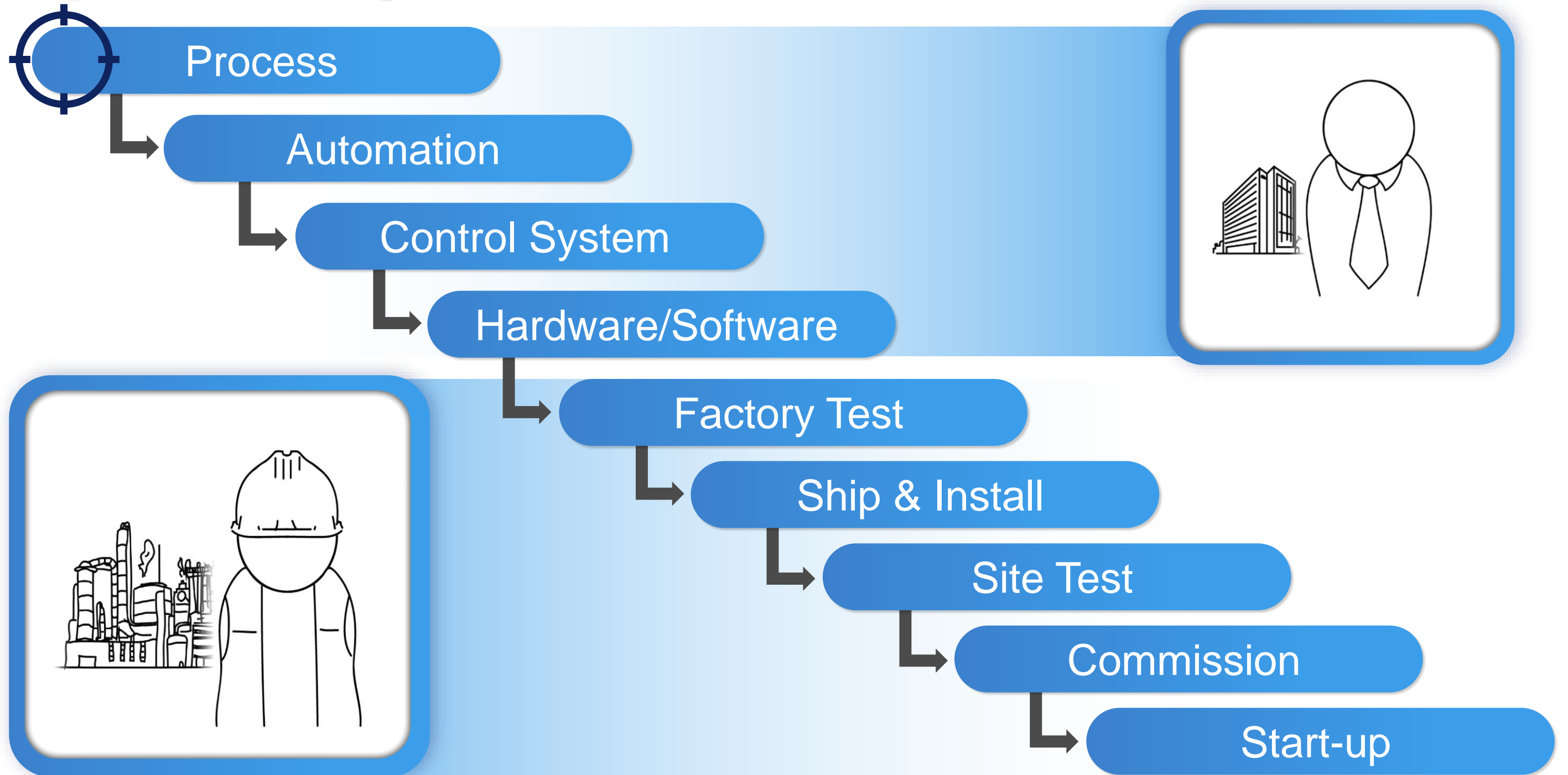


Larger, More
Complex
Processes

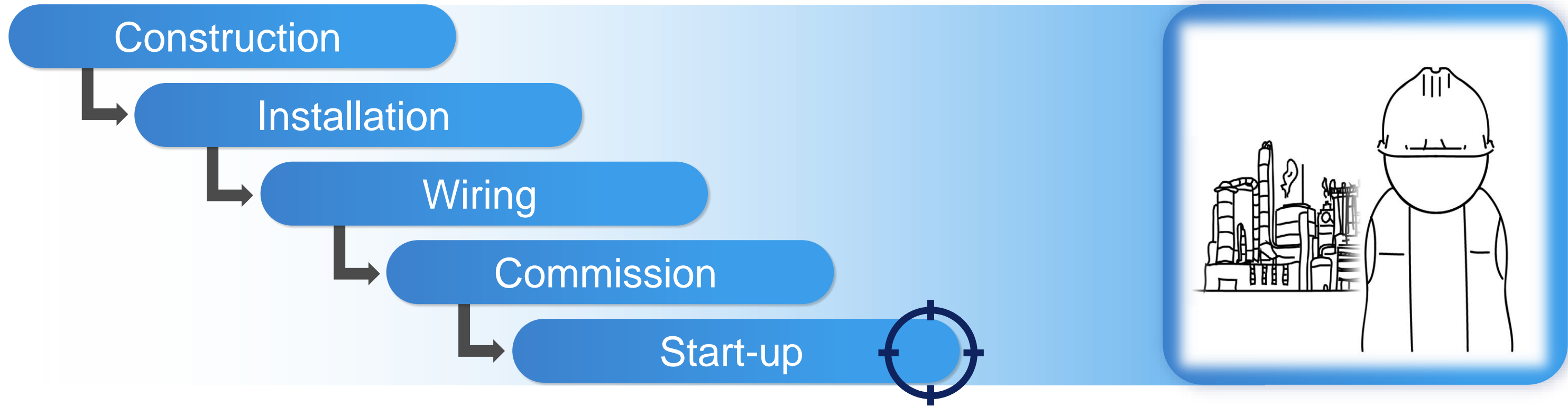
Fewer
Specialists

Fewer
Incoming
Workers

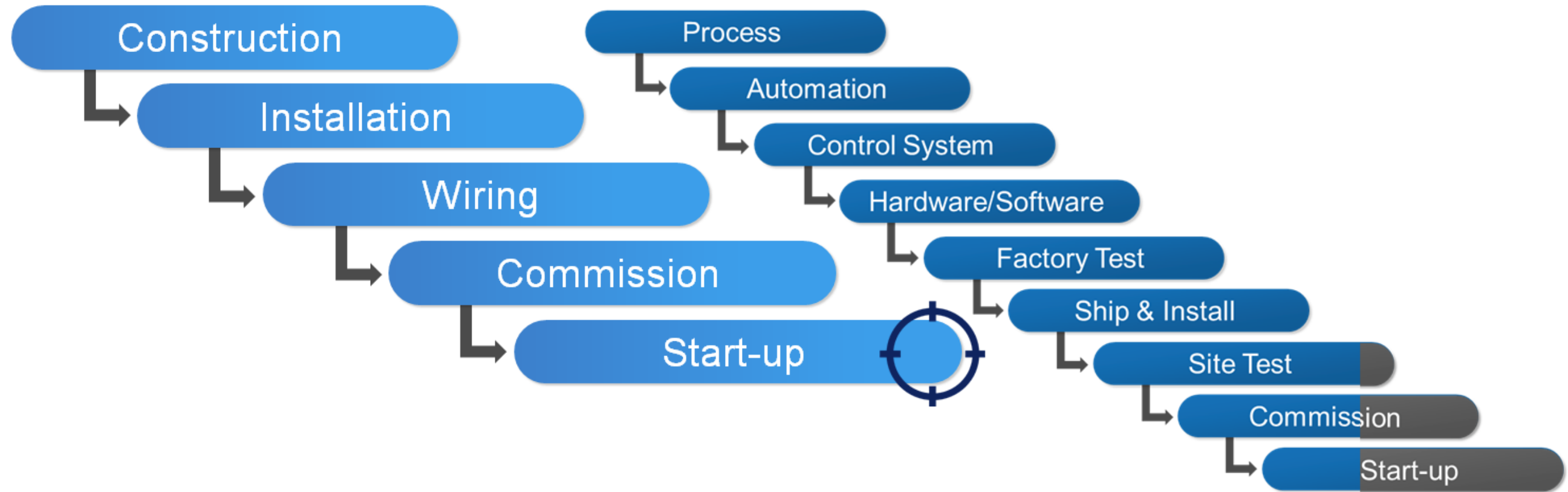
Capital Project Schedule – Office View



Capital Project Schedule – Site View



Office View vs Site View

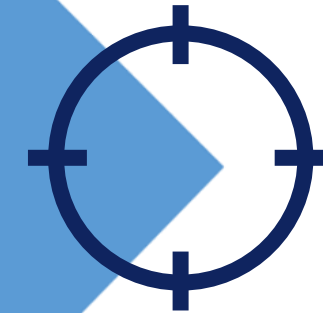


Capital Project Schedule



Capital Project Schedule

Process
Changes



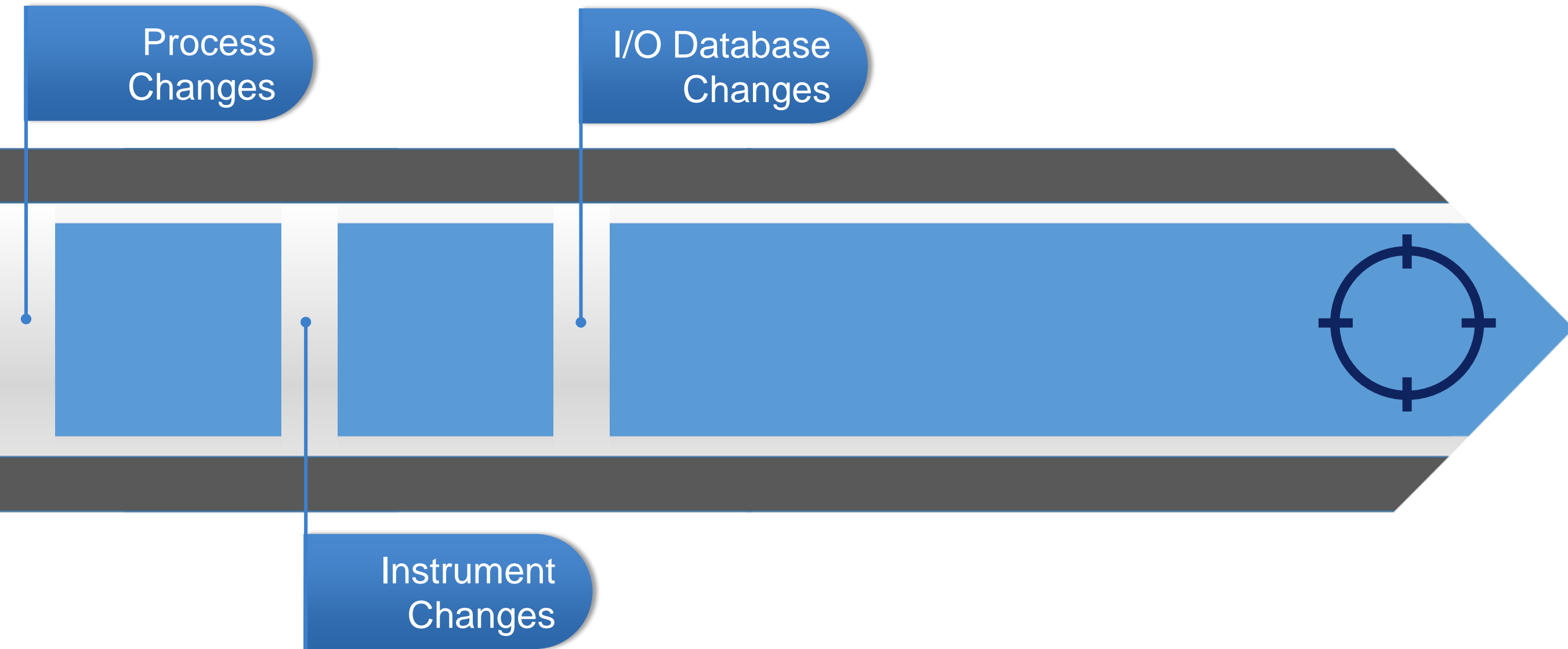
Capital Project Schedule

Process
Changes

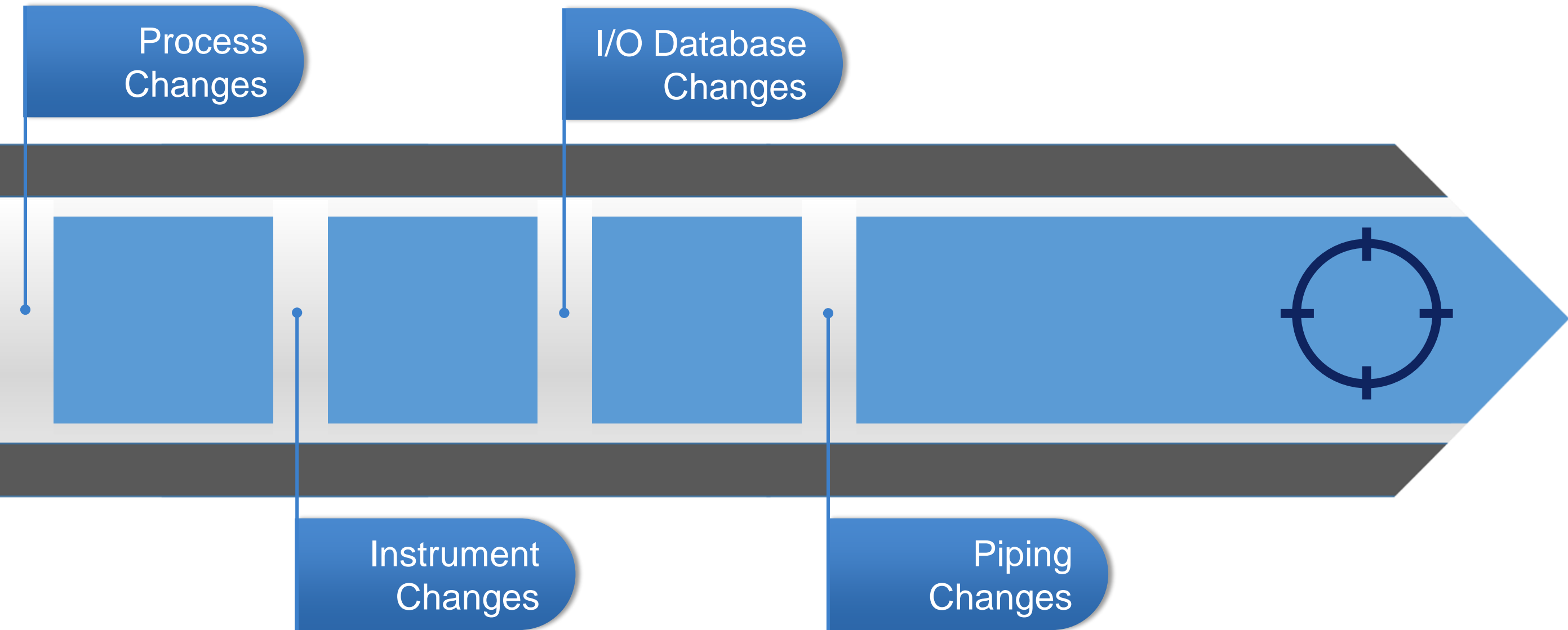
Instrument
Changes



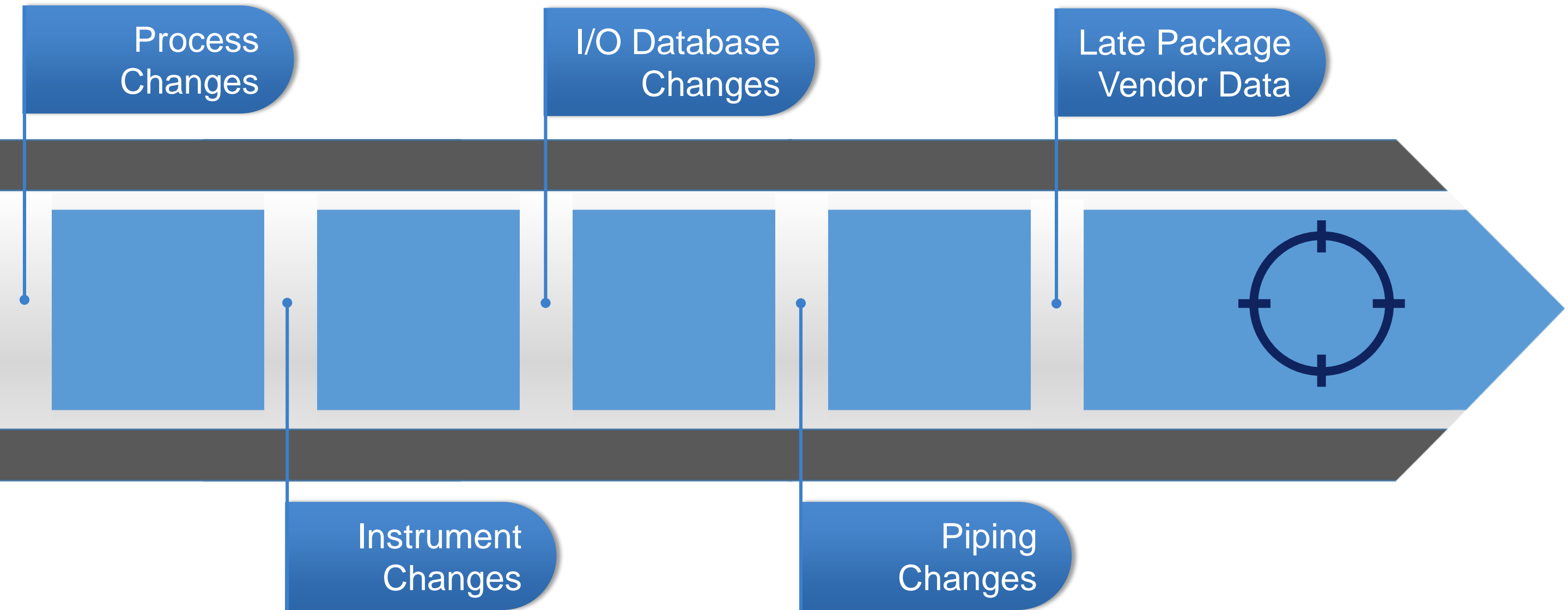
Capital Project Schedule



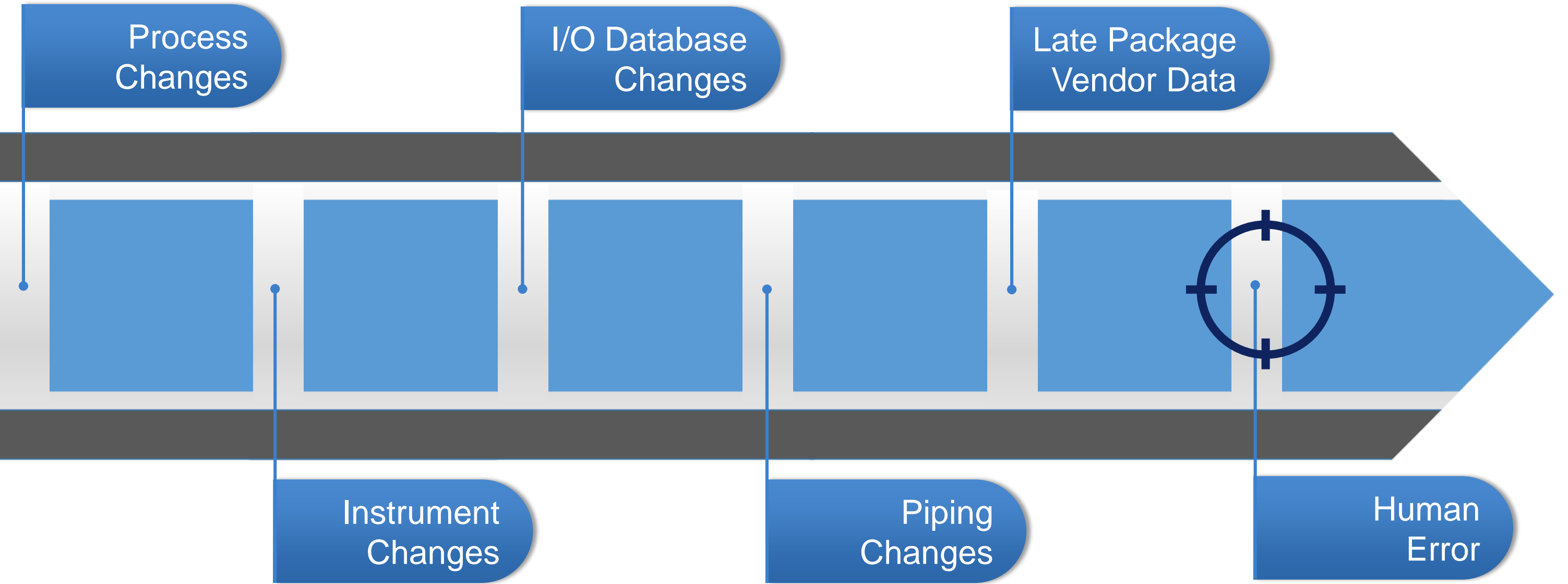
Capital Project Schedule



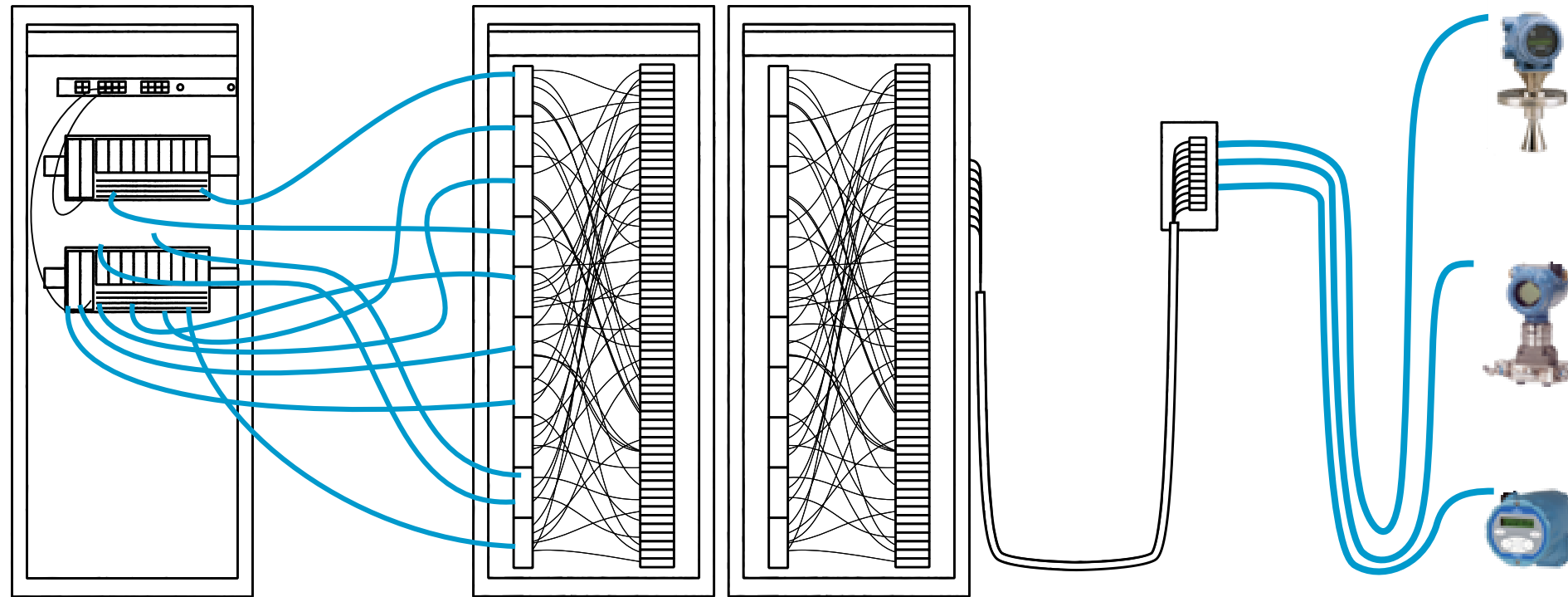
Capital Project Schedule



Capital Project Schedule



Traditional Wiring



Controllers & I/O Work

- Power, grounding & fusing design
- Conduit & cable layout
- Installation package
- I/O lists & controller sizing
- Process narrative
- P&ID's
- Spares sizing
- I/O design
- Cabinet design

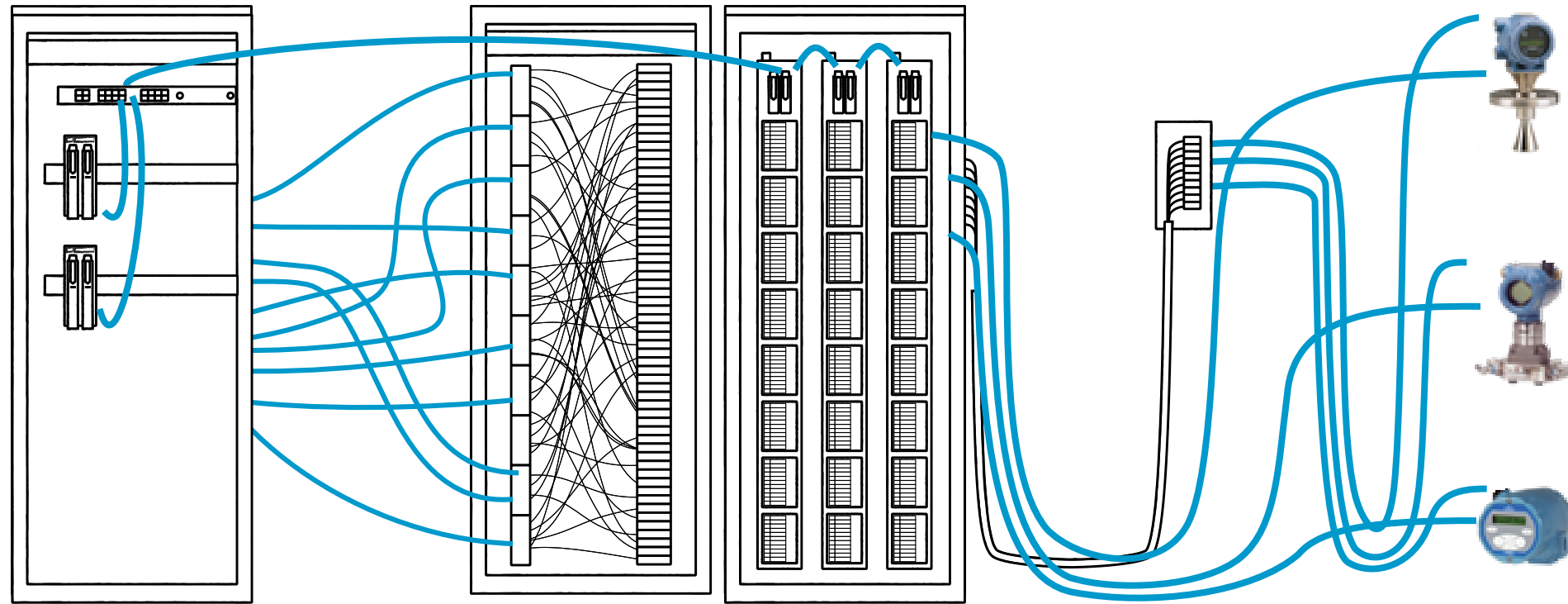
Marshalling Work

- Cabinet design
- Jumpers & terminations
- Wiring diagrams
- Cable layout

Junction Boxes Work

- JB design
- Jumpers & terminations
- Wiring diagrams
- Cable layout

Electronic Marshalling



Controllers & I/O Work

~~Power, grounding & fusing design~~
Conduit & cable layout
Installation package
I/O lists & controller sizing
Process narrative
P&ID's
~~Spares sizing~~
~~I/O design~~
Cabinet design

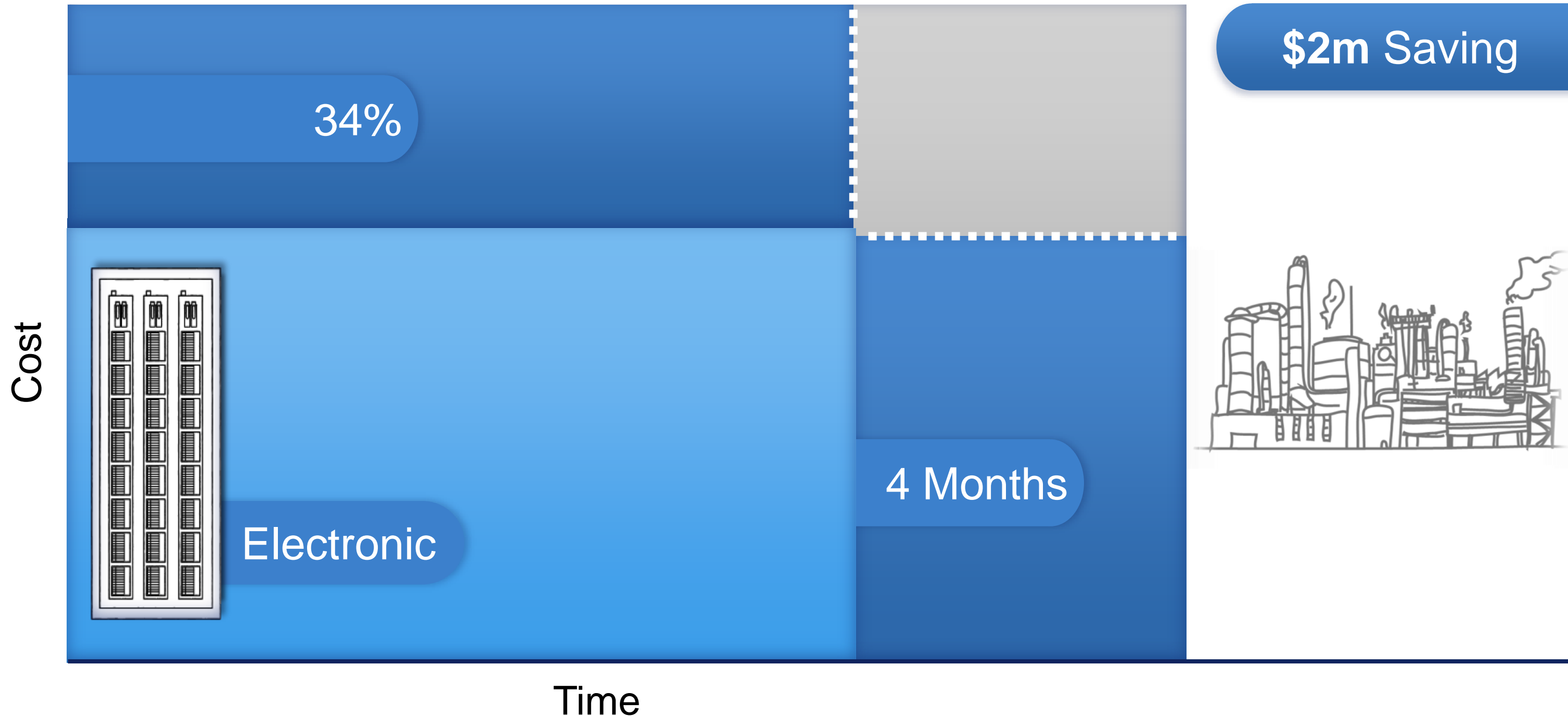
Marshalling Work

~~Cabinet design~~
~~Jumpers & terminations~~
~~Wiring diagrams~~
~~Cable layout~~

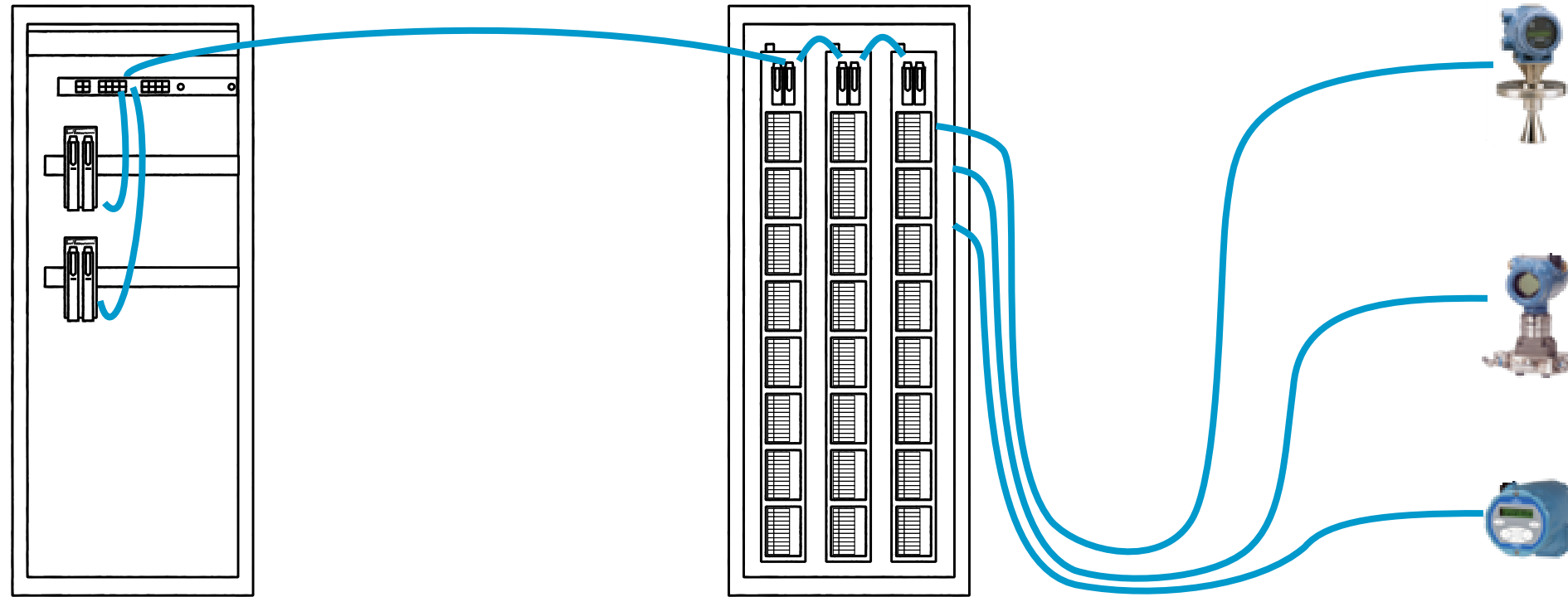
Junction Boxes Work

JB design
Jumpers & terminations
~~Wiring diagrams~~
Cable layout

Fluor Study Electronic Marshalling vs. Traditional – Summary



Electronic Marshalling



Controllers & I/O Work

Conduit & cable layout
Installation package
I/O lists & controller sizing
Process narrative
P&ID's

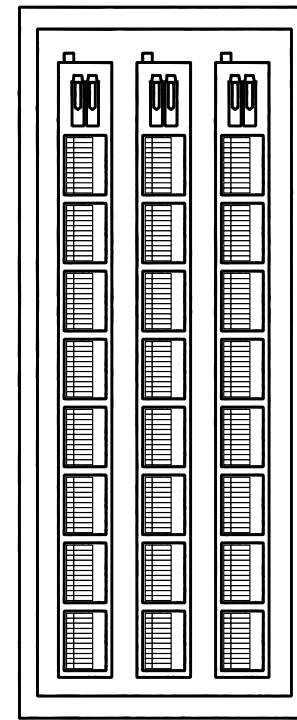
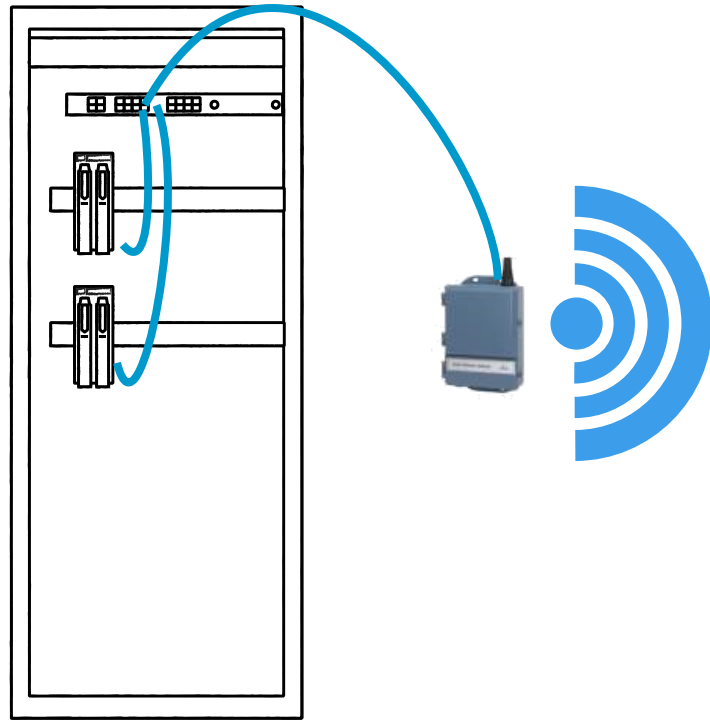
Marshalling Work

Cabinet design

Junction Boxes Work

JB design
Jumpers & terminations
Cable layout

Wireless



Controllers & I/O Work

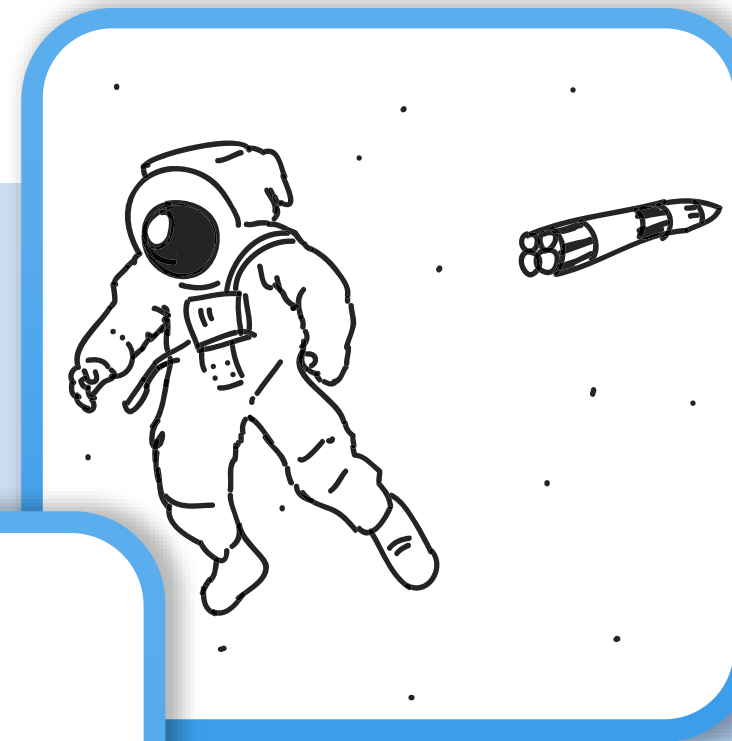
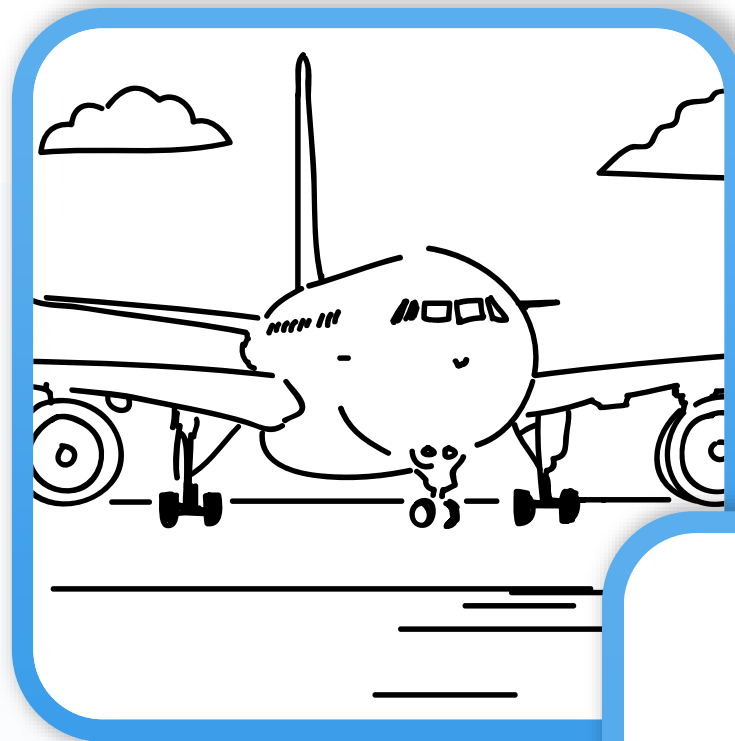
~~Conduit & cable layout~~
Installation package
I/O lists & controller sizing
Process narrative
P&ID's

Marshalling Work

Junction Boxes Work

~~JB design~~
~~Jumpers & terminations~~
~~Cable layout~~

Wireless Technology



Wireless Installed Base

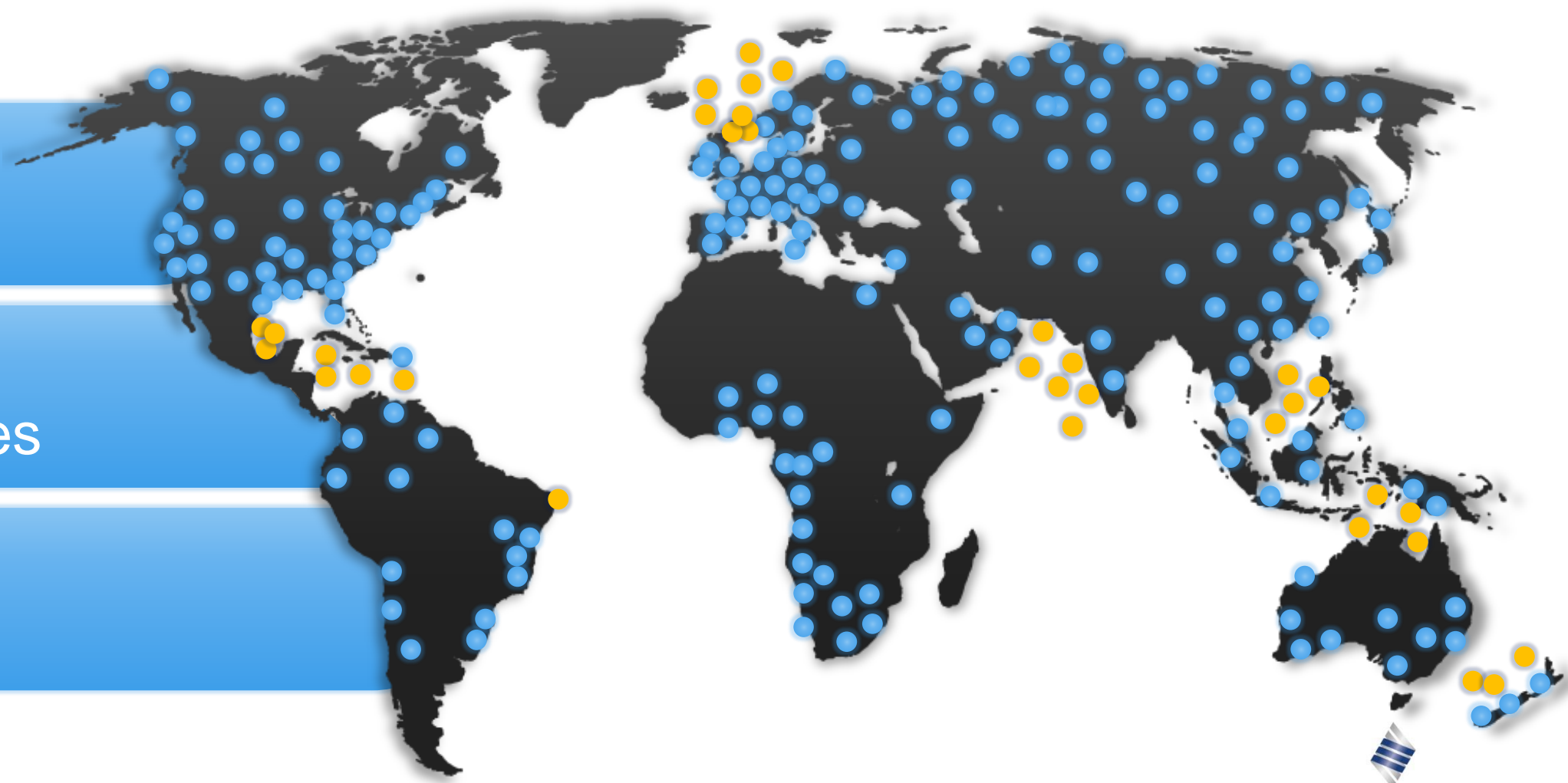
Onshore

Offshore

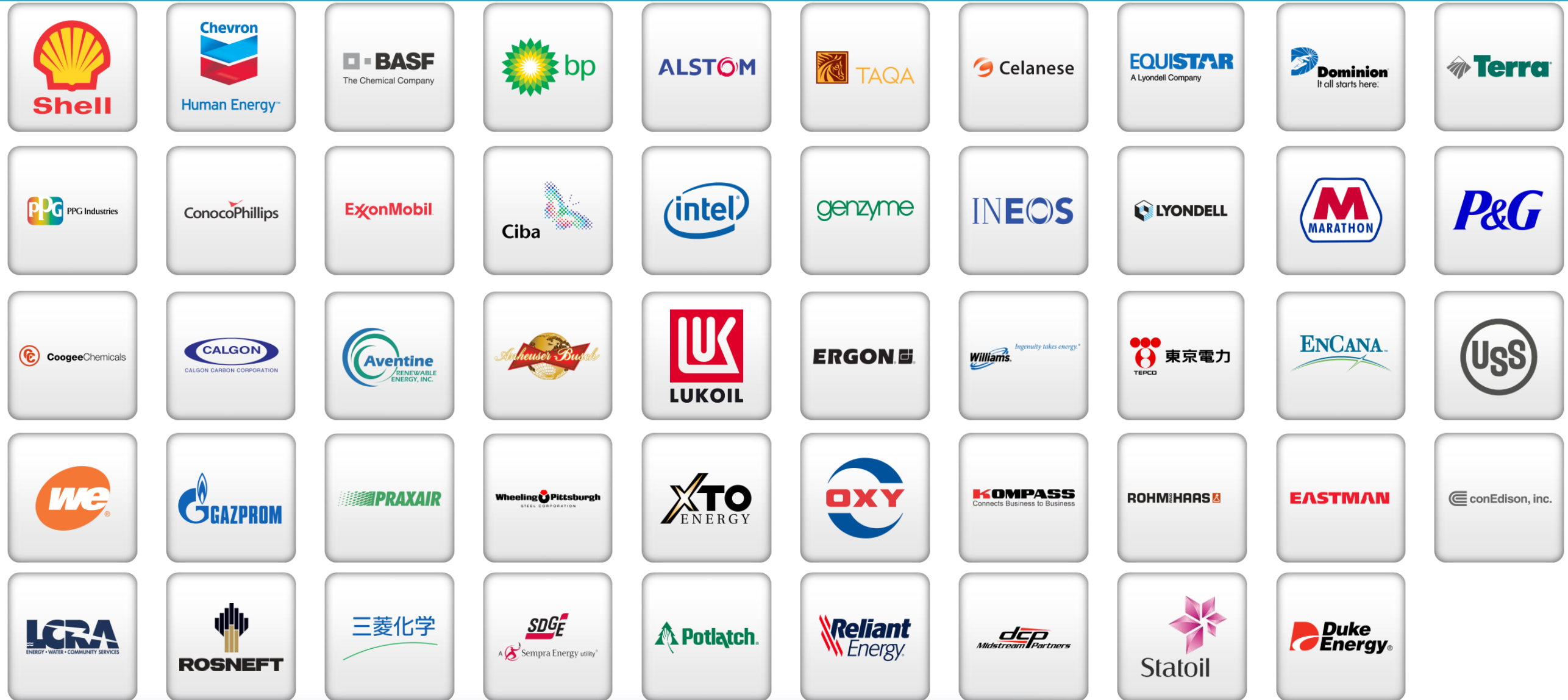
Billions of hours of operating experience

Hundreds of Thousands of Smart Wireless field devices

Tens of Thousands of Wireless Field Networks



Proven with Customers



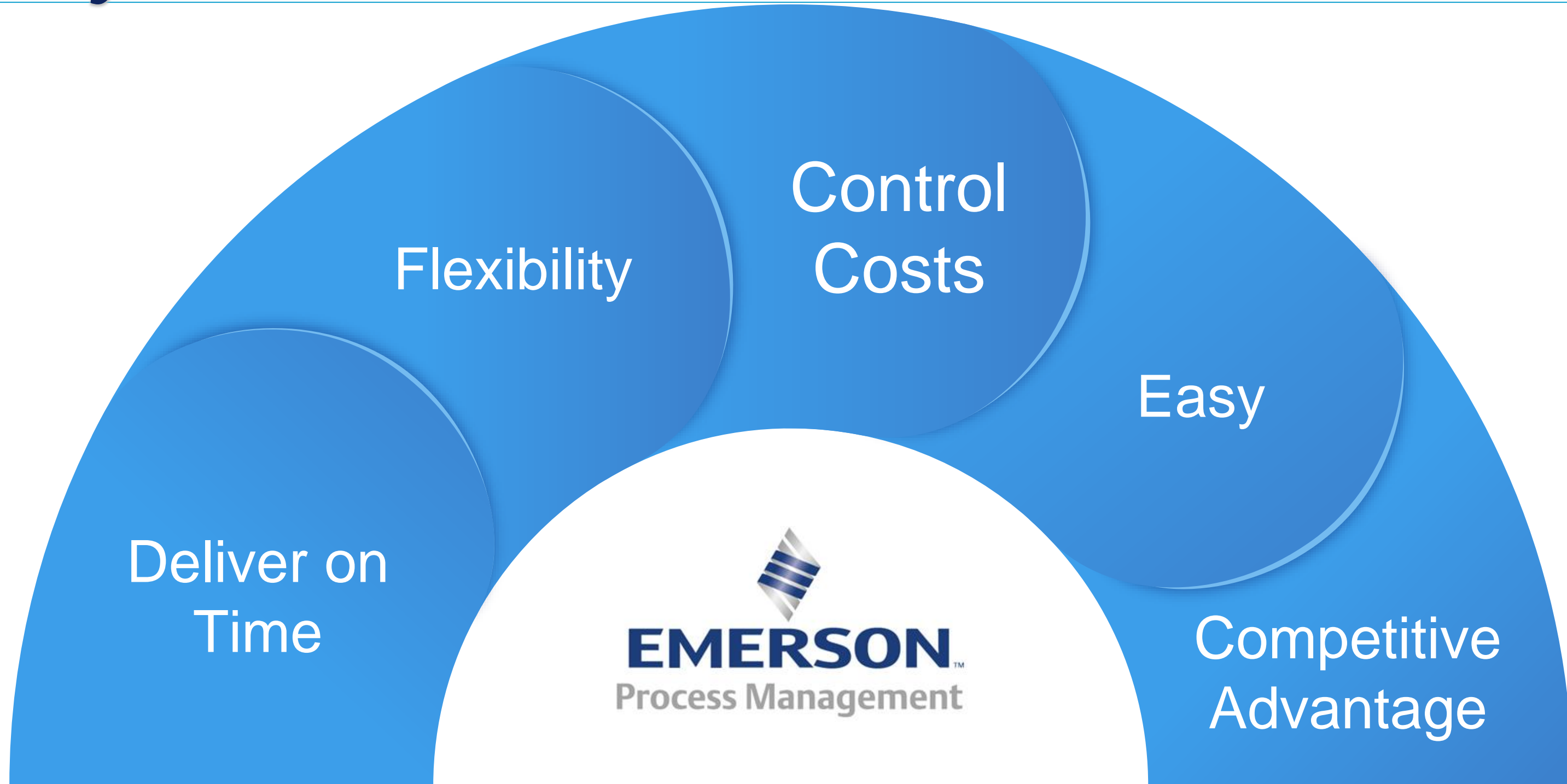
Emerson has installed hundreds of thousands of Smart Wireless Field Devices



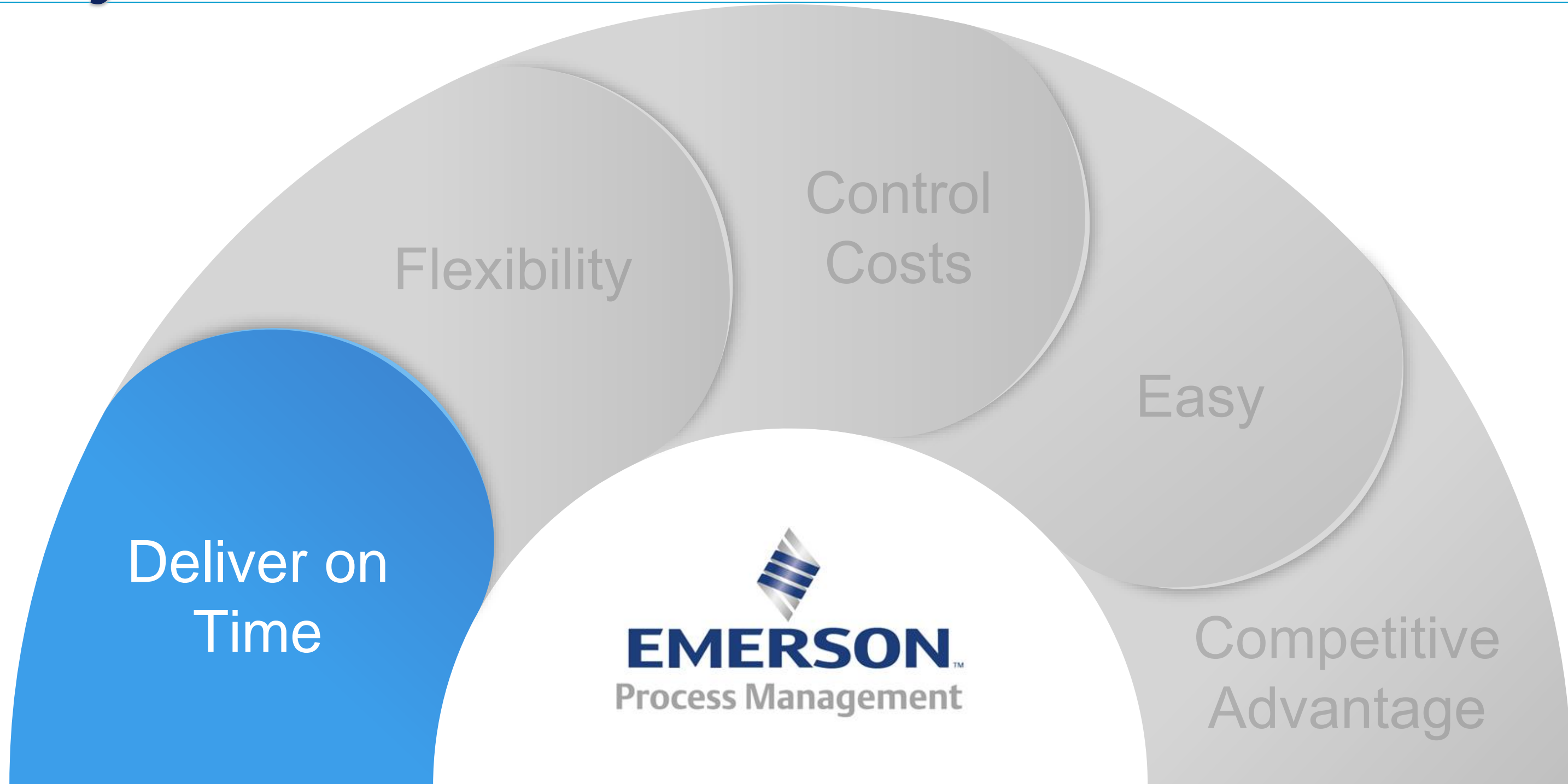
Enabling the Contractor



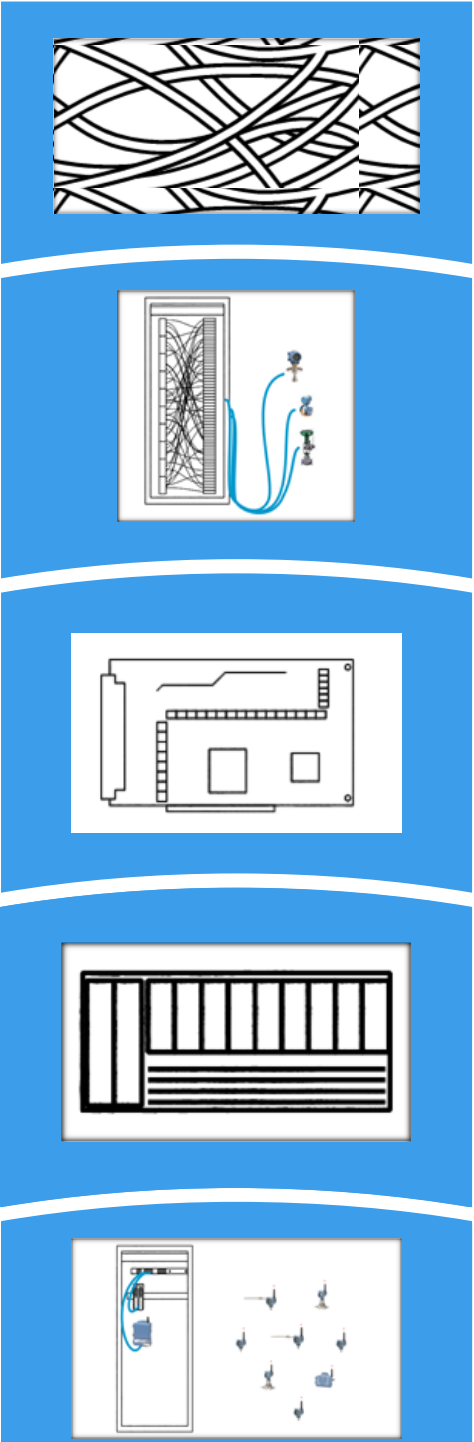
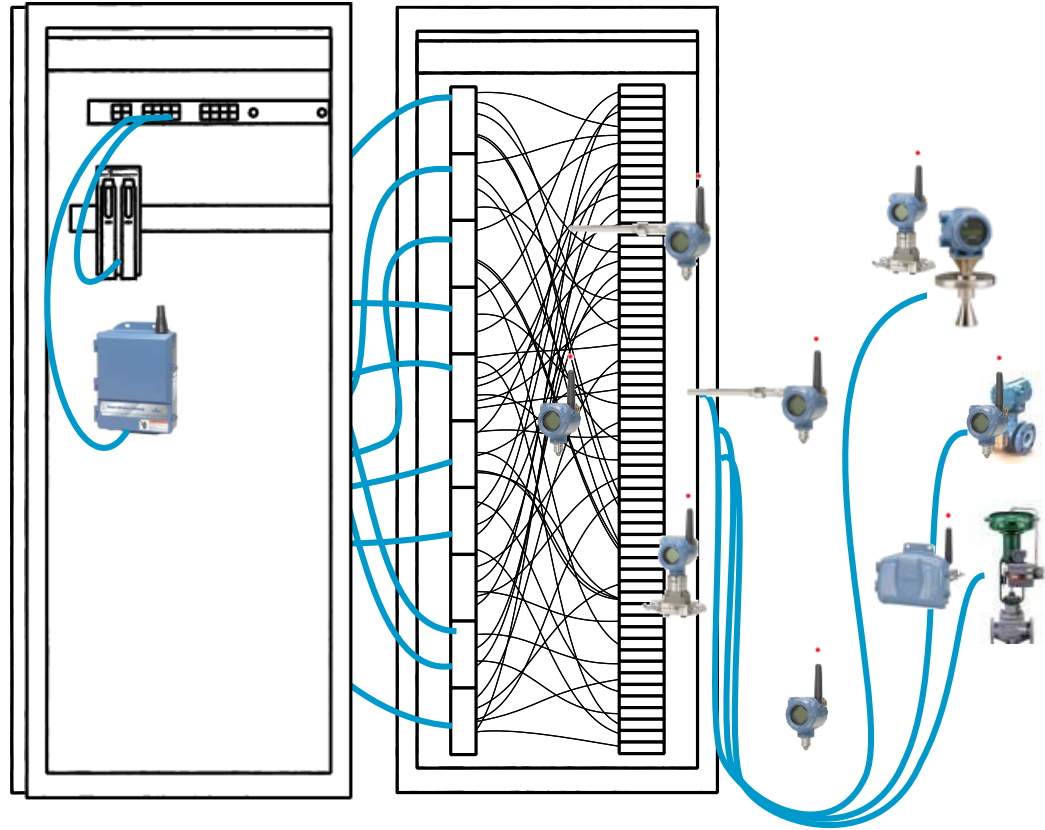
Why Wireless?



Why Wireless?



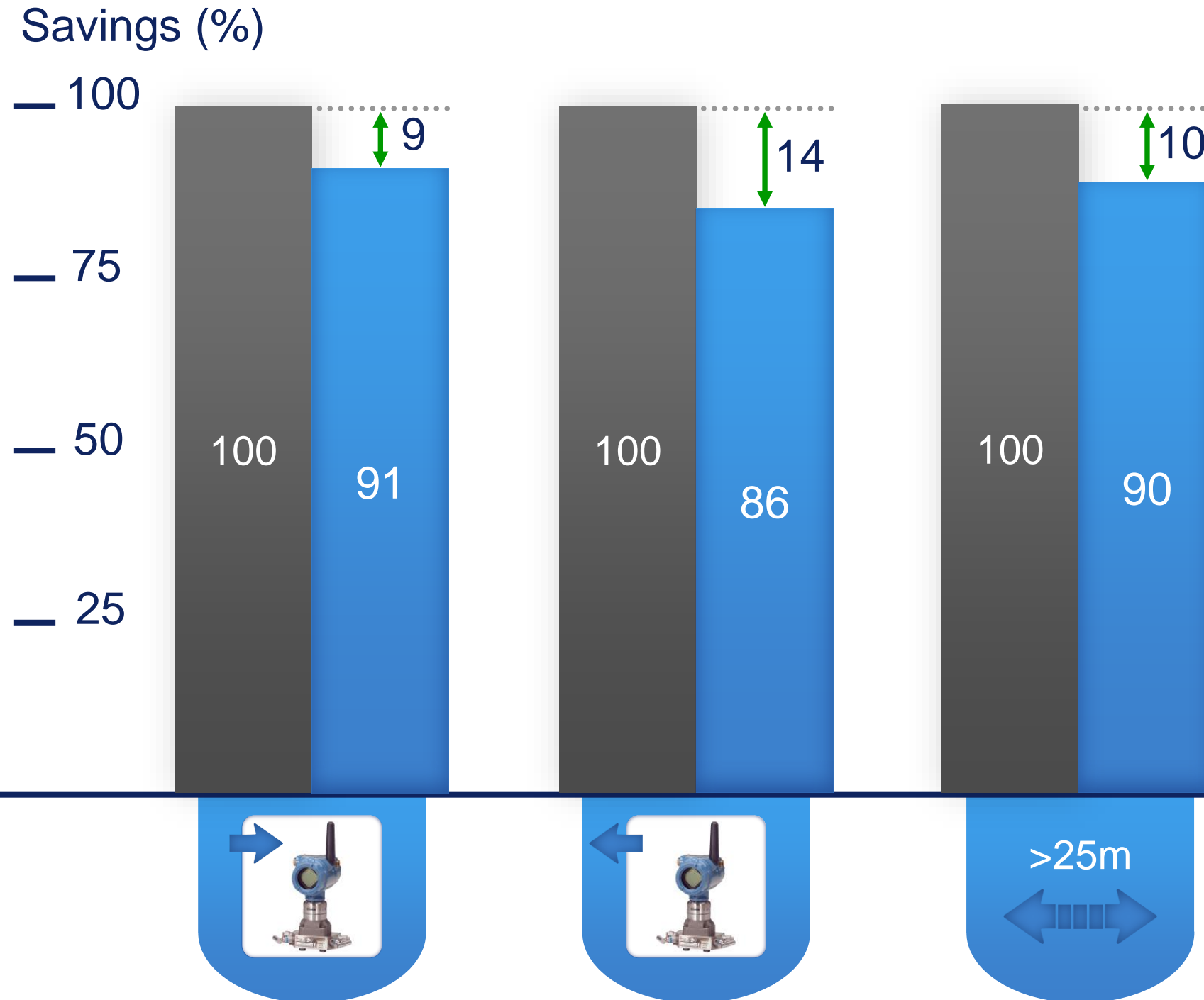
Reduced Complexity





Installation effort



Detailed Engineering Phase

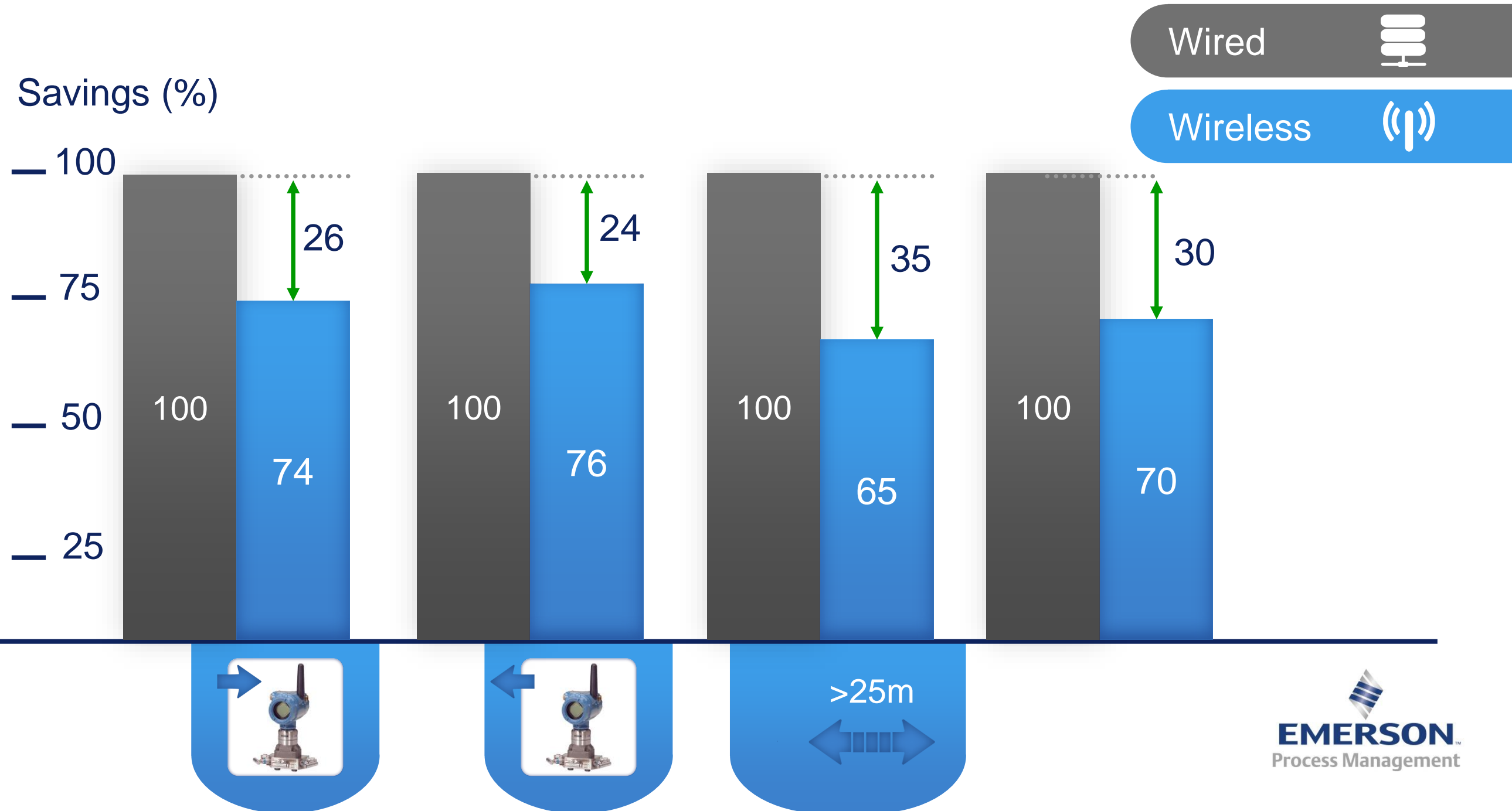


Wired 

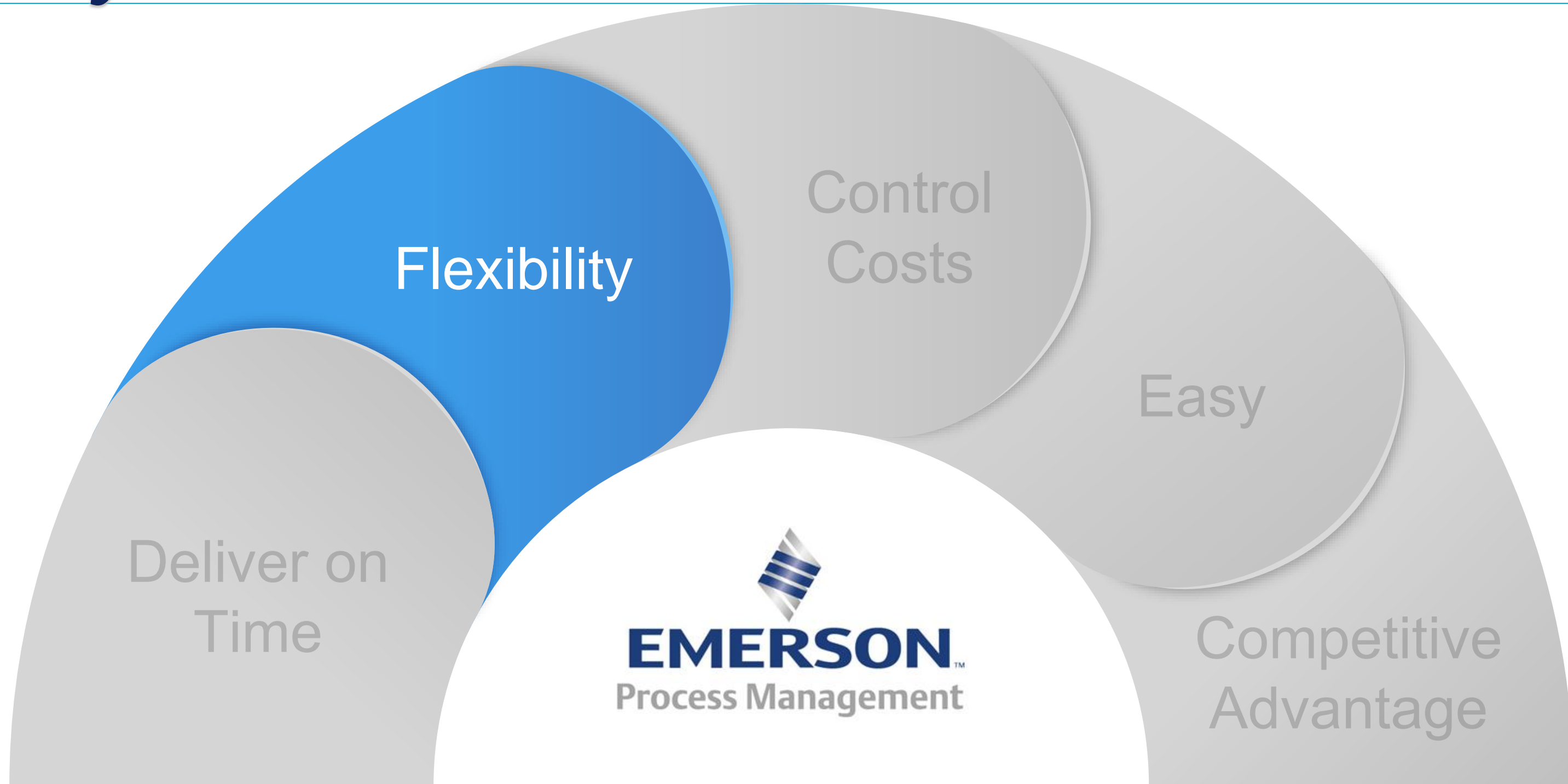
Wireless 



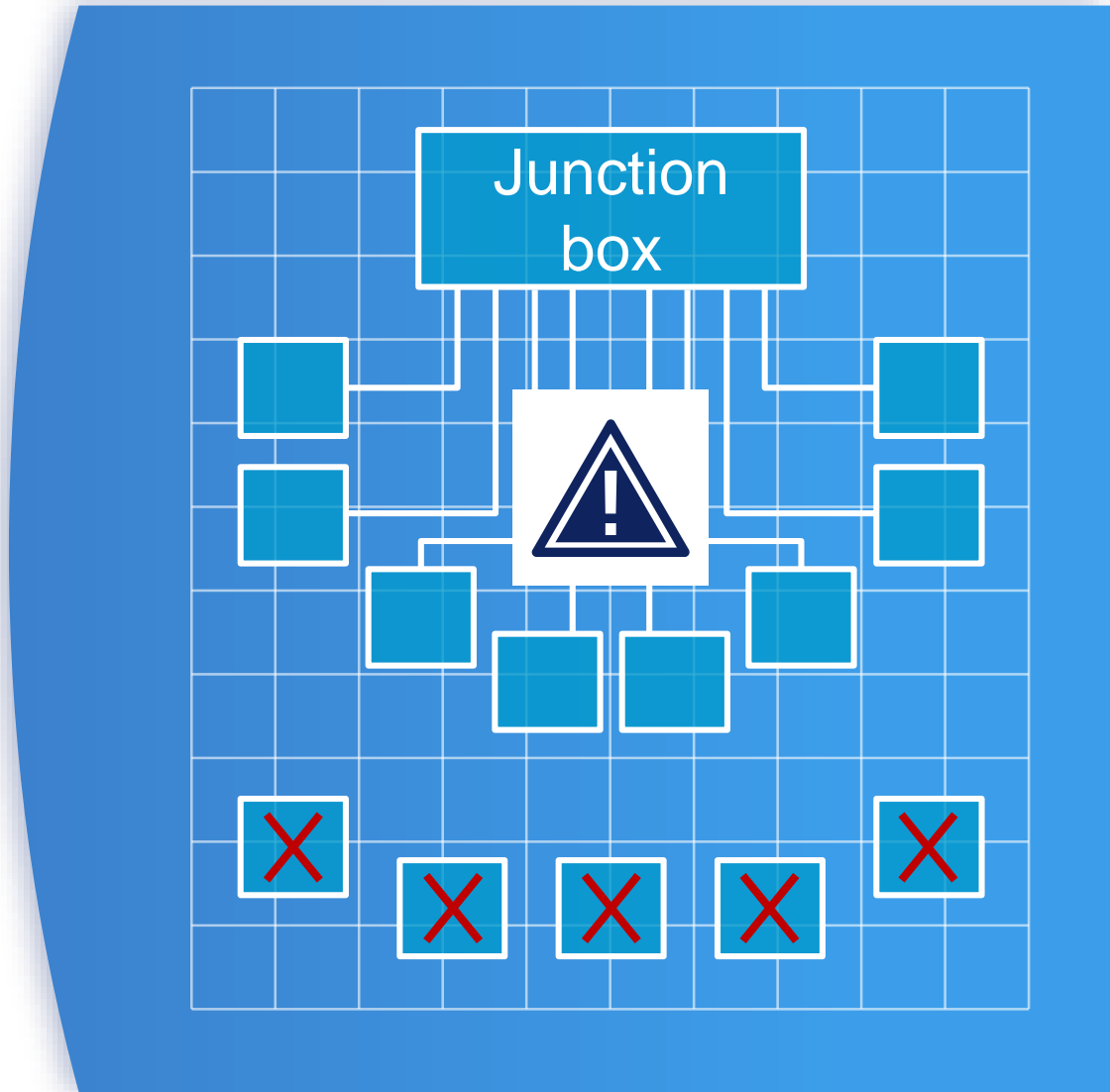
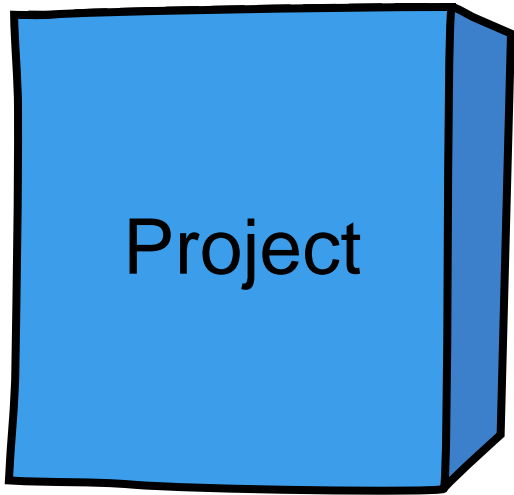
Construction / Commissioning Phase



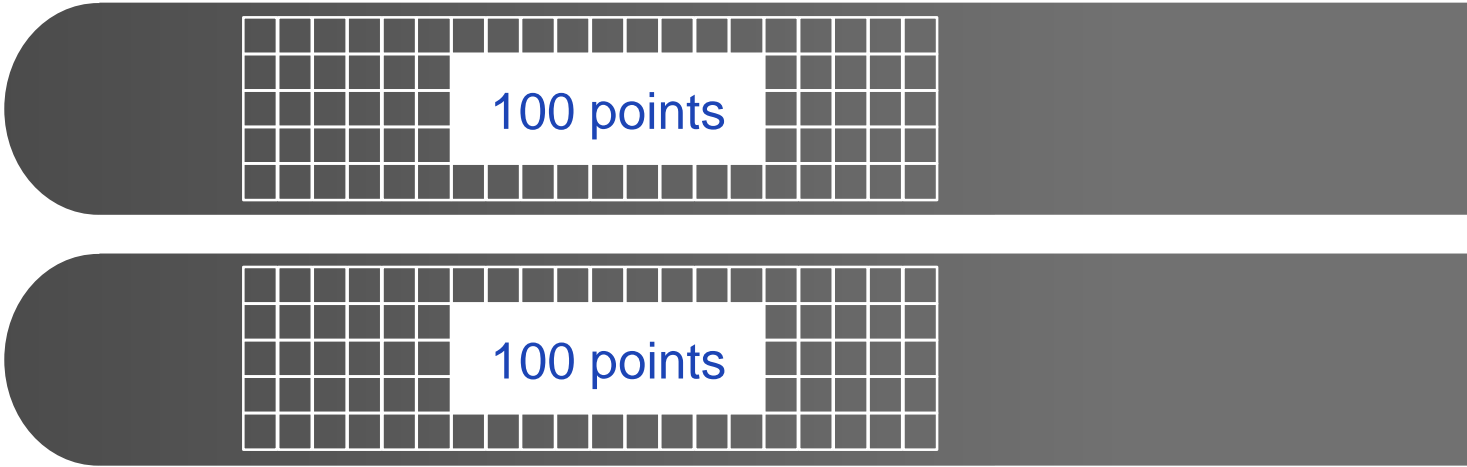
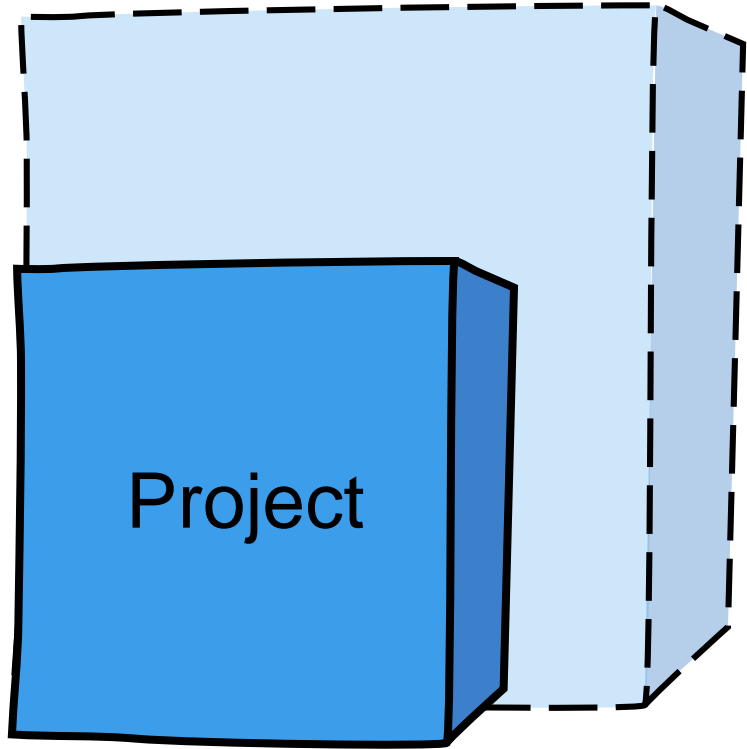
Why Wireless?



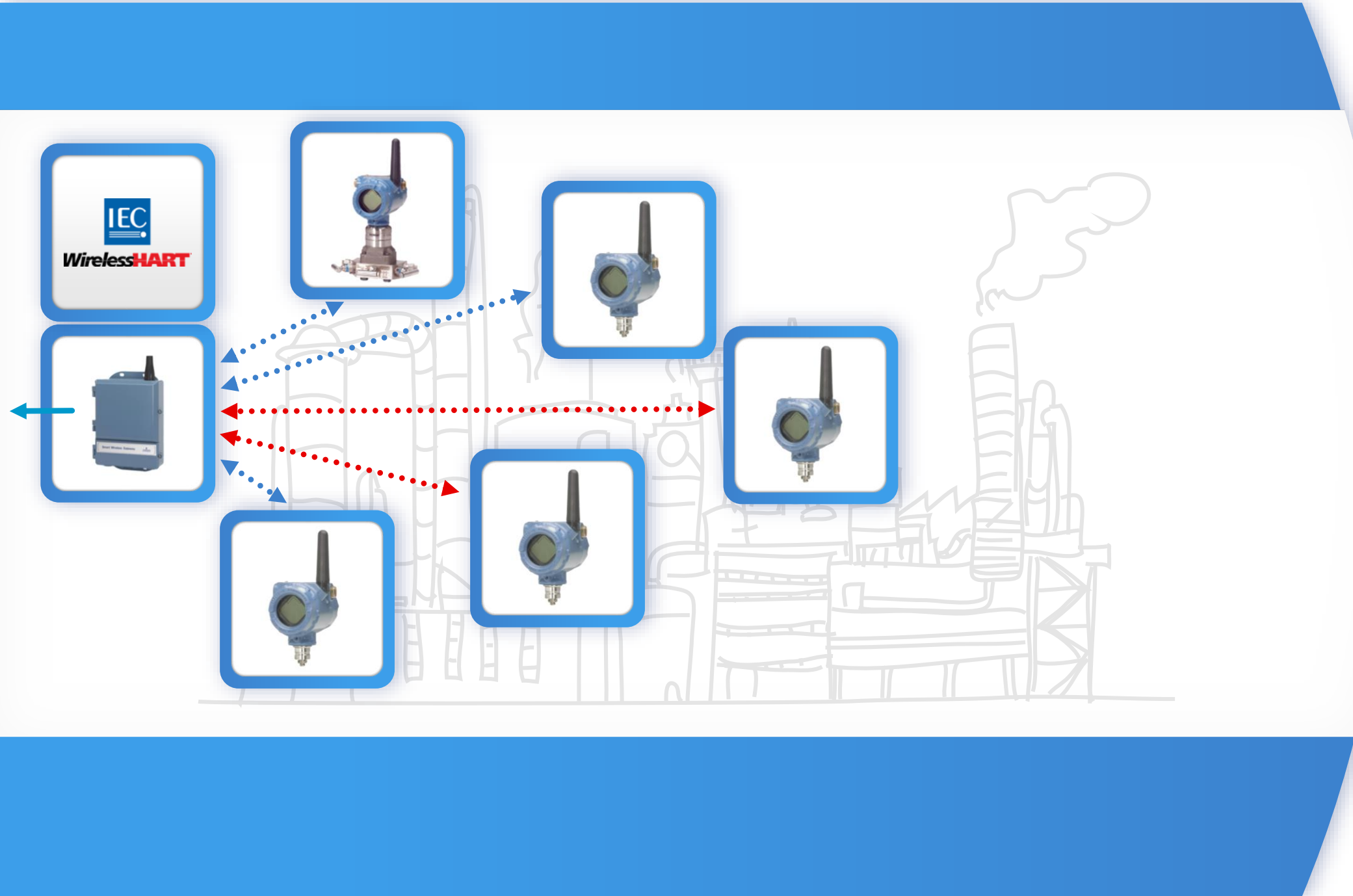
Engineering Flexibility



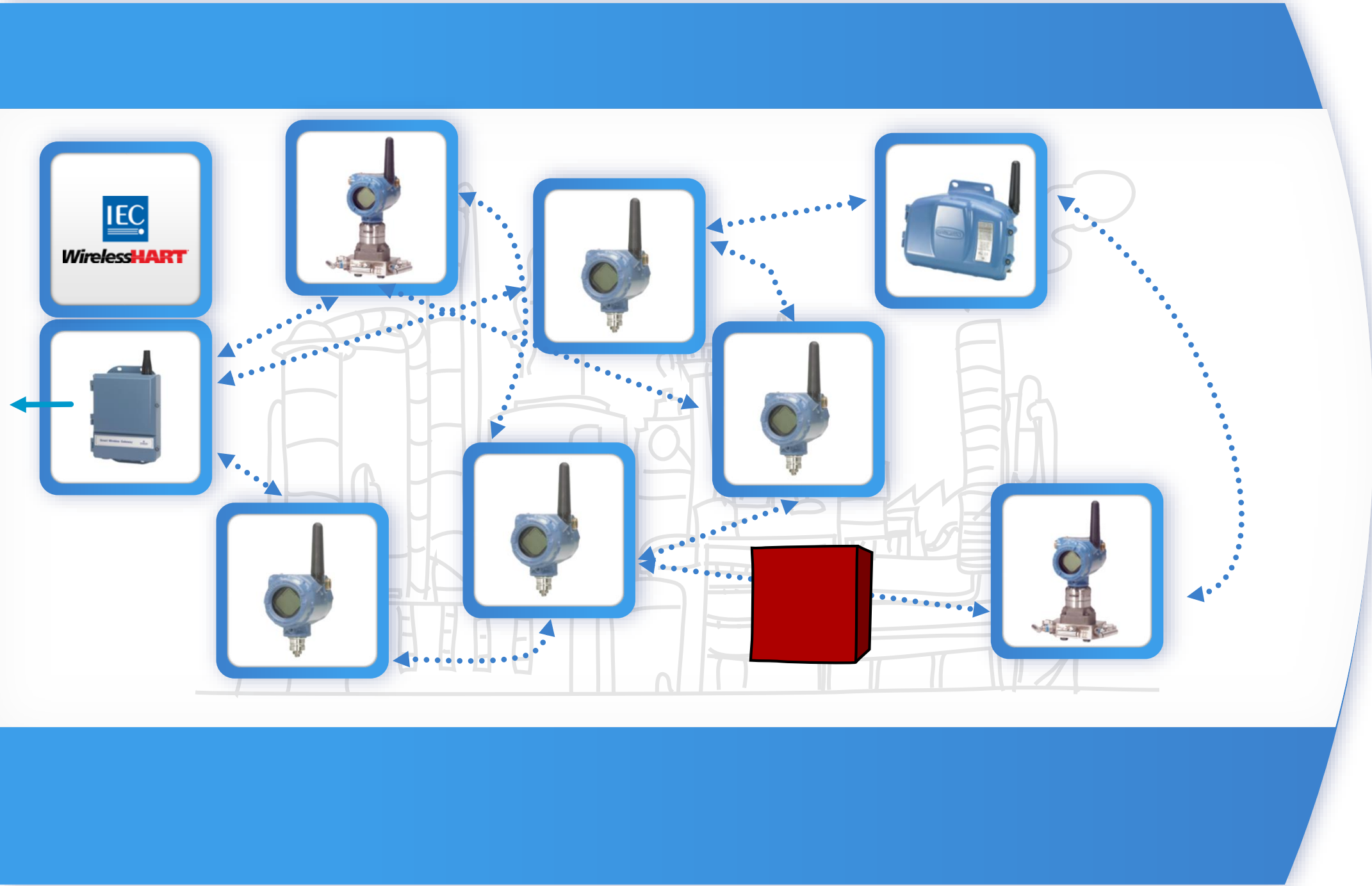
Engineering Flexibility



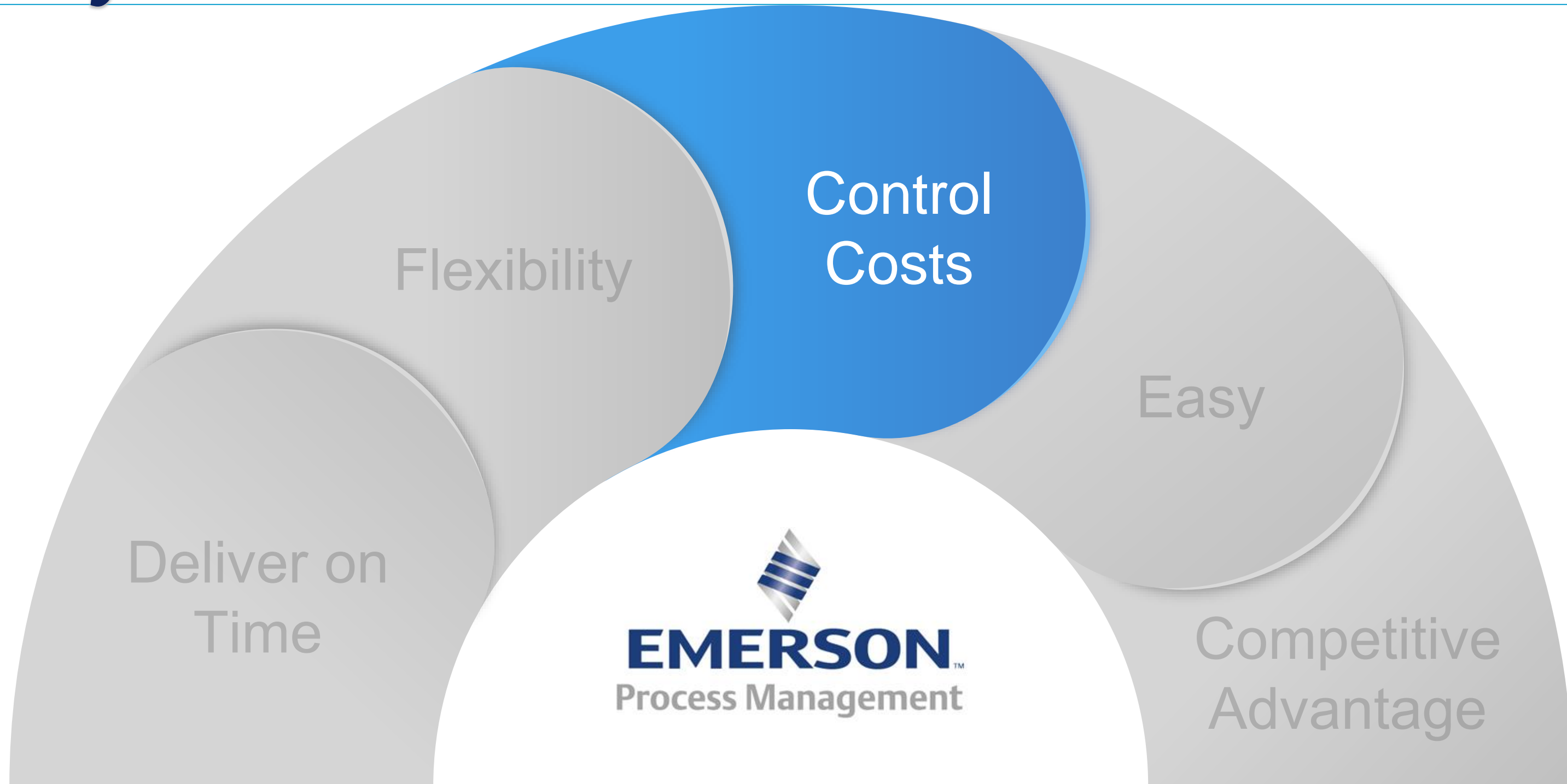
IEC 62591 (WirelessHART) is HART Without the Wires



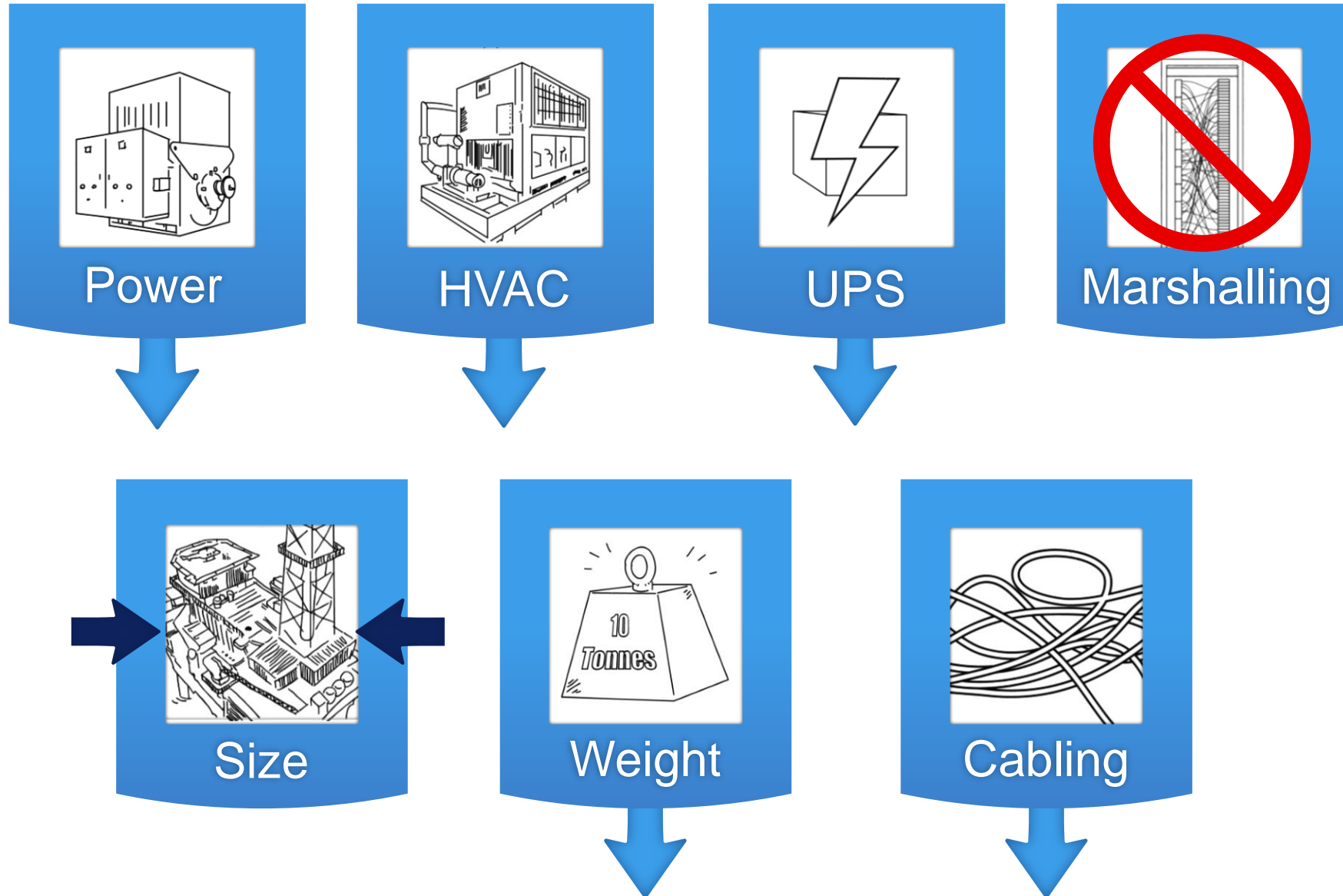
IEC 62591 (WirelessHART) is HART Without the Wires



Why Wireless?



Equipment Savings



Costs



Improved Safety



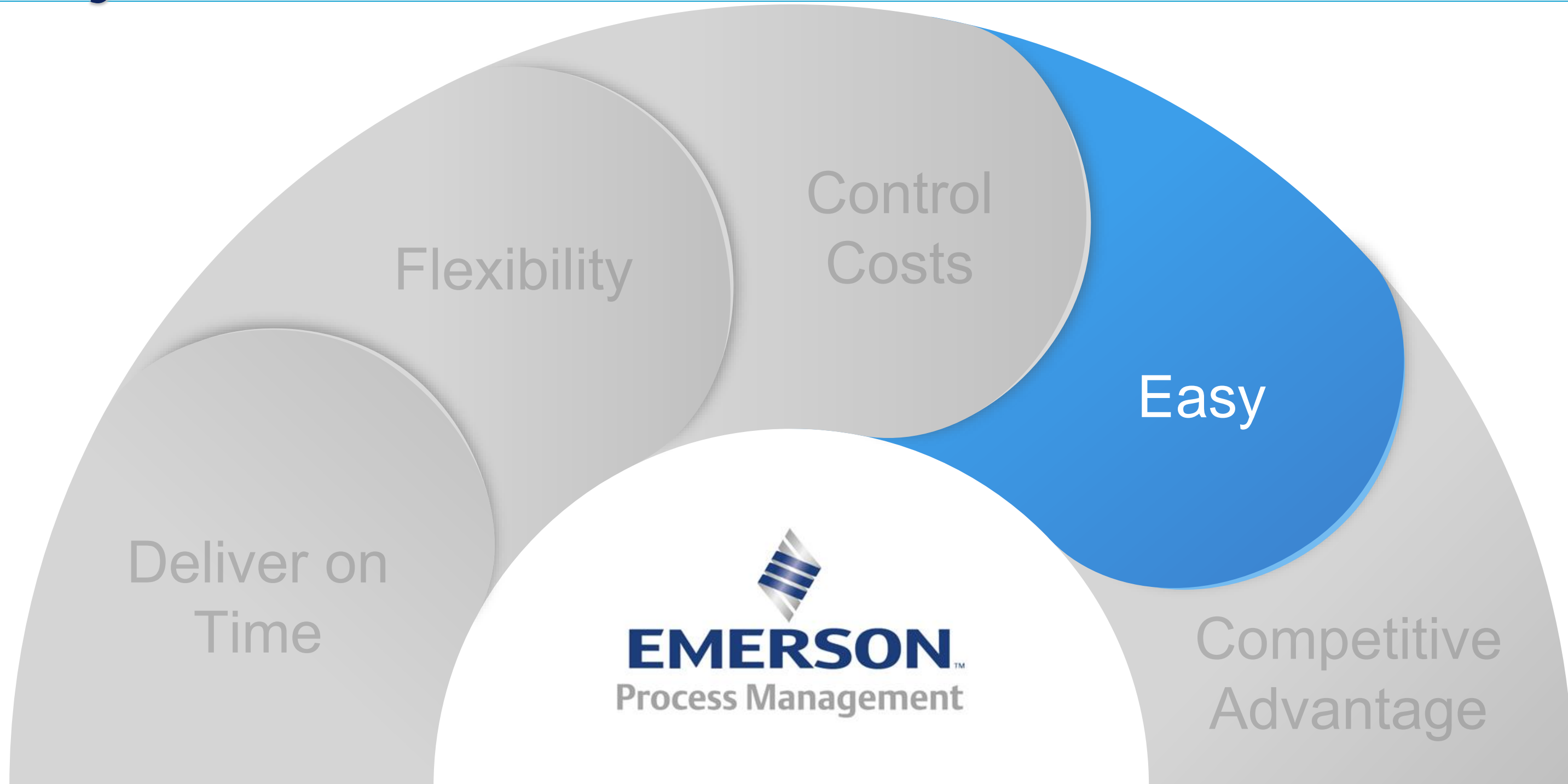
Fewer Wires to Run

Lower Personnel Risk

Costs



Why Wireless?

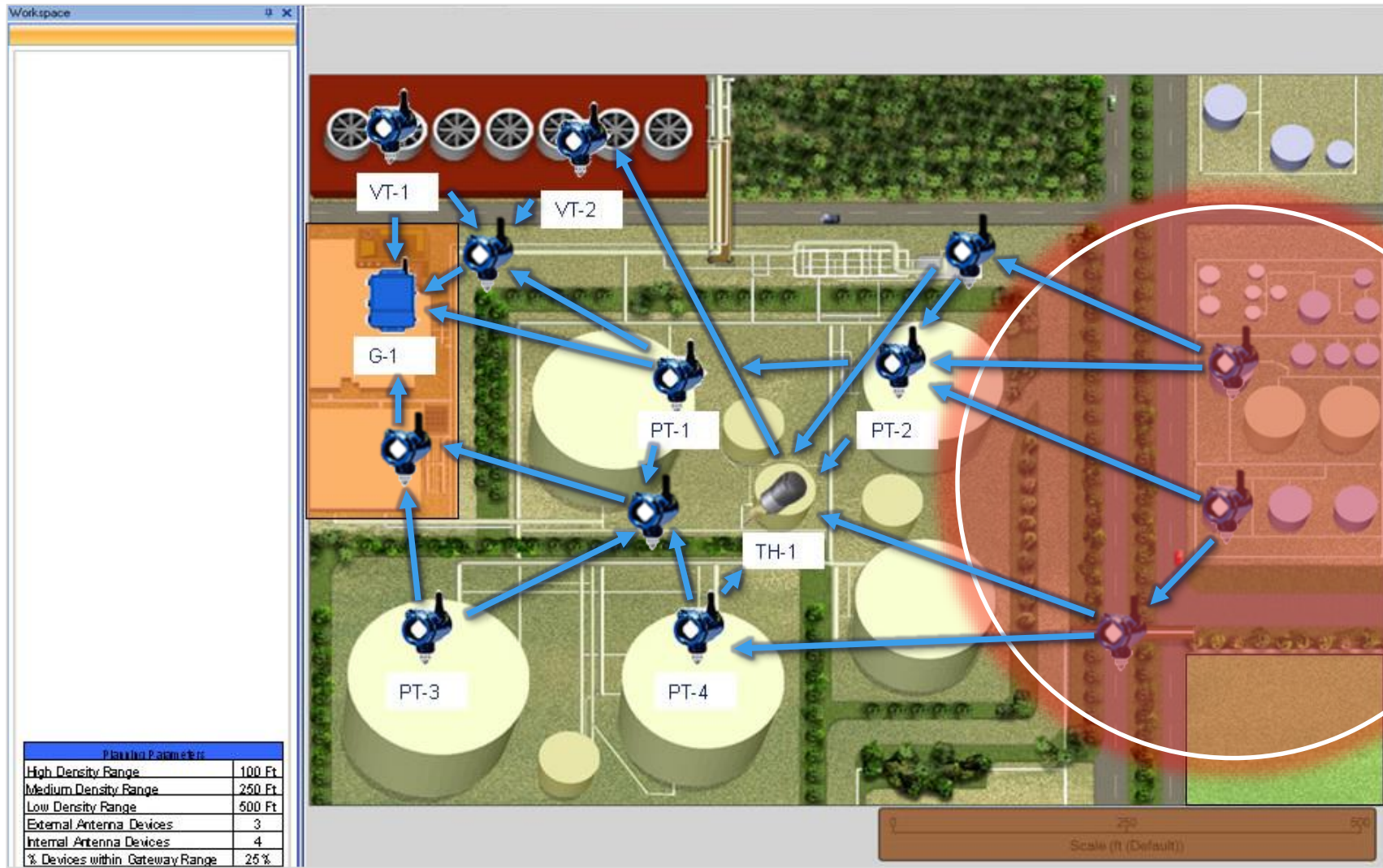


Smart Wireless



“HART without the wires”

Easy



Live Mode

Interoperability

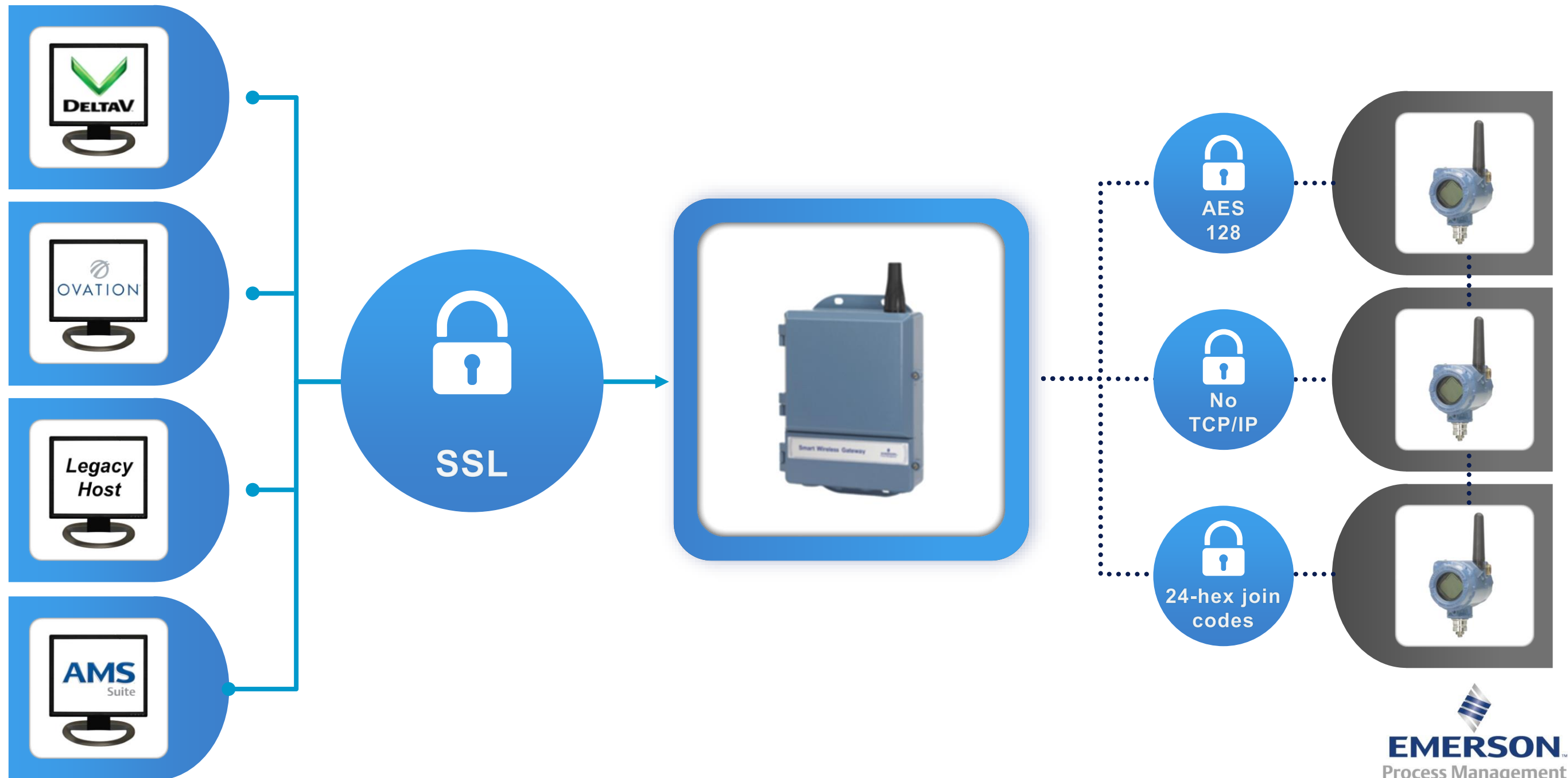


Interoperability



The HART Communications Foundation
has in excess of 240 Members

Security



Security



Wireless (Ⓜ)

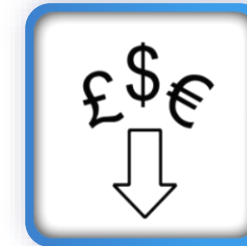
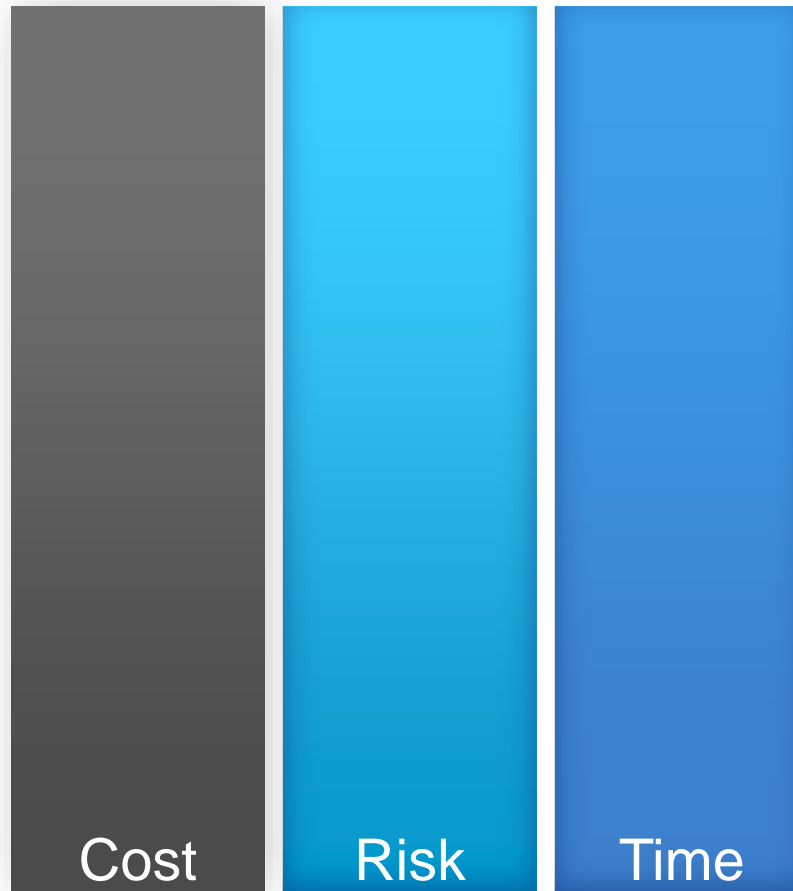


Why Wireless?

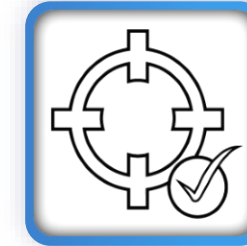


Wireless Value in Projects

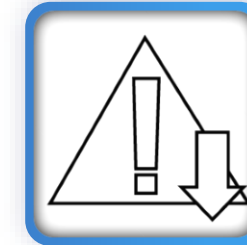
Discipline Lead



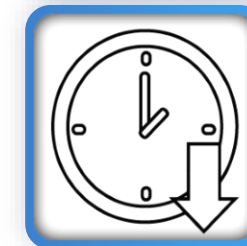
Reduced Project Cost



Easier Scope Management

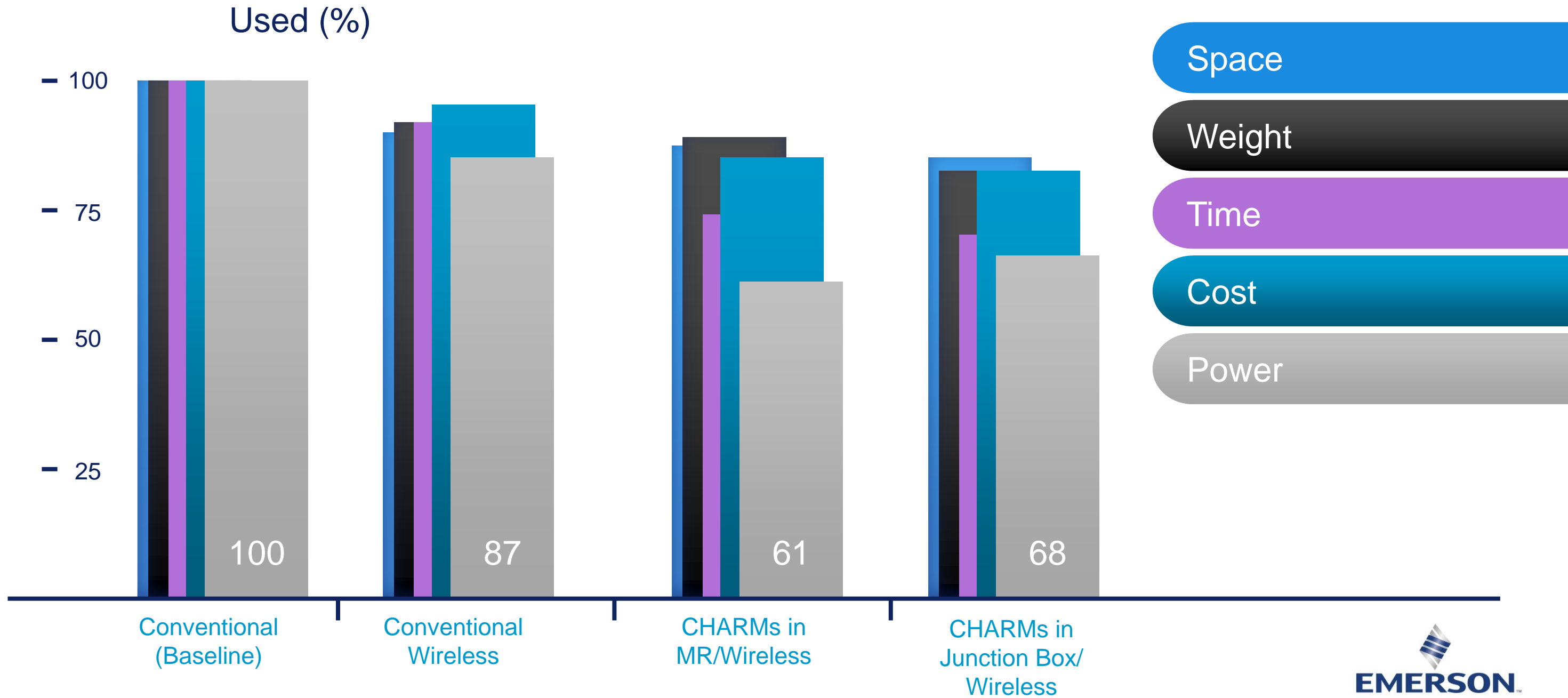


Reduces Schedule Risk



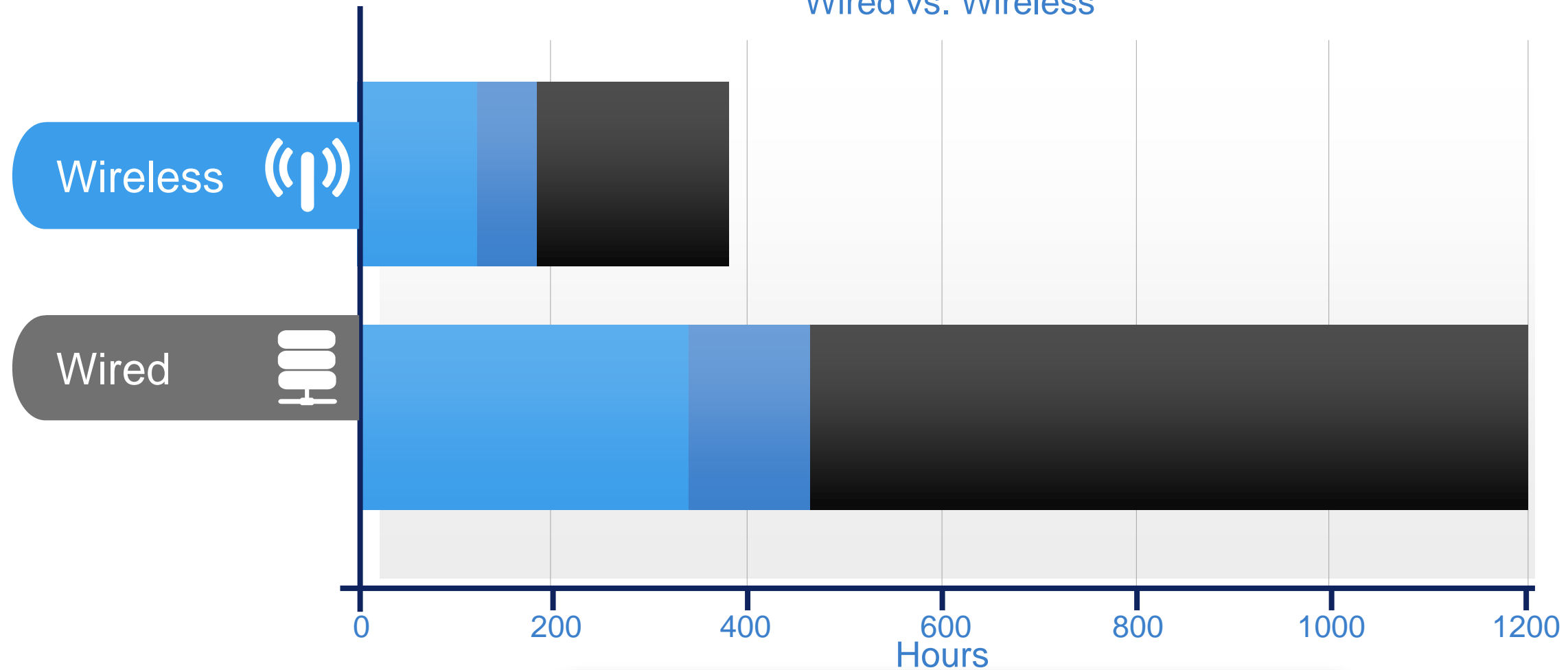
Simplified Information Exchange

Typical Platform



Clearly Demonstrable Benefits of WirelessHART

Installation Time Savings Summary
Wired vs. Wireless



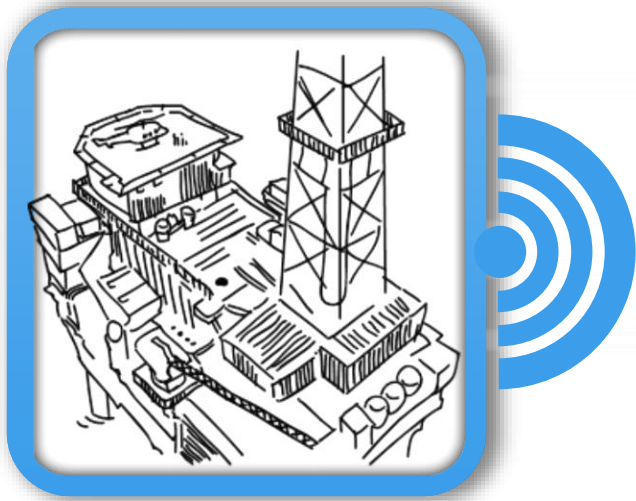
Commissioning & Configuration

Terminations, Engineering, Design, Procurement

Installation



Faster Deployment



Hours

Wired 

Weeks



Time to commission

Why Wireless?

