CASE STUDY – MCAS Engineering Group

Table of Contents

1 COMPANY OVERVIEW

MCAS Engineering Group stands as a prominent player in the global heavy machinery and equipment manufacturing landscape, with a strong commitment to innovation, excellence, and sustainability.

1.1 Name and history of the company

MCAS Engineering Group was established in 1960 as a family-owned business, specializing in heavy machinery and equipment manufacturing. Over the years, the company has expanded its operations, evolving into a leading multinational corporation in its industry.

1.2 Mission, vision and values

MCAS's mission is to deliver cutting-edge solutions that address the ever-evolving challenges faced by its clients.

The company's vision is to continue expanding its global footprint while fostering long-lasting partnerships with clients and stakeholders, contributing to the development of sustainable infrastructure, and maintaining the highest standards of safety and quality.

MCAS's corporate values are centered around customer focus, integrity, teamwork, and continuous improvement, which drive its decision-making and strategic planning processes.

1.3 Business sectors and industries

MCAS Engineering Group caters to a diverse range of industries, including construction, mining, aerospace, transportation, and energy. The company specializes in the design, manufacturing, and distribution of heavy machinery and equipment for various applications across these sectors.

1.4 Geographic presence

MCAS has its headquarters located in Germany and maintains a strong international presence, with regional offices, manufacturing facilities, and distribution centers strategically located across Europe, Asia, and the Americas. This global network enables MCAS to efficiently serve its clients and adapt to the unique requirements of different markets.

2 PRODUCTS AND SERVICES

MCAS Engineering Group is dedicated to providing a diverse range of high-quality products and services that cater to the unique requirements of its clients across various industries.

2.1 Product portfolio

MCAS Engineering Group offers a comprehensive product portfolio, encompassing a wide range of heavy machinery and equipment tailored to the specific needs of various industries. The product offerings include:

- **Earthmoving Equipment**: Excavators, wheel loaders, bulldozers, and off-highway trucks for construction and mining applications.
- **Cranes and Material Handling**: Mobile, crawler, tower, and maritime cranes, as well as specialized lifting and material handling equipment for various industries.

- **Aerospace and Transportation Systems**: High-precision components and systems for the aerospace and rail transportation industries, such as landing gears, hydraulic actuators, and bogie systems.

2.2 Service portfolio

MCAS Engineering Group offers a range of services designed to complement its product offerings and support its customers throughout the product lifecycle. These services include:

- **Installation and Commissioning**: Expert support for the setup and integration of MCAS products into customers' operations.
- **Maintenance and Repair**: Comprehensive maintenance programs and repair services to ensure optimal equipment performance and longevity.
- **Training and Support**: Customized training programs for customers' personnel, along with ongoing technical support and consultation.
- **Spare Parts and Upgrades**: Genuine spare parts and timely upgrades to keep equipment functioning at peak performance.

2.3 Sales and distribution channels

MCAS Engineering Group has established a global sales and distribution network that ensures its products and services are easily accessible to customers worldwide. The company leverages a combination of direct sales teams, authorized dealers, and strategic partnerships to reach its target markets. MCAS's regional offices and distribution centers play a crucial role in streamlining the delivery process and ensuring efficient supply chain management.

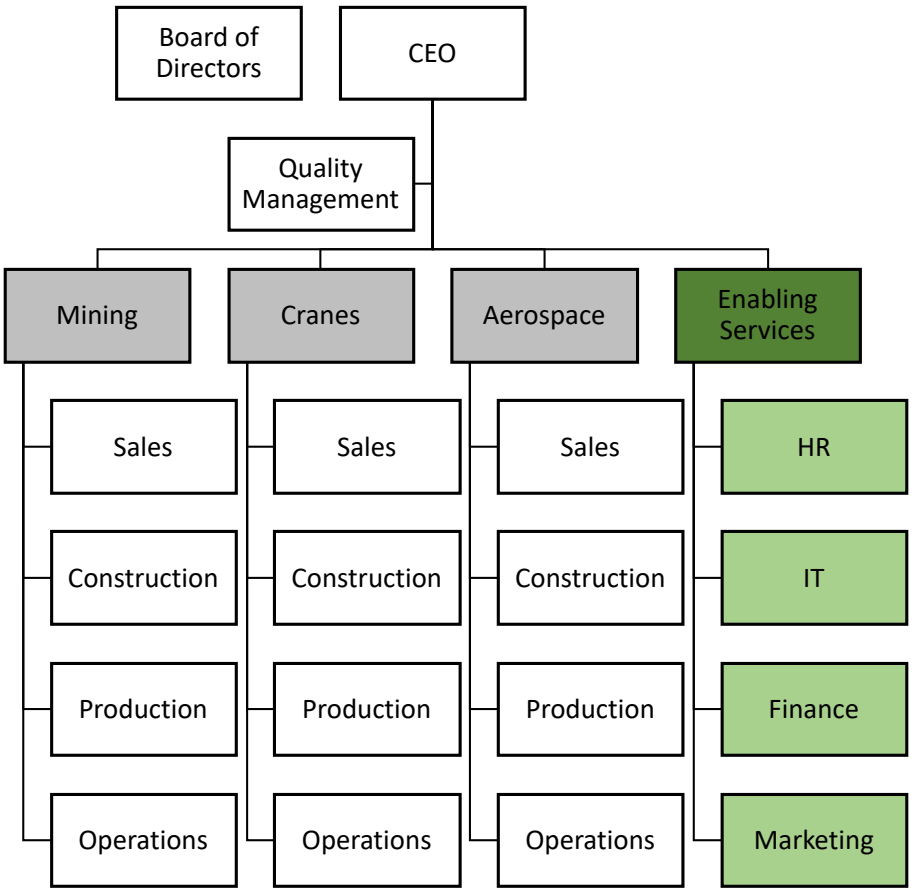
2.4 Competitive landscape

MCAS Engineering Group operates in a highly competitive landscape, where it faces competition from both global and regional heavy machinery manufacturers. Key competitors include industry giants such as Giraffe Technologies, XENETER, and Muller, among others. MCAS differentiates itself through its commitment to innovation, product quality, and customer satisfaction. By continuously investing in research and development, the company stays ahead of the curve, offering cutting-edge products and solutions that cater to the unique needs of its diverse clientele. Additionally, MCAS's strong after-sales service and support further solidify its position as a preferred partner for customers in various industries.

3 ORGANIZATIONAL STRUCTURE

The following example provides a highly simplified and non-exhaustive overview of a typical organizational structure for a company like MCAS Engineering Group, which ensures efficient operations across various business segments while integrating the necessary departments for Installation and Commissioning, Maintenance and Repair, Training and Support, and Spare Parts and Upgrades.

3.1 Organizational chart



3.2 Collaboration

MCAS Engineering Group has established an efficient organizational structure that balances divisional autonomy and centralized support services. The Mining, Cranes, and Aerospace divisions independently operate their construction, production, and operations departments, ensuring agility and industry-specific focus.

Central units provide essential services such as Human Resources, Payroll, Marketing, and IT to all divisions, leveraging economies of scale and maintaining consistency across the organization. This collaborative approach fosters cross-divisional learning, driving innovation and creating synergies that benefit the entire company.

4 INFORMATION TECHNOLOGY INFRASTRUCTURE

The following overview offers a highly simplified glimpse into MCAS Engineering Group's advanced IT infrastructure.

4.1 IT systems and applications

MCAS Engineering Group leverages a variety of best-in-class IT systems and applications to optimize its operations, streamline communication, and facilitate decision-making across the organization. Key systems include:

- **Enterprise Resource Planning (ERP) system**: MCAS utilizes SAP S/4HANA, hosted on-premises at their primary data center in Germany and secondary data center in the United States. The system integrates various business functions such as finance, supply chain, human resources, and project management, enabling real-time data access and efficient resource allocation.
- **Customer Relationship Management (CRM) system**: The company employs Salesforce, a cloud-based CRM platform that manages customer interactions, tracks sales activities, and analyzes customer data to support marketing, sales, and customer service efforts.
- **Product Lifecycle Management (PLM) system**: MCAS uses Siemens Teamcenter, hosted on-premises at their primary data center in Germany. This software solution manages the entire lifecycle of a product, from conception to manufacturing, maintenance, and eventual retirement, ensuring efficient product development and collaboration across the organization.
- **Manufacturing Execution System (MES)**: The company implements Rockwell Automation's FactoryTalk, hosted in the cloud, which monitors and controls production processes, enabling real-time adjustments and improving overall production efficiency.
- **Business Intelligence (BI) and analytics**: MCAS leverages Microsoft Power BI, a cloud-based software solution that gathers, analyzes, and visualizes data, supporting informed decision-making and providing actionable insights to the company's leadership.
- **IT Service Management (ITSM)**: MCAS utilizes ServiceNow, a cloud-based platform for managing and automating IT service requests, streamlining incident resolution, and improving overall IT service delivery.

4.2 Data center and cloud services

MCAS Engineering Group's IT infrastructure relies on a combination of on-premises data centers and cloud services, such as Amazon Web Services (AWS) and Microsoft Azure, to store, process, and manage its data securely and efficiently. Their primary data center is located in Germany, with a secondary data center in the United States, providing redundancy and ensuring business continuity.

The hybrid approach provides the following benefits:

- Scalability: The company can easily scale its IT resources up or down to meet changing business demands, ensuring cost-effective and flexible infrastructure management.
- Security: By employing robust security measures, such as encryption and access controls, MCAS Engineering Group can safeguard its sensitive information both in data centers and the cloud.

- Disaster Recovery and Business Continuity: The hybrid infrastructure enables the company to implement robust disaster recovery plans and maintain business continuity in the event of unexpected disruptions or system failures.
- Increased Collaboration: Cloud services facilitate seamless collaboration between the company's global teams and divisions, promoting efficient knowledge sharing and streamlined workflows.