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Transforming **Product Data Management** for **Automotive Parts Manufacturers**

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Executive Summary

The automotive industry is transitioning toward electrification, connectivity, and assisted driving. This transition is accelerating as new devices and features, from smarter technologies to consumer electronics, are integrated into vehicles. But, with increasing product complexity, competitiveness, and regularity requirements, the need for a robust data management capability is greater than ever.

Every consumer demands complete and up-to-date information for safety measures and a reliable code of operation. Along with that, trusted information and guidance across the vehicle life cycle will also play a crucial role in ensuring performance and longevity.

However, many manufacturers still rely on fragmented systems to manage critical product data—such as part numbers, fitment specifications, original equipment manufacturer (OEM) cross-references, and regulatory certifications. These aspects have triggered a necessary consideration of having a single version of the truth of product information.

This whitepaper explores how modern Product Information Management (PIM) solutions are transforming the way automotive parts manufacturers organize, enrich, and distribute product data across their entire value chain.



Industry Landscape and Emerging Challenges

Automotive parts manufacturers have to manage millions of SKUs, each with intricate relationships such as vehicle compatibility (ACES/PIES standards), dimensions, material specs, localization requirements, and more. The huge volumes of product information and digital assets across their supply chains, product catalogs, and distribution channels demand robust data management capabilities. In addition, they must meet stringent compliance standards, support global distribution, and deliver consistent product information across online and offline channels.

Mounting Complexity Across the Value Chain

- **Inconsistency Issues:** Traditional product catalog systems cause data silos and lack flexibility, leading to inconsistent catalogs and costly errors.
- **Data Readiness Challenge:** Manufacturers need systems that ensure data integrity and audit readiness.
- **Manual Errors:** Manual processes result in inconsistent product data, frequent errors, and increased operational costs.
- **Regulatory Pressure:** Hard to respond to constantly evolving regulatory mandates such as tire labeling standards, safety-critical parts, and more.

Customer Expectations and Market Competition

- **Accuracy First:** Buyers expect reliable, detailed fitment data to avoid mismatches and returns.
- **Consistent Experience:** Distributors and consumers alike expect consistent experiences across channels.
- **Digital Self-Service:** End users expect on-demand access to manuals, specs, and certifications.
- **Agility Matters:** Digitally native competitors are launching faster and personalizing better, powered by modern PIM systems.

Technology Gaps Holding Manufacturers Back

- **No Single Source of Truth:** Data lives in silos across PLM, ERP, Excel, and internal tools.
- **High Error Rates:** Manual entry of product attributes and detailed specifications increases the chance of errors.
- **Poor Workflow Coordination:** Engineering, compliance, and marketing operate in disconnected systems.
- **Limited Syndication Capabilities:** Difficulty in pushing consistent, enriched data across multiple reseller and distributor platforms.

Strategic Imperatives for Automotive Leaders

For CIOs & CTOs

- **Implement Scalable PIM Architecture**

Integrate PIM with existing ERP, PLM, and MES systems to unify product data across the enterprise.

- **Enable AI-Powered Governance**

Automate product data cleansing, enrichment, and validation for high-volume product categories.

- **Streamline Partner Integration**

Ensure accurate syndication to vendor portals, aftermarket retailers, partners, resellers, and more.

For CMOs

- **Accelerate Time-to-Market**

Launch enriched digital catalogs with consistent branding, up-to-date information, and high-quality visuals.

- **Drive Conversion with Accurate Content**

Reduce return rates and improve search discoverability with clean, standardized product data.

- **Execute Omnichannel Campaigns**

Deliver consistent messaging across websites, marketplaces, mobile apps, and POS systems.

What's Needed: A Flexible PIM Solution

The automotive parts industry is evolving amid rising digital expectations, regulatory complexity, and global competition. A PIM system provides a consolidated and trusted source of product information for multiple customer touchpoints and data syndication.

Problems a PIM solution solves:

- **Eliminate Data Silos**

Consolidate thousands of SKUs, product variants, complex structures, fitment data, and technical specifications into a single system to break down barriers and foster collaboration.

- **Scale Digital Operations**

Ensure real-time and enriched product data and digital assets to meet the aggressive demand of marketplaces and distributors for multiple touchpoints.

- **Derisk Governance and Regulatory Compliance**

Create a customized workflow for tracking approval status, version history, compliance status to meet regulatory compliance and governance standards.

- **Reach Global Markets Faster**

Translate your product information into multiple languages to accelerate products launches— globally and locally. Minimize product onboarding and catalog update cycles from weeks to days.

- **Empower Cross-Functional Teams**

Create a single version of truth for product data enrichment, digital asset management, and data syndication to facilitate seamless cooperation between departments or teams.

- **Enrich and Classify with AI**

Auto-tag products, complete product attributes, and enrich product catalogs with accurate vehicle-fitment mapping to maintain consistency and speed up product discovery.

Pimcore for the Automotive Parts Manufacturing Industry

1 Unified Product Information Hub

Challenge:

Fragmented product data across ERP, PLM, CAD, and other systems.

How Pimcore Helps:

- Get a trusted version of truth for all product data and digital assets, including part numbers, specifications, fitment details, and BOMs (Bill of Materials).
- Integrates seamlessly with ERP, PLM, and CAD systems via APIs, ensuring real-time synchronization.
- Create customized data models for automotive components, subassemblies, and kits—essential for enterprise asset management platforms to manage lifecycle and inventory.

2 Enterprise-Grade Digital Asset Management

Challenge:

Inconsistent management of CAD files, product specification PDFs, images, videos, and user manuals.

How Pimcore Helps:

- Consolidate all digital assets in one place—images, 3D files, maintenance guides, installation videos, and warranty documents.
- Maintain version control and metadata tagging (e.g., part number, model year, region, asset type) for fast search and accurate pairing with SKUs.
- Enable controlled asset reuse across ecommerce, technical documentation, EAM platforms, and distributor portals.

3 Regulatory Compliance Management

Challenge:

Manual handling of compliance documents and certifications.

How Pimcore Helps:

- Automate tagging and linking of regulatory documentation (e.g., Department of Transportation, Environmental Protection Agency, CE certifications) to individual parts.
- Ensure only compliant parts and their valid documents are available for syndication and internal workflows.
- Reduce audit risk by maintaining historical records of updates, approvals, and changes.

4 Fitment and Compatibility Mapping

Challenge:

Incorrect part pairing or asset referencing disrupts maintenance and service workflows.

How Pimcore Solves:

- Support detailed fitment data (e.g., make, model, year, engine type) and compatibility rules for each part.
- Improve real-time product details accuracy by ensuring technicians and service centers access the right part for the right vehicle/equipment every time.

5 Omnichannel & System Syndication

Challenge:

Inconsistent data and asset distribution to B2B vendor portals, ecommerce, and partner systems.

How Pimcore Solves:

- Offer built-in syndication capabilities to push product data and digital assets to ecommerce platforms, dealer portals, and marketplaces in the required formats (CSV, XML, JSON, API).
- Automate delivery of high-resolution images, expanded view diagrams, installation PDFs, and SKUs to the right endpoint, region, or user group.

6 Workflow-Driven Collaboration

Challenge:

Siloed communication between engineering, marketing, service, and compliance teams.

How Pimcore Solves:

- Provide role-based workflows and user permissions for data editing, asset approval, and publishing.
- Enable cross-functional collaboration for new part launches, spec updates, and asset creation with full audit trails.

7 Scalable Architecture for Growing SKUs & Assets

Challenge:

Legacy systems can't scale with expanding product lines or global footprint.

How Pimcore Solves:

- Cloud-native architecture allows for horizontal scaling as product and asset volumes grow.
- Advanced search, filtering, and classification make it easy to manage tens of thousands of SKUs and assets across multiple geographies and business units.

8 Seamless Integration & Support for Preventive Maintenance

Challenge:

Difficulty in associating up-to-date product data with asset lifecycle in enterprise asset management.

How Pimcore Solves:

- Facilitate enterprise asset management platform integration (e.g., ERP, CRM, Commerce, and more) with real-time or scheduled data feeds.
- Provide structured data of parts and associated product content that supports better preventive maintenance, asset tracking, and part replacement workflows.



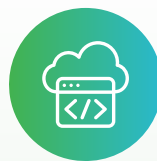
Implementation Roadmap & Best Practices



1

Assessment & Strategy

Identify gaps in catalog management, fitment accuracy, and compliance documentation.



2

PIM Deployment

Deploy Pimcore PIM integrated with ERP, PLM, and dealer management systems (DMS).



3

Manage Fitment Data Across Regions

Align regional taxonomy and standards such as ACES/PIES (North America) and TecDoc (Europe).



4

Automation & Governance

Establish validation rules for key automotive data (e.g., torque specs, compatibility).



5

Data Syndication

Enable real-time, channel-specific syndication to retailers, dealers, and digital commerce platforms.



6

Governance and Ownership

Establish a robust governance workflow across teams to ensure accuracy.

A Case Study of a Leading Global Auto Parts Manufacturer

The client is a multinational automotive manufacturing company specializing in tires, brake systems, interior electronics, automotive safety, powertrain and chassis components, tachographs and other parts for the automotive and transportation industries.

The business objective was to set up a central PIM system that should act as a single source of truth for products and manage and enrich product data in one place. The client wanted a flexible and robust system to cater to their current and future data management needs. Another critical requirement was to generate price catalogues periodically for their distributors and customers.

The scope included consolidating and managing about 45K product SKUs, and maintaining the products data in 40+ languages which was to be consumed by 50+ countries across the globe. This involved managing marketing data quality checks for products by implementing the approval process and custom products data export based on complex transformation rules specific to consumers. Generation of a printable price list catalogue was also facilitated for 30+ different markets with 5000+ products information, and 300+ pages per catalogue.

The Solution

- Implemented Pimcore PIM with customized workflows to centrally control, manage, and enrich product information that supports 45+ international languages across 50+ countries.
- Integrated Pimcore DAM platform with customized approval workflows to centralize and control product assets and information across multiple countries.
- Built a Pimcore-based CMS solution to manage multiple websites in different languages from a single place.
- Provided a B2B microsite solution with dynamic product information on a single page layout with multilingual presentation to check all product information in different languages.
- Implemented the LPE PIM system to provide a single platform for product information, pricing, and catalogs.
- Developed an integrated system for catalog design and generation where users can design catalogs per their needs.

Outcomes

- Faster and easier accessibility of central assets to authorized users across all countries.
- Enhanced visibility of digital assets to central teams.
- Effortless management of digital assets across the globe.
- Minimized data retrieval time and improved usability and viewability of data structure.
- Increased accuracy in product enrichment and reduced risk of incorrect information.
- Massive decline in effort to consolidate article and pricing data in various languages across sales organizations.

The Conclusion

Automotive parts manufacturers are redefining their data management strategies and approaches to garner deeper insights and set new standards in their value chains.

A modern PIM platform like Pimcore helps address growing product data management demands, meet digital customer expectations, and enhance operational efficiency—all while enabling faster time-to-market and stronger competitive differentiation.

Request a Custom Consultation

Find out more about how we can solve your product catalog challenges—eliminating data silos, improving performance, and controlling cost.

About the Author



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Poornima B is the Head of the Industrial, Manufacturing, Energy & Utilities Industry Group at Happiest Minds. She brings over two decades of rich industry experience and is currently focused on helping our customers achieve the true value of digitization so they can be future-ready.

She is passionate about building trust and creating impact through digital transformation, partner collaboration, and driving customer success by connecting people, products, and experiences.



About Happiest Minds Technologies

Happiest Minds Technologies Limited (NSE: HAPPSTMNDS), a Mindful IT Company, enables **digital transformation** for enterprises and technology providers by delivering seamless customer experiences, business efficiency and actionable insights. We do this by leveraging a spectrum of disruptive technologies such as: **artificial intelligence, blockchain, cloud, digital process automation, internet of things, robotics/drones, security, virtual/ augmented reality**, etc. Positioned as 'Born Digital . Born Agile', our capabilities span Product & Digital Engineering Services (PDES), Generative AI Business Services (GBS) and Infrastructure Management & Security Services (IMSS). We deliver these services across industry groups: Banking, Financial Services & Insurance (BFSI), EdTech, Healthcare & Life Sciences, Hi-Tech and Media & Entertainment, Industrial, Manufacturing, Energy & Utilities, and Retail, CPG & Logistics. The company has been recognized for its excellence in Corporate Governance practices by Golden Peacock and ICSI.

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