



SAP S/4 HANA, ECC and R/3 & Shopware as a future- proof eCommerce solution

The off the shelf native SAP connector for your ERP and Shopware eCommerce website delivers you a future-proof solution to run your digital commerce with your SAP as a leading platform.

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Why our solution

Since digitalization is changing the world exponentially, many organizations struggle with the challenges of integrating the increasing number of applications.

Digitalization

The overload of data from different systems like ERP, WMS, (e)POS, CRM, Help Desk, Marketing Automation and eCommerce platforms that needs to be connected, makes it hard to organize and seamlessly integrate all software solutions. Purchases are made through multiple digital channels and impact inventory, production, balance and operations. We store finance, accounts, human resources, manufacturing and customer data from every touch point into many software solutions. That's where data silo's are silently being created.

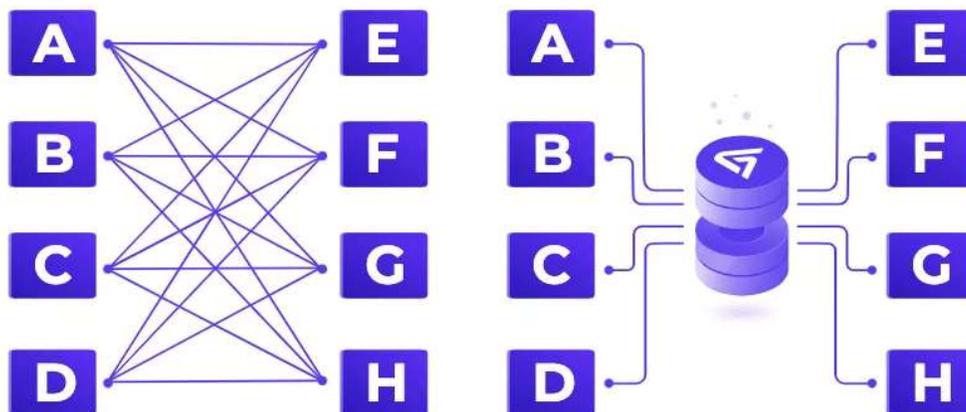
Exporting and transferring data manually is time consuming. Creating connections by several partners, with custom code, creates a complex tangled IT landscape, which is hard to maintain and makes the interchangeability of software products nearly impossible. To have all your data available for analysis of the ultimate customer journey experience and to make sure you are ready for future AI and Machine Learning solutions, you require an integration strategy.

Native SAP Connector

Integrating the ERP with Shopware and synchronizing all data streams is a solution that addresses all the aforementioned issues. Shopware will then be able to drive on correct data, the customer will receive the correct information and the ERP will still be your central place of logic, where updates from inventory, logistics and financials are organized.

The SAP S/4 HANA, ECC and R/3 Connector is a solution that will provide a real time connection between your Shopware and your SAP environment. The eCommerce data viewed by customers on your website is up to date and accurate. The data is being stored and collected in real time with the ERP.

This expert white paper is designed to give you an actionable and practical overview of how the SAP S/4 HANA, ECC and R/3 connector adds value for your organization and how our integration interface can truly help you organization your integrations.



About the connector

SAP S/4 HANA, ECC and R/3

The SAP ERP Connector is a universal communication interface that synchronizes and updates any information between both systems in real time. No matter from which sales or communication channel an update is coming from, the connector will immediately adopt the information throughout all touch points.

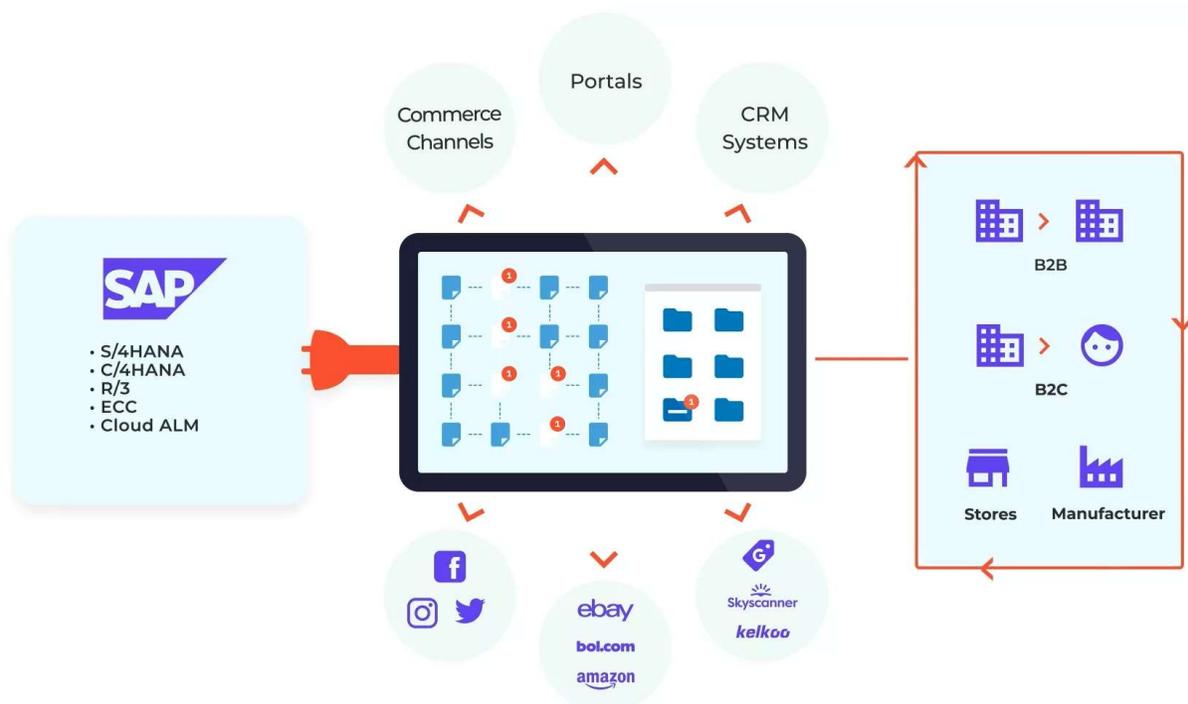
Through integrating the ERP with the eCommerce website, companies can use the strength and functionalities of both systems while enhancing efficiency.

As a eCommerce website owner, you have to deal with a lot of data. Not only your customer data is extremely valuable, but also your stock data, price data and simply every piece of data you collect. This data is most likely stored in your SAP ERP system.

So how do you make the best out of this data in order to optimize your eCommerce website to the fullest? Or, how do you connect your data in your ERP system with your eCommerce website?

With the help of the SAP Connector, you can show - for example - your real time stock positions of a certain product in your website. Next to that, when you update the prices in your ERP system for a specific customer, this will also be updated in your website automatically.

Because of the SAP Connector, you will work faster, more accurate and your data will always be up-to-date. This is because the connector prevents that you need to update your data twice. Normally you have to change your data in your ERP and in your website, but the connector does this for you.



IT Landscape

Native SAP connector

The software is been delivered as a deployable package and can be installed by us, your IT department, or your SAP partner into your application. The software will connect most of the data automatically and will deliver some specific screens to be able to select which customers are allowed to have a eCommerce account and to configure the general settings and do some specific data mappings.

Shopware Modules

For Shopware we offer some specific modules, which can be installed in Shopware and which make sure that real time data from the web services are being handled in Shopware.

Integration Interface

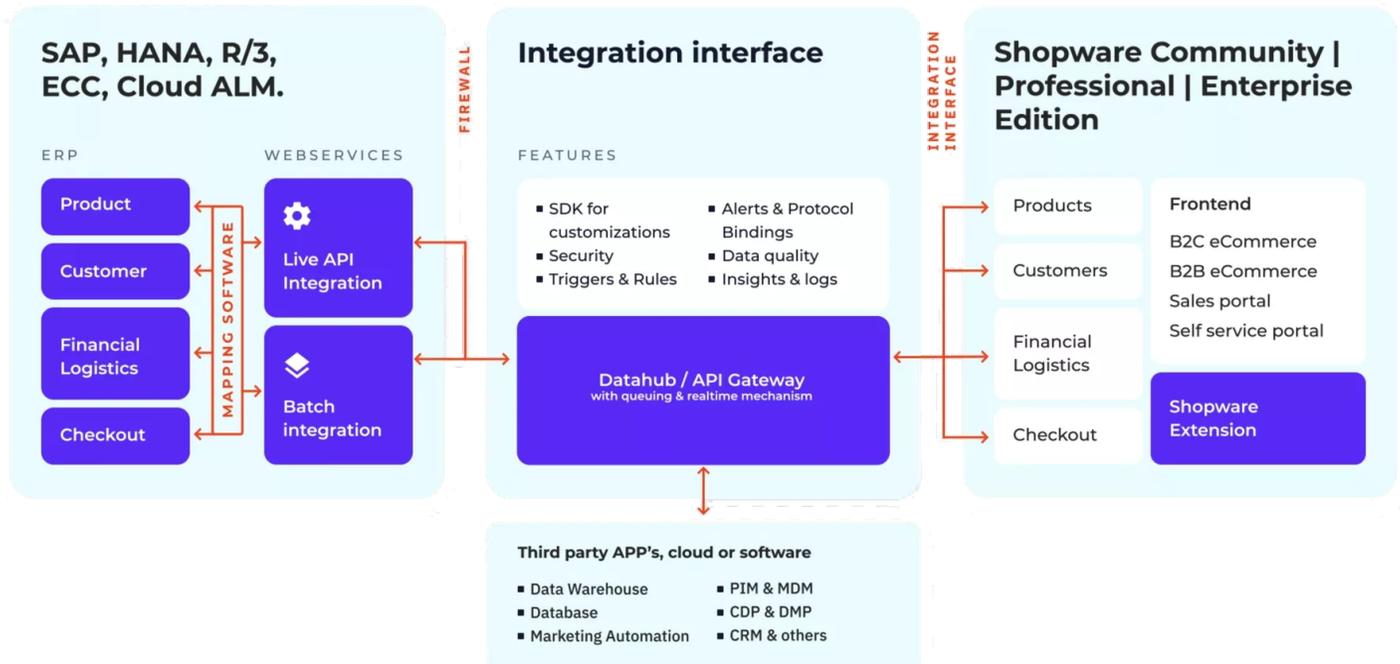
Adding the integration interface allows you to adjust the data for better data quality, to combine the data to other data sources or to send the data to third party software applications such as your PIM, CRM, data warehouse or Marketing Automation platform. Our integration interface has a template to connect all the data in a correct manner to Shopware.

Available for

The SAP Shopware connector is available for:

- S/4 HANA
- ECC (starting at version 6)
- R/3

Integration “Overview mapping logic”



Architectural overview

22 Interfaces off the shelf

Our fully two-way integration connects the data entities (see below). These are configured through the delivery interface which allows you to configure and map these objects to the correct ERP. The connector is plug & play and contains more the 22 documented interfaces.

Real time integration

Real time calls are being made for customer specific prices, stock, handling and transport costs, but also for data such as order discounts, tier prices, tax, delivery times and routes and customer specific payment methods. Real time calls are also setup for deliveries, quotes, orders and invoices. This makes sure your ERP is leading as a data source and it's always shows the correct information avoiding data issues

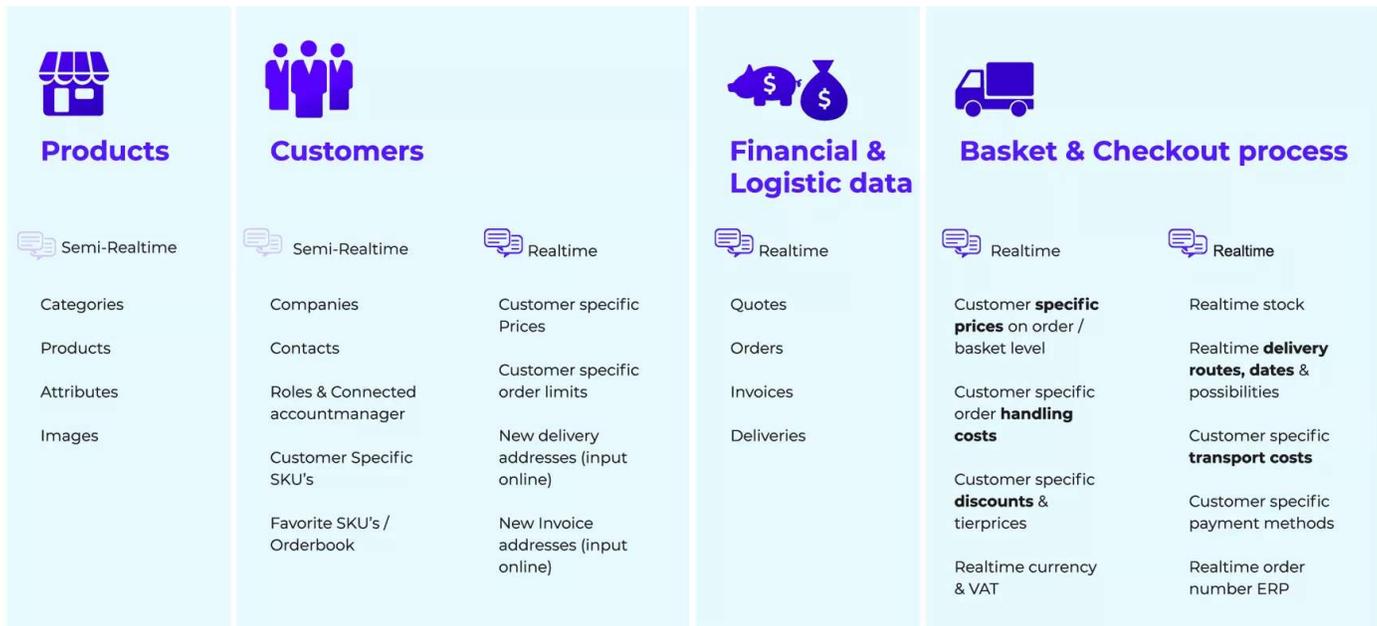
2-way synchronization available for B2B and B2C

In the balancing act of giving eCommerce the data it needs, while also reducing the impact this may have on your ERP performance, is where we define what data comes over from a live lookup, versus from a batch lookup.

Batch integration

In batch mode scheduled tasks are set, which can look for changes, since the last scheduled lookup, this would be for data that doesn't change that frequently, like product and customer information.

Integration “Overview mapping logic”



2-Way integration



Function overview

Technical information Native connector

The SAP Connector is delivered for a sandbox and production version. This clever piece of ABAP technology delivers a powerful real time connection between your SAP S/4 HANA, ECC or R/3 system and the eCommerce platform:

- Using RemoteFunctionCalls and standard BAPI's, SAP transactions will be triggered and data will be delivered;
- The SAP connector will be installed on the SAP backend system via a standard transport of an ABAP stack
- The data between the website and SAP basically is exchanged in XML format.
- Always up-to-date and 100% accurate data
- Rapid implementation: install, configure and go
- Enterprise level performance and data control

Works in many scenarios

By installing some modules in your eCommerce website and a transport in SAP, your website and ERP system will be able to communicate and operate as a whole in real time. The SAP S/4 HANA, ECC and R/3 Connector is designed to take advantage of the strengths from both systems. While the frontend webshop, such as Shopware, takes responsibility for the user interface experience, marketing and campaigns. The SAP ERP system takes care of the product information this includes: product information, prices, stock levels, customer data, orders, quotes and more. Thanks to the SAP S/4 HANA, ECC and R/3 connector your website will manage your data from one central place.

Shopware modules delivered

The following Shopware modules are delivered. They are built by a specialized expert partner. The modules are interacting with the SAP web services which are available within the native SAP connector.

Price and Stock information

Retrieve customer specific price and stock information taking into account all ERP registered agreements.

Supports B2B, D2C and B2C

All features are developed to support Business to Business. Direct to Consumer and Business to Consumer eCommerce.

Quote handling

Manage quotes from within your front end

Invoice handling

Manage invoices from within your front end

Customer Management

Import customers and manage them from within your front end

Delivery dates

Retrieve available dates for delivery of the products

Order simulation

Simulate the placement of an order during checkout to validate, price, stock and delivery data

Product Management

Import all product data including attributes, categories and personal favorite lists

Order handling

Manage and create new orders including overviews

Payment Service Provider handling

Handle payments of the products

Contact Management

Create new contact from within your front end

Mapping overview

B2C mapping

Products

Products, Categories and structure, Attributes, Assets (images and files) and B2C catalog prices

Customers

Customers are connected to one B2C company. Delivery addresses is created in real time, so that the order creating process is possible.

WebOrders to SAP

Orders from webshop are being send to SAP. The order number from SAP is presented real time in webshop to customer.

Inventory (batched and real time)

The inventory (stock) is send to the webshop with catalog. A web service to present the stock level real time is available.

Price

A real time call to ask the latest B2C price is available

Data routes : 8 data routes required

Products, Attributes, Categories, Assets, Customer addresses, Web orders, real time stock & price.

Mapping for B2B (+ B2C mapping)

Companies, Customers, Contacts and related account managers

These are being connected to your eCommerce. The status of payment is also being connected.

B2B prices for customer specific prices

Real time web service to present B2B Prices

Checkout with order simulate from SAP

Real time prices from the web service order simulate present you the right tax, order discounts, tier prices, currency. The payment of each order is also being send to SAP.

Delivery route, dates, times and transport costs from SAP

A web service can send the possible delivery times and costs for each specific customer.

Quotes, Orders, Deliveries, Invoices

All SAP quotes, orders, deliveries and invoices are being presented in Shopware and can be searched by customers.

Data routes : 22 data routes required

Business case

Saving costs over 75%

Our solution delivers 22 web services as a plug & play solution for your ERP and eCommerce platform.

Example of a similar integration, being done manually

1. SAP web services implementation

When a SAP consultant should create and develop all of these 22 web services, he will spend approximately 3 days per web service. This will result in a total of around 66 days to deliver the same result.

The total costs will be around 66 days x daily rate of 1.600,- EUR = 105.600 EUR (± 125,000 USD)

2. ECommerce implementation

The digital agency or system integrator needs around 3 days for each web service of the ERP to map it to the eCommerce environment. They will require time to develop all the Shopware modules, which are able to handle both batch lookup and real time data.

The total cost of mapping will be around 66 days x daily rate of 960,- EUR = 63.360 EUR (± 75,000 USD)

The total cost of developing high quality Shopware modules will be around € 50.000 (± 60,000 USD)

3. Error costs & long time to market

Building such a solution in a custom code project will increase the time to market and comes with more uncertainties. It will be very challenging to reach initial planning because of the complexity and large scope of the project, which usually comes with miscommunications and misunderstandings.

The total cost of ownership will be hard to calculate and most likely very costly.

The approximate cost of a custom made solution will be around 220.000 EUR (± 260,000 USD)

22 web services are delivered:

Feature service Push	Communication protocol
PushAttributes	File based
PushCategories	File based
PushCustomers	File based
PushMyProducts	File based
PushProducts	File based

Feature service Real time	Communication protocol
SetContact	SOAP 1.2
SetCustomers	SOAP 1.2
GetCustomerAddresses	SOAP 1.2
SetCustomerAddresses	SOAP 1.2
GetDelivery	SOAP 1.2
GetDeliveryOverview	SOAP 1.2
GetInvoice	SOAP 1.2
GetInvoiceOverview	SOAP 1.2
GetOrder	SOAP 1.2
SetOrder	SOAP 1.2
GetOrderOverview	SOAP 1.2
SetOrderPayment	SOAP 1.2
GetOrderSimulation	SOAP 1.2
GetPriceAndStock	SOAP 1.2
GetQuote	SOAP 1.2
GetQuoteOverview	SOAP 1.2

Monitoring cockpit

General

The SAP S/4 HANA, ECC and R/3 cockpit 'tab general' shows the central cockpit with all the web service calls. You will see the real time requests which are taking place in the last seconds, but also the scheduled tasks if they are triggered by the 'schedule'.

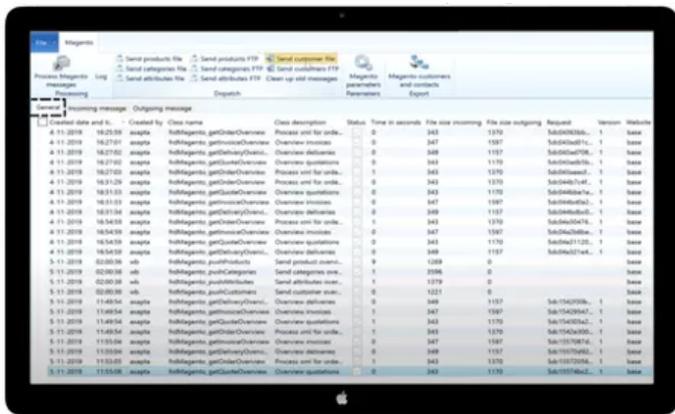
Incoming Message

When clicking on a specific web service, you can go to the tab "incoming message". You then see the details of the incoming web services call, which the eCommerce software solution Shopware send to the connector. These are all the real time 2-way calls as you can see in the overview. For example the eCommerce website did send a web service message, which requested the price for a specific customer for the products which were shown in the category.

In this tab you see the JSON/XML incoming request to SAP. This will help you to understand the integration and really helps the SAP consultants to understand what is done (or should be done, in case of custom wishes).

Outgoing message

When clicking on the tab "outgoing message" you can see what kind of data the SAP connector is sending to Shopware. The software responded with a real time web service call where data is shown as customer specific price, including the tiers, the gross sales and price unit and real time stock information.



Showcases

3 companies who tackled their business challenges using the ERP Connector



Every business is different and the needs and challenges vary from company to company. Hereunder we present three companies that integrated their ERP and eCommerce by using the ERP connector and how this helped them to increase efficiency and smoothen business processes.

Connector

- Powerful real time 2-way synchronization
- Customization of Connector code is possible
- Always up-to-date and 100% accurate data
- A page loading time of fewer than 1.2 seconds
- 3rd party connections, PIM, MarTech and other software solutions

[PostNL - A connection between four warehouses and different transactional platforms](#)

A connection between four warehouses and different transactional platforms. PostNL is a leading international player in the field of B2C and B2B deliveries and fulfillment. They are operating a multichannel business model. The online shop features free and paid products and is connected to multiple warehouses which are backed by a headless, fully responsive platform fit to tackle high traffic and more than 25k orders every day. The fulfillment is done via the SAP FF system. The transactional platform is not only available on the new integrated PostNL website, but it's also available to integrate on external platforms to make part of the eCommerce experience available on e.g. media channels or marketplaces.



Unipart - Making all inventory data accessible for a large network of partners

Based on the versatile possibilities of the eCommerce platform, Unipart has created an online platform with a range of bespoke functionalities: Car owners can book appointments simply by entering their license plate number and postal code and can then select a garage nearby their desired location. They serve both the B2B & B2C market and combine three different kinds of webshops, each of them with their own purposes. Integrating the ERP system with the e-commerce platforms enabled Unipart to make their inventory, customer data, pricing and PIM data accessible in real time for their entire network of partnering garages. Thereby, there are fewer phone calls, less waste of time and a lower error margin. This solution has improved the shopping and search experience for both business and private customers.



Why Alumio

We are Alumio, a fast, multi-point, and modern integration platform as a service, built to elastically address both real time application and batch oriented data integration requirements. With our data driven and interactive approach, we help our clients to succeed in their digital transformation and achieve growth with a smart and future-proof business model.

At Alumio we already have all the experience and knowledge to guarantee a complete and powerful connection between your ERP system and eCommerce website within a short time to market. This can provide a real competitive advantage for your company. Your time to market will abbreviate substantially. With our rapid and professional service, we offer reliability and stability to our customers. This end-to-end approach makes our clients stay ahead of the competition in the field of eCommerce.

Do you have further questions or would you like to get in touch with one of our experts? You can give us a call at: +31 (0)50 211 53 71 or learn more about our solutions on:

www.alumio.com



“Multichannel, fully automatized and a loading time of less than one second. We have completely shifted to an online organization thanks to the SAP Connector.”

- PostNL



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