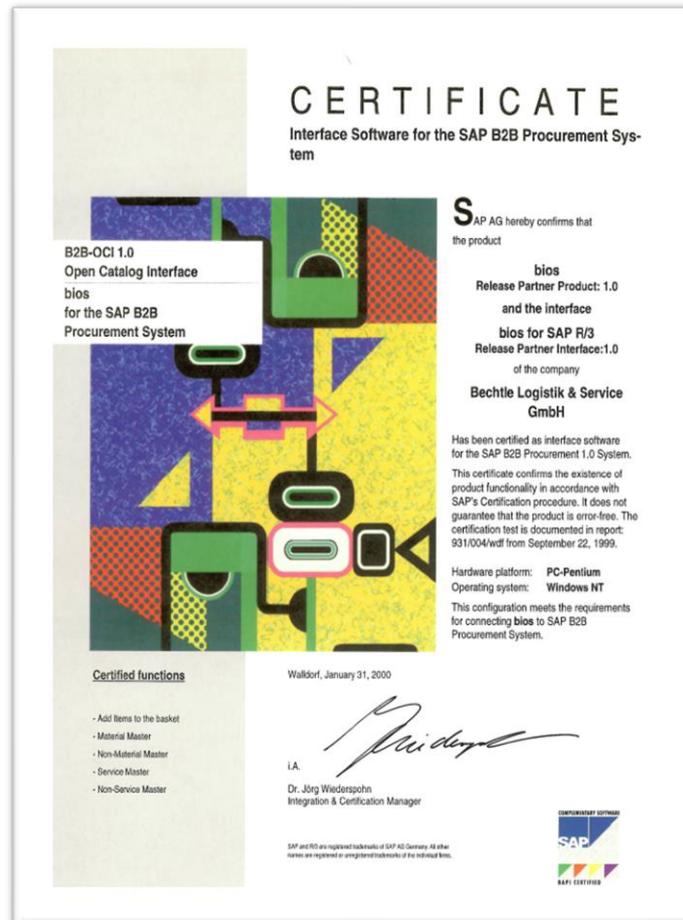




# **Integrating Bechtle's E-procurement Solution with ERP Systems and Market Places**

## Introduction

Bechtle first launched its e-commerce and e-procurement business in 1995, and in 1999 was among the first companies in Germany to be SAP-certified for integrating procurement applications using SAP's PunchOut interface, OCI (Open Catalogue Interface).



25 years later, over half of our customers tap into our e-procurement solutions, with many connecting via industry-standard catalogue interfaces. A complete end-to-end procurement solution integrating bechtle.com and customer applications can typically be implemented in a matter of days.

**The following process description can be applied to both SAP and other ERP systems.**

# 1 Basics

## 1.1 What's it about?

Our goal is a highly customisable online procurement system designed to unlock dramatic time and cost savings by streamlining procurement processes and maximising the use of framework agreements across organisations, with over 50,000 IT products from more than 300 manufacturers available online.

Purchasers can pick from a tailored and pre-approved selection which may include anything from printer supplies to software licences to custom-configured workstations. Authorised users shop required items with minimal clicks and at up-to-date prices in our web portal or directly in your own ERP or market place system. At the same time, procurement managers have complete visibility into all procurement activities through electronic invoices, actionable statistics and custom reports.

## 1.2 What is OCI?

The Open Catalog Interface (OCI) is a standard access point to transfer current catalogue data between ERP systems such as SAP / SRM / S4 HANA and supplier systems using common internet protocols. It was originally developed by SAP to facilitate procurement from third-party web catalogues directly inside its ERP environment. This allows users to browse rich online catalogues such as Bechtle's B2B platform to research products and eventually place an order within the customer's SAP or other ERP or market place system in compliance with the customer's procurement policies. The process of a customer system accessing an online catalogue is often referred to as "PunchOut". Bechtle supports all official OCI versions.

## 1.3 Static catalogues

Hosted catalogues are regularly synced to the customer system, giving purchasers a static snapshot of the Bechtle catalogue at the time of synchronisation. Catalogue data includes product information such as names, descriptions and prices, which are accessible to purchasers and other customer stakeholders within their own procurement solution. Hosted catalogues offer a baseline integration that still requires purchasers to regularly review and validate imported data. Catalogue data can be transferred using one of several common formats such as BMEcat, JSON or SAP Ariba's CIF.

## 1.4 PunchOut catalogue level 1

Bechtle's procurement platforms give users access to IT products and services with up-to-date descriptions and prices and a user experience that was designed from the ground up with modern purchasers in mind. Users can "punch out" of their own procurement system and connect to their exclusive Bechtle.com account via OCI or SAP Ariba's proprietary cXML format. Communication between Bechtle.com and the customer system is bidirectional, enabling granular control of customer-specific portfolios and purchasing conditions. Users can browse the connected catalogue within the Bechtle environment and add items to their shopping basket, which is then synced back to the customer's procurement system where they place the order subject to their own procurement protocol. This may include accounting, approval or any other customer-specific steps.

## 1.5 PunchOut catalogue level 2

The second level of PunchOut integration allows users to browse items directly within their own environment without the need to switch to an external website. This enables unified access to both static (i.e. downloaded) and external catalogues through a single procurement solution. However, users still have to punch out in order to add external catalogue items to the shopping basket.

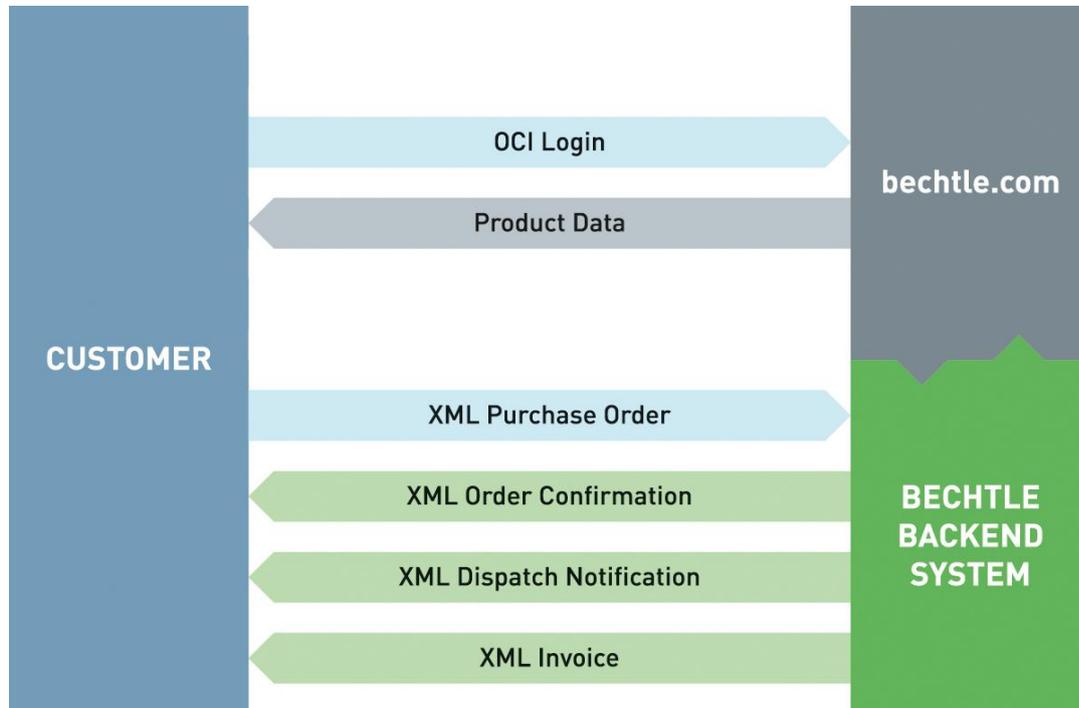
## 1.6 Benefits of integrated procurement

- **Fast access** to current product details.
- **Automatic handover** of product data to the customer system via PunchOut.
- **No manual data input** – Connected catalogues contain all required information.
- **No additional hardware** for data transfers.
- **Leverage existing workflows** to authorise and complete orders.
- **Granular control** of who can buy what with user-level permissions.
- **Minimal risk of human error** thanks to fully automated data exchange.

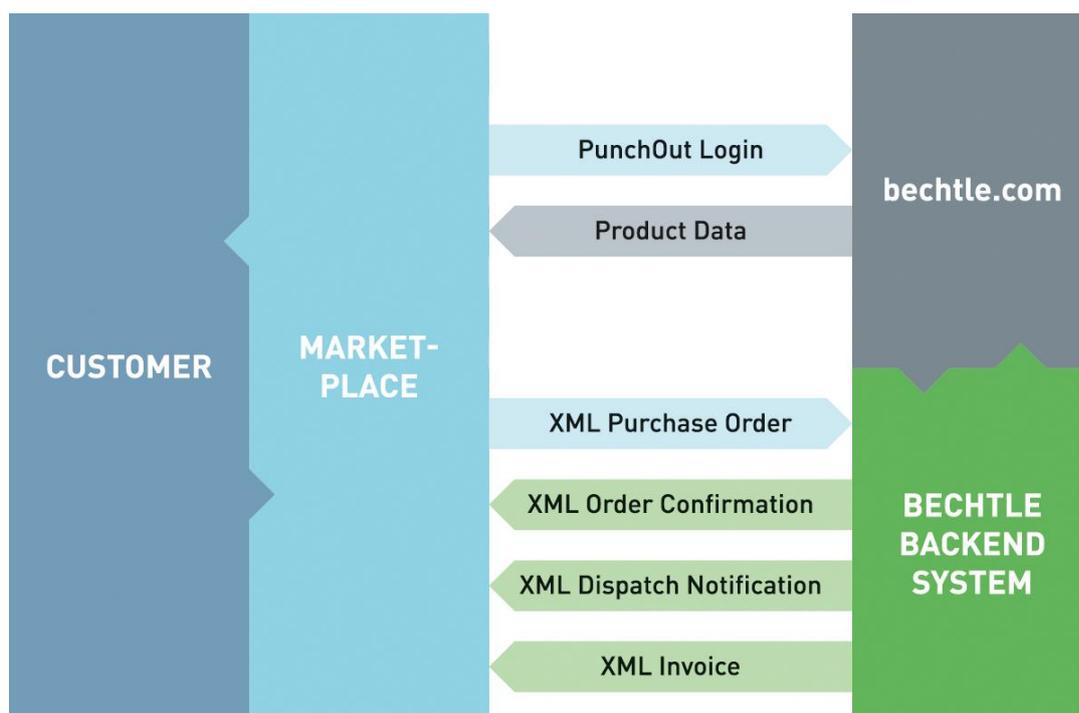
## 2 Example scenarios

Before implementing a PunchOut solution, we determine how the customer will access product data, define the XML format and interfaces for purchase orders and other data, and, if required, specify the parameters of electronic invoices.

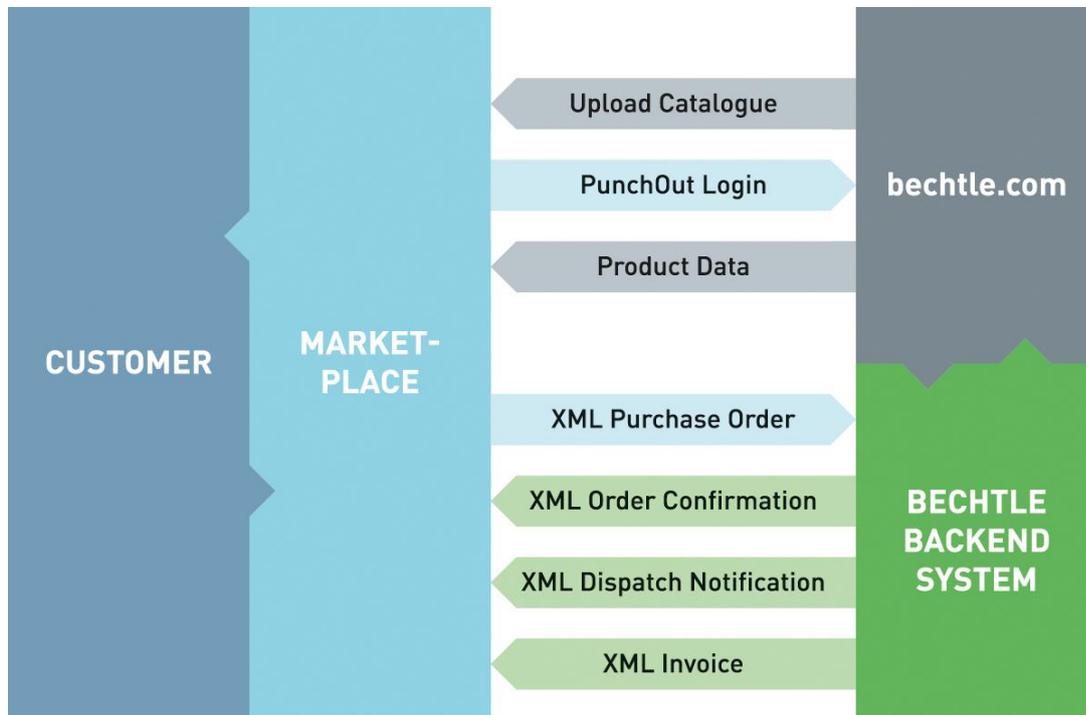
### 2.1 Connection to SAP via OCI



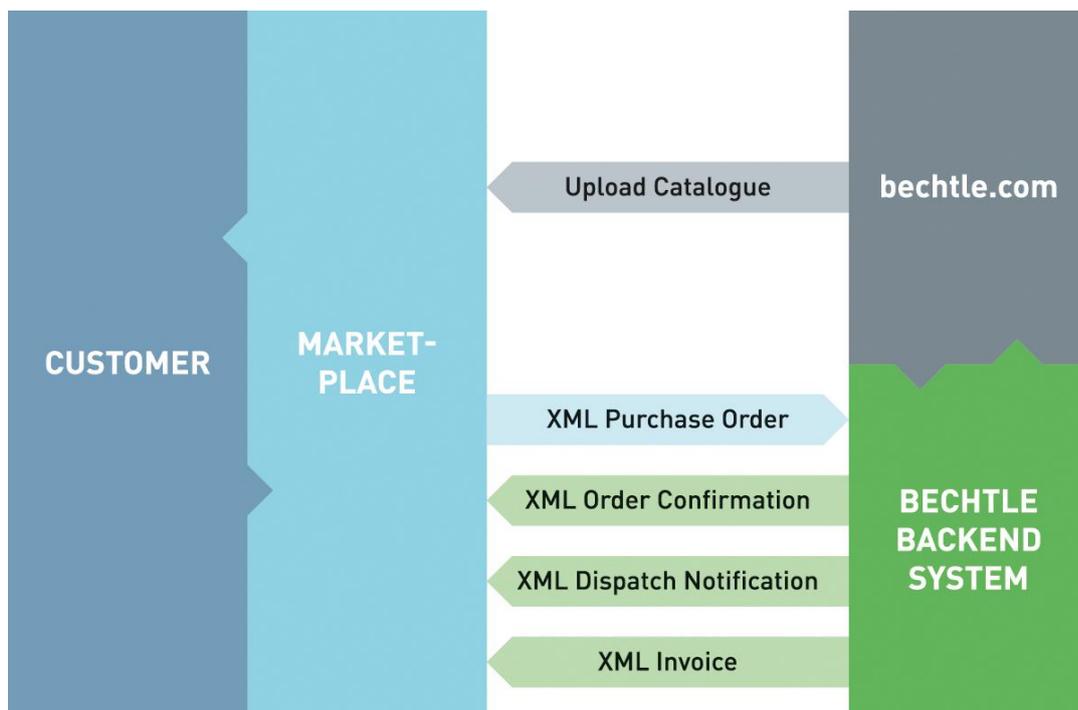
### 2.2 Connection to a market place – PunchOut level 1



### 2.3 Connection to a market place – PunchOut level 2



### 2.4 Connection to a market place – Hosted catalogue



### 3 Scenario: OCI configuration on SAP SRM / S4 HANA

Most ERP systems support OCI. This scenario illustrates the ERP-side configuration of an OCI connection using the example of SAP SRM. However, connecting to an external catalogue is very similar in virtually all other ERP systems.

#### 3.1 Connecting bechtle.com

The first step is to tell the ERP system how to connect to bechtle.com by configuring the following details:

- The product catalogue URL
- Additional parameters incl.
- User name
- Password
- Language
- Encoding
- Return URL (HOOK\_URL)

Access parameters are customisable and often include information on how to populate available OCI fields. They may contain static values or SAP system variables. By default, OCI supports the following parameters:

- OCI\_VERSION – The expected OCI version, e.g. 4.0.
- secureMode (true/false) – Determines whether data are transferred via https.
- BYPASS\_OUTB\_HANDLER – This parameter controls the use of an outbound handler service. The outbound handler places the product catalogue inside an iframe on a page, which may e.g. call back to SRM.
- BYPASS\_INB\_HANDLER – Similar to the outbound handler, the inbound handler ensures e.g. that return values from the external catalogue are properly encoded.

In addition, authorised users can also access bechtle.com as a stand-alone web application independent of the ERP system, e.g. to research products or pull statistics.

Granular user rights mean you can even allow specific users to place orders on the website and trigger the built-in authorisation workflow as required.

## 3.2 Additional OCI functions

### 3.2.1 Detailed product information

The function call parameter `DETAIL` combined with `PRODUCTID` can collect detailed product specifications from bechtle.com. It returns the data using the OCI format. This means users can view much more information that may not be defined in the OCI standard.

### 3.2.2 Advanced OCI functions

In addition to transferring portfolios, OCI 5.0 and later also support product searches and the synchronisation of master data. In these cases, bechtle.com returns data using the JSON format. Advanced functions supported by the OCI standard include:

- `VALIDATE` – Used to refresh product information, e.g. the price
- `BACKGROUND_SEARCH` – Enables term-based product searches across all OCI catalogues available in the SRM portal

This means that OCI allows customers to do away with the PunchOut process and instead use the external catalogue as a mere data source. However, this is rare in real-life customer scenarios.

## 3.3 Collecting the shopping basket

When a user has added all required products to the shopping basket, they simply have to click a button to send the relevant data to SAP SRM (the button label is customisable; by default, it is “Transfer Data”). As soon as all data have been successfully transferred, SAP SRM logs out of bechtle.com and the data is available for processing in the customer system. This means that any existing procurement processes such as order approval remain intact at the customer and are not disrupted through OCI-enhanced sourcing.

## 3.4 OCI return data (outbound)

By default, the following fields are transferred via OCI using an HTML form. These can be adapted to customer needs. For instance, it is possible to populate the field `NEW_ITEM-CUST_FIELD1` with a third-party product classification such as `eCI@ass` or `UNSPSC`.

### 3.4.1 Standard fields

<code>NEW_ITEM-DESCRIPTION</code>	Product name
<code>NEW_ITEM-QUANTITY</code>	Quantity
<code>NEW_ITEM-UNIT</code>	Unit – Bechtle only supports the unit PCE (pieces)
<code>NEW_ITEM-PRICE</code>	Unit price excluding VAT
<code>NEW_ITEM-CURRENCY</code>	Currency (EUR, etc.)
<code>NEW_ITEM-LEADTIME</code>	Lead time
<code>NEW_ITEM-VENDORMAT</code>	Bechtle no.
<code>NEW_ITEM-MANUFACTMAT</code>	Manufacturer ref. no.
<code>NEW_ITEM-LONGTEXT</code>	Product description

### 3.4.2 Optional fields

<code>NEW_ITEM-VENDOR</code>	Bechtle supplier no.
<code>NEW_ITEM-MATGROUP</code>	<code>eCI@ss</code> or <code>UNSPSC</code> product classification no.

### 3.4.3 Custom extensions (requires additional coding)

<code>NEW_ITEM-MATNR</code>	Customer product no. – if available in the catalogue database
<code>NEW_ITEM-CUST_FIELD1-5</code>	Five custom fields, e.g. VAT rate

### 3.5 Downstream customer processes

Once the Bechtle shopping basket has been synced to the customer ERP system, the data can be processed according to the customer's existing workflows, e.g. to approve the order, before it is eventually placed from the customer's back-end system. Bechtle does not have any influence on these external process steps.

## 4 Connecting bechtle.com to a market place

Bechtle maintains long-standing partnerships with more than 70 leading market places and business networks.

Depending on the technical standards supported by the respective platforms, we can provide catalogue data both in the form of static snapshots as well as via PunchOut connections complete with 100% paperless document streams.

An extract of our existing partnerships:

- SAP Business Network (formerly Ariba)
- Coupa
- Simple System
- Unite / Mercateo
- Jaggaer
- Onventis

## 5 Product and service classification systems

There are a number of classification systems that have been designed to catalogue products and services in ERP systems using a shared and unambiguous terminology across industries and organisations, covering over 50,000 product classes.

The most popular standards are:

- eCl@ss – Used primarily in Europe
- UNSPSC – Used primarily in the Americas

In addition to common sales, purchasing and accounting applications, these standards are particularly useful in cross-organisation process data management and engineering.



## 6 Transferring e-orders

Ideally, an order that is generated in the customer system is sent to the Bechtle B2B gateway via an XML gateway such as SAP XI/PI/PO or another EDI platform. Alternatively, orders may be transferred as e-mail attachments. Incoming data are verified and preprocessed in accordance with customer-specific parameters as they pass through the Bechtle gateway before they enter Bechtle's ERP system. They are then passed on to the Bechtle branch managing the account, which will, after a final automated due diligence check, process and fulfil the order.

### 6.1 Technical details

Bechtle can process e-orders submitted by customers with the following XML standard:

- SAP IDOCXML
- cXML
- open TRANS
- xCBL
- UBL 2.0

We are also able to accept EDIFACT D96A / D97A standard orders. However, this would significantly add to the project scale.

A custom XSLT is applied to incoming orders, converting the original XML into a Bechtle-specific target format. This means that we can accept a variety of data and readily adapt to changing customer needs. We recommend a secure transfer of order data to a web server via HTTPS POST, which supports HTTP Response Status 200 to confirm successful receipt of XML data, as well as HTTP Error Status notifications, e.g. in the case of invalid XML files or incorrect login credentials, to enable effective troubleshooting.

Bechtle also supports (S)FTP and AS2, as well as unencrypted transfers via e-mail attachments. However, the latter are not encouraged and are exclusive to specific scenarios where unsecured transfers may be necessary.

## 7 E-invoicing

Customers may choose to receive electronic invoices e.g. in XML format, which can be automatically processed in customer systems.

### 7.1 “XRechnung” invoices

“XRechnung” is a standardized format for the electronic transmission of invoice data between companies and public administrations in Germany. It is based on the international standard EN 16931 and the XML format. “XRechnung” enables a structured and machine-readable transmission of invoice data, which supports the automation of invoice processes. By using “XRechnung”, companies and authorities can exchange invoices more efficiently and without errors, which leads to a reduction in administrative effort and costs. The format contains all the necessary information in accordance with legal requirements and supports seamless integration into the existing IT systems of companies and authorities. “XRechnung” thus contributes to the promotion of digitalization and the modernization of business processes.

### 7.2 ZUGFeRD invoices

“ZUGFeRD” is a standardized data format for electronic invoice transmission that is based on the PDF/A-3 specification. It combines the advantages of a structured data format with the visual representation of an invoice in a PDF document. “ZUGFeRD” enables the integration of structured invoice data into the PDF document, which facilitates the automatic processing and further processing of invoices. Companies can use “ZUGFeRD” to send and receive invoices electronically, reducing manual processes and increasing efficiency. The format supports various business models and requirements and offers flexibility in the design and customization of invoice data. “ZUGFeRD” is used by many companies and public authorities in Germany to facilitate electronic invoice exchange and drive the digitalization of business processes.

### 7.3 XML invoices on market places

Based on the format of the provider

- It is generally advisable to postpone the integration of electronic invoices until all aspects of the underlying OCI/XML-based integration of purchase orders are confirmed to run smoothly in a live environment. We also advise that both parties must adhere to strict legal requirements governing electronic invoices.

## 8 Pre-integration questionnaire

Which ERP system / marketplace would you like to use for the connection to bechtle.com?

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**Is a Punch Out connection required?**

- OCI       cXML       nein

**Is a static catalog required?**

- BMEcat       JSON       CIF       CSV       nein

**What business documents are to be exchanged?**

- Bestellung       Lieferavis       Auftragsbestätigung  
 Rechnung       Gutschrift       SAP Gutschriftsanzeigeverfahren

**In which format should the business documents be exchanged?**

- SAP IDOCXML       open TRANS       UBL  
 cXML       xCBL       EDIFACT Version: \_\_\_\_\_

**How should the business documents be exchanged?**

- HTTPS       SFTP  
 E-Mail       AS2

**Do you use product and service classification systems?**

- eCI@ss       UNSPSC      Version: \_\_\_\_\_

**Who is the technical contact for the connection? (name, e-mail)**

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## Conclusion

Bechtel is your expert for optimised e-procurement based on detailed process analyses and internal policies. A pioneer in e-commerce, we have been designing e-procurement platforms since 1995, putting priority on seamless workflows to relieve employees from tedious tasks and make our customers' lives easier.