

INDUSTRY-SPECIFIC AUDIT INTELLIGENCE HANDBOOK

Building Industry Intelligence for Auditors and Assurance Professionals Book 2 | Foundation Volume | First Edition
| 2026 Amir Abbas Mousapour INDUSTRY-SPECIFIC AUDIT INTELLIGENCE HANDBOOK SERIES

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Professional Judgment

This handbook is intended to support professional judgment. It is not intended to replace professional judgment.

No framework, model, methodology, checklist, scoring system, assessment tool, or analytical approach presented within this handbook should be applied without consideration of:

Relevant areas include: Organizational context; Industry conditions; Regulatory requirements; Contractual obligations; Applicable standards; Professional competence; and Available evidence.

Users of this handbook remain responsible for exercising appropriate professional judgment at all times.

Industry Intelligence Models and Frameworks

The concepts, models, frameworks, methodologies, maturity models, scoring approaches, and analytical tools presented throughout this handbook are intended to support structured thinking and professional evaluation. They are not intended to constitute mandatory requirements, certification criteria, accreditation criteria, regulatory obligations, legal requirements, or universally applicable assessment methods. Organizations, auditors, certification bodies, accreditation bodies, consultants, and other users may adapt these concepts according to their specific needs and circumstances.

Future-Oriented Concepts

Certain concepts presented within this handbook address emerging topics, future trends, evolving professional practices, and forward-looking perspectives.

The following examples illustrate the point.

In practice, this includes: Industry Intelligence; Future Intelligence; Problem Discovery Capability; Learning Velocity; Human Judgment Governance; Artificial-Intelligence-Augmented Auditing; and Strategic Internal Auditing.

Such concepts represent professional viewpoints, analytical frameworks, and areas of ongoing development rather than universally accepted requirements or established standards. Readers are encouraged to evaluate these concepts critically and apply them according to their professional context.

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Acknowledgment

The author extends appreciation to the global auditing, assurance, conformity assessment, accreditation, quality, risk, and management systems communities whose collective experience, professional practice, and continuous pursuit of improvement have contributed to the ideas explored throughout this handbook. Professional knowledge advances through learning, discussion, critical thinking, and the exchange of ideas. This handbook is offered in that spirit.

First Edition, Reader Participation and Continuing Improvement

This Foundation Volume is the first edition of Book 2 in the Industry-Specific Audit Intelligence Handbook Series. It establishes the common concepts and methods on which the future industry-sector volumes will be developed. A first edition is both a publication and an invitation to professional dialogue: it presents a reasoned body of work while recognizing that auditing knowledge becomes stronger when it is tested against credible field experience, scientific evidence, regulatory developments, and informed criticism.

Invitation to the Professional Community

Auditors, lead auditors, technical experts, accreditation and certification professionals, regulators, researchers, educators, industry practitioners, students, and other readers are invited to contribute to the continuing development of this handbook series. Useful submissions may include verified corrections, missing considerations, practical audit examples, industry-specific observations, lessons from incidents or effective practice, proposed scientific or official references, improved diagrams, terminology clarifications, and ideas for future sector volumes.

A submission should identify the relevant book, edition, chapter, section, table, figure, or page. Technical and scientific proposals should include a traceable source wherever possible. Experience-based contributions should describe the context, evidence, limitations, and conditions under which the lesson may be transferable, while protecting confidential, personal, client, certification, and proprietary information.

Review, Verification and Author Approval

Accepted material may be incorporated, adapted, summarized, cited, or used to guide a future revision. The author retains responsibility for the final wording, structure, interpretation, and publication decision. This review process is intended to encourage the responsible exchange of knowledge without weakening scientific discipline, professional judgment, or the evidential boundaries of the handbook.

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About the Author

Amir Abbas Mousapour is an international auditing, management systems, and assurance professional with more than two decades of experience in auditing, consulting, training, conformity assessment, and organizational improvement across multiple industries. Throughout his professional career, he has worked with organizations ranging from small and medium-sized enterprises to large industrial and service organizations, supporting management system implementation, auditing, performance improvement, and organizational development initiatives. His professional experience includes auditing, technical review, management system consulting, auditor training, process improvement, risk-based management approaches, and industry-specific evaluation activities across a wide range of sectors.

Over the years, he has developed a particular interest in the relationship between auditing effectiveness and industry understanding.

This interest led to a recurring observation:

Many auditors possess strong knowledge of standards, requirements, and audit methodologies, yet often have limited understanding of the industries they audit. This observation became the foundation for the development of the Industry Intelligence concept and ultimately the creation of the Industry-Specific Audit Intelligence Handbook Series.

His work increasingly focuses on expanding auditing beyond traditional conformity assessment and toward a broader understanding of:

The main examples are: Industry dynamics; Risk architecture; Organizational learning; Systems thinking; Future readiness; Problem discovery capability; Human judgment; and Industry Intelligence.

In addition to traditional auditing topics, his professional interests include the future of auditing, the impact of artificial intelligence on assurance activities, organizational resilience, strategic internal auditing, learning velocity, and emerging approaches to evaluating organizational performance. Through this handbook series, he aims to help auditors and assurance professionals develop stronger industry understanding, improve professional judgment, and conduct audits that provide greater value to organizations and stakeholders. The Industry-Specific Audit Intelligence Handbook Series reflects an ongoing effort to bridge the gap between auditing competence and industry competence while promoting a deeper understanding of how industries function, evolve, and respond to change.

His long-term vision is to contribute to the continued advancement of auditing and assurance practices by encouraging a more informed, analytical, industry-aware, and future-oriented approach to professional evaluation.

Professional Areas of Interest

Management Systems Auditing Industry Intelligence Conformity Assessment Organizational learning Risk-Based Thinking

Systems Thinking Organizational Resilience problem-discovery capability Future-Oriented Auditing Strategic Internal Auditing

Human judgment Governance artificial intelligence and Assurance

Author's Perspective

"Effective auditing is not merely about determining conformity. It is about understanding organizations. The deeper we understand industries, risks, people, systems, and change, the more valuable auditing becomes." — Amir Abbas Mousapour

About This Handbook Series

Why This Series Was Developed

Most auditing literature focuses primarily on standards, requirements, conformity assessment methodologies, audit techniques, and management system implementation. These resources are valuable and necessary. However, a significant challenge remains. Many auditors possess strong knowledge of management system standards and audit methodologies, yet have limited understanding of the industries they audit.

An auditor may understand audit principles and certification requirements very well while possessing only limited knowledge of:

Typical examples include: Industry structures; Operational realities; Technologies; Production methods; Service delivery models; Industry risks; Regulatory environments; Stakeholder expectations; and Industry-specific terminology.

This gap can significantly reduce audit effectiveness. The ability to understand an industry is often as important as understanding the applicable standard. This handbook series was developed to help bridge that gap.

Beyond Standards: Understanding Industries

Traditional audit references typically focus on answering questions such as:

Traditional audit references usually focus on requirements, evidence, conformity and the documentation of findings.

These questions are important.

However, Industry Intelligence requires additional questions:

Industry Intelligence adds a wider set of questions: how the industry creates value, where critical risks arise, which controls prevent failure, what drives performance, how decisions are influenced, what future changes may reshape the industry and what auditors should understand before entering the sector.

This handbook series focuses on answering those questions.

What Is Industry Intelligence?

Industry Intelligence is a professional capability that enables auditors and assurance professionals to understand how industries function. It extends beyond compliance, documentation, and technical terminology.

Industry Intelligence includes understanding:

The main areas to consider are: Industry structures; Value creation mechanisms; Operational environments; Technologies; Risks; Controls; Stakeholders; Regulatory influences; Organizational culture; System interactions; Emerging trends; and Future challenges.

Industry Intelligence helps transform auditing from a documentation-focused activity into a deeper understanding of organizational reality.

The Purpose of the Handbook Series

The primary purpose of this series is to support the development of Industry-Intelligent Auditors and Assurance Professionals.

The series aims to help readers:

It helps readers understand unfamiliar industries more quickly, improve audit preparation, recognize critical risks, identify critical controls, understand industry terminology, ask more meaningful questions, improve professional judgment and enhance audit effectiveness.

Structure of the Handbook Series

The series consists of two major components.

Foundation Volume

The Foundation Volume introduces the common concepts, methodologies, frameworks, and analytical tools required to develop Industry Intelligence.

Topics include:

Relevant areas include: Auditor competence; International accreditation and industry classification systems; Industry analysis methodologies; Risk intelligence; Stakeholder intelligence; Systems thinking; Organizational culture; Complexity analysis; Future intelligence; Problem discovery capability; Learning velocity; and Industry-focused audit preparation.

The Foundation Volume serves as the common foundation for all subsequent industry-specific volumes.

Industry-Specific Volumes

Following the Foundation Volume, individual handbook volumes examine specific international accreditation industry sectors and industries in significantly greater depth.

Each volume is designed to provide practical Industry Intelligence regarding:

In practice, this includes: Industry structure; Products and services; Operational processes; Technical concepts; Regulatory requirements; Industry terminology; Critical risks; Critical controls; Performance indicators; Common audit trails; Failure modes; and Industry-specific audit considerations.

The objective is to provide auditors with practical industry understanding before entering unfamiliar sectors.

Who Should Use This Series?

This handbook series is intended for:

The main examples are: Management System Auditors; Lead Auditors; Internal Auditors; Certification Auditors; Technical Reviewers; Accreditation Assessors; Compliance Professionals; Consultants; Trainers; Risk Professionals; and Assurance Practitioners.

Although many examples may reference management system auditing, the concepts presented throughout the series are broadly applicable across assurance, compliance, conformity assessment, and evaluation activities.

Long-Term Vision

The long-term vision of this handbook series is to create one of the most comprehensive industry-focused auditing and assurance references available worldwide. Rather than focusing exclusively on standards, the series focuses on understanding industries. Rather than emphasizing conformity alone, the series emphasizes understanding. Rather than concentrating solely on historical performance, the series encourages consideration of future risks, emerging changes, organizational learning, resilience, and adaptability.

The ultimate objective is simple:

To help auditors and assurance professionals better understand the industries they evaluate and make more informed professional judgments.

A Different Perspective on Auditing

At its highest level, auditing is not merely about verifying conformity; it is about understanding organizations; understanding how they create value; understanding how they manage risk; and understanding how they learn.

Understanding how they adapt. understanding how they prepare for the future. Industry Intelligence provides a framework for developing that understanding. This handbook series is dedicated to supporting that journey.

How to Use This Handbook

Purpose of This Handbook

This handbook is not intended to be read as a traditional reference book that is consulted only when a specific question arises. Instead, it has been designed as a structured learning resource for developing Industry Intelligence. The objective is to help auditors and assurance professionals better understand industries, improve audit preparation, strengthen professional judgment, and conduct more effective evaluations. Readers are encouraged to approach this handbook as a professional development resource rather than simply a source of technical information.

Evidence and Citation Convention

Bracketed numbers direct the reader to the numbered References section. For example, [1] refers to Reference 1; [2-4] refers to References 2, 3 and 4; and [1, 5, 6] refers to three separate sources. A citation identifies the principal standard, official guidance, or scholarly work supporting the statement. It does not mean that every sentence in the paragraph comes from the cited source, and it should not be read as a page number or chapter number.

Understanding the Structure of the Handbook

The Foundation Volume is organized to progressively develop Industry Intelligence. The chapters are intentionally arranged to move from fundamental concepts toward advanced application.

The progression follows the following general pathway:

The pathway moves from industry understanding to industry analysis, risk understanding, control understanding, systems understanding, future understanding and finally integrated Industry Intelligence.

Stage	Purpose
1. Understand	Establish the industry context, terminology, scope, and value-creation logic.
2. Analyze	Map processes, technologies, dependencies, stakeholders, and operating constraints.
3. Interpret risk	Identify credible failure mechanisms, consequences, uncertainty, and exposure.
4. Examine controls	Determine which preventive, detective, protective, and recovery controls matter most.
5. Think systemically	Test interactions, feedback, human factors, resilience, and unintended consequences.
6. Look forward	Monitor change, weak signals, emerging technology, and evolving obligations.
7. Apply to the audit	Convert understanding into competence needs, audit trails, sampling, and evidence-seeking questions.

Each chapter builds upon concepts introduced in previous chapters. For this reason, readers are encouraged to follow the sequence rather than selectively reading isolated sections.

Recommended Reading Approach

First Reading

During the first reading, focus on understanding: Industry Intelligence concepts, Industry analysis methodologies, Risk and control thinking, Stakeholder perspectives, Systems thinking principles, and Future intelligence concepts.

The objective is familiarity rather than mastery.

Second Reading

During the second reading, focus on application.

Consider:

Readers should consider how the concepts apply to their current industry, to organizations they audit, and to the improvement of audit preparation, audit planning and professional judgment.

This stage transforms knowledge into practical understanding.

Ongoing Use

After completing the handbook, readers are encouraged to use it as a reference resource when: Entering unfamiliar industries, Preparing for audits, Developing audit strategies, Conducting industry research, training auditors, and Supporting auditor competence development.

Developing Industry Intelligence

Industry Intelligence is not developed through reading alone. Industry Intelligence develops through an iterative learning cycle: knowledge guides observation; observation is interpreted through experience; reflection tests assumptions and alternative explanations; and professional judgment converts the resulting understanding into proportionate audit decisions. Readers are encouraged to actively apply concepts introduced throughout the handbook.

The examples below show how the concept may appear in practice.

The main areas to consider are: Analyzing industries; Mapping value chains; Identifying critical risks; Evaluating critical controls; Assessing organizational culture; Examining system interactions; Monitoring weak signals; and Exploring future industry developments.

The more frequently these concepts are applied, the more valuable they become.

Using the Industry Intelligence Models

This handbook introduces multiple Industry Intelligence models and frameworks.

In audit preparation, the following examples are common starting points.

This normally includes: Stakeholder Influence Architecture Model; Human Systems Architecture Model; Culture Risk Architecture Model; Industry Complexity Spectrum Model; Interdependency Architecture Model; System Resilience Model; Problem Discovery Architecture; Learning Velocity Model; Industry Intelligence Preparation Model; Audit Focus Index; Audit Time Allocation Model; and Integrated Industry Intelligence Model.

These models are not intended to replace professional judgment. Their purpose is to support structured thinking, improve consistency, and strengthen decision-making. Readers are encouraged to adapt these models to their own industries, organizations, and professional contexts.

Using the Foundation Volume and Industry-Specific Volumes Together

The Foundation Volume provides the common concepts and methodologies required to understand industries. The Industry-Specific Volumes provide detailed guidance for individual international accreditation industry sectors and industries.

The recommended approach is:

The following table links each stage to the expected action and output. It is intended to help readers apply the preceding explanation, not to replace professional judgment.

Stage	Action	Expected Output
1	Study the Foundation Volume and understand its concepts and limitations.	A common analytical vocabulary and method.
2	Identify the relevant European Accreditation or International Accreditation Forum reference sector and define the actual scope.	A bounded sector and scope statement.
3	Study the corresponding industry-sector volume when available.	A preliminary process, risk, control, and competence map.
4	Validate the preliminary map through current regulations, technical publications, incident information, industry bodies, and other authoritative sources.	A sourced industry brief with assumptions and uncertainties.
5	Translate the validated understanding into the audit plan and update it as evidence develops.	Prioritized audit trails, competence needs, sampling rationale, and questions for verification.

Identify the relevant international accreditation industry sector or industry.

Using This Handbook for Auditor Development

Organizations may use this handbook as part of: Auditor qualification programs, Auditor competence development programs, Technical reviewer training, Internal auditor training, Lead auditor development initiatives, and Industry-specific competence programs.

The concepts presented throughout the handbook support both individual and organizational competence development.

A Note on Professional Judgment

No handbook, model, framework, checklist, or methodology can replace professional judgment. Industry Intelligence supports judgment. It does not replace judgment.

Readers should consider:

Relevant areas include: Organizational context; Industry conditions; Regulatory requirements; Stakeholder expectations; and Available evidence.

When applying concepts presented throughout this handbook.

Final Recommendation

Do not attempt to memorize every concept presented in this handbook. Instead, focus on developing a way of thinking. Industry Intelligence is not simply a collection of tools. It is a professional mindset that encourages curiosity, analysis, learning, systems thinking, and informed judgment. The ultimate goal is not to know more.

The ultimate goal is to understand more. And better understanding can support better auditing.

Planned Handbook Coverage

The Vision of the Handbook Series

Most auditing references focus primarily on standards, conformity assessment requirements, audit methodologies, or management system implementation. Relatively few resources focus on industries themselves. Yet industries are where auditing actually takes place. Auditors do not audit standards. Auditors audit organizations operating within industries.

Those industries possess unique:

In practice, this includes: Technologies; Processes; Risks; Controls; Regulatory environments; Stakeholder expectations; Performance drivers; and Failure mechanisms.

Understanding these industry-specific realities is essential for effective auditing. This handbook series was developed in response to that need. The long-term objective is to create one of the most comprehensive industry-focused auditing and assurance references available to management system professionals worldwide. Rather than producing a single handbook covering all industries superficially, the series adopts a structured approach. A common Foundation Volume provides the concepts, methodologies, models, and Industry Intelligence frameworks applicable across industries.

Individual volumes then explore specific international accreditation industry sectors and industries in significantly greater depth. Together, these volumes form a comprehensive Industry Intelligence knowledge system for auditors and assurance professionals.

Why Industry-Specific Volumes?

Each industry operates within a unique environment.

For example:

An aerospace auditor must understand reliability, safety assurance, configuration control, and regulatory oversight. A food industry auditor must understand contamination risks, food safety controls, traceability, and hazard prevention. A software auditor must understand development methodologies, validation approaches, cybersecurity risks, and technology life cycles. A healthcare auditor must understand patient safety, clinical processes, regulatory expectations, and service delivery complexities. Although auditing principles remain broadly consistent, industry realities differ materially.

Industry-specific competence therefore remains a critical component of effective auditing. The purpose of the Industry-Specific Volumes is to help bridge this competence gap.

What Each Industry Volume Will Contain

Although the structure may vary slightly depending on the industry, each volume is expected to include guidance regarding:

To avoid superficial sector descriptions, each volume will connect industry knowledge directly to audit decisions. Coverage will be organized around the following six analytical domains:

The following table shows how each analytical domain will support the future industry-sector volumes and why it matters during audit preparation.

Analytical domain	Coverage in each industry-sector volume	Audit relevance
Industry context	Sector boundaries, structure, participants, products, services, terminology, business models, and value creation.	Defines what the organization actually does and prevents generic audit assumptions.
Operations and technology	Core and supporting processes, technologies, technical parameters, laboratories, infrastructure, and dependencies.	Identifies where technical competence and deeper process examination are required.
Risk and control architecture	Credible hazards, failure mechanisms, consequences, preventive and detective controls, containment, recovery, and resilience.	Builds defensible risk-based audit trails without treating contextual knowledge as a finding.
Performance and evidence	Value drivers, process measures, outcome indicators, data limitations, common failure patterns, and warning signals.	Supports interpretation of trends, control performance, and sampling priorities.
Governance and external obligations	Regulatory environment, interested parties, supply-chain expectations, contractual commitments, and sector oversight.	Clarifies applicable influences while preserving the distinction between expectations and audit criteria.
Auditor application and future readiness	Competence considerations, audit trails, common nonconformity patterns, blind spots, emerging technology, and future challenges.	Converts sector understanding into preparation, team selection, questioning, and professional judgment.

The objective is to provide practical Industry Intelligence rather than theoretical descriptions.

A Long-Term Professional Resource

This handbook series is intended to evolve into a long-term professional resource for:

The main examples are: Auditors; Lead Auditors; Internal Auditors; Technical Reviewers; Accreditation Assessors; Consultants; Trainers; Compliance Professionals; Risk Professionals; and Assurance Practitioners.

As industries evolve, technologies change, and auditing practices mature, the handbook series may continue to expand evolve accordingly. The vision is not simply to publish books. The vision is to build a structured body of Industry Intelligence knowledge that supports more effective auditing and assurance activities across industries.

Planned Handbook Volumes

The following volumes are planned based on international accreditation sector classifications and industry sectors. The list represents the current roadmap and may evolve as the handbook series develops.

Publication Numbering and Sector-Code Roadmap

Beginning with Book 2-2, future industry-sector handbooks are planned against the reference sector codes listed in the International Accreditation Forum scope table [4]. Under the default numbering rule, Book 2-(n+1) corresponds to sector code n; for example, Book 2-2 addresses code 1, Book 2-3 addresses code 2, and Book 2-40 addresses code 39. Where closely related activities are combined or a sector requires more than one volume, the relevant code, boundaries, included activities, exclusions, and editorial deviation will be stated explicitly. A sector code is an organizing and competence-planning reference. It is not, by itself, proof that an auditor is competent for every technology, product, process, or risk within that sector [2–4].

The roadmap may evolve as sector complexity, regulatory change, and the depth of available technical material become clearer. Any grouping, subdivision, revised edition, or specialist supplement will preserve explicit traceability to the relevant reference code and will state its scope and limitations.

Development Status of Books 2-2 Through 2-40

The editorial and research programme for the industry-sector handbooks covering reference codes 01 through 39 is in progress. The volumes are at different stages of development: some sectors are being scoped and mapped, some are undergoing source collection and technical analysis, and others will require specialist review before a stable manuscript can be prepared. The statement that the series is in development should therefore not be interpreted as meaning that all thirty-nine manuscripts are equally advanced or ready for publication.

Each future handbook is intended to be more than a general description of an industry. The planned work must identify sector boundaries, principal activities, value-creation logic, technologies, process architecture, significant dependencies, credible failure mechanisms, critical controls, regulatory influences, performance evidence, competence requirements, emerging change, and practical audit trails. The research must then be translated into language that is useful to auditors without presenting contextual knowledge as audit criteria or implying competence that has not been demonstrated.

Why the Research Programme Requires Time

Reliable Industry Intelligence cannot be produced by expanding a sector title into a generic checklist. Many reference codes contain several technically distinct subsectors, products, services, regulatory regimes, and operating models. Agriculture, food production, chemicals, pharmaceuticals, construction, transport, information technology, healthcare, education, and public administration, for example, differ not only from one another but also internally. A credible handbook must decide what is included, what is excluded, which variations are material, and where separate specialist treatment is necessary.

Source collection is also demanding. Relevant information may be distributed across international standards, national regulation, regulator publications, technical institutes, professional associations, incident investigations, scientific literature, industry reports, equipment and technology guidance, and current operating practice. These sources differ in authority, jurisdiction, terminology, publication date, and applicability. They must be compared, dated, and interpreted rather than copied into a manuscript without qualification.

The sectors themselves continue to change while the books are being developed. Digitalization, artificial intelligence, climate transition, cybersecurity, automation, new materials, supply-chain restructuring, demographic change, and revised regulation can alter risk and control assumptions. Time is therefore required not only to gather information, but also to test whether the information remains current and whether an apparently universal practice is actually sector-, jurisdiction-, or technology-specific.

The following table summarizes the development stages and the publication gate associated with each stage.

Development stage	Principal work	Publication gate
1. Scope definition	Confirm the reference code, subsectors, products and services, exclusions, interfaces, and relationship to adjacent codes.	A bounded scope that will not mislead readers about coverage.
2. Evidence collection	Gather standards, regulation, technical literature, incident information, industry data, terminology, and authoritative practice sources.	A traceable and sufficiently current source base.
3. Industry-system analysis	Map value creation, processes, technologies, dependencies, risks, failure mechanisms, controls, performance evidence, and emerging change.	A coherent model that explains how the sector actually operates.

Development stage	Principal work	Publication gate
4. Audit translation	Develop competence considerations, audit trails, evidence expectations, interview themes, sampling implications, and common blind spots.	Practical usefulness without converting guidance into audit criteria.
5. Technical and editorial review	Challenge accuracy, sector boundaries, terminology, scientific claims, citations, diagrams, examples, and methodological limitations.	Resolution of material technical and editorial concerns.
6. Publication readiness	Complete layout, references, figure and table quality assurance, cross-references, accessibility, and final version control.	A stable edition suitable for professional publication.

Coverage Strategy for Codes 01–39

The thirty-nine reference codes will remain the organizing spine of the series, and the roadmap table that follows identifies every planned sector. Research and publication may proceed in thematic groups so that shared technologies, controls, terminology, and regulatory patterns can be studied efficiently. This grouping is an editorial workflow; it does not merge the official reference codes or erase differences between them.

The following table explains why different reference-code groups may require different research emphasis and development time.

Reference-code group	Research emphasis	Typical reasons for additional development time
01–03: agriculture, mining, quarrying, food products, beverages and tobacco	Agriculture, forestry and fishing; mining and quarrying; and food, beverage and tobacco manufacturing. Research should distinguish biological and seasonal operations from extraction activities and from controlled processing, hygiene, traceability, cold-chain, formulation and packaging issues.	Development time is often increased by jurisdictional variation, biological uncertainty, geological and site-specific conditions, statutory controls, complex supply chains, and overlap with agricultural, food-safety, environmental and resource regulation.
04–14: materials and process manufacturing	Textiles, leather, wood, paper, printing, petroleum products, nuclear fuel, chemicals, pharmaceuticals, rubber, and plastics.	Diverse manufacturing technologies, hazardous processes, product-specific regulation, laboratory controls, and specialist terminology.
15–23: mineral, metal, machinery, electrical, optical, shipbuilding, aerospace, and other manufacturing	Design and production control, special processes, precision, configuration, complex supply networks, verification, reliability, and maintenance.	High technical complexity, safety significance, long product life cycles, customer-specific requirements, and extensive competence needs.
24–31: recycling, utilities, construction, trade, hospitality, and transport	Distributed operations, infrastructure, contractors, service continuity, public interfaces, logistics, utilities, and asset condition.	Large variation in operating scale, local regulation, multiple sites, outsourced activities, public safety, and rapidly changing infrastructure.
32–35: finance, property, information technology, engineering, and other services	Information, professional judgment, digital systems, service design, confidentiality, outsourcing, customer interaction, and intangible outputs.	Fast technology change, cyber and data risk, difficult-to-observe service processes, and broad diversity within service classifications.

Reference-code group	Research emphasis	Typical reasons for additional development time
36–39: public administration, education, health and social work, and other social services	Public value, access, equity, professional practice, safeguarding, clinical or social outcomes, governance, accountability, and stakeholder trust.	Jurisdiction-specific mandates, ethical and human consequences, sensitive information, professional regulation, and complex outcome measurement.

Publication Sequence and Timing

The default numbering convention remains Book 2-2 for code 01 through Book 2-40 for code 39. The actual order and timing of release may change according to source availability, sector complexity, access to competent technical reviewers, regulatory change, and the amount of revision required. For that reason, no fixed completion date should be inferred from the numbering sequence.

A sector may require more than one handbook where a single code contains materially different technologies or risk environments. Conversely, closely related codes may be researched together while still being published with explicit code-level boundaries. Any such decision will be disclosed in the relevant volume so that readers can identify the covered activities and the limits of the guidance.

Commitment to Scientific and Professional Quality

The purpose of the extended development period is to protect the reliability of the series. Drafting will prioritize verifiable sources, transparent citations, current technical and regulatory context, clear separation between requirements and guidance, and honest statements of uncertainty and methodological limitation. Examples and models will be used to support understanding, not to manufacture unsupported authority.

Readers should therefore regard the roadmap as a long-term publication programme. New volumes will be released when the sector research, audit translation, technical review, references, diagrams, and editorial quality are sufficiently mature. Until a specific industry-sector volume is published, this Foundation Volume may be used to structure research and audit preparation, but it does not replace sector-specific competence, current regulation, applicable standards, or qualified technical support.

The planned coverage includes, but is not limited to, the following sectors:

Using the Foundation Volume While Sector Handbooks Are in Development

The absence of a published sector volume should not lead either to unstructured preparation or to the assumption that the Foundation Volume provides complete sector knowledge. The Foundation Volume offers a disciplined research architecture: define the sector boundary, map value creation and processes, identify technologies and dependencies, examine credible failure and control pathways, review regulation and stakeholders, and convert the resulting understanding into competence needs and audit questions. The sector-specific technical content must still be obtained from current, authoritative sources and competent people.

Before auditing a sector for which the corresponding handbook has not yet been published, the audit organization should document how it obtained sufficient current knowledge. The record may include qualified technical reviewers, sector-experienced team members, applicable standards and regulation, regulator or professional guidance, reliable incident and performance information, organization-specific processes and technologies, and identified limitations requiring further support.

No future volume will eliminate the need for assignment-specific preparation. Even after publication, readers will need to confirm current editions, amendments, law, scheme rules, contractual requirements, technological change, and the actual scope of the organization. The books are intended to accelerate competent inquiry and

make its logic visible; they are not substitutes for professional qualification, legal advice, engineering analysis, clinical judgment, or other specialist responsibility.

Use this table as a working aid for Using the Foundation Volume While Sector Handbooks Are in Development. It should help the audit team record what is known, identify what remains uncertain, and decide what evidence or competence is still needed.

Interim preparation question	Evidence expected before the audit
What part of the sector is actually within scope?	Products, services, sites, technologies, outsourced activities, interfaces, and exclusions are explicitly defined.
What knowledge must the audit team possess?	Competence needs are linked to significant processes, risks, controls, regulation, and intended outcomes.
Which sources support the preliminary industry model?	Current official, technical, scientific, regulatory, and organization-specific sources are cited and dated.
What remains uncertain or outside competence?	Assumptions, gaps, conflicting information, specialist needs, and limitations are documented.
How will the understanding affect the audit?	Audit trails, sampling rationale, interview themes, evidence needs, and conditions for replanning are recorded.

The following register reproduces the thirty-nine quality-management-system scope references and their NACE Revision 2 mappings from International Accreditation Forum Informative Document 1. The final column is an author-prepared orientation note: it highlights why the code must be translated into the actual activity before competence or audit planning is decided. It is illustrative rather than an official extension of the scope table [4].

Note on NACE numbering. NACE Revision 2 does not use a division 04 in this sequence; mining and quarrying activities are mapped to divisions 05 through 09. The absence of 04 is therefore a feature of the source classification, not an omission in the table.

Code	Official economic sector / activity	NACE Revision 2 mapping	Scope interpretation and competence orientation
01	Agriculture, forestry and fishing	01, 02, 03	Primary production, forestry and fishing activities; biological, seasonal and land- or water-dependent operations require activity-specific interpretation.
02	Mining and quarrying	05, 06, 07, 08, 09	Extraction and supporting activities vary greatly by mineral, method, geography, processing boundary and statutory control.
03	Food products, beverages and tobacco	10, 11, 12	Processing activities may involve hygiene, preservation, traceability, formulation, packaging and regulated product controls; food-safety schemes have additional sector structures.
04	Textiles and textile products	13, 14	Fibre preparation, textile manufacture, finishing and apparel production involve different chemical, process and supply-chain controls.
05	Leather and leather products	15	Tanning, finishing, footwear and other leather-product activities differ in chemical use, workmanship, sourcing and environmental significance.

Code	Official economic sector / activity	NACE Revision 2 mapping	Scope interpretation and competence orientation
06	Wood and wood products	16	Sawmilling, treatment, engineered wood and product manufacture require attention to material condition, preservation, machining and source controls.
07	Pulp, paper and paper products	17	Pulping, papermaking and converting combine continuous processes, utilities, chemical controls, emissions, product specifications and asset reliability.
08	Publishing companies	58.1, 59.2	Book, periodical and other publishing activities (NACE 58.1), together with sound-recording and music-publishing activities (NACE 59.2), require attention to editorial and content control, copyright and licensing, metadata and version integrity, outsourced production, digital distribution, platform continuity, and protection of information and master assets.
09	Printing companies	18	Pre-press, printing, finishing and reproduction processes differ by technology, substrate, colour control, chemicals, digital workflow and customer specification.
10	Manufacture of coke and refined petroleum products	19	High-hazard continuous processing, feedstock variation, process safety, maintenance, laboratory control and product release are central competence considerations.
11	Nuclear fuel	24.46	A narrowly defined but exceptionally regulated activity requiring specialized technical, radiological, security and statutory competence beyond the sector label.
12	Chemicals, chemical products and fibres	20	Batch and continuous chemical operations vary by reaction, toxicity, containment, process safety, storage, laboratory control and product stewardship.
13	Pharmaceuticals	21	Development, manufacture and release operate within product- and jurisdiction-specific regulatory systems and require appropriate pharmaceutical competence.
14	Rubber and plastic products	22	Formulation, moulding, extrusion, curing, conversion and recycling involve material behaviour, tooling, process parameters and product-specific verification.
15	Non-metallic mineral products	23 except 23.5 and 23.6	Glass, ceramics, refractories, stone and related products involve high-temperature or material-transformation processes with distinct control needs.
16	Concrete, cement, lime, plaster and related products	23.5, 23.6	Raw-material variability, formulation, curing, testing, plant control and construction-use requirements shape competence and evidence needs.
17	Basic metals and fabricated metal products	24 except 24.46; 25 except 25.4; 33.11	Metallurgy, forming, joining, heat treatment, fabrication, surface treatment, inspection and repair create widely different technical areas.
18	Machinery and equipment	25.4, 28, 30.4, 33.12, 33.2	Design, manufacture, installation and maintenance vary by machinery type, safety function, software content, special processes and customer application.

Code	Official economic sector / activity	NACE Revision 2 mapping	Scope interpretation and competence orientation
19	Electrical and optical equipment	26, 27, 33.13, 33.14, 95.1	Electronics, electrical equipment, instruments, optical products and repair require product-specific design, calibration, reliability and regulatory knowledge.
20	Shipbuilding	30.1, 33.15	Vessel construction and repair involve project configuration, classification requirements, welding, preservation, marine systems, suppliers and long production cycles.
21	Aerospace	30.3, 33.16	Aircraft and spacecraft activities involve configuration, special processes, traceability, safety, regulatory approval and extensive sector-specific schemes.
22	Other transport equipment	29, 30.2, 30.9, 33.17	Automotive, rail and other transport products differ substantially in regulation, production systems, safety characteristics and customer-specific requirements.
23	Manufacturing not elsewhere classified	31, 32, 33.19	A residual grouping covering diverse products; the actual product, process and regulatory environment must define the competence analysis.
24	Recycling	38.3	Material recovery and preparation vary by waste stream, contamination, hazardous content, output specification, permits and downstream use.
25	Electricity supply	35.1	Generation technologies, grid operation, market structure, asset management, reliability, safety and environmental obligations differ materially.
26	Gas supply	35.2	Production, processing, storage and distribution boundaries determine process-safety, integrity, metering, continuity and emergency competence needs.
27	Water supply	35.3, 36	Collection, treatment, distribution and quality assurance require jurisdiction-specific public-health, infrastructure, laboratory and continuity controls.
28	Construction	41, 42, 43	Building, civil engineering and specialist trades differ by project type, temporary organization, design responsibility, subcontracting, inspection and legal regime.
29	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	45, 46, 47, 95.2	Trading and repair activities range from complex distribution networks to local service operations; product, custody and after-sales risks vary.
30	Hotels and restaurants	55, 56	Accommodation and food-service operations combine customer service, hygiene, facilities, suppliers, seasonal staffing and jurisdiction-specific licensing.
31	Transport, storage and communication	49, 50, 51, 52, 53, 61	Road, rail, water, air, warehousing, postal and telecommunications activities have materially different technologies, safety regimes and continuity obligations.