GS1 Germany

The Global Language of Business

Cloud4Log
Service Description
(Basic Front-end)

Digitalisation of the printed delivery note

Version 1.3, September 2023

Document summary

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GS1 Germany GmbH

It started with a beep.
1974 was the year that a barcode was scanned for the first time by a supermarket. This was the beginning of the automated check-out – and the first chapter in GS1's success story. The machine-readable GS1 barcode, which also includes the GTIN, has since become the universal standard in the global exchange of goods. Six billion of these barcodes are scanned on products each and every day. The GS1 standards are the global language for efficient and secure business processes – a language that is spoken between different companies and across all continents. As part of a global network, we work with our customers and partners to develop market-driven and future-oriented solutions that have a direct impact on the success of their business. Today, two million companies from over 20 sectors worldwide use this language to uniquely identify their products, sites and assets, so that they can collect relevant data and share it with business partners within value-added networks. GS1 – The Global Language of Business.

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1 List of abbreviations

Abbreviation	Term
BGB	*Bürgerliches Gesetzbuch* (German Civil Code)
CIDA	Cross-industry despatch advice (a UN/CEFACT message)
DESADV	Despatch advice (an EDI message)
DDN	Digital delivery note
DDN bundles	Digital delivery note bundles
EDI	Electronic data interchange
ERP	Enterprise resource system
FMCG	Fast-moving consumer goods
GCP	Global company prefix
GDTI	Global document type identifier
GLN	Global location number
GTIN	Global trade item number
DN	Delivery note
WMS	Warehouse management system
SSCC	Serial shipping container code
PDF	Portable document format
PoC	Proof of concept
POD	Proof of delivery
QR code	Quick response code
RECADV	Receiving advice (an EDI message)
SSCC	Serial shipping container code
TSP	Transport service provider
URL	Uniform resource locator
OG	Outgoing goods
IG	Incoming goods

2 Foreword

This service description describes the essential functionalities of the basic front-end of the Cloud4Log service in a comprehensible way. It also spells out to the reader the requirements for using the solution and explains the rights and roles of the different stakeholders.

Third-party systems (front-ends) can be connected to the Cloud4Log platform via an open API interface. These differ from the Cloud4Log basic front-end in that they have their own user interface and possibly additional functionalities and interfaces to other systems and applications.

The document is based on the requirements defined for Version 1.0 and the state of development at the time of publication. Updates to the document will result in new versions of the service description and will inevitably follow.

Supplementing this service description is the Cloud4Log API documentation, which provides an overview of the technical documentation of the API interface. The technical documentation of the API interface is only available online.

3 Introductory process description

Implementation of the Cloud4Log service by GS1 Germany in cooperation with the Bundesvereinigung Logistik (BVL) was preceded by a committee project on the GS1 platform. The company representatives in this project have intensively studied the current paper-based processes in the value chain and have developed a concrete recommendation so that the digital delivery note can be used in practice. The implementation concept is based on a central cloud platform via which digital documents to accompany transport can be exchanged between the companies involved in the logistics chain. GS1 standards ensure a high degree of interoperability and process conformity.

3.1 The different parties involved in the process

1. Shipper
2. Recipient
3. Logistics service providers, such as a hauliers or freight carriers (do not need to be identical)

3.2 Process steps

The following diagram shows the process flow and the interaction of the different parties involved in the process with the cloud platform, which below is referred to as the Cloud4Log service.

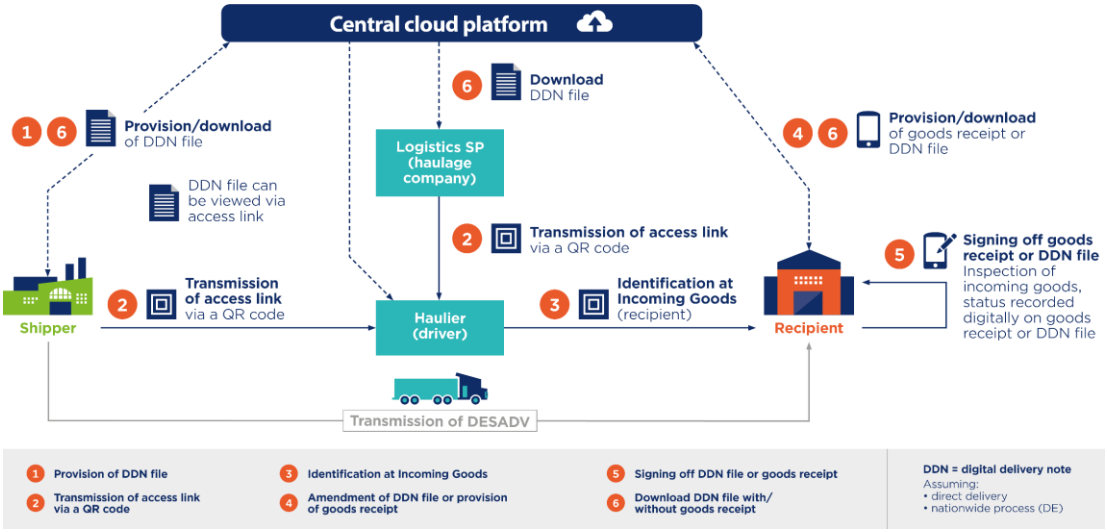


Figure 3–1: Cloud4Log process flow

The process essentially comprises the following steps:

- Provision (upload) of the digital delivery note file in the cloud
- Transmission of the access link to the digital delivery note in the cloud to the driver via QR code
- Identification of the driver and the relevant digital delivery notes at the recipient's incoming goods department
- Amendment/supplementation of the digital delivery notes to include delivery information from incoming goods or the upload of goods receipts documents
- Acknowledgement of the digital delivery note or the GR (goods receipt) document including the discrepancies documented by the recipient's incoming goods staff and by the driver
- Download of the digital delivery note from the cloud by all parties involved in the process

4 Explanation of terms and scope

This section lists and describes basic terms that are important for understanding the service description.

4.1 Basic front-end

The basic front-end is the system that users (employees working for the shipper, carrier or recipient) use to exchange, view or edit digital delivery notes.

4.2 Delivery note

A delivery note is a document that accompanies a shipment of goods and shows the description, unit and quantity of the goods included in the shipment.

Delivery notes can be exchanged digitally in PDF/A-3 format via Cloud4Log. The content, structure and graphical depiction of a delivery note is not predefined by CLoud4Log and can be supplier-specific. The (optional) machine-readable XML attachment of a delivery note with a defined set of attributes is standardised. GS1 Germany will draft and publish a separate C4L XML document for the detailed XML specifications.

In Cloud4Log, delivery notes are assigned to bundles and thus receive information about the shipper, carrier and recipient. A bundle contains 1 to n delivery notes, and a delivery note can only be assigned to one bundle.

In addition, the carrier can arrange delivery notes into tours.

4.3 Bundle

Bundles are a compilation of delivery notes sent by a shipper to a recipient via a commissioned carrier. Bundles always have a 1:1:1 relationship (1 shipper: 1 carrier: 1 recipient) and determine the parties involved in the process/access rights to the delivery notes in the bundle. A bundle contains 1 to n delivery notes and can have three different statuses (“open”, “sent”, “closed”).

4.4 Tour

A tour is a compilation of delivery notes put together by the carrier (usually within a general cargo network) according to its internal route planning. The functionality is required when shipments are handled in a transport network and thus the composition of delivery notes on the pick-up and delivery tours is not identical.

A tour contains 1 to n delivery notes similar to a bundle, but does not have to have a 1:1:1 relationship between recipient: carrier: shipper. A tour can contain delivery notes from different senders as well as recipients.

4.5 Tour status

A tour can have three statuses.

- **“open”**

A tour with the status “open” can be processed as desired by the forwarder and supplemented with delivery notes. Recipients are only shown tours with the status “sent” and “closed”.

- **"sent"**

If the carrier transmits a tour to the driver, the status changes from "open" to "sent" and the tour is displayed to the recipient.

- **"closed"**

If a tour or the delivery notes of a tour are successfully checked in at incoming goods, the status of the tour changes to "closed".

4.6 Delivery note status

A delivery note or bundle can have three statuses.

- **"open"**

If a delivery note is uploaded to Cloud4Log by a sender and a new bundle is created, it takes the status "open". With the status "open", the sender can edit the bundles and delivery notes as desired. The other parties involved in the process (carrier, recipient) do not have access to delivery notes/bundles with the status "open"

- **"sent"**

If a bundle including delivery note(s) is successfully checked out, acknowledged by the driver and transferred, the status changes to "sent". Delivery notes/bundles with the status "sent" can no longer be processed by the shipper and are available to all parties involved in the process (shipper, carrier, recipient). A recipient can only check in or receive and process delivery notes with the status "sent".

- **"closed"**

If a delivery note is successfully checked in at incoming goods and confirmed by the incoming goods employee and driver, the status changes to "closed". With the status "closed", no more discrepancies/comments by the recipient can be documented and acknowledged in the delivery note. If discrepancies are found during a subsequent fine check of the goods, the consignee may attach a fine check document to a delivery note within 10 days of the status change from "sent" to "closed".

Note: Delivery notes are automatically deleted from the cloud platform 10 weeks after upload to the cloud. The companies involved must archive these before this occurs.

4.7 Delivery note discrepancy flag

To be able to quickly identify delivery notes with documented discrepancies, delivery notes are marked with discrepancy flags. Discrepancies can be detected and documented during the rough and fine checks.

- **RC (rough check)**

If (during the rough check) the recipient's incoming goods department documents discrepancies vis-à-vis a delivery note (e.g. via a GR document or notes in the front end used), the delivery note is marked for all parties involved in the process with an RC discrepancy flag.

- **FC (fine check)**

If discrepancies are found during a subsequent fine check of the goods, the recipient may attach a fine check document to a delivery note within 10 days of the status change from "sent" to "closed". The delivery note is marked for all process participants with a DI discrepancy flag.

5 User management

5.1 Cloud4Log registration

Registration for the Cloud4Log service is via the online registration process on the GS1 Germany website*(https://www.gs1-germany.de/c4l-bestellung/)*.

The following data is collected during the registration process

- Company master data
- Data necessary for billing
- Company administrator details for the purpose of initial setup

A GS1 Global Location Number (GLN) is a prerequisite for registration, as this is used to uniquely identify companies and sites. You receive a GLN if you are a GS1 Complete or SmartStarter10 customer. More information about these products is available *here*.Upon successful registration, GS1 Germany usually creates the company in Cloud4Log with the master data provided within two working days. The initial company administrator identified then receives an email with the company's access credentials and can act on behalf of the company in Cloud4Log. Only this administrator is authorised to set up additional administrator accesses for the entire company.

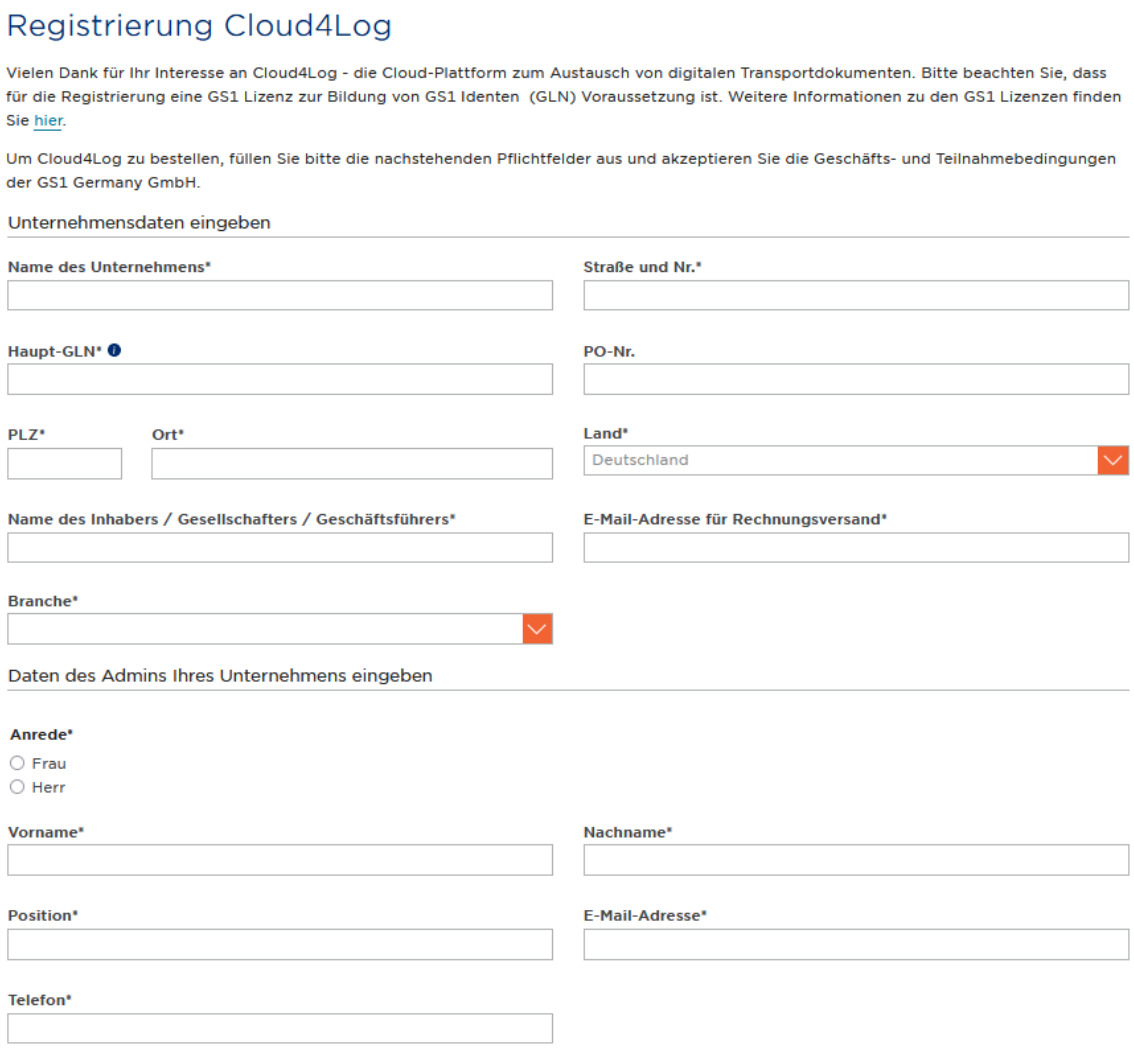


Figure 5–1: Screenshot of the Cloud4Log online registration process

5.2 Role concept

A company site takes on one or more roles (shipper, carrier, recipient) depending on its position in the supply chain. The employees assigned to a site receive the corresponding roles of outgoing goods employee, carrier or incoming goods employee in their user profiles.

- **Role of the shipper**

The shipper is the company site where an employee with the role of outgoing goods employee assembles the physical shipments, creates the delivery notes and physically places the goods on the market.

- **Role of the carrier**

The company site that is commissioned to transport goods from a shipper to a recipient. One employee at this site has the role of carrier.

- **Role of the recipient**

The recipient receives the goods delivered by the shipper. This can be party that ordered the goods or a commissioned logistics service provider. An employee of the recipient's incoming goods department confirms this receipt and notes any delivery discrepancies and/or damage.

- **Actor driver**

The driver is the person who performs the physical transport of the goods from the shipper to the recipient on behalf of the carrier. In the case of interrupted/indirect delivery (e.g. change of drivers), the driver who collects the goods may be different from the driver who delivers them. The driver is not a signed-in and registered role in the Cloud4Log system.

In principle, all employee roles are authorised to view and download the delivery notes assigned to them. The actor driver:in also has the possibility to view and download delivery notes and proofs of delivery including recorded comments. For the actor driver:in as an unregistered person, the recorded personal data (signatures) are hidden due to the GDPR. Confirmation of the signatures is provided in the form of a digital C4L stamp.

5.3 Cloud4Log usage concept

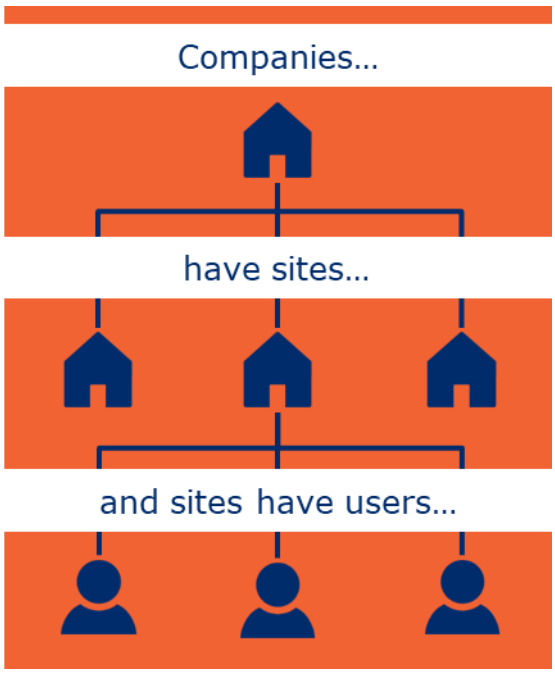


Figure 5–2: User hierarchy

Cloud4Log is based on a three-tier usage concept, which is divided into companies, sites and users.

A company has sites assigned to it and sites have users. A user can be assigned to several sites.

Each site can assume one or more roles (shipper, carrier, recipient) in a delivery note process, if necessary at the same time. This means that it may be necessary to switch between the different roles at the user level.

Example: Company A has three sites, each of which is assigned different users.

Site 1	**Site 2**	**Site 3**
User 1	User 1	User 7
User 2	User 5	User 8
User 3	User 6	
User 4		

User 1 can process all delivery notes for sites 1 and 2 of company A assigned to him/her according to the site's role.

User 2 can only process delivery notes for site 1 assigned to him/her according to the site's role.

5.4 Multilingualism

The language selector in the top ribbon can be used to switch between German and English. The only thing that changes is the language of the function buttons of the basic front-end. The contents of the uploaded documents (delivery notes, pallet notes, GR documents, etc.) are the responsibility of the respective companies and are not translated.

5.5 Admin Panel

After logging in to the Cloud4Log basic front-end, the initial company administrator can open their company's Admin Panel. This is done by selecting the administrator's name/user account in the top right corner of the Cloud4Log basic front-end.

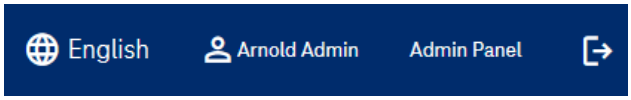


Figure 5–3**:** C4L Admin Panel

The following functions/views are available to the company admin in the Admin Panel:

- General
- Company Details
- Manage Sites
- Manage Partner Sites
- Manage Users
- API Keys
- Help & Support

5.5.1 General

User Settings

Users can change their individual settings (name, email address, password) in the User Settings.

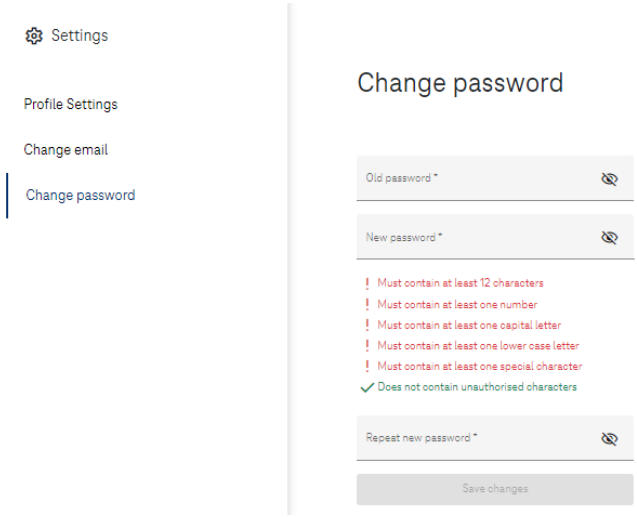


Figure 5–4**:** User Settings - Example: Change password

5.5.2 Company Details

Company master data and the settings made can be viewed under Company Details. Company master data is initially created in Cloud4Log by a GS1 Germany employee as part of the registration process and cannot be changed, not even by the company administrator. If company master data needs to be changed, a corresponding master data change must be requested from Cloud4Log customer service (c4l-support@t-systems.com).

General information on the company's Cloud4Log use can be viewed under Quotas. If company-specific quotas need to be changed, a corresponding quota change must be requested from Cloud4Log Customer Service(c4l-support@t-systems.com).

Figure 5–5**:** Admin Panel - Company Details

5.5.3 Manage Sites

Sites can be created and managed for a company via "Manage Sites".

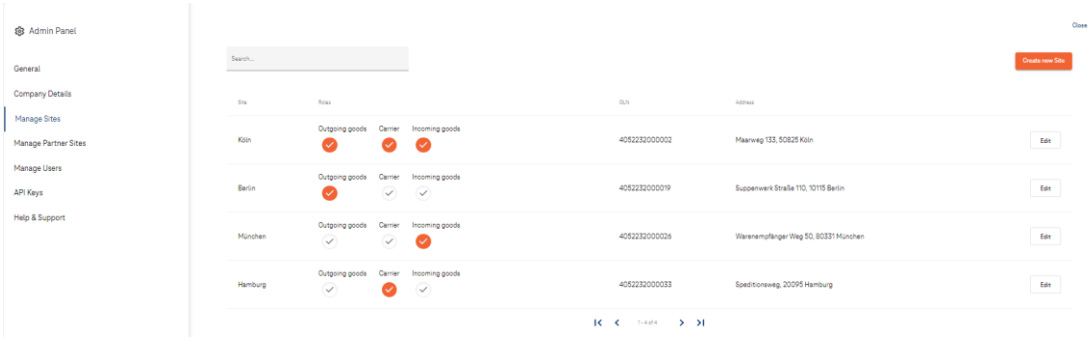


Figure 5–6: Manage Sites

When creating a new site, the roles assumed by the site must be indicated in addition to the site master data.

For example, if a site is assigned the role of carrier and/or recipient, it can be selected as the carrier and/or recipient of a supply chain when involved third parties create a digital delivery note bundle.

In addition, a site can be provided with a function to decide whether the release of site data to partner companies is permitted.

When creating a new site, please note that the site name is displayed in the supply chain selection to all Cloud4Log participants as shown in the following example:

Example:

Company name = BrandOne

Site name = Cologne (distribution centre)

Other participants will see this location as **BrandOne Cologne (distribution centre)**.

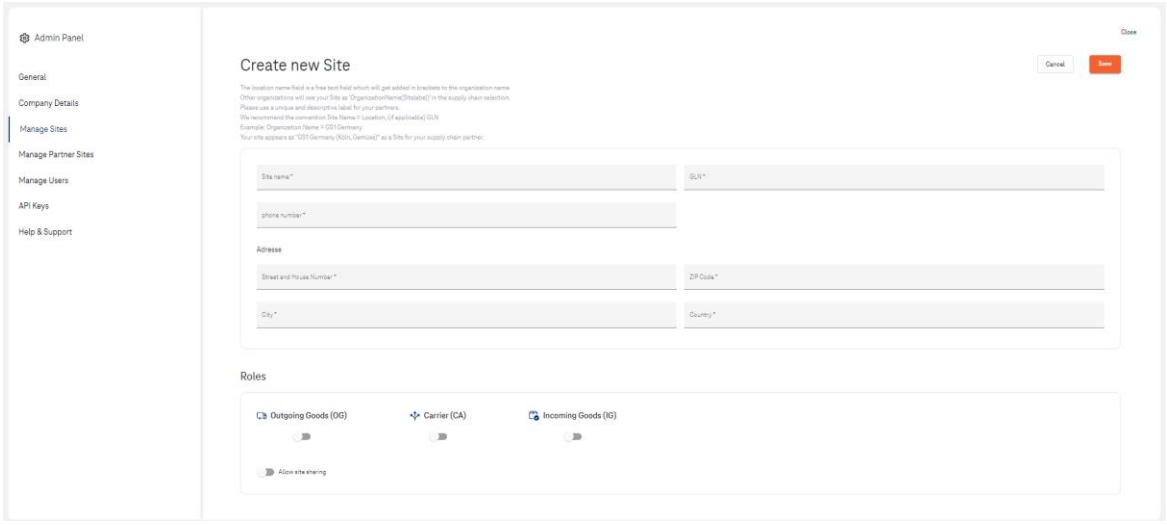


Figure 5–7: Create Site

It is not possible to delete sites in release 1.0 of the Cloud4Log system.

5.5.4 Manage Partner Sites

View rights to sites can be granted under “Manage Partner Sites”. This allows users of a partner site who have been granted view rights to open, view and save all delivery notes/bundles assigned to the site. Only sites that have been authorised to share sites under "Manage Sites" appear here in the list of sites to be selected for release.

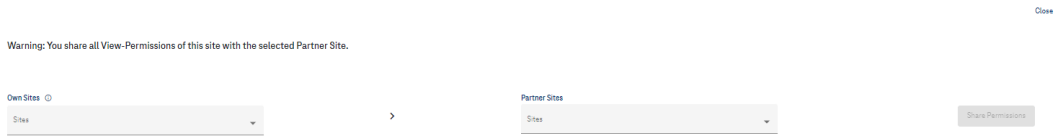


Figure 5–8: Manage Partner Sites

5.5.5 Manage Users

Additional company administrators can be appointed by the company administrator via the user management function. New company administrators have the same rights as the initial company administrator and can manage additional sites and users for the company.

In addition to company administrators, users and site administrators can also be created and managed. A site administrator has administrator rights for the corresponding site and can create and manage users for this site.

Users can be assigned to one or more sites and can act on behalf of the site(s) according to the rights and role of the site(s).

Figure 5–9: Manage Users

5.5.6 API Keys

API Keys for third party front-end providers can be created and managed under "API Keys". Third-party front-end providers can interact technically with the API interface on behalf of the company using the API keys generated and assigned by the company.

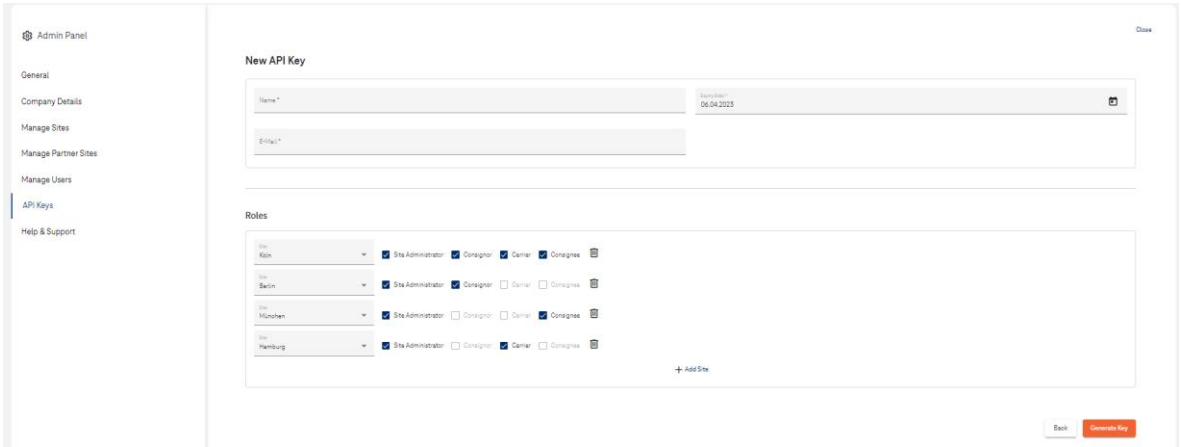


Figure 5–10: C4L API Key

Notes on the use of C4L API keys.

- **Expiry date** A generated API key expires on the set, defined expiry date.

- **1-1 relationship** (API key <-> email address) Each API key created is assigned by the system to the email address provided. Only one API key or user account can be assigned to each email address, i.e. to create an API key you need an email address that is not yet stored in the system. (Also applies to expired API keys)
- **Scope**: An API Key is only valid for the sites with corresponding roles (consignor/outgoing goods , carrier, consignee/incoming goods) selected during creation. An API's scope does not expand if additional sites are created subsequently for a company. A new API key would have to be created in this case.

5.5.7 Help & Support

"Help & Support" provides the user with access to supporting information, documents and points of contact for using Cloud4Log.

6 Outgoing goods (shipper)

A shipper is the company that despatches goods to one or more recipients via a carrier. The shipper issues the digital delivery notes or commissions a logistics service provider to do this on its behalf.

6.1 Outgoing goods overview

After logging in, the user in the role of shipper can choose between two views.

- "Bundles" view

"Bundles" are a compilation of delivery notes sent by a shipper to a recipient via a commissioned carrier.

- "Delivery notes" view

In the "Delivery notes" view, the user(s) see(s) all delivery notes assigned to their company site. If a user is assigned to multiple sites, it is possible to filter by site using the button "Filter sites". A user can display all delivery notes for the site assigned to them.

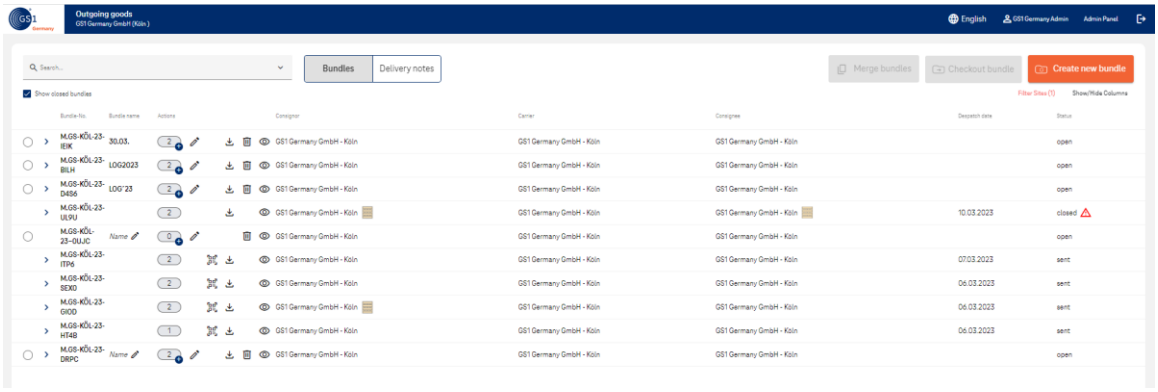


Figure 6–1: Outgoing goods Bundles view

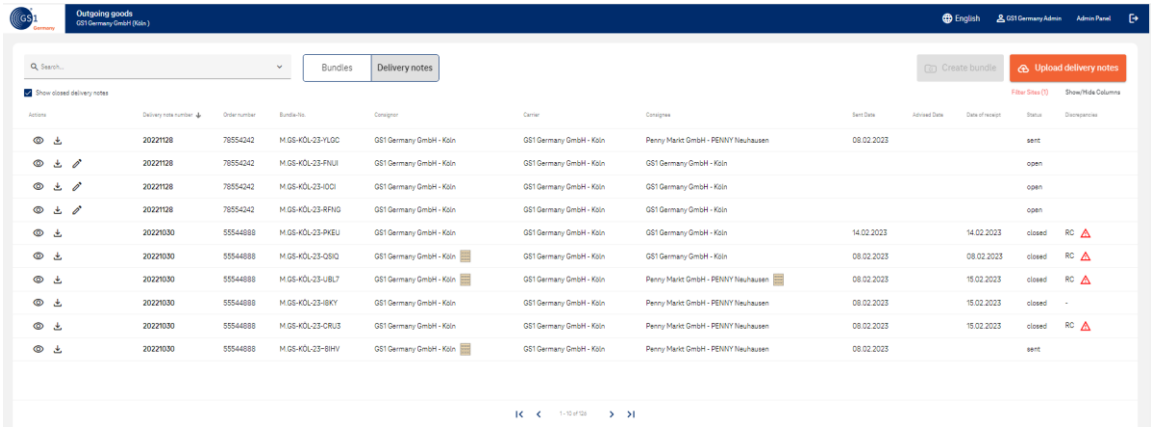


Figure 6–2: Outgoing goods Delivery notes view

In Cloud4Log, delivery notes are assigned to bundles and thus receive information about the shipper, carrier and recipient. A bundle contains 1 to n delivery notes. Bundles can be created in two ways. Either a new bundle is created in the "Bundles" view and delivery notes are assigned to this bundle, or delivery notes in the "Delivery notes" view are added to a new bundle. Bundles can have the status "open", "sent" or "closed". Only "sent" and "closed" bundles are visible to all process participants. Bundles with the status "open" are only displayed to the shipper and can be edited by the shipper as desired.

The column order in each view can be customised by simply dragging and dropping a column. Selected columns in the view can be shown or hidden using the "Show/Hide Columns" button.

Note: Delivery notes with the status "closed" are deleted from the cloud platform 10 weeks after their creation. The companies involved must archive these before this occurs.

6.2 Creating bundles

A new bundle can be created in the "Bundles" view or in the "Delivery notes" view by merging one or more loose delivery notes (delivery notes not yet belonging to a bundle) via the "Create bundle" button.

The created bundle is assigned the status "open" and can be edited by the shipper as desired.

A two-step process follows.

6.2.1 Delivery note upload

1 to n delivery note(s) can be uploaded to a bundle. Simultaneous bulk uploading of several delivery notes is possible by marking and uploading the desired delivery note files at the same time. A delivery note must include the delivery note number and the order number.

To simplify inputting the delivery note number and order number for each delivery note in the Cloud4log basic front-end, the delivery note number and order number are extracted from the file name of the delivery note file when the file is upload using the following logic:

1. **Delivery note number.pdf**

   Example: 08154711.pdf ➔ read in is DN number: 08154711

2. **Placeholder1DeliveryNoteNumber.pdf**

   Example: DNO_08154711.pdf ➔ read in is DN number: 08154711

3. **Placeholder1Delivery note numberPlaceholder2BOrder number.pdf**

   Example: DNO_08154711ONO_12345678.pdf ➔ read in are DN number: 08154711 and Order number: 12345678

Placeholders 1 & 2:

Placeholder 1=	DNO_	for delivery note number (Delivery No.)
Placeholder 2=	ONO_	for order number (Order No.)

Any file name without a placeholder will be interpreted as a delivery note number.

If the order number cannot be extracted from the file name, it must be added manually in the basic front-end.

Note: Files must not contain any special characters that prevent them from being saved in common file systems. E. g.: `? * < > . , \ : = / " ; [ ] |`.

If the delivery note number or order number contains a corresponding special character, this must be removed by the creator of the delivery note file prior to uploading to the cloud platform.

Optionally, the advised delivery date can be added to the delivery note.

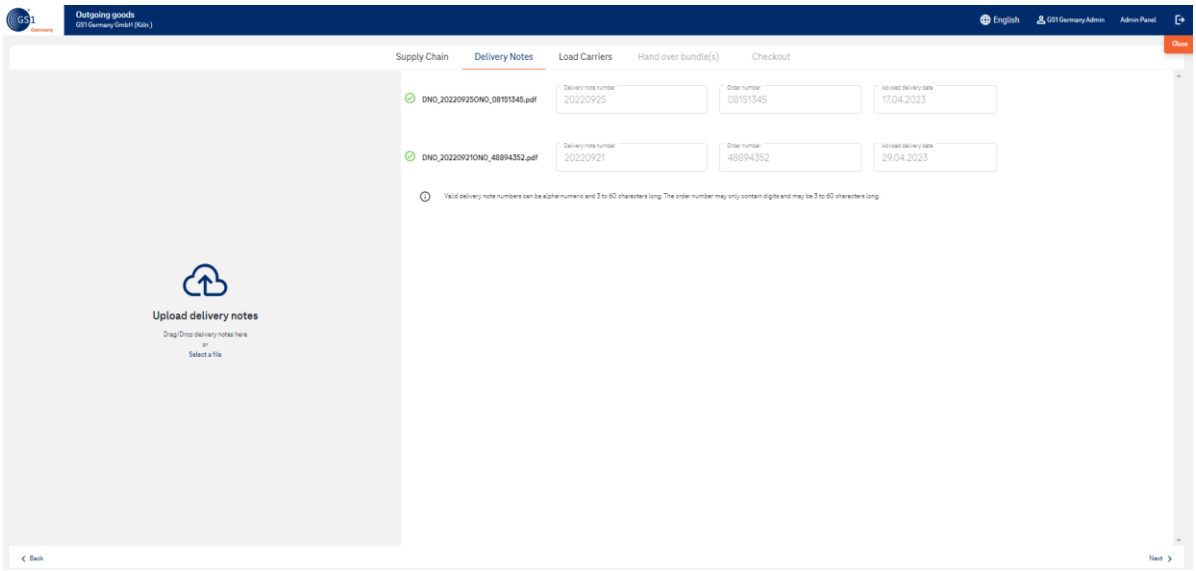


Figure 6–3: Upload delivery notes

If no direct transfer of the digital delivery note(s) to the driver takes place in the outgoing goods process after the bundle has been created, the dialogue can be closed by clicking the "Close" button. The contents are saved and editing of the bundle can be continued at a later time.

The bundle number is automatically generated by the system and is composed as follows:

1. M.GS-KÖL-22-XXXX

   M stands for the *Mappe*, the German word for bundle.

2. M.GS-KÖL-22-XXXX

   The first two letters of the company name

3. M.GS-KÖL-22-XXXX

   The first three letters of the shipping site

4. M.GS-KÖL-22-XXXX

   The last two digits of the calendar year

5. M.GS-KÖL-22-XXXX

   A randomly generated four-character alphanumeric code

Example: Company name GS1 Germany, shipping site Köln, year 2022

= M.GS-KÖL-22-ARFU

6.3 Edit bundle

Bundles with the status "open" are only displayed to the shipper and can be edited by the shipper as desired. The processing steps listed below are possible.

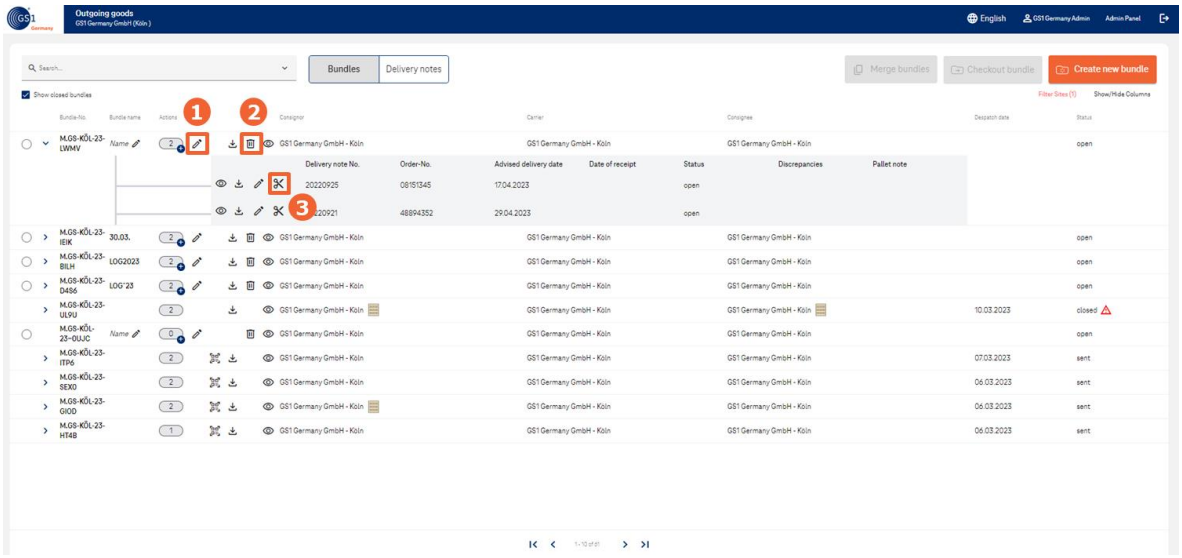


Figure 6–4: Edit outgoing goods bundle

1. Add a delivery note to a bundle
2. Remove a delivery note from a bundle. Removed delivery notes are not deleted and can be attached to a (different) bundle.
3. Delete an entire bundle

   In addition, several bundles with the same consignor:carrier:consignee site can be selected and merged into one bundle using the "Merge bundles" button.

6.3.1 Supply chain selection

Selection of the parties involved in the process (consignor, carrier, consignee).

All process participants must be in the Cloud4Log system and include corresponding locations.

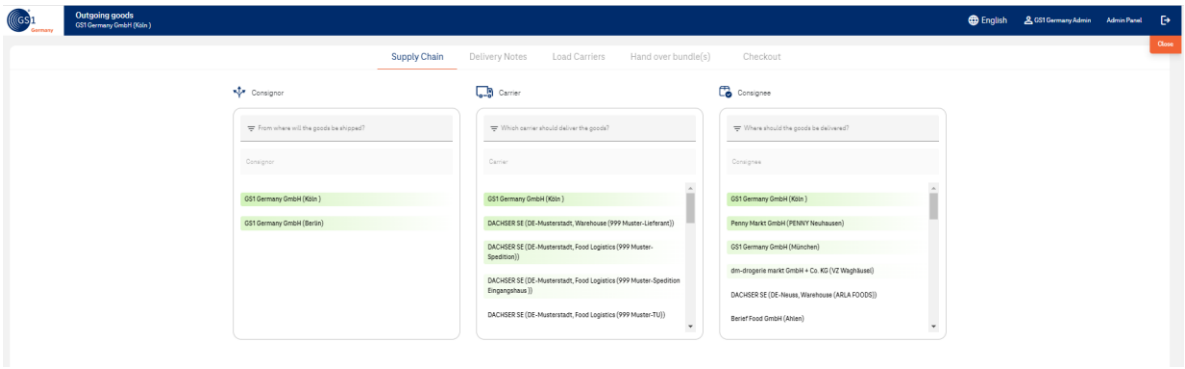


Figure 6–5: Bundle creation supply chain selection

6.4 Checkout bundle/transfer to driver

A prerequisite for checking out a bundle is that it has already been created (see Creating bundles). Checking out a bundle changes its status from "open" to "sent".

In the general "Bundles" view, 1-n bundles can be selected and checked out via the button "Checkout bundle" and transferred to the driver.

If a user is assigned to several shipper sites, all bundles of the assigned sites are displayed (with corresponding site filter selection). Simultaneous check-out of several bundles from different

shipping sites is not yet possible in Release 1.0. Checking out several bundles for one site is possible.

The following process steps take place up to final transfer to the driver.

6.4.1 Documentation of load carrier exchange (optional)

As an option, exchanged load carriers can be recorded for individual delivery notes.

The type of load carrier (e.g. EPAL), the number of load carriers exchanged and the process step from the shipper's point of view vis-à-vis the driver (delivery, acceptance) are recorded for a delivery note.

Defective load carriers are indicated as a separate exchange item with "Acceptance" and flagged "Load carrier is damaged".

The Description field can be used to record remarks about the load carrier exchange. If a load carrier is exchanged that is not included in the picklist of load carrier types, the load carrier type "Other" is selected and the "Other" load carrier is described in the Description field.

Example exchange process:

- 25 EPALs were accepted, of which 5 EPALs were damaged.
- 20 EPALs were delivered.
- 10 CHEP (1/4) pallets were delivered.
- 25 GS1 ice cream cup boxes were handed over.

The example exchange process is documented as follows

EPAL	Quantity: 20	Acceptance	
EPAL	Quantity: 5	Acceptance	[x] load carrier is damaged
EPAL	Quantity: 20	Delivery	
CHEP (¼)	Quantity: 10	Delivery	
Other	Quantity: 25	Delivery	Description: GS1 ice cream cup boxes

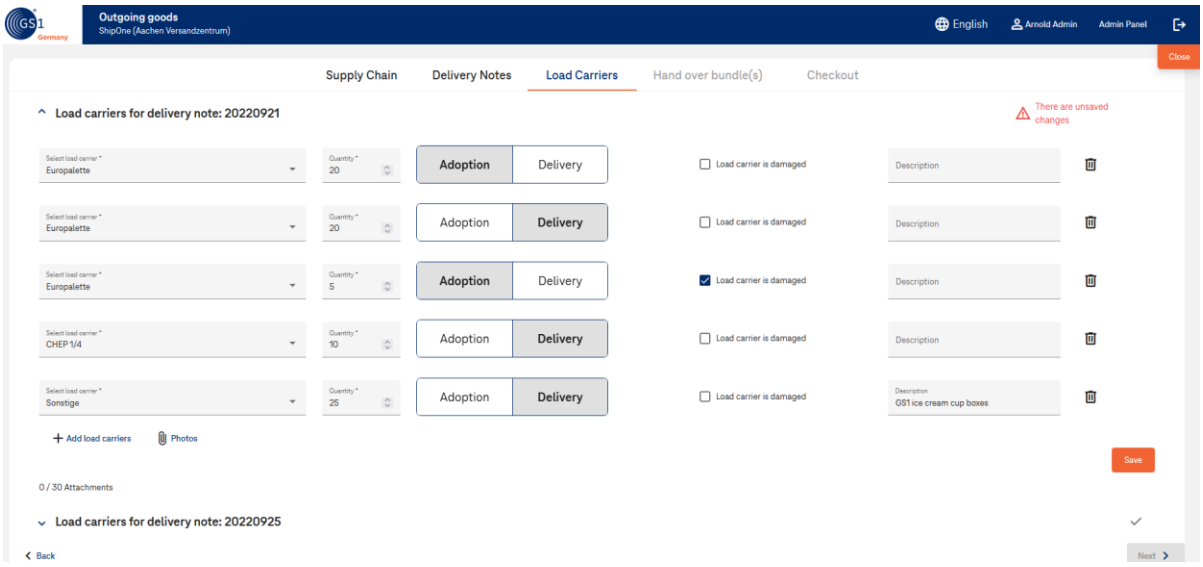


Figure 6–6: Document load carrier exchange

6.4.2 Attach images (of damage) (optional)

The "Add photos" button can be used to attach images (of damage) to individual delivery notes.

6.4.3 Record driver details

After the optional recording of the load carrier exchanges, the driver details (name and license plate) are recorded by the outgoing goods staff.

The recorded details (name and license plate) are optional fields and will later be added to the delivery notes of the checked-out bundle(s) with the driver's signature, including the time stamp of the signature.

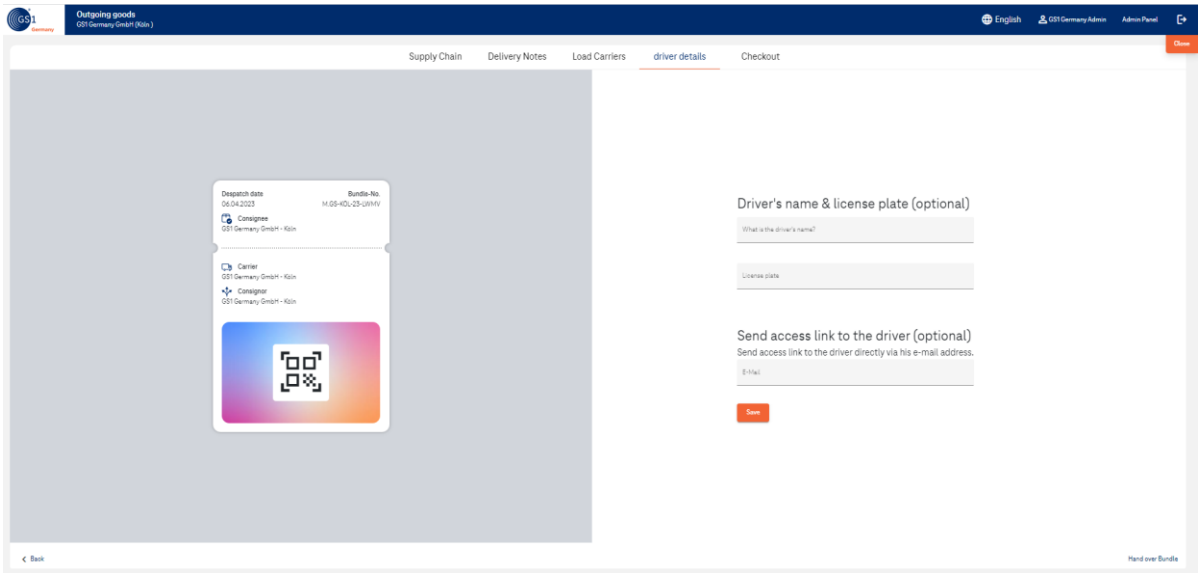


Figure 6–7: Record driver details

6.4.4 Acknowledgement by driver

After saving the details, the driver's signature is captured.

There are two options for capturing the driver's signature:

- **Option 1:** The driver signs directly on the consignor's device (e.g. tablet, signing pad).
- **Option 2:** The driver scans the QR code for the signature from a device belonging to the consignor's outgoing goods staff (e.g. monitor, tablet) with his/her mobile device and signs on his/her own mobile device. After the driver has signed and sent the signature, the outgoing goods staff can capture the signature in Cloud4Log using the mobile phone icon with the mouseover text "Load signature from external device".

The driver can check and view the contents of the receipt before signing.

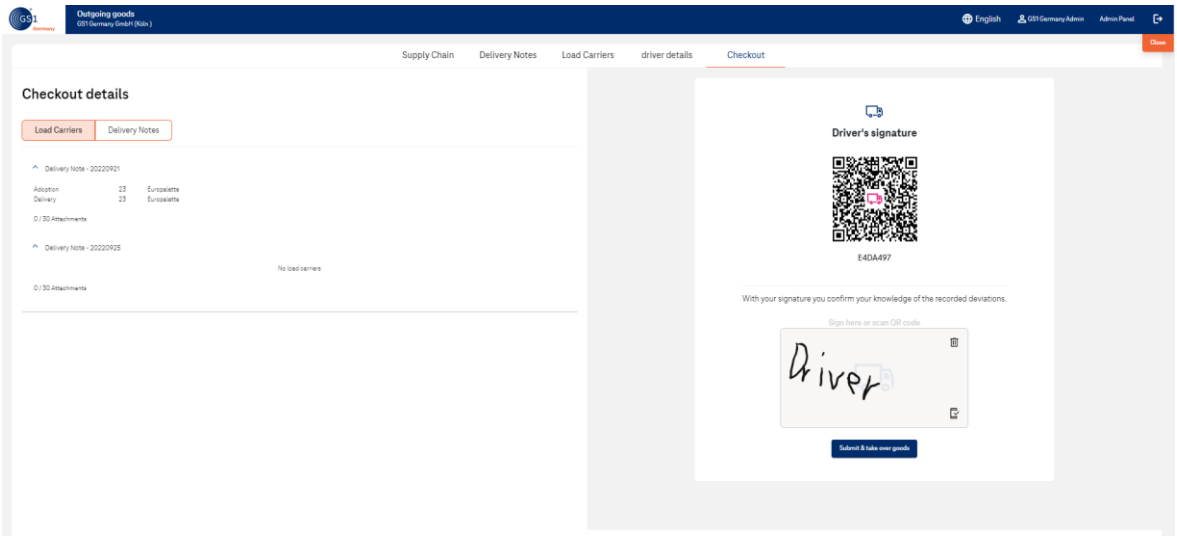


Figure 6–8: Driver's signature

After the signature has been captured, the outgoing goods process is then saved and closed using the button "Send signature & accept goods". The status of the checked-out bundle(s) changes from "open" to "sent" and is available to all process participants (sender, carrier, recipient) according to their role.

With the status "sent", the shipper cannot many any changes or additions to the checked-out delivery notes/bundles.

6.4.5 Transfer access link to driver

The outgoing goods process ends with the transfer of the access link to the driver.

The driver receives the access link by scanning the QR code or the driver has provided his/her signature via his/her device and is automatically forwarded to the Save option (see Section Driver).

Alternatively, the outgoing goods personnel can send the access link to the driver by email.

In the event unexpected process disturbances prevent transfer to the driver, the following fallback functionalities are available to the consignor.

- Print QR ticket (access link for delivery notes transferred over)
- Print all delivery notes

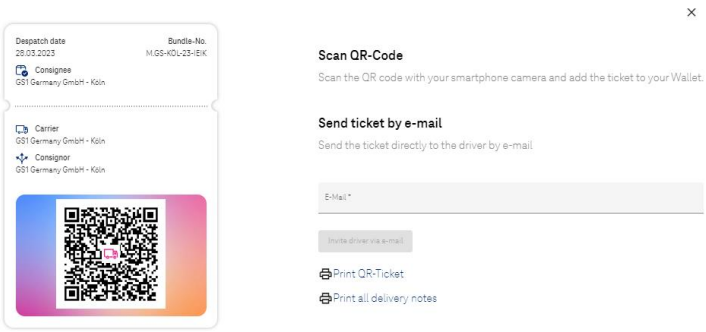


Figure 6–9: Transfer access link to driver

Once the access link has been transferred to the driver, the outgoing goods process is completed.

7 Incoming goods (consignee)

A recipient is the company that receives the delivery made by a shipper via a carrier.

7.1 Incoming goods overview

After logging in, the user in the role of shipper can choose between three views (“Bundles”, “Tours”, “Delivery notes”). You can switch between the views “Bundles”, “Tours” and “Delivery notes” as desired.

- “Bundles” are a compilation of delivery notes sent by a shipper to a recipient via a commissioned carrier.
- “Tours” are a compilation of delivery notes put together by the carrier (usually within a general cargo network) to form tours according to its internal despatch management.
- All delivery notes are stored under “Delivery notes”.

Note: The shipper must assign shipping notes to a bundle. The commissioned carrier has the option of reorganizing the delivery notes into a tour, which is why it is not mandatory that a delivery note be assigned to a tour.

The consignee only sees delivery notes assigned to their own location with the status “sent” and “closed”.

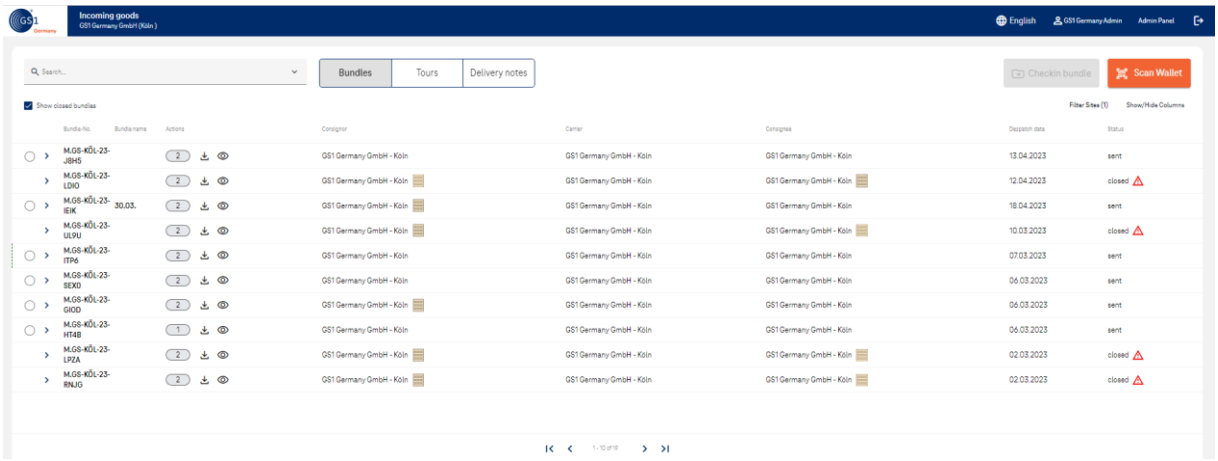


Figure 7–1: Incoming goods Bundles view

7.2 Check in delivery note

There are three ways to check in delivery notes.

- **Call up a bundle from the “Bundles” view**

  The check-in process is started by selecting the bundle to be checked in from the “Bundles” view (if necessary by first using the Search function).

- **Call up a tour from the “Tours” view**

  The check-in process is started by selecting the tour to be checked in from the “Tours” view (if necessary by first using the Search function).

- **Call up bundles or tours from the driver’s wallet**

  The scan process is started using the “Scan wallet” button.

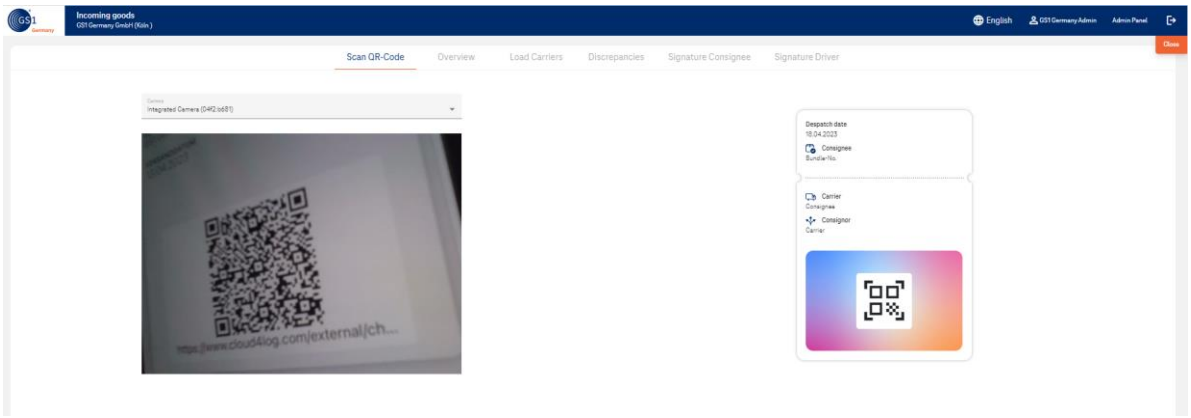


Figure 7–2: Check in delivery note: Scan wallet item

The camera connected to the device opens to scan the QR code from the driver's wallet. The driver opens the wallet item corresponding to the shipment and presents the corresponding QR code to the consignee for scanning.

The consignee can interrupt the check-in process at any time. The contents are saved and editing of the bundle/tour can be resumed later.

Note: A camera with >60 fps is recommended for the scan process to enable fast capture of the driver's QR code.

Note: If the driver is on a consolidated delivery tour with different recipients, delivery notes for different recipients are encoded under the QR code of the wallet item. Due to their authorisations, recipients can only see and check in the delivery notes assigned to them. The QR code of the wallet item is identical for all recipients on the consolidated delivery tour.

7.3 Record driver details

After scanning or opening the bundle/tour, general information about the delivery is displayed and the driver details are recorded.

The recorded details (name and license plate) are optional fields and will later be added to the checked-in delivery notes with the driver's signature, which still has to be captured, and the time stamp of the signature. The "Save" button is used to store the driver details.

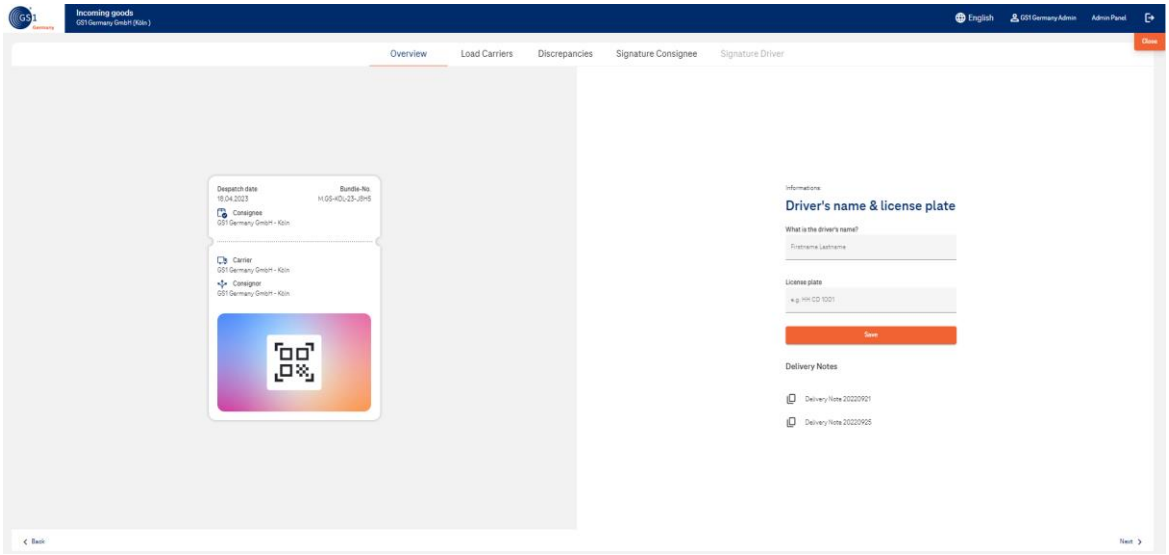


Figure 7–3: Record driver details

7.4 Documentation of load carrier exchange (optional)

As an option, exchanged load carriers can be recorded for individual delivery notes.

The type of load carrier (e.g. EPAL), the number of load carriers exchanged and the process step from the recipient's point of view vis-à-vis the driver (delivery, acceptance) are recorded for a delivery note.

Defective load carriers are indicated as a separate exchange item with "Acceptance" and flagged "Load carrier is damaged".

The Description field can be used to record remarks about the load carrier exchange. If a load carrier is exchanged that is not included in the list of suggested load carrier types, the load carrier type "Other" is selected and the "Other" load carrier is described in the Description field.

Example exchange process:

- 25 EPALs were accepted, of which 5 EPALs were damaged.
- 20 EPALs were delivered.
- 10 CHEP (1/4) pallets were delivered.
- 25 GS1 ice cream cup boxes were handed over.

The example exchange process is documented as follows:

EPAL	Quantity: 20	Acceptance	
EPAL	Quantity: 5	Acceptance	Load carrier is damaged
EPAL	Quantity: 20	Delivery	
CHEP (¼)	Quantity: 10	Delivery	
Other	Quantity: 25	Delivery	Description: GS1 ice cream cup boxes

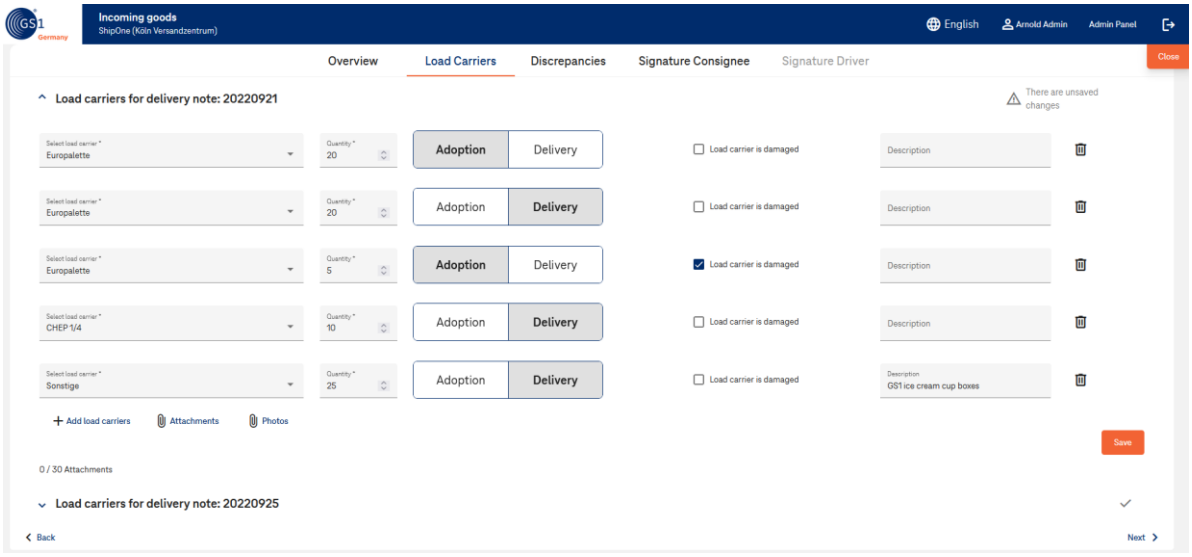


Figure 7–4: Document load carrier exchange

7.5 Attach images (of damage) (optional)

When recording the load carriers, images can also be added to individual delivery notes using the "Add photos" button.

7.6 Attach pallet slips (optional)

When entering the load carriers, pallet notes in PDF format can also be attached to a delivery note using the “Pallet note” button.

7.7 Recording discrepancies

If there are discrepancies between the actual delivery and the contents of a delivery note, these discrepancies can be added to a delivery note in two ways: either by entering the discrepancies via the basic front-end or by attaching a separate digital acceptance document/GR document. Discrepancies can only be documented in one of the two ways to ensure that no discrepancies arise in the documentation due to double entries via the basic front-end and a GR document, thus avoiding the need for clarification.

The delivery notes can be displayed individually using the eye (Button 1 in the graphic).

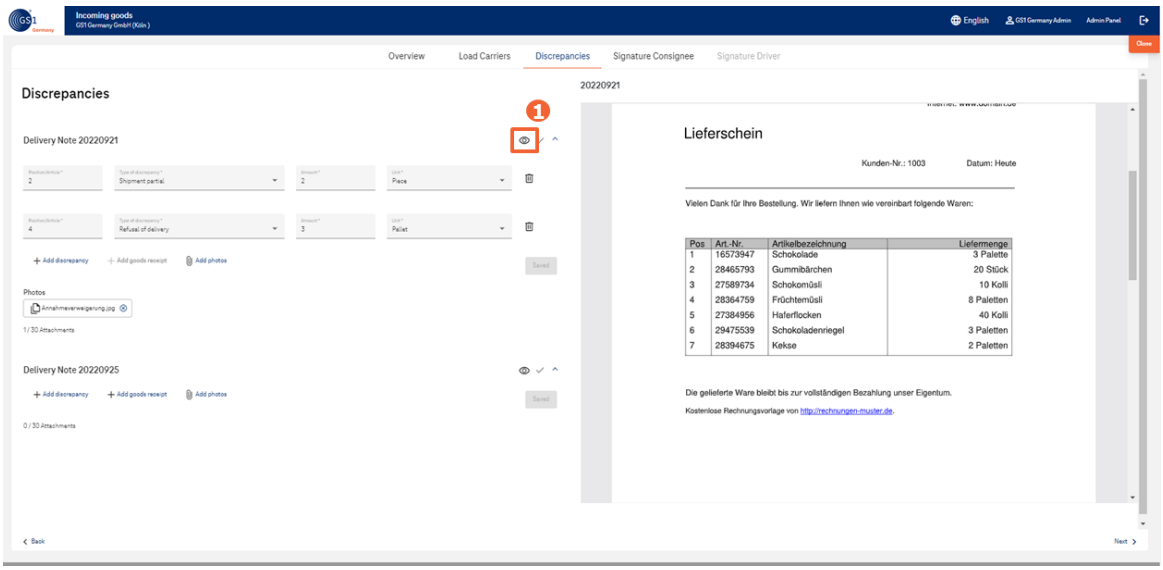


Figure 7–5: Recording discrepancies

If discrepancies are recorded in one of the two ways for a delivery note, the delivery note is marked accordingly in the “Bundles”, “Tours” or “Delivery Note” views of the shipper, carrier and recipient after the incoming goods process has been completed (capturing the signatures).

Delivery notes with the RC discrepancy flag contain documented discrepancies from the rough check. (Goods received in the presence of the driver and acknowledged by the driver and incoming goods staff)

If a fine check document is subsequently added to a delivery note by consignee, it is flagged FC.

Both rough check (RC) and fine check discrepancies can be documented on a delivery note.

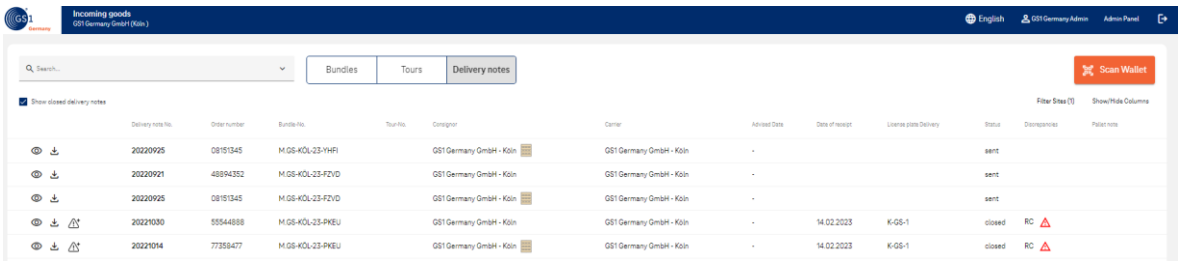


Figure 7–6: Display of delivery notes with and without discrepancies

7.7.1 Record discrepancies in the front-end

A discrepancy can be documented directly in the basic front-end at the item level for any delivery note.

This is done by specifying the affected item, the type of discrepancy, the number of units and the unit. Based on the recommended GS1 application "RECeiving ADVice- RECADV"*(https://www.gs1-germany.de/gs1-standards/umsetzung/fachpublikationen/detailansicht/receiving-advice-recadv/artikelnummer/4000001026852/)*, the following discrepancy types can be selected:

- Refusal of delivery
- Shipment partial
- Overdelivery
- Not notified

Example

Item: 2

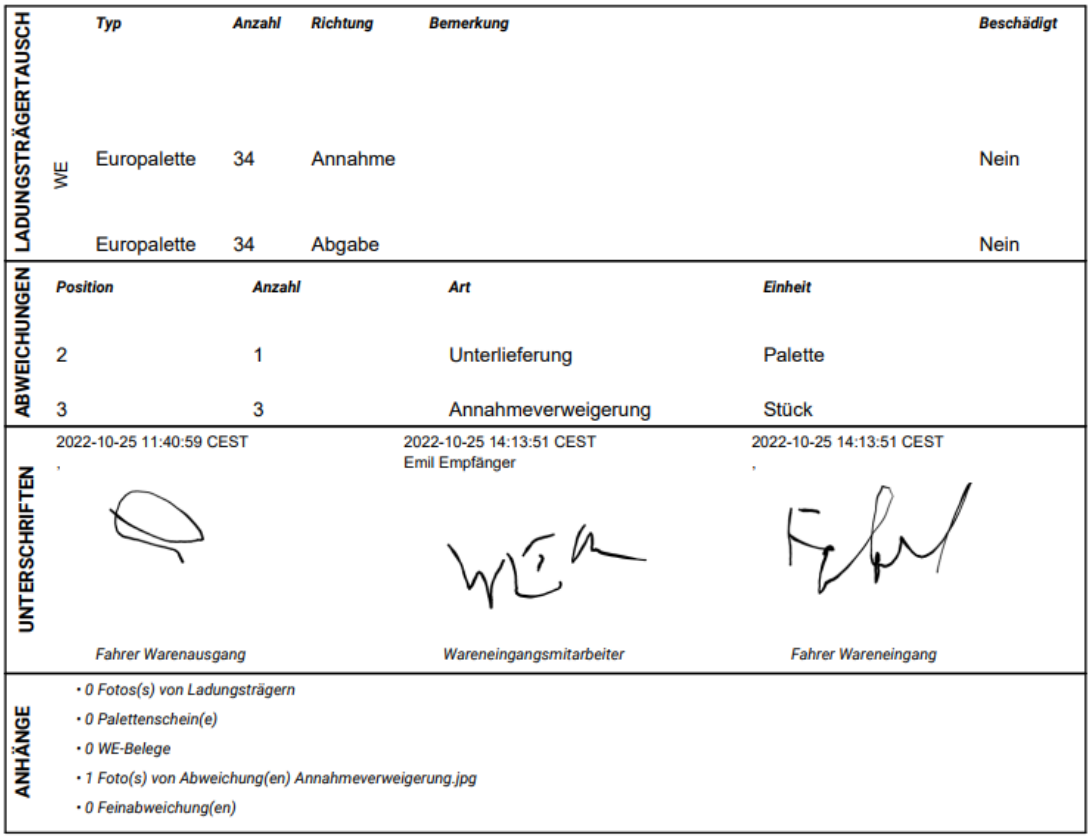
Type of discrepancy: Shipment partial

Quantity: 1

Unit: Pallet

In this example, 1 fewer pallet of item 2 was delivered than indicated in the delivery note.

The recorded discrepancies are added to the delivery note as documentation and the delivery note is flagged RC (for recorded discrepancies in the rough check).



LADUNGSTRÄGERTAUSCH

	Typ	Anzahl	Richtung	Bemerkung	Beschädigt
WE	Europalette	34	Annahme		Nein
	Europalette	34	Abgabe		Nein

ABWEICHUNGEN

Position	Anzahl	Art	Einheit
2	1	Unterlieferung	Palette
3	3	Annahmeverweigerung	Stück

UNTERSCHRIFTEN

2022-10-25 11:40:59 CEST	2022-10-25 14:13:51 CEST Emil Empfänger	2022-10-25 14:13:51 CEST
Fahrer Warenausgang	*Wareneingangsmitarbeiter*	*Fahrer Wareneingang*

ANHÄNGE

- *0 Fotos(s) von Ladungsträgern*
- *0 Palettenschein(e)*
- *0 WE-Belege*
- *1 Foto(s) von Abweichung(en) Annahmeverweigerung.jpg*
- *0 Feinabweichung(en)*

Figure 7–7**:** Documentation of discrepancies recorded in the basic front-end (example)

7.7.2 Record discrepancies via digital acceptance document/GR document

As an alternative to entering discrepancies in the front end, discrepancies regarding a delivery note can be recorded by attaching a recipient-specific digital acceptance document/GR document. A digital acceptance document/GR document is added to a delivery note using the "Add GR document" button.

As there is no automatic matching of the contents of the uploaded digital receipt document/GR document and the corresponding delivery note, the consignee is asked whether the uploaded document contains discrepancies. If the document contains discrepancies, the delivery note is marked with the RC discrepancy flag (recorded discrepancies in the rough check).

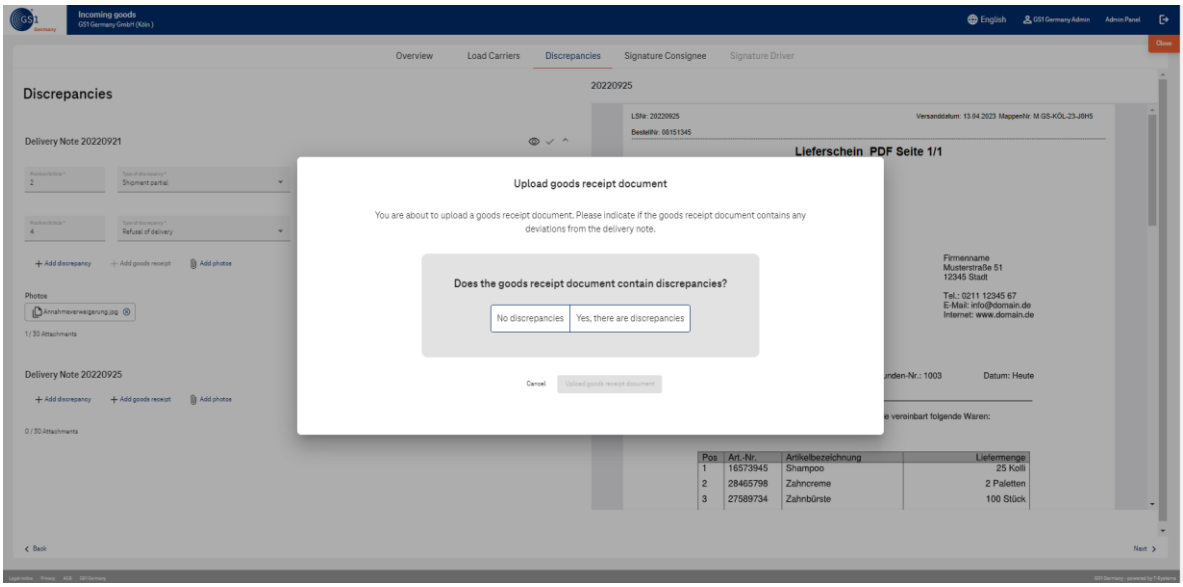


Figure 7–8: Upload GR document

7.8 Capture consignee signature

After possible discrepancies have been recorded, the consignee acknowledges receipt of the goods.

The consignee does this by signing digitally (e.g. on a tablet or signing pad) in the signature field provided. All information regarding the incoming goods process is listed and can be viewed under Check-In details. This includes the list of delivery notes with flags indicating whether discrepancies were documented and the delivery notes received, as well as load carrier exchange data, if recorded.

For a faster process flow, it is possible for the consignee to save the signature digitally (1) and insert it using the button (2).

The consignee signature is saved using the "Save signature" button (3).

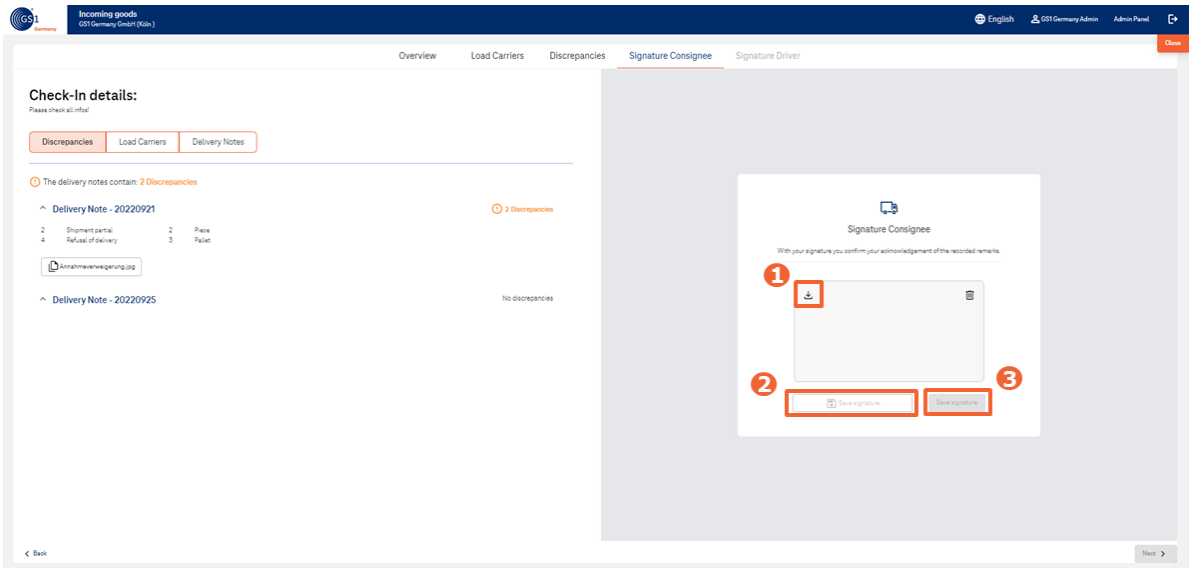


Figure 7–9: Capture consignee signature

7.9 Capture driver signature

Following signature by the consignee, the driver's signature is captured.

All information regarding the incoming goods process is listed and can be viewed under Check-In details. This includes the list of delivery notes with flags indicating whether discrepancies were documented and the delivery notes received, as well as load carrier exchange data, if recorded.

The driver can acknowledge the transfer of goods directly via the consignee's device (e.g. tablet or signing pad) or using his/her own mobile device (see Section Driver:in Option 1)

After capturing the signature, the button "Submit signature & save discrepancies" completes the goods receipt process and the status of the delivery notes changes from "sent" to "closed".

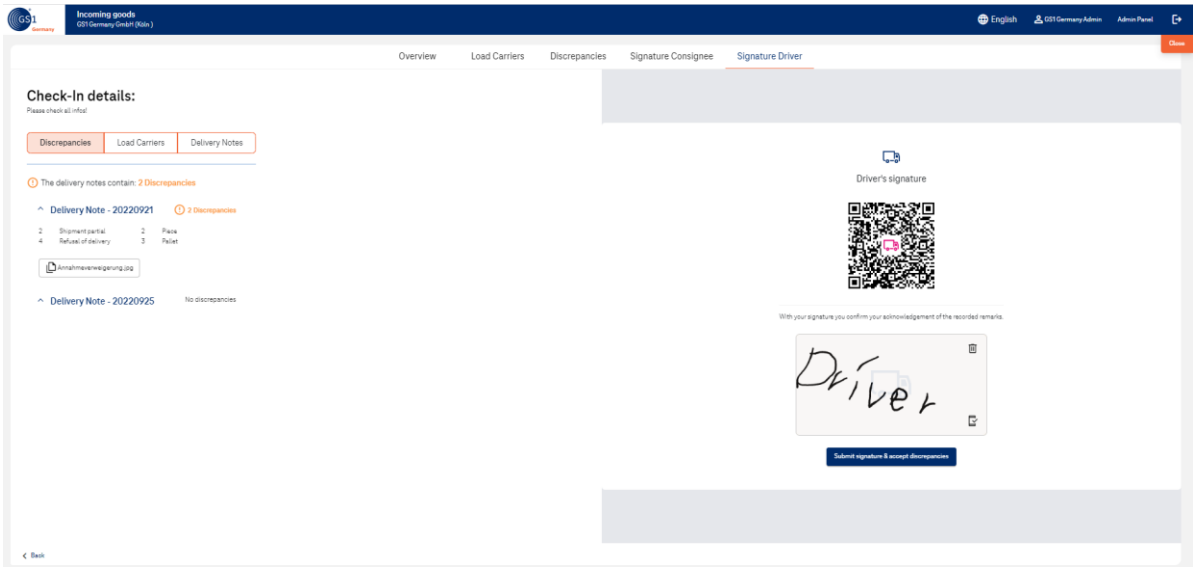


Figure 7–10: Capture driver signature

7.10 Fine check

If a discrepancy is detected within 10 days after a delivery note has been checked in (status change from "sent" to "closed") in a fine check downstream of the incoming goods process, documentation of the fine check can be attached to a delivery note as a PDF document.

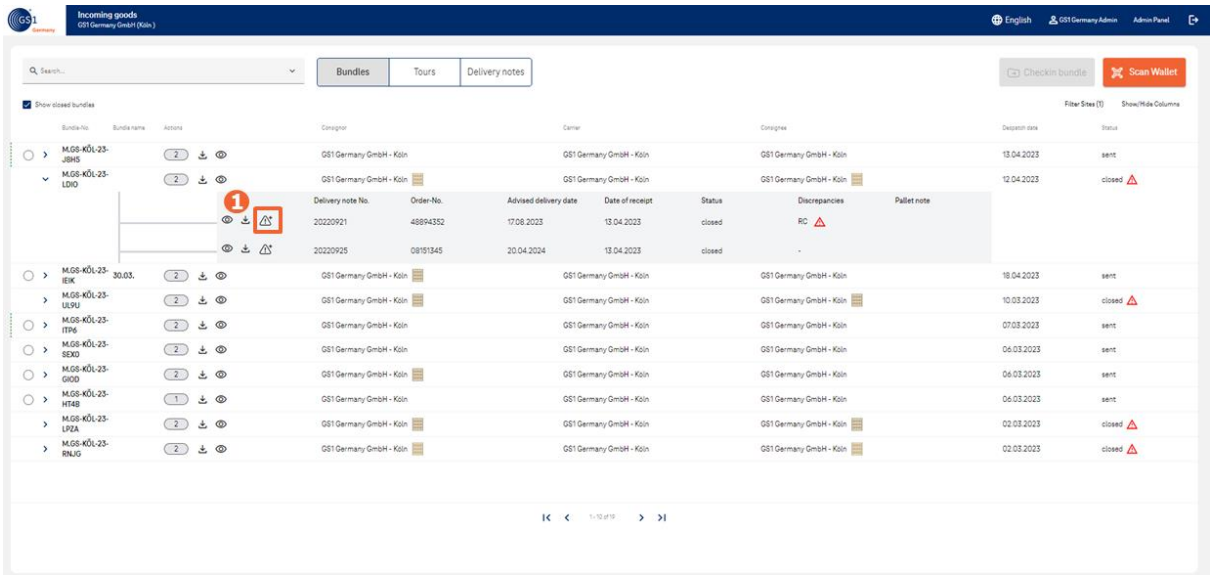


Figure 7–11: Upload fine check document

To do this, a corresponding delivery note is selected from the "Bundles" view and the fine check document is attached to the delivery note via the "Fine check document(s)" button.

The delivery note thus receives the FK (fine control) discrepancy flag.

Note: Fine check documents must be attached within 10 days after check-in of a delivery note, and attachment is performed without acknowledgement from incoming goods staff and the driver.

8 Carrier

A carrier is the company that is commissioned to transport goods from a shipper to a recipient.

8.1 Carrier overview

After logging in, the user in the role of shipper can choose between three views (“Bundles”, “Tours”, “Delivery notes”). You can switch between the views “Bundles”, “Tours” and “Delivery notes” as desired.

- “Bundles” are a compilation of delivery notes sent by a shipper to a recipient via a commissioned carrier.
- “Tours” are a compilation of delivery notes put together by the carrier (usually within a general cargo network) to form tours according to its internal despatch management.
- All delivery notes are stored under “Delivery notes”.

Note: The shipper must assign shipping notes to a bundle. The commissioned carrier has the option of reorganizing the delivery notes into a tour, which is why it is not mandatory that a delivery note be assigned to a tour.

A carrier’s user only sees delivery notes assigned to his/her location that have the status “sent” and “closed”.

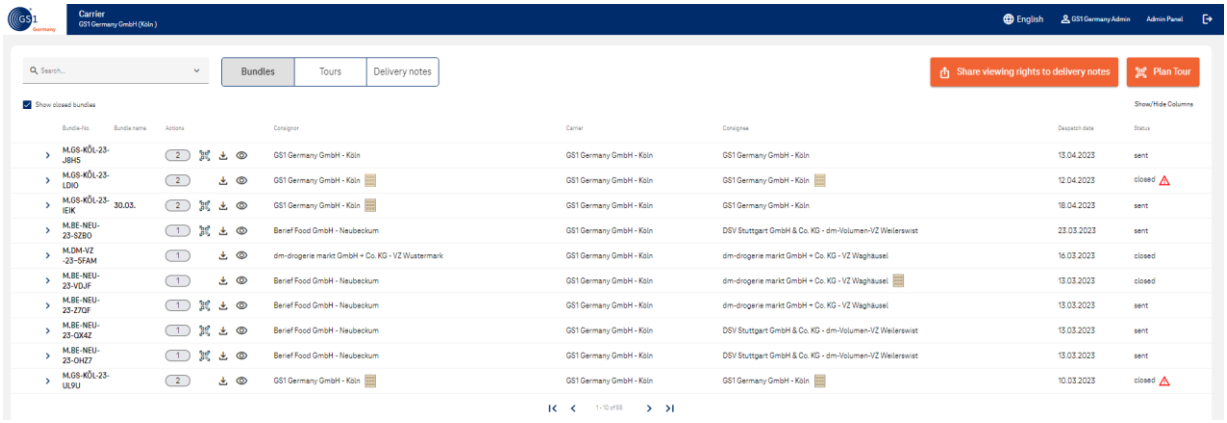


Figure 8–1: Carrier Bundles view

8.2 Tour planning

The forwarder can create a new tour using the "Plan Tour" button.

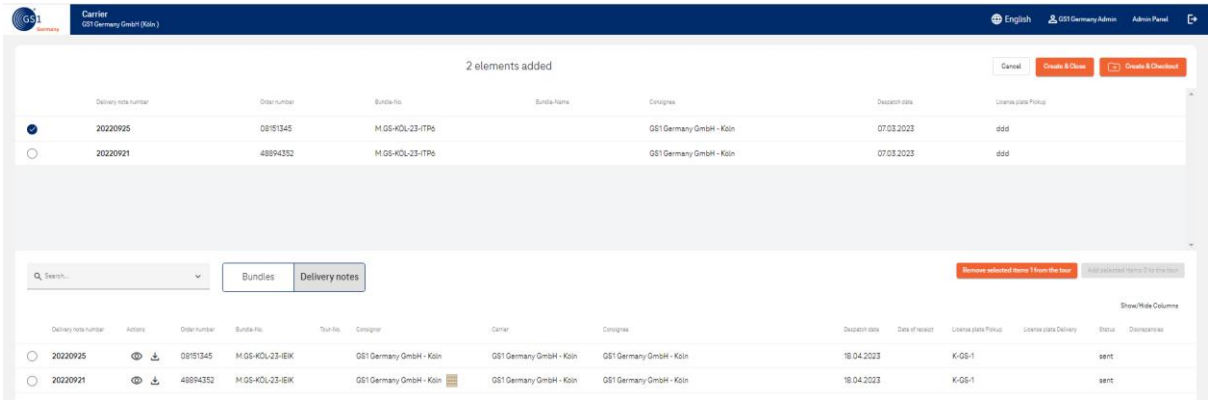


Figure 8–2: Tour planning

In tour planning, users can switch freely between the "Bundles" and "Delivery notes" views.

Depending on the view used, bundles or delivery notes are selected and added to a tour using the button "Add selected items to the tour". If a bundle is selected and added, all delivery notes in the bundle are added to the tour. Added elements can be removed from the selection by marking them and clicking the button "Remove selected items from the tour".

Note: Delivery notes with the status "sent" that are assigned to a tour must first be removed from this tour (scissors icon) so that they an be reassigned to another tour.

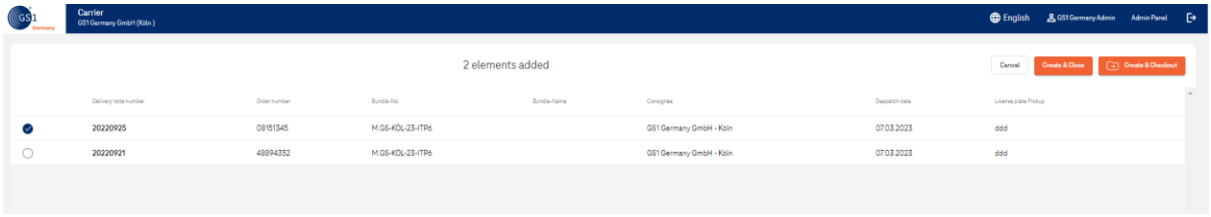


Figure 8–3: Tour configuration

After selecting the tour elements, the user can choose to create a tour with the status "open" using "Create & Close". Or the user can use "Create & Checkout" to create a tour that is immediately transferred (checked out) to the driver and assigned the status "sent".

8.2.1 Create & Close

The "Create & Close" button creates a new tour with the status "open". A tour with the status "open" can be freely edited (add to, delete, reassign delivery notes) similar to a bundle with the status "open" and is not displayed to the consignee.

In the "Tours" view, an "open" tour can be checked out using the "Checkout tour" button and transferred to the driver, thus changing to the status "sent".

A tour with the status "sent" is transferred to the driver and is displayed to the consignee(s) of a tour. Individual delivery notes can be removed from a "sent" tour using the scissors button.

8.2.2 Create & Checkout

The button "Create & Checkout" creates a new tour, transfers it directly to the driver and assigns it the status "sent".

8.2.3 Tour designation

The tour number is automatically generated by the system and is composed as follows:

1. T.GS-KÖL-22-XXXX

   T as an indication of a tour name to distinguish it from a bundle name

2. T.GS-KÖL-22-XXXX

   The first two letters of the company name

3. T.GS-KÖL-22-XXXX

   The first three letters of the shipping site

4. T.GS-KÖL-22-XXXX

   The last two digits of the calendar year

5. M.GS-KÖL-22-XXXX

   A randomly generated four-character alphanumeric code

Example: Company name GS1 Germany, shipping site Köln, year 2022

= T.GS-KÖL-22-ARFU

Once created, a tour can be given its own additional tour name as an option.

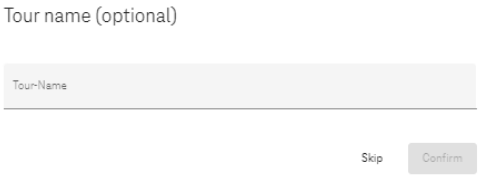


Figure 8–4: Tour name (optional)

8.3 Checkout tour/transfer access link to driver

Transfer to a driver takes place either by directly checking out the tour when it is created (“Create & Check-out”) or via the later check-out of a tour with the status "open" ("Check-out Tour").

The driver receives the access link to the tour either by scanning the QR code or a wallet item for the tour is sent to the driver by email.

In the event unexpected process disturbances prevent transfer to the driver, the following fallback functionalities are available to the carrier:

- Print QR ticket (access link for delivery notes transferred over)
- Print all delivery notes

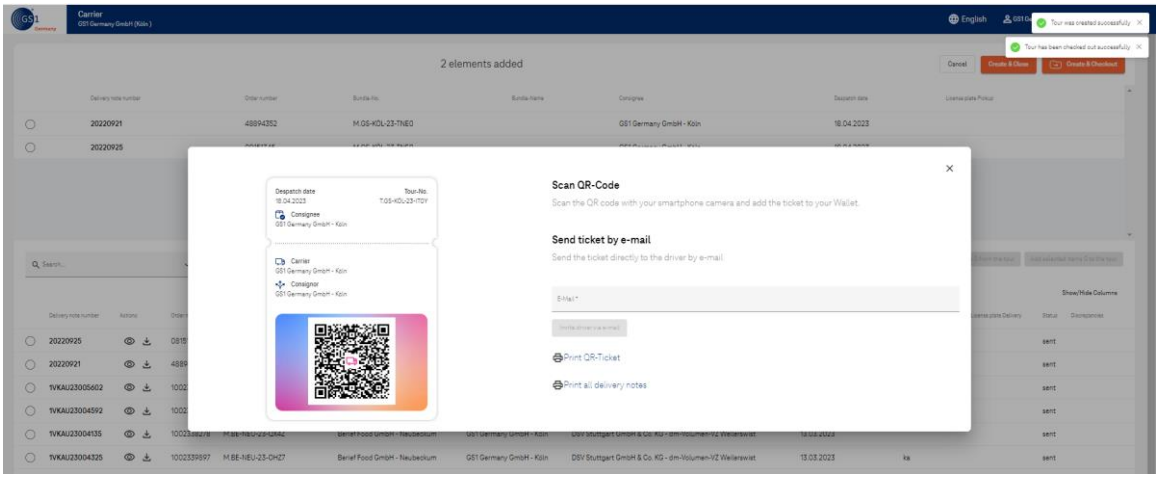


Figure 8–5: Transfer tour access link to driver

Once the access link has been transferred to the driver, the tour planning process in Cloud4Log is completed.

8.4 Share delivery note rights

If a carrier uses a general cargo network with other companies or commissions another carrier for the transport, the rights to delivery notes can be shared with other companies.

Companies that are to receive viewing rights to a delivery note must be registered in the Cloud4Log system.

Individual delivery notes or entire bundles can be shared with other sites using the “Share delivery notes” button in the main view. The corresponding bundles(s) or delivery note(s) are marked and the site with which these bundles(s) or delivery note(s) are to be shared is selected at the top left. The “Share now” button shares the rights to the site.

The selected site now has the same rights in the role of shipper (download delivery note, plan tours, etc.) for the selected bundles(s) or delivery note(s) as the carrier initially commissioned. These rights can be shared freely in a cascaded carrier structure.

Note: Delivery note rights are only shared. No on “loses” their rights when they share.

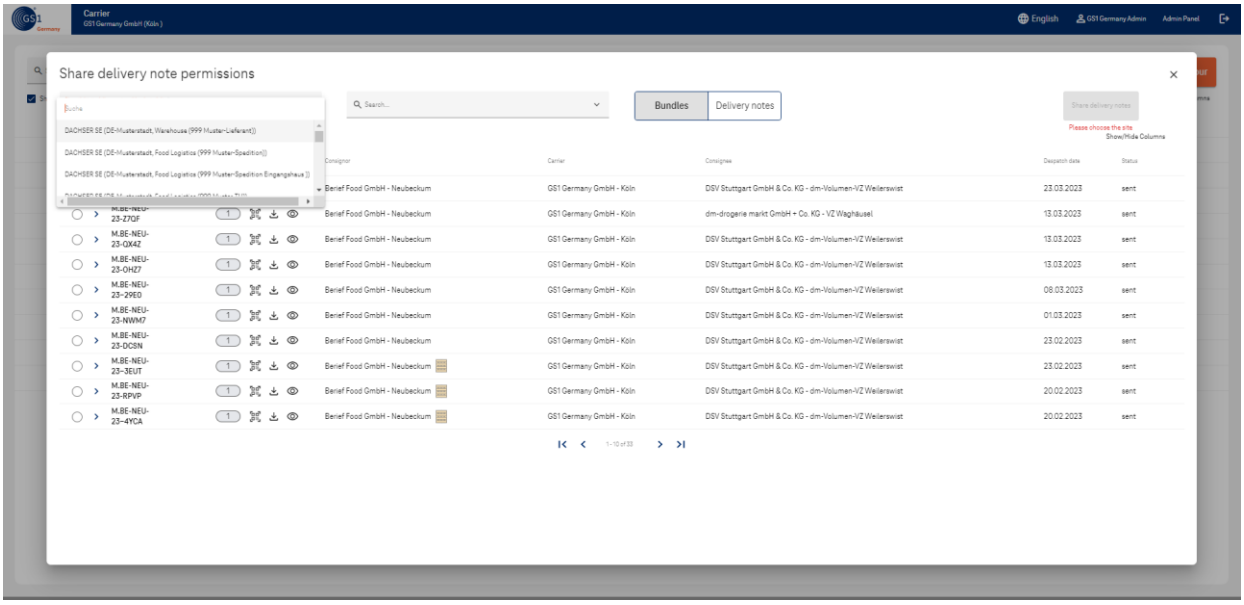


Figure 8 - 6: Share rights to delivery notes

9 Driver

The driver is the person who performs the physical transport of the goods from the shipper to the recipient on behalf of the carrier. In the case of interrupted/indirect delivery (e.g. change of drivers), the driver who collects the goods may be different from the driver who delivers them.

In the Cloud4Log system, the driver is not a registered or signed-in role. The digital delivery notes are transmitted via an access link, which is handed out in the form of a QR code. This enables the driver to call up, display and download the digital delivery notes as required. The access link is stored as a wallet element on the driver's device.

9.1 Transfer of the DDN access link

The consignor’s outgoing goods department has various options for the driver to receive the access link to the digital delivery notes.

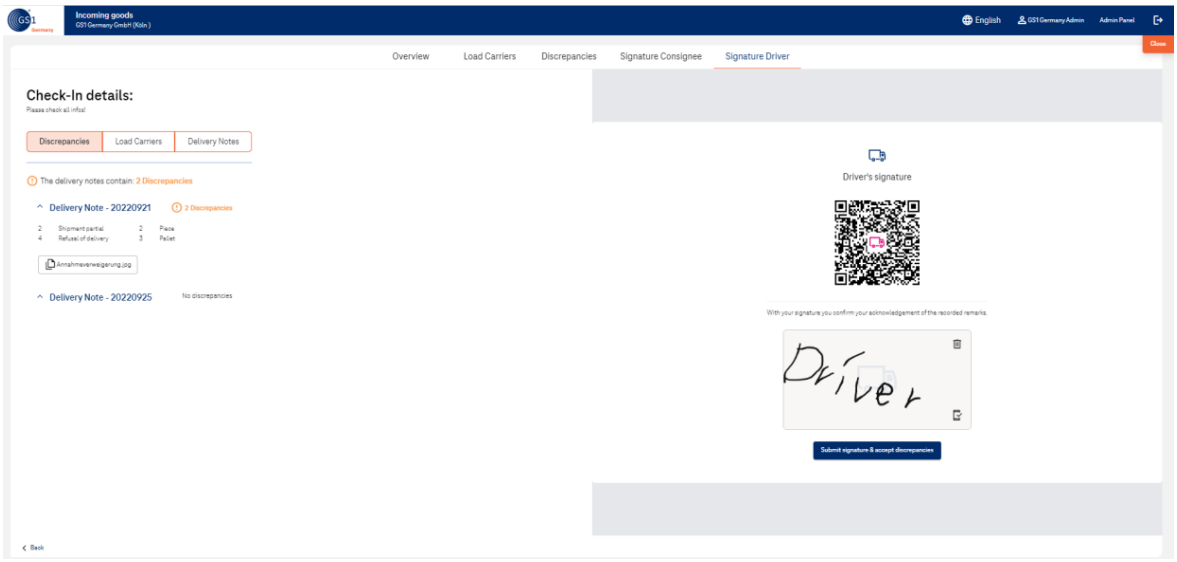


Figure 9–1: Acknowledgement by driver

Option 1: The driver confirms receipt of the goods via his/her own mobile device. To do this, the driver scans the QR code for the signature from a device belonging to the consignor’s outgoing goods staff (e.g. monitor, tablet) and signs on his/her own device (see Section 5: Goods issue). After the signature has been transferred, the driver automatically receives the access link by means of which the digital delivery notes can be called up.

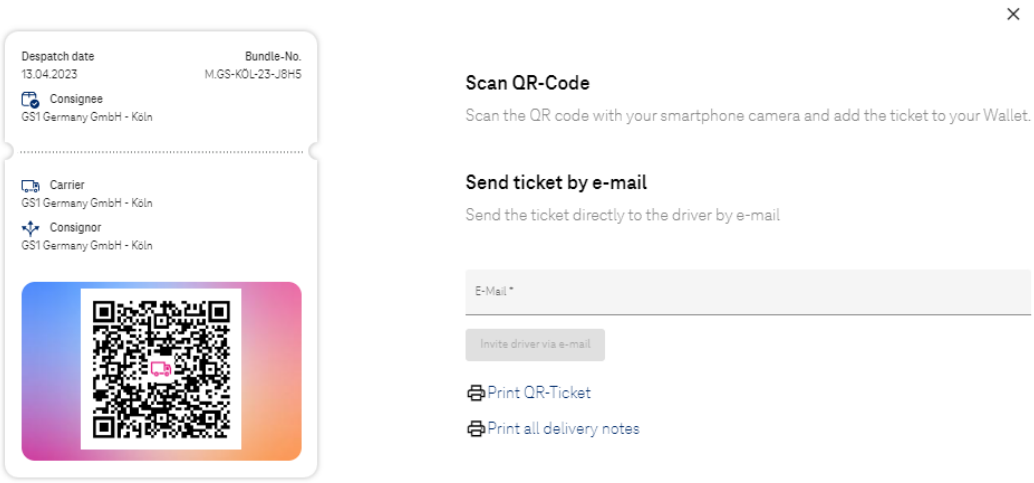


Figure 9–2: Transmission of the access link

Option 2: The driver confirms receipt of the goods on a device belonging to the consignee's incoming goods staff (e.g. tablet, signing pad).

If the driver signs on the consignee's device, the driver must then scan the automatically generated QR code with his/her own mobile device to obtain the access link.

Option 3: Forward access link by email

Alternatively, the consignee, the carrier involved or the driver involved, who have already received the access link, have the option of providing the link to other parties involved by email (e.g. in the case of a change of driver).

After receiving the access link, the driver must save the access link on his/her own mobile device as a wallet item. This can be done, for example, in the pre-installed apps "AppleWallet" (Apple system) or "Google Wallet" (Android system).

Once this is done, wallet item offers the following functions:

- Show delivery notes to view delivery notes
- Download delivery notes (original delivery notes)
- Download proofs of delivery (delivery note incl. noted remarks)
- Forward delivery notes in order to be able to forward the wallet item with the access link.

9.2 Show/ Download delivery notes

If the driver has received the access link and saved it locally on the smartphone as a wallet element, delivery notes and/or proofs of delivery can be displayed and downloaded via the wallet details. Delivery notes and proofs of delivery are available to the driver up to 14 days after delivery.

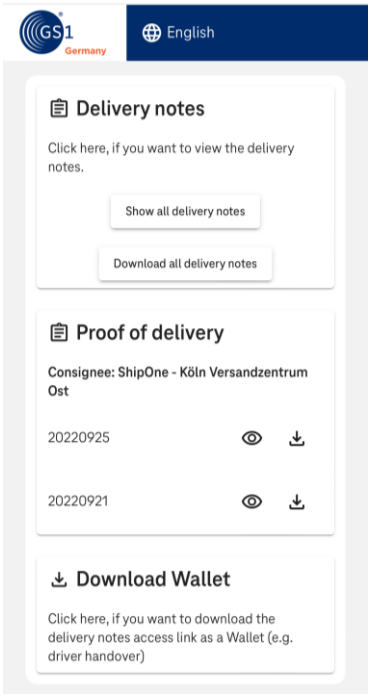


Figure 9–3: Show and download delivery notes

9.3 Identification of the driver in the incoming goods department

Once reaching the consignee's incoming goods department, the driver identifies himself/herself by means of the QR code and the corresponding access link. By scanning the QR code, the retailer's incoming goods staff can identify and find the digital delivery notes in question and start processing them on the cloud platform (See Section 6).

Alternatively, the driver can identify him/herself by means of the bundle/tour number. The incoming goods staff can call up the corresponding bundle/tour via the search function and start processing.

Note: 14 days after the process in the goods receipt is completed and the status of the bundle has changed from "sent" to "closed", the access link becomes invalid and the driver is no longer able to view and/or download the delivery notes.

Legal information

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