

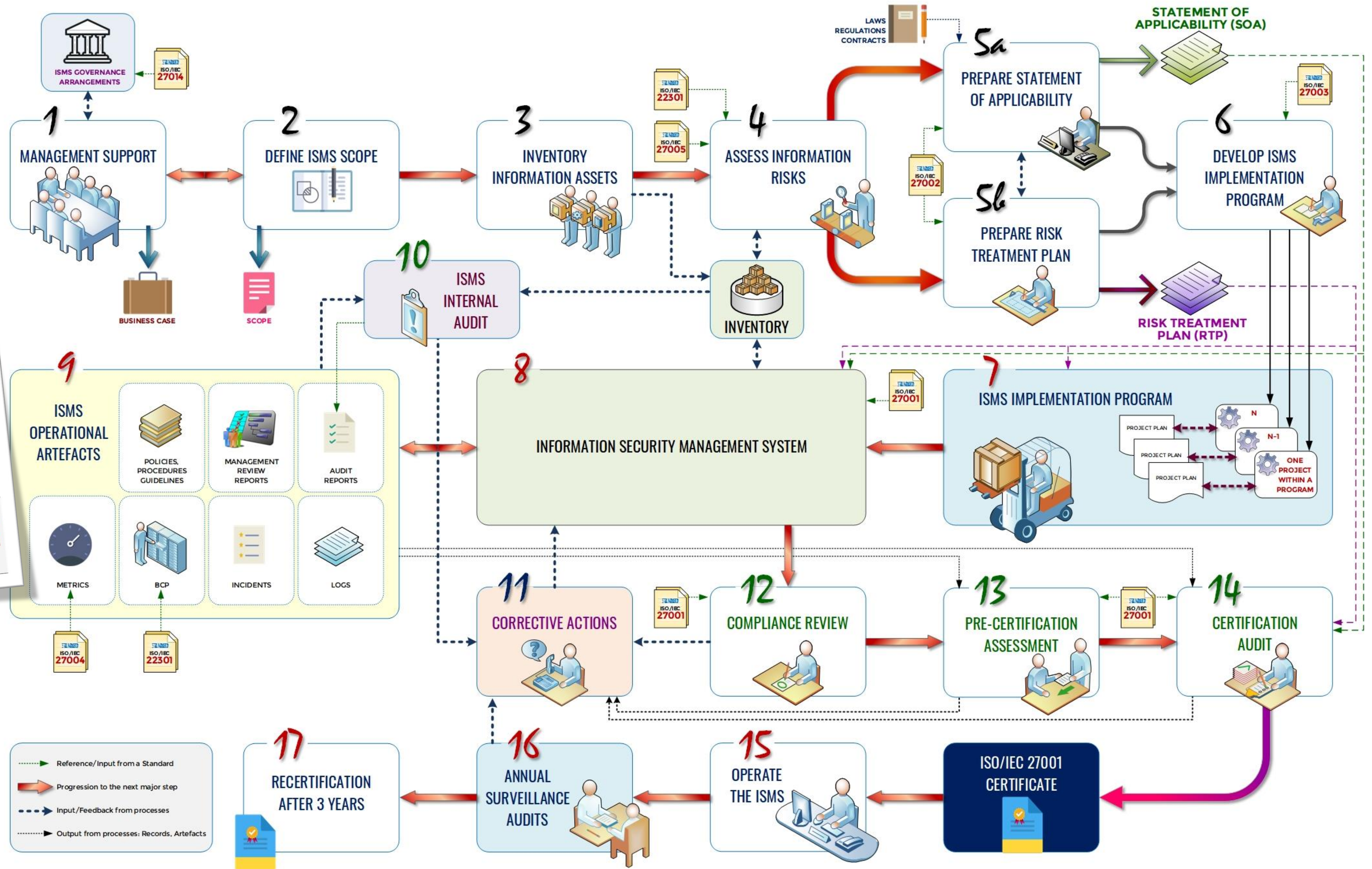
A wide-angle photograph of the Golden Gate Bridge in San Francisco, taken during sunrise. The sun is low on the horizon to the left, creating a warm orange glow and long shadows. The bridge's iconic towers and suspension cables are silhouetted against the bright sky. The water of the bay is calm, reflecting the light. In the background, the city skyline is visible through a light mist.

forebrook

ISMS IMPLEMENTATION AND CERTIFICATION PROCESS OVERVIEW

ISO 27001 Implementation & Certification Process v2

Based on the chart v5 from
www.ISO27001security.com



This work is based on the presentation in the ISO27KToolkit, available for free download on www.iso27001security.com and has been redesigned with minor changes and additional slides by Ahmed Anwar. The latest version of these slides can be found on forebrook.com/resources and is available for free download. Permission to use, share and create derivative works is granted under creative commons license. Copyright notices, references and other attributions from the [original presentation](#) are also included in the end.

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ISO 27001

- ▶ ISO27001 formally specifies how to establish an Information Security Management System (ISMS).
- ▶ The adoption of an ISMS is a strategic decision.
- ▶ The design and implementation of an organization's ISMS is influenced by its business and security objectives, its security risks and control requirements, the processes employed and the size and structure of the organization: a simple situation requires a simple ISMS.
- ▶ The ISMS will evolve systematically in response to changing risks.
- ▶ Compliance with ISO27001 can be formally assessed and certified. A certified ISMS builds confidence in the organization's approach to information security management among stakeholders.



ISO 27K1 is an auditing standard. An ISMS should be designed using other standards in the family such as the **ISO27002** and the **ISO27003** standards which provide implementation advice.

ISO 27002

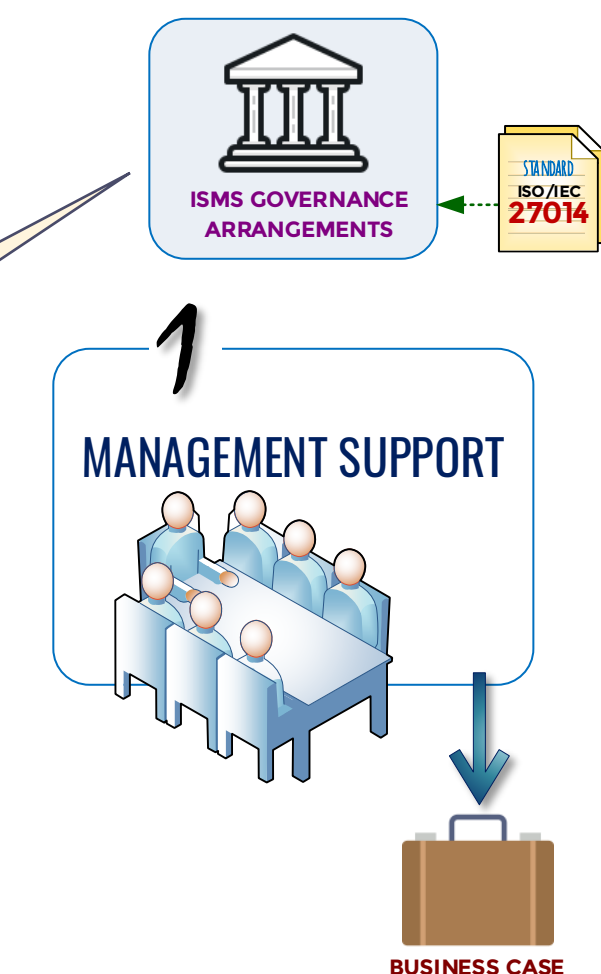
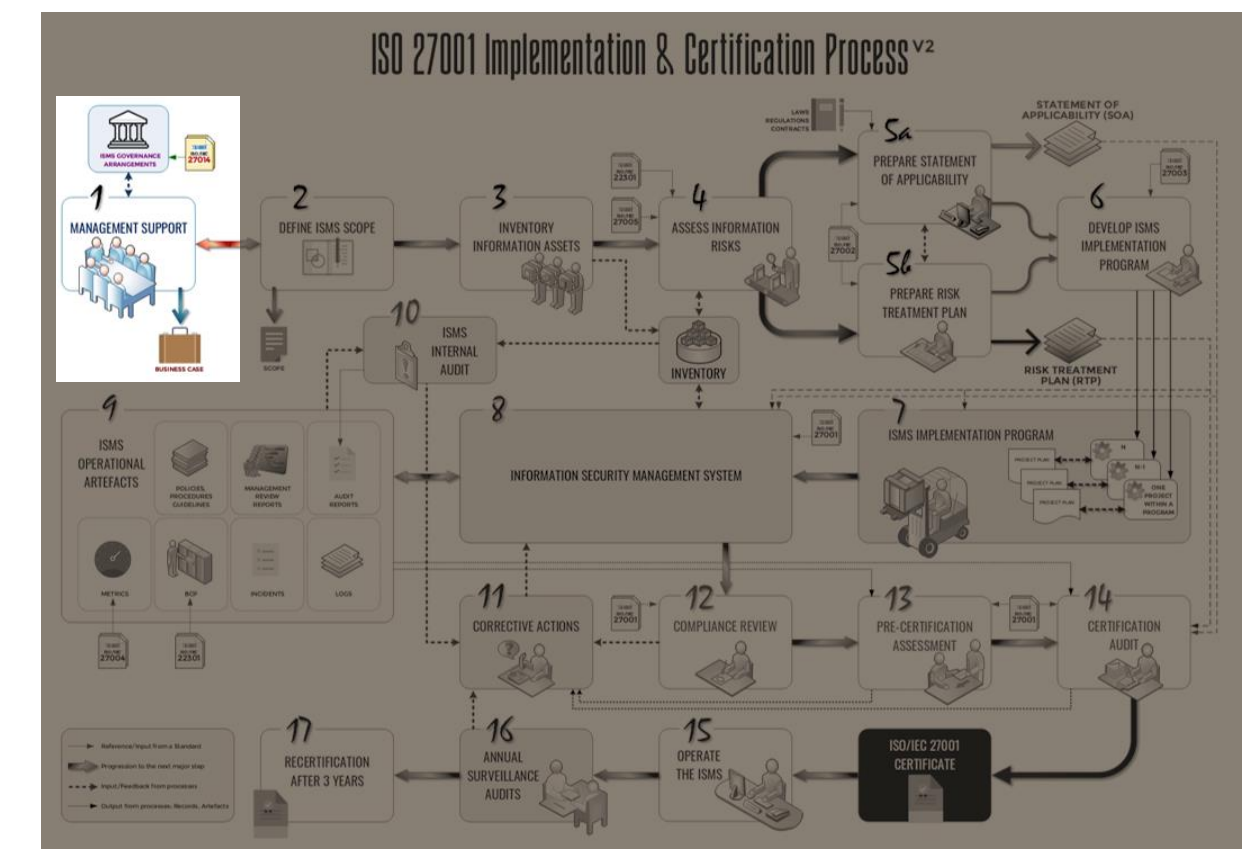
- ▶ ISO27002 is a “Code of Practice” recommending a large number of information security controls.
- ▶ **Control objectives** throughout the standard are generic, high-level statements of business requirements for securing or protecting information assets.
- ▶ The numerous **information security controls** recommended by the standard are meant to be implemented in the context of an ISMS, in order to address risks and satisfy applicable control objectives systematically.
- ▶ Compliance with **ISO27002** implies that the organization has adopted a comprehensive, good practice approach to securing information.



1. MANAGEMENT SUPPORT

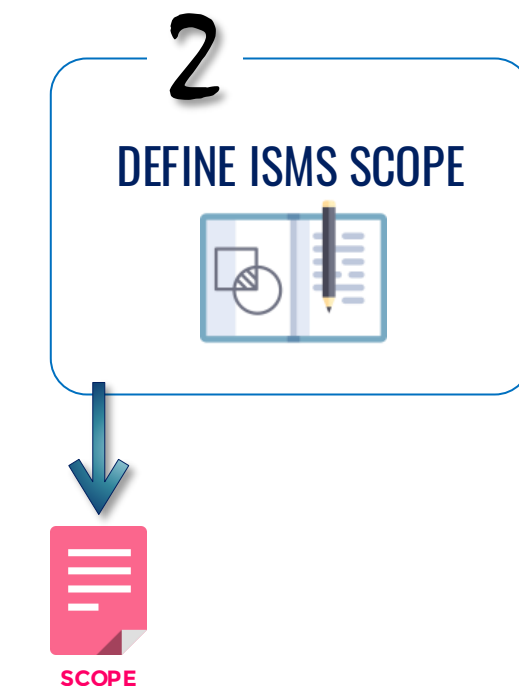
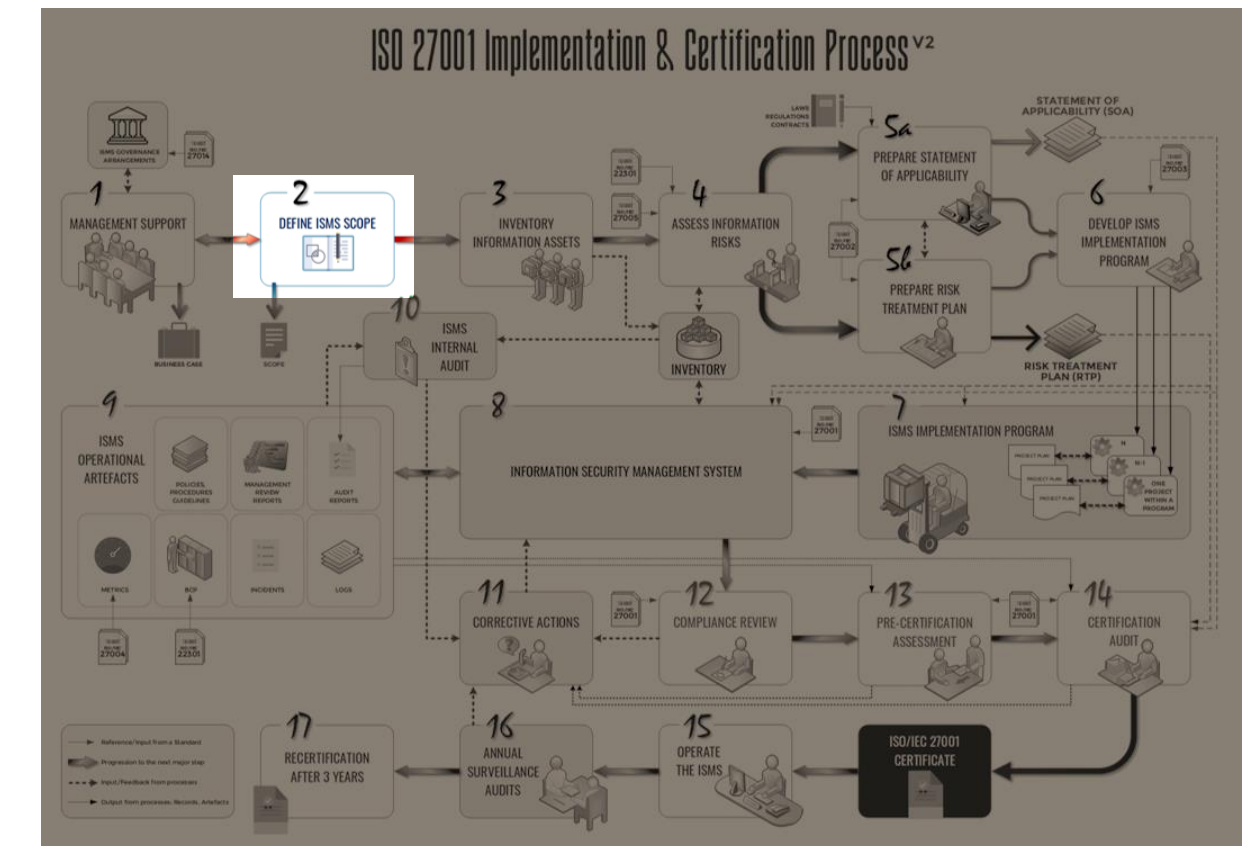
- ▶ Management should **actively support information security** by giving clear direction (e.g. policies), demonstrating the organization's commitment, plus explicitly assigning information security responsibilities to suitable people.
- ▶ Management should approve the information security policy, allocate resources, assign security roles and co-ordinate and review the implementation of security across the organization.
- ▶ Overt management support makes information security more effective throughout the organization, not least by aligning it with business and strategic objectives.

ISO 27014 provides guidance on concepts, objectives and processes for the governance of information security, by which organizations can evaluate, direct, monitor and communicate the information security-related processes within the organization.



2. DEFINE ISMS SCOPE

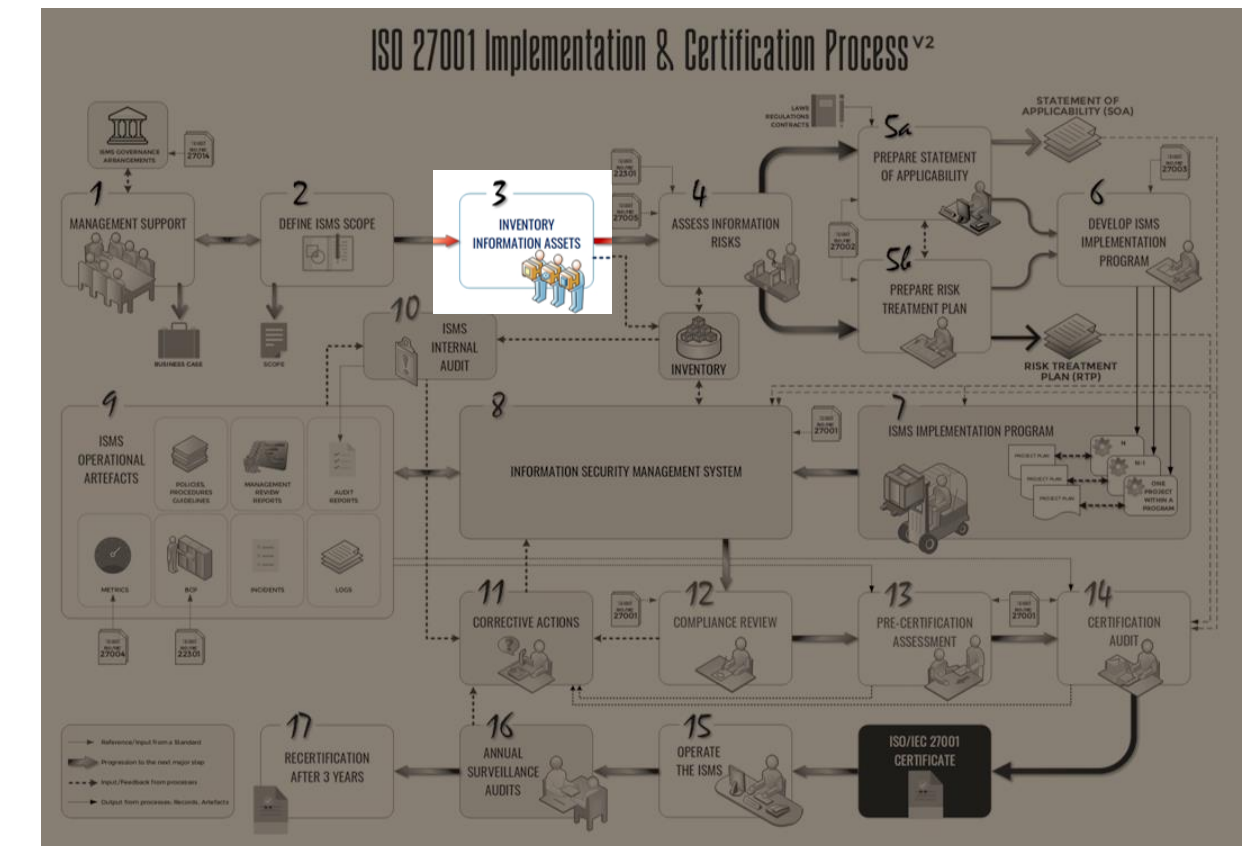
- ▶ Management should define the scope of the ISMS in terms of the **nature of the business**, the **organization**, its **location**, **information assets** and **technologies**.
- ▶ Any exclusions from the ISMS scope should be justified and documented.
 - ▶ Areas outside the ISMS are inherently less trustworthy, hence additional security controls may be needed for any business processes passing information across the boundary.
 - ▶ De-scoping usually reduces the business benefits of the ISMS.
- ▶ If commonplace controls are deemed not applicable, this should be justified and documented in the Statement of Applicability (SOA)
- ▶ The certification auditors will check the **documentation**.



3. INVENTORY INFORMATION ASSETS

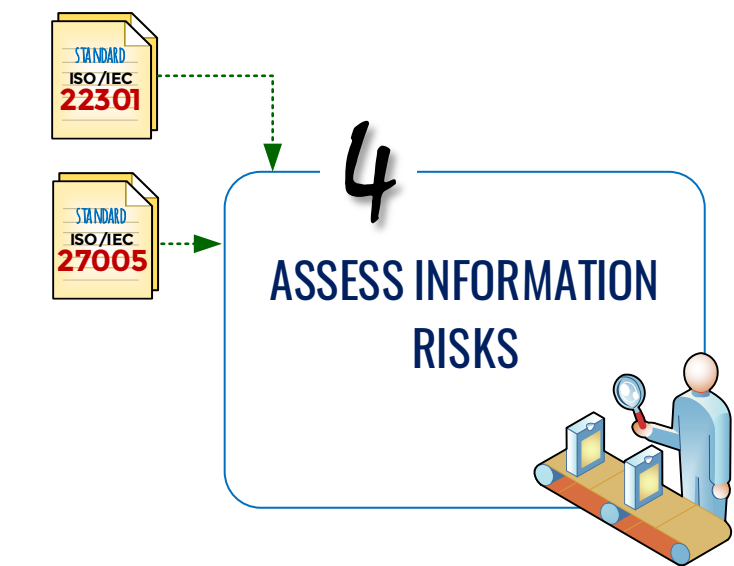
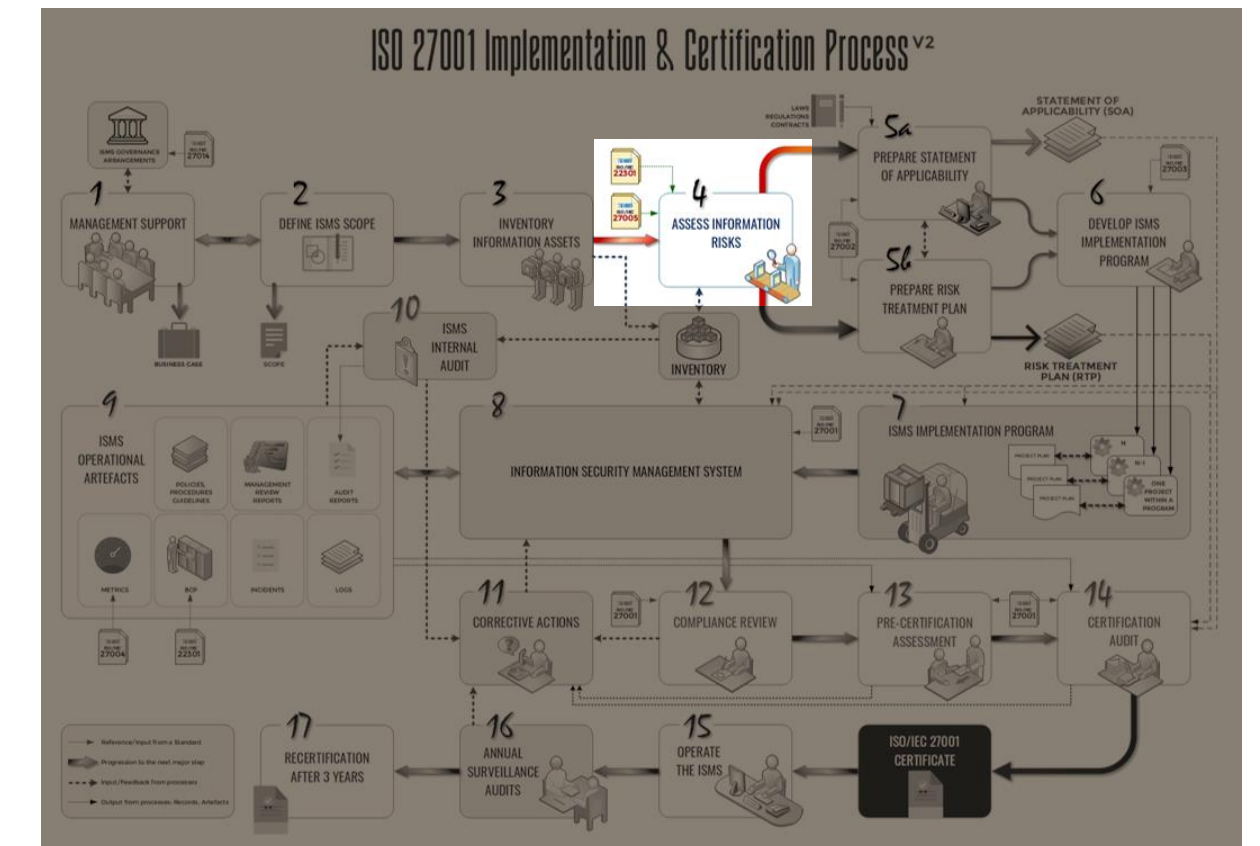
An inventory of all important information assets should be developed and maintained, recording details such as:

- ▶ Type of asset;
- ▶ Format (i.e. software, physical/printed, services, people, intangibles)
- ▶ Location;
- ▶ Backup information;
- ▶ License information;
- ▶ Business value (e.g. what business processes depends on it?)



4. RISK ASSESSMENT

- ▶ Risk assessments **should identify, quantify, and prioritize** information security risks against defined criteria for risk acceptance and objectives relevant to the organization.
- ▶ The results should guide and determine the appropriate management action and priorities for managing information security risks and for **implementing controls** selected to protect against these risks.
- ▶ **Assessing risks and selecting controls** may need to be performed **repeatedly** across different parts of the organization and information systems, and to respond to changes.
- ▶ The process should systematically estimate the magnitude of risks (risk analysis) and compare risks against risk criteria to determine their significance (risk evaluation).
- ▶ The information security risk assessment should have a clearly defined scope and complement risk assessments in other aspects of the business, where appropriate.



ISO 27005

- ▶ ISO27005 provides guidelines for information security risk management.
- ▶ It supports the general concepts specified in ISO/IEC 27001 and is designed to assist the satisfactory implementation of information security based on a risk management approach.
- ▶ Knowledge of the concepts, models, processes and terminologies described in ISO/IEC 27001 and ISO/IEC 27002 is important for a complete understanding of this document.



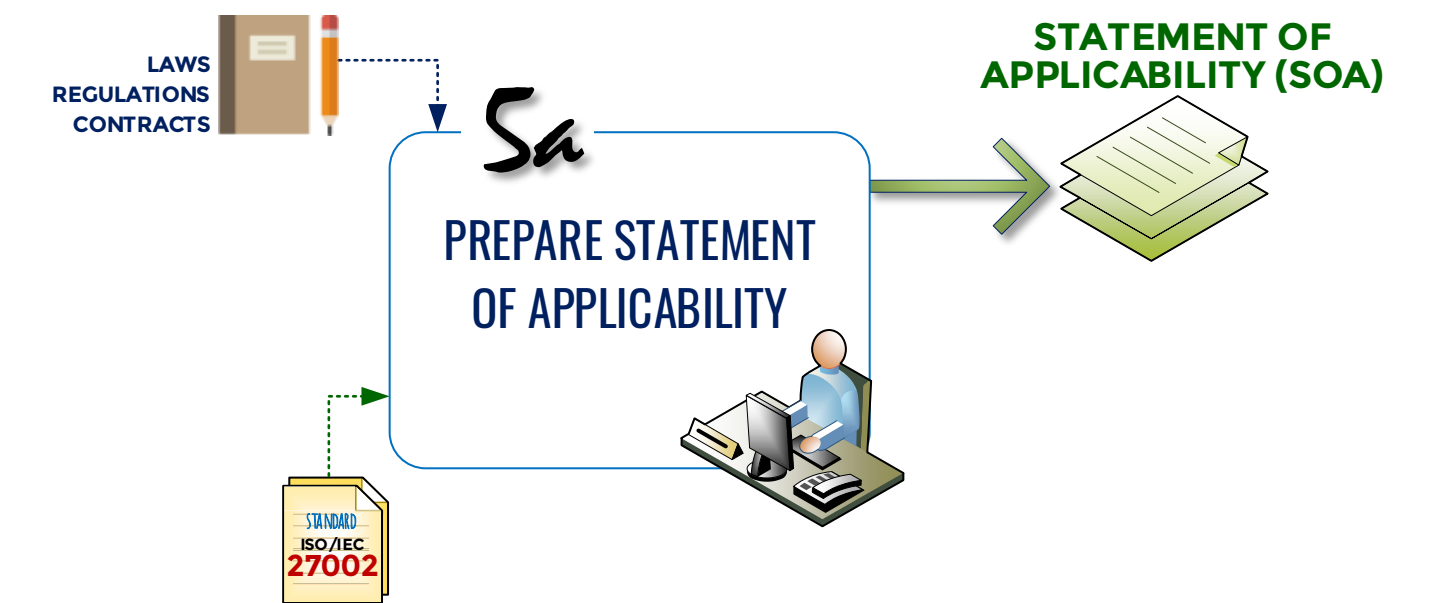
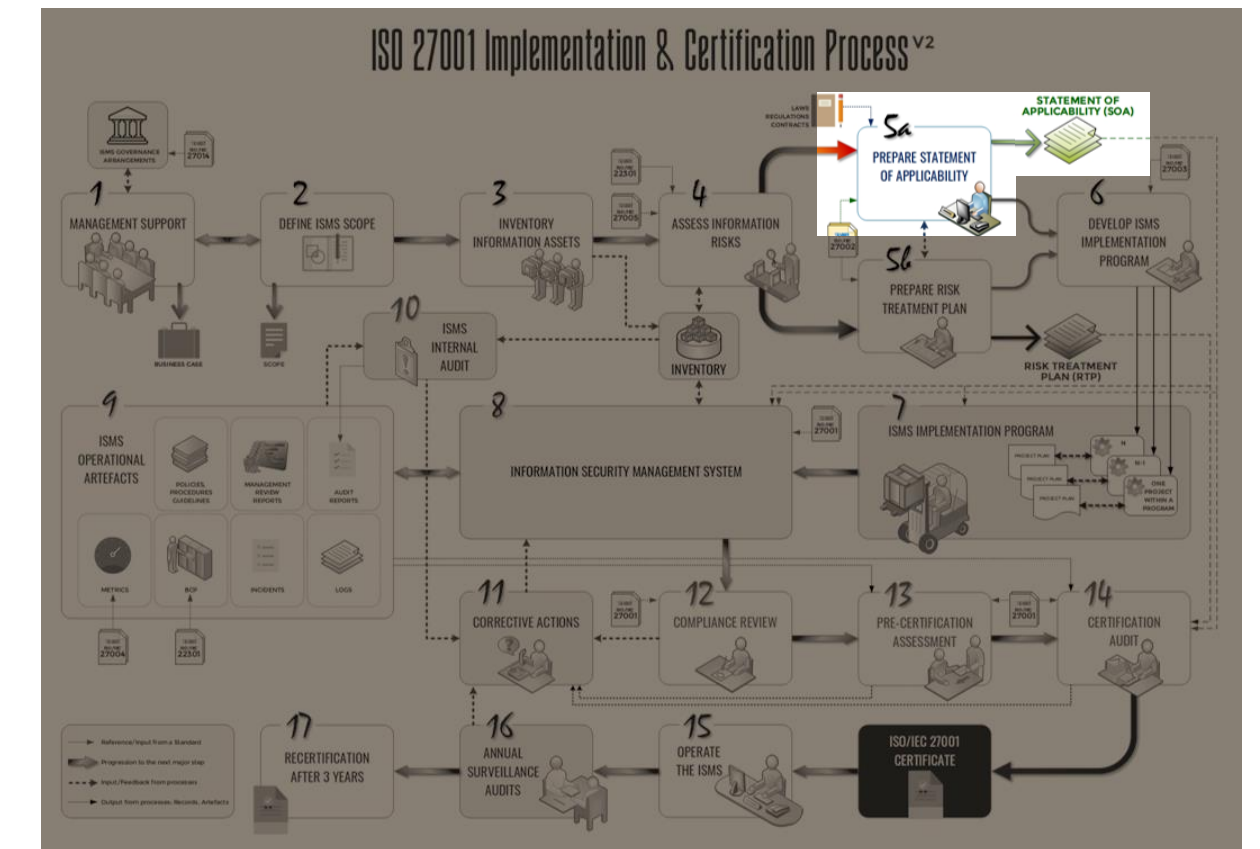
ISO 22301

- ▶ ISO27005 provides guidelines for information security risk management.
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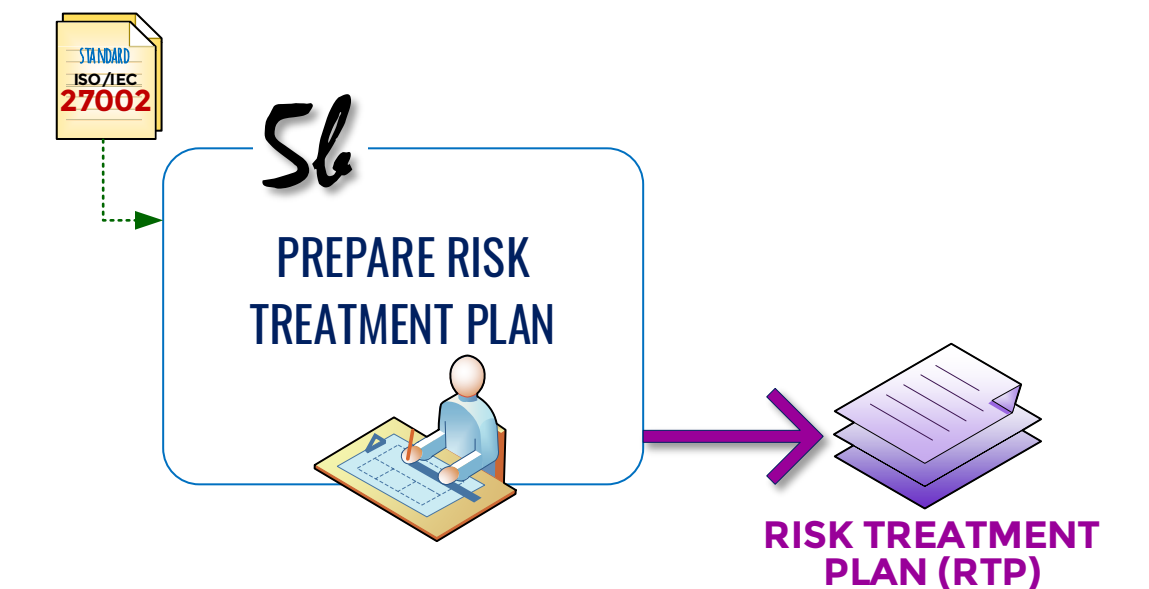
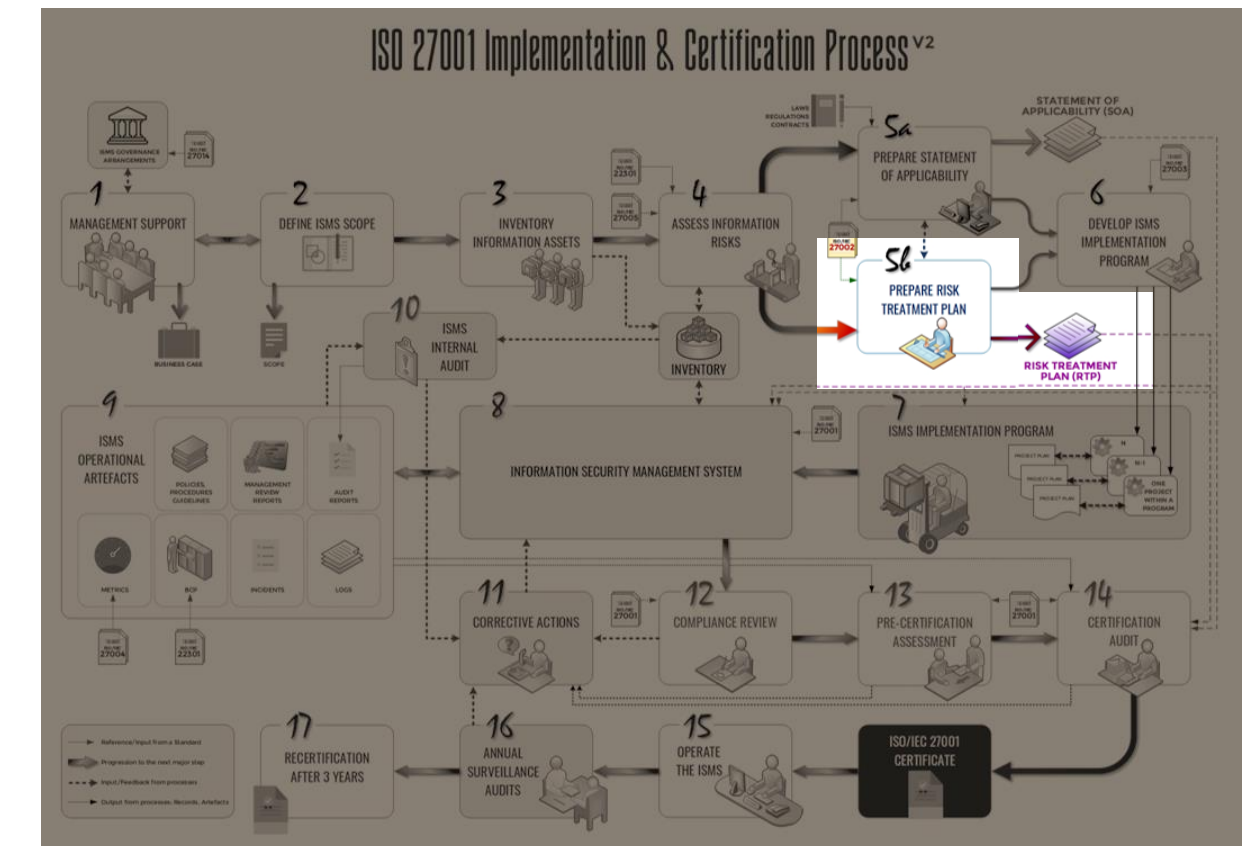
5A. PREPARE STATEMENT OF APPLICABILITY

- ▶ The Statement of Applicability (SOA) is a key ISMS document listing the organization's information security control objectives and controls.
- ▶ The SOA is derived from the results of the risk assessment, where:
 - Risk treatments have been selected;
 - All relevant legal and regulatory requirements have been identified;
 - Contractual obligations are fully understood;
 - A review the organization's own business needs and requirements has been carried out.



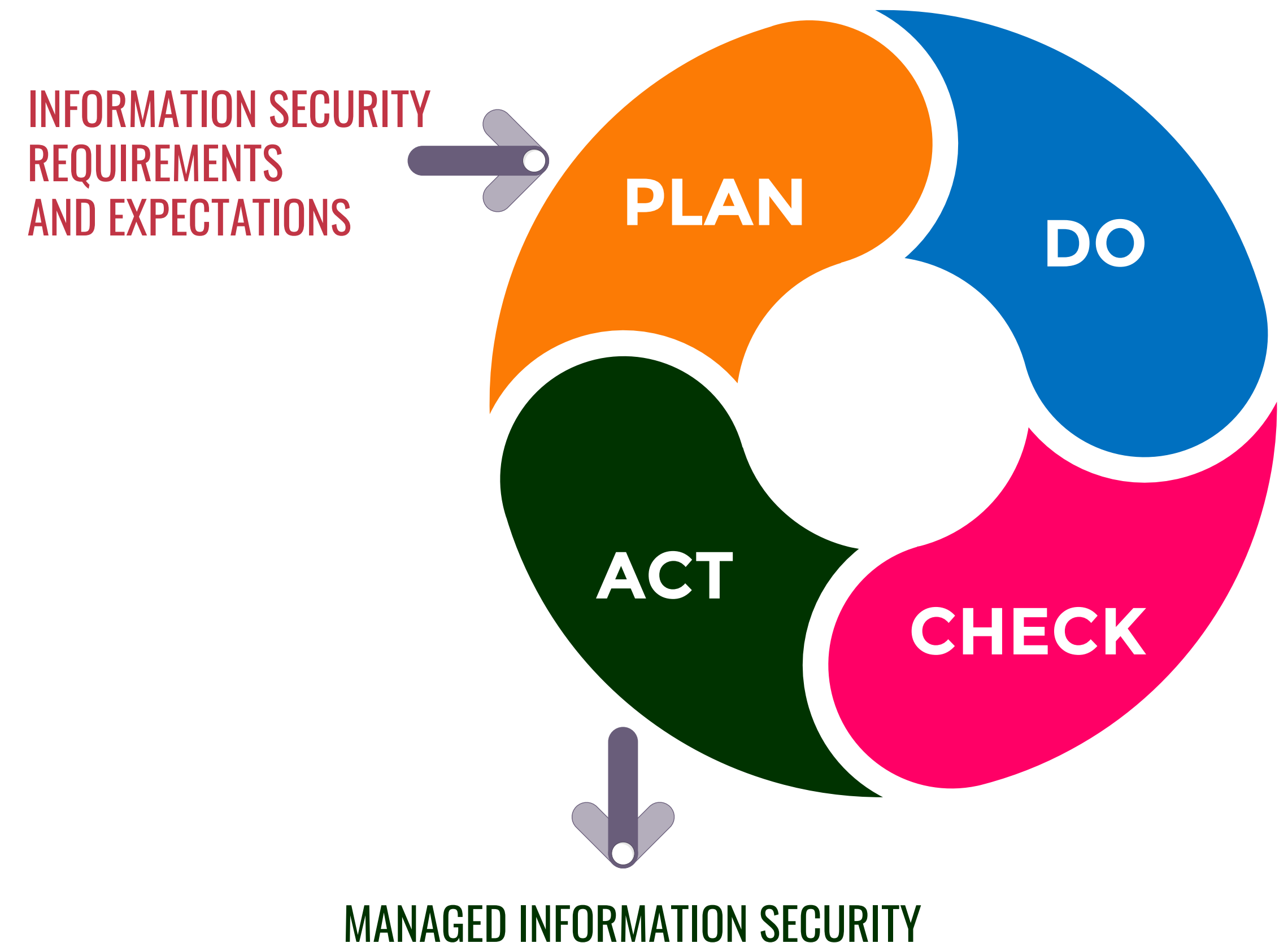
5B. PREPARE RISK TREATMENT PLAN

- ▶ The organisation should formulate a risk treatment plan (**RTP**) identifying the appropriate management actions, resources, responsibilities and priorities for dealing with its information security risks.
- ▶ The RTP should be set within the context of the organization's information security policy and should clearly identify the approach to risk and the criteria for accepting risk.
- ▶ The RTP is the key document that links all four phases of the PDCA cycle for the ISMS (next 2 slides).



PDCA MODEL

- ▶ The "Plan-Do-Check-Act" (PDCA) model applies at different levels throughout the ISMS (cycles within cycles).
- ▶ The same approach is used for quality management in ISO9000.
- ▶ The diagram illustrates how an ISMS takes as input the **information security requirements and expectations** and through the PDCA cycle produces managed **information security outcomes** that satisfy those requirements and expectations.



PLAN

Establish the ISMS

Establish ISMS policy, objectives, processes and procedures relevant to managing risk and improving information security to deliver results in accordance with an organization's overall policies and objectives.

P

DO

Implement and Operate

Implement and operate the ISMS policy, controls, processes and procedures.

D

CHECK

Monitor and Review

Assess and, where applicable, measure process performance against ISMS policy, objectives and practical experience and report the results to management for review.

C

ACT

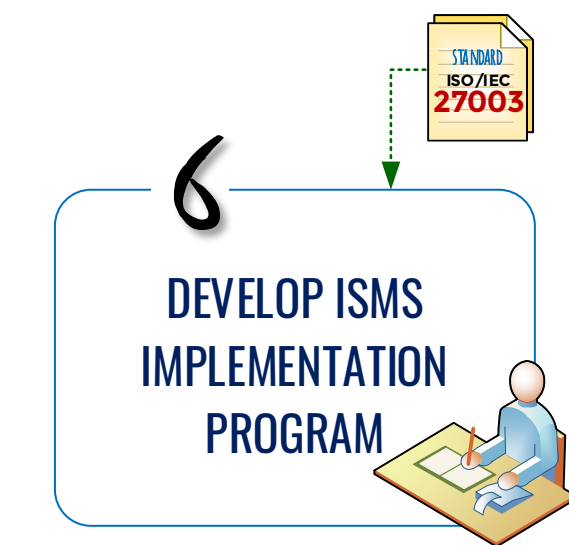
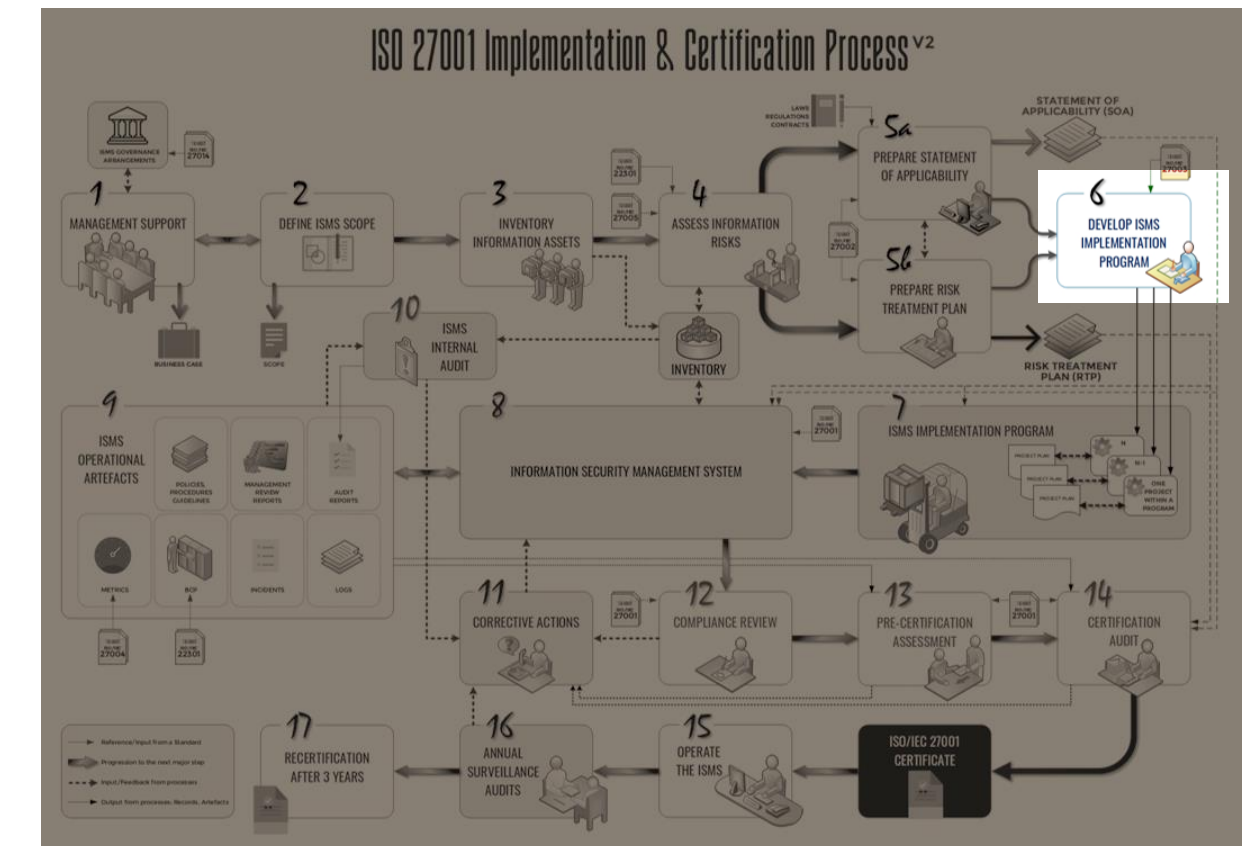
Maintain and Improve

Take corrective and preventive actions, based on the results of the internal ISMS audit and management review or other relevant information, to achieve continual improvement of the ISMS.

A

6. DEVELOP THE ISMS PROGRAM

- ▶ Components of an ISMS might already be present in the environment even if a formal ISMS is not implemented.
- ▶ The ISMS program can be designed and developed using implementation guidance from the **ISO27002:2022** and **ISO27003:2017**



ISO 27003

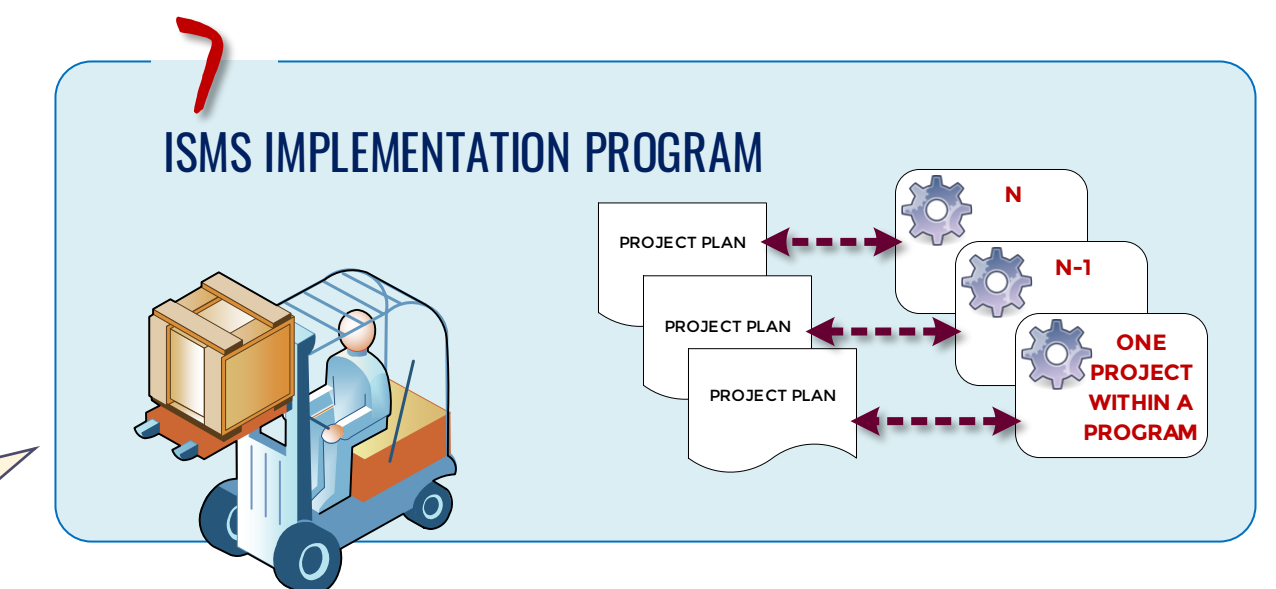
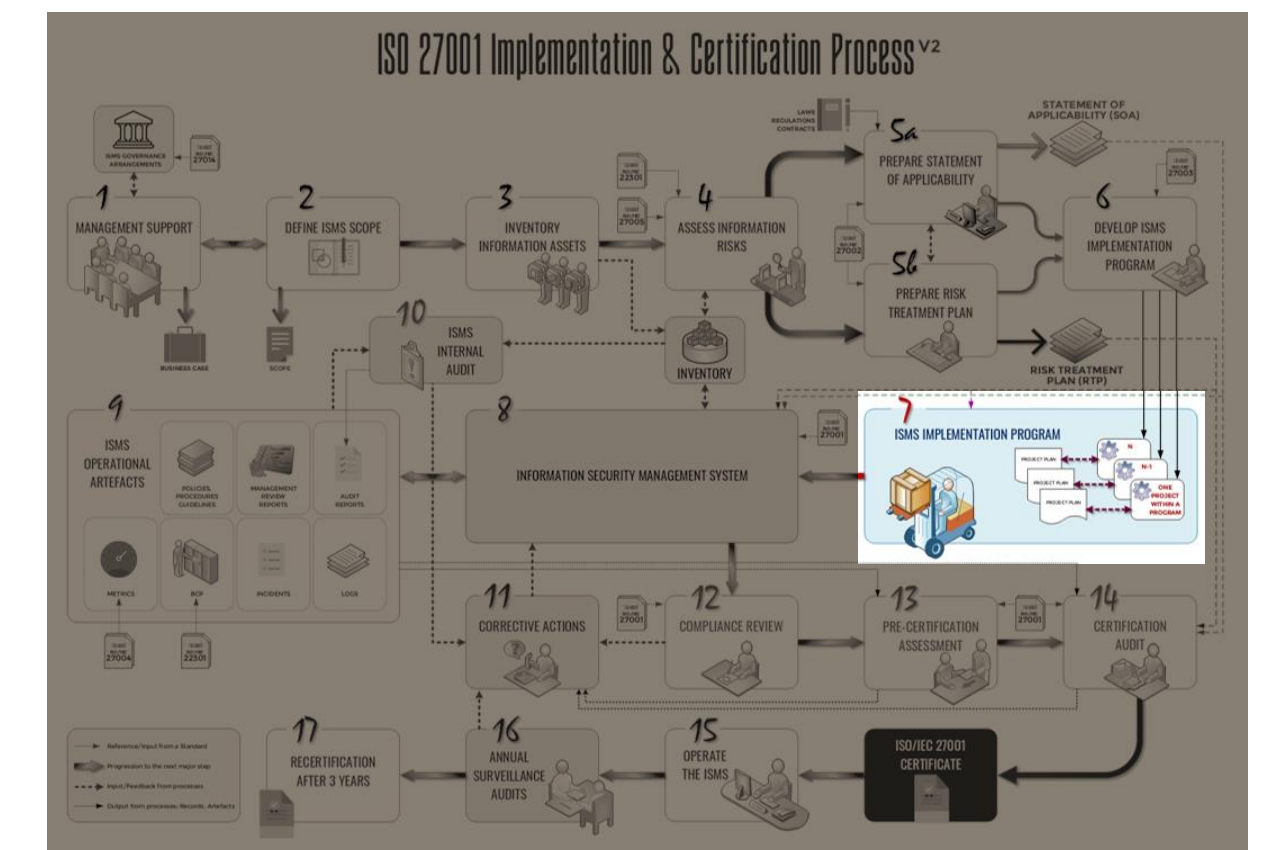
- ▶ ISO27005 provides guidelines for information security risk management.
- ▶ It supports the general concepts specified in ISO/IEC 27001 and is designed to assist the satisfactory implementation of information security based on a risk management approach.
- ▶ Knowledge of the concepts, models, processes and terminologies described in ISO/IEC 27001 and ISO/IEC 27002 is important for a complete understanding of this document.



7. ISMS IMPLEMENTATION PROGRAM

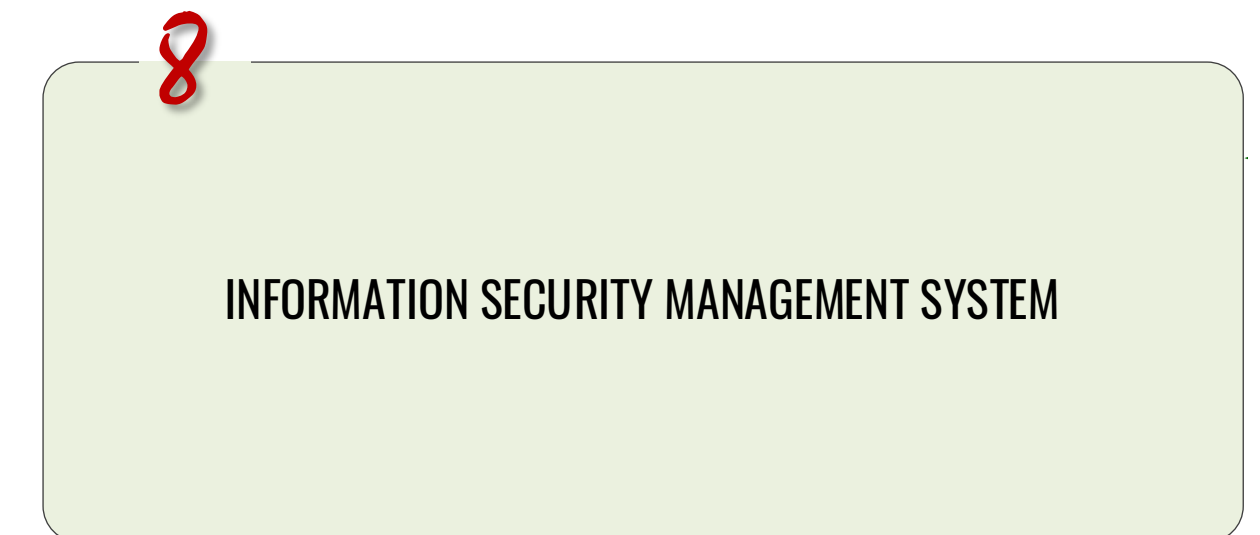
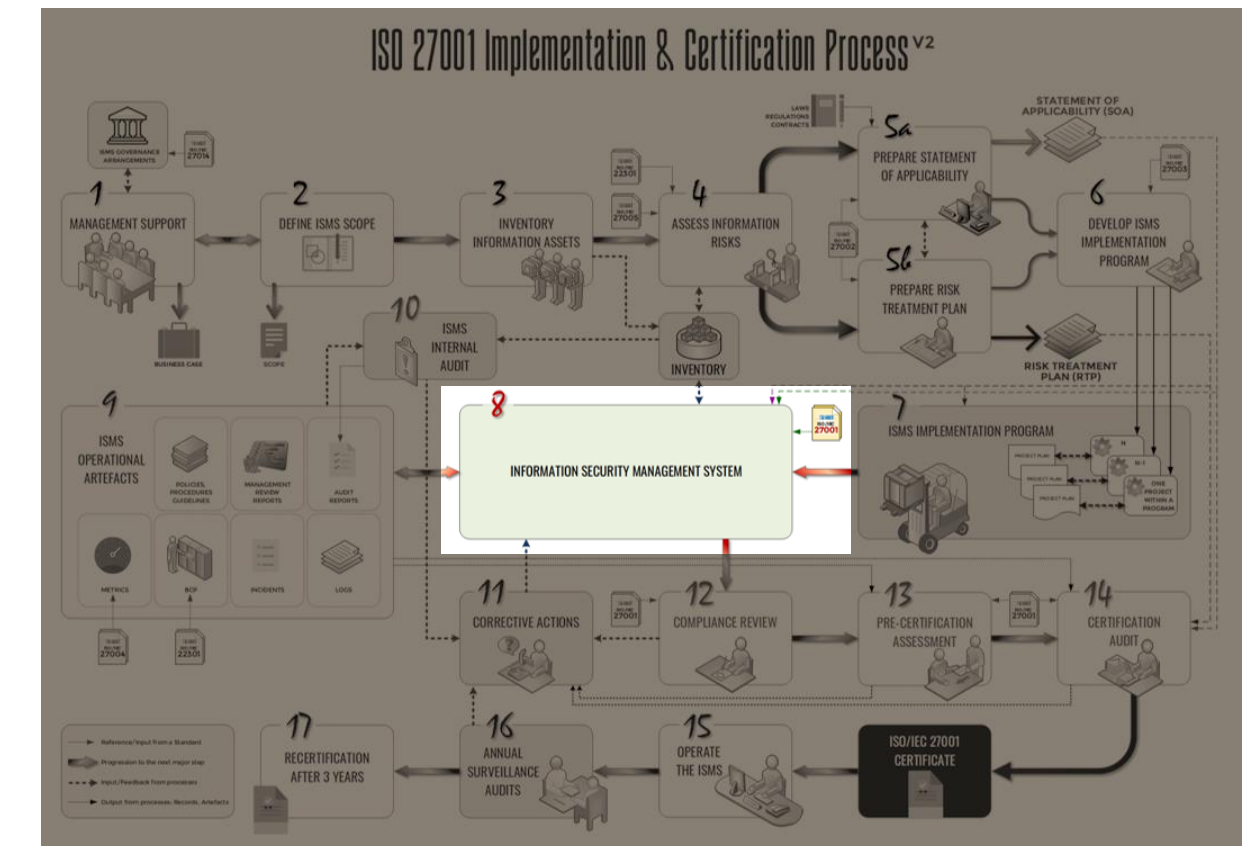
- ▶ Implement the **Risk Treatment Plan** in order to achieve the identified control objectives, which includes consideration of funding and allocation of roles and responsibilities.
- ▶ **Implement controls** selected during establishing the ISMS to meet the control objectives.
- ▶ Define how to measure the **effectiveness of controls** to allows managers and staff to determine how well controls achieve planned control objectives.
- ▶ Implement **security training and awareness** programmes.

Depending on the complexity and maturity of the organisation, implementing an ISMS may require implementation of multiple projects for establishing necessary security controls (as identified in the scope and RTP).



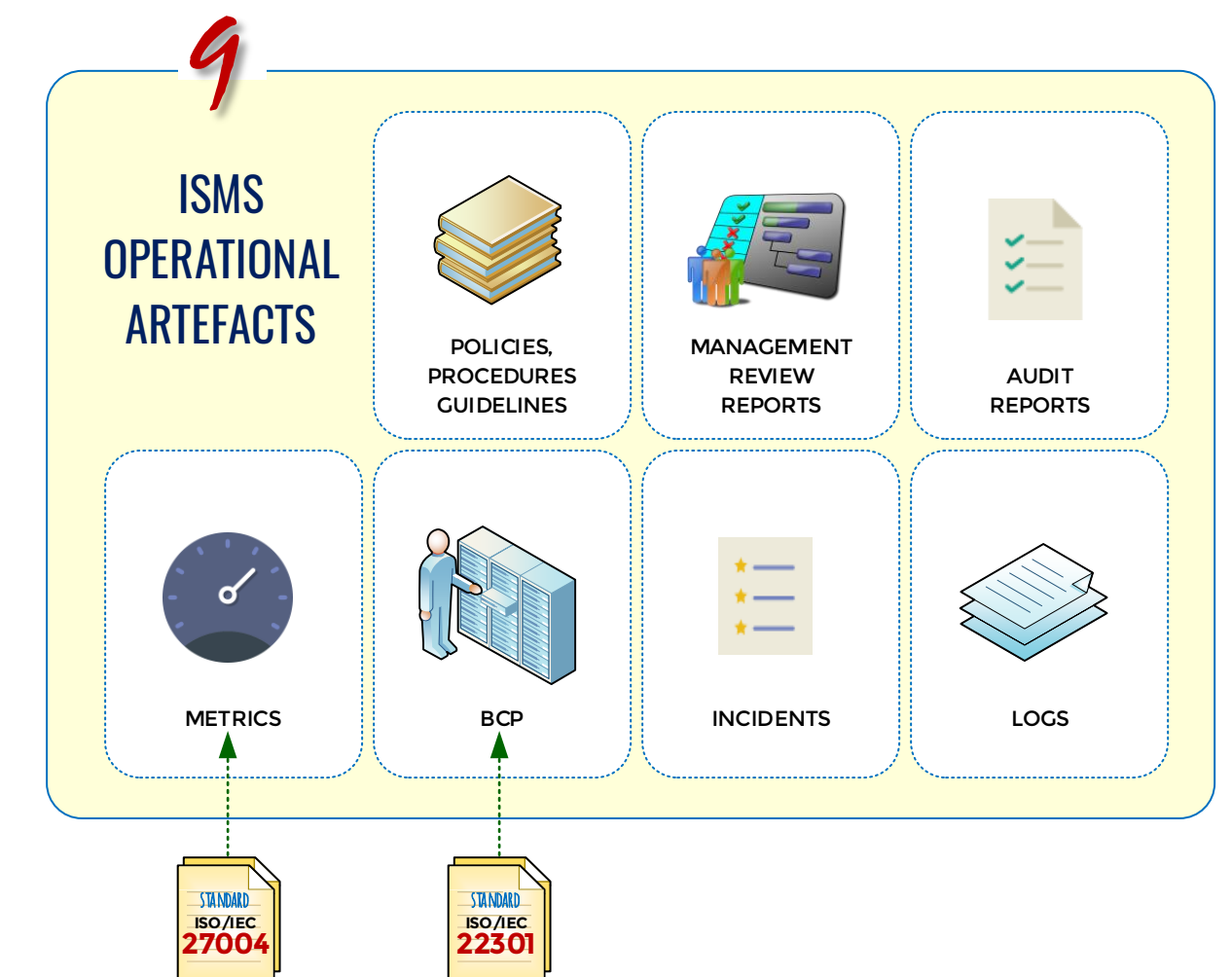
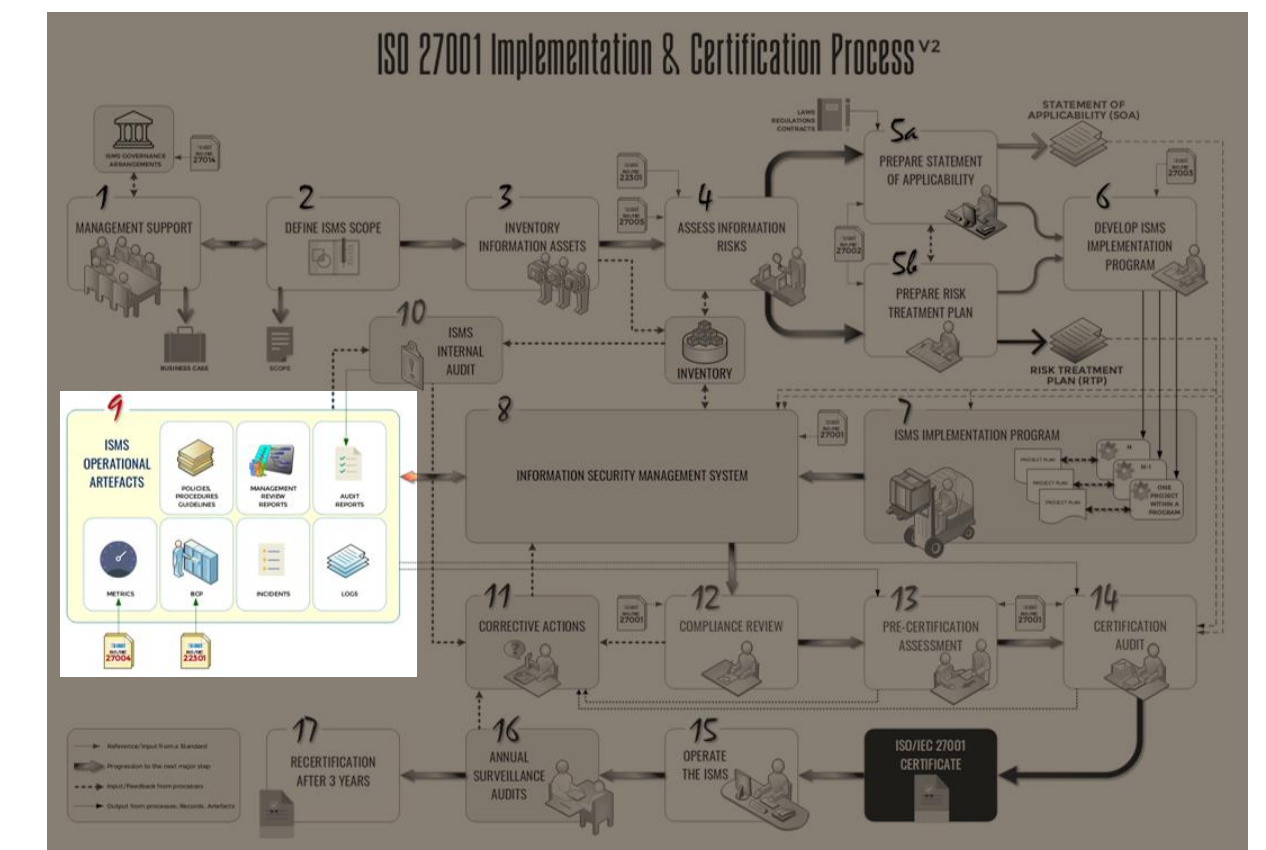
8. THE ISMS

- ▶ It is important to be able to demonstrate the relationship from the selected controls back to the risk assessment and risk treatment process, and subsequently back to the ISMS policy and objectives.
- ▶ ISMS documentation should include:
 1. Documented statements of the ISMS policy and objectives;
 2. The scope of the ISMS;
 3. Procedures and other controls in support of the ISMS;
 4. A description of the risk assessment methodology;
 5. A risk assessment report and Risk Treatment Plan (RTP);
 6. Procedures for effective planning, operation and control of the information security processes, describing how to measure the effectiveness of controls;
 7. Various records specifically required by the standard;
 8. The Statement of Applicability (SOA).



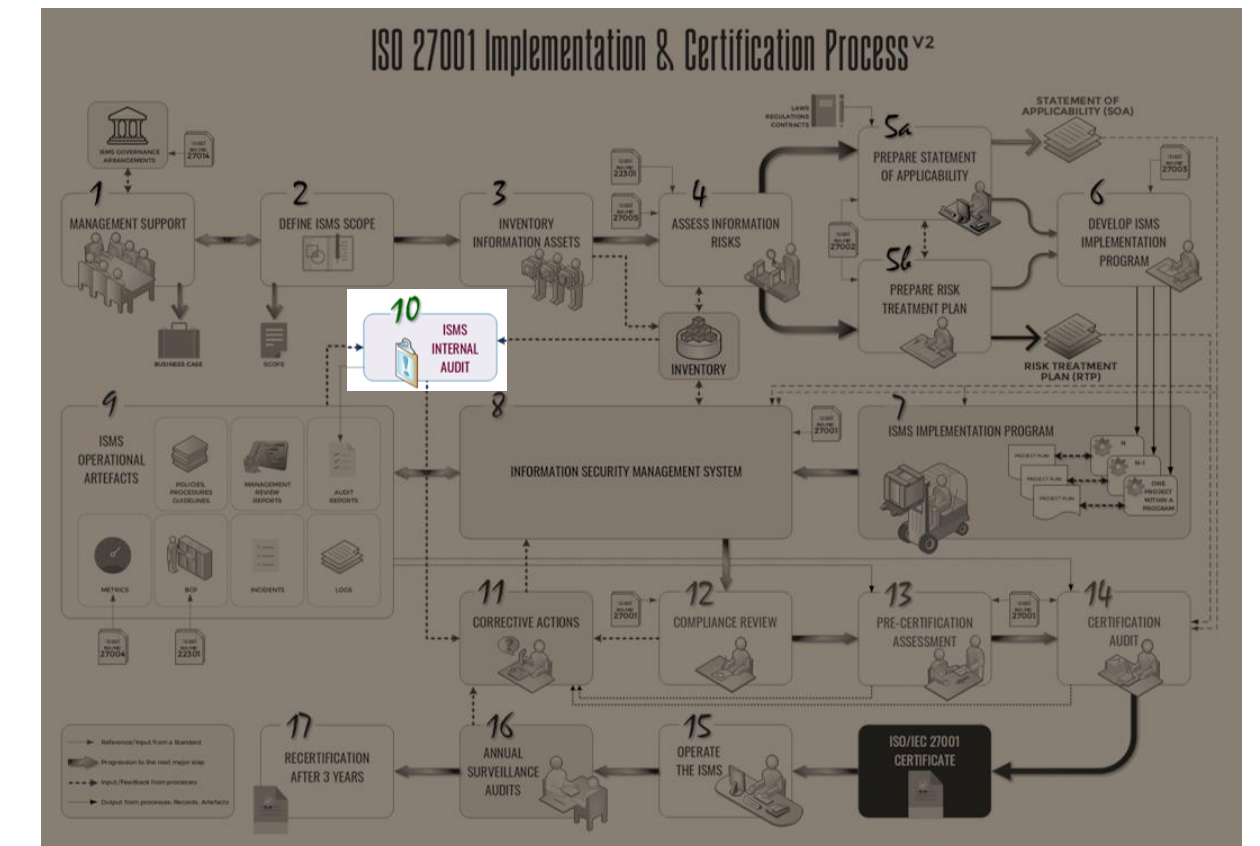
9. ISMS OPERATIONAL ARTEFACTS

- ▶ The organisation should formulate a risk treatment plan (**RTP**) identifying the appropriate management actions, resources, responsibilities and priorities for dealing with its information security risks.
- ▶ The RTP should be set within the context of the organization's information security policy and should clearly identify the approach to risk and the criteria for accepting risk.
- ▶ The RTP is the key document that links all four phases of the PDCA cycle for the ISMS.



10. ISMS INTERNAL AUDIT

After implementation of security controls, and necessary artefacts such as various records for proof of a functioning ISMS can be made available, the organisation conducts an internal audit at regular intervals and present a report to the management for review and action.



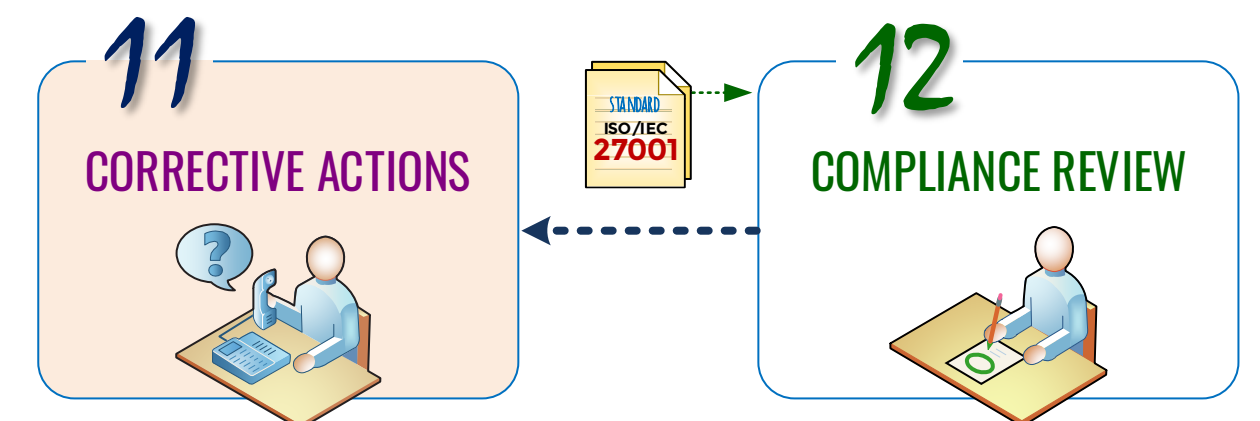
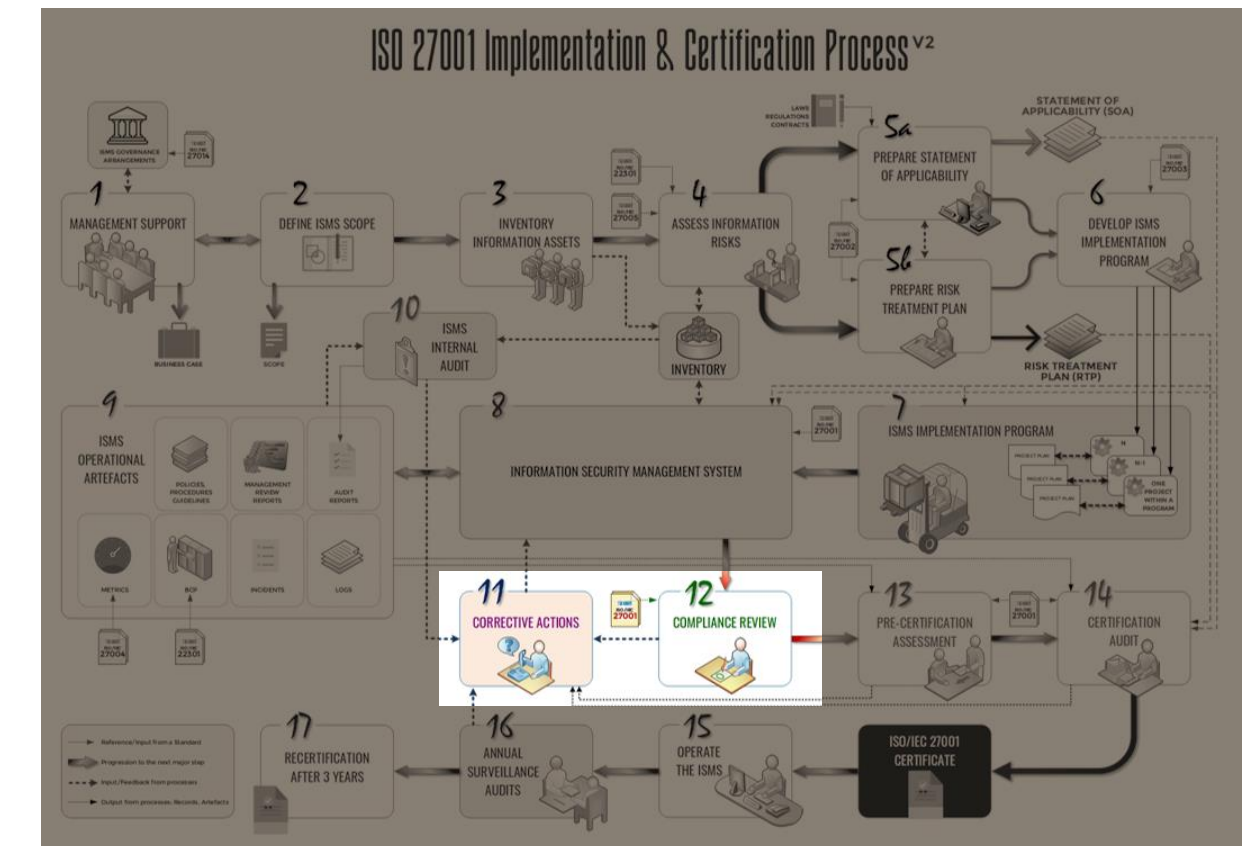
Clause 9.2 in the ISO27001 standard requires organisations to conduct periodic internal audits of the ISMS at regular intervals to see if it is maintained. Regular reports of the audit with recommendations in case of non-conformance will be presented to the management. These reports must be retained as documentation which will be reviewed by the ISO auditor as proof for meeting this requirement.



11. CORRECTIVE ACTIONS

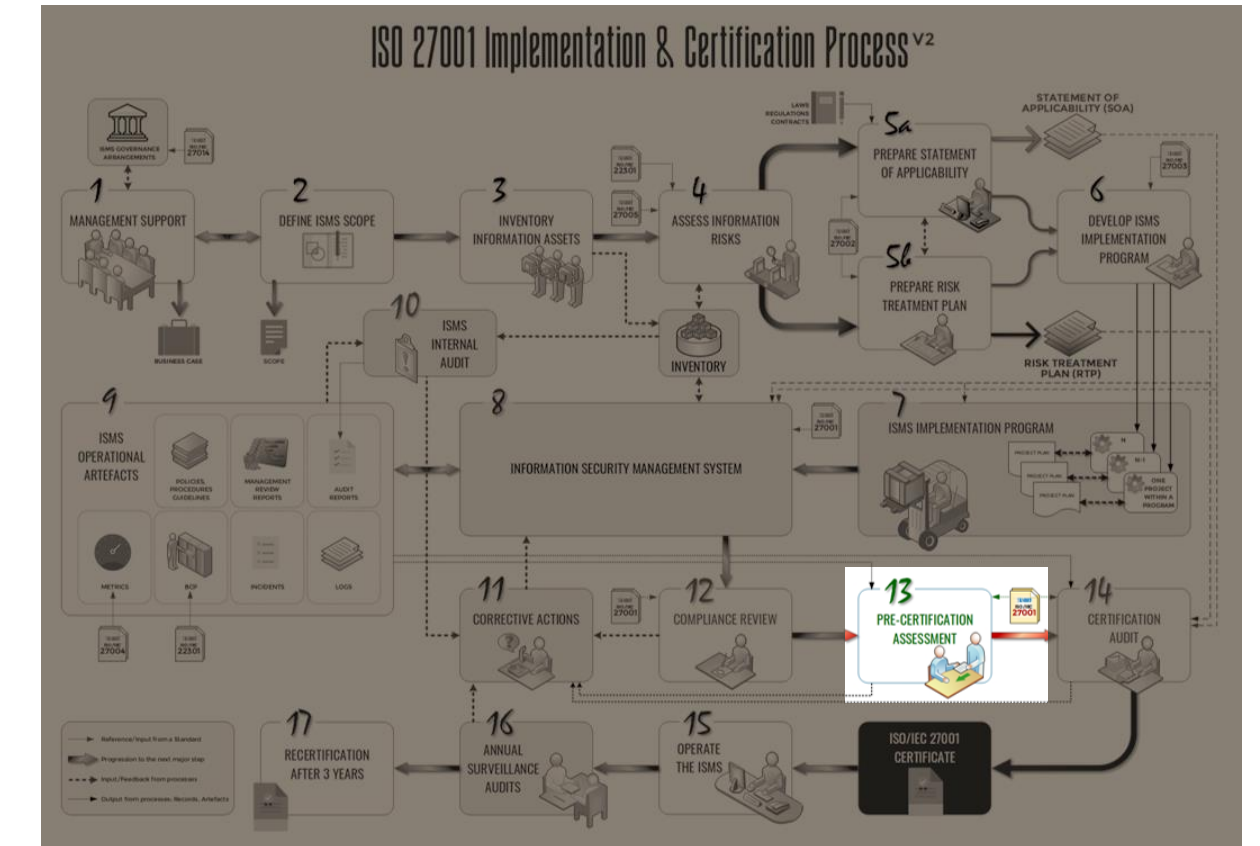
12. COMPLIANCE REVIEW

- ▶ Management must review the organization's ISMS **at least once a year** to ensure its continuing suitability, adequacy and effectiveness.
- ▶ They must assess opportunities for improvement and the need for changes to the ISMS, including the information security policy and information security objectives.
- ▶ The results of these reviews must be clearly documented and maintained ("records").
- ▶ Reviews are part of the 'Check' phase of the PDCA cycle: any corrective actions arising must be managed accordingly.



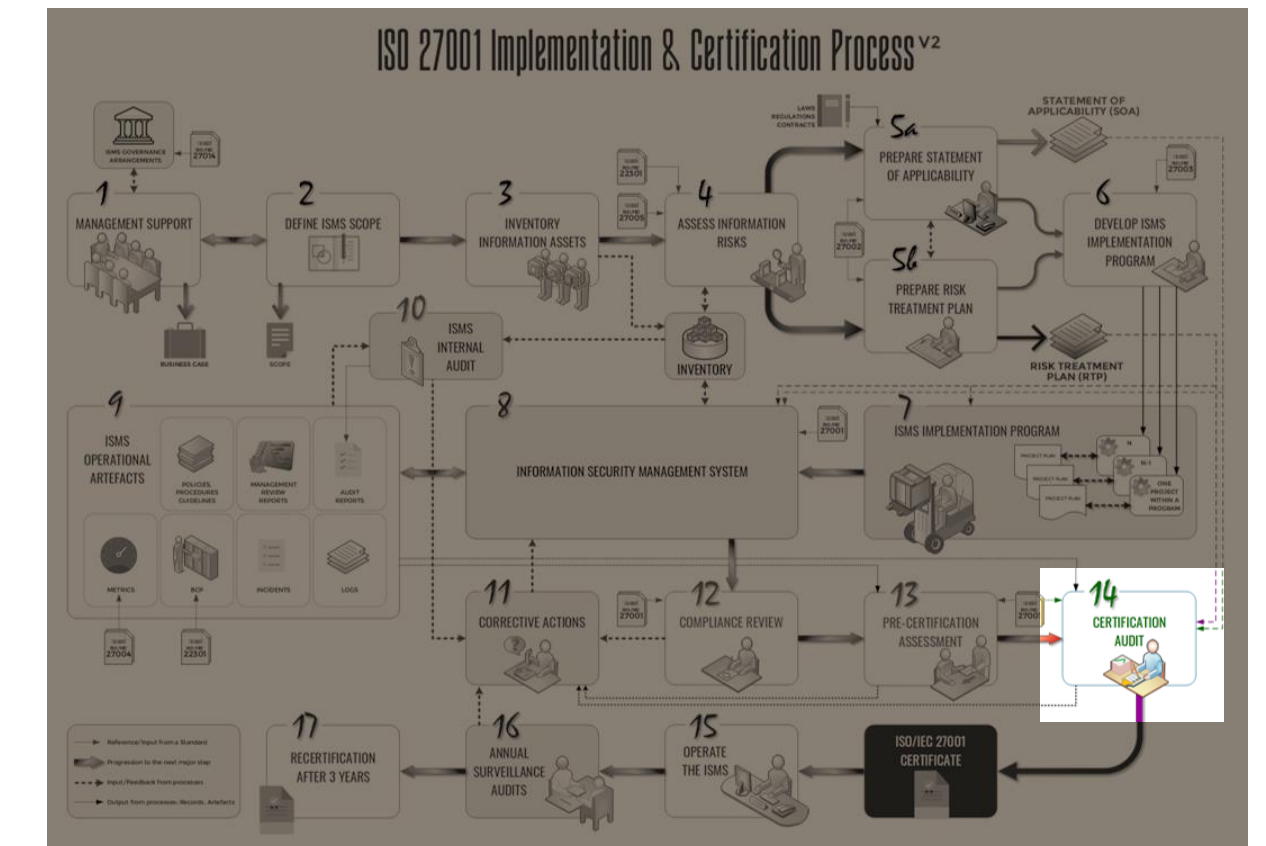
13. PRE-CERTIFICATION ASSESSMENT

- ▶ Prior to certification, the organization should carry out a comprehensive review of the ISMS and SOA.
- ▶ The organization will need to demonstrate compliance with both the full PDCA cycle and clause 8 of ISO27001, the requirement for continual improvement.
- ▶ Certification auditors will seek evidence (in the form of records of processes such as risk assessments, management reviews, incident reports, corrective actions etc.) that the ISMS is operating and continually improving.
- ▶ The ISMS therefore needs a while to settle down, operate normally and generate the records after it has been implemented.



14. CERTIFICATION AUDIT

- ▶ Certification involves the organization's ISMS being assessed for compliance with ISO27001.
- ▶ The certification body needs to gain assurance that the organization's information security risk assessment properly reflects its business activities for the full scope of the ISMS.
- ▶ The assessors will check that the organization has properly analysed and treated its information security risks and continues managing its information security risks systematically.
- ▶ A certificate of compliance from an accredited certification body has credibility with other organizations.



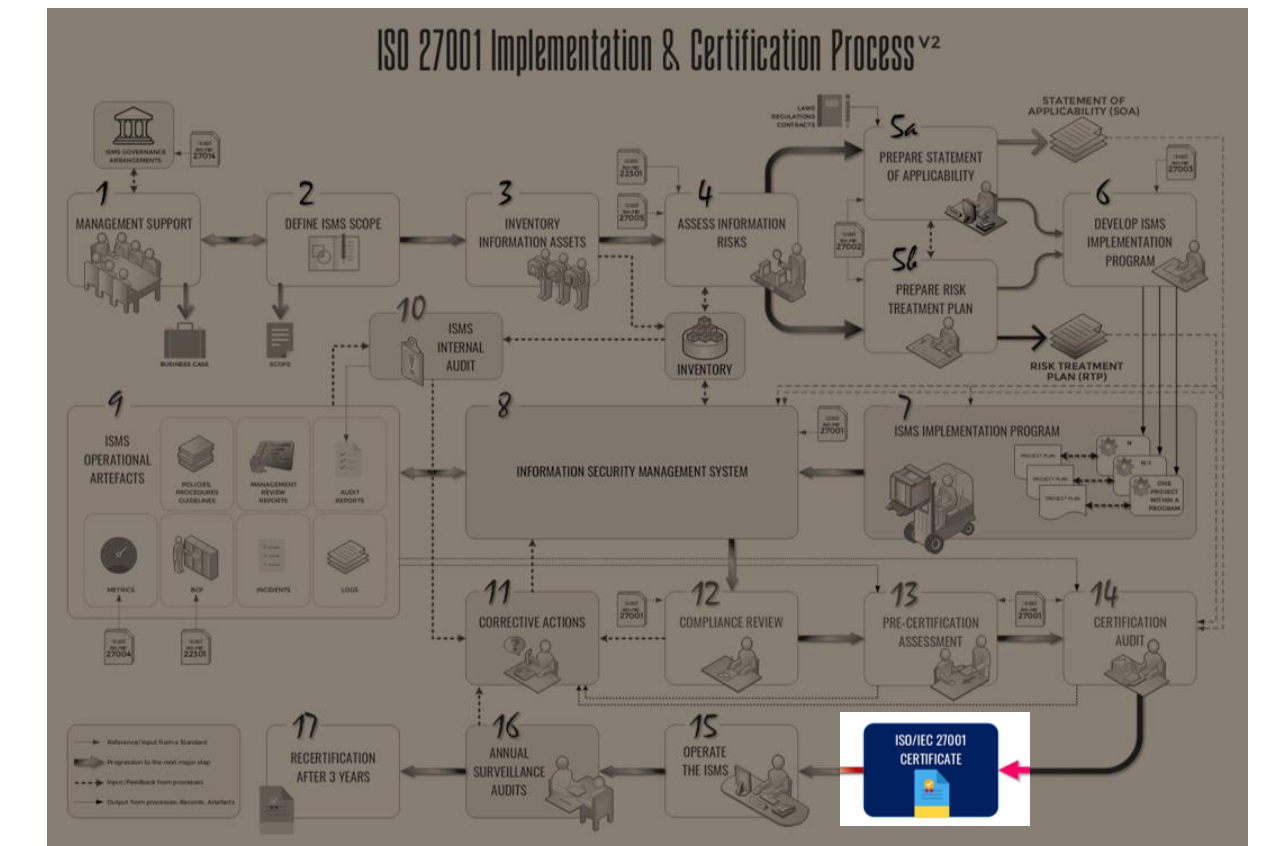
CERTIFICATION

When choosing a certification body, you should:

- ▶ Evaluate several certification bodies.
- ▶ Check if the certification body uses the relevant CASCO standard
- ▶ Check if it is accredited. Accreditation provides independent confirmation of competence. Accreditation is not compulsory, and non-accreditation does not necessarily mean the certification body is not reputable. To find an accredited certification body, contact the national accreditation body in your country or visit [International Accreditation Forum](https://www.iso.org/certification.html). CertSearch.

<https://www.iso.org/certification.html>

<https://www.iafcertsearch.org/search/certification-bodies>



ISO DOES NOT PERFORM CERTIFICATION

At ISO, we **develop** International Standards, such as [ISO 9001](#) and [ISO 14001](#), but we are not involved in their certification, and do not issue certificates. This is performed by external certification bodies, thus a company or organization cannot be certified **by** ISO.

However [ISO's Committee on Conformity Assessment \(CASCO\)](#) has produced a number of standards related to the certification process, which are used by certification bodies. Read more about [CASCO Standards](#).

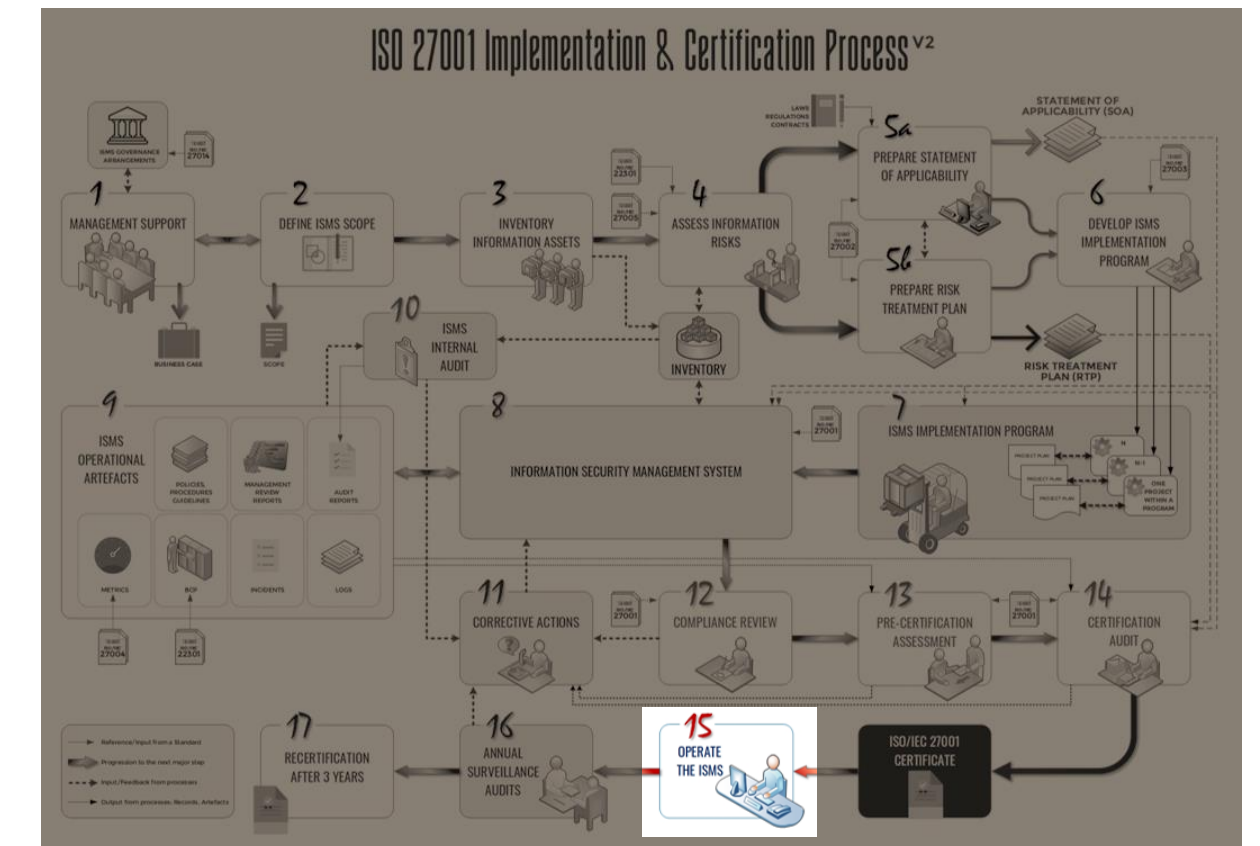
Certification – the provision by an independent body of written assurance (a certificate) that the product, service or system in question meets specific requirements.

Accreditation – the formal recognition by an independent body, generally known as an accreditation body, that a certification body operates according to international standards.

15. CONTINUAL IMPROVEMENT

The organization shall continually improve the effectiveness of the ISMS through the use of:

- ▶ The information security policy;
- ▶ Information security objectives;
- ▶ Audit results;
- ▶ Analysis of monitored events;
- ▶ Corrective and preventive actions;
- ▶ Management review.

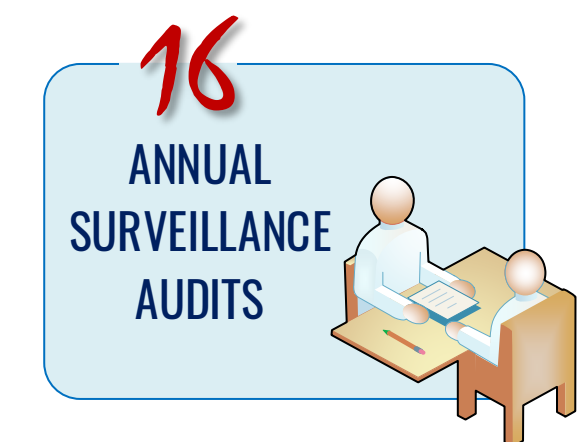
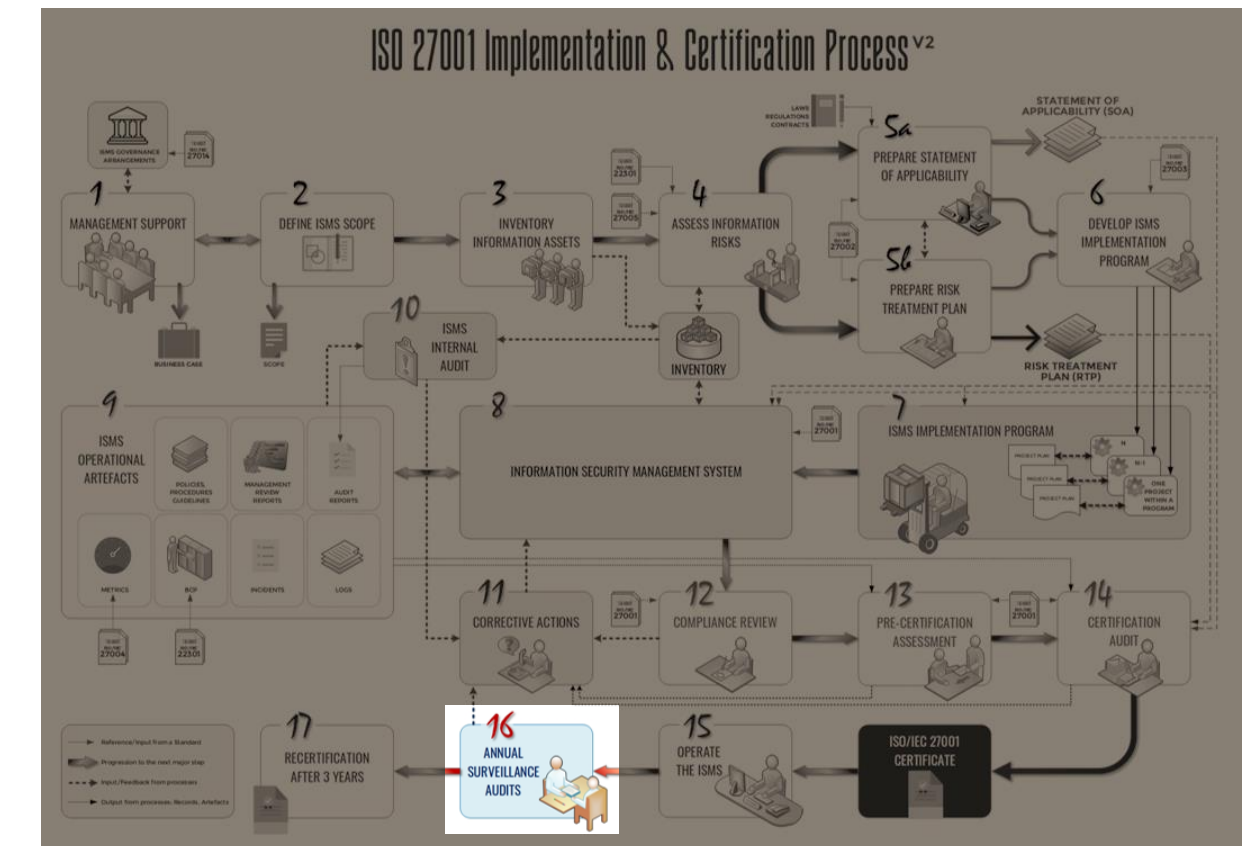


16. SURVEILLANCE AUDITS

A surveillance audit is an annual audit conducted after the completion of the first and second year (in the 3-year certification cycle) conducted by the certification body to ensure that the ISMS is functioning in accordance with the standard and still meets the requirements defined at the time of the certification.

Among the items that are reviewed in a surveillance audit are:

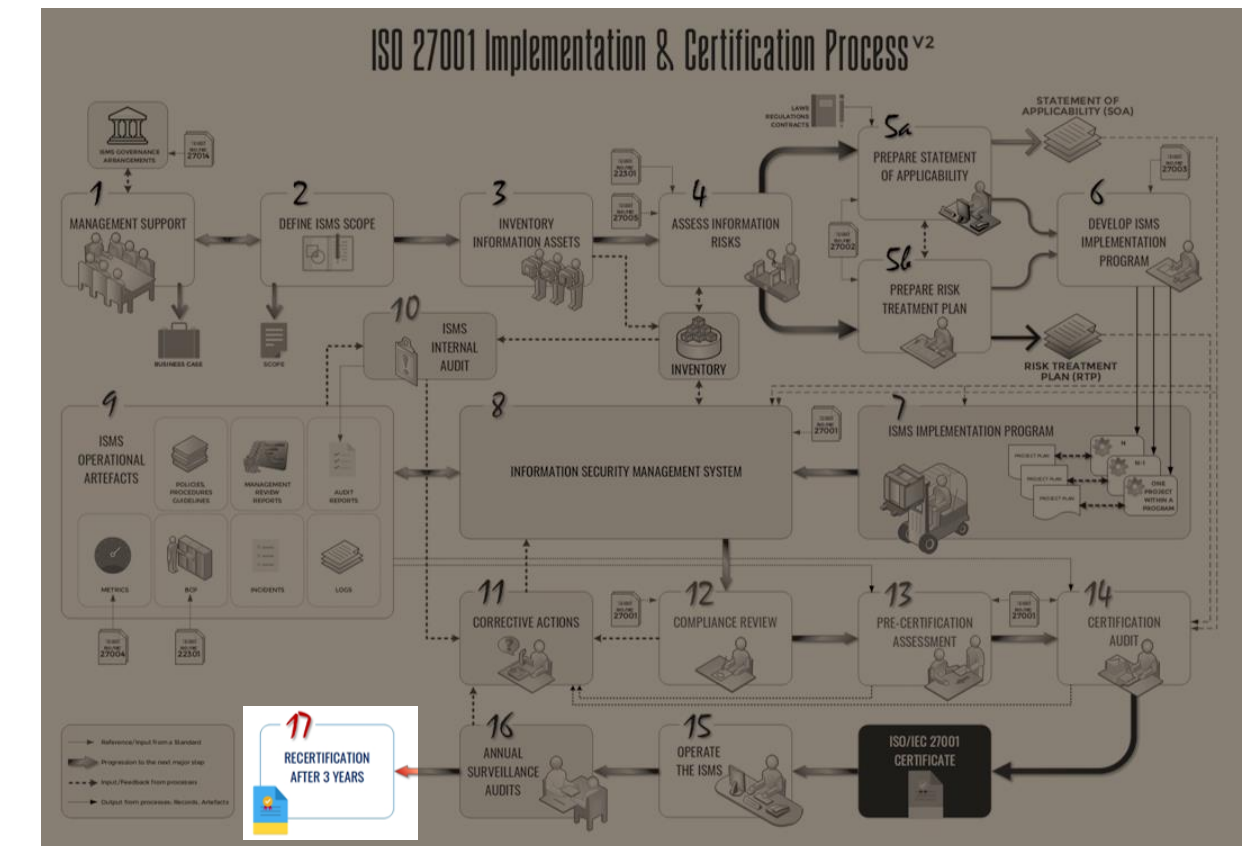
- Management Review (is the ISMS being reviewed regularly)
- Internal Audit Reports (are processes being monitored? recommendations if any)
- Review of Corrective Actions



17. RECERTIFICATION AFTER 3 YEARS

The certificate issued by the certification body is valid for 3 years, during which the body conducts periodic audits to ensure the ISMS is compliant with the standard.

After the end of the third year, the organisation is required to conduct a full certification audit.



REFERENCES

- ISO/IEC 27001:2005. Information Technology - Security Techniques – Information Security Management Systems – Requirements. Known as ISO 27001.
- ISO/IEC 27002:2005. Information Technology - Security Techniques - Code of Practice for Information Security Management. Known as ISO 27002.
- Alan Calder & Steve Watkins (2012). IT Governance: an International Guide to Data Security and ISO27001/ISO27002. 5th edition. Kogan Page Publishing.

FURTHER INFORMATION

Retrac Consulting provides consultancy advice on the provision of an Information Assurance regime for an organisation to protect their information assets, data and systems on which the data is stored, processed and transmitted. This is achieved through the assessment of threats to information systems, an analysis of the vulnerabilities that might be exploited by those threats, an understanding of the impact of identified risks, and the application of technical and non-technical countermeasures to reduce those risks to an acceptable level for the business.



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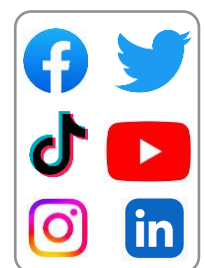
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