
Ticona Integrated Management System

5 Description of Global TIMS**5.1 Management System Processes****5.1.1 General**

Management system processes form the foundation for addressing functional or business management systems within the global TIMS (Ticona Integrated Management System).

5.1.2 Policy, Objectives, Programs

Global processes for high level policy setting and for establishing objectives, goals and targets for continual improvement assure a uniform structure and the review of all supporting objectives and programs.

5.1.3 Assignment of Responsibility and Authority

Processes for assignment of responsibility and authority regarding Quality, Environmental and Risk Management assure that the appropriate commitments are met. **Assignment of responsibility inherently grants authority.**

5.1.4 Scope of Application

Processes defining the scope of application of the TIMS address unique concerns of internal and external interested parties on a global, regional or local basis.

5.1.5 Management Review

A process of management review regularly assesses the efficiency and effectiveness of implementation and compliance at appropriate levels in order to continually improve the system.

5.1.6 Control of Documents and Records

Processes establish control of internal / external documents and data, including records. This control assures conformance with the appropriate standards and the needs of the organization while standardizing document control across Ticona. This includes the handling of regulatory permits to ensure that all operating units have valid documents and procedures for compliance with all relevant requirements and regulations. Additionally, TIMS assures that records are maintained and retained for the required retention time in a secure and accessible manner.

5.1.7 Audit Processes

Processes for planning, conducting, analyzing and documenting internal audits assess completeness, application and effectiveness of all TIMS requirements. These processes verify compliance with the applicable standards and regulations, and promote continual improvement.

5.2 Common Processes**5.2.1 General**

Common processes are standardized for all parts of the TIMS.

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5.2.2 Analysis of Data and Statistical Methods

Processes are identified in order to determine, collect and analyze appropriate data demonstrating the suitability and effectiveness of the system. Data analysis for relevant processes occurs at all levels of the TIMS including, for example, customer satisfaction, conformity to requirements, characteristics and trends of processes and products. Advanced statistical methods are employed to monitor and evaluate manufacturing processes as well as product characteristics. Examples include Measurement System Analysis, Uncertainty Budgets and Six Sigma methodologies.

5.2.3 Continual Improvement, Corrective and Preventive Action

Defined processes address the continual improvement of the management system, the organizational structure and function as well as all business processes. Processes for corrective and preventive actions support the continual improvement process through elimination of causes of both existing and potential non-conformities.

5.2.4 Personnel Qualification, Training, Awareness and Competence

Identified processes determine and assure the necessary competence of personnel based on appropriate education, training, skills and experience. These processes provide training and evaluate effectiveness. They ensure awareness of the relevance and importance of the activities and emphasize how the personnel contribute to the achievement of objectives.

5.3 Quality Management**5.3.1 Purpose**

This section of the Global TIMS Manual describes the established and harmonized process approach in Ticona to the Quality Management System. It provides documentation and evidence of the requirements of ISO 9001:2000 and ISO/TS 16949:2002.

5.3.2 Scope of Application

The Global TIMS Manual applies to all units of Ticona globally.

The Quality Management (QM) System of Ticona is a part of the Ticona Integrated Management System (TIMS). In this enlarged scope there are a number of higher and general management system processes which are related to the QM System. Further, there are many processes related to environmental management, and risk management.

5.3.3 Terms and Definitions

For terms and definitions needed for a better understanding of this manual and the requirements of the standards, please refer to Appendix 8.2.

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5.3.4 Business Processes

In accordance with ISO 9001:2000 the business processes of the Management System at Ticona are split into

- **Management Processes,**
- **Value Adding Processes, and**
- **General Support Processes.**

A fundamental input to these business processes is determination of customer requirements with improvement verified through measurement of customer satisfaction. **As the TIMS is an integrated approach for EHS, legal and statutory requirements are additional inputs that are strived for to have an output which meets compliance.**

5.3.4.1 Management Processes:

The corporate driven **Celanese Strategic Management Process (CSMP)** manages development and implementation operational unit **strategies**. These strategies, supported by a number of sub processes, enable near and long term targets and objectives through the strategic deployment of **resources**. As part of this process, Ticona executive management establishes the **Vision, Mission and Policies** that provide guidance in the planning processes. **Planning and Organizational Development** processes assign responsibilities and authorities through organizational charts, procedures, tasks and job descriptions or in equivalent documentation.

The **Ticona Integrated Management System (TIMS)** is established and its efficiency is frequently evaluated at appropriate levels in management reviews for continual improvement. The existing TIMS documentation - globally, regionally and locally - comprehensively describes the system according to the needs of the organization.

The established **Management Control and Reporting System (MCRS)** with measurement of **Key Performance Indicators (KPI)** enable **Continual Improvement and Analysis of Company Data**. These have different PDCA cycles [Plan – Do – Check – Adjust] focusing on the efficiency of the management system with the goal of increasing customer satisfaction.

5.3.4.2 Value Adding Processes:

The value adding processes for realization of products and services are segmented to commercial, technology, operations, and supply chain processes.

Commercial processes include activities for determination and review of customer requirements related to the product. Technology processes contain quality planning with a multidisciplinary team approach to the related processes. The sequence continues through operations with the realization of products, and supply chain to ensure required delivery to the customer. Processes are monitored and continually controlled. Cross functional teams lead continual improvement.

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Commercial are **Marketing & Sales Processes** with

- **Product & Business Management,**
- **Market Development, and**
- **Account Management.**

Technology are **Research & Development Processes** with

- **Product Development,**
- **Technology & Service, and**
- **Technology Development.**

Operations are **Product Creation Processes** with

- **Production,**
- **Process Development, and**
- **Raw Material Logistics.**

Supply Chain are **product distribution processes** with

- **Order Fulfillment – Demand and Supply Chain Planning,**
- **Warehousing & Logistics,**
- **Customer Complaint Processing and handling of Returned Goods.**

5.3.4.3 General Support Processes:

Important direct and administrative support processes are

- **Engineering and Maintenance,**
- **Utilities / Waste Management,**
- **Environmental, Safety, Health Affairs, Quality Management, and Risk Management support,**
- **Analytical Processes,**
- **Procurement Management,**
- **Finance Management,**
- **Computer Management, and**
- **Personnel Management.**

All these Ticona business processes are listed in Appendix 8, as a global top-down process approach in tabular form. This table lists process owner, important measures, responsibility of review, and evidence. In addition references to related Global TIMS documentation are listed.

As a bottom-up approach, the deployment of processes on departmental and local level is identified in the local and departmental TIMS documentation using the same format. On this level Management processes are addressed as planning processes.

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5.4 Environmental, Health, Safety

The environmental health and safety processes provide guidance and requirements in occupational safety, environmental affairs, plant safety, emergency management, and product safety, to ensure that the commitments of Ticona's EHS Policy (Chapter 3.2) are met and is a part of the ISO 14001 process.

5.4.1 EHS Management Processes:

The global, regional and local EHSA organization is integrated in the annual planning of EHSA goals (global and regional) and makes proposals to the executive committee. The global ONE ESHA department provides support and expert advice to the line organizations. Annually, every EHSA site manager plans training sessions, inspections and audits of operative and administrative functions. Each facility establishes annual goals, objectives and targets in consultation with the EHSA organization. The EHSA organization works with operations and business staff to develop input for key EHS issues for the Celanese Strategic Management Process. This input is based on significant EHS aspects, views of interested parties, technical innovations, financial, business and operational requirements as well as expected legislative or regulatory requirements.

5.4.2 EHS Realization Processes:

EHSA departments

- evaluate existing and changing conditions to advise the organization on new legal requirements, changing laws etc.,
- assist and advise the organization on the determination of significant environmental aspects for each facility and the setting of objectives and targets related to significant environmental aspects,
- assist and advise the organization on the establishment of programs and initiatives to meet goals, objectives and targets,
- organize and/or participate in the emergency management for the sites,
- answer customer and other external requests with respect to product safety (product stewardship) and environmental issues,
- provide training on compliance and significant environmental issues, and
- conduct internal program reviews.

5.4.3 EHS Support Processes:

During the year all incidents have to be registered, classified, reported (internally or externally), and published within Ticona according to the Celanese Global Performance Metric System (GPM). The GPM is a system to classify incidents (injuries, environmental incidents, fire & explosion damage) and allows Ticona to compare EHS-performance of the sites independent of regional legal differences. Global metric performance data are part of the Manufacturing Balanced Scorecard for all Ticona

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manufacturing sites and is routinely reported to management for review. EHSA goals are tied to the employee reward system.

All the mentioned EHS processes are listed in Appendix 8.

5.4.4 Ticona ISO 14001 Process

EHSA departments support the organization to complement the Strategic Management Process of Celanese. EHSA departments support the organization to meet the requirements of ISO 14001. They prepare the appropriate procedures necessary to implement and maintain the processes related to ISO 14001 and conduct regularly scheduled internal audits at the sites in order to help them assure conformance to the ISO 14001 standard and corporate requirements.

5.5 Risk Management

5.5.1 General

The German ***Gesetz zur Kontrolle und Transparenz im Unternehmensbereich (KonTraG)*** (Act on Control and Overview in the Corporation), which came into force on May 1, 1998, made it a legal requirement for the boards of management of joint stock companies to ensure that a reasonable system for the early detection and management of risks as well as a reasonable internal audit system are in place. Since the system for the early detection and management of risks is subject to an annual external audit, it is necessary for the system and actions taken to be appropriately documented. This obligation also pertains to Ticona because it is part of the Celanese Group and because of its corporate structure. Furthermore, Risk Management fulfills the American **SEC** requirements to provide statements on risks in public disclosure documents.

The obligation to detect risks at an early stage and to document the systems used for this purpose is binding upon all businesses and administrative units of Ticona. The internal control measures are established in such a way that any such developments are detected at an early stage, i.e., when appropriate actions can still be taken to ensure the continued existence of the company.

The principles of risk management are documented in the Risk Management Policy of Ticona (Chapter 3.3). The overall risk management system of Celanese is documented and ruled in the Celanese Opportunity and Risk Management Manual (CORM).

5.5.2 Legal Requirements of Risk Management

The KonTraG Act emphasizes the general management tasks and organizational requirements of the Board of Management.

Based on the official explanation of the KonTraG Act, the implementation of a system for the early detection and management of risks depends on several criteria including the company's size, industry, structure and capital market involvement. Developments jeopardizing the continued existence of the company include, in particular, high-risk transactions, incorrect accounting, and violations of legal regulations that have a major impact on the net worth, financial and earnings positions of the company or group.

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5.5.3 Auditing of Relevant Risks

The auditing requirement applies to risks that are relevant to Ticona. Including those that, alone or in combination, have the potential to jeopardize the existence of Ticona. These can be classified according to the "source of risk" as follows:

- Risks that arise from the operations of the business area/unit are to be taken into account if they are relevant for Ticona. Furthermore, the business areas/units are to provide informative statements on major risks as part of the Business Plan Process.
- Risks that are detected by one of the tools used by the Corporate Functions are to be included if they are relevant to Ticona and if they cannot be dealt with adequately by this tool or by the corresponding Corporate Function.

5.5.4 Risk Management Structure

Ticona has established a global risk management coordination structure, with risk managers representing the two principle geographic regions, Americas and Europe, and overall risk management responsibility at the executive level. These risk managers and the executive representative form the Ticona Risk Team. The overall Risk Team mission is the continual further development and modification of the system for the early detection and management of risks.

The Risk Team assumes a role as an interface in the system for the early detection and management of risks and supplements the other tools in the early detection of developments jeopardizing the company's existence.

Further structures exist for risk detection and management within each of the regions but a common approach to characterization of risks exists on a global basis. The common approach utilizes a ranking scheme that factors in likelihood and potential cost of the risk.

Risks that exceed 1 million Euros are required to be communicated by the appropriate functional or business unit to the Ticona Executive Committee for review and management. Risks detected as class A higher than 15 million Euros are subject of prompt ad hoc reporting to the Board of Celanese and need to be reviewed by the Stock Market Clearing Team whether an ad hoc information of the public may be required.

5.5.5 Early Detection and Management of Risks

Early detection and management of risks within Ticona functions is on the basis of decentralized responsibilities assumed by the functional and operating units. Hence, major risks for Ticona are identified and systematically recorded, analyzed and assessed using various management tools.

Major risks are presented to Celanese AG through presentations under the Strategic Management Process (CSMP) and the Financial Planning processes. The Risk Team informs Celanese AG, in particular Celanese AG Corporate Auditing, when risks are identified that have an effect on Ticona's business strategy or a significant effect on Ticona's strategic financial planning.

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A preliminary assessment is conducted by the risk team to identify risks as to their significance for Ticona and is used as a basis for further action.

The further systematization of identified risks categorizes the risks with the help of a portfolio analysis by the Risk Team based on the amount of loss, and the probability of occurrence by using the facts of a suitably adapted risk profile. Depending on the category, the risk is treated in different ways. Details are addressed in a Risk management TIMS procedure.

The assessment, analysis status and handling of ongoing identified risks that have the potential to jeopardize Ticona' s existence, individually or in combination, are monitored and documented.