

# Using Global Express Entry

## Auto-completion Analysis for Germany

### INTRODUCTION:

Melissa's Global Express Entry, a cloud-based, auto-completion tool, offers pre-validated addresses for over 240 countries and territories, speeds up e-commerce checkout to improve the customer experience, helps website conversions, and ultimately reduces your costs associated with returned shipments due to incorrect addresses. Every country has a different mailing format standard. For example, Germany has a Locality and a Postal Code, while Italy has a Locality, a Postal Code and a Province. Performing auto-completion can differ from country to country depending on the type and style of addresses as well as the use case. With 131 different global address formats included, standardized address data means you can deliver everywhere easily. This document will look at the address format data for Germany and help you understand how to best use Global Express Entry to complete addresses. We will explore how many keystrokes we estimate are needed to complete your address or address part.

**Land**

**Postleitzahl**

**Stadt**

**Straße**

### Global Express Entry Endpoints

When using Global Express Entry, we will often be asked for a number that someone will need to complete X number of addresses. However, Global Express Entry can be used in many different ways that it is impossible to boil it down to a single number. There are also factors that influence the number of requests needed including:

- The quality of the input data
- The end point used
- The data you are completing (address or thoroughfare or postal code, etc)
- How efficient your code is with using the service

Normally when completing German addresses, we would approximate about 3-4 transactions per address. This is a general default estimate. One of the purposes of this document is to provide additional information to better inform the user.

**Land**

**Postleitzahl**

|                   |
|-------------------|
| 506               |
| Köln, Köln, 50667 |
| Köln, Köln, 50668 |
| Köln, Köln, 50670 |
| Köln, Köln, 50672 |
| Köln, Köln, 50674 |
| Köln, Köln, 50676 |
| Köln, Köln, 50677 |
| Köln, Köln, 50678 |
| Köln, Köln, 50679 |
| Köln, Köln, 50681 |

Löschen

Let's take a look at the different endpoints:

| Endpoints                               | Short Description                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GlobalExpressPostalCode                 | GlobalExpressPostalCode is provided as a convenient method for quickly retrieving locality and administrative area information using the postal code as the input. A subsequent call to GlobalExpressAddress benefits greatly by using the locality and administrative area information from GlobalExpressPostalCode with GlobalExpressLocalityAdministrativeArea.                                                                                              |
| GlobalExpressLocalityAdministrativeArea | GlobalExpressLocalityAdministrativeArea is provided as a means of retrieving locality and administrative area combinations using the locality name.                                                                                                                                                                                                                                                                                                             |
| GlobalExpressCountry                    | The GlobalExpressCountry endpoint returns the country names containing the search term in the 'Country=' parameter. Country names in five languages are returned: English, Spanish, French, German, and Simplified Chinese.                                                                                                                                                                                                                                     |
| GlobalExpressThoroughfare               | GlobalExpressThoroughfare is a means for retrieving the thoroughfares within a Postal Code using the Postal Code and beginning of the thoroughfare name as the inputs.                                                                                                                                                                                                                                                                                          |
| GlobalExpressAddress                    | The GlobalExpressAddress service is consumed to retrieve results containing all of the available address elements of an address record: FormattedAddress, AddressLine1-8, CountryISO3166_1_Alpha2, CountryISO3166_1_Alpha3, CountryISO3166_1_Numeric, SubNationalArea, PremisesNumber, AdministrativeArea, SubadministrativeArea, locality, dependentlocality, doubledependentlocality, thoroughfare, dependentthoroughfare, building, postalcode, and postbox. |
| GlobalExpressFreeForm                   | The GlobalExpressFreeForm service is provided as a means of retrieving all available address elements using a free form search.                                                                                                                                                                                                                                                                                                                                 |

## Germany



Germany is a country with a very standardized address structure with very good source data available. Additionally, the German population has a generally high level of address format knowledge. Compared to other countries, German addressing is clean and straight forward.

The main components of a German address are as follows:

**Address1**

**City**

**Postal Code**

**Country**

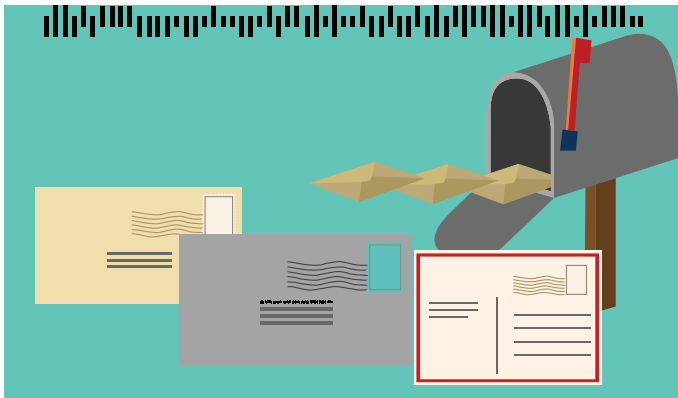
The minimum needed to uniquely determine a full address are:

**Country + Postal Code + Street + Premise Number**

**Or**

**Country + Locality + Street + Premise Number**

This means you need either the postal code or the city. Depending on the length of the locality, the completion of the 5-digit postal code is generally faster.



## Considerations

### Top Down vs Bottom Up

The key to increase completion speed is to narrow down the number of possible addresses as quickly as possible. The easiest way to do that is to start with a postal code using `GlobalExpressPostalCode`. Then, when using `GlobalExpressThoroughfare` using the postal code 50667, when typing the first letter "C" as in "Cäcilienstr. 42-44", results are already narrowed down to two streets. On the other hand, when using `GlobalExpressFreeForm`, when entered 42-44 as the house number, the service must search nationwide, where we have hundreds of possible candidates. It is therefore recommended to utilize `GlobalExpressPostalCode` and `GlobalExpressThoroughfare` in combination for German addresses.

### Minimum Characters and Timed Delays

By changing the minimal number of characters required to receive the first list of suggestions, you can artificially narrow down the number of initial results to save transactions. For example, one could limit the minimum required characters for German 5-digit postal codes to 3 so in any case, you would require a maximum of 2 transactions to fill in the postal code.

Through delays, you could artificially change the response time of the service so it will present the first list of results after a specified time upon filling the minimal number of characters. So, if you type fast enough, you would send a request containing 4 out of 5 numbers from the postal code, even though the minimum character threshold was set to 2, simply by inserting a 500ms delay.

A combination of these two parameters is also possible. We recommend 2-3 characters as a minimum threshold and a delay of 250ms, which is fast enough to make the auto-completion feel responsive and snappy, while also having a great chance to pass one more character to narrow the results down just a bit more.

## Recommendations by service endpoints

| Endpoints                                   | Keystrokes | Examples                           | Recommendations                                                                                                                                                                                                                                                                     |
|---------------------------------------------|------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GlobalExpressPostalCode                     | 3-4        | 50667                              | Postal codes are 5 digits. You will likely not narrow down the correct postal code until the 3rd or 4th digit.                                                                                                                                                                      |
| GlobalExpressLocality<br>AdministrativeArea | 1          | Köln, 50667                        | Based on the postal code, the Locality and Administrative Area are immediately completed.                                                                                                                                                                                           |
| GlobalExpressCountry                        | 1          | Germany                            | There are about 15 countries that start with the letter "G".                                                                                                                                                                                                                        |
| GlobalExpressThoroughfare                   | 1 to 3     | Cäcilienstraße, 50667              | Depending on the postal code, you will likely have a bigger list of thoroughfares possible. The first or second characters will likely narrow it down enough to contain the correct candidate. An exception here is street names that begin with "Sch" which are common in Germany. |
| GlobalExpressAddress                        | 3 to 6     | Cäcilienstr. 42-44,<br>Köln, 50667 | Within a postal code, the number of addresses that can be completed are fairly narrowed down. You will likely have the list containing the correct candidate by the time you get to the first few letters of the thoroughfare.                                                      |
| GlobalExpressFreeForm                       | 8 to 14    | Domkloster 4, Köln<br>50667        | House numbers and street names are not unique and are repeated across many areas in the country. You likely will not narrow down the candidate list enough until mostly through the thoroughfare. Even more if it is a common thoroughfare like "Haupt", "Ober" or "Unter".         |

## ABOUT MELISSA

Our 35+ years of address expertise started with ZIP+4 and turned into so much more. Melissa is a single-source vendor of global address management, data quality and identity verification solutions that help organizations harness accurate data for a more compelling customer view. Our industry-leading solutions have processed over 1 trillion address, name, phone and email records, making it clear why thousands of businesses worldwide trust Melissa with their data quality needs. For more information, visit [www.melissa.com](http://www.melissa.com) or call 1-800-Melissa.