Global Guideline

KN IMS Manual
Integrated Management System Manual

(Previously known as QMM - QSHE Management Manual)

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Table of Contents

1. INTRODUCTION & CONTEXT OF THE QSHE SYSTEM ................................................................. 4
   1.1 KUEHNE + NAGEL – THE GLOBAL LOGISTICS NETWORK ................................................................. 4
   1.2 OVERVIEW / FIELD OF APPLICATION ......................................................................................... 4
   1.3 DOCUMENTATION – OVERVIEW ............................................................................................... 6
   1.4 UNDERSTANDING THE NEEDS AND EXPECTATIONS OF INTERESTED PARTIES .............................................. 7

2. TERMS & ABBREVIATIONS ........................................................................................................... 7
   2.1 TERMS & ABBREVIATIONS KUEHNE + NAGEL GENERAL ............................................................. 7
   2.2 SPECIAL TERMS & ABBREVIATIONS ......................................................................................... 7

3. CUSTOMER FOCUS ....................................................................................................................... 10
   3.1 CUSTOMER SATISFACTION ....................................................................................................... 10
   3.2 CUSTOMER REQUIREMENTS .................................................................................................. 11
   3.3 CUSTOMER COMMUNICATION .............................................................................................. 11
   3.4 CUSTOMER PROCESS ........................................................................................................... 12
   3.5 INTERNAL CUSTOMER PRINCIPLE ......................................................................................... 12

4. CONTEXT OF THE ORGANIZATION ............................................................................................. 13

5. LEADERSHIP ................................................................................................................................ 13
   5.1 MANAGEMENT RESPONSIBILITY / QSHE COMMITMENT ............................................................. 13
   5.2 QSHE-related functions .......................................................................................................... 13
   5.3 COMMUNICATION & POLICY .................................................................................................. 14

6. PLANNING / LEGAL & RISK MANAGEMENT ............................................................................... 14
   6.1 LEGAL AND OTHER REQUIREMENTS ..................................................................................... 14
   6.2 RISK MANAGEMENT ............................................................................................................. 15
   6.3 MANAGEMENT REVIEW / QUALITY OBJECTIVES ................................................................... 15

7. SUPPORT .................................................................................................................................... 15
   7.1 HUMAN RESOURCES (COMPETENCE, AWARENESS AND COMMUNICATION) ...................................... 15
   7.2 INFRASTRUCTURE AND OPERATIONAL ENVIRONMENT .................................................................. 16
   7.3 MONITORING AND MEASURING RESOURCES ....................................................................... 16
   7.4 ORGANIZATIONAL KNOWLEDGE .......................................................................................... 16
   7.5 DOCUMENTED INFORMATION ................................................................................................ 17
   7.5.1 General ................................................................................................................................ 17
   7.5.2 Creating and updating Documents and Records .................................................................. 17
   7.5.3 Control of Documents and Records .................................................................................... 17

8. PROCESSES / OPERATION ........................................................................................................ 18
   8.1 PROCESSES AT KUEHNE + NAGEL ....................................................................................... 18
   8.2 PROCESS REQUIREMENTS / DESIGN AND DEVELOPMENT ...................................................... 18
   8.3 PURCHASING ................................................................................................................................ 19
   8.4 PRODUCTION AND SERVICE PROVISION .............................................................................. 19
   8.4.1 Pharma Quality Management System ..................................................................................... 20
   8.4.2 Aerospace Quality Management System ................................................................................ 20
   8.4.3 Food Safety Management System .......................................................................................... 20
## Table of Contents

8.4.4 Engine Policy as part of Quality Management System .......................................................... 21
8.4.5 Dangerous Goods Management System .................................................................................. 21
8.4.6 Safety & Health Management System ..................................................................................... 21
8.4.7 Security Management System ................................................................................................ 21
8.4.8 Environmental Management System ...................................................................................... 22
8.4.9 Information Security Management System ............................................................................. 22
8.4.10 Business Continuity Management System ............................................................................. 22

8.5 CONTROL OF NONCONFORMING PRODUCT / TIP .................................................................... 23

9. PERFORMANCE EVALUATION ........................................................................................................ 23

9.1 MONITORING & MEASUREMENT .............................................................................................. 23

9.1.1 Analysis of data and data quality ............................................................................................. 24

9.2 INTERNAL AUDITS ..................................................................................................................... 24

9.3 MANAGEMENT REVIEW AND ANNUAL QSHE REPORTING ...................................................... 24

10. CONTINUOUS IMPROVEMENT PROCESS .................................................................................. 25

10.1 CORRECTIVE & PREVENTIVE ACTION ..................................................................................... 25

10.2 CONTINUOUS IMPROVEMENT PROCESS .............................................................................. 25

11. DOCUMENT HISTORY ................................................................................................................... 26
Kuehne + Nagel has an integrated quality management system; encompassing the framework of QSHE (Quality, Safety, Health, Environment, Dangerous Goods and Security) in addition to other management frameworks such as information security, business continuity, aerospace, pharmaceuticals handling and food safety. The basic principles are summarized in this Integrated Management System Manual (IMS Manual), previously known as QMM - QSHE Management Manual.

1. INTRODUCTION & CONTEXT OF THE Integrated Management System

1.1 Kuehne + Nagel – The Global Logistics Network

The Kuehne + Nagel group is one of the leading logistics service providers worldwide with offices in all major regions, countries and locations around the world. The most up-to-date information is always given among others in the Kuehne + Nagel Internet site, in the latest Annual report, Sustainability report and in the current Organization Charts.

1.2 Overview / Field of Application

Within the frame of its integrated Management system Kuehne + Nagel (KN) fulfils the requirements of international and other standards as they are applicable, including but not limited to ISO 9001:2015 for Quality Management, ISO 14001:2015 for Environmental Management, ISO 45001:2018 for Occupational Health & Safety, ISO 27001 for Information security, ISO 22301:2012 for Business Continuity, SQAS (Safety and Quality Assessment System – initiated by the Chemical Industry), TAPA (Security standard issued by the Transported Asset Protection Association), C-TPAT (Security standard issued by the U.S. Customs – Customs-Trade Partnership Against Terrorism), Cargo iQ (Quality airfreight standard issued by an IATA Interest Group consisting of airlines, handling agents and freight forwarders).
A KN Cross Reference Matrix is available on KNet indicating which sections of the various standards are covered in which Kuehne + Nagel's IMS Manual section and / or in which QSHE Procedure. This Matrix includes also the changes from ISO 9001:2008 to ISO 9001:2015, from ISO 14001:2004 to ISO 14001:2015 and from OHSAS 18001:2007 to ISO 45001:2018.

In addition and where applicable, KN is committed to fulfil the requirements of the IFS (International Food Standard) and many more standards related to Food Safety, Pharma & Healthcare, Medical Devices and others.

The management parts of the quality system are also applicable to the Information Security Management System (ISMS), controlled by the Chief Information Security Officer (CISO), where they have not been further defined in the ISMS itself.

The QSHE Commitment is oriented on e.g. customer focus, compliance and risk-based thinking and is also published on the external Kuehne + Nagel Internet site.
Field of Application and context of the organization: The Integrated Management system as described in the IMS Manual and the QSHE Procedures applies to all Kuehne + Nagel Business Units including Sea + Air Logistics, Contract Logistics and Rail + Road Logistics as well as to all Functional Units, such as Human Resources, Finance & Controlling, IT, etc. according to the latest company’s organization charts.

Each of the above standards according to the QSHE management system is implemented and externally certified according to a multi-sited / matrix certification at selected Kuehne + Nagel locations, which are listed in the annexes to the corresponding certificates such as ISO 9001 and ISO 14001. Additional / new KN locations can apply for external certification according to some / all of the above standards only, if the corresponding QSHE management system is fully implemented and only after KN internal audits have been made to check the compliance.

1.3 Documentation – Overview

KN Integrated Management System

KN maintains and retains documented information for external and internal issues to achieve the intended results of the QSHE Management System. The KN BUFU process map and the IMS Manual represents the highest level of QSHE documentation for internal and external use; the next lower level is formed by the QSHE Procedures; for internal use only with worldwide applicability.

Besides the above, other documentation exists, such as working instructions, guidelines, circulars, etc. with validity on international, national, regional and/or local level. It is Kuehne + Nagel's goal that all documentation is kept electronically as far as possible. This applies completely to the QSHE documentation, which is always published electronically in the newest version.

Additional external documented information exists, e.g. in environmental, statutory and regulatory requirements applicable to the products and services. Communication shall be extended to authorities, fire stations and / or other external interested parties on international, national, regional and/or local level. Kuehne + Nagel’s Corporate
Communication Department coordinates major external communication to investors, to the media and others.

If QSHE pages are printed, the basic principle is: Uncontrolled if printed. That means that printed versions are for information only; for the latest version every KN employee is obliged to refer to Kuehne + Nagel's intranet and document management systems, such as KN Documents.

1.4 Understanding the needs and expectations of interested parties

Due to their effect or potential effect on Kuehne + Nagel's ability to consistently provide services that meet customer and applicable statutory and regulatory requirements, the organization defines the interested parties that are relevant to the QMS, such as customers, suppliers, authorities, investors, employees and others, if applicable. See also KN IMS framework in chapter 1.3.

External context can be facilitated by considering issues arising from legal, technological, competitive, market, cultural, social and economic environments, whether international, national, regional or local.

Also the requirements of these interested parties that are relevant to Kuehne + Nagel organization are included in this manual, see section 7 and 8.

Kuehne + Nagel monitors and reviews information about these interested parties and their relevant requirements, see section 9.

2. TERMS & ABBREVIATIONS

2.1 Terms & Abbreviations Kuehne + Nagel General

Within the Kuehne + Nagel (KN) group a lot of special terms and abbreviations are used, which include general terms of a logistics provider as well as specialized terms and abbreviations used within Kuehne + Nagel only. For internal use only, Kuehne + Nagel may be abbreviated as KN, and so-called KN Codes are used internally as well.

The KN code consists of the three-letter location code according to the United Nations Codes for Trade and Transport Locations followed by the abbreviation for the function. Thus Sgi MQ means for example the Schindellegi based Manager for QSHE. Other abbreviations are explained in Kuehne + Nagel's intranet site.

2.2 Special Terms & Abbreviations

Most common terms and abbreviations.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit</td>
<td>Review of a system or process by an auditor – also referred to as QSHE Audit</td>
</tr>
<tr>
<td>BV Certification</td>
<td>Bureau Veritas Certification – external certification company for most of KN's external certificates/attestations</td>
</tr>
<tr>
<td>Cargo iQ</td>
<td>Quality airfreight standard issued by an IATA Interest Group consisting of airlines, handling agents and freight forwarders</td>
</tr>
<tr>
<td>Previously Cargo 2000</td>
<td>Operational systems of the organization, also called Transport Management Systems</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Compliance</td>
<td>Requirements that an organization complies with and other requirements that an organization has to or chooses to comply with. Example: can rise from mandatory requirements like laws and regulations, industry standards, contractual relationships</td>
</tr>
<tr>
<td>C-TPAT</td>
<td>Customs-Trade Partnership Against Terrorism issued by the U.S. Customs</td>
</tr>
<tr>
<td>Documented information</td>
<td>Information required to be controlled and maintained by Kuehne + Nagel organization. Information can be in any format and media, and from any source</td>
</tr>
<tr>
<td>DQ</td>
<td>Data Quality</td>
</tr>
<tr>
<td>EM</td>
<td>Environmental Manager, Environmental Management</td>
</tr>
<tr>
<td>GXP</td>
<td>The acronym ‘GXP’ is a general term for Good Practice quality guidelines and regulations. These guidelines are used in many fields, including the pharmaceutical and food industries. KN uses the acronym ‘GXP’ to define our internal quality standards implemented when servicing these industries</td>
</tr>
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<td>HACCP</td>
<td>Hazard Analysis and Critical Control Point – risk management system used related to Food logistics</td>
</tr>
<tr>
<td>IFS</td>
<td>International Food Standard – related to Food logistics</td>
</tr>
<tr>
<td>IMS</td>
<td>Integrated Management System</td>
</tr>
<tr>
<td>ISMS</td>
<td>Information Security Management system</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>ISO 14001</td>
<td>International Environmental Standard</td>
</tr>
<tr>
<td>ISO 9001</td>
<td>International Quality Standard</td>
</tr>
<tr>
<td>ISO 45001</td>
<td>International standard for Occupational health and safety</td>
</tr>
<tr>
<td>KNC</td>
<td>KN Circular (KN internal instructions / news)</td>
</tr>
<tr>
<td>KN Codes</td>
<td>Abbreviation of functions to be used for internal communication, e.g. Sgi MQ (see above)</td>
</tr>
<tr>
<td>KNG</td>
<td>KN Guidelines</td>
</tr>
<tr>
<td>KN Login</td>
<td>Customer interface for data exchange, shipment tracking and reporting</td>
</tr>
<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
</tr>
<tr>
<td>OHSAS 18001</td>
<td>Occupational Health &amp; Safety Assessment System, is replaced by ISO 45001</td>
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**IFS**
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**IMS**
Integrated Management System.

**ISMS**
Information Security Management system.

**ISO**
International Organization for Standardization.

**ISO 14001**
International Environmental Standard.

**ISO 9001**
International Quality Standard.

**ISO 45001**
International standard for Occupational health and safety.

**KNC**
KN Circular (KN internal instructions / news).

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**KN Documents**

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<tr>
<td>Organizational knowledge</td>
<td>Knowledge specific to the organization. It is generally gained by experience. It is information that is used and shared to achieve the organization's objectives</td>
</tr>
<tr>
<td>PDCA-Cycle</td>
<td><strong>PDCA (plan–do–check–act)</strong> is a four-step management method used in business for the control and continual improvement of processes, services and products.</td>
</tr>
<tr>
<td>QBR</td>
<td>Quarterly Business Review</td>
</tr>
<tr>
<td>QM</td>
<td>QSHE Manager, QSHE Management</td>
</tr>
<tr>
<td>QSHE</td>
<td>Quality, Safety, Health, Environment, Security</td>
</tr>
<tr>
<td>Our Commitment to Excellence</td>
<td>Kuehne + Nagel’s global Mission Statement related to QSHE – signed by the CEO</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operational Procedures</td>
</tr>
<tr>
<td>TAPA</td>
<td>Transported Asset Protection Association, a security standard</td>
</tr>
<tr>
<td>TIP</td>
<td>Tool to Improve Processes – Kuehne + Nagel’s name to be used related to discrepancies as well as suggestions for improvement</td>
</tr>
<tr>
<td>WI</td>
<td>Working Instructions</td>
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3. CUSTOMER FOCUS

3.1 Customer Satisfaction

Customer satisfaction is one of the primary goals of Kuehne + Nagel, documented in the QSHE Commitment to Excellence and KN Care principles, which has been endorsed by Kuehne + Nagel’s CEO (Chief Executive Officer).

Kuehne + Nagel continuously monitors, whether the customer requirements are met. This is done in several ways:

a) Customer surveys are done and their results are evaluated at different intervals and in different regions and locations.

b) The Sales personnel gets the information about the customer satisfaction during their visits / contacts with the customers; if customer feedback is received by operational personnel, then these have to forward this to the Sales personnel as soon as possible. Sales are responsible to evaluate the information, to communicate the results back to the operations and / or to the appropriate management to initiate improvements if required in cooperation with the forwarding personnel. Sales personnel are obliged to ensure that feedback from customers is obtained related to their perception of Kuehne + Nagel’s quality.

c) For the top customers, key account managers are assigned who have as one of their tasks to continuously be in contact with their customers to obtain information whether KN has met the customers' requirements and to initiate improvements in case that customer satisfaction is not completely reached. Respective organisation charts, role profiles and escalation matrixes are in place to manage these key accounts.
d) Top Management, Regional / National / Branch Office Managers, Heads of departments, operations personnel and others receive the information about customer satisfaction, and communicate that information to initiate continuous improvements.

3.2 Customer Requirements

The individual in charge accepting a customer order is obliged to check before, that this order can be fulfilled. Furthermore he/she has to ensure that all relevant customer requirements are known. For more details please refer to IMS Manual Section 8 'Processes' as well as to QSHE Procedures P500 'Customer Process' and P800 'Standard KN Process'.

The check of customer requirements can be done by sales personnel, key account managers or other individuals as listed above under d). In every case the person accepting an order has to initiate the appropriate process and make all necessary preparations, that these requirements are met.

KN has a tool called KNLogin for Tracking & Tracing of nearly all consignments of Kuehne + Nagel. Standard and customized data quality reports are produced to monitor KN's quality. This is done for the criteria: completeness, actuality, logical correctness and total quality based on various status codes. Supporting data and statistics can be produced at different levels, fields, intervals and for individual customers. This tool is used to permanently monitor and improve the data quality of customer shipments with the goal to meet customer requirements completely and thus further increasing customer satisfaction.

3.3 Customer Communication

As stated in the sections above, communication to and from customers is enforced by the four means a) to d) as per section 3.1 – see above. In addition communication can take place as follows:

- Global offers, which may include several business fields such as seafreight and airfreight. These requests/inquiries are routed to the appropriate tender centre within the KN organization. Then the individual tender centre is responsible to coordinate the communication internally with the offices / business fields involved and to channel the communication with the customer, until he has an offer, where his requirements are met.
- Customers use one of the buttons on top of the Kuehne + Nagel Internet site: ‘Contact us’ , ‘Get a Quote’ and / or through the map of local offices. Answers / Feedback will be given to them as requested.
- Customers make suggestions about improvements to Kuehne + Nagel as a result of customer audits, during meetings, QBRs, visits, etc. These suggestions are subject to review by the responsible individual within Kuehne + Nagel and are implemented and communicated if the evaluation process is positive.
- Customers may complain about service discrepancies. Independent of the reason and independent whether they are right or wrong, in every case the employee receiving the complaint/claim ensures that it is properly forwarded to the KN owner of that complaint - if it is not him/her. The complaint owner has to make sure that the primary reason is identified including the fact who caused it (Kuehne + Nagel internal or external), that appropriate corrective / preventive action is taken and that the customer is informed about the result. The goal is to use such complaints to initiate improvements and to increase customer satisfaction.
- External communication can take place, e.g. in environmental and/or other matters. Communication shall be extended to authorities, fire stations and / or other external interested parties on international, national, regional and/or local level. Kuehne +
Nagel’s Corporate Communication Department coordinates major external communication to investors, to the media and others. Communication can take place via various channels, e.g.

a) verbal by phone, personally, voice mail or similar,
b) written by letter, fax, e-mail, internet or similar or
c) by other means such as electronic data transfer, etc. Individual arrangements about communication can be agreed upon with customers upon demand.

3.4 Customer Process

All processes within Kuehne + Nagel are continuously reviewed whether they are adequate and suitable to meet customer requirements and whether they can be further improved or optimized. This applies to operational processes as well as administrative processes and includes all Business and Functional Units. Risks and opportunities that can affect conformity of products and services are determined and addressed, for details please refer to the QSHE Procedure P500 ‘Customer Process’. Further details see 6. Planning / Legal & Risk Management 6.1 Legal and other Requirements.

For special customers, Standard Operational Procedures (SOPs) or Working Instructions (WI) can be established by the responsible Kuehne + Nagel individual, if necessary. Every employee is obliged to handle customer property carefully - the goods / consignments themselves as well as customer owned pallets etc. In case of damage or loss the customer is informed accordingly by the responsible individual within the Kuehne + Nagel organization. The Kuehne + Nagel standard processes are further explained in section 8 ‘Processes’ of this manual.

Each customer can view the status of their consignments via the Kuehne + Nagel Internet software called KNLogin. This is Kuehne + Nagel's global supply chain visibility tool for all worldwide airfreight, seafreight and overland shipments.

Upon customer demand, there are 4PL/integrated logistics services offered to effectively manage global customer supply chains, independent whether these are handled within Kuehne + Nagel or by other logistics service providers. This includes the design, the implementation, the execution management as well as the delivery process.

3.5 Internal Customer Principle

Efforts of Kuehne + Nagel are directed to the satisfaction of its external customers. In order to reach this goal, every employee is obliged to give his/her contribution, whether he/she works in a certain business field or functional field, whether he/she belongs to the management or to the staff. Furthermore every employee has internal customers, who have requirements, expectations and deadlines throughout the whole supply chain.

One example: A container is shipped from Rotterdam to New York. It is obvious that the Seafreight import clerk in New York is dependent on the quality of work done by the seafreight export clerk located in Rotterdam. If one of them fails, then the customer will not be satisfied for a variety of reasons. The basic principle at Kuehne + Nagel is therefore to satisfy both and to meet the requirements of both, the internal as well as the external customer. A chain is only as strong as its weakest link: This basic principle is part of Kuehne + Nagel’s corporate QSHE Commitment poster "We are committed to teamwork and global collaboration in a spirit of trust, mutual respect and inspiration."
4. Context of the organization

Please see chapter 1. of this guideline.

5. Leadership

5.1 Management Responsibility / QSHE Commitment

Kuehne + Nagel Management at all levels is committed to the Integrated Management system including the corresponding continuous improvement process. Kuehne + Nagel’s Chief Executive Officer has issued the corporate Commitment to Excellence, which is binding for all employees. More information is given in the previous sections.

The latest version of the Catalogue of Competences is published internally and sets the frame of what competences are given to which management level. For example: The competence related to changes in services offered and/or changes in Business Units/Business Fields is restricted to the responsible Board Member in the Kuehne + Nagel International Management Board. In addition, competence catalogues are available at regional level with validity for certain regions; these have to be communicated to the International Management Board in Schindellegi, Switzerland.

Every Business Unit / Business Field is also responsible for determining a strategy for their respective units which is aligned with the goals and objectives of the organization. The strategy process of Kuehne + Nagel follows the principles of Plan – Do – Check – Act through different tools, systems and processes.

In general, the management is at the top of the QSHE organization, motivating the employees to participate and giving managerial support at all levels. More details about the organisation and structure of Kuehne + Nagel is given in Section 1 of this manual. Corporate QSHE Targets are published on an annual basis and published on the Kuehne + Nagel Internet; additional QSHE-related targets are set at other suitable levels and supervised by the responsible managers.

The annual budget process takes place mostly in the third quarter of the preceding year, and during that process the Business Field (BF) Managers define additional qualitative and quantitative targets as part of their BF budget instructions. Responsibilities are defined and documented in organization charts, job descriptions where applicable, catalogue of competences and changes are planned and implemented consequently.

5.2 QSHE-related functions

The basic QSHE Management principle is: Every employee is responsible for the quality, safety&health and environmental impact of his/her work, but management as well as the following functions have a key influence on the support and tracking of it — among others: QSHE managers, business field QSHE managers, local QSHE managers and data quality managers. The global QSHE governance structure is described in ‘P501 QSHE Governance and Organizational Structure’.

Corporate QSHE management serves as the umbrella for corporate standards: The umbrella covers all business and functional fields and all regions, countries and locations in a matrix organisation. The QSHE targets and instructions are defined and determined at corporate level as well as on regional, country and local level. Continuous alignment and efficient coordination are ensured by means of an ongoing communication and information exchange with the Business Fields and all parties concerned within Kuehne + Nagel.
5.3 Communication & Policy

An effective communication is considered to be one of the essential prerequisites within Kuehne + Nagel to deliver high quality services to our customers. For details about the communication with customers please refer to the IMS Manual Section 3.3 'Customer Communication' above.

The Kuehne + Nagel internal communication takes place with a variety of media as basically described in the IMS Manual Section 1.3 'Information' above, to ensure that continuous improvements are obtained and documented information is available and maintained.

Further details are contained in the QSHE Procedure P701 'Communication Process', which is for Kuehne + Nagel internal use only. Communication about the effectiveness of the management system takes place as follow-up action of the Management Reviews as well as a result of other meetings, audits, etc.

Our global statements on environment, security and safety & health ensure that our services and products are applied by staff and third parties to reduce risks and impacts to people, environment and assets.

The statements are signed by corporate head office and available to the public under: https://www.kn-portal.com/about_us/corporate_social_responsibility/

6. Planning / Legal & Risk Management

Kuehne + Nagel continuously monitors the needs and expectations of interested parties (such as clients, suppliers, authorities, stakeholders) within the context of the organization, in order to adapt the management system accordingly. Included in this, is the consideration of requirements and risk management.

6.1 Legal and other Requirements

Measures to address risks and opportunities establish a basis for increasing the effectiveness of the Management System. Preventing negative effects are defined, measured and monitored by each Kuehne + Nagel Business Units including Sea + Air Logistics, Contract Logistics and Rail + Road Logistics as well as to all Functional Units such as Human Resources according to the latest company's Organization Charts. These include activities among others:

1) Involvement in major contracts related to the legal affairs, 2) Involvement with major lawsuits, legal proceedings, 3) Involvement in major cases with a penal liability of a KN company / employee / other, 4) Execution of voting rights at major board meetings of subsidiaries / affiliates, 5) Appointment of lawyers in major cases, 6) Involvement in the legal aspects of insurance matters including major claims and risk management matters, and 7) identification of major risk areas and execution of the corresponding risk management.

Special guidelines and catalogues of competence are in place to cover further details. Kuehne + Nagel is committed to comply with all relevant laws and regulations as documented in the QSHE Commitment. Among others, this includes compliance with laws and regulations in the important areas of Quality, Safety & Health, Environment and Security.

Further details are contained in the Kuehne + Nagel internal QSHE Procedure P803 'Identification of and Compliance with Legal Requirements'. The goal is to protect Kuehne + Nagel's employees as well as the public as far as possible. A Legal Disclaimer is implemented within the Kuehne + Nagel internet site, which is binding for all users.
6.2 Risk Management

Kuehne + Nagel has several systems in place to manage potential risks (environmental, financial, operational, personal, and more). The Kuehne + Nagel strategy process is an important factor in identifying commercial and financial risks and opportunities.

In addition, financial audits are performed by the Corporate Services Department, where potential financial risks are identified and corrective / preventive measures are taken as a result. This includes for example major insurance claims which are reported in a Quarterly Claim Report throughout the organization with information to the Legal / Risk Management Departments.

In addition to the financial risks, also information system-related risks are identified, mainly through the global Information Security organisation. Special risk assessments are done, where required.

Operational risks are assessed in various ways; on the higher level of choosing strategy and solutions to the daily risks of executing transport, physical handling, cross-docking solutions and supplier collaboration.

More details on risk management within defined management areas are outlined in guidelines P803 through P815.

6.3 Management Review / Quality Objectives

Management Reviews are held at all levels of Kuehne + Nagel at least once a year to ensure the effectiveness of the management system and initiate changes/improvements as appropriate. Internal QSHE Procedure P400 ‘Management Review’ contains details related to the review input and output as well as topics to be addressed in such reviews.

Bi-annual review of QSHE Targets and management objectives are aggregated from country to corporate level, presented to top management and signed by the CEO and MQ in document ‘QSHE Global Target Review’.

7. Support

7.1 Human Resources (Competence, Awareness and Communication)

The effective management of Human Resources is one of Kuehne + Nagel’s key success factors, since service quality can be directly linked to the motivation and the qualification of personnel. This is also reflected in the QSHE Commitment, KN Behaviors and the PPR process. More details related to the definition of qualifications, competence, training of new staff, job/refresher training as well as the performance review and evaluation of training are contained in the internal QSHE Procedure P702 'Competence / Training Process'. In connection with the selection process of new employees, it is ensured that personnel are competent related to the requirements on the basis of appropriate education, training, skills and experience. Training activities are performed both internally and externally at corporate, regional and national/local level.

Appropriate documented information as evidence of competence is available according to P702. More details about training measures including training objectives, location, etc. per region and major countries are contained in the respective Intranet pages. The needs to use external providers are included in KN Guidelines, related to e.g. Airfreight Guidelines and as Functional Units, e.g. Corporate Purchasing Guideline.
7.2 Infrastructure and operational environment

The Kuehne + Nagel Top Management have given a high priority to the integrated QSHE management system and have provided the appropriate resources for its implementation, maintenance and continuous improvement. The goal is to enhance customer satisfaction at all levels as a joint effort of all Kuehne + Nagel employees including all business units, supported by the functional units.

The appropriate infrastructure is maintained including work space, associated utilities, functioning hardware and software as well as an advanced level of communication media. The appointed QSHE Managers at all levels are provided with enough time and resources to perform the QSHE-related portion of their activities.

The environment for the operation of processes is managed through functional units like Compliance, Human Resource and Finance. The KN compliance program focuses on antitrust and anti-corruption, including training and documentation. Corporate Purchasing Guideline focuses on physical factors, such as maintenance of critical equipment like temperature control devices. Procurement will ensure that such maintenance and repair of equipment is completed by a qualified vendor and require evidence. HR provides training and guidelines on KN behaviours, leadership, succession management and HR support.

7.3 Monitoring and Measuring Resources

Tracking & tracing equipment and applications are used to monitor services as described above.

There are cases, in which contractual individual agreements with customers exist with obliging conditions for physical goods such as a certain temperature or usage of scales or other measuring devices. In these special cases Kuehne + Nagel ensures that this is done according to the requirements as agreed with the customer.

This includes calibration of measuring devices and other measures as necessary to fulfil the special contractual agreements. In case that scales etc. are used for normal purposes in the forwarding process, where a rough figure is enough without 100 percent precision, these do not fall under this section.

7.4 Organizational knowledge

Kuehne + Nagel organization determines the knowledge necessary for the operation of its processes through cooperation between business units and human resources. This knowledge is maintained and available to the extent necessary.

When addressing changing needs and trends, Kuehne + Nagel organization consider the current knowledge and determine how to acquire or access any necessary additional knowledge and required updates. Further information see para. 8.4.

Organizational knowledge is based on:

- a) internal sources (e.g. intellectual property; knowledge gained from experience; lessons learned from failures and successful projects; capturing and sharing undocumented knowledge and experience; the results of improvements in processes, products and services.
- b) External sources (e.g. standards, conferences, gathering knowledge from customers or external providers).
7.5 Documented information

7.5.1 General

Every Kuehne + Nagel employee obtains the information needed from a variety of media and sources internally and externally. One part of the information can be retrieved and filed by documents and records as described below in section 7.5.2.

The other part is verbal information/external information, which is retrieved via Internet/Intranet, local servers, telephone calls, E-Mails, letters, external data bases, electronic data interchange EDI, external newsletter etc.

Every head of department is responsible that his / her employees have the possibility to retrieve the information required and has to organize that. If no access to the internet / intranet is available, the head of department has to implement other methods, such as E-Mail news, uncontrolled hardcopies, circulars, verbal information, posters or other. In case that uncontrolled hardcopies are used, the corresponding updates have to be ensured.

7.5.2 Creating and updating Documents and Records

This section covers Documents & Records, which are related to Kuehne + Nagel's QSHE system; a first overview is given in section 1.3 Documentation Overview above. The related QSHE Document Matrix contains all such documents in alphabetical sequence together with the following information: Document owner, medium for storage (paper, KNet or other), retention period, validity, remarks including the notifications 'Sample' or 'External document', and additionally the date of last update. Nearly all documents and records are contained in the Kuehne + Nagel Intranets - currently KNet, myKN and KN Docs.

In case documents are printed, these are uncontrolled - for the latest version of a document the user always has to refer to the original source location. There are other documents, which are not globally available. In this case the individual who creates such documents has to ensure, that the identification of the owner and the date is contained in these documents. Old versions of documents can still be retrieved from an archive. A controlled document has a limited validity; at the end of that period the owner shall review it and - if required - to update it. Records are kept as required as listed in the QSHE Document Matrix; in this matrix a QSHE Working Instruction sample is also contained for view and download.

Some external QSHE-related documents are included in the QSHE Document Matrix. In case of additional external documents such as local laws and regulations in all QSHE-related areas to be followed, the nominated manager in charge is responsible to ensure, that the latest updates are available and that employees are informed about this.

7.5.3 Control of Documents and Records

For QSHE Working Instructions as well as for forwarding files certain numbering systems are in place; for details please refer to the QSHE Procedure P700 'Control of documented information & records', where further details of document control are given.

For definitions on retention period for different documents and records, this is globally defined in 'KN-C0457 - Corporate Guideline Document Retention Policy' and is followed unless customer or local regulations define otherwise.
8. Processes / Operation

8.1 Processes at Kuehne + Nagel

All Kuehne + Nagel operations in the Business Units follow a prescribed, IT-based forwarding process, which is described in more detail in the QSHE Procedure P800 'Standard KN Process'.

The basic process steps are:

1) Enquiry and Quote,
2) Order confirmation,
3) Booking,
4) Check of Credit Limit,
5) Execution,
6) Monitoring,
7) Invoicing and
8) Filing.

These are process steps in accordance with the 'Supply Chains Operations Reference' (SCOR) model, which is also used by the KN business field Integrated Solutions. The standard processes are specified in more detail within major business and functional fields in corresponding guidelines, which are available in Kuehne + Nagel’s Intranet.

8.2 Process Requirements / Design and Development

For Kuehne + Nagel, the customer orientation is one of the key success factors; an overview is given in this manual Section 3 'Customer Focus' above. An introduction to the related processes is given under 3.4 'Customer Process' in the same section. As one of the leading Logistics Service Providers Kuehne + Nagel offers tailor made logistics solutions. The development of such solutions as well as the development of new Kuehne + Nagel business fields / services is described in more detail in the Kuehne + Nagel internal QSHE Procedure P500 'Customer Process'. Kuehne + Nagel’s key product is the delivery of logistics services; thus whenever ISO standards 9001 and others mention the term ‘Product’, this is translated then for Kuehne + Nagel and for the QSHE Management system to be the Kuehne + Nagel services according to the field of applicability – see section 1.2 ‘Quality, Safety, Health, Environment, Security (QSHE) – Overview/field of Application’ above.

Some of these services in the airfreight for example are called ‘KN Express’, which is a premium, performance-guaranteed express airfreight product, or ‘KN Extreme’, a product available for special cargo. For clarification: The consignments which are forwarded on behalf of our customers are not Kuehne + Nagels’ products in the above sense, but are considered as customer property within the QSHE Management system – for more details see section 8.4 ‘Service Provision’ below. Documented information shall be available on the results of the review and to document any new requirements of the products and services. In case of change requirements, also documented information is amended, e.g. for new products or for new services like pharma products/services. As stated above in section 5.1 'Management Responsibility / QSHE Commitment', the responsibility for the development of new services (products) and/or their changes is restricted to the management board according to the Catalogue of Competences. The stages during the development of new services at Kuehne + Nagel can thus be compared with the design of a new product such as a truck:

a) Design and Development Planning: Planning is done based on the customer requirements/contract and is updated as appropriate. Internal and external resource
needs are evaluated, if requested also relevant interested parties are involved and feasibility is checked. Appropriate communication as relevant is ensured throughout this phase.

b) Design and Development Inputs: These inputs are obtained/checked in the phase of enquiry according to the customers’ demands and requirements; the applicable statutory and regulatory requirements are considered and similar earlier designs are used as much as possible to use the prior experience. It is ensured that all inputs are reviewed for adequacy and completeness. Potential consequences of failure will be considered, also conflicting design and development inputs has to be resolved.

c) Design and Development Controls: The review is done continuously; in case of discrepancies appropriate action is taken and changes are initiated if required. The performance is reviewed on an ongoing basis. Design and Development Verification and Validation is done by self-checks, audits, meetings, pilot phases and / or sales follow-up; during this phase it is checked, that the results have met the input requirements including the customer requirements.

d) Design and Development Output: In case of new / revised services the output is documented and it is checked, that the results meet the requirements. In case of consignments, the output is finally confirmed by acceptance of orders including special arrangements, if applicable.

e) Control of Design and Development Changes: In case of major changes these are communicated and agreed with the customer beforehand and logged. In case of discrepancies, a root cause analysis is done and the appropriate corrective or preventive action is taken according to IMS Manual Section 8 ‘Measurement & Improvement’. This is part of the continuous improvement process.

8.3 Purchasing

As a non-asset logistics service provider Kuehne + Nagel does normally not operate own trucks, vessels and planes, but instead these services are purchased from suppliers such as carriers and subcontractors. As part of Kuehne + Nagel's QSHE management system, the selection and evaluation of such suppliers is done according to the internal QSHE Procedure P801 ‘External/Purchasing Process’. Certain criteria are determined for selection of carriers and subcontractors, and suppliers are registered in a central database. The statuses applied are “approved”, “not approved” and “pending” for suppliers in progress. For sea and airfreight, preferred carriers are listed based on the corporate partnership programs. For new suppliers test shipments can be applied as described in the SMT guideline for supplier evaluation process.

Service Discrepancies are handled according to the IMS Manual Section 8 'Measurement & Improvement'.

8.4 Production and Service Provision

As outlined above the internal QSHE Procedure P800 'Standard KN Process', P500 'Customer Process' and in other procedures, Kuehne + Nagel plans and carries out all services under controlled conditions during the whole supply chain. Working instructions are available if required according to IMS Manual Section 1.3 ‘Documentation - Overview’.

Processes for service provision are validated, if required; identification and traceability is given by the software KNLogin as described in the IMS Manual Section 3.4 ‘Customer Process’ above; the available status codes are used to steer the forwarding processes and initiate appropriate action in case of discrepancies from plans. Customer property is handled with care as described in QSHE Procedure P500 'Customer Process' - see above. It is
handled according the customer requirements, preserved and protected as far as possible to prevent its loss or damage.

In order to ensure proper control of QSHE-related and industry-specific requirements and standards, Kuehne + Nagel has established specific guidelines and policies as described below. These management systems use the IMS framework as basis and furthermore define industry or customer specific requirements in addition.

Below illustrates these principles.

### 8.4.1 Pharma Quality Management System

The objective of GXP Policy Manual Pharma is to document the method used to ensure regulated goods meet the requirements of safety, identity, strength, product quality and purity characteristics. This is described in the internal QSHE Procedure P805.

### 8.4.2 Aerospace Quality Management System

The requirements and guidelines as documented within the Global Policy Manual Aerospace & Defense apply to any Kuehne + Nagel facility that provide logistics services for the Aerospace industry, and seeking compliance with International Aerospace Quality Group (IAQG) developed Quality Management Systems standards 9100 or 9120. This is described in the internal QSHE Procedure P807.

### 8.4.3 Food Safety Management System

The requirements and guidelines as documented within this policy apply to any Kuehne + Nagel facility that transports, stores, handles, repacks and distributes food products. The objective is to describe the methods used to ensure that handling meets the requirements of
8.4.4 Engine Chain Policy

The requirements and guidelines as documented within this policy apply to any Kuehne + Nagel facility that transports, stores, handles and distributes aircraft engines. The objective of this Engine Manual is to describe the methods used to ensure that handling meets the requirements of safety and product quality characteristics. The standards comply with the requirements of IATA and ICAO regulations for dangerous goods movements. Additionally, basic standards of the Standard Ground Handling Agreement (SGHA) are considered to agree to all handling standards.

This manual is a guide and highlights which additional Kuehne + Nagel procedures are used to ensure our facilities and workforce apply the standards of EASA when servicing customers with qualifying products. Further details are available in the QSHE Procedure P808 ‘Global Engine Policy Manual’.

8.4.5 Dangerous Goods Management System

This guideline has been written as an addendum to the Company’s primary QSHE policy with the goal to promote safe and compliant transportation of dangerous goods throughout its network. This manual intends to assist in the elimination or mitigation of risks from all types of dangerous goods, from storage and from all modes of transportation. Kuehne + Nagel’s attention is focused on the prevention of accidents and incidents threatening people’s health and well-being, damage to the environment, customer’s property and company reputation.

This guideline applies to all Kuehne + Nagel (KN) companies, Business Units, Products and Functional / Service fields that are involved in the storage, handling, forwarding and carriage of dangerous goods. Further details are available in the QSHE Procedure P809 ‘Global Dangerous Goods Policy Manual’.

8.4.6 Safety & Health Management System

The Global Safety & Health Management System is a system that helps KN locations and KN operations manage their impact to Safety and Health to People to the level of ‘No Harm’.

Further details are available in the QSHE Procedure P810 ‘Global Safety & Health Management System’.

8.4.7 Security Management System

The objective of this Security Policy is to describe the means and methods to assess potential security threat scenarios in global supply chains and associated impacts.

Furthermore it provides guidance how to manage the security threat scenarios identified and aims to establish a harmonised and risk-based security standard encompassing the entire supply chain. It is therefore applicable to any Kuehne + Nagel entities, Kuehne + Nagel subsidiaries and subcontractors or vendors providing services on behalf of afore mentioned KN entities and / or subsidiaries, thus safeguarding employees, business partners and entrusted customer assets from unlawful interference, reduce vulnerability of global supply
chains to terrorist exploitation or crime, as well as to mitigate the risk of supply chain disruptions.

This Security Policy is based on the International Standard ISO 28001 - Security management systems for the supply chain - to meet the requirements of regulatory security standards as set forth in the World Customs Organization’s SAFE Framework of Standards to secure and facilitate global trade and associated national adaptations, such as US Customs and Border Protection Agency sponsored Customs-Trade Partnership against Terrorism (C-TPAT) and, inter alia, assisting Kuehne + Nagel entities and subsidiaries in meeting the applicable Authorized Economic Operator (AEO) criteria or equivalent programmes such as Partners in Protection (PIP) and subsequently fostering respective certification by competent national customs authority. Further details are available in the QSHE Procedure P811 ‘Global Security Policy’.

8.4.8 Environmental Management System

The purpose of this system is to ensure Kuehne + Nagel employees demonstrate sound environmental responsibility by controlling the impact of its activities so as to preserve and protect the environment in accordance to the ISO 14001 Environmental Management Standard. This structured management system is referred as the Environmental Management System (EMS). Details and further description is contained in the P812 ‘Global Environmental Policy’.

8.4.9 Information Security Management System

Good Information Security management requires a coordinated approach which takes into account all areas of Information Security. Kuehne + Nagel's Information Security management system (ISMS) establishes requirements and rules for all business and functional unit areas and aims at an adequate level of process quality and information security in all operational fields. The ISMS is based on the international standard ISO 27001 – Security techniques, Information security management systems. Further details are available in the guideline P815 ‘Information Security Policy’, which is the key document for Information Security Management System (ISMS) within Kuehne + Nagel. It determines on a high level the Information Security principles of KN in support of governance objectives and enterprise values.

The Information Security Policy is part of KN’s integrated management system, using certain common elements in the framework of the management system; policy, audit planning and execution, while other management components are specifically tailored to the ISMS, such as document control, risk management, measuring KPIs and incident management.

The Chief Information Security Officer (CISO) is responsible for implementation, maintenance and evolution of the Information Security management, in collaboration with the management controls in place through the QSHE organisation.

8.4.10 Business Continuity Management System

Focusing on the strategic objectives of Kuehne + Nagel, Business Continuity Management (BCM) deals with significant requisites for the preparation and handling of unexpected disruption and their potential negative impacts, especially in terms of time critical business processes, IT-Services and infrastructure.
The BCM is based on the international standard ISO 22301 – Societal security – Business continuity management systems and further details are available in the P814 ‘Business Continuity Management’ and the ‘IT Service Continuity Management policy’.

8.5 Control of nonconforming product / TIP

Any discrepancies are treated as potential for improvement by Kuehne + Nagel to prevent recurrence. Discrepancies occur from a variety of reasons internally as well as externally; they can result in complaints, claims or they may not affect the customer, but are still a reason for improvement. It is ensured that discrepancies are handled and followed-up - regardless whether the reasons are internal or external.

In case of deviations, the Kuehne + Nagel internal QSHE Procedure P802 'Control of nonconforming outputs/TIP' is applicable within the group.

A special 'Tool to Improve Processes’ called TIP is available and widely used in handling discrepancies. Communication about and handling of a discrepancy can also happen by phone, e-mails, office memos, in meetings, business reviews or by other means. For more details please refer to QSHE Procedure P701 ‘Communication Process’.

In every case the owner (the responsible individual within Kuehne + Nagel - usually the person who caused the discrepancy) has

1) to analyze the problem, if needed by means of a root cause analysis,
2) to ensure that corrective action is taken,
3) to follow-up until the case is settled / the action is completed,
4) to give information to the customer (if required) and to other individuals within the Kuehne + Nagel group including his/her superior (if required),
5) to initiate preventive action, if possible, so that the same discrepancy will not happen again.

Reviews of the effectiveness of the actions taken are defined case by case, performed during audits and by other means. The above handling also applies to ensure that measures are taken and that those are effective in case of risks related to environment, safety & health, security and other areas.

9. Performance Evaluation

9.1 Monitoring & Measurement

As stated earlier, Kuehne + Nagel's primary goal is absolute customer satisfaction. Therefore it is closely monitored, whether the customer requirements have been met as described in IMS Manual Sections 3.1 'Customer Satisfaction' and 3.2 'Customer Requirements' above.

Monitoring and, where applicable, measuring the processes is done throughout the whole Kuehne + Nagel group; corrective and preventive actions are taken, if the planned results are not achieved. Monitoring is done by one of the following: QSHE Audits, Data Quality Audits, self-checks of employees, control by superiors/management, spot checks, financial audits, evaluation of claim reports, evaluation of financial reports, visits by the responsible managers for that operation, evaluation of data quality statistics (see below), review of annual QSHE reports (see below) and others. Systems are in place, if the service does not comply with the requirements, and the customer is informed in case of major discrepancies such as claims or damages.
9.1.1 Analysis of data and data quality

Several sources of analysis which are periodically reviewed, exist within Kuehne-Nagel organization. One source of analysis of data can be the TIP form (see above) which is analyzed related to the main causes of the discrepancies. Another source is the information contained in the Annual QSHE report (see below) as well as the QSHE audit results (see above).

Further sources include the results of financial audits, the financial results in general, the results of special activities such as customer/employee surveys, special improvement projects, strategy initiatives, data analysis with KPIs from the TMS and more.

Another major source for analysis of Kuehne + Nagel's data quality is gained by the KNLogin for Tracking & Tracing, which is one tool to meet the customer requirements as described in section 3.2 'Customer Requirements' above.

The data quality reports serve as the basis for individual analysis and follow-up at local, national, regional and corporate level. The figures are also evaluated to generate trend information and to initiate the appropriate corrective action and training measures, if required initiated by negative trends. Analysis of data is also initiated within Kuehne + Nagel's Integrated Logistics activities as outlined in Section 3.4 'Customer Process'.

9.2 Internal Audits

Internal QSHE audits are conducted within the KN group according to audit plans; checklists may be used during the audits. By means of audits it is checked whether the QSHE system is effectively implemented and maintained and whether conformance is given among others to;

a) Kuehne + Nagel specific procedures, instructions as well as customer requirements and
b) to the requirements of the international ISO and other standards as listed above and
c) to laws and regulations in place. The results of audits are summarized in audit reports. It is ensured that no Kuehne + Nagel auditor does audit his/her own work in order to prevent conflict situations.

In addition data quality audits and other audits are performed by major business fields - often based on statistics of status codes etc.; for the corporate headquarters the audits may be done also by meetings and other means. Financial audits done by the corporate Internal Audit department or by internal auditors in the regions complete the audit activities. Specialised internal audits regarding information security and technology are performed as required.

For further details including risk-based audit program, the qualification of the auditor and the handling of audit discrepancies please refer to the Kuehne + Nagel internal QSHE Procedure P900 'Audits'.

9.3 Management Review and Annual QSHE Reporting

See also chapter 6.2 in this manual.

As part of Kuehne + Nagel's integrated QSHE management system Annual QSHE Reports (AQRs) are prepared at local/national, regional and corporate levels, which usually are used as one of the inputs for the management reviews.

Management reviews are held at least once a year to ensure the effectiveness of the QSHE management system and to initiate changes/ improvements as appropriate. The Kuehne +
Nagel internal QSHE Procedure P400 'Management Review' contains details for input and output as well as for topics to be addressed in such reviews.

More details related to responsibilities, deadlines, distribution and others are contained in the Kuehne + Nagel internal QSHE Procedure P901 'Annual QSHE Reporting'. In addition to the AQR, reporting throughout the year and other reporting is done, whenever the demand is given; this can be by phone, e-mails, office memos, in meetings or by other means.

10. Continuous Improvement Process

10.1 Corrective & Preventive Action

It is one of the essential parts of Kuehne + Nagel’s continuous improvement process that corrective and preventive action is taken in order to prevent recurrence of discrepancies and to use opportunities for improvements to enhance customer satisfaction. This includes that discrepancies are reviewed and that their causes are determined, if necessary by means of a root cause analysis. Methods for finding the root cause is most often the 5 Why method, but depending on type of discrepancy, business unit and/or customer requirement, we also use Ishikawa fishbone, Pareto analysis, 4-8D, DMAIC and more.

More details are contained in the internal QSHE Procedure P802 'Control of nonconforming outputs/TIP'. Once the need for action is determined, the action is implemented and a follow-up review is done on the results of the corrective and preventive action to reach its suitability. A follow-up on the effectiveness is conducted afterwards.

For further details please refer to QSHE Procedure P1000 'Corrective & Preventive Action'.

10.2 Continuous Improvement Process

Kuehne + Nagel is closely committed to the continuous improvement process. Every employee can contribute to improvements with his/her ideas and actively participate to implement good ideas in his/her area of responsibility. The improvement initiatives comply with the continuous improvement process cycles defined in international standards, centering ourselves on the basic principles of Plan-Do-Check-Act.

Continuous improvement is therefore defined through different programs and methods, such as customer specific CTI and GCIM projects, KNPS program in warehouses and first and foremost the Kuehne + Nagel strategy program, where each BU/FU, region and country is responsible for defining improvement initiatives towards internal and external stakeholders.

Special techniques and projects are also in place in individual sites, if useful, such as compliance with SQAS, the Safety and Quality Assessment system initiated by the European Chemical Industry. Kuehne + Nagel is committed to reach excellence and Total Quality Management TQM. Every year Kuehne + Nagel win several awards and prices in delivery of its services. These are published in Kuehne + Nagel’s Internet and Intranet site as well as in the Annual Report.
11. Document History

For documents referencing the old name “QSHE Manual (QMM)”, transition to referencing the new name “KN IMS manual” should follow the natural review cycle of documents.

Document Owner

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Prior Release Versions (revisions)

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Document Revision Changes Summary

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<td>Various edits throughout to ensure process adequacy and compliance to the 2015 revisions of ISO 9001 and 14001 standards requirements. As a result a number of edits and additions are made. See Chapter 11 for Structural changed to TOC and document Other Misc. edits</td>
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