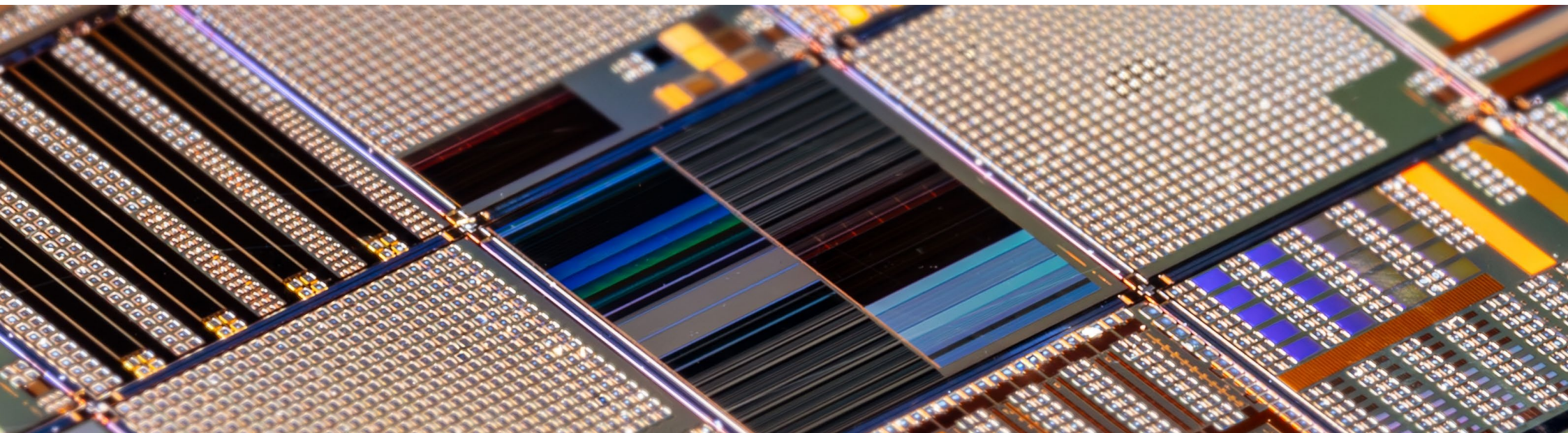




Data analytics and intelligence

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Data analytics and intelligence

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1 Introduction

This guide supports the **Data analytics and intelligence** pathway. It is designed to help you understand more about qualifying in this area. You must use this guide in conjunction with the core assessment documentation, which is available on the [RICS website](#) and consists of:

- Requirements and competencies guide
- Candidate guide for your RICS assessment, e.g. APC, Academic, Senior Professional, Specialist, and
- Counsellor guide.

You can download all the supporting guidance from the [Sector pathways](#) web page. All RICS pathways are global, although it is appreciated that markets may vary from country to country. If you have any queries, please contact your local office.

About the competencies

The RICS competency framework ensures those applying for the RICS qualification are competent to practise and meet the highest standards of professionalism required by RICS. There is a wide range of pathways available to qualify as an RICS professional, covering many different areas of practice.

The RICS assessment aims to assess that you are competent to carry out the work of a qualified chartered surveyor. To be competent is to have the skill or ability to perform a task or function. The RICS competencies are also based on attitudes and behaviours. The competencies are presented in a generic way so they can be applied to different areas

of practice and geographical locations. It is important that you interpret them within the context of your own area of practice or specialism and location.

Each competency is defined at three levels of attainment. You must reach the required level in a logical progression and in successive stages.

Level 1 – knowledge and understanding

Level 2 – application of knowledge

Level 3 – reasoned advice, depth and synthesis of technical knowledge and its implementation.

The competencies are in three distinct categories:

Mandatory – the personal, interpersonal, professional practice and business skills common to all pathways and mandatory for all candidates.

Technical core – the primary skills of your chosen pathway. Candidates must meet all these competencies to level 3.

Technical optional – selected as additional skill requirements for your pathway from a list of competencies relevant to the area of emphasis.

The mandatory competency requirements are set out in detail in the *Requirements and competencies guide*.

Choosing your competencies

It is important that you give careful thought to your choice and combination of competencies. Your choice will inevitably reflect the work you do in your day-to-day environment, driven by the needs of your clients/employer. Your choice and combination of competencies will be a reflection of your judgement.

At the final assessment interview, the assessors will take these choices into account. They will expect you to present a sensible and realistic choice that reflects the skills needed to fulfil the role of a surveyor in your field of practice.

Where to find help

RICS has fully trained teams around the world who will be able to help you with any enquiries. For details of your local office, visit the [Contact us](#) web page.

2 About the pathway

The planning, design, delivery, operation and management of the built and natural environment are increasingly shaped by digital technologies, data and analytics. Digital systems, connected assets and advanced analytical tools now underpin professional decisions across the full asset life cycle – from land and infrastructure planning through to construction, valuation, investment, operational management and decommissioning. AI-enabled tools, including human-directed agentic systems and physical and autonomous tools, are also increasingly used within this landscape, bringing additional considerations around privacy, ethics, governance, explainability and practical application.

The **Data analytics and intelligence** pathway provides a route to RICS membership for professionals whose expertise lies in the effective, ethical application of data and digital technologies in the context of the built and natural environment. It recognises the growing need for trusted professional advice in digital systems, extending core surveying principles – including measurement, management, geospatial understanding and risk assessment – into digital-enabled practice. At all stages, candidates must apply professional judgement to ensure data and digital practices are proportionate, ethical and aligned with RICS standards.

RICS qualification

This pathway is designed for professionals working in data analysis, digital delivery, information management or analytics roles where their work directly informs built environment decisions. While there may be areas of overlap with existing pathways, this route is not intended to replace established RICS professional pathways. Instead, it is aimed at a distinct and emerging professional profile.

Candidates may work within consultancies, delivery and management agencies, public bodies, client organisations, or asset-owning and operating entities. Their roles typically support strategic and operational decision-making relating to land, property, infrastructure and investment by managing data quality, developing analytical insight, integrating digital systems and advising on the responsible use of emerging technologies. These roles may be internal, supporting organisational decision-making, or external, supporting clients or providing fee-earning services.

The pathway places strong emphasis on professional ethics, governance, interoperability and communication. It ensures that digital and data-driven activities deliver transparent, robust and practical outcomes that support the public interest, organisational objectives, market confidence and RICS professional standards across the built and natural environment.

Pathway structure

Mandatory competencies

All candidates must achieve the defined level of the mandatory competencies. These competencies are necessary for all chartered surveyors.

Technical core competencies

These represent the foundational digital and data analytical competencies required of all candidates entering RICS through this pathway, regardless of sector or role, and are demonstrated through their application to built or natural environment contexts.

Technical optional competencies

Candidates must select two optional competencies from a single pooled list, demonstrating one at Level 3 and one at Level 2. This allows candidates to evidence advising-level depth in their primary area of professional practice, alongside applied competence in a second, related area of the built and natural environment.

How competence is demonstrated

This pathway supports professionals working across a range of sectors, disciplines and organisations within the built and natural environment. Unlike the RICS pathways that are aligned to a single, well-defined area of practice, it is intentionally principles-based rather than prescriptive, reflecting that diversity.

In light of this, coupled with the rapid pace of change in data, digital technology and AI, the examples given for each competency are illustrative, not exhaustive, and are not a checklist.

- Candidates do not require expertise across every area of the pathway but should demonstrate competence in the context of their own role, sector, geographical location and area of professional practice. Assessors will judge the submission evidence in that context.
- Candidates are not expected to cover every application but should demonstrate knowledge of the metrics, methodologies, legislation and standards relevant to their own area of practice.
- Candidates should demonstrate sufficient understanding of the data, technologies and methods commonly used in their field, their appropriate use, risks and limitations and the point at which specialist input is required.
- Assessors may reasonably expect evidence of contemporary tools, methods and expectations relevant to the candidate's discipline.
- Each core and optional competency must be evidenced through a distinct example. A candidate may draw on the same project or organisation across competencies, but the evidence for each must be separate and demonstrate that particular skill.
- Knowledge should reflect current practice rather than only historic experience.
- Candidates should also maintain an awareness of emerging technologies and digital trends that may affect future practice. They are not expected to be specialists in every development but should be able to discuss those relevant to their area.
- Candidates can use evidence from many different parts of the built and natural environment.
- Candidates must show how their work supports built and natural environment outcomes through professional application, not through data or technical activity in isolation. Data and analytical outputs may inform professional judgement but do not replace it.

3 Pathway requirements

Mandatory	Core	Optional
Level 3 • Ethics, Rules of Conduct and professionalism Level 2 • Client care • Communication and negotiation • Health and safety Level 1 • Accounting principles and procedures • Business planning • Conflict avoidance, management and dispute resolution procedures • Data management • Diversity, inclusion and teamworking • Inclusive environments • Sustainability	Level 3 • Ethics and professional responsibility in a digital environment • Data governance and data operations • Data analytics and insight Level 2 • Data and digital practice across the built and natural environment life cycle Level 1 • Cybersecurity and digital resilience	Select one at Level 2 and one at Level 3 • Geospatial data and GIS • Information management in construction and the built and natural environment • Data-driven valuation and risk analysis • Digital transformation strategy and innovation management • Sustainability and ESG data • Smart assets and digital twins

4 Technical competencies guidance

Technical core competencies

Ethics and professional responsibility in a digital environment

This competency addresses the application of ethical, legal and professional responsibilities in a digital and data environment, particularly where digital outputs influence built environment decisions, market behaviour or public interest outcomes.

Examples of likely knowledge, skills and experience at each level

Level 1

Demonstrate understanding of ethical principles relating to data use, including fairness, transparency, privacy and professional conduct.

Examples of knowledge at this level are:

- Understanding ethical risks associated with data use across the built and natural environment life cycle
- Awareness of privacy, confidentiality and data protection principles in relation to property and land data
- Understanding professional accountability when digital outputs influence real-world decisions
- Awareness of bias, misuse, or inappropriate reliance on automated tools

Level 2

Apply ethical and professional standards when managing, analysing or sharing data that informs built environment decisions.

Examples of activities and knowledge at this level are:

- Applying ethical judgement to data projects affecting assets, markets or communities
- Identifying and mitigating bias or misuse in analytical models used for decision-making, such as in valuation, risk or performance assessment
- Ensuring transparency and explainability of AI and digital outputs provided to clients or stakeholders. This should include potential bias in data, prompts and models
- Applying responsible practices in the use of automation or AI in built environment contexts

Level 3

Advise on or apply ethical digital and data practices within a professional context, promoting trust and professional accountability.

Examples of activities and knowledge at this level are:

- Advising on or influencing ethical frameworks or governance approaches for digital, data or AI-enabled activities in organisations or professional contexts. This may include, for example, procurement, deployment and explainability
- Advising on responsible innovation where digital tools or analytical outputs affect safety, value, market confidence or public interest outcomes
- Representing ethical considerations in governance, regulatory or professional discussions, where appropriate to the candidate's role
- Promoting professional standards in digital practice aligned with RICS' principles and the Rules of Conduct

Data governance and data operations

This competency focuses on establishing and applying robust principles for data governance, data management, quality assurance and interoperability to support trusted, reliable decision-making in the built and natural environment.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand core principles of data governance and data management, including ownership, stewardship, life cycle management, data quality and the role of standards and identifiers.

Examples of knowledge at this level are:

- Understanding data ownership, accountability and stewardship in property, land and infrastructure contexts
- Awareness of data life cycle considerations, including collection, maintenance, retention and appropriate use
- Understanding key data quality principles and why they matter for valuation, asset management, reporting and/or compliance
- Awareness of the role of data standards, schemas and common identifiers in enabling consistency and interoperability
- Understanding common interoperability challenges across the built and natural environment

Level 2

Apply data governance, management and quality principles to ensure data is appropriate, reliable, accessible and compliant for built and natural environment use cases.

Examples of activities and knowledge at this level are:

- Applying data management practices to ensure that core datasets are reliable, consistent and suitable for asset, portfolio or operational decision-making
- Implementing proportionate data quality checks and assurance processes
- Applying relevant data standards, schemas or identifiers to support data exchange and collaboration
- Managing data access, permissions and compliance requirements in line with organisational and regulatory expectations
- Ensuring responsible sourcing, structuring and validation of data

Level 3

Influence or advise on data governance and data management approaches that underpin professional confidence in built environment data.

Examples of activities and knowledge at this level are:

- Designing and influencing proportionate governance and data management frameworks aligned with organisational or asset-level objectives
- Advising on initiatives that improve interoperability and data consistency across systems, stakeholders or the market
- Advising on how data quality, internal and external data standards, assurance and compliance principles are applied within digital delivery and operational models
- Advising on long-term data structure and governance approaches that are aligned with sector standards and professional obligations to help operational teams, clients or other stakeholders

Data analytics and insight

This competency focuses on the principled analysis, interpretation and communication of data to generate insight that informs professional judgement and supports built environment decision-making and objectives. It recognises that analytics may range from descriptive analysis through to advanced, predictive or model-based approaches, with increasing levels of professional responsibility and assurance at higher levels.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand core analytical concepts, limitations and the role of communication in transforming data into insight in built environment contexts.

Examples of knowledge at this level are:

- Awareness of how analytical insight informs decisions across the built and natural environment in roles such as valuation, asset management, infrastructure planning, land use and environmental assessment
- Understanding descriptive and exploratory analysis and how it supports built environment decision-making and alignment with defined business or asset-related objectives
- Awareness of the importance of communicating analytical findings clearly and appropriately for different audiences, including common visualisation approaches
- Understanding how data quality, assumptions, bias and uncertainty affect analytical outcomes
- Awareness of emerging analytical and AI-enabled approaches (including the use of prompts, automated query methods and context windows to guide AI models), their potential applications and their limitations in professional practice

Level 2

Apply analytical methods to produce and clearly communicate insights that support defined built and natural environment decisions, exercising appropriate professional judgement and accountability.

Examples of activities and knowledge at this level are:

- Producing and communicating analysis to support a specific built or natural environment decision, e.g. benchmarking building energy or condition data to inform maintenance planning, analysing transaction or rental data to support a valuation, or interpreting land or environmental datasets to support operational decisions
- Analysing datasets to identify patterns, trends or relationships relevant to assets, markets or operations
- Translating analytical findings into clear, decision-relevant insight aligned with asset, organisational or stakeholder needs, using appropriate tools, e.g. reports, dashboards and/or models
- Communicating assumptions, limitations, uncertainty and confidence levels to both technical and non-technical stakeholders, including through visualisations or models
- Developing and using prompts, analytical queries or structured workflows in a way that ensures transparency, explainability and alignment with professional standards and organisational governance. This should include documentation and validation to ensure consistency and repeatability

Level 3

Advise on the use of data analytics and insights to influence decisions in the built and natural environment, within the candidate's professional practice area. This should include the ability to clearly articulate how the data has led to a specific outcome or decision.

Examples of activities and knowledge at this level are:

- Advising clients or decision-makers on how analytical insight should inform professional judgement. Examples include advising on portfolio, infrastructure or environmental strategy informed by analytics, or advising on the reliability and limitations of a data-driven valuation or risk model
- Shaping analytical priorities and policies aligned with asset, portfolio, organisational or sector objectives, including reviewing, challenging and assuring analytical methods are proportionate, explainable and decision-focused
- Providing oversight or guidance on how analytics, from descriptive to predictive and including AI-enabled approaches, are embedded into digital workflows and decision processes, ensuring insight is actionable
- Advising on the validation, assurance, ethics and review processes for complex or higher-risk analytical models where outputs materially influence professional judgement, investment decisions, market behaviour or public interest outcomes
- Presenting or advising senior decision-makers on complex analytical insights, fostering understanding and informed action

Data and digital practice across the built and natural environment life cycle

While many professional roles are focused on a particular stage of a building's life cycle or a particular discipline, data can be used across multiple stages and disciplines. This competency covers understanding the role of data within, and beyond, the candidate's direct area of practice.

Candidates are not expected to have in-depth knowledge of the entire built and natural environment life cycle. They are expected to demonstrate depth in their primary domain, working knowledge of the adjacent stages that directly feed into or draw from their work (the data they inherit and the data they hand on), and an awareness of how data decisions in one stage affect others across the wider life cycle.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand the role of data across the built and natural environment life cycle, including key asset types, life cycle stages, stakeholders and regulatory contexts. Understand how data supports planning, delivery, operation, valuation and investment decisions.

Examples of knowledge at this level are:

- Awareness of major built and natural environment sectors (e.g. residential, commercial, infrastructure, land)
- Awareness of whole asset life cycles, from planning and development through to operation, refurbishment and disposal
- Understanding how data and AI support professional surveying activities across the built and natural environment
- Awareness of key public and private sector stakeholders and their information needs

Level 2

Apply understanding of the role of data across the built and natural environment life cycle to support data-driven analysis, reporting or advisory work. Demonstrate an understanding of how data use changes across and influences decisions at different stages of the built and natural environment life cycle.

Examples of activities and knowledge at this level are:

- Supporting analysis aligned to asset performance, valuation, investment or operational outcomes. This could include identifying gaps in the data that might affect analysis
- Interpreting data in planning, regulatory or market contexts
- Working with multidisciplinary teams to translate data into built environment insight
- Explaining how data decisions may influence future data use or capability

Level 3

Advise clients or decision-makers on data-enabled decisions and digital systems across projects, portfolios or organisations, taking account of the adjacent and wider stages of the life cycle relevant to the decision.

Examples of activities and knowledge at this level are:

- Advising senior stakeholders on long-term data-informed asset, portfolio or place-based strategies
- Understanding data standards' availability and approaches across the built and natural environment and advising on data standard appropriateness
- Integrating operational, financial and performance data into investment, governance or organisational long-term decision-making
- Advising on how digital systems and insight inform professional judgement and risk management
- Advising on data-informed decisions, drawing on evidence from the adjacent and wider stages of the life cycle relevant to the decision

Cybersecurity and digital resilience

This competency covers the management of digital risk, information security and the resilience of the data systems and connected assets used across the built and natural environment. It includes protecting the confidentiality, integrity and availability of information and maintaining the continuity of the systems that hold and process it, so that services can withstand and recover from disruption caused by accidental failure, technical fault or deliberate attack.

Candidates are expected to understand how these risks arise and to recognise the professional and regulatory responsibilities.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand basic cybersecurity principles and risks.

Examples of knowledge at this level are:

- Understanding cyber threats to digital and data systems, such as unauthorised access and data breaches, and the relationship between threat, vulnerability and impact that underpins how risk is assessed
- Awareness of risks to built environment operations, including the exposure created by connected building systems, operational technology, sensors and remote access to physical assets
- Understanding regulatory considerations relevant to data and digital systems, including data protection and privacy obligations and any sector-specific security requirement in the jurisdiction in which the candidate operates
- Awareness of incident impacts, including operational disruption, financial and reputational loss and harm to individuals whose personal data is compromised

Level 2

Apply security controls and risk management measures.

Examples of activities and knowledge at this level are:

- Supporting security control implementation, such as access management, encryption, network segmentation, patching and monitoring, under appropriate supervision
- Managing digital risks affecting assets, including identifying and recording risks, assessing their likelihood and impact, and helping to put mitigations in place
- Supporting resilience planning, for example by contributing to backup and recovery arrangements, incident response procedures and their testing
- Applying best practice and relevant standards to day-to-day security and resilience tasks

Level 3

Advise on digital resilience and cybersecurity strategies.

Examples of activities and knowledge at this level are:

- Advising on organisational cyber strategy, risk strategy and/or business continuity plans, taking account of the organisation's risk appetite and regulatory environment
- Advising and supporting digital risk management, including prioritising risks, recommending investment in controls and reviewing their effectiveness
- Guiding governance decisions relating to digital risk, including policy, roles and responsibilities and assurance arrangements
- Communicating cyber and digital risk clearly to senior leadership, clients and other stakeholders, translating technical issues into business terms to support decision-making, where appropriate to the candidate's role

Technical optional competencies

Geospatial data and GIS

This competency covers the use of spatial data and geographic information systems (GIS) to capture, manage, analyse and present location-based information that supports decisions about land, planning, the environment and physical assets.

It includes understanding the different types of spatial data and how they are structured, referenced to a coordinate system and assessed for accuracy, together with the analytical techniques used to combine and interpret them.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand principles of GIS, spatial data and mapping, as well as the integration of land and environmental spatial datasets.

Examples of knowledge at this level are:

- Understanding spatial data types, coordinate systems and projections
- Awareness of common geospatial datasets used in the built and natural environment, including land and environmental layers
- Understanding how spatial data supports planning, land management, valuation and environmental decisions
- Awareness of accuracy and limitation considerations

Level 2

Apply geospatial tools to analyse and integrate spatial datasets, particularly those related to land use and environmental planning.

Examples of activities and knowledge at this level are:

- Analysing land, asset or environmental data using GIS tools
- Integrating spatial datasets to support planning, investment, valuation and environmental decisions
- Producing maps to communicate insights related to land and environmental contexts
- Supporting decision-making through spatial interpretation

Level 3

Advise on geospatial analysis and the integration of spatial data for land and environmental strategies.

Examples of activities and knowledge at this level are:

- Advising on spatial analysis to inform land, asset, valuation and environmental strategy
- Advising on spatial data integration for environmental planning.
- Influencing planning or infrastructure decisions with geospatial insights
- Advising on spatial data risks and limitations in land and environmental contexts

Information management in construction and the built and natural environment

This competency focuses on the application of information management principles and practices across the asset life cycle to support effective project delivery, including construction information management, cost analysis and whole life asset performance.

It covers the application of information management principles and practices to define, structure, exchange and hand over asset and project information across the life cycle – and the standards, requirements and processes that make information consistent, accessible and interoperable for delivery and operation.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand information management principles within the built and natural environment.

Examples of knowledge at this level are:

- Understanding information management concepts, information models and standards
- Awareness of construction cost data and structures
- Awareness of data structures applicable to relevant areas of practice, including relevant classification/categorisation systems and schemas
- Understanding the data relationship between design, quantities and cost
- Awareness of digital twins and their application

Level 2

Apply information management and data-driven approaches within the built and natural environment, for example, relating to building design, benchmarking and performance analysis.

Examples of activities and knowledge at this level are:

- Applying information management concepts and information models to building design and use decisions
- Analysing construction performance and cost risk
- Supporting information management across project stages
- Communicating insights to stakeholders
- Awareness of how structured asset information provided at handover supports facilities management and operation
- Applying information management practices to ensure that accurate, structured and interoperable asset information is transferred at handover and/or used effectively during asset operation

Level 3

Advise on best practice information management activities across an organisation or project.

Examples of activities and knowledge at this level are:

- Defining and implementing organisational or project information management plans
- Defining and implementing Project Information Requirements/Exchange Information Requirements, architecture and plans
- Advising on the definition of Organisational Information Requirements, Asset Information Requirements and handover strategies
- Advising on digital cost management approaches
- Influencing adoption of information management standards
- Advising senior stakeholders on the risks of information management for a building or project

Data-driven valuation and risk analysis

This competency covers the integration of data and analytical methods into valuation, appraisal and risk assessment. It includes sourcing and evaluating the market, asset and reference data on which an opinion of value or a risk assessment depends, applying appropriate analytical and statistical techniques, and testing the assumptions, sensitivities and limitations that sit behind the outputs.

Candidates are expected to use these methods within the framework of established valuation standards, and to exercise professional judgement in interpreting analytical results rather than relying on them uncritically.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand how data influences valuation and investment risk.

Examples of knowledge at this level are:

- Explaining how data can support valuation, appraisal or investment risk analysis
- Understanding valuation data sources, market evidence, asset datasets and automated valuation models (AVMs)
- Understanding that model outputs depend on assumptions, methodology and market context
- Awareness of market and asset datasets
- Understanding risk assessment principles
- Understanding assumptions, uncertainty and professional judgement in valuation-related analysis

Level 2

Apply analytical models and datasets to support valuation and risk decisions.

Examples of activities and knowledge at this level are:

- Supporting valuation using datasets and models
- Analysing market, asset or performance data to support valuation or risk-related work
- Understanding the appropriate application of AVMs or analytical models appropriately and advising on limitations
- Using datasets and models to support investment decisions
- Communicating results and findings to valuers, clients or other stakeholders
- Assessment of data provenance, quality and relevance before undertaking analysis

Level 3

Advise on data-led valuation or investment risk strategies.

Examples of activities and knowledge at this level are:

- Advising on how data-led analysis should support valuation, appraisal or investment risk strategy
- Advising on limitations of models, data quality, uncertainty or appropriate reliance
- Challenging analytical conclusions where data quality, comparability or methodology reduced confidence
- Advising on the development and responsible application of valuation models
- Advising on the appropriate application of AVMs
- Using the results of data-led valuation models to provide strategic advice that influences investment decisions
- Advising on professional judgement and limitations

Digital transformation strategy and innovation management

This competency covers the management and delivery of digital transformation and innovation initiatives in the built and natural environment. This includes ensuring that digital change is proportionate, ethically aligned and demonstrably delivers value while managing risk, legacy constraints and organisational or client impact.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand the drivers of digital transformation.

Examples of knowledge at this level are:

- Understanding and recognising key drivers of change in the built and natural environment
- Understanding digital business models
- Being aware of digital tools that support change and innovation
- Understanding organisational impacts
- Identifying risks relating to digital adoption

Level 2

Deliver digital initiatives, implementing change management processes and supporting digital change to deliver defined organisational or client outcomes.

Examples of activities and knowledge at this level are:

- Coordinating stakeholder workshops to drive alignment
- Supporting the architecture and implementation of digital platforms
- Aligning digital roadmaps with organisational strategy
- Managing change processes
- Effectively communicating both benefits and risks

Level 3

Advise on digital and/or data transformation strategies aligned to project/organisational objectives: define success measures, provide governance and assurance, and intervene if initiatives do not deliver value or introduce unacceptable risk.

Examples of activities and knowledge at this level are:

- Ensuring ethical alignment
- Advising on enterprise-wide digital strategy
- Advising on or supporting complex transformation programmes
- Influencing executive investment decisions
- Influencing digital innovation and transformation programmes across the organisation
- Anticipating future technological trends

Sustainability and ESG data

This competency focuses on the application of sustainability and environmental, social and governance (ESG) data to support environmental performance, reporting, investment and sustainability strategies across the built and natural environment.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand ESG metrics, market data sources and the integration of sustainability considerations into decision-making.

Examples of knowledge at this level are:

- Understanding core sustainability metrics and concepts, including operational and embodied/whole-life carbon, energy performance and resource use alongside ESG principles
- Awareness of environmental and natural-capital datasets (biodiversity, land use, flood and climate risk) as well as market and ESG datasets relevant to the built and natural environment.
- Awareness of embodied and whole-life carbon data, Environmental Product Declarations (EPDs) and material data sources relevant to construction and design decisions
- Understanding how methodology choices and normalisation approaches can affect comparability between assets, portfolios and organisations.
- Understanding sustainability and ESG reporting requirements and their data limitations.

Level 2

Analyse ESG and market data to inform investment, reporting and sustainability decisions.

Examples of activities and knowledge at this level are:

- Analysing energy, carbon or environmental performance data to inform asset management, retrofit or land management decisions
- Analysing biodiversity, natural capital or land use data to support environmental assessment, planning or sustainability decisions
- Sourcing, validating and integrating sustainability and ESG data into performance reporting
- Integrating sustainability data into portfolio reporting, investment appraisals or performance benchmarking
- Communicating sustainability and ESG insights clearly to clients and stakeholders

Level 3

Advise on ESG data integration and sustainability strategies to inform organisational decision-making.

Examples of activities and knowledge at this level are:

- Advising on sustainability and decarbonisation data strategy across an asset, portfolio or landholding
- Advising on the use of carbon, energy and material data to inform design, construction, retrofit or procurement strategy.
- Advising on ESG analytics and the integration of sustainability into governance
- Influencing reporting, investment and sustainability decisions through ESG insights
- Advising senior stakeholders on sustainability and ESG risks and sustainability opportunities
- Advising on the use of carbon and sustainability data to inform design, construction or procurement strategy
- Advising how climate risk, carbon exposure, certification status or sustainability performance should inform strategic decisions

Smart assets and digital twins

This competency focuses on integrating smart building technologies and digital twins to optimise built environment performance. It recognises the role of real-time data, automated systems and digital replicas in enhancing sustainability, efficiency and decision-making across assets.

Application of connected technologies and digital twins to capture, integrate and act on real-time and operational data from physical assets – using live monitoring, simulation and dynamic digital replicas to optimise performance, resilience and decision-making during operation.

Examples of likely knowledge, skills and experience at each level

Level 1

Understand the core concepts and purpose of smart building systems, digital twins and their data flows.

Examples of knowledge at this level are:

- Awareness of smart sensors, internet-of-things (IoT) networks and how digital twins mirror physical assets
- Understanding how real-time data feeds into digital twins to simulate and monitor building performance
- Awareness of data security, interoperability and ethical use of building data
- Understanding the potential risks arising from combining datasets that were not originally collected for people-related purposes
- Understanding the limitations of sensor-derived information and operational data

Level 2

Apply smart technologies and digital twins to enhance building operations or asset management.

Examples of activities and knowledge at this level are:

- Implementing digital twin models to track energy use, maintenance needs or occupancy patterns
- Informing and implementing a smart asset strategy involving a broad range of technologies
- Using real-time data from smart systems to optimise building performance or sustainability outcomes
- Validating sensor data before using it for operational or strategic decisions
- Ensuring clear communication of digital twin outputs to stakeholders, supporting operational decisions

Level 3

Advise on strategic adoption of smart building technologies and digital twins to shape long-term asset strategies.

Examples of activities and knowledge at this level are:

- Advising on digital twin integration at portfolio or city scale, influencing investment or policy decisions
- Advising on the development of ethical frameworks for smart building data use and digital twin transparency
- Challenging proposals that introduced disproportionate privacy, cybersecurity or governance risks
- Advising on and defining a smart asset strategy involving a broad range of technologies
- Championing innovations that use digital twins to enhance resilience, safety and user experience in the built and natural environment

Delivering confidence

We are RICS. As a member-led chartered professional body working in the public interest, we uphold the highest technical and ethical standards.

We inspire professionalism, advance knowledge and support our members across global markets to make an effective contribution for the benefit of society. We independently regulate our members in the management of land, real estate, construction and infrastructure. Our work with others supports their professional practice and pioneers a natural and built environment that is sustainable, resilient and inclusive for all.

Enquiries
contactrics@rics.org



[rics.org](https://www.rics.org)