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Focus on your Installed Base:

The digital machine file in Salesforce – sales and efficiency in service through data on the installed base

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White paper

Digital machine file: Increased revenue and efficiency through data on the installed base

Abstract

The digital transformation in mechanical and plant engineering requires a new perspective on the installed base. This white paper explains how a digital machine file—based on IoT data, asset management, and the digital product passport—leads to higher revenue and greater efficiency in after-sales. It highlights the importance of the installed base, defines the digital machine file, describes its implementation on the Salesforce platform, and provides best practices for data integration, predictive maintenance, and the creation of digital twins. It also explains the role of the EU-wide Digital Product Passport and Asset Administration Shell (AAS). The white paper is aimed at decision-makers in the mechanical engineering industry who want to digitize their service strategy and develop new business models.

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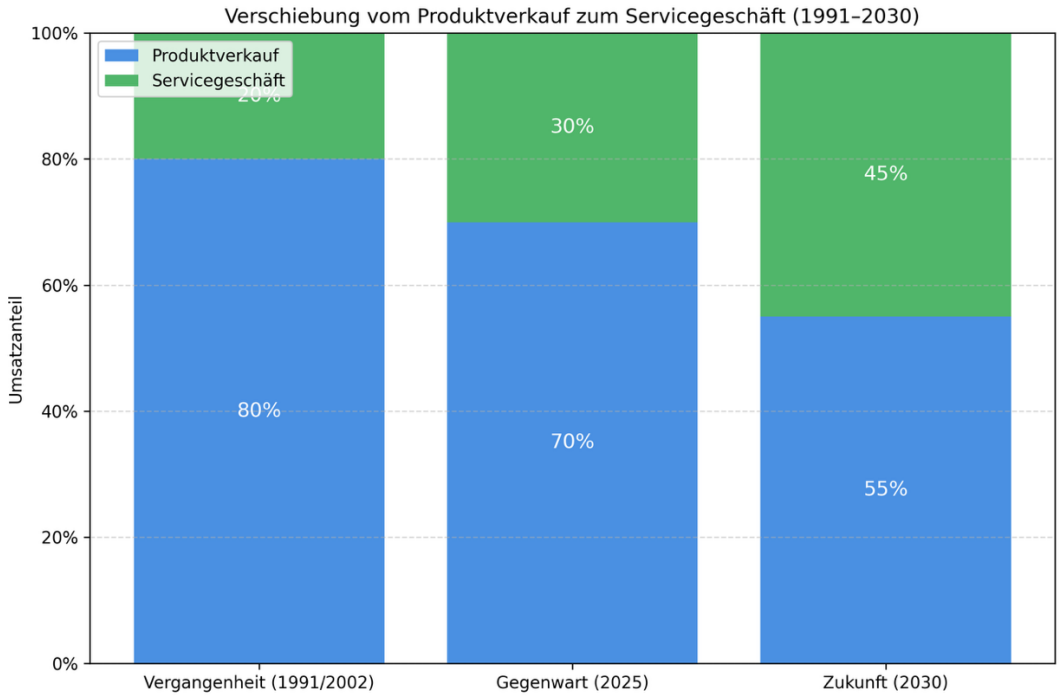
1. Introduction

Digitalization has fundamentally changed industrial manufacturing. Business models are shifting from one-time equipment sales to recurring service and after-sales revenue. Digital business models, subscription services, and pay-per-use concepts are shifting the focus of manufacturers: The focus is no longer on one-time sales, but on continuous income from installed machines. A clear service strategy that utilizes data from the installed base is becoming a decisive factor for success. This white paper shows how the digital machine file serves as the foundation for a modern service strategy. This change is driven by rising customer expectations: 81% of customers prefer companies that offer personalized experiences, and 70% expect their contact persons to know their history.

At the same time, economic pressure is increasing due to costly downtime. Depending on the industry, unplanned machine downtime can cost between tens of thousands and hundreds of thousands of euros per hour. For operators of production facilities, every hour of downtime means not only lost profits, but also delivery delays, contractual penalties, and damage to their reputation. In this environment, after-sales service becomes a differentiating factor: fast response times, proactive maintenance, and data-driven recommendations are key to customer loyalty.

At the same time, many manufacturers struggle with fragmented data: According to a MuleSoft study, 90% of IT managers see data silos as the biggest hurdle. Data on customers, machines, and service processes is distributed across different systems and is contradictory. Gartner estimates that poor data quality costs companies an average of $12.9 million annually. These data silos make it difficult to gain a holistic view of machines, customers, and service processes and limit the potential for upselling, predictive maintenance, and new business models.

Another driver is regulation: With the Ecodesign for Sustainable Products Regulation (ESPR), the EU will gradually introduce a Digital Product Passport (DPP) starting in 2024, which will become mandatory for almost all products by 2026/2030. The DPP provides detailed information on origin, materials, and environmental impacts, making it a cornerstone of the circular economy. In the future, companies will have to be able to prove what materials they use, how their products are manufactured and recycled, and what environmental impacts they have. To meet these requirements and at the same time leverage competitive advantages, they need a structured database – the digital machine file.



The trend is clear: while four-fifths of sales revenue came from product sales in 1991/2002, the share is shifting in favor of the service business – already around 30% today and possibly significantly more in the future.

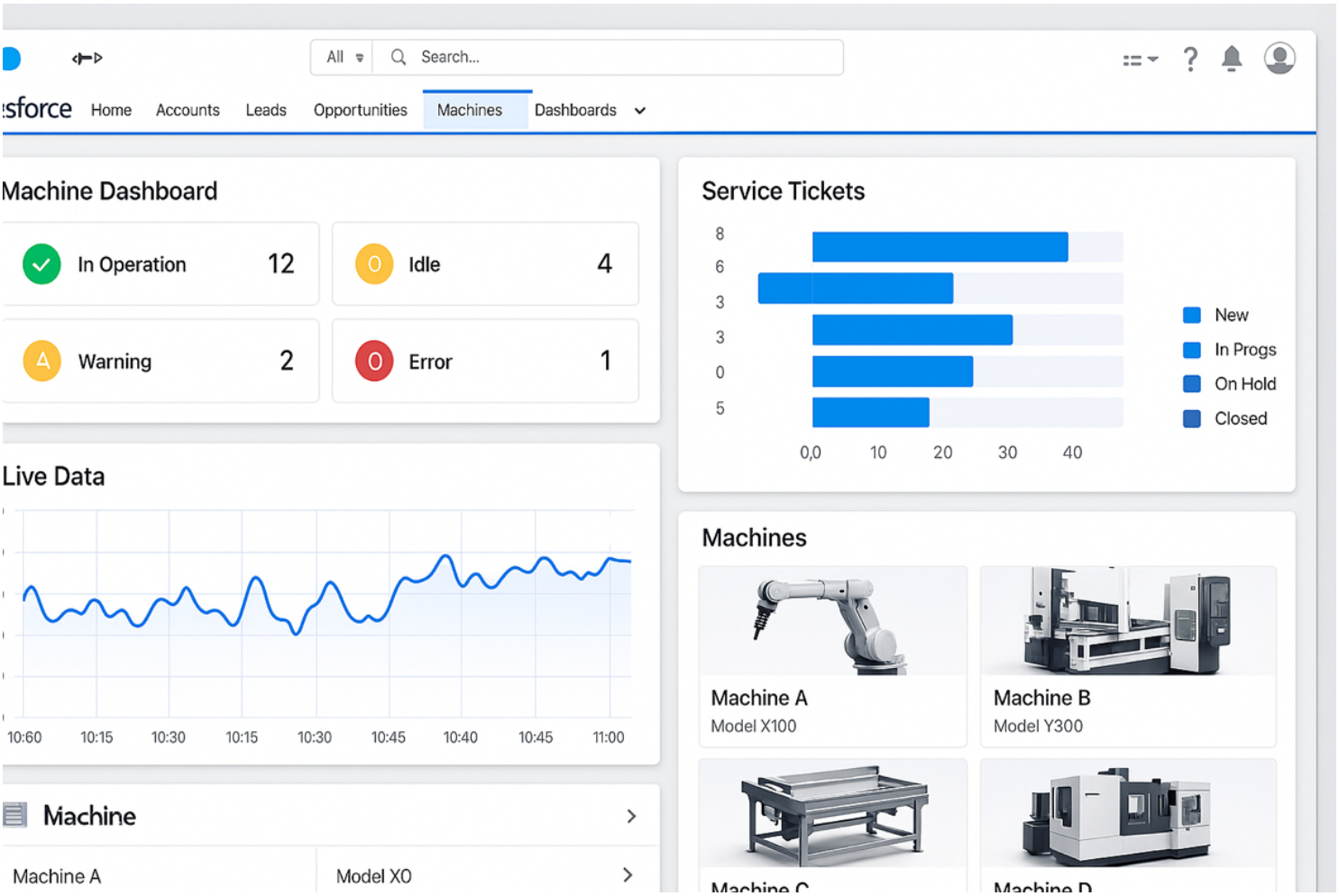
2. The installed base: an underestimated asset

The "installed base" refers to all machines and systems that are in operation at customer sites. For many manufacturers, this base contributes significantly to their bottom line: in some industries, up to 60% of sales come from services related to the installed base (maintenance contracts, spare parts, modernizations). Nevertheless, information about installed systems is often managed in Excel spreadsheets or paper files, as the logicline white paper on asset management already stated in 2021. This leads to scattered data, missed opportunities, and inefficient processes.

The installed base offers enormous potential: it forms the starting point for the development of new service products, feedback loops for product development, and ensuring customer satisfaction. Studies show that predictive maintenance increases productivity by 25%, reduces machine downtime by 70%, and lowers maintenance costs by 25%. McKinsey also sees AI-supported maintenance reducing costs by 10-

40% and halving downtime. In addition, data-based services increase the service life of equipment by 20-40%.

Market analysis provides another argument: the market for industrial IoT solutions is expected to grow from $213.5 billion (2025) to $432.6 billion in 2034. According to the IMU study, 65% of companies in industries such as mechanical engineering plan to offer predictive maintenance services; 48% want to develop data analysis-based services, 46% are focusing on cloud services, and 43% on condition monitoring. All these use cases are based on a structured view of the installed base and strengthen customer relationships. Many manufacturers are therefore transforming themselves from pure machine manufacturers to service providers and developing data-based business models.



3. The digital machine file: definition and benefits

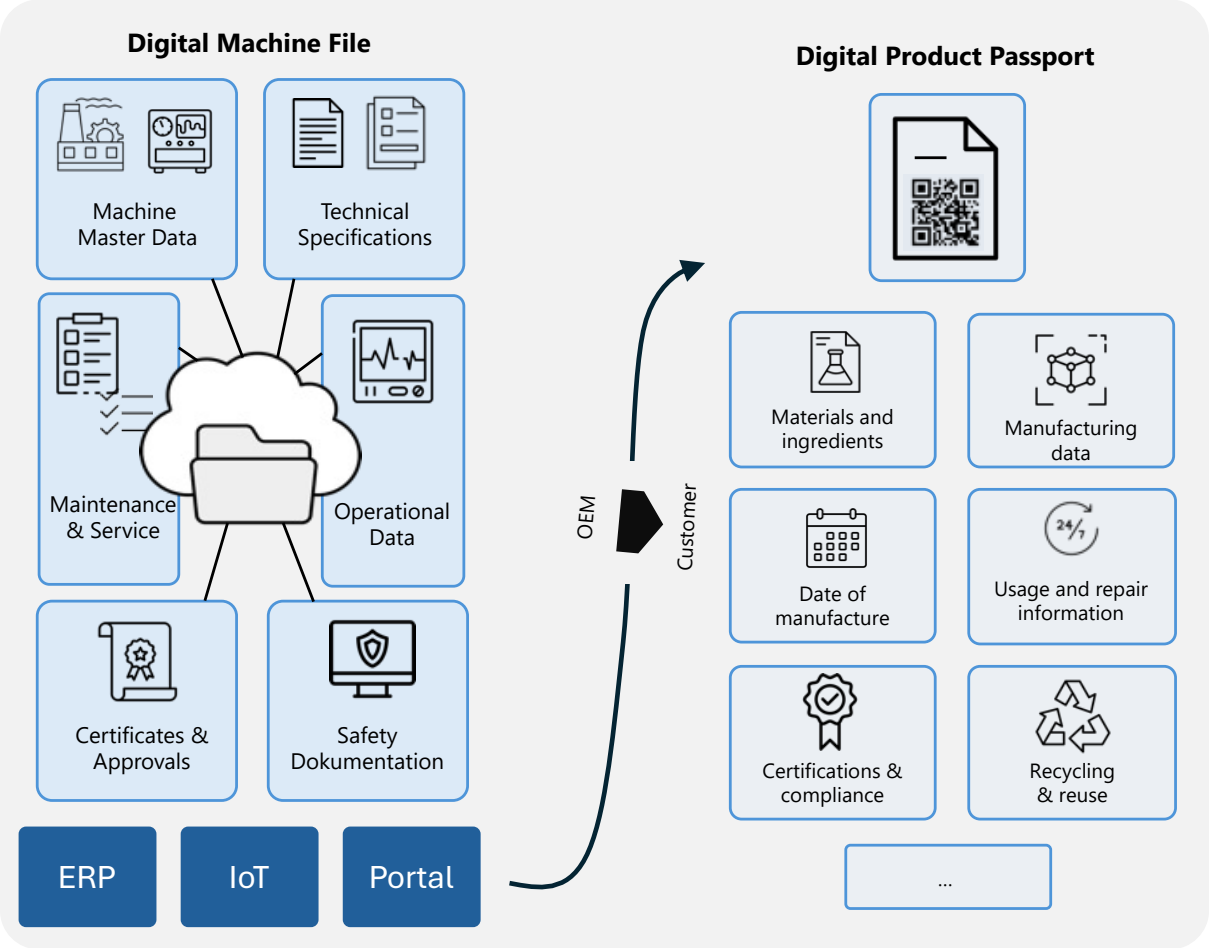
The digital machine file is the digital counterpart to the classic paper file. It bundles all relevant information about an asset in a central, structured database: parts lists, serial numbers, documentation, photos, software versions, spare parts, service tickets, sensor data, and events. It is supplemented by a digital twin, which maps the current status and usage behavior, and by the Digital Product Passport (DPP), which contains detailed information on sustainability, materials, and recycling.

The machine file integrates different data formats. Structured data (e.g., serial numbers, year of manufacture, operating hours) can be organized in tables. Unstructured data includes manuals, maintenance logs, technical drawings, and emails. Semi-structured data such as XML or JSON connects these worlds. Using the Salesforce Data Cloud, this data can be merged as data source objects, data lake objects, and data model objects, creating a consistent machine profile.

The advantages can be illustrated along the value chain:

- **Efficient maintenance:** Predictive maintenance algorithms identify impending malfunctions and allow them to be repaired before they cause downtime. Deloitte estimates that this increases productivity by 25% and reduces downtime by 70%.
- **Higher sales opportunities:** With a complete overview of installed components, upselling and cross-selling opportunities can be identified – such as software updates, spare parts, or expansion modules. Salesforce users report up to 29% higher sales figures and 30% more productivity in sales.
- **Improved customer experience:** Customer portals enable self-service and real-time insights into their own machines. Personalized services significantly increase customer satisfaction – 81% of customers prefer personalized experiences.
- **Data quality and compliance:** A central data source prevents redundancies and ensures consistent information. According to Gartner, poor data quality costs companies an average of $12.9 million annually.
- **Sustainability and circular economy:** The DPP requires transparency about materials, carbon footprint, and recycling methods. The digital machine file provides this data and, together with the AAS, forms the technical framework for the DPP.

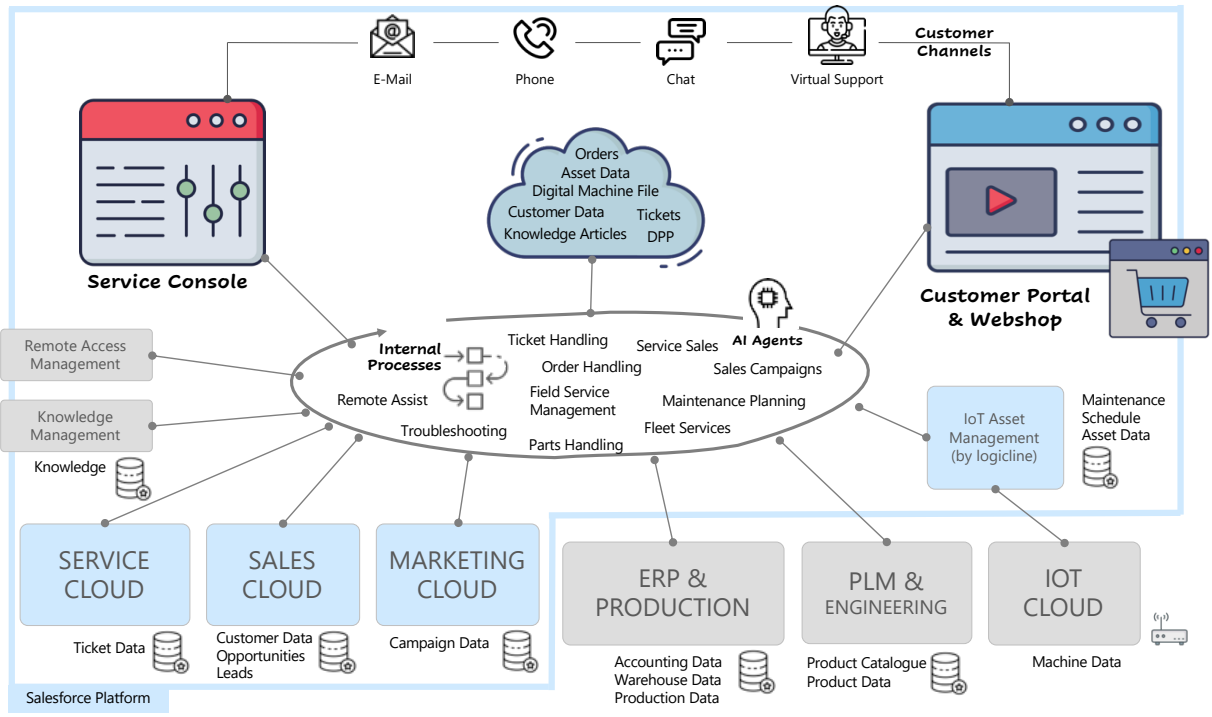
- **Strategic decision-making basis:** The combination of operating data, maintenance histories, and customer feedback creates a data-driven overall picture that enables management and product development to make informed decisions.



Structure of the digital machine file: *The figure shows the various data modules that converge in the digital machine file. The centrally positioned machine file is fed by structured data (e.g., ERP/CRM), unstructured data (documents, PDFs), semi-structured data (XML/JSON), IoT sensor data, and digital twins. The Digital Product Passport (DPP) contains some of the information. The Asset Administration Shell (AAS) can be used as a standard.*

4. Salesforce as a platform: integration, IoT, product passport, and AI

A digital machine file only unleashes its full potential when embedded in a scalable platform. Salesforce is ideal for this because it combines CRM, service, marketing, and analytics in one cloud. For machine builders, Salesforce offers specific solutions such as Manufacturing Cloud and Service Cloud, which connect production planning, warranty, field service, and sales. logicline handles the connection of IoT data with its **IoT Asset Management** product: This extension makes telemetry data from machines seamlessly available in Salesforce and creates the basis for predictive maintenance applications and data-based business models.



4.1 Data integration and governance

The origin of data in mechanical engineering is diverse: CRM, ERP, FSM, PLM, sensor technology, and Office files. These systems often operate in silos; a lack of standardization and different data formats make consistent analysis difficult. Successful integration begins with a requirements analysis and a robust data governance framework; responsibilities for data quality, ownership, and security protocols must be clearly defined. With Data Cloud, MuleSoft, and integration tools such as Platform Events, External Objects, and Data Lake, Salesforce offers means to harmonize and secure data from ERP, PLM, and IoT.

4.2 Campaign logic and after-sales

Targeted marketing and sales campaigns can be set up based on the digital machine file. If a machine is getting old or a software update is available , customers can be notified automatically. With Salesforce Marketing Cloud, these signals can be used for segmentation and personalization. CRM-supported processes increase sales by 29% and forecast accuracy by 42%; Nucleus Research estimates the ROI of CRM solutions at $8.71 per dollar invested. Thanks to IoT data, sales representatives know which components are worn out and can proactively submit offers.

4.3 IoT integration and predictive maintenance

logiclines IoT Asset Management enables the integration and processing of machine telemetry in real time. Sensor values are linked to contextual data (customer, contract, operating conditions), allowing service calls to be triggered proactively. IBM reports that AI-powered predictive maintenance reduces downtime by 50% and maintenance costs by 25%, while McKinsey estimates a 10-40% reduction in costs and a 20-40% longer service life. Early warnings enable efficient resource planning and just-in-time delivery of spare parts. Practical examples such as Unilever's digital twins show savings in the millions; similar approaches can be applied to mechanical engineering.

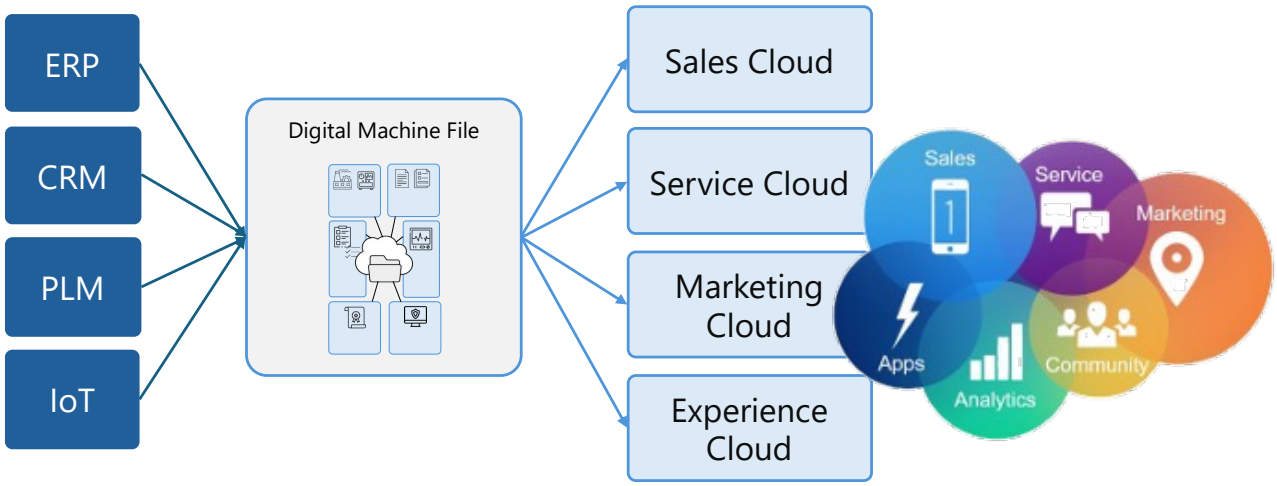
4.4 Digital Product Passport & AAS

The EU-wide Digital Product Passport requires companies to provide information about materials, energy consumption, and reparability. The Asset Administration Shell (AAS) provides a standardized data structure for this purpose. The IEC 63278-1:2023 standard defines how submodels (e.g., for technical data, service information, or sustainability metrics) are structured. With tools such as the AASX Package Explorer and BaSyx Enterprise, companies can create AAS models and use them as digital product passports.

4.5 Artificial intelligence and data analysis

AI and machine learning algorithms form the intelligence behind the digital machine file. They identify patterns, predict failures, suggest optimization measures, and support decision-making processes. According to Capgemini, the use of digital twins improves sales and throughput times by 15%, increases operational efficiency by over 25%, and boosts sustainability by 16%. Generative AI can also accelerate the

creation of AAS models. In combination with Salesforce Agentforce or Einstein, service teams receive proactive recommendations for campaigns, maintenance windows, or product updates.



***Data flows between ERP, CRM, PLM, IoT, and digital twins**. The figure shows how data from the source systems (ERP, CRM, PLM, and IoT—the latter via logicline IoT Asset Management) is integrated via the digital machine file and then made available to the target systems such as Service Cloud, Marketing Cloud, and Field Service.*

4.6 Experience Cloud, Field Service, and Consulting

In addition to its core platforms, Salesforce offers Experience Cloud, a solution for B2B and B2C portals. Machine operators can use these portals to view their digital machine files, report service cases, order spare parts, or download documentation. Individual dashboards display operating hours, maintenance schedules, and warranty data. The Salesforce Field Service solution expands this approach with efficient resource planning: Tour planning, mobile apps, and augmented reality instructions optimize resource deployment and enable remote service. As a certified Salesforce partner, logicline supports companies in the planning, implementation, and customization of these solutions—from integration to AAS connection.

4.7 Knowledge and knowledge management

In complex service processes, access to knowledge is crucial. By connecting knowledge management solutions such as Empolis Service Express to Salesforce, expert knowledge, repair tips, and technical information can be provided in a structured manner. Technicians receive context-related solution suggestions directly from the digital machine file and can resolve problems more quickly. The integration of such knowledge databases as a submodel of the AAS ensures that operating instructions, certificates, and regulatory documents are available at all times. This shortens solution times, reduces errors, and creates the basis for continuous learning—an important component of the service strategy.

5. Implementation and best practices

The introduction of a digital machine file is more than an IT project – it requires a strategic approach and interdisciplinary collaboration. Important best practices include:

- **Requirements analysis and stakeholder involvement:** Define clear goals (e.g., increase service availability, increase sales from spare parts) and involve stakeholders from service, sales, IT, production, and legal.
- **Establish data governance:** Appoint data controllers, set quality standards, and define security protocols.
- **Data integration and harmonization:** Consolidate data from CRM, ERP, PLM, and IoT and establish a common nomenclature.
- **Build digital twins and AAS:** Create a digital twin for each asset and enrich it with AAS submodels according to the IDTA standard.
- **Integrate IoT sensors and analytics:** Sensors collect status data, edge computing processes it, and predictive maintenance algorithms provide recommendations for action.
- **Design user experience:** Self-service portals, mobile apps, and intuitive dashboards increase acceptance; training and education are essential.
- **Change management and training:** Employees must be empowered to use new processes; pilot projects help with practical testing.
- **Measure and continuously improve ROI:** Key performance indicators such as mean time between failures (MTBF), first-time fix rate, and service revenue should be defined from the outset and measured regularly.

6. Outlook for the future and conclusion

The digitalization of the installed base is only just beginning. Several trends are shaping the concept of the digital machine file:

- **Regulatory requirements:** The DPP will become mandatory for batteries from 2027 and will be extended to other industries by 2030.
- **Standardization and interoperability:** AAS is establishing itself as a global standard; the IEC 63278-1:2023 standard ensures interoperability.
- **Artificial intelligence and generative models:** AI improves forecasts and optimizes maintenance windows; generative models accelerate the creation of digital twins.
- **Sustainable business models:** The DPP opens the door to circular business models; the digital machine file becomes a key tool for ESG reporting.
- **Remote service and augmented reality:** Remote support and AR-assisted instructions reduce travel costs and emissions.
- **Integration of knowledge management:** Knowledge management tools such as Empolis accelerate problem solving and are becoming increasingly automated.

In addition, service strategy is coming to the fore. Mechanical engineers need to rethink their services—from the creation of digital maintenance plans to the introduction of remote service concepts and data-based business models. These digital services strengthen customer loyalty, open up new sources of revenue, and contribute to sustainability.

Conclusion: The digital machine file is at the heart of a modern service strategy in mechanical engineering. It combines data from CRM, ERP, PLM, IoT, and sustainability programs to provide a 360-degree view of each asset. This provides a basis for implementing new business models, reducing service costs, and increasing customer satisfaction. Companies that invest now in digital machine files, predictive maintenance, and the development of digital twins will become pioneers in Industry 4.0 and will be able to confidently meet upcoming regulatory requirements. logicline supports this with solutions on the Salesforce platform, consulting, and implementation experience—from data integration and Salesforce implementation to the development of digital machine files and a customer portal.

About logicline

We specialize in service and digitalization in mechanical engineering and design the platform for your service business – from strategy to implementation with Salesforce. Get to know us:

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