

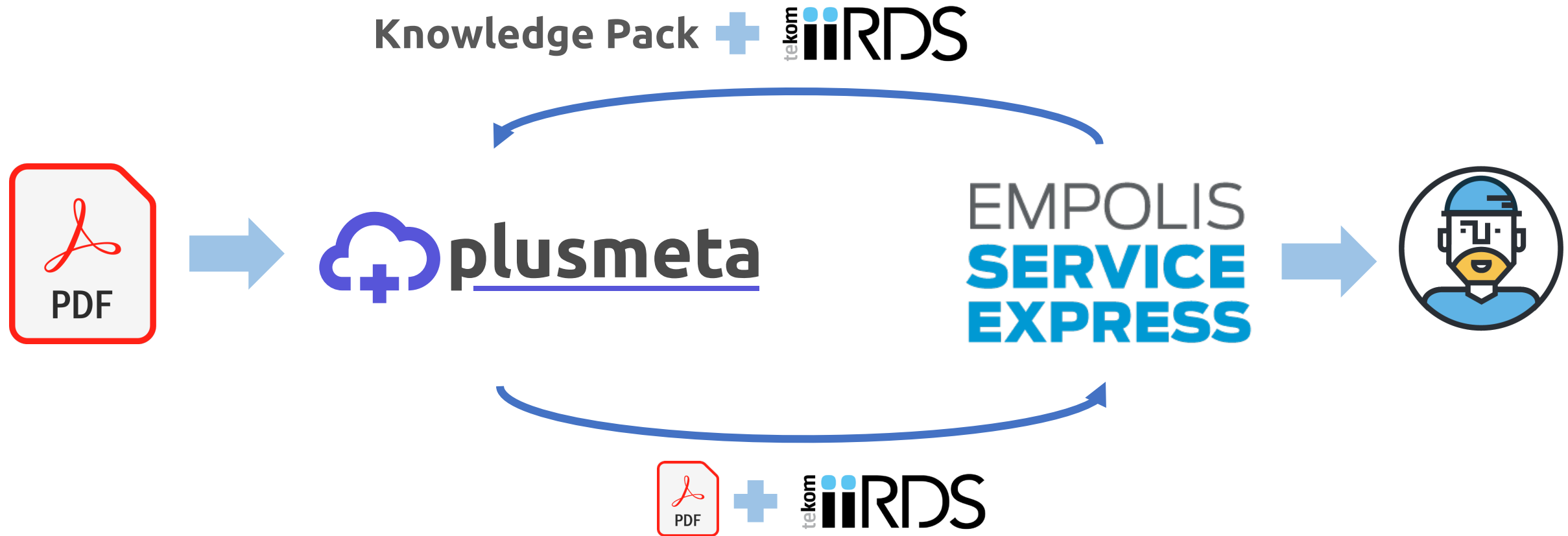
Best Practice Example



SmartFactory Industry 4.0: Integrating supplier documentation

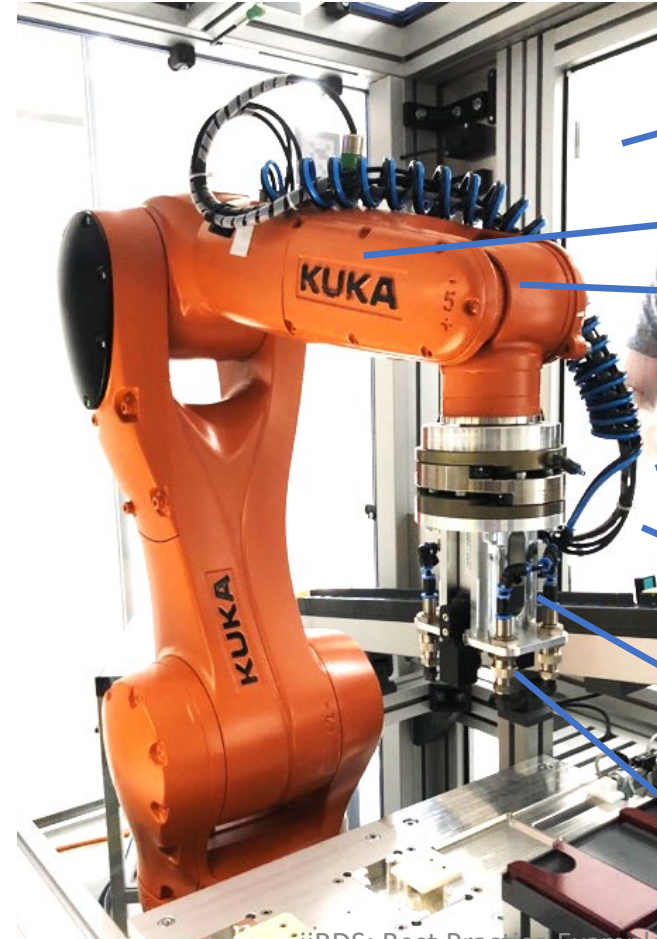
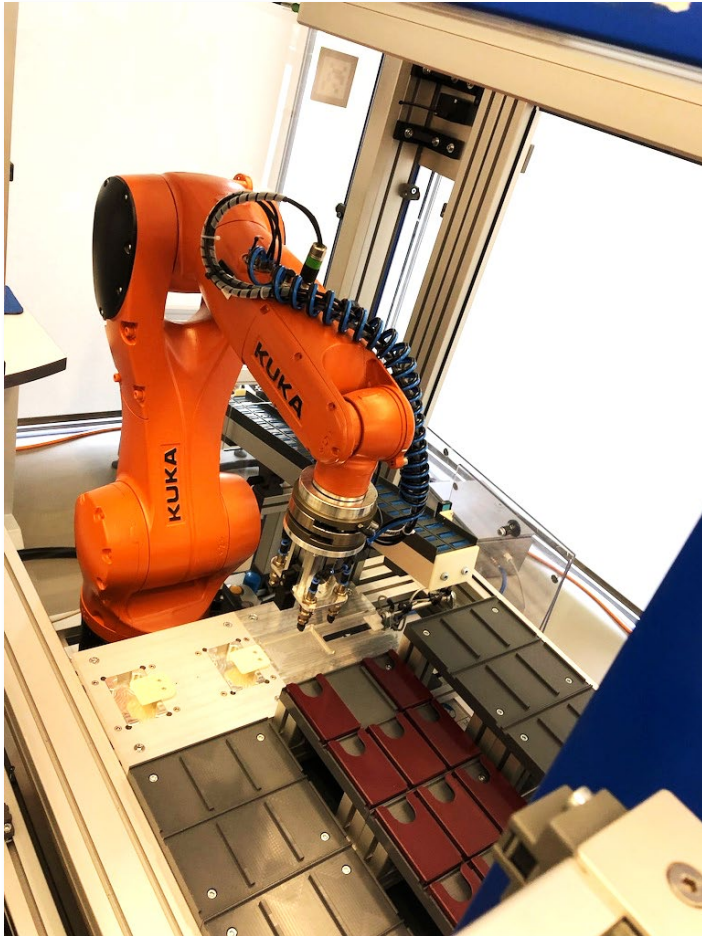
Process: Add supplier documentation to a content delivery portal with service information

- Problem:
 - Legacy PDF documents are excluded from modern metadata-driven information processes
- Solution:
 - Automatically enrich legacy PDFs with iiRDS metadata and make them available for users such as operators and field service engineers
 - Use a step-by-step workflow to add metadata to supplier documentation and create iiRDS packages in plusmeta
 - Share metadata vocabularies between the systems (plusmeta and EMPOLIS Service Express) via iiRDS based „Knowledge Packs“
 - Import supplier documentation via iiRDS into the content delivery portal EMPOLIS Service Express



SCENARIO: DOCUMENTATION OF A CUSTOMIZABLE PRODUCTION
SmartFactory Industry 4.0: Integrating supplier documentation

smartFactory^{KL}[®]



KUKA
industrial robot
AGILUS KR 6 R900 sixx

arm

central hand

SmartFactory
end effector

FESTO
Pneumatic system providing
compressed air

Bosch Rexroth
2 finger gripper
GSP-P-16

FESTO
vacuum gripper ESG and
Vacuum gripper valve ESH / ESS



- The plusmeta platform ensures that your data is ready for the future
- With the help of artificial intelligence, content is enriched with metadata and structures
- Via different step-by-step workflows many use cases can be implemented
- Plusmeta is fully compatible with iiRDS metadata
- Whether support, field service or end customer – with Service Express, you and your employees find the right solution step-by-step
- AI-based access to all relevant service information – no matter where it is located in the company
- Always the latest service information at hand, online and offline
- Easily capture and share new service knowledge
- Supports import of iiRDS packages

OPERATING PRINCIPLE

1. Add PDF document

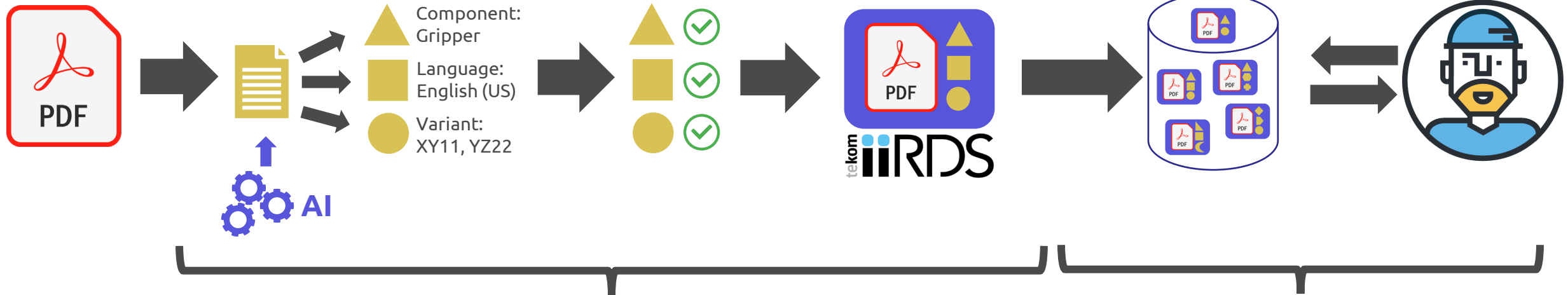
2. Extract metadata

3. Assign and approve metadata

4. Generate iiRDS package

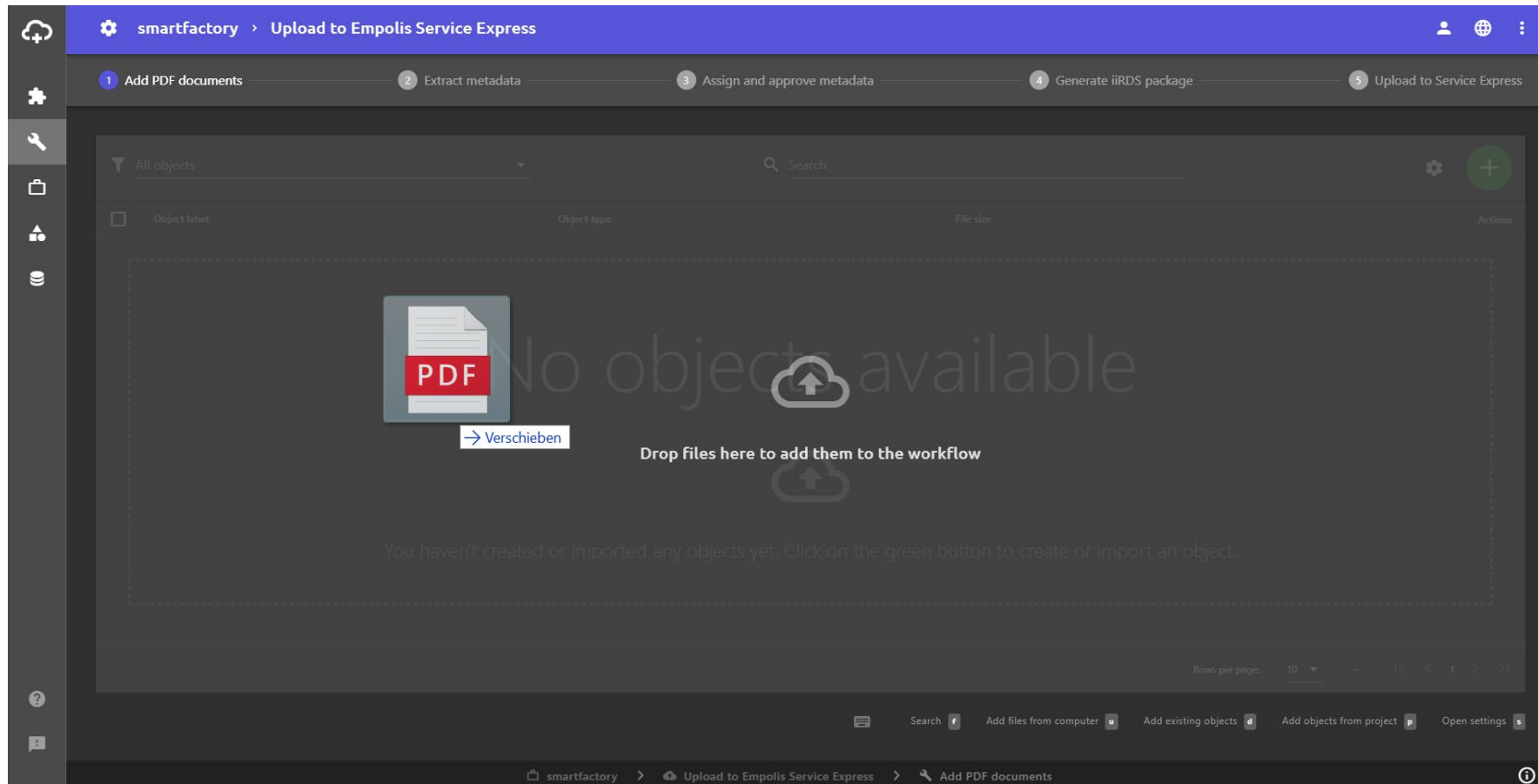
5. Upload to Service Express

6. Targeted access to information



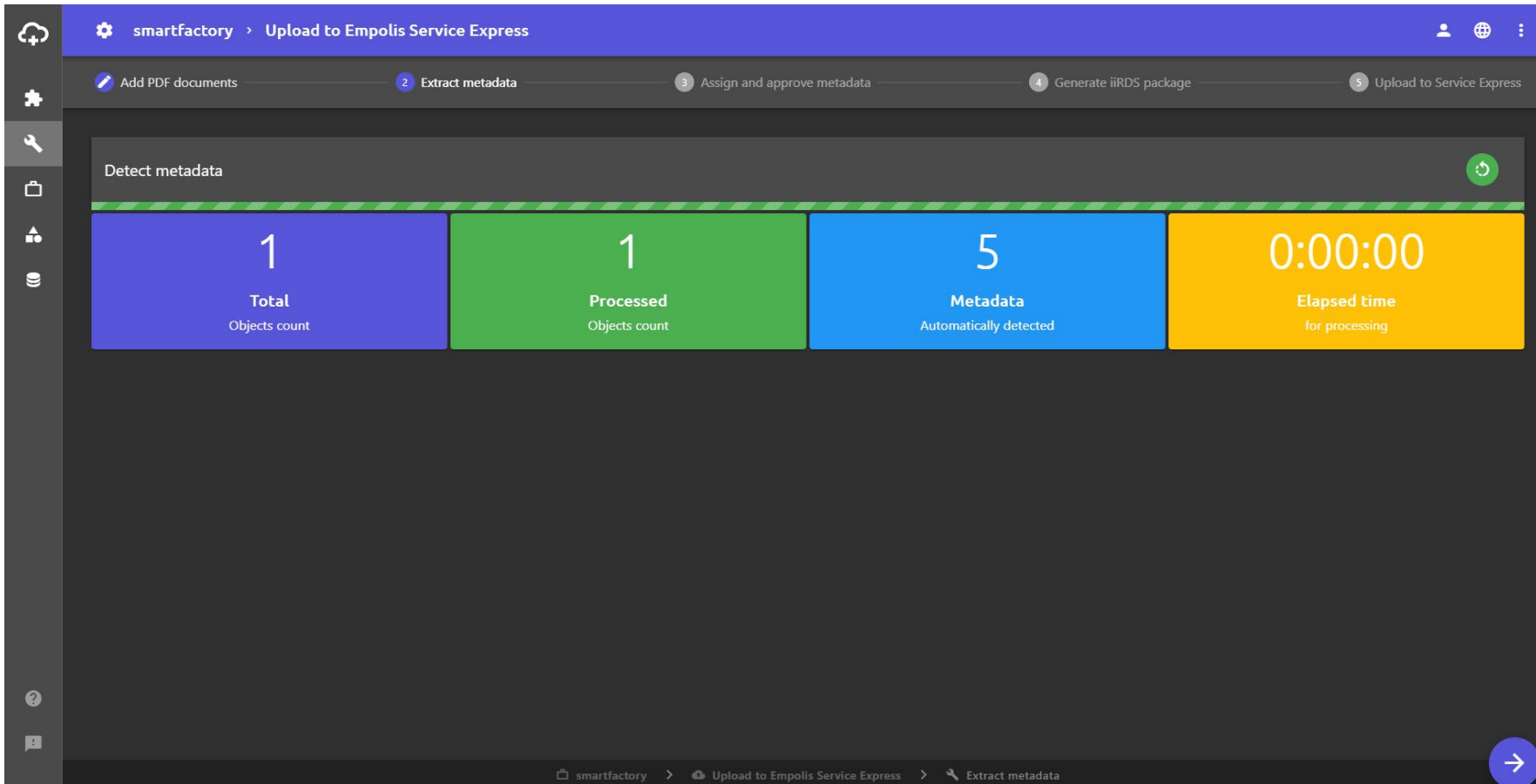
STEP 1

- After the workflow has been started, the supplier documentation must be uploaded



STEP 2

-  plusmeta analyses the document and recognizes metadata by using AI mechanisms



The screenshot displays a web application interface for 'smartfactory' with the title 'Upload to Empolis Service Express'. A progress bar at the top shows five steps: 1. Add PDF documents, 2. Extract metadata (active), 3. Assign and approve metadata, 4. Generate iiRDS package, and 5. Upload to Service Express. The main content area is titled 'Detect metadata' and features a green refresh button. Below this, four colored boxes provide summary statistics:

Category	Value
Total Objects count	1
Processed Objects count	1
Metadata Automatically detected	5
Elapsed time for processing	0:00:00

The interface includes a left sidebar with navigation icons and a bottom breadcrumb trail: 'smartfactory > Upload to Empolis Service Express > Extract metadata'. A blue arrow button is located in the bottom right corner.

STEP 3

- The metadata found are now approved and corrected or extended if necessary

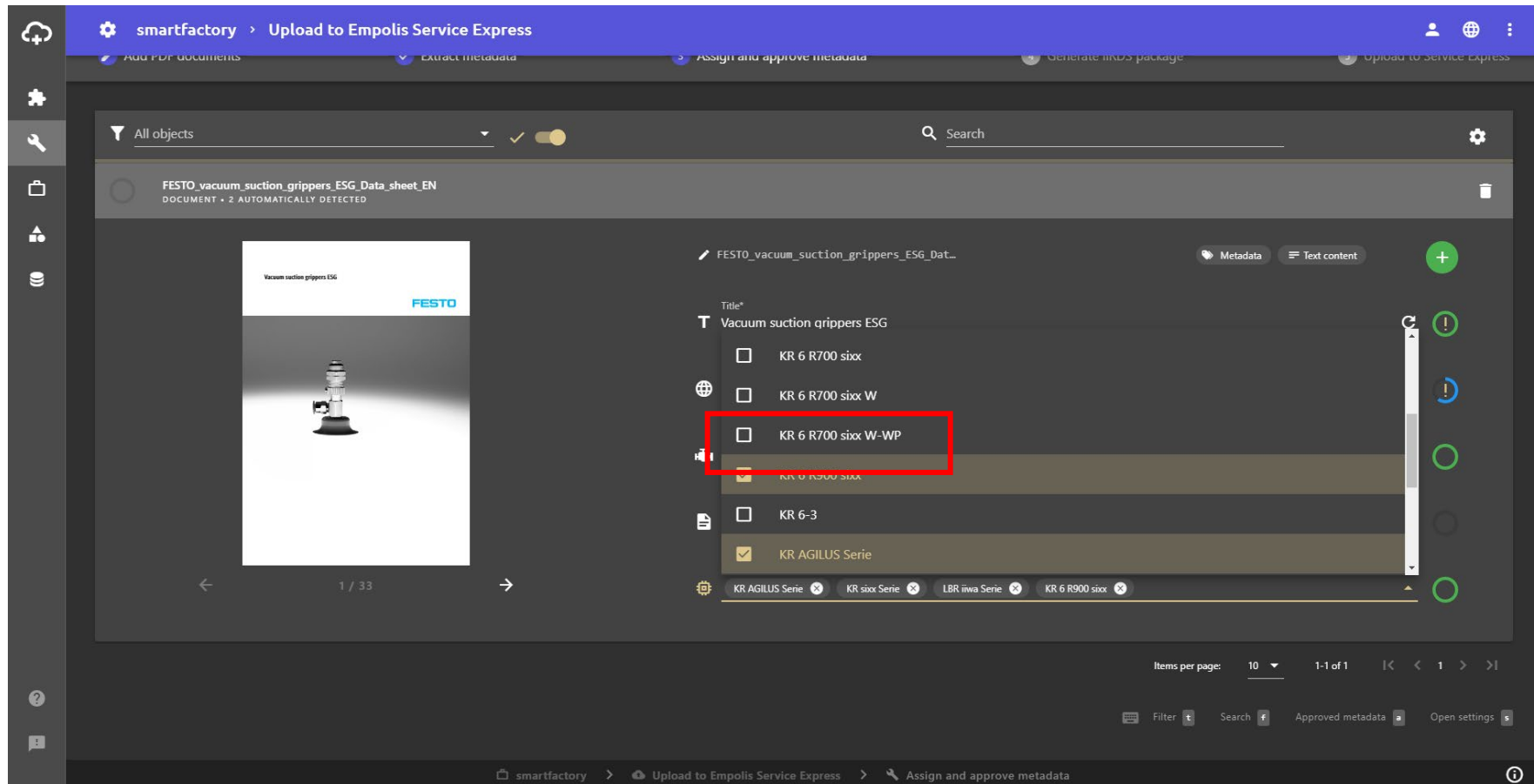
The screenshot displays the Plusmeta web interface during the 'Assign and approve metadata' step. The breadcrumb navigation shows 'smartfactory > Upload to Empolis Service Express'. A progress bar at the top indicates five steps: 'Add PDF documents', 'Extract metadata', 'Assign and approve metadata' (current step), 'Generate iIRDS package', and 'Upload to Service Express'. The main content area shows a document titled 'FESTO_vacuum_suction_grippers_ESG_Data_sheet_EN' with a thumbnail of a Festo vacuum gripper. The metadata table on the right lists the following fields:

Field	Value	Status
Title*	Vacuum suction grippers ESG	Warning (exclamation mark)
Language*	English (US)	Warning (exclamation mark)
Component	Gripper	Warning (exclamation mark)
Document type	Specification	Warning (exclamation mark)
Product variant	ABB 6-Achs-Roboter, KR AGILUS Serie	Warning (exclamation mark)

The interface includes a search bar, a sidebar with navigation icons, and a footer with 'Items per page: 10', '1-1 of 1', and 'Approved metadata'.

STEP 3

- In this example, the product variant 'KR 6 R900 six' is added manually as a metadata



STEP 4 and 5

- Finally, an iiRDS package is generated that can be transferred directly to EMPOLIS Service Express

The screenshot displays the 'Upload to Empolis Service Express' interface. The top navigation bar shows the current page and a progress bar with five steps: 'Add PDF documents', 'Extract metadata', 'Assign and approve metadata', 'Generate iiRDS package', and 'Upload to Service Express'. The main content area is titled 'Transfer file' and features four summary cards: 'Total Objects count' (1), 'Processed Objects count' (1), 'Progress Packages transferred' (100%), and 'Elapsed time for processing' (0:00:01). A 'Transfer successful' notification is shown at the bottom right.

Metric	Value
Total Objects count	1
Processed Objects count	1
Progress Packages transferred	100 %
Elapsed time for processing	0:00:01

SCENARIO: DOCUMENTATION OF A CUSTOMIZABLE PRODUCTION

SmartFactory Industry 4.0: Integrating supplier documentation

- Documentation in Empolis Service Express
One robot model selected to filter available information

The screenshot displays the EMPOLIS Service Express web application interface. The top navigation bar includes 'Übersicht', 'Suche', and 'Arbeitsplatz'. The left sidebar contains a 'Filter' section with 'Produkt' (9 items) and 'Servicefall' (3 items), and a 'Modell' section with 'ABB' (3 items) and 'KUKA' (46 items). Under 'KUKA', the 'KR AGILUS Serie' is expanded, showing 'KR 6 R700 sixx...' (2 items), 'KR 6 R900 sixx' (34 items, selected), and 'KR 6 R700 sixx' (2 items). The main content area shows a search bar with 'Suche nach...' and a search icon. Below the search bar, there are dropdown menus for 'Treffertyp', 'Datum', 'Sprache', and 'Datenquelle'. The search results are displayed as a list of 34 items for the selected model 'KR 6 R900 sixx (Modell)'. The results include a PDF document 'KR 6 R900 sixx.pdf' (19.08.2019), a diagnostic article 'Problemdiagnose Endeffektor' (26.08.2019), and a selection article 'Auswahl des Roboter-Herstellers und des -Modells' (22.08.2019). A blue circular button with a menu icon is visible in the bottom right corner of the interface.

SCENARIO: DOCUMENTATION OF A CUSTOMIZABLE PRODUCTION

SmartFactory Industry 4.0: Integrating supplier documentation

- Filtering by component „Effector“ and robot type „Industrieroboter“

The screenshot displays the EMPOLIS Information Management web application. The top navigation bar includes 'Übersicht', 'Suche', and 'Arbeitsplatz'. The left sidebar contains filter sections for 'Filter', 'Typ', and 'Hersteller'. The 'Filter' section shows 'Effektor' selected with 16 results. The 'Typ' section shows 'Industrieroboter' selected with 16 results. The 'Hersteller' section lists 'Bosch Rexroth' (10), 'FESTO' (14), 'KUKA' (16), and 'Pepperl und Fuchs' (11). The main content area shows 16 search results for 'KR 6 R900 sixx (Modell)', 'Industrieroboter (Typ)', and 'Effektor (Bauteile)'. The results are sorted by 'Relevanz'. The first result is 'Problemdiagnose Endeffektor' (26.08.2019 • Deutsch), followed by 'FESTO Vakuumsaugventil ISV ESG Datenblatt DE' (12.08.2019 • Deutsch • ZIP Upload), 'Festo Vakuumsauggreifers ESG / ESS montieren oder auswechseln' (Anleitung, Arbeitsanleitung • 21.08.2019 • Deutsch), 'FESTO_Vakuumsauggreifer ESG_Datenblatt_DE' (12.08.2019 • Deutsch • ZIP Upload), and 'Festo ESH Saugerhalter montieren oder auswechseln' (Anleitung, Arbeitsanleitung • 29.08.2019 • Deutsch).

SCENARIO: DOCUMENTATION OF A CUSTOMIZABLE PRODUCTION

SmartFactory Industry 4.0: Integrating supplier documentation

- Supplier documentation available including metadata provided by plusmeta

The screenshot displays the EMPOLIS INFORMATION MANAGEMENT software interface. The top navigation bar includes 'Übersicht', 'Suche', and 'Arbeitsplatz'. A left sidebar contains filter options for 'Effektor', 'Elektronik und Sensoren', and 'Gehäuse', along with a 'Typ' section for 'Gelenkarmroboter', 'Industrieroboter', and 'Schwenkarm-Roboter', and a 'Hersteller' section for 'Bosch Rexroth', 'FESTO', 'KUKA', and 'Pepperl und Fuchs'. The main content area shows a list of documents, with the selected document being 'FESTO_Vakuumsauggreifer ESG_Date...'. The right sidebar shows the 'Details' view for this document, including a description, page information, and a 'Metadaten' section with the following details:

- Modell: KR AGILUS Serie. KR 6 R900 sixx
- Typ: Industrieroboter
- Informationstyp: Datenblatt
- Bauteile: Effektor, Vakuumsauggreifer
- Hersteller: FESTO.KUKA
- Sprache: Deutsch
- Dateiname: FESTO_Vakuumsauggreifer ESG_Datenblatt_DE.PDF
- Dateigröße: 449,78 KB
- Treffertyp: Dokument

This best practice example has shown that the interaction of the two tools plusmeta and EMPOLIS Service Express makes it easy to classify supplier documentation and make it available for targeted access in a Content Delivery Portal

- plusmeta automatically enriches legacy pdfs with iiRDS metadata in an easy step-by-step workflow
- iiRDS is used for storage and exchange of the supplier documentation
- The content delivery portal EMPOLIS Service Express makes the documentation accessible in a targeted manner



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