

Engineering beyond the classroom

CSI GLOBAL UNIVERSITY PROGRAMME



19 OCTOBER 2026

VASILE ALECSANDRI UNIVERSITY OF BACĂU

Your speakers

Two perspectives on engineering: project delivery, technical practice and your first steps into industry.



Dariusz Kost

CSI Europe
Romania Director

CSI, international projects, careers and university collaboration.



Gabriel Iancu

MEP & Commissioning
Manager

How engineers verify building systems, investigate failures and prepare for operation.

Our hour together

A 50-minute presentation followed by 10 minutes of questions. We will move regularly between projects, technical examples and career opportunities.

PART 01	CSI, sectors and international projects	Dariusz Kost
PART 02	Commissioning and building performance	Gabriel Iancu
PART 03	Learning, internships and career growth	Dariusz Kost
DISCUSSION	Your questions and ideas	Both speakers

CSI Global and the engineering lifecycle

Founded in 2016. Engineering, technology and project delivery across buildings and infrastructure.

TECHNICAL WORK

Design verification, construction coordination, quality assurance, testing and commissioning.

OPERATIONAL PURPOSE

Handover information, training and maintenance support help the asset continue to perform.

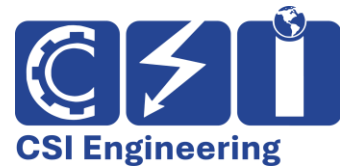
PEOPLE AND KNOWLEDGE

Specialist companies share methods, technical support and opportunities to develop.



Engineering companies and regional teams

Different technical strengths connect through common standards and project collaboration.



CSI Engineering

Multidisciplinary engineering, construction management, commissioning and technical assurance.



CSI Europe

Electromechanical contracting, engineering, maintenance and infrastructure delivery.



CSI Engineering USA

MEP engineering, testing, sustainability and support for demanding operating environments.



Burman Engineering

MEP design, building performance, commissioning and energy optimisation.



CSI Compass

UK commissioning management, testing, diagnostics and project readiness.



CITEX

Civil infrastructure, engineering design, inspection and technical assurance.

Specialists across systems and technology

The project also needs people who understand interfaces, information and long-term operation.



BIM Pro

BIM management, models, scanning and multidisciplinary coordination.



CEnergy

Integration across BMS, fire alarm, security, controls and networks.



MSEC Global

Fire protection, life safety, code compliance and specialist engineering review.



Thronis

Software engineering, cloud, cybersecurity, AI and data intelligence.



ATS

MEP contracting, facilities management and operational maintenance.



Contos Tech

Industrial digitalisation, process technology and software implementation.

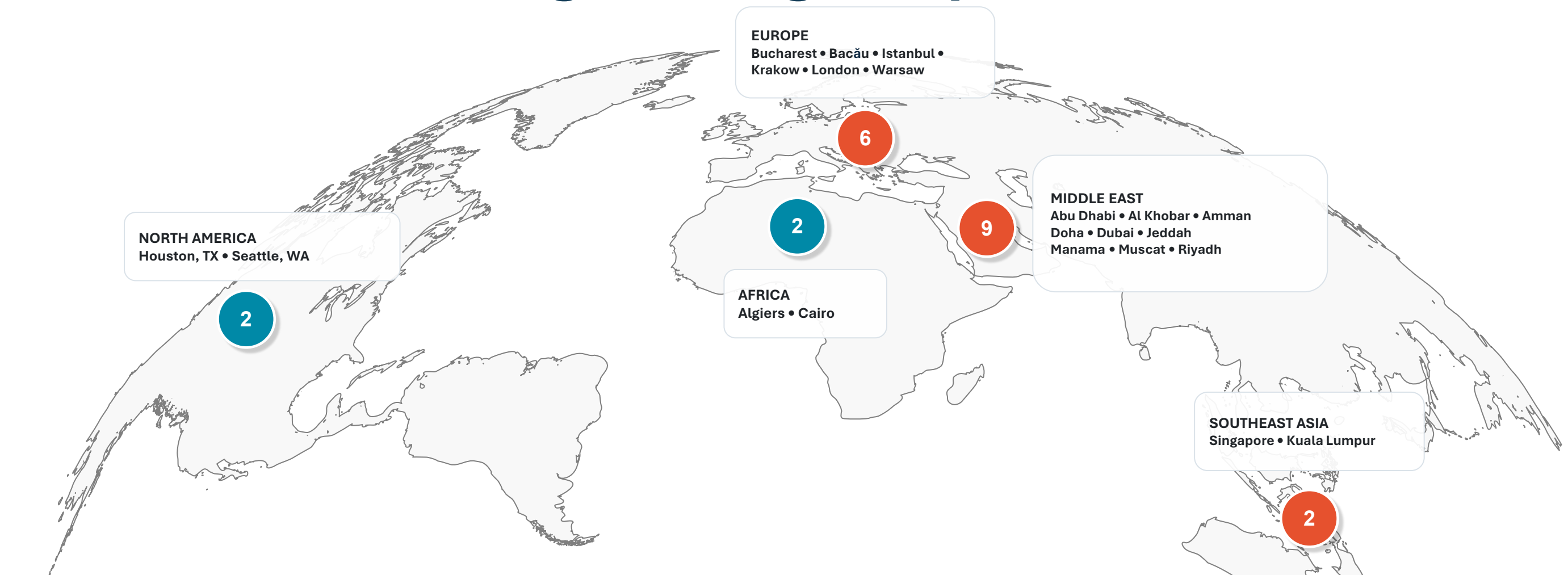
Services across the life of an asset

CSI combines engineering, contracting, technical assurance and operational support. Each stage gives the next team a usable starting point.

Project stage	Examples of engineering work
Definition and design	Owner requirements, MEP and civil design, BIM coordination, design verification and fire strategy
Construction	Contractor coordination, installation quality, inspection and systems integration
Commissioning	Readiness review, testing oversight, measurements, functional and integrated verification
Handover and operation	Accepted records, operator training, maintenance planning, performance investigation and optimisation

An international engineering footprint

21 LOCATIONS | 15 COUNTRIES



Countries represented (alphabetical)

Algeria, Bahrain, **Denmark**, Egypt, **Indonesia**, Jordan, **Kazakhstan**, **Luxembourg**, Malaysia, **Montenegro**, Oman, Poland, Qatar, Romania, Saudi Arabia, Singapore, **Sweden**, Turkiye, United Arab Emirates, United Kingdom, United States

** project-based delivery countries.*

Our office locations

Local presence connects project teams with clients, technical support and regional knowledge.

Region	Office locations
North America	Houston, Texas and Seattle, Washington
Europe	Bacău, Bucharest, Istanbul, Kraków, London and Warsaw
Middle East	Abu Dhabi, Al Khobar, Amman, Doha, Dubai, Jeddah, Manama, Muscat and Riyadh
North Africa	Algiers and Cairo
Southeast Asia	Singapore and Kuala Lumpur

Sectors where building systems matter

The same engineering principles meet different users, risks and operating needs.



Aviation and airports

Power, ventilation, life safety and passenger operations.



Data centres

Electrical continuity, cooling and coordinated recovery.



Transport and infrastructure

Metros, tunnels, depots and connected public systems.



Education and research

Teaching spaces, campus services and practical operation.



Healthcare and laboratories

Reliable services and specialist room requirements.



Commercial and mixed-use

Offices, residential spaces and shared technical infrastructure.

Engineering across industry and communities

Different sectors create different engineering questions and opportunities for specialisation.



Hospitality and tourism

Guest comfort, controls and maintainable services.



Government and defence

Technical assurance in demanding operating environments.



Industrial and manufacturing

Process conditions, plant services and production support.



Sports and cultural venues

Occupancy changes, comfort and coordinated safety systems.



Energy and utilities

Power, water, process systems and reliable infrastructure.



Communities and smart buildings

Connected assets, controls and lifecycle information.

Selected global project environments

Project experience spans commercial districts, hospitality destinations and major utility infrastructure.



King Abdullah Financial District

Riyadh. A commercial and mixed-use setting with many building and infrastructure interfaces.



Katara Towers

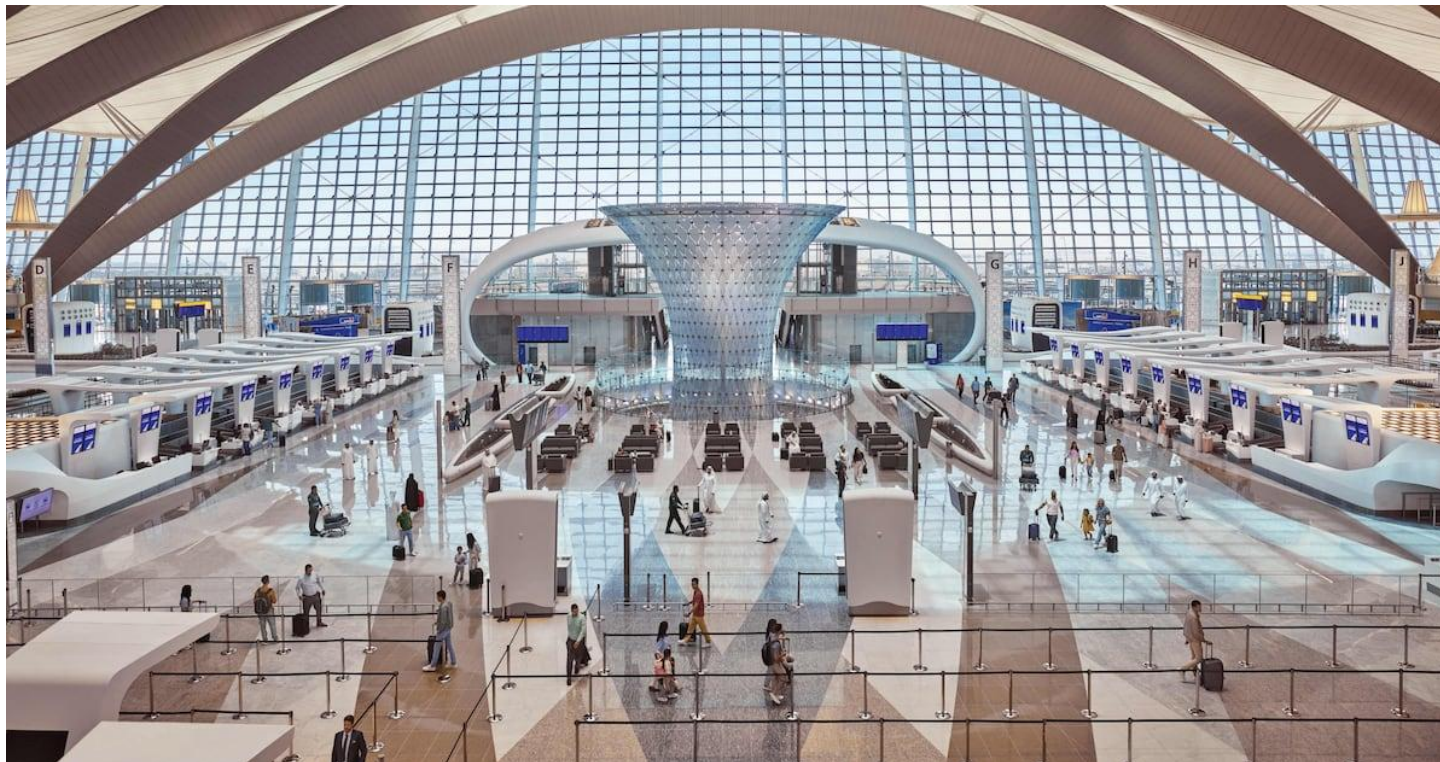
Doha. Hospitality spaces connect complex building systems with guest and operating needs.



Taweelah IWP

Abu Dhabi. Utility infrastructure brings process performance and reliability into focus.

Zayed International Airport



ABU DHABI, UNITED ARAB EMIRATES

PROJECT CONTEXT

An airport terminal connects MEP services, aviation systems, IT and operating teams.

CSI CONTRIBUTION

MEP and IT commissioning management, snagging coordination and facility-management readiness.

ENGINEERING LESSON

A terminal requires evidence of coordinated system behaviour and a prepared operating team.

Zayed
International Airport
(AUH)



Abu Dhabi Plaza



Project illustration.

Astana, Kazakhstan. A mixed-use complex connecting different users and shared building services.

CSI CONTRIBUTION

MEP commissioning management, electrical testing and HVAC testing, adjusting and balancing.

PROJECT CONTEXT

Different occupancy patterns and operating needs meet within connected building services.

ENGINEERING LESSON

A defined technical package needs clear interfaces, reliable measurements and usable records.

Riyadh Metro and the transport environment



RIYADH, SAUDI ARABIA

PROJECT CONTEXT

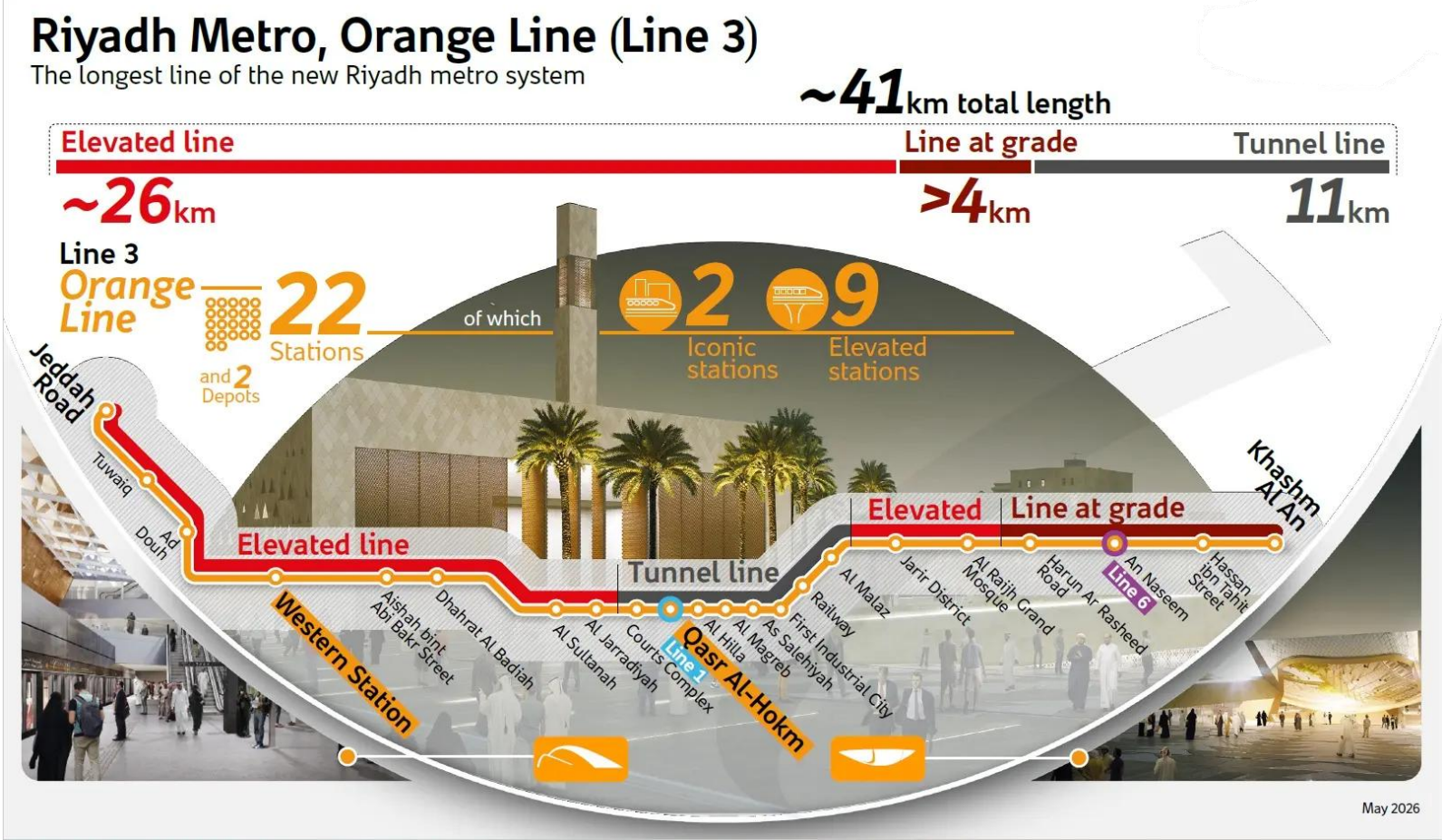
A metro connects stations, electrical services, ventilation, controls and passenger facilities.

CSI REFERENCE

Riyadh Metro appears in CSI’s international transport project portfolio.

ENGINEERING LESSON

Transport engineers coordinate services around changing occupancy, access and operating conditions.



Vantage Frontier campus



SHACKELFORD COUNTY, TEXAS, UNITED STATES

PROJECT CONTEXT

Data-centre operation depends on coordinated electrical, mechanical and life-safety packages.

CSI CONTRIBUTION

MEP verification and quality control. Commissioning management, readiness reviews and functional-test oversight.

ENGINEERING LESSON

The readiness and evidence for each package must support the complete operating requirement.

CSI Europe and the people behind delivery

Regional leadership connects local delivery with group expertise, shared systems and professional development.



Michal Szczesny

General Manager, Europe

Regional direction, project delivery, partnerships and technical capability.



Emil Szewczyk

Electrical Operations Manager, Europe

Electrical engineering, infrastructure delivery, quality and site coordination.

European projects and engineering routes

Further references include commissioning management at Equinix in London, alongside the projects shown here.



Warsaw Metro

Poland. Electrical and mechanical engineering work in transport infrastructure.



S52 Expressway

Kraków, Poland. Engineering and mechanical design-build work.



Annopol Tramway Depot

Warsaw, Poland. Mechanical contracting for public transport infrastructure.

Køge University Hospital



KØGE, DENMARK

PROJECT CONTEXT

Healthcare spaces place different demands on comfort, air systems and operational reliability.

CSI CONTRIBUTION

Commissioning management, TAB, handover documentation and engineering work.

ENGINEERING LESSON

Measurements and usable handover records connect building services with the needs of operators.

European Investment Bank headquarters



LUXEMBOURG

PROJECT CONTEXT

An office headquarters combines occupied spaces, central services, controls and facility operations.

CSI CONTRIBUTION

Commissioning management for the headquarters project.

ENGINEERING LESSON

The process aligns participants, verification activities and evidence across multiple systems.

Świnoujście tunnel



ŚWINOUJŚCIE, POLAND

PROJECT CONTEXT

Transport infrastructure connects ventilation, electrical services and technical buildings.

CSI CONTRIBUTION

Engineering and MEP design-build: fire ventilation, a transformer substation, ventilation systems, plumbing and HVAC.

ENGINEERING LESSON

Design, installation and verification need to address the interfaces and the operating context together.

Company credentials and registrations

These categories serve different purposes. The relevant entity, discipline and scope determine what each recognition demonstrates.



ISO management systems

Quality, environmental and occupational health and safety processes.



NETA accreditation

Electrical testing organisation. First InterNational Accredited Company in 2024.



NEBB firm certification

Defined disciplines in building performance and systems verification.



AQAP 2110:2016

Defence quality-assurance requirements.



CSA membership

Corporate participation in the commissioning profession.



SAM.gov

US federal vendor registration.



CAGE / DLA

Organisation identification in procurement.

Professional credentials held by our people

Professional recognition develops through technical knowledge, experience and assessment. It gives engineers a path for continuing development.



Commissioning

ACG CxA, NEBB CT and CP, and ASHRAE BCxP are examples within the team.



Energy and verification

AEE Certified Energy Manager and Certified Measurement and Verification Professional.



Green buildings

LEED credentials connect design and operation with sustainability practice.



Data-centre design

Uptime Institute Accredited Tier Designer addresses a specific design discipline.



Professional accreditation

Staff accreditation with the Saudi Council of Engineers is relevant in that market.



Green-building practice

Mostadam commercial-building expertise supports a defined sustainability assessment framework.

Technical communities and learning

Professional bodies provide technical guidance, research and learning communities. Their publications help engineers develop and review methods.



ASHRAE

Building systems, performance and commissioning guidance, including Guideline 0 and Standard 202.



BSRIA

Building-services research, technical guidance and practical engineering knowledge.



BOMA International

Building operations, management and the needs of the people who run assets.

A PRACTICAL STARTING POINT

Choose one system from your laboratory work. Explain its intended behaviour, the conditions for a valid test and the evidence you would keep.

How CSI supports consistent engineering

One standard depends on people, methods and review working together.

TECHNICAL BUREAU

Common methods, templates, technical reports, manuals and handover information.

SPECIALIST SUPPORT

Discipline experts and mentors help engineers resolve questions and understand their limits.

LEARNING AND REVIEW

Quality audits, project feedback and constructive correction improve future work.



Videntium connects the evidence

An asset identity connects field work with the information needed for review and handover.

AT THE ASSET

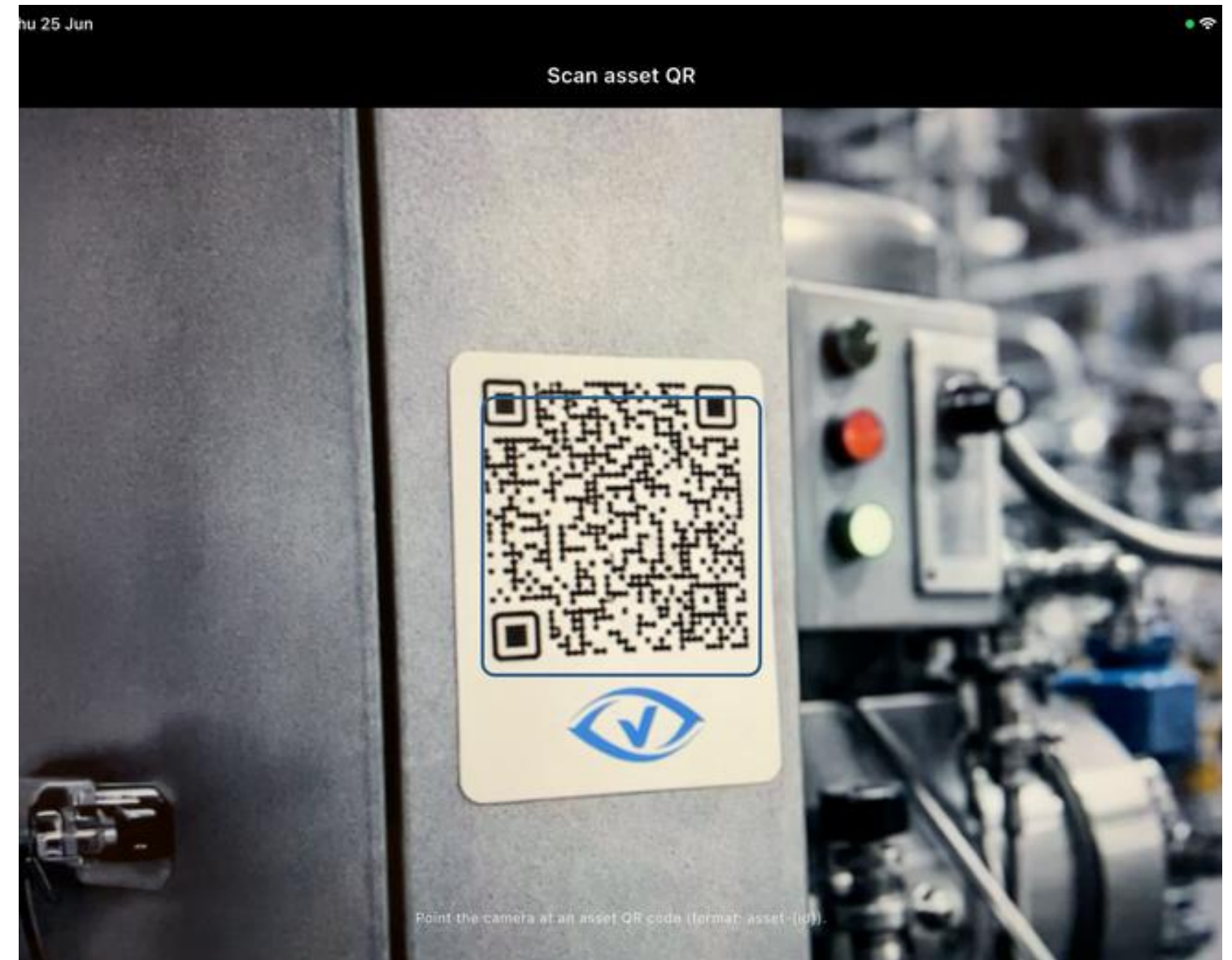
Tag, location, equipment details, drawings and approved checklist.

DURING THE WORK

Inspections, readings, photographs, findings and corrective actions.

ACROSS LOCATIONS

Review history and common workflows support the same evidence expectations worldwide.



CSI Academy develops a shared method

Learning, mentoring and practical experience keep standards consistent as teams grow.

STRUCTURED LEARNING

Systems, commissioning methods, procedures and professional expectations.

PRACTICAL DEVELOPMENT

Site discussion, supervised work, internal assessment and feedback.

GLOBAL CONSISTENCY

Shared knowledge supports quality across projects, disciplines and countries.



Foundation learning alongside practical development

AI, Thronis and engineering judgement

CSI's technology ecosystem connects software with engineering context. AI assistance depends on reliable information and accountable review.



Illustrative engineering workspace.

THRONIS

Software, cloud, cybersecurity, analytics, AI and document-intelligence services.

VIDENTIUM

Assisted search, summaries and classification help people navigate lifecycle records.

THE ENGINEER

Checks source information, units, context and exceptions. Formal review and acceptance remain human responsibilities.

CSI at work

**CSI GLOBAL
FILM**

1m 41s



The building performance question

A complete installation still needs evidence that it delivers the intended service.



LECTURE HALL

Indoor conditions must support scheduled teaching and occupancy.

SERVER ROOM

Electrical continuity and heat removal must cooperate.

COMMISSIONING

Agreed requirements become observations that another engineer can review.

Commissioning and acceptance

A quality process linking agreed requirements with verified performance and documented evidence.

ACROSS DELIVERY

Planning, design, installation, testing and operation all contribute.

VERIFICATION

The team compares actual behaviour with defined criteria.

ACCEPTANCE

The authorised project party makes the decision using the agreed evidence.



Development of the discipline

Selected milestones show a discipline developing more structure around responsibilities, management and evidence.

Milestone	Publication or focus	What it contributes
1988	CIBSE HVAC commissioning responsibilities	Clearer division of responsibilities between project participants
2003 / 2022	CIBSE Commissioning Code M	Management across preparation, design, site, handover and use
2024	ASHRAE Standard 202 update	A process framework for new buildings and new systems

Modern commissioning connects early requirements with performance during operation.

Commissioning through the lifecycle

Commissioning begins while decisions can still change. Each phase creates information that the next phase needs.

Phase	Engineering purpose	Typical evidence
Briefing	Define required outcomes and operating needs	Owner’s Project Requirements
Design	Develop the solution and verification approach	Basis of Design and reviewed sequences
Construction	Establish installation and test readiness	Checks, current information and readiness records
Testing	Demonstrate the agreed performance	Expected and observed results
Handover	Transfer knowledge and responsibility	Systems information and training
Operation	Review performance as conditions change	Seasonal checks and controlled updates

Owner’s Project Requirements

The OPR describes the owner’s intended use, operating needs and measures of success.

Required service	Operating condition	Evidence to define
Usable teaching room	Scheduled occupancy and agreed indoor conditions	Conditions, evaluation method and acceptance criteria
Computing continuity	Defined supply disturbance and recovery conditions	Power continuity, cooling response and relevant observations

Example requirements. Specific limits and evaluation methods are project defined.

Basis of Design

The OPR states the needed outcome. The Basis of Design explains the engineering response and its assumptions.

Owner’s requirement	Basis of Design	Verification connection
Teaching room at agreed conditions	Occupancy assumptions, ventilation capacity and control sequence	Compare actual system response with approved criteria
Maintainable services	Equipment selection, access and maintenance assumptions	Review access, operating information and training needs

A changed assumption can change the design and the test approach.

The verification plan

A repeatable procedure links a requirement to the expected behaviour and a traceable observation.

Requirement	Design reference	Test	Expected evidence	Review outcome
R-01: teaching-room service	Control sequence, current revision	T-01: agreed operating condition	Observed response and relevant readings	Review against criteria
R-02: recovery requirement	Approved recovery sequence	T-02: defined disturbance	Event sequence, recovery observations and exceptions	Issue or acceptance recommendation

A revised sequence can require a revised test and updated operating instructions.

Design for testability and maintenance

A good design allows the team to inspect, test and maintain the actual installation.

ACCESS

Can an engineer reach the component and safely carry out the required work?

MEASUREMENT

Does the design provide the information and locations needed to evaluate performance?

SEQUENCE

Is the required behaviour clear under the operating conditions that matter?



Responsibilities across the project

Several organisations contribute different knowledge. The project defines duties and acceptance authority.

Participant	Main contribution	Responsibility boundary
Owner and users	Define the required outcomes and operating needs	Set the project expectations
Designers	Develop and remain responsible for the design	Design responsibility
Contractors and suppliers	Install and demonstrate their work	Agreed package and procedures
Commissioning team	Coordinate verification and evaluate evidence	Agreed commissioning scope
Operations	Contribute practical needs and receive the systems	Operational capability
Acceptance authority	Review evidence and decide	Project defined

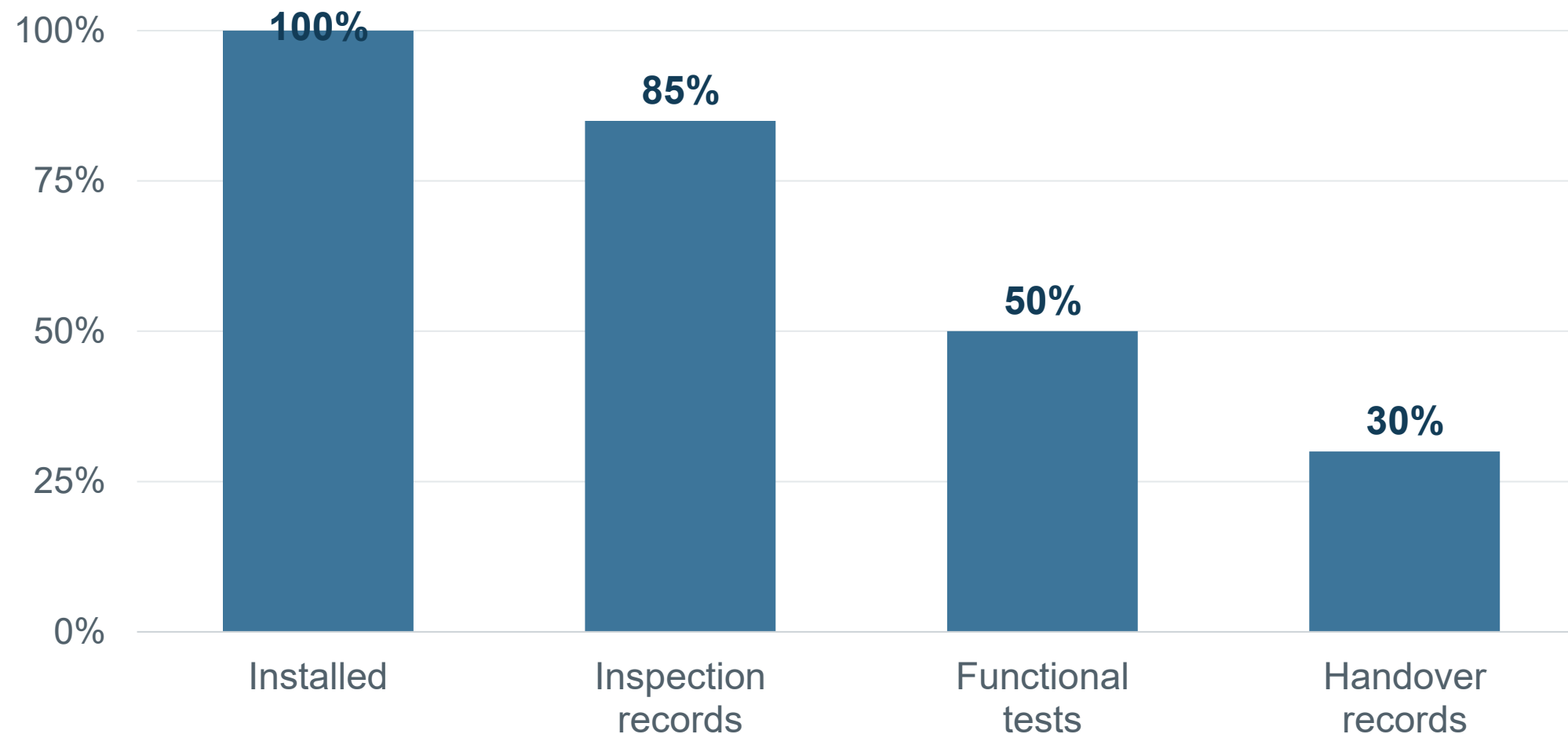
Systems and interfaces



Conceptual building section. Typical scope includes power, HVAC, water, controls, lighting, fire and life safety, specialist systems and the building enclosure.

Readiness before a test

A scheduled date or progress percentage cannot establish that a particular test is ready.



REQUIRED INPUTS

Current procedure, accepted checks, suitable instruments and the right participants.

READINESS DECISION

One missing prerequisite can hold the specific activity, regardless of overall progress.

Fictional workstream progress example. Each percentage has its own scope. The bars are not a readiness score.

Factory Acceptance Test

A Factory Acceptance Test checks agreed equipment or automation requirements before delivery.

Factory test record	What the team needs to understand
Configuration	Which equipment, software revision and representative connections the test included
Conditions and criteria	The agreed operating conditions, expected response and witnesses
Observed result	The actual response, readings and supporting evidence
Exceptions	Open findings, their disposition and implications for site work
Site planning input	What the factory proved and what the installed system still needs to demonstrate

Site Acceptance Test

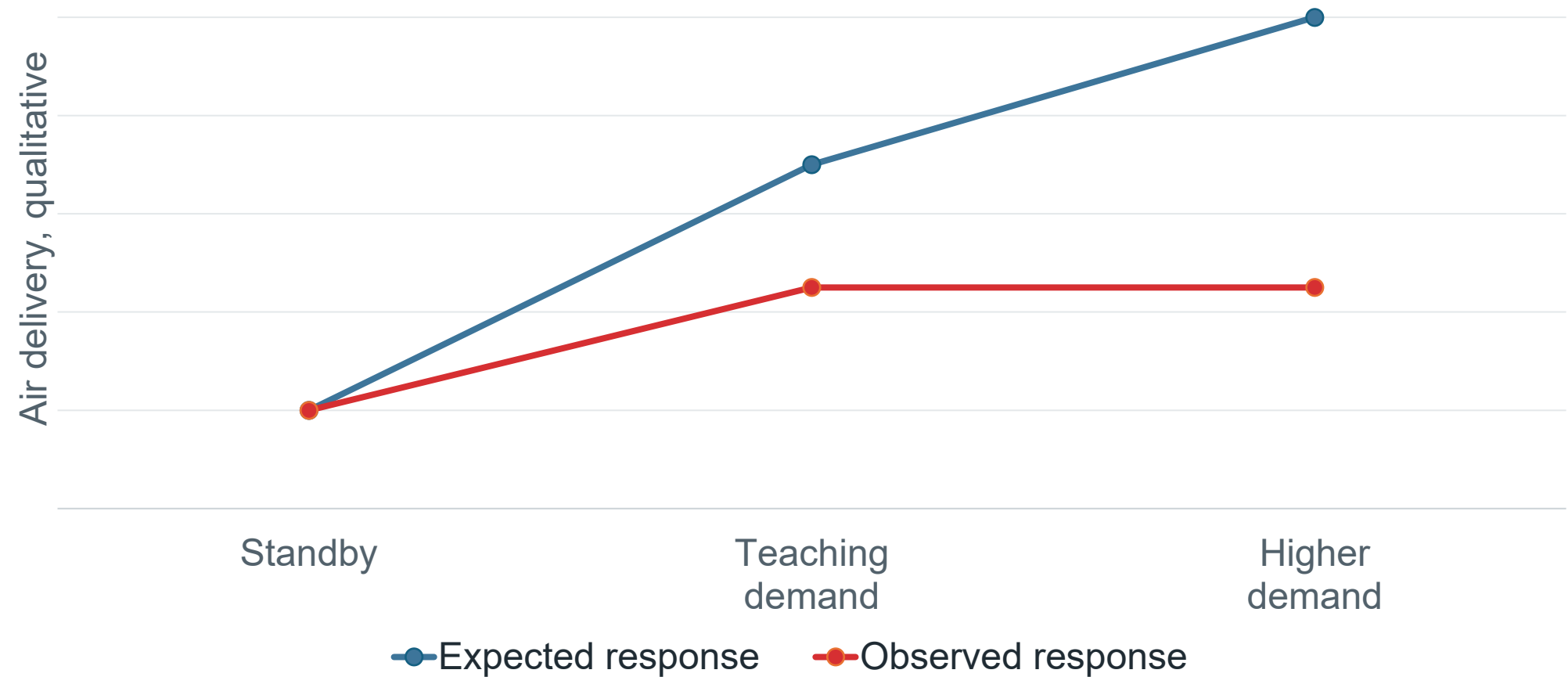
Factory and site records complement each other. The specifications define the actual coverage.

Question	FAT	SAT
Where?	Supplier or factory test arrangement	Installed site context
What context?	Agreed equipment or automation configuration	Actual connections, settings and surrounding systems
What evidence?	Results under the agreed factory conditions	Results for the agreed installed scope
What boundary?	Factory scope and any exceptions	Site scope and interfaces actually demonstrated

A package pass result supports the conditions and scope that were tested.

Functional performance

A functional procedure checks an agreed system response under defined conditions.



EXPECTED

The approved sequence defines the behaviour under the selected condition.

OBSERVED

A traceable deviation becomes a finding for review, correction and relevant verification.

Fictional qualitative illustration. No measured airflow, numeric acceptance limit or operating instruction is shown.

Integrated Systems Testing

Integrated Systems Testing examines coordinated behaviour across participating systems.

Scenario element	What the team defines	What the evidence establishes
Condition	Operating mode or planned disturbance	The actual configuration and event
System interfaces	Required electrical, cooling, control and operator responses	Time-aligned observations
Recovery	Expected sequence and completion condition	Whether the participating systems recover as required
Decision	Criteria, responsibilities and limitations	A recommendation for the tested scope

Real execution follows approved limits, competent participation and recovery arrangements.

A campus server room during a power cut

A fictional server room keeps the university's online learning service running.

WHAT HAPPENS

The main power supply fails. A UPS keeps the servers running.

WHAT MUST RECOVER

The cooling unit must restart as designed when its electrical supply returns.

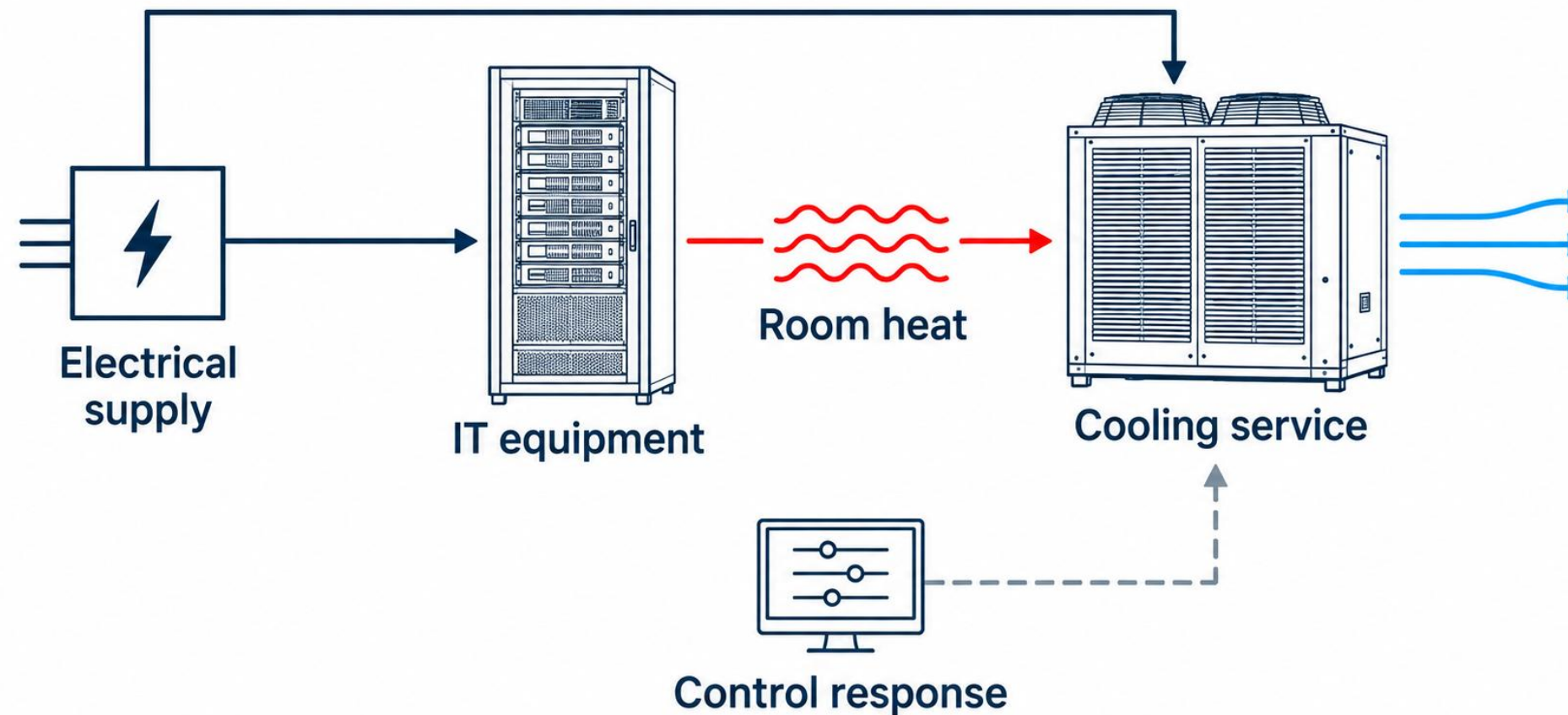
YOUR CHECK

Would "the servers are still on" prove success?
Name two observations.

Fictional classroom example. Actual recovery limits follow the project requirements.



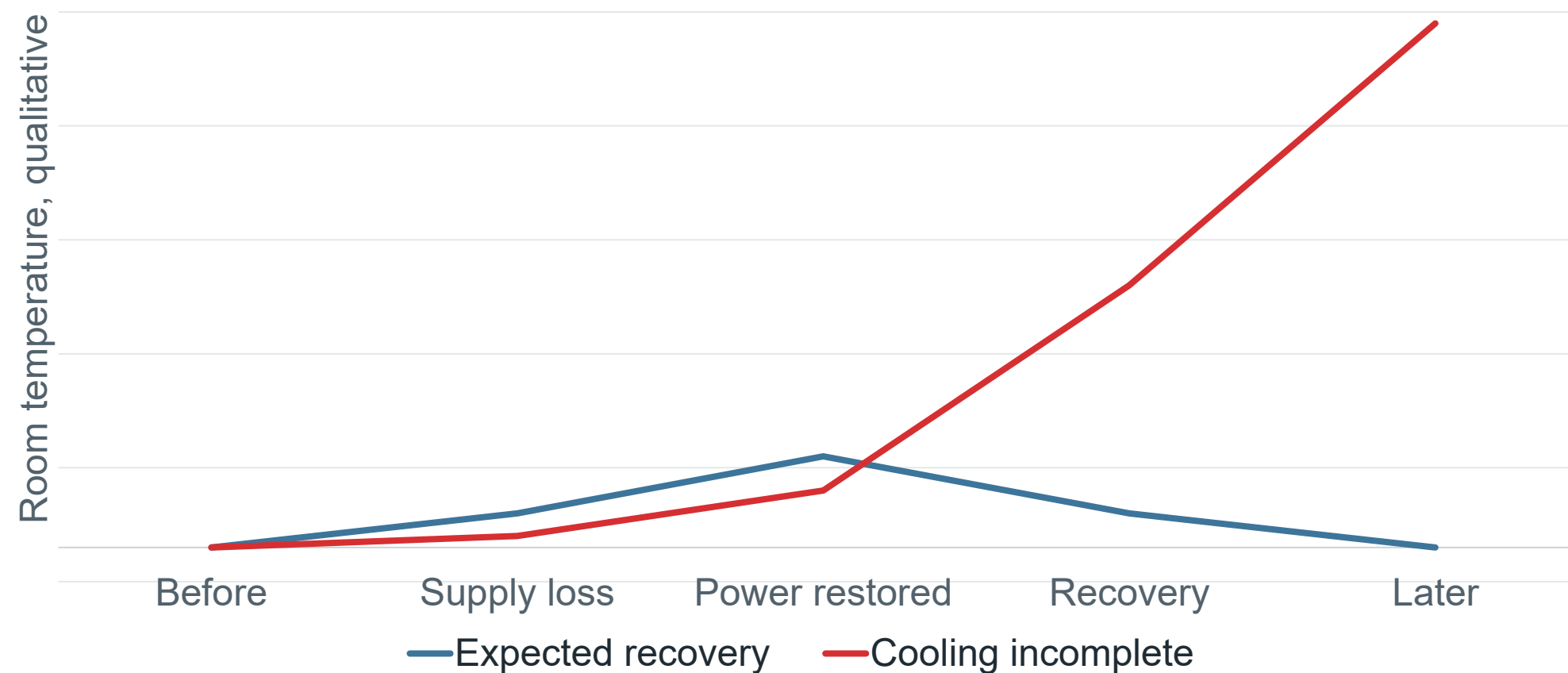
Uninterrupted power supply and heat removal



Conceptual energy flows and control dependencies. The continuing IT heat load makes cooling recovery essential in the fictional server-room case.

The trend reveals a different outcome

Power recovery and thermal recovery can produce different conclusions about the same room.



EXPECTED RECOVERY

A temporary rise returns toward the earlier condition.

INCOMPLETE COOLING

Temperature continues upward despite recovered electrical service.

Fictional qualitative trends. Actual limits, observation periods and acceptance criteria come from the approved test plan.

Evidence for the acceptance decision

An acceptance recommendation needs traceable observations and a clear account of the limits.

Fictional case record	Observation or evidence	Disposition
Power state	Recorded supply loss and recovery	Compare with the approved criterion
Cooling response	Required recovery did not occur	Retain a failed finding
Room condition	Temperature trend continued upward	Investigate related interfaces
Correction and retest	Record the change and relevant verification	Review the new evidence
Recommendation	State tested scope and unresolved obligations	Authorised project decision

Operational handover

Handover connects the real asset with accepted evidence and usable operating information.

CURRENT INFORMATION

Asset identity, drawings, control sequences, manuals and relevant certificates.

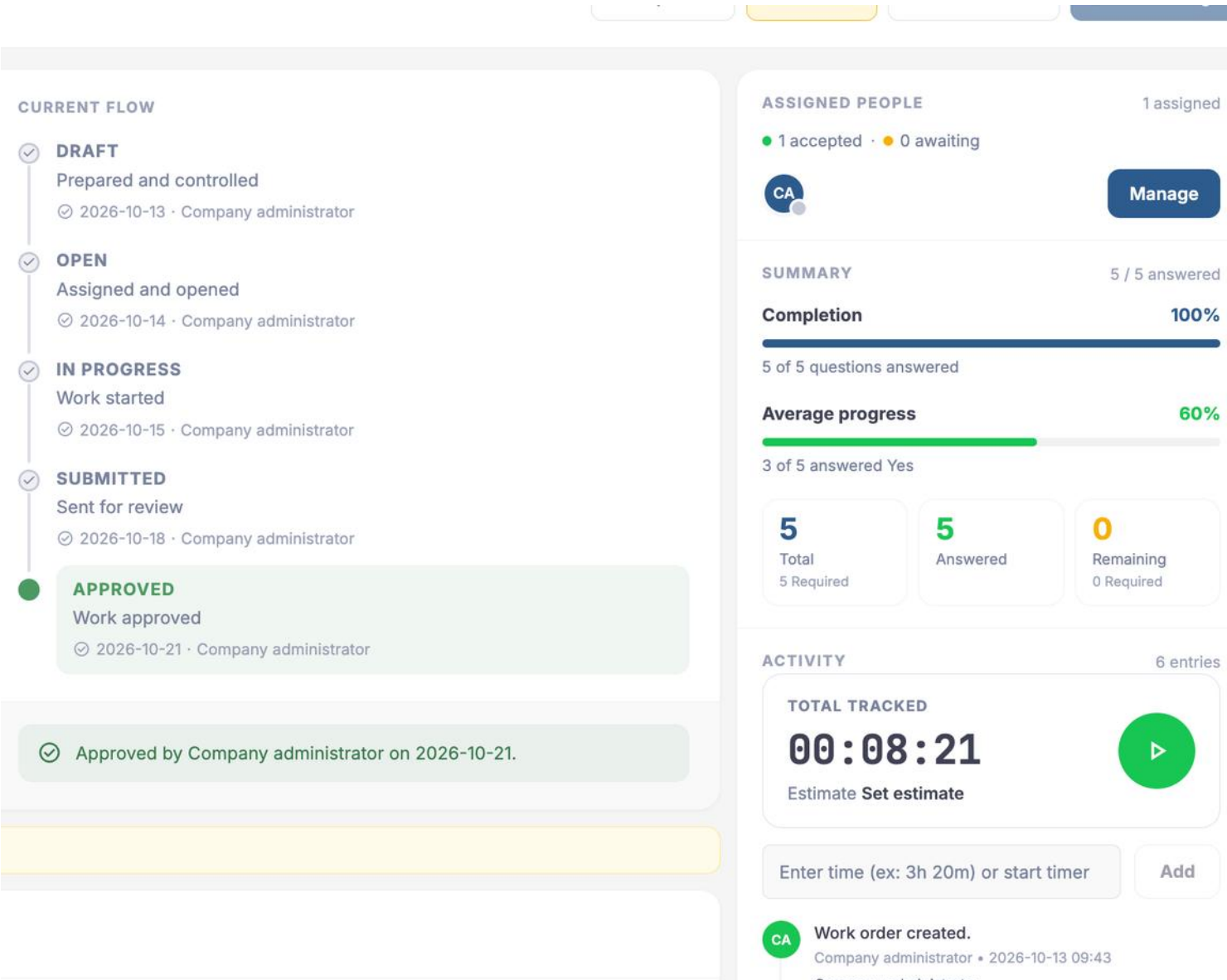
OPERATING CAPABILITY

Training, maintenance information, spares and agreed responsibilities.

REMAINING OBLIGATIONS

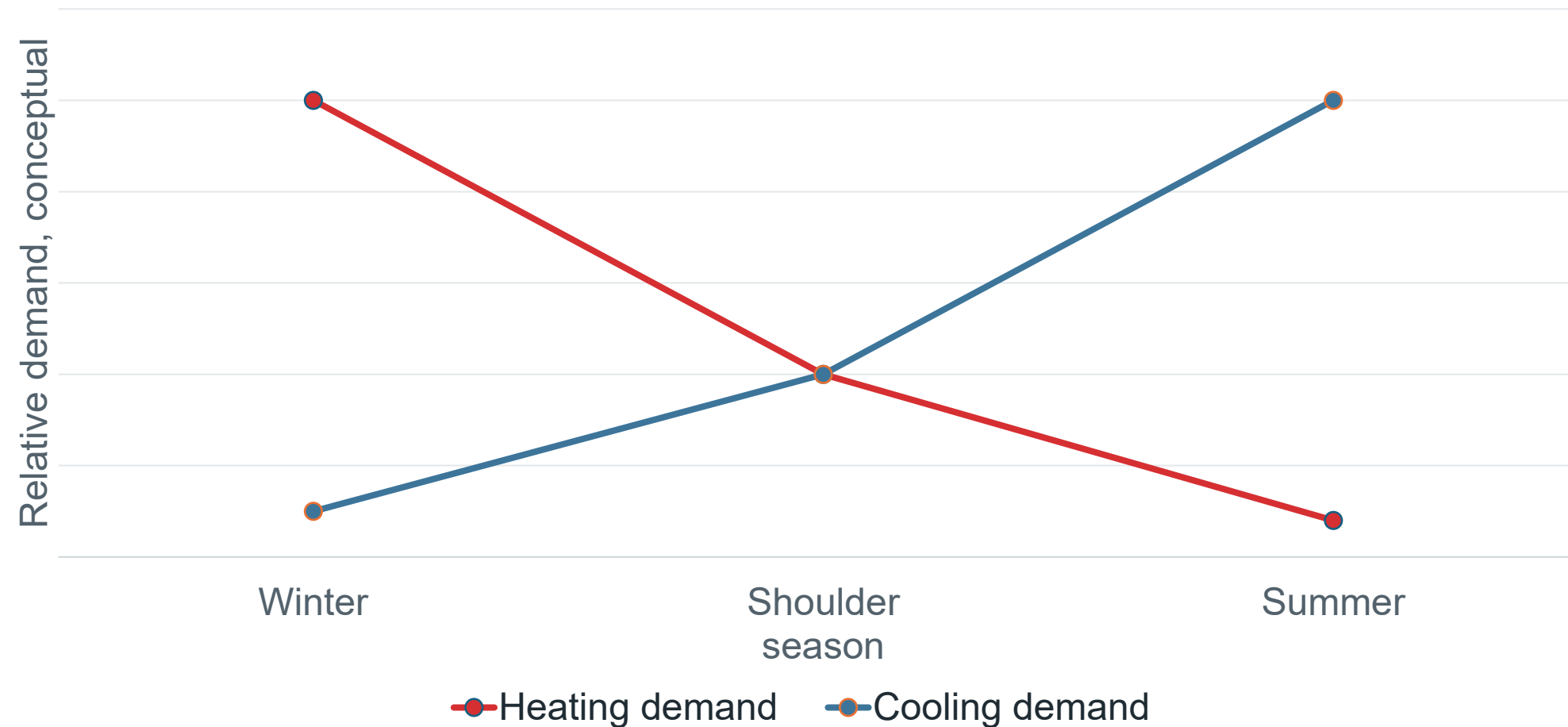
Open or deferred work retains a named owner and completion arrangement.

Illustrative platform review record.



Operation and seasonal verification

Operating hours, occupancy and weather change the conditions a building must serve.



VERIFICATION CONTEXT

Seasonal and deferred checks need defined responsibilities and suitable conditions.

CONTINUING KNOWLEDGE

Verified changes should update systems information and targeted operator training.

Conceptual seasonal pattern for teaching. No project energy consumption, measured saving or acceptance threshold is shown.

Troubleshooting as an investigation

Separate the observation from the hypothesis. Choose authorised evidence that can distinguish between explanations.

Possible explanation	Evidence to understand	Current conclusion
Sequence	Approved recovery logic and observed events	Unconfirmed
Configuration	Current settings, revisions and relevant records	Unconfirmed
Equipment	Actual equipment response and condition	Unconfirmed
Indication or data	Meaning, timing and reliability of the reported point	Unconfirmed

Revise the explanation when the evidence changes.

Competence and engineering integrity

Technical depth and engineering integrity make the evidence dependable.



TECHNICAL COMPETENCE

Understand drawings, sequences and measurements. Learn adjacent disciplines through supervised work.



HONEST RECORDS

Preserve the failed or incomplete result. A correction and retest remain linked to the original finding.



PROFESSIONAL JUDGEMENT

Recognise limits, ask for review and keep an evidence gap visible under deadline pressure.

Commissioning in Europe

Renovation, electrical system upgrading and advanced controls create more interfaces for engineers to understand.



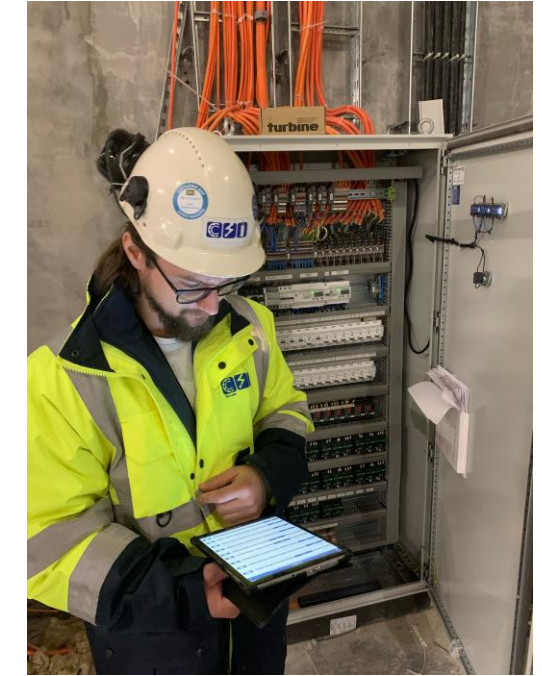
EUROPE'S DIRECTION

The revised EPBD supports better performance and digital information through national implementation.



ENGINEERING OPPORTUNITY

Verify retrofit outcomes, system cooperation and usable information for operators.



AI AND ANALYTICS

Validated data and accountable engineering review remain essential when tools assist investigation.

Career routes you can explore

A first role helps you discover which technical questions and working environments you enjoy.

Career direction	What you learn to connect
Mechanical and electrical commissioning	Equipment behaviour, measurements and performance evidence
Controls and systems integration	Sequences, interfaces, signals and coordinated operation
BIM and asset information	Models, equipment identity, field records and lifecycle data
Energy and sustainability	Measurements, operating context and building performance
Planning and coordination	Technical work, people, schedules and project decisions

A career grows with responsibility

An example management route at CSI. Progress follows competence, contribution and the needs of the organisation.

Role	Increasing contribution
Junior engineer	Learns methods and completes supervised technical tasks
Engineer	Owens a defined technical scope and its records
Senior engineer	Solves harder problems and supports colleagues
Manager	Coordinates a project, discipline or team
Operations manager	Guides delivery and capability across projects
Country manager	Develops local people, delivery and business responsibility
Regional leadership	Connects countries, capability, people development and strategic delivery

Project engineers can become regional leaders

Engineers who joined CSI on these projects now serve as regional directors.

Abu Dhabi Plaza



ASTANA, KAZAKHSTAN

Technical project work can grow into coordination, team leadership and wider regional responsibility.

Zayed International Airport



ABU DHABI, UAE

Learning, collaboration and integrity build the trust needed to lead people and delivery.

Growth from within and specialist depth

Company growth also comes from developing the people already inside it.

LEADERSHIP PATHWAY

Greater responsibility for people, coordination, project delivery and the business.

TECHNICAL PATHWAY

Deeper expertise in a discipline, testing, controls, energy, digital systems or specialist assurance.

SUPPORT FOR GROWTH

Mentoring, feedback, Academy learning and professional development help people prepare for the next responsibility.



Internships connect learning with practice

CSI Global Summer Internship Program 2026, Egypt. A programme already in action.

Technical exposure



INDUSTRY LEARNING

Connect degree subjects with engineering methods, real equipment and professional guidance.

Mentoring and feedback



GOOD LEARNING HABITS

Keep a notebook, ask what the task should establish and explain the result for review.

A pathway for students and universities

A proposed learning pathway pairs CSI Academy with mentoring and practical activities agreed with the university.

Level	Learning focus	Practical connection
Foundations	Building systems, commissioning stages and the purpose of evidence	Guest lectures and guided examples
Practitioner	Procedures, measurements, records and issue management	Workshops and supervised exercises
Lead development	Planning, integrated tests, readiness and coordination	Later experience and guided project responsibility

Course completion records learning. Professional competence also needs experience and appropriate assessment.

The human factor in engineering

Support, collaboration and personal development help technical knowledge become dependable work.

CURIOSITY AND INTEGRITY

Ask what should happen. Record the result honestly, including a failure or uncertainty.

COLLABORATION AND SUPPORT

Communicate clearly, learn across disciplines and ask for help at the limit of your experience.

CONTINUOUS GROWTH

Use feedback, training and practical work to develop capability as technology and responsibility change.



Your next step into engineering



A new project can open a new window

Choose a technical area, bring a question or project you can explain, and tell us your discipline, study year and learning interests.

europe.info@csicx.com
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csicx.com csiglb.com

Questions and discussion

Which part of engineering would you like to explore further?



Project work

International sectors, locations and the work behind major assets.



Commissioning

Requirements, testing, interfaces and evidence.



Your next steps

Learning, internships, technical growth and university collaboration.