1. General Information

1.1 Introduction

This manual contains additional IT information relevant to processing parcels shipped with the mentioned service with Hermes Germany GmbH (HG). It builds on the ‘IT-Factsheet_Parcel_BC14' or ‘IT-Factsheet_Parcel_BC20' and should only be used in conjunction with this.

1.2 Service Descriptions & Benefits

97 % of Hermes customers were satisfied or very satisfied with their last return.
We achieve this through customer-oriented products and services:

- Close drop-off points
- Long opening hours
- Short waiting times
- Hassle-free packing
- Flexible drop-off options
- Transparency
- Numerous label options

1.3 Disclaimer

Before using this service, clients must have the permission for using the CustomerReturns Service. This is part of the contract, that must be signed in advance. For further information, please get in touch with your sales contact or send us a message.

2. Label

The section below describes the structure and the necessary components and elements of a Hermes returns label. The precise positioning of the elements can vary, should the client require. Please discuss this with your Hermes account manager. Any change to the label must be approved by the label inspection/test unit. Please note that this label in this form can only be used for domestic returns within Germany. Label for international returns can only be generated using the web service.

2.1 Sample HG Return Label

Hermes ID (Shipment ID, Barcode): The shipment identification number (HermesID) encoded in the barcode is the key element of the label and serves to uniquely identify the shipment. The ID can either be the original ID of the shipment, or a specially generated returns ID.

Barcode Specifications: HG works with two different barcode types. On the one hand this is a 14-digit 2/5 interleaved and on the other hand a 20-digit Code128. Please ask your Hermes contact person which of these barcodes is relevant for you. There you can also find out the corresponding barcode specifications.

Return Barcode and the 'R' Code: The additional barcode with the code 'R' identifies the shipment as a return. This instructs the Hermes system to return the shipment to the client. This is a Code 39 barcode with the content ***61***.

Sender and Recipient Addresses: Both the address of the end customer and the address of the return facility need to be on the returns label to be able to deliver the parcel to the appropriate location.

Returns Code 'D': The returns code is a manual sorting criteria used by HG to identify the facility the shipment is to be returned to. Please ask your contact during the integration phase for the returns code valid for your company. For Germany, this would normally be the code 'D'.

Additional Elements: The label should also contain the Hermes wing. This ensures that the parcel can be clearly and quickly identified as a Hermes parcel at the Hermes ParcelShop. In addition, the client can add some information of its own (e.g. a logo) to the label.

2.2 Releasing the label

To achieve best possible reading and processing results for labels produced by clients, samples of the respective pre-advice data need to be checked and approved before they are used in operations.

Label testing unit:
Hermes Germany GmbH
HG-IT-CUS-CI
- Label Testing -
Essener Str. 89
22419 Hamburg, Germany

Once the test labels have been received it may take 3-5 workdays to run the tests.

3. Returns initially sent by Hermes

If the item being returned is one that was previously delivered by Hermes (i.e. the return of a Hermes shipment), it is not necessary to generate a new HermesID. The ID previously used for the shipment can be used again. In this case the client has two options.

3.1 Use of the Outbound Shipment Label

This option is only available for domestic (German) returns.

The return is processed using the original shipment label. It is not necessary to generate and attach a new label. The original recipient can hand over the parcel as a return at any Hermes ParcelShop or to a Hermes driver. The recipient should however make sure that the label is not damaged and is legible.

3.2 Use of a Self-Generated Return Label Using the HermesID of the Outbound Shipment

This option is only available for domestic (German) returns.

The customer creates an additional returns label based on the specifications described in chapter 1, which is then provided to the original recipient. The shipment ID / barcode already used for the outgoing shipment is also used as the HermesID.

4. Returns of parcels not sent via Hermes or with a separate HermesID

If the parcel that is being returned was not initially sent by Hermes, or for any other reason does not have a HermesID for the shipped parcel, a new ID needs to be generated. For this, there are several alternatives available. One of the options is for Hermes to generate and provide the complete returns label.

4.1 Use of a self-generated return label using a self-generated Hermes ID

This option is only available for domestic (German) returns.
The client generates a returns label based on the specifications described in “Label” which it then provides to the customer. In this case, the HermesID required must be generated by the client itself. The regulations for this are described below.

4.1.1 Structure of the HermesID

HG works with two different types for shipment numbers (14 and 20 characters). Please ask your Hermes contact person which type is relevant for you. There you will also find the relevant specifications.

Note: A Hermes cell coding module is required from the client to determine the destination depot code “DD” or “DDD”. Hermes makes these modules available in various formats. The client must then integrate this module into his system structure and use it to encode the HermesID. More detailed information and specifications are available on request from your contact person for technical customer integration.

4.2 Use of a Self-Generated Return Label Using a HermesID Generated via an API Call

This option is only available for national returns within DE.
The client creates a return label based on the specifications described in section 2.2, which is then made available to the customer. However, in order to avoid the hassle of generating HermesID for the client, the required HermesID is generated using an API call.
If you are interested in this solution, please ask your contact person for the documentation for our Hermes Shipment Interface (HSI).

4.3 Use of a Return Label Generated by Hermes via an API Call

This option is available for both national and international returns.
The return label is generated by Hermes - triggered by an interface call. The label is provided as a PDF file. The client can then make this label available to the customer.
If you are interested in this solution, please ask your contact person for the documentation for our Hermes Shipment Interface (HSI).

Note: The label generated by the interface is delivered in a layout defined by Hermes. Customer-specific adjustments (e.g. adding additional information or labels) are not possible.

5. Mobile Returns Form (QR-Code)

The mobile returns form provides the client with the option of customers returning parcels via a Hermes ParcelShop, without using a returns label. This saves the client having to enclose a return label with the item delivered and the customer the effort in printing out such a label to return the item. The label is printed out in the Hermes ParcelShop. To make sure the label can be printed out at the ParcelShop, the client only needs to provide the customer with a QR barcode (via email, smartphone app, etc.). This code is then scanned in at the Hermes ParcelShop (e.g. directly from the display of the smartphone) and the label in printed.
The QR barcode contains all the information required for the label to be printed. The shipper has to ways to generate a QR code:

- Creating a QR code through its own in-house implementation
- Creating a QR code through an API call

This mobile return form is only available for national (German) returns.

5.1 Creating a QR Code Through Its Own In-House Implementation

5.1.1 Coding Content

Content is to be coded in binary form according to code page 850 (DOS Latin 1).

	*0	*1	*2	*3	*4	*5	*6	*7	*8	*9	*A	*B	*C	*D	*E	*F
0*		☺	☻	♥	♦	♣	♠	•	◘	○	◙	♂	♀	♪	♫	☼
1*	►	◄	↕	‼	¶	§	▬	↨	↑	↓	→	←	∟	↔	▲	▼
2*		!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
3*	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4*	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5*	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6*	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7*	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	⌂
8*	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
9*	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
A*	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
B*	░	▒	▓	│	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
C*	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
D*	ð	Ð	Ê	Ë	È	ı	Í	Î	Ï	┘	┌	█	▄	¦	Ì	▀
E*	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
F*		±	‗	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	

5.1.2 Structure of the data fields

Content in the QR barcode is subject to a specific structure. This structure must be applied to be able to print the return label at a Hermes ParcelShop.

Field Name	Mandatory	Length	Description/Contents
Encryption	Yes	2	Fix Value Always fill field with 0x30 0x01
Code	Yes	6	Fix Value Always fill field with RetLbl
Validity	Yes	8	Validity of the QR code Format YYYYMMDD After this date it is no longer possible to generate a return label at a Hermes ParcelShop
Shipment Number	Yes	24	Hermes-Shipment Number 14- or 20-digit
Type of Barcode	Yes	1	Type of Shipment Number 1 = 14-digit 2 = 20-digit
Return Code	Ja	1	Return Sorting Code assigned by Hermes Generally "D"
Return Barcode	No	8	The field is only to be filled in when Hermes so requests

Client Name	Yes	30	Recipient Address This address is printed on the label. Please note that this address does not have a direct impact on the address to which the parcel is being returned to.
Client Street	Yes	32	
Client House Number	Yes	5	
Client ZIP Code	Yes	10	
Client City	Yes	30	
Sender Name	Yes	30	Sender Address This address is printed on the label.
Sender Street	Yes	32	
Sender House Number	Yes	5	
Sender ZIP Code	Yes	8	
Sender City	Yes	30	
Type of Note	No	2	There is an option of printing an additional note on the generated return label. This can be text or a QR barcode: 01 = Text 02 = QR code
Note Text	No	50	Additional note printed on the label

All fields are to be separated by the 0xFF code. This also applies to optional fields if these are not to be filled in/used. In addition, the complete record is to be ended with the 0xff code.
The following examples have been written in C# and provide a general picture of the issue. Their integration and implementation in the client's IT systems are the responsibility of the client itself. Of course, we are always available to assist in the implementation of the necessary processes but cannot offer any direct business or specific support (e.g. code samples in the programming language you need).
Example:

```
private byte[] SampleCode850()
{
	ArrayList content = SampleQrCodeContent();
	byte[] byteArrayCode850 = ByteArrayForQrCode(content);
	return byteArrayCode850;
}
```

Structure of the array list with content:

```
private ArrayList SampleQrCodeContent()
{
	ArrayList arrl = new ArrayList(500);
	arrl.Add("RetLbl");
	arrl.Add("20210330");
	arrl.Add("99098365432103");
	arrl.Add("1");
	arrl.Add("D");
	arrl.Add("64764711");
	arrl.Add("My Company");
	arrl.Add("Essener Str.");
	arrl.Add("89");
	arrl.Add("22419");
	arrl.Add("Hamburg");
	arrl.Add("Max Mustermann");
	arrl.Add("Musterstr.");
	arrl.Add("1");
	arrl.Add("12345");
	arrl.Add("Musterhausen");
	arrl.Add("01");
	arrl.Add("This is a note");
	return arrl;
}
```

Methods of creating binary content for the QR code:

```
private byte[] ByteArrayForQrCode(ArrayList arrList)
{
       ArrayList bytes = new ArrayList(arrList.Capacity * 2);
       // Encryption
       byte b = 0x30;
       byte s = 0x01;
       byte separator = 0xFF;
       bytes.Add(b);
       bytes.Add(s);
       bytes.Add(separator);
       // Text characters codes with code page 850
       Encoding c850 = Encoding.GetEncoding(850);
       foreach (string item in arrList)
       {
              byte   [] brr = c850.GetBytes(item);
              bytes.AddRange(brr);
              bytes.Add(separator);
       }
       byte[] ContentOfQRCode = (byte[])bytes.ToArray(typeof(byte));
       return ContentOfQRCode;
}
```

The sample data mentioned above result in the following sequence of bytes:

```
30 01 FF 52 65 74 4C 62 6C FF 32 30 31 35 30 33 33 30 FF 39 39 30 39 38 33 36 35 34 33 32 31 30
33 FF 31 FF 44 FF 31 30 30 31 32 33 34 35 FF 4D 79 20 43 6F 6D 70 61 6E 79 FF 45 73 73 6E 65 72
20 53 74 72 2E FF 38 39 FF 32 32 34 31 39 FF 48 61 6D 62 75 72 67 FF 4D 61 78 20 4D 75 73 74 65
72 6D 61 6E 6E FF 4D 75 73 74 65 72 73 74 72 2E FF 31 FF 31 32 33 34 35 FF 4D 75 73 74 65 72 68
61 75 73 65 6E FF 30 31 FF 44 69 65 73 20 69 73 74 20 65 69 6E 20 48 69 6E 77 65 69 73 FF
```

The sequence of bytes generated by this sample code have to then be sent to a QR barcode generator to create a QR code for the mobile returns form, for example ZXing (zebra crossing), an open source library to generate 1D/2D bar-codes in Java (there are diverse ports in other languages). For further information on ZXing visit https://github.com/zxing/zxing.

5.2 Creating a QR Code through an API-Call

The QR code is generated by Hermes - triggered by an interface call. The barcode is provided as a PNG graphic. The client can then make this available to the customer.
If you are interested in this solution, please ask your contact person for the documentation of our Hermes Shipment Interface (HSI).

6. Online Returns Form

Hermes also offers you the option of making a return slip available to your customers online. Your IT contact person will provide you with a customized link to the online returns form, in which your customers will receive a return label as a PDF document or a QR by entering their own address.

You can then send the link to this online form directly to your customer, who enters his sender address and immedi-ately receives the return label as a PDF or a QR. The delivery of the package together with the label is then optimally done in the next parcel shop.