

Commissioning as a Career Path

By AABC Commissioning Group

What is Commissioning?

Building Systems Commissioning is a proven, systematic quality assurance process utilized to deliver a new construction or existing facility project that achieves the owner's objectives and expectations.



The Origins of Commissioning: It All Started at Sea

- The term "commissioning" comes from the Latin *committere* - to unite or send off.
- First used to describe the launch and readiness testing of ships.
- Ensured all ship systems functioned safely before setting sail.
- A formal commissioning ceremony marked a ship's readiness for duty.
- Today, Commissioning ensures all building systems, work just ships – safely.

What is Commissioning?

Commissioning facilitates and ensures the required communication, coordination, testing, and verification, and results in the delivery of a building whose systems perform as intended.¹

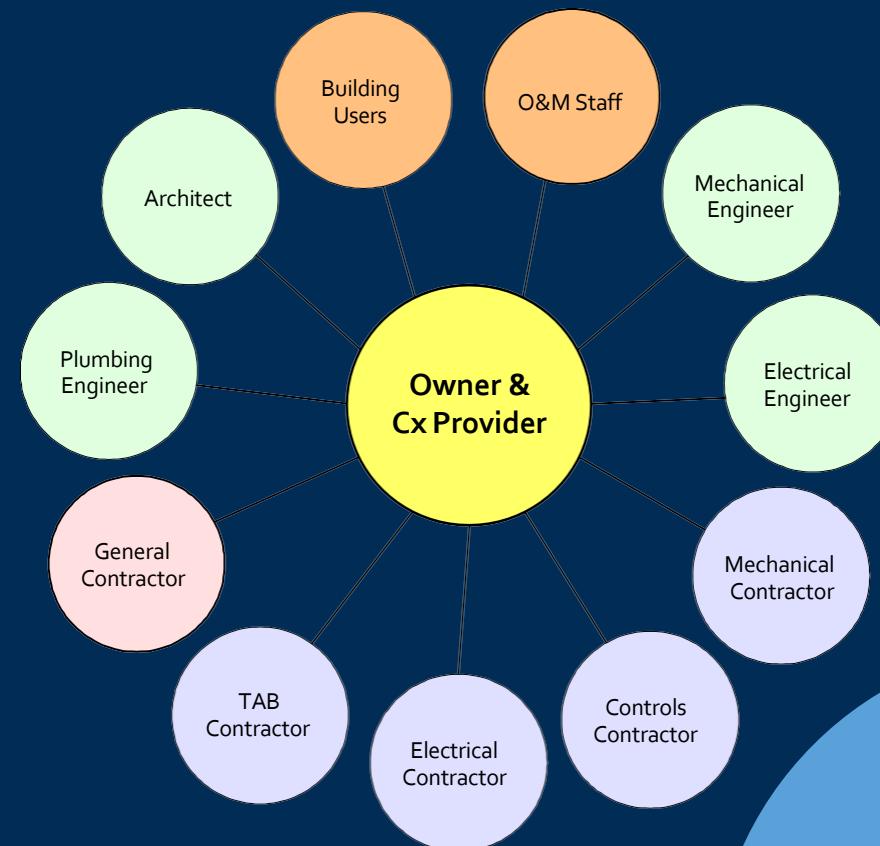
Effective commissioning is an intentional, visible, cooperative and proactive process.¹

For the best possible results, commissioning should be included in all phases of the design and construction process.¹

1 - ACG Commissioning Guideline, AABC Commissioning Group, 2005

What is a Commissioning Provider? (CxP)

CxP leads the Commissioning Team (Cx Team) whose members are responsible for implementing various commissioning activities.



Benefits of Being a Cx Provider

- Opportunity for learning – exposure to various building systems
- Great career for curious individuals that want to continuously be learning
- Be on the front lines of pushing efficiency and new tech for buildings
- Mix of in-office and in the field, great for variety of work settings
- Flexible schedule and hours

Commissioning Industry Outlook

- Current acute skill shortage, professionals in high demand
- AEC market expected to exhibit a growth rate (CAGR) of 3.4 during 2024-2025
- Over 40% of construction professionals expected to retire by 2031¹
- Funds from the Infrastructure Investment and Jobs Act (IIJA), the Inflation Reduction Act (IRA), and the Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act are expected to continue to flow into the AEC industry²

¹ <https://www.autodesk.com/blogs/construction/2024-construction-trends-30-experts-share-insight/>

² <https://www2.deloitte.com/us/en/insights/industry/engineering-and-construction/engineering-and-construction-industry-outlook.html>

³ <https://www.imarcgroup.com/north-america-testing-commissioning-market>

Skills Needed

- Communication – Essential to be able to communicate your ideas
- Teamwork – Cx is a team process. Owners, EOR... Keep the team together
- Problem Solving
- Technical
- Project Management
- Resilience
- Ability to work individually – self-motivated and self-driven

Modern Building Systems

Modern buildings comprise many advanced, integrated, and interdependent building systems.

The variety and complexity of building systems has only increased in recent years as new building owners leverage the latest science and information technology.

Faulty or underperforming building systems squander resources such as time, money, energy, and labor.



Tools in the field of Commissioning:

Monitoring-Based Commissioning (MBCx)

- What it does: Uses real-time data from building systems to ensure performance aligns with design intent.
- Why it's cool: Continuous feedback helps identify inefficiencies and performance drift before they become problems.

Fault Detection and Diagnostics (FDD) Tools

- What it does: Automatically detects anomalies or faults in HVAC and building systems.
- Why it's cool: Saves time and reduces energy waste by pinpointing issues in massive datasets.

Tools in the field of Commissioning:

Artificial Intelligence (AI) & Machine Learning

- What it does: Predicts system behavior, optimizes setpoints, and recommends energy-saving actions.
- Why it's cool: AI-driven tools can detect patterns humans may miss and learn from building operations over time.

Digital Twin Technology

- What it does: Creates a virtual replica of building systems for simulation, testing, and real-time monitoring.
- Why it's cool: Helps test scenarios without disrupting operations and enhances predictive maintenance.

Tools in the field of Commissioning:

Commissioning Management Software

- What it does: Streamlines the commissioning process—checklists, documentation, scheduling.
- Why it's cool: Saves hours of manual work and ensures documentation stays organized.

Building Automation System (BAS) Integration

- What it does: Centralizes control of HVAC, lighting, security, etc.
- Why it's cool: Modern BAS platforms now support open protocols and analytics, enhancing interoperability.
- And many more!

Team Members

- Equipment Vendors
- Specialty Trades
- Specialty Consultants
- Program Manager
- Service Contract Providers
- BAS Specialists
- IT Support Groups

A Day in the life of an Entry Level Commissioning Tech

- WFH (Option)
- Check in with manager, schedule your day
- Head over to job site, verify test and balance
- Drop by the office to catch up on paperwork (daily logs, emails)

Career Path

- Start as a Commissioning Tech at an average starting salary of X
- Take the CxT examination [check for the years of exp required]
- Study for the CxA exam after 5 years experience
- Commissioning Manager – (depends on organization) project manager managing the project with other CxTs
- Director of Commissioning – Management of commissioning managers, business development,

Career Path

- Engineering degree or related industry experience
- Possible to pivot from related industry (construction tech programs)
- Choose your specialty (Electrical, Fire & Safety, Mechanical, Controls, Test and Balance, Operations and Maintenance, etc.)
- Off-site training and on-site hands-on learning through experience
- Gain project management and **communication** experience
- Certification like the CxA often required for Cx roles