



MOTIUS

WE R&D.

Angebot

AB-250806.3-51610.10

SEW-EURODRIVE GmbH & Co KG
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Agile Time & Material Contract

Zwischen den Vertragsparteien

und

SEW-EURODRIVE GmbH & Co KG

Motius GmbH

Ernst-Blickle-Str. 42

Walter-Gropius-Straße 17

76646 Bruchsal, DE

80807 München, DE

im Nachfolgenden Auftraggeber genannt

im Nachfolgenden Auftragnehmer genannt.

Production Knowledge Platform

Aufgrund der technischen Terminologie ist der Projektplan in Englisch verfasst.

Status Quo

SEW currently keeps information on production processes, suppliers, and specific equipment in its production lines in a network drive. This information is largely in German, and not easily accessible outside specific teams. For example, colleagues from China can't currently discover this information and use it for their own production line planning.

Goal

The goal is to build a knowledge platform that allows SEW employees to access and query this information in a natural language interface, such as a chat app or web interface. Employees with the right access level can query this interface in their language, and get answers with links to relevant documents and sources.

To facilitate better accessibility, our team will also propose a new structure for the existing documents, and some tooling improvements (such as moving from on-premise drives to Sharepoint Online, or using graph & vector databases).

Personas

Different groups of employees at SEW will use the knowledge platform for different purposes:

- **Industrial Engineers:** Engineers in all locations of SEW need access information on suppliers, production lines, and equipment to be able to plan new production lines
- **Procurement:** Procurement teams need to access information on suppliers and their products
- **Management Power Users:** Management wants to access "fully linked" information on production lines, suppliers, and equipment to make strategic decisions

In total there are about 100 employees in these groups.

Approach

1 Knowledge Structuring and Extraction

A team from Motius first analyzes existing content and develops a strategy for providing a structured knowledge base.

Information will be retrieved from existing sources (network drive, MES, etc.) and processed using RAG. Additional, smaller sources, may be added with MCP (production application APIs such as Vibecheck, or SEW's own fleet management).

Technology	Data Source	Description
RAG	Network share, internal documentation, operating manuals	AI-powered search and extraction of relevant information from various sources. Very efficient for searching, but requires dedicated infrastructure
MCP	Confluence, CAD systems, ERP, MES	Standardized interface for querying information. Ad hoc, requires very little infrastructure, but is slower than RAG

Metadata, System & Technology Descriptions

The scope of this project includes a new proposal for how this information should be structured in the stored for easier retrieval in the future. For example, adding more metadata & relationships between documents, storing it in Sharepoint Online and querying it using Microsoft's Graph API, adapting the structure & format of the documents, or adding more data infrastructure such as a graph database or vector database.

The team will also create Systems Description and Technology Description templates for Vibecheck, which can be used to document further systems in the production lines. After Vibecheck, Gear Control could be documented by SEW in the same format.

With the templates, new metadata, and existing metadata (authors, last opened dates, creation dates, folder structure, etc.) there should be enough information to infer relationships between documents, and for an agent to find the latest and most relevant documents.



Note

SEW's IT will need to support the team in setting up a new Sharepoint metadata structure, if necessary in a new Sharepoint Online environment. If these changes can't be set up on short notice, the team will mock / simulate new infrastructure and metadata.

Production Data

The plans & suppliers of manufacturing lines may not be useful by themselves, without information on their performance, EoL quality, revisions, and the current state of the line.

To answer questions about performance or quality, the system needs to be able to access data from the MES and ERP systems.

For the PoC, the team will start with quality and order data from the Vibecheck project, to show what kind of queries and insights are possible. Further data sources can be added easily using MCP, if they provide a well-documented API.

Doxis Web

Doxis Web is SEW's document management system, which contains information on almost all business logic in SEW, a lot of which is classified.

We assume that for the PoC phase of the project, documents from Doxis Web will need to be added manually by the user. If possible, documents will be made searchable & accessible through MCP. The latter approach would be a lot more flexible and user-friendly, but requires a green light and some technical support from SEW's IT and security team. Doxis offers a [REST API](#) that could be used as a basis for an MCP server.

2 Rapid Prototyping and Integration

Once the data sources have been reviewed and connected, a prototype is developed using either an on-premise LLM, or a private cloud deployment in Azure (using OpenAI models).

Employees at SEW can start validating the system and provide feedback after 1-2 sprints (each 2 weeks).

For quicker development & deployment, SEW needs to either provide the necessary infrastructure to run a large language model on-premise, or clear a large part of the production knowledge to be used with Azure OpenAI services.

For the PoC, we will use an Azure OpenAI deployment, which is already used by SEW for other AI use cases.

3 Data Enrichment and Automation

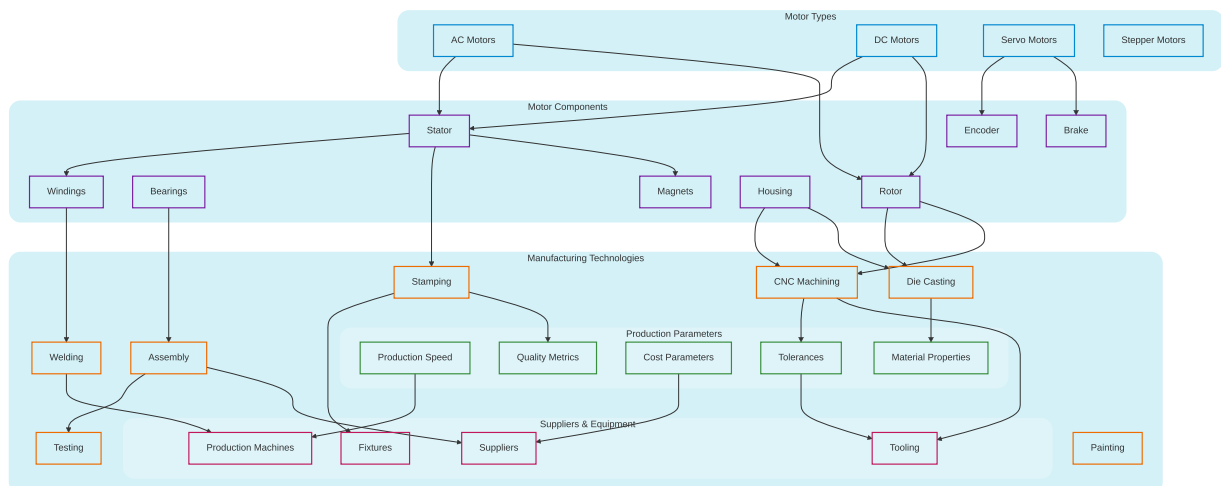
After the first tests, the team adds more data sources and builds first agents that can automate tasks and provide deeper insights for different processes that need access to production data:

- ✓ Accessing supplier information for maintenance planning
- ✓ Proposing suppliers for new production lines, based on the product that is being produced
- ✓ Generating a Systems Description or Technology Description document for Gear Control, based on the Vibecheck project, and existing documents
- ✓ Checking new documents for missing metadata, and proposing improvements to the document structure

The PoC will consist of a model that can answer questions about suppliers and production lines, and an agent that can generate Systems Description and Technology Description documents.

Ontologies

The following ontology demonstrates how electric motor production knowledge could be structured to support intelligent queries and analysis:



This ontology enables structured queries like:

- "Which suppliers provide bearings for servo motors?"
- "What CNC machining tolerances are required for DC motor housings?"
- "Show me welding procedures for stator windings in AC motors"
- "Compare quality metrics between stamped and cast rotor components"

Whether these relationships can be established in the PoC phase depends on the data available in the existing documents. The aim is to give the model enough context to understand the relationships between different components, or to suggest changes to the document structure to make these relationships more explicit. For the latter case, the team will mock or simulate the relationships in the data for a smaller set of documents.

Architecture

Since other AI usecases within SEW already use Azure OpenAI for internal applications, we recommend using Azure OpenAI for the PoC. new open-weight models, such as [GPT OSS](#), could be used for the Production Knowledge Hub but would require more time to set up and test, than the state-of-the-art models available in Azure OpenAI.

Azure

Azure's OpenAI services provide a powerful platform for building AI assistants and agents:

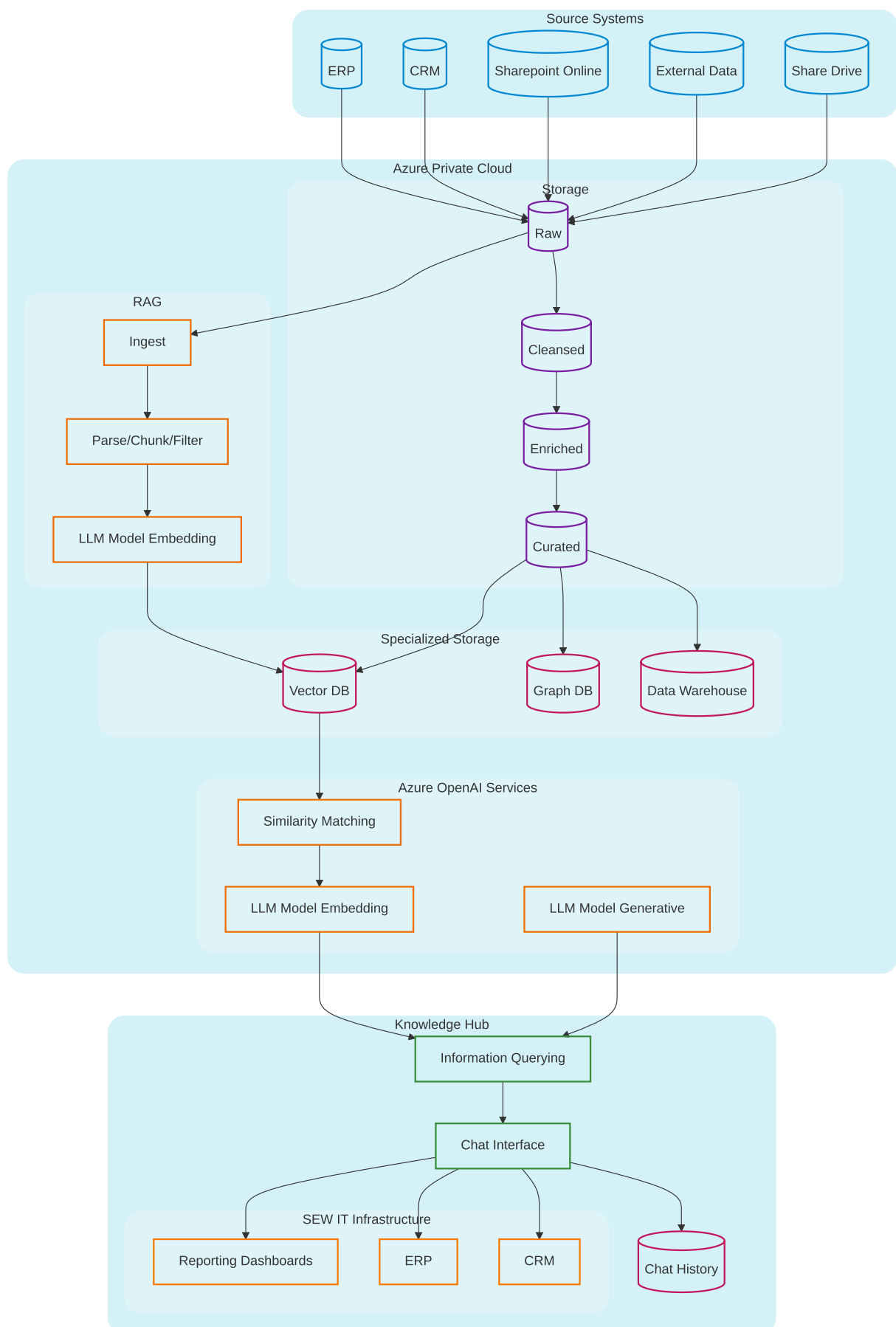
- ✓ Azure OpenAI Service for scalable LLM hosting and integration
- ✓ Azure AI Foundry portal and the ingestion API for data integration and management
- ✓ MCP for tool calling and integration with existing systems

We've also worked with Azure Data factory and Microsoft Fabric for data integration and management. These wouldn't be necessary for the PoC, but could be used to stay consistent & compatible with other SEW deployments.

On-Premise

We deploy a mix of open source components and open-weight LLM models for on-premise deployments:

- ✓ [LibreChat](#) is an extensible chat interface with built-in support for all common LLMs, including open source models like [Meta's Llama](#), [Google DeepMind's Gemma](#), or [GPT OSS](#)
- ✓ PostgreSQL with pgvector for vector storage and as a simple data warehouse
- ✓ MCP for tool calling and integration with existing systems



Key Features of the Knowledge Platform

The Production Knowledge Hub is designed to be flexible and extensible:

On-Premise or Cloud

Our approach works on-premise or using a cloud-based AI model in Azure or AWS. We use open-source components to stay flexible and avoid vendor lock-in, while using the state of the art in AI and LLMs.

AI-Powered Assistant

The production AI assistant is capable of understanding and processing natural language queries, providing intelligent responses and insights based on the data it has access to. It seamlessly works with different input languages in SEW's data.

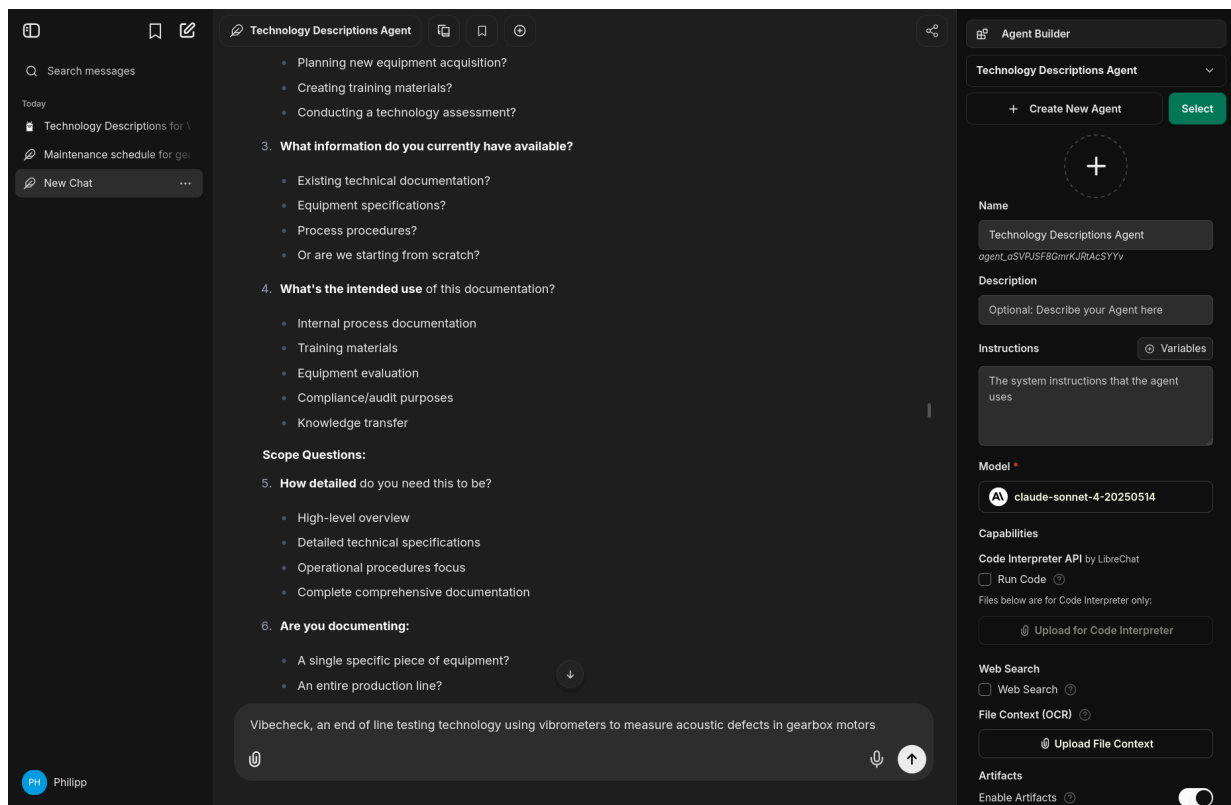
Data Integration

Using MCP and RAG we ensure that the AI model has access to the most relevant data, without spending months preparing and cleaning it.

Speed & Quick Iterations

With powerful open-source components and state of the art models, Motius only needs a few weeks to set up the infrastructure and first use cases for SEW. From there, we can quickly iterate on data sources and new use cases.

User Experience



LibreChat is an open-source chat interface, that supports all necessary technologies for a PoC, and can query any popular LLM, including cloud and on-premise deployments.

The Motius team can quickly develop agents, that use MCP and tool-calling to access data from SEW's systems, and generate new documents. Performance of different models can be measured just by switching the model in the UI, and rerunning the same queries.

SEW's employees can use the chat interface to ask questions about production lines, suppliers, and equipment, and get answers with links to relevant documents and sources. With support from SEW's IT, the team can also set up SSO and user management, so employees can sign in with their SEW accounts.

Prior Work from Motius

Gandalv is an internal product we built to showcase our approach, and help us during the requirements engineering phase of our projects.

It features similar RAG & MCP capabilities, to make knowledge accessible and provide structure output (in this case, project plans & requirements).

[illegible]

- Functional requirements describe the core functionality
- Non-functional requirements describe the quality attributes of the system, such as security, scalability, and performance
- System integration requirements describe how the system will integrate with existing systems and data sources. These require support from SEW's IT and security teams

Some requirements are high risk:

Requirement	Explanation
Intelligent Document Search & Retrieval	Complex data sources and unstructured documents make reliable search challenging.
Security & Access Control	Sensitive production data requires robust access management and compliance, and support from SEW's IT and security teams, who may have additional requirements for the architecture of the system.
Data Privacy & Compliance	Handling confidential information must meet strict legal and company policies.
On-Premise Drive Integration	Accessing and synchronizing on-premise data sources can be difficult, they often offer less modern APIs than cloud hosted file storage.
MES System Integration	MES systems are highly customized and integration may require significant IT support.
ERP System Integration	Similar to MES system integration.
MCP Doxis Web Integration	Doxis Web contains classified data; integration needs security and technical clearance.

Work packages

Work Package	Duration
Prepare knowledge structuring & extraction	5 Days
Set up infrastructure in SEW Azure cloud environment	10 Days
Conduct interviews with SEW production and IT experts	2 Days
Design a test strategy for the first use cases	2 Days
Structure & extract data from SEW network drives and documentation systems	10 Days
Create a Systems Description template based on the Vibecheck project	2 Days
Create a Technology Description template based on the Vibecheck project	2 Days
Develop Systems & Technology Agent for Gear Control	3 Days
Develop an MCP server for production & quality data from the Vibecheck project	2 Days
Evaluate cloud LLM models (Azure OpenAI GPT, Anthropic Claude)	10 Days
Develop validation and data quality tools	10 Days
Test knowledge sharing usecases in different languages, for different workflows (querying, planning, maintenance)	8 Days
Identify improvements for document storage (missing metadata, relationships, etc.) and create a proposal for a new document structure	3 Days
Iterate document pipeline, metadata, and agent setup after testing	5 Days
Prepare final report and presentation	2 Days
Meetings, Project Management, and Coordination	9 Days

Total Duration	85 Days
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Rollen und Kosten

Rollen, Kosten, und der rechtliche Rahmen sind wieder in Deutsch verfasst.

Rolle	Level	Tagessatz	Tage	Gesamtkosten
AI Engineer	Technology Specialist IV	1,120.00 €	33.00 Tage	36,960.00 €
Software Engineer	Technology Specialist IV	1,120.00 €	31.00 Tage	34,720.00 €
Project Owner	Project Management IV	1,344.00 €	19.00 Tage	25,536.00 €
Gesamtkosten Netto				97,216.00 €
Steuer (19%)				18,471.04 €
Gesamtkosten Brutto				115,687.04 €

Rate Card

Es gilt die Rate Card aus dem Rahmenvertrag, Stand 2025:

Bereich	Titel	Level	Stundensatz	Tagessatz
Technology Specialist	Senior Lead Tech Specialist	Technology Specialist VI	180.00 €	1,440.00 €
	Lead Tech Specialist	Technology Specialist V	161.00 €	1,288.00 €
	Senior Tech Specialist	Technology Specialist IV	140.00 €	1,120.00 €
	Tech Specialist	Technology Specialist III	126.00 €	1,008.00 €
	Associate Tech Specialist	Technology Specialist III	112.00 €	896.00 €
	Developer	Technology Specialist I	84.00 €	672.00 €
Project Management	Partner	Project Management VI	230.00 €	1,840.00 €
	Senior Technical Executive	Project Management V	187.00 €	1,496.00 €
	Technical Executive	Project Management IV	168.00 €	1,344.00 €
	Senior Project Owner	Project Management III	149.00 €	1,192.00 €
	Project Owner	Project Management II	133.00 €	1,064.00 €

Die oben skizzierten Projektrollen stellen ein Referenzteam dar. Sollte es bei der Besetzung der Projektrollen zu Abweichungen kommen, gilt folgende Rate Card. Das Projektvolumen bleibt unberührt.

Rechtlicher Rahmen

Es gelten die rechtlichen Bedingungen aus dem gemeinsamen Rahmenvertrag sowie die Tagesraten aus der aktuell vereinbarten Rate Card.

Unterschrift

AB-250806.3-51610.10

Wir bitten darum den unterzeichneten Vertrag oder Ihre Bestellung an bestellung@motius.de zu versenden.

Dieses Angebot gilt bis 2025-09-05

SEW-EURODRIVE GmbH & Co KG	Motius GmbH
Auftraggeber	Auftragnehmer
Zeichnungsberechtigter	Zeichnungsberechtigter
Ort, Datum	Ort, Datum
Unterschrift	Unterschrift