

Kongsberg Maritime AS Quality Manual



KONGSBERG

KM-MAN-0000, rev O
PUBLIC

Mission:

KONGSBERG is committed to maximizing customer performance through providing the **Full Picture** of innovative maritime technology solutions within operation, energy and handling.

We have combined our three specialist areas in one **integrated customer model** to give you powerful operational and business benefits.

KONGSBERG goal is zero accidents and incidents.

We make every effort to protect the environment for future generations.

Our values:

DETERMINED

INNOVATIVE

COLLABORATIVE

RELIABLE

WORLD CLASS - THROUGH PEOPLE, TECHNOLOGY AND DEDICATION

Table of contents

| | | |
|-----------|---|-----------|
| 1 | Introduction..... | 3 |
| 1.1 | Purpose..... | 3 |
| 1.2 | Scope..... | 3 |
| 1.3 | Structure..... | 3 |
| 1.4 | Definitions / acronyms..... | 4 |
| 2 | Organisational context | 5 |
| 3 | Management Commitment | 6 |
| 4 | Codes and Policies..... | 7 |
| 5 | Governance and objectives | 8 |
| 6 | Risk Management | 10 |
| 7 | Improvements..... | 11 |
| 8 | Handling nonconformities..... | 12 |
| 9 | Competence Management | 13 |
| 10 | Management system responsibility | 14 |

1 Introduction

1.1 Purpose

This governing document is the starting point for **how-we-work** in Kongsberg Maritime **KM**.

1.2 Scope

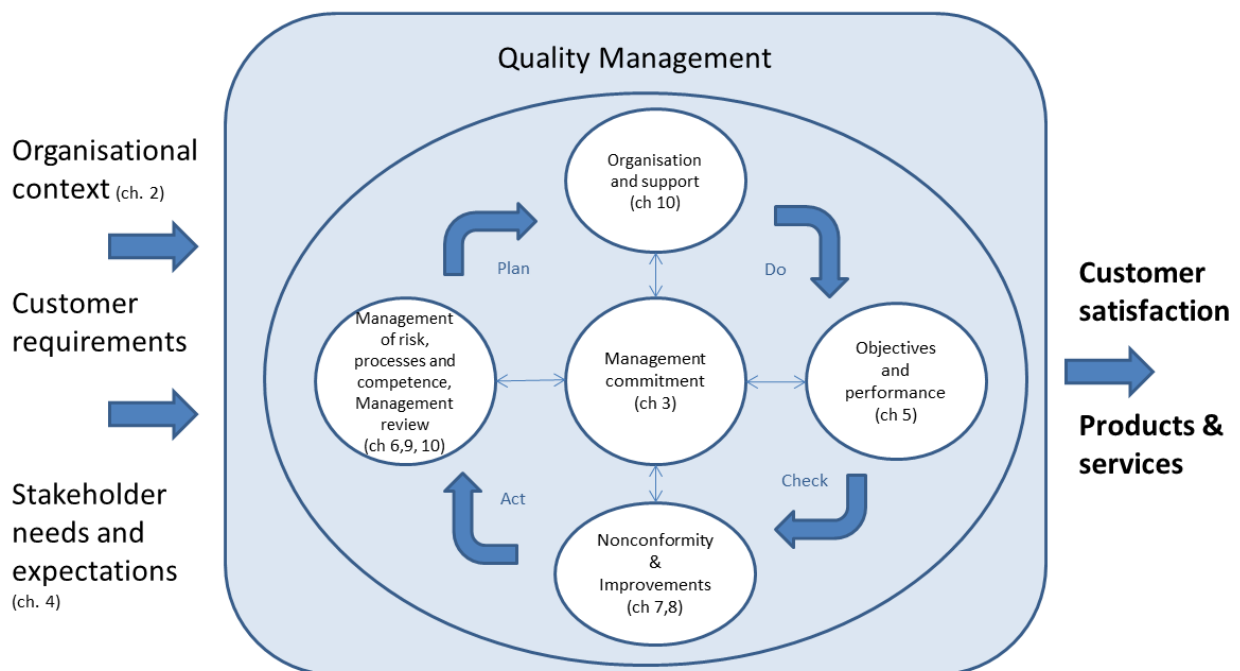
This governing document is valid for KM and its subsidiaries and so are the referred policies and processes. The main stakeholders of KM Management System are:

- KM employees.
 - Quality Control Responsible, all employees
 - Quality Assurance Responsible, managers
- Customers
- Certification bodies
- Owners (KONGSBERG)
- Collaboration partners like trade unions, site / location owners, industrial defense etc.

Other stakeholders of KM Management System are suppliers / subcontractors, national, province and municipal government, shareholders, public opinion, different medias and local society.

1.3 Structure

This governing document is structured according to the figure below:



1.4 Definitions / acronyms

| | |
|--------|---|
| CAB | Corrective Action Board |
| CAPA | Corrective Action Preventive Action |
| CCM | Certification & Competence Management system |
| CIP | Continuous improvement project |
| CSR | Corporate Social Responsibility |
| DIR | Directives |
| EIT | Electro, Instrument & Telecom |
| EPC(I) | Engineering, Procurement, Construction (and Installation) |
| GOV | Corporate governance policy |
| HR | Human Resources |
| HSE | Health, Safety and Environment |
| ISO | International Organization for Standardization |
| KM | Kongsberg Maritime |
| KML | Kongsberg Maritime Management |
| KOG | KONGSBERG Group |
| KPI | Key Performance Indicator |
| LMS | Learning Management System |
| NC | Nonconformity |
| PDCA | Plan-Do-Check-Act |
| P&I | Problems &Improvements |
| QMS | Quality Management System |
| SQM | Supplier Quality Manual |
| S&CSR | Sustainability & Corporate Social Responsibility |

2 Organisational context

KM develop and deliver systems for dynamic positioning and navigation, marine automation, safety management, cargo handling, subsea survey and construction, EPC(I), maritime training, and satellite positioning. KM scope covers EIT and riser&wellhead Engineering, Sales, Product Management and Development, System integration, Supply Chain, Delivery and Servicing. Our solutions enhance efficiency and safety throughout the whole maritime technology spectrum and we offer additional competence in providing turnkey engineering services within the shipbuilding and floating production sectors. [Read more about us.](#)

KM is a customer focused organization with a worldwide performance culture that works with demanding customers such as ship-owners, shipyards, research establishments, government etc.



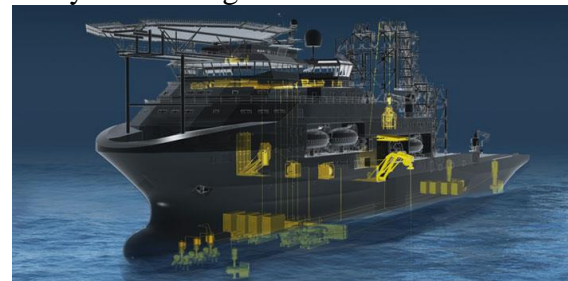
KM key markets are countries with large offshore, shipyard and energy exploration and production industries.

In exploration we provide sophisticated underwater and positioning systems for survey vessel operation.

In field development, we support construction and offshore vessels with solutions for operation and specialist applications, whilst in production our hardware and software enhances output and minimises downtime.

For maritime transport and offshore vessels, we supply **The Full Picture**, including navigation, automation, training and safety systems.

By offering fully integrated energy, handling and operational solutions KONGSBERG delivers complete vessel concepts with powerful benefits to reduce cost, maximize performance and address lifecycle challenges.



KM is a competence partner from project idea to end of life, supplying 24/7 services and applications supporting advanced marine operations.

KM is a wholly owned subsidiary of KONGSBERG Group.

In Norway KM is situated in Kongsberg [Carpus](#), Horten [Bekkajordet](#) and [Strandpromenaden](#), Trondheim [Grilstad](#), Sandefjord [Torp](#) and [Asker](#).

KM has a global footprint:



KM Manufacturing locations are situated in Norway, Germany, USA, Canada, UK and China.

3 Management Commitment

Management commitment shall provide the motivating force, direction and resources for our organization to deliver results for our customers and owners.

The KM quality management success depends on everybody's involvement. Management delegates authority and thrust to all employees, for them to perform their work safely with correct quality, time and cost in mind. The delegated authority is balanced with directing and follow-up activities.

Management commitment **empowers all employees** by:

- Pointing out directions through vision, mission, strategies and policies.
- Setting objectives and measuring performance. Communicating achievements and actions.
- Focusing on customer satisfaction, requirements and needs.
- Enabling the organisation, by appointing teams, roles, authorities and competence requirements.
- Ensuring that the management system have effective processes for the entire life-cycle of products, compliant to laws and regulations.
- Applying a lean management philosophy and nursing an improvement culture.
- Delegating stop-work authority to all employees when work conditions or quality may be compromised.

Management monitor and prioritize activities through:

- Performing risk based audit programme to ensure implementation.
- [Performance monitoring](#).
- Improving by periodic [management reviews](#).
- Deciding necessary certifications.

An overview of [company certificates](#) and [product certificates](#) are available on web.



| | |
|--------------|-------------------------------------|
| KM-PROC-0010 | KM Business Management Process |
| KM-PROC-0012 | Life-cycle Management process |
| KM-PRO-0004 | Audit - Managing KM Audit Programme |
| KM-PRO-1013 | Management Review |

4 Codes and Policies

KM Management System is vital for our daily operation and compliance. The management system is based on regulatory and customer requirements, our owner's requirements in form of Codes and Policies, relevant standards for our line of business, and our own ambitions.



KM regularly evaluates **compliance against relevant governmental laws and regulation**, as well as owner's requirements. The responsibility of the evaluation follows the professional line, i.e. Finance, Security, Health, Safety and Environment (HSE) etc. KM compliance responsibilities are maintained.

KONGSBERG has a corporate Code of Governance and Code of Ethics and Business Conduct. These are basic elements in the efforts to achieve the desired **corporate culture and structure**. To ensure effectiveness compliance monitoring and assessments are built into all levels of the business. KM maintains constant focus on anti-corruption by prevention and risk reduction measures. **We have zero tolerance for corruption.**

KM's own ambitious and requirements to our managers and employees are expressed in policies. KM has promised to **maximize the performance for customer operating installations** with KM systems for the entire life-cycle. To achieve this KM strives for first-time quality and continuous improvements in all that we do to meet or exceed the stakeholder's expectations.

We aspire to achieve sustainable business balancing financial performance, value creation and social and environmental responsibility using a risk-based approach. We focus on sustainable products through product development including the environmental benefit gained by our customers when using our products.

We foster a collaborative workplace that engages all employees in finding solutions for our customers that advance our common business objectives.

We provide innovative technologies that enable the development of future marine solutions while improving the cost, quality, efficiency and performance of our products.

KM value human life and health and take action accordingly to maintain the **safety of our workplaces, products and services**. We are personally accountable for our safety and collectively responsible for each other's safety.

Safety comes first when pursuing our goals for quality, cost and schedule.

Information security is a key asset to KM and it shall be protected in a manner adequate with its sensitivity, value and criticality. Organisational transparency and the ability to deliver standardized and secure services across countries provide a basis for effective collaboration both internally and with customers.

KM Management System is reviewed yearly through **Management Reviews**.

| | |
|------------------------------|--|
| KOG-GOV-0013 | Code of Governance |
| KOG-GOV-0011 | Code of Ethics and Business Conduct |
| KOG-DIR-0015 | Directive for the follow up of CSR in the supply chain |
| KM-POL-0000 | Quality policy |
| KM-POL-0002 | Health, safety and environment policy |
| KM-POL-0003 | Information Security Policy |
| KM-POL-0011 | Life Cycle Management Policy |
| KOG-DIR-0048 | Conflict Minerals Policy |

5 Governance and objectives

This section describes the governance and objectives related to how-we-work.

Our management system covers quality, environmental; HSE, information security and compliance management, and the different areas are governed by manuals.

| | |
|-------------------------------|---|
| KM-MAN-0004 | HSE - Health, Safety and Environment Manual |
| KM-MAN-0005 | Security Manual |
| KM-MAN-0003 | Environment & Sustainability Manual |
| KM-MAN-0013 | Crisis Management |
| KOG--GOV-0011 | Code of Ethics and Business Conduct |

KM Management (KML) sets the objectives and follow-up during periodic management meetings, reporting and management reviews. Actions and corrective actions are initiated when the objectives are not within targets. Trends are communicated on KM intranet.

| Perspective | Level | Goals | Objectives |
|---------------------------------|--|--|---|
| Financial | KM / Division | Return of Capital employed, economic value added, sales growth, cash flow. | Reach agreed financial targets including EBITA and growth. |
| Customer | KM | Customer satisfaction, retention and market share. | Two improvements based on feedback. Survey trend shall be positive for selected improvement areas. |
| Internal processes | KM / Divisions / Global Customer Support | Maximise customer value for development investment Decrease warranty cost Improved supply chain performance Support customer in operation | Development project delivery precision < 3% and improvements According to S&CSR action plan Service objectives within target |
| Internal processes (regulatory) | KM | Privacy law Reduce the numbers and severity of work-related injuries. | Compliance |

| | | | |
|----------------------------------|--|--|--|
| | | <p>Export control</p> <p>Security</p> | <p>0 fatalities and 0 disabling injuries Total Recordable Injuries TRI < 3.5.</p> <p>Open non-conformities closed within deadlines.</p> <p>Maintained risk assessments and risk treatment plans</p> <p>Incident handling according to set targets</p> |
| Human and organisational capital | KM | Successful capacity adjustments | Scope, time and cost per project. |
| | | <p>Low sick leave</p> <p>Employer attractiveness</p> <p>Objective- and people processes implemented</p> <p>Adequate use of employee's skills</p> <p>Overall Employee satisfaction/performance maintained</p> <p>Low turnover rate</p> <p>Competence & training</p> | Results within set targets |
| Structural capital | Systems - measure of availability of critical real time information needed for front line employees. | <p>Capability to handle security incidents.</p> <p>Security awareness, training and commitment</p> <p>Reduce CO2 emission</p> <p>Environmentally friendly products</p> <p>KM Operation Managers implement, monitor and verify that their area of responsibility operates in compliance with KONGSBERG ethical standard</p> <p>No breach of KONGSBERG anti-corruption requirements.</p> | Results within set targets |

6 Risk Management

Risk Management contributes to the achievement of objectives and improvement of performance in, for example health, safety and environment, security, legal and regulatory compliance, product quality, project management, efficiency in operation, governance and reputation.

In other words risk management contribute to value for our customers and stakeholders.



Risk Management in KM is performed throughout the organization, at all levels and professions in the daily operation throughout the whole value chain.

KM risk management approach will gradually be improved towards the requirements in ISO 31000, and the implementation covers risk identification, mitigation, reporting and aggregation.

The risks consist of threats and opportunities and are vital input to KM decision making and prioritizing.

Risk management is how to control threats and opportunities to successfully reach our objectives. This means that we coordinate resources to minimize, monitor, and control the probability and/or consequence of unfortunate events or to maximize the realization of opportunities. For instance; “what are the threats for a project not succeeding to reach the objectives and what are the opportunities that will make the project even more successful?”

The **context** is of vital importance for risk management. Both internal and external context must be considered when setting the objectives. Since context may vary and affect risk management based on changing circumstances the threats and opportunities must be monitored continuously.

Risk criteria define KM’s different levels at which risk becomes **acceptable** or tolerable after rating the consequence and probability in predefined categories. When a threat is outside the predefined accept criteria for consequence and probability, actions to reduce the risk and threat impact shall be taken.

KM maintains predefined accept criteria in several categories to guide a risk analyses. Where the predefined accept criteria do not fit, tailored and documented accept criteria shall be made, in example in a project start-up meeting or for project portfolio.

| | |
|--------------|------------------------------------|
| KM-PROC-0010 | Business Management process |
| KM-PRO-0058 | Procedure for handling risks |
| KM-TMPL-0058 | Risk Assessment Toolbox Template |
| KM-PRO-1151 | Generation and Maintenance of Risk |

7 Improvements

In KM continuous improvements is an ongoing and incremental process that over time improves our products and services, with the objectives to reduce our cost base, increase customer values and thus improve our market position. By engaging all employees and suppliers in improvements; KM and suppliers can maintain and improve our positions in today's increasingly competitive and challenging marketplace.

Lean has been identified as an important management philosophy for the future of KM, where continuous improvement is one of the fundamental lean principles for effective lean management. Other lean principles include customer value, process stability, total quality and flow efficiency.

In lean management, there are two underlying approaches to continuous improvement, one focusing on sustainable and consistent **small changes over time** to make a big impact on performance.

KM has adopted a system of lean boards that are used by autonomous front line teams to manage employee suggestions and to solve everyday problems.



The second approach is continual improvement, which suggests a definite project-based, plan-do-check-act (PDCA) approach.



In addition to improvement projects KM makes use of the **8DA3 problem solving** methodology. It is an eight-step process that allows a cross-functional team to address any problem by using root-cause analysis techniques to identify potential problems, put up actions and measure effect and subsequently eliminated using relevant counter measures.

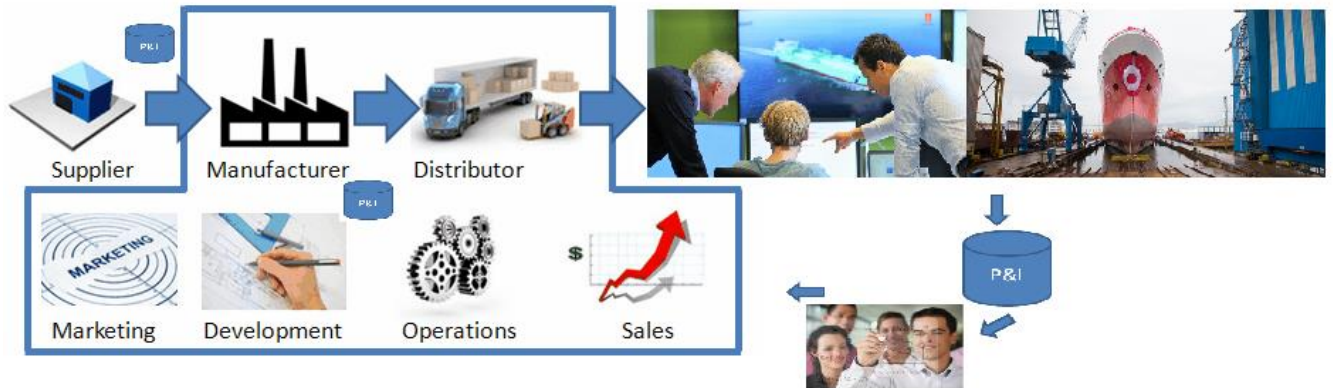
Our supplier community has a major impact and influence of almost all aspects of KM success. It is essential that the suppliers conduct their business in a manner that are in line with our values, ethical standards and need for continuous improvements. Through supplier development and strong relationships we focus on develop and maintaining a competitive value-adding supply base by:

- Develop long-term relationships with business critical product & services providers.
- Assist suppliers in their development by assessing their capabilities and needs.
- Provide regular feedback from and to suppliers.
- Share best practice to build on strengths of our company and the supplier to optimise the whole supply chain.

| | |
|------------------------------|--|
| KOG-DIR-0038 | Supplier Conduct Principles |
| KM-MAN-0010 | KM Supplier Quality Manual (SQM) |
| KM-PROC-0008 | KM Improvement Management Process |
| KM-PRO-0116 | Procedure for supplier performance management |
| KM-GUI-2700 | Guidelines for problem solving methods and tools in KM |
| KM-FORM-1100 | 8D A3 Problem solving form |

8 Handling nonconformities

The purpose of nonconformity (NC) handling is to close the gap between requirements and result. KM has a documented system for registration and handling of product and process nonconformities called the problem and improvement (P&I) database. All nonconformities shall be registered, responded to and considered in a risk-based context.



All KM employees are trained in problem solving methods and how to use the P&I database.

KM has an established procedure on how to **handle incidents**, from reporting to closure.

Different divisions in KM uses different **problem solving boards**, tailored to satisfy their specific business needs. Below are some examples;

- Corrective Action Board (CAB) in KM; Management representatives which prioritize and follow-up business critical nonconformities.
- Corrective Action Preventive Action (CAPA) Board at Strandpromenaden; Cross functional focal point for prioritizing and follow-up of nonconformities related to supply chain.
- Product Boards at Grilstad.

KM has established routines to ensure that we **learn from our experiences**.

This involves gathering information through lessons observed, applying problem solving methods and based on the results implementing necessary measures.

The purpose of these routines is to share and use knowledge derived from experience to:

- Promote the recurrence of desirable outcomes.
- Avoid the recurrence of undesirable outcomes.

KM has implemented these routines throughout our value chain, from product development to customer support.

| | |
|--------------|--|
| KM-PRO-2038 | Handling of incidents |
| KM-PRO-0003 | Handling of nonconforming products and corrective action |
| KM-GUI-4022 | Guideline for use of KM P&I system |
| KM-GUI-2700 | Guidelines for problem solving methods and tools in KM |
| KM-FORM-1100 | 8D A3 Problem solving form |

9 Competence Management

KM has established practices and tools for competence management to consistently provide products and services that enhance Customer's satisfaction.

Strategy & Objectives

KM determines the necessary competence, appropriate education and training, and experience needed to ensure that all work performed by KM's employees is under control of management systems and in line with KM strategy and objectives.

Certification & Competence Management (CCM) system

The CCM system is used to record KM employees' competence, track their certificates' validity dates and enables gap analyses for competence management. The HR department retains appropriate data about competence of all employees in their personal folder.

Competence leadership

Employees at all levels are encouraged to develop professional and personal skills. KM ensures necessary competence and its development through systematic appraisal interviews.

Line managers are responsible for competence' enhancement of their employees and for keeping job descriptions updated and communicated.

Transfer of competence

KM strives to get new employees the best possible start in the company. This is achieved through follow-up from Manager / Mentor, use of introduction programme from HR and enrolment to mandatory courses. Employees are encouraged to change positions internally for the transfer of competence.



Training & Certification

The Internal Training department provides courses according to organization's needs. KM has standardized training and certification programs worldwide. Line managers ensure that employees are enrolled to the courses they need.

Career plan

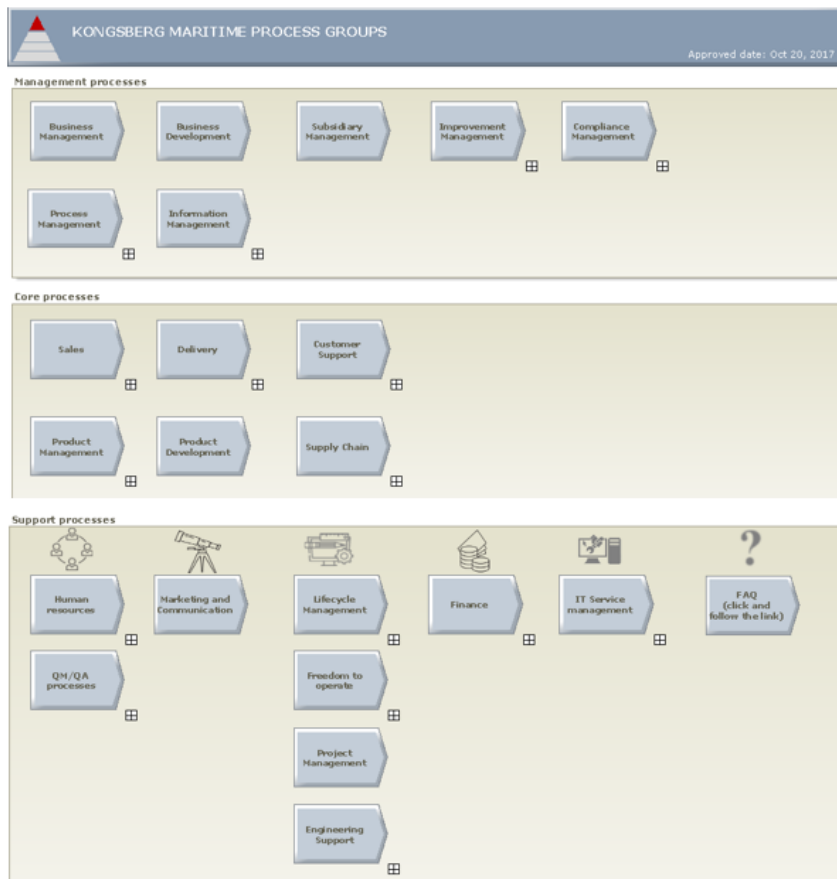
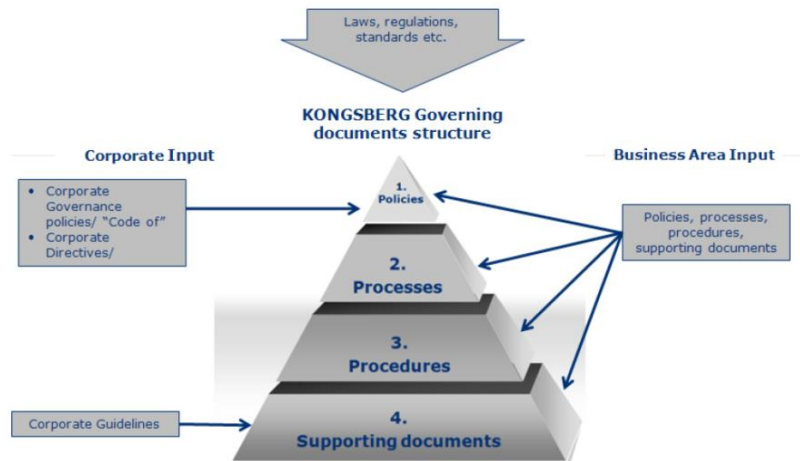
KM has a corporate plan for career opportunities within technical disciplines and leadership. The various career stages are described with a view to bring out what qualifications and skills are needed to go from one position to another. Individual's opportunity for promotion is governed by the individual's skills, effort and expertise, as well as business needs.

KMNOR-GUI-0031 Career Plan – superior level
KMNOR-GUI-0032 Career Plan – Technical Level
Various templates with course description and requirements
Personnel Handbook

10 Management system responsibility

The purpose of the KM Management System (QMS) is to lead and operate the KM organisation in a structured and successful way by maintaining an organised and visible system for Quality Management.

The structure of KONGSBERG and KM Management System and the KM processes and interactions is visualized in the figures below.



Roles and responsibility

All employees shall “Request and hand over quality”. Four different levels of quality involvement and responsibility are defined.

Quality Control (QC) Responsible:

All employees shall comply with procedures and follow the process descriptions applicable.

- Report nonconformities / problems
- Propose and initiate improvements
- Active involvement in KM’s culture of continual improvement

Quality Assurance (QA) Responsible:

All managers set expectations regarding the QC Responsible role and measure performance.

- Ensure that relevant processes and procedures exist, are communicated, understood, updated and followed
- Continual training of own employees in relevant processes and procedures

Quality Assurance (QA) Managers:

QA Managers are appointed in divisions and subsidiaries and provides support:

- Management support
- Training
- Internal support and audits
- Contribute to resolution of nonconformity issues
- Contribute to problem solving and handling of customer complaints

KM Quality Management (QM):

- Defines quality strategy, goals, KPI’s and campaigns
- QM performs the audit programme
- Customer and supplier liaison in Customer audits
- QM tools and methodology
- Quality awareness training

KM Process Board

KM Process Board is the owner of the business management system, high level process map, the management processes and the process organization.

KM Process Board will identify and plan for major changes that affect several processes, and make priorities of initiatives based on risk.

Process Forum

Process Forum groups is established for each core - and supporting process.

The groups shall ensure that global processes are developed, maintained, monitored and continually improved.

Each Process Forum consist of the following roles;

Process Champion (EVP level)

- Accountable for process(es)
- Participate in KM Process Board
- Handle escalation issues

Process Owner

- Responsible to manage process on behalf of Process Champion
- Quarterly risk reporting

Process Manager

- Administrate Process Forum meetings
- Follow up actions
- Update processes
- Plan/initiate rollout & release of process changes

Lead Process User(s)

- Represent their group of process users
- Communicate process activities
- Follow up process deployment

Business Support:

- Administrate company certificates
- Provide central training and support in cooperation with internal training
- Leader of Process Board
- Ensure traceability from laws, regulations, standards etc. to the management system.

KML is the owner of the management system through KM Process Board and arrange for periodically management reviews at KML, division and subsidiary level.

Business Support is delegated the authority to maintain and improve the system in cooperation with the organisation.

Quality Management has the responsibility for planning and performing the audit programme in cooperation with management to ensure efficiency and adherence.

Management review

KM management groups perform periodically management reviews, at least once a year, at different levels in the organisation; KM, divisions and subsidiaries.

The scope may include relevant functions like QM, HSE, Environment, Security, S&CSR, HR and Compliance in addition to ISO 80079-34 (Ex).

The purpose is to provide directions for further improvement for KM Management system based on lessons-learned and risk. The management review report covers the mandatory topics required by relevant ISO standards.

Audit programme

KM maintains a risk-based audit programme and the goals are to support the business:

- Provide insight into process adherence and management system efficiency
- Focus on interfaces and work-transfers between departments, locations, processes, subsidiaries
- Propose improvements
- Increased quality awareness and quality culture
- Fulfilment of regulatory requirements
- Sharing best-practices

Quality Management has the responsibility for planning and performing the audit programme in cooperation with management. The programme is determined by managers from the different divisions based on operational risks.

KM certifies auditors according to [European Organization for Quality](#) (or equivalent) requirements for auditors.