Introduction to Product Content Management (PCM)

What is PCM and why do you need it?
PCM is the next generation of PIM
Multichannel commerce requires PCM infrastructure
Deliver a complete and consistent product view across all channels

What do you achieve with hybris PCM?
Reduce cost and time to market with centralized content and streamlined processes
Dramatically increase conversion rates with high-quality product content
Deliver consistent product data for cross-channel customers
The evolution of Product Information Management (PIM) to Product Content Management (PCM).

For organizations that have multiple business divisions, maintain a wide range of products, and distribute those products across a variety of channels, delivering consistent product data to key constituents can be an enormous challenge. The reality is that organizations typically have multiple repositories of structured and unstructured product content, fueled by different departments generating customized content packages for individual audiences, and resulting in inconsistent branding, sales, and marketing efforts. Without centralized and streamlined product content, organizations typically implement one-off content changes, such as format revisions or data customization, which only creates further inconsistencies. In order to deliver uniform messaging across all channels and proactively address individual customer product requests, organizations must consolidate all types of product content, including structured content, video, user-generated content, and digital assets. Many organizations today rely on a centralized Product Content Management (PCM) solution to manage, update, consolidate, and distribute product data as part of a successful eCommerce strategy.

hybris has been distributing its innovative software solutions to the market since 1997. Numerous companies rely on our product content software, including adidas, SSL International plc, Bobcat, Bridgestone, Ericsson, Rexel, Waterstones, SCA, BMW, Sika, Grundfos, Henkel, Coca-Cola, and Bechtle.

The 10 key advantages of a PCM solution.

- Management of all structured and unstructured content on a single platform
- Rich content creation and consistent presentation for thousands of products
- Single view of data across all channels, systems, and lines of business
- Collect product content from multiple sources and get agreement on definitions
- Support for multiple languages to support global initiatives
- Maximize multichannel commerce strategies worldwide
- Customizable user interfaces for intuitive and process-driven data management
- User-friendly way to create and manage structured and unstructured content
- Coordination of collaborative tasks with workflow functionality
- Multiple parties contribute and work in parallel
- Aggregation of all content from various sources to deliver a single, comprehensive view
- Quickly import large volumes of product data
- Standardization and validation of content reduces inaccurate and redundant information
- Deliver accurate content and reduce storage requirements
- Improved storage, structuring, and control of data, unstructured content, and digital assets
- Manage a wide range of products and frequent changes
- Enhanced product descriptions with user-generated content
- Deliver a compelling and consistent shopping experience
- Consistent and enhanced product information to all channels and systems
- Benefit from compelling social and media content
Structured content is data that is available in a standard layout and is typically captured in spreadsheets and databases. Examples of structured content include product prices, features, technical specifications, and dimensions. Unstructured content is generally packaged in files or documents and consists of information objects that are not directly accessible, such as images, videos, languages, web pages, news, user groups, message boards, reports, marketing materials, or presentations.

To help organizations manage structured and unstructured content on a single platform, hybris has evolved its Product Information Management (PIM) system to a Product Content Management (PCM) solution. hybris PCM provides organizations with a single view across all content, languages, and markets, and enables organizations to easily update content, enrich the customer experience with user-generated content such as personal experiences, consolidate data globally, and aggregate and enhance content for local, national, or global cross-channel campaigns. hybris’ open and service-based platform easily integrates with established third-party source systems and allows organizations to effectively reuse content internally and externally. This interoperability enables end users to view and edit content, search for content organization-wide, and easily gain access to unstructured content such as text descriptions, images, videos, and more. Being able to share consistent, enhanced, and up-to-date content is key to delivering a compelling shopping experience for existing customers, attracting new customers, and driving effective multichannel commerce.

hybris PCM powers multichannel commerce.

A successful multichannel strategy requires companies to deliver a consistent and differentiated shopping experience that is flexible enough to respond to changing customer needs and preferences. Retailers use various touch points to interact with customers – websites, call centers, mobile devices, print catalogs, point of sale terminals, etc. Regardless of the medium, customers expect a seamless and information-rich shopping experience that is targeted to their individual needs. Many consumers today use social networking sites and other high-tech outlets to interact with retailers and use a range of devices to review product content and make purchases. The growth of mobile devices and interactive technologies reinforces the need for organizations to be able to deliver consistent product information across all channels, ensuring that customers’ expectations are regularly met, and ideally exceeded.

Advantages of hybris

- Centralized management of structured and unstructured product content
- Seamless editing and maintenance of content, images, and digital objects
- Management of product data on a single platform
- A consistent customer experience across multiple channels

"hybris provides a platform from which we expect to gain additional revenue through both existing and new customers. The site provides extensive product information that we believe is unequalled in our market. The integration of hybris with our ERP solution means that customers receive a full multichannel experience with complete order history, click and collect facilities through our extensive branch network and pricing that is in line with their agreed terms. The flexibility that hybris provides was key in our selection of the product."

Paul Parker, Chief Information Officer at Rexel UK, leading distributor of electrical solutions
The ability to increase Web-based sales is a key driver for implementing a PCM solution. While the advent of online retailing has enormous cost advantages in terms of warehousing and product fulfillment, as retailers make more and more products available online, it can be increasingly challenging for consumers to find the products they need, particularly if items are poorly presented and disorganized.

The emergence of Web 2.0 tools has enabled millions of consumers to become product content producers themselves, in the form of product reviews, personalized profiles, ProductWiki entries, etc. Information published via these outlets can strongly influence consumer purchasing decisions. Therefore, it is critical for retailers to make the most of every customer interaction and ensure that customers walk away with a positive impression of their purchasing experience.

hybris PCM provides integrated administration of all content, enabling organizations to create dynamic virtual shelf space which includes compelling content linked with product images and other information-rich assets. hybris’ PCM capabilities help organizations maximize eCommerce opportunities, providing the tools to easily structure product content for all channel outlets. As a result of consolidating all product content, customers are able to quickly search and easily navigate through millions of SKUs, resulting in a consistent shopping experience wherever and however they choose to browse and buy.

"With such a large range of products available from our catalog and web stores, the need to centralize the maintenance and management of complex data across all channels is imperative. Our initial decision to invest in hybris was based on its proven track record as a premium PCM platform, with a broad range of functionality, ease of use and adaptability to support complex processes."

Karin Catton, Chief Information Officer of Norgren, leading distributor of pneumatic motion and fluid control solutions.

Fig. 2: Various touch points that customers use to interact with retailers

Advantages of hybris

- More compelling and consistent customer interactions
- Ability for retailers to promote large volumes of new and niche products
- Create dynamic online stores and virtual shelf space
- Efficiently manage and reuse user-generated content
hybris PCM: An agile platform for high-quality product content.

hybris provides organizations with the flexibility to adapt to changing business demands and evolving end user technology requirements. hybris’ architecture can be easily adapted to address specific customer requirements, optimizing every customer interaction to enhance the overall shopping experience. For example, organizations targeting a younger generation of technology-savvy users may want to create objects that track and model characteristics of users’ social networking habits, such as tweets, Facebook data, SIM characters, YouTube activity, etc. hybris enables organizations to easily create new, customized business objects by defining their inheritance, attributes, and data types, as well as relationships with other objects. In addition, all newly defined business objects can easily be personalized and utilized across multiple languages.

hybris PCM’s product catalog functionality allows organizations to take heterogeneous content and create a structured, consistent product catalog. These end products help customers and channel partners better understand product features, functionality, and usability – critical information when making product comparisons and evaluations. In addition, hybris’ multimedia capabilities enable catalogs to be utilized across multiple channels, including websites, direct mail, ERP systems, or price comparison services. With hybris’ extensive version management capabilities, products can be organized in hierarchical categories, enabling automated content modification while preserving select data such as metadata, hidden product data, localized data, and access rights information. Content owners can seamlessly update and edit catalog content from a staged version without disrupting the current catalog on the website. hybris’ integrated workflow functionality makes it easy for multiple parties to contribute content in parallel to ensure catalogs reflect the most up-to-date and relevant product information.

Advantages of hybris

- Open and flexible software enables customization for specific customer needs
- Model-driven creation of new business objects
- Efficient process management using workflow capabilities
- Flexible product taxonomy to support content reusability
Announcing, promoting, and selling new or revamped products has traditionally been a labor-intensive process for organizations that is often fraught with mistakes and inconsistent or incomplete product content and communications. hybris PCM automates the processes associated with defining new product attributes and definitions, ensuring that any new or updated content is properly captured and coordinated for use across all channels. All changes are logged, allowing organizations to easily review any and all edits and track on an ongoing basis. After products have been defined and approved, product information can be automatically published to the various output channels.

The hybris user interface (UI) is easy to use and can be configured and customized for individual end user roles and workflow requirements. hybris UIs rely on a set of underlying services that automatically create, query, update, and delete master data and the relationship between the master data and other related information. Via the intuitive hybris Management Console (hMC), users have fine-tuned control of all data and operations, and can rely on user-friendly wizards, intelligent search mechanisms, Excel integration, mass data exchange, and shortcuts such as drag and drop to expedite content creation, manipulation, and distribution.

As an extension of hMC, hybris offers the Product Cockpit, which simplifies and streamlines processes associated with product content creation and updates. The Product Cockpit enables users to manage and structure high volumes of product information and catalogs across numerous collaborative environments. In addition, the Product Cockpit supports product-related workflow tasks and synchronization.

Employees across subsidiaries and departments can access centralized information via role-based security profiles, ensuring that users only view or edit content that is relevant to them. Access rights can be defined for various product attributes, product classes, or catalog versions. hybris software is ideal for businesses with distributed product content responsibilities, as content managers can work on staged product versions, without affecting the live version displayed on the website.

Advantages of hybris

- User-friendly hMC enables fine-tuned control of data and operations
- Customizable user interfaces ensure intuitive data management
- Product Cockpit supports product-related workflow tasks and synchronization
- Role-based access security down to attribute level

“The extension of the hybris licence into the US will enable us to take a consistent approach to product data in the US as well as in Europe. It will enable us to simultaneously update product data on the Norgren Express catalog and web stores, ensuring that our customers have the latest information and pricing to help with their purchasing decisions and requirements.”

Ciaran Crowley, Global Express Channel Manager at Norgren Group
Data sourcing: Bringing all the pieces of the puzzle together.

Organizations are faced with the challenge of managing huge amounts of data stored among multiple internal and external sources. For example, many organizations rely on product feeds to provide current online product information to search engines, product comparison websites and other aggregators of eCommerce information. Sending updated data to these outlets is critical to ensure that the latest pricing, promotional, or other relevant information is displayed. This data is typically composed of both structured and unstructured content and is often stored among varied applications and systems. A PCM solution can help organizations with dispersed product data ensure that the right product information – whether structured or unstructured – gets to the right place at the right time and that all processes are managed from a single platform.

To support the rapid and seamless migration of extensive product data, hybris allows organizations to import content from Excel, relational databases, and third-party systems. For organizations with high volumes of products and content-heavy files, hybris offers multi-threaded import capabilities, which dramatically speed up the import process. To increase the usability of the hybris PCM application – especially for small projects – hybris has developed an easy-to-use Import Cockpit. The Import Cockpit allows business users to create import mappings using a GUI tool. These mappings enable the user to import content from a flat CSV-file into the hybris application. hybris' data integration capabilities are based on a state-of-the-art extract, transform and load (ETL) tool to provide the most flexible and high-performing data import, mapping, and export processes. The ETL tool receives data from various external sources, loads the data into its internal staging area, and transfers it into the hybris CSV format.

Advantages of hybris

- Consolidate distribution of content from various systems and enterprise divisions
- Rapidly import data from external source systems
- State-of-the-art integration tool for flexible data import and export
- Easy-to-use Import Cockpit to create import mappings using a GUI

"More than just a PCM solution, hybris is a platform on which customers, partners, service and sales can exchange information globally. The flexible mapping and standardization of our processes in one system have enabled us to cut costs dramatically."

Alf Westphal, IT Manager at Demag Cranes AG

Fig. 8: CSV Import Wizard of the hMC

Fig. 9: Mass data handling at Watersone's

-Watersone's-
Data consolidation: The cost of inconsistent and outdated information.

Without the proper processes in place, the ongoing management and maintenance of unstructured content – whether product guides, product images, or customer reviews – costs organizations significant time and money. Not only is content typically scattered across multiple repositories, it is often saved in duplicate files, various languages, and available via both external and internal sources. Images, in particular, often exist in various formats for different print distribution channels, whether JPG, TIFF, EPS or PDF. Producing high-quality product content is often a top priority for organizations with significant resources devoted to the effort but those investments can be wasted when product content is not properly managed and results in product returns, lost marketing opportunities, and decreased customer trust, thus negatively impacting sales and market share.

The first step for successful data integration is to consolidate all relevant data across various formats from various databases and applications. Typically, almost half of an organization’s integration efforts are consumed by the creation of import and export interfaces, with data conversion handled manually on a case-by-case basis. To solve this problem, hybris provides a flexible and high-performing data import and export engine that integrates with multiple source systems, allows all data imports/exports to be managed from a central location, and rapidly increases the speed with which imports/exports are created.

hybris PCM also helps organizations maintain the integrity of product data and maximize storage capacity by eliminating duplicate data, enhancing incomplete data, and converting content formats as needed. By addressing content redundancies and discrepancies and aggregating all data, organizations gain additional value from the content and the confidence that product information is current and consistent. The hybris solution is available for a clustered environment, providing the utmost in scalability, reliability, performance, and availability.

Implementing a comprehensive PCM solution allows organizations to use a reliable and consistent data source to support current and future multichannel commerce and eCommerce strategies. A PCM solution provides the fundamental layer to manage and maintain data in any format – from unstructured product descriptions to highly complex technical specifications – and ensures that relevant product attributes are accurately classified and assigned.

Advantages of hybris

- Collect product content from multiple databases, applications, portals, and distributors
- Automatically group and categorize product data with associated attributes
- Identify duplicate and incomplete data
- Use validation rules to control data formats

"hybris’ state-of-the-art support for industry standards guarantees that integration partners benefit from the flexibility required for speedy and successful customer implementations."

Norman Baatz, Senior Project Manager, Arvato Logistics Services
Data structuring: The foundation for successful multichannel commerce.

Flexible content to support all sales and communication channels

With multiple sales and communications channels, volumes of structured and unstructured content, and content that spans many languages, organizations need an effective way to push accurate product data to their eCommerce sites and various channel outlets. Being able to create, maintain, and deliver up-to-date product content enables organizations to share required information with partners, customers, and distributors in a timely and educated fashion.

Eliminate manual categorization tasks

With hybris PCM, organizations benefit from multiple hierarchical and aggregated views of product and catalog data – for individual channels, customers, partners, or suppliers. In addition, content is easily grouped and categorized by attributes and easily manipulated through advanced search functionality and out-of-the-box wizards. Furthermore, hybris’ classification functionality enables organizations to bundle related products, create customized categories, and establish a hierarchical product structure.

Comprehensive catalog management search functionality

In addition to advanced classification functionality, hybris offers extensive catalog capabilities that allow organizations to easily add product categories, move categories within catalogs, remove categories, and edit product data. By creating a master catalog category structure, organizations can proactively group product attributes in order to simplify the management of product data independent of specific product catalogs or product definitions. For product data that changes frequently, content can be adjusted through the classification category. Through the creation of new, structured data, business users can utilize hybris PCM’s extensive search and navigation functionality to locate specific product data and attributes across millions of items.

“Emotion and information are key elements in our online communication strategy. Mammut has chosen hybris as it is the only platform providing a rich and consistent user experience throughout all the phases and channels in the buying cycle. We are active in many markets but still have limited resources, therefore we needed a convenient, efficient solution with strong internationalization capabilities.”

Christian Gisi, Manager Online Communication and PR at Mammut
Advantages of hybris

- Deliver personalized product overviews
- Involve all content contributors to deliver complete product picture
- Enable customers to view dynamic and media-rich content on any device
- Integrated DAM allows users to edit, manage, and maintain digital assets in one place

"We are able to use media from all Sika offices worldwide without any difficulty, ensuring a fast rollout of illustrated product information to our 70 international subsidiaries. Our marketing initiatives are much more efficient and effective and the quality of local marketing documentation has clearly increased."

Bruno Britt, Know How Manager at Sika

Data enhancement: A complete product picture.

To deliver product information that is compete, accurate, and useful, organizations must enhance existing content by filling in gaps and adding additional value. In order to communicate brand value and implement cross-channel campaigns, companies need to have a complete product picture across hundreds of pieces of content. The hybris PCM application enables organizations to maintain a more complete picture of product data even with many different data contributors.

hybris PCM enables organizations to deliver compelling, dynamic, personalized, and media-rich content to any audience on any device. They can deliver personalized product content that includes digital objects, text, and images and even user-generated content such as customer reviews, wish lists, and editorials. With integrated Digital Asset Management (DAM), thousands of media assets – e.g. images, graphics, videos, and presentations – can be centrally stored, structured, and controlled for allocated work groups. Assets can be easily converted into the desired output format and linked to specific products. The browser-based user interface makes it easy to administer media assets and product information. In addition, organizations can manage content dynamically and display content based on context such as user, user group, date, time, current product, category, etc. Furthermore, organizations can group content in containers and apply business rules – such as time or user, for example – to control which elements are presented to the user. hybris PCM offers advanced template options for pages, content slots, content containers, and content elements.

"We are able to use media from all Sika offices worldwide without any difficulty, ensuring a fast rollout of illustrated product information to our 70 international subsidiaries. Our marketing initiatives are much more efficient and effective and the quality of local marketing documentation has clearly increased."

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Fig. 12: Integrated editorial and social content
Data reuse: Deliver consistent product content across multiple channels.

Retailers today use a variety of channels – including physical stores, the web, catalogs, and more – to provide customers with a cross-channel shopping experience. To be effective, a multichannel strategy needs to be customer-centric and deliver a consistent experience regardless of the channel. To deliver a seamless customer experience across multiple channels and various touch points (e.g., websites, mobile devices, social networks, call centers, point of sale systems, etc.), organizations should focus not only on customer-facing “front end” activities but also on centrally managed product content. hybris PCM enables multichannel content creation, distribution and publication with appropriate workflows for content production, processing, and publication.

hybris PCM enables organizations to streamline communication processes and speed time to market. Choosing hybris gives organizations an advantage by enabling them to easily prepare and export data to online and offline channels. Product information across multiple versions is easily managed and information is only published after final approval.

hybris also allows organizations to publish online catalogs which can be integrated into websites and mobile devices, sent to portals and distributors, or exported to ERP systems. The hybris PCM system can deliver descriptive product content to a catalog management solution where products are grouped and managed for specific target markets.

Data exchange interface standards such as BMEcat and OCI allow for the seamless export of electronic catalogs, making hybris PCM management well-suited for company websites. Unstructured content and media objects can be linked with other business objects such as customers or products. An eCommerce hybris solution manages the ordering process and the online presentation of dynamic content.

Consistent and value-added data delivers cost savings in the print channel as well. Manual data maintenance, tedious content creation processes, and frequent correction cycles are replaced by seamless management and on-the-fly content creation.

Fig. 13: hybris multichannel solution overview

How to achieve multichannel nirvana: collect data from all internal and external sources, involve all information contributors, and integrate information delivery through online and offline channels

Deliver consistent and enhanced product content

Automatically manage and create print publications

Advantages of hybris

- Send consistent product content to multiple online and offline channels
- Export information to ERP systems, portals, and distributors
- Support of BMEcat and OCI for electronic catalog interchange
- Deliver complete product views enhanced with unstructured content to all channels

Arnaud Chauvot, Global Internet Manager at Victorinox
Reusable templates can be applied to generate structured documents – such as price and product lists, offers, and manuals in PDF – at the click of a button (Web-to-Print). Product catalogs, brochures, and flyers with more sophisticated layout can be created by the hybris Print application and exported for detailed layout in Adobe InDesign or Quark XPress. Database publishing allows enterprises to use definable templates and populate them with consistent data from the database. Because print documents are synchronized with the central source of product information, they are always consistent and up-to-date. Organizations can run automated reports about information that has been combined from multiple data sources. hybris PCM supports report building tools such as Crystal Reports, BIRT, JasperReports and others. These reports allow users to graphically design data connections and report layouts. Using hybris JDBC, users can access, select, and link tables from a wide variety of data sources, including Microsoft Excel, Oracle databases, Business Objects Enterprise business views, and local file system information. hybris provides security capabilities in the Web services architecture, such as identifying security loopholes, providing encryption functionality, and preventing unauthorized individuals from reading or changing content. Administrators set access rights to specify at a granular level which types of attributes a user may see or edit. This ensures that Web services-based transactions and processes are secure, reliable, and available to service customers. hybris offers advanced security technologies such as authentication, authorization, message-level security, single sign-on, identity management, and encryption of the most sensitive data.

"As the world’s largest specialist provider of PCM solutions, hybris offers complete functionality for efficient and consistent content management. The standard integration with multiple output channels and the associated cost savings are the main reasons why more and more companies are choosing our solutions."

Ariel Luedi, CEO at hybris

Advantages of hybris

- Manage consistent and enhanced content for cost savings in the print channel
- Create product catalogs and PDF documents on the fly
- Run automated reports with report builders such as Crystal Reports, BIRT, and JasperReports
- Transparent en- or decryption of data between the database and application server
Always the right fit.

hybris sets standards in terms of platform support. Our solutions offer maximum compatibility with various software environments. In addition to the current environments offered by leading software manufacturers, we also support lower-cost, open source alternatives.

**hybris supports:**

**Operating systems**
- Windows Server 2003 / 2008 / 2008 R2
- Windows XP, Vista, 7
- Mac OS X 10.4, 10.5
- RedHat Linux (typo)
- Suse Linux Enterprise 10-11
- Sun Solaris 10
- HP-UX 11.3

**Virtualization/Cloud**
- Amazon EC2
- VMware ESXi 4
- Microsoft HyperV

**DTP programs**
- InDesign CS3, CS4
- InDesign Server CS3, CS4

**Application servers**
- Oracle Weblogic 10.3
- WebSphere 7
- Tomcat 6
- SpringSource tcServer

**Databases**
- MySQL 5.1
- Oracle 10g, 11g
- MS SQL Server 2005, 2008

**Java version**
- Java SE 6.0
- IBM JRE 6
- Oracle JRockit

**IDEs**
- Eclipse (recommended)
- IntelliJ

Further reading:

1 Maximizing eCommerce Content To Drive Sales by Brian Walker, Forrester Research, Inc., May 5, 2008