

TSS User Guides

API: Functional Guide



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HM Revenue
& Customs



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If there are any words or acronyms in this document that are unfamiliar, please visit the [Jargon Buster](#) or use the search tool on the [Northern Ireland Customs & Trade Academy \(NICTA\) website](#) to find a definition.¹

1 Introduction

The Trader Support Service (TSS) enables traders to submit customs declarations through an online portal. The service supports different types of declarations including Entry Summary Declarations, Simplified Frontier Declarations, Supplementary Declarations and Full Frontier Declarations. Further details on these declaration types can be found in [A Beginner's Guide for importing goods to Northern Ireland](#) on the Northern Ireland Customs & Trade Academy (NICTA) website.

TSS has developed functionality to automate the upload of information required to create these declarations. This automated process is available for all declaration types.

The TSS uses industry standard Application Programming Interface (API) protocols enabling experienced IT departments to develop and build automated upload procedures. There are test environments available for developers to build and test their API processes before using them to submit real declarations. Organisations interested in using this API can register for access via their company profile on the [TSS Portal](#).

Agents and Intermediaries can also use the TSS API to create, edit, and submit declarations on behalf of the traders they represent.

1.1 What is an API?

An API is a standardised and automated way for computer programs to interact with each other (e.g., to transfer data or access functionality). In the case of TSS, the API allows traders to give their computer systems automated access to similar functionality that a human operator accesses via the TSS Portal.

1.2 How does the API work?

To interact with the API, the trader's software sends a request to the TSS system (much like how your web browser would request a website or upload a photo). This contains the same type of data a manual user would enter into the TSS Portal. TSS processes this request and replies to the trader's system with either confirmation or an error. There are two kinds of relevant errors:

¹ Terms used in this guide refer to the terminology used on the TSS Portal. Please note that these may not match the most recent terms used on GOV.UK, in HMRC's Customs Declaration System or the Northern Ireland Online Tariff on [GOV.UK](#).



- The API may return errors if the information you send to the API does not meet the API's specifications, and the API can't process your request
- The API may be used to retrieve errors from HMRC systems, which occur if your submission does not meet legal requirements for a valid customs declaration

These two responses are built according to a format called JSON, which is a standard text-based format for representing structured data.

1.3 Scope of this guide

This guide will tell you how TSS supports the completion of declarations using the upload API, and how to approach your preparation. It is intended for core business functions, customs staff, and technical staff, within interested organisations.

This guide is focused on the API upload and should not be used as an introduction to customs procedures or TSS. Links to guidance on TSS and the declarations processes can be found in the [I need to know more](#) section below.

Depending on your role, you may wish to focus on the sections of this document most relevant to you.

Table 1: Sections in this document, and key audiences

Section	Explains	Read this if ...
Overview of the TSS declaration processes	The simplified and full customs processes TSS supports and how the API interacts with these processes	You want to check you can use the API to submit your declarations
Detailed declaration processes using API	How the different API resources are used at each step of each process	You want to automate the process of submitting declarations for moving goods from Great Britain (GB) to Northern Island (NI)
Suggested approach to data preparation	What types of data are required to send valid declarations to TSS	You're preparing the business dataset from which your API client will draw

2 Guidance for API Users

[NICTA](#) contains a repository of materials for traders on all aspects of new trading processes, including documents tailored to API users. This document provides an introduction to the



API in TSS, but it is essential that traders also familiarise themselves with relevant customs and declaration guidance.

2.1 Key documents for API users

- [TSS API Reference: How-to Guide](#) – provides the technical specification for API clients. This guide explains the communication between the TSS API and trader systems
- [Data guide: TSS declaration data requirements](#) – primarily for TSS Portal users, but also maps the TSS Portal data fields to API fields and provides detailed guidance on completing declarations
- [Guidance on controlled goods and the Online Tariff Tool](#) – explains what constitutes a controlled good and indicates how to find information on the different rules that apply to commodities being moved

Please refer to the [I need to know more](#) section of this guide for a more detailed list of other useful documents for TSS users.

2.2 Approach to implementing the API

API users can access a test environment and a live production environment. When the API specification is updated and before using the API for the first time, traders can test their API client in the test environment. After testing successfully, users can then process declarations in the live production environment. API specifications, including updates, will be made available before release to production to provide time for testing.

We recommend that traders adopt an iterative approach to implementing the API for the TSS declaration process and follow these three steps:

1. **Preparation** – design the API to fit business workflow, build API client according to the TSS specification, and prepare data to match API and declaration / customs requirements:
 - Use the [TSS API Reference: How-to Guide](#) on NICTA to understand technical requirements
 - Use the [Data guide: TSS declaration data requirements](#) and the [Tariffs on goods movements into NI](#) guides on NICTA to understand specific declaration and customs requirements for each data field

If you are using API for the purpose of addressing your Supplementary Declaration backlog, you can also refer to the [Supplementary Declarations](#) section on NICTA and the [Supplementary Declaration Assistant](#) for guidance on simplifying the process

- For each data field, map and format the data required into API



2. **API testing** – test the current API version released by TSS for technical performance and data quality:
 - Run your API in the [TSS test environment](#) to check against **technical requirements** and to validate sample data against **customs (legal) requirements**
 - Iterate to minimise errors – the proposed approach to data preparation and testing is outlined in detail in the [Suggested approach to data preparation](#) section of **this guide**
3. **Moving to the live API environment** – switch to the live version after resolving any errors in the test environment. You can now submit declarations

Once you [register for TSS](#), you can request help at any stage of this process via the TSS Portal (see the [How to use the TSS Portal](#) guide for details on how to raise a case in TSS). TSS offers the following support to API users:

- **Advice and guidance** on adopting API for developers and business/customs teams
- **Testing support**, including testing API functionality and data validation
- **Ad-hoc support** with live API issues

2.3 Guidance for Agents and Intermediaries

Agents and Intermediaries acting on behalf of multiple traders can use the TSS API to act on their behalf.

Registration and approval to act on behalf of a trader is only available via the TSS Portal. Please see [A Handbook for Customs Agents and Intermediaries](#) on NICTA for further information. After registering, as an Agent and/or Intermediary you can obtain a list of your customers and (read only) customer account information using the API. Guidance is provided in the [TSS API Reference How-to Guide](#).

With the traders' details, you can submit information through the API as if acting as the trader. As a result, after initial registration, and provision of the relevant customer information, the API process is the same as for a trader acting on their own behalf.

3 Overview of the TSS declaration processes

This section explains the customs processes that TSS supports, and how these relate to the data elements that you can access through the API.

TSS provides traders with the opportunity to submit declarations for either the TSS simplified journey or using a Full Frontier Declaration.

- The TSS simplified journey



The TSS simplified journey allows businesses to move goods from Great Britain into Northern Ireland by making a simplified declaration before the goods move and then providing the full information about the goods after they have moved. This is the most common journey on TSS.

- The TSS Full Frontier journey

The TSS Full Frontier Declaration path requires traders to submit **all information** on their declaration and pay any necessary duties at the same time, generally before the goods move into Northern Ireland. Movements from Rest of World excluding the European Union (RoW excluding EU) or movements into inventory-linked locations must use the TSS Full Frontier Declaration path. While all movements from Great Britain (GB) to Northern Island (NI) can also use this declaration path, it is recommended that you use the TSS simplified journey where possible

Data must be provided by traders for different parts or level of the declaration, whether within the TSS Portal or using the API:

- **Declaration Header:** movement information; provided once to cover all consignments on a vehicle (e.g., truck)
- **Consignment:** provided once for each consignment in a movement. A consignment is a set of goods being moved from one exporter to one importer
- **Goods item(s):** provided once for each item within a consignment. An item is a set of goods with the same description (i.e., with the same commodity code). For example, five pallets of a single type of light bulb would be one item

Note that the current maximum number of items that can be declared on a single declaration is 99. Should you need to declare over 99 goods items that move in the same movement (i.e., the same truck), you may create multiple consignments that have the same information at consignment (header) level, but which contain different goods items.

Refer to the [Supplementary Declaration Assistant](#) tool on NICTA for guidance on how this process can be simplified for certain types of goods.

3.1 Additional data for controlled goods

Goods subject to special regulation, certification, licensing, or other approvals, are classed as **controlled goods** in TSS.

Note that if you are moving controlled goods, you are required to **provide further information and/or documentation at the consignment (header) and item level.**

For more information, and to find out if your goods are controlled, refer to the Northern Ireland Online Tariff tool on [GOV.UK](#) and [Guidance on controlled goods and the Online Tariff Tool](#) on NICTA.



3.2 The TSS simplified journey

Most TSS users follow the TSS simplified journey, where the final declaration is submitted after the goods movement.

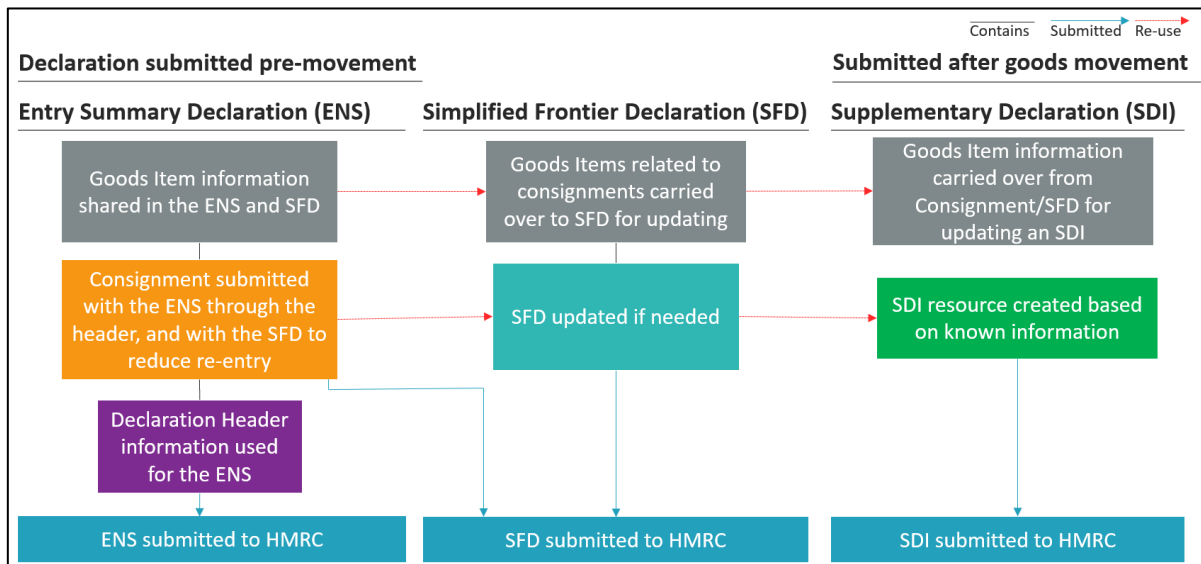


Exhibit 1

The TSS simplified journey allows businesses to move goods from Great Britain (GB) into Northern Island (NI) by making a simplified declaration before the goods move and then providing the full information about the goods after they have moved. This is the most common journey on TSS.

The TSS simplified journey requires:

- A. A safety and security declaration, the Entry Summary Declaration, which must be done prior to the goods entering NI (usually completed by the carrier) and
- B. The customs declarations, which is divided into multiple steps:
 - A Simplified Frontier Declaration, usually auto-generated by TSS from the information provided in the Entry Summary Declaration, made before goods movement using a simplified data set
 - A Goods Movement Reference (GMR), which hauliers and carriers are required to provide for each commercial vehicle that leaves Greater Britain (GB) for Northern Island (NI)
 - A Supplementary Declaration, requiring a full data set that is always completed after the goods move and is used to close the customs journey and pay any required duties and other charges

Submission of the Supplementary Declaration in TSS is required by the tenth calendar day of the month following the goods movement. You do not have to



make use of this additional time and can continue to submit your Supplementary Declaration by the fourth working day of the following month if preferred.

Submission of the Supplementary Declaration is the responsibility of the importer of record, as indicated by the Importer EORI on the TSS Simplified Frontier Declaration.

- A Final Supplementary Declaration, detailing the number of Supplementary Declarations finalised for a reporting period (i.e., arrivals with Tax point date in the previous calendar month) compared to the Supplementary Declarations due, which TSS will automatically submit on your behalf

To learn more about the data requirements for completing a Supplementary Declaration, including using API, please refer to the [Data guide: TSS declaration data requirements](#).

3.3 Note: Completing the Supplementary Declaration where number of goods items exceed the 99 items limit

No more than 99 lines can be submitted on any declaration in the UK. As a result, when the API attempts to add item 100 to a draft Supplementary Declaration it returns an error.

Since many movements contain more than 99 goods items, TSS allows traders to generate a new draft Supplementary Declaration linked to the existing declaration. Although based on information already provided, no goods items will be inherited from the existing declaration.

In this case, use the API to create a new draft Supplementary Declaration as a sibling of the draft Supplementary Declaration that has reached the 99 goods item limit, which shares limited field values with its sibling, but has no associated goods lines. The original sibling must be in 'draft' state, so that freight charges and other Supplementary Declaration related values at the consignment (header) level can be shared between it and the newly created Supplementary Declaration. This means that you can't create a new sibling draft Supplementary Declaration from one that is closed or in the 'Trader input required' state.

You can repeat the process of creating new Supplementary Declarations as many times as needed for each consignment. The Supplementary Declarations can be viewed on the TSS Portal as individual declarations and queried individually by the API if required by using the declaration reference numbers.

3.4 Full Frontier Declarations

For customs procedures that require submission of Full Frontier Declarations there is a different process.

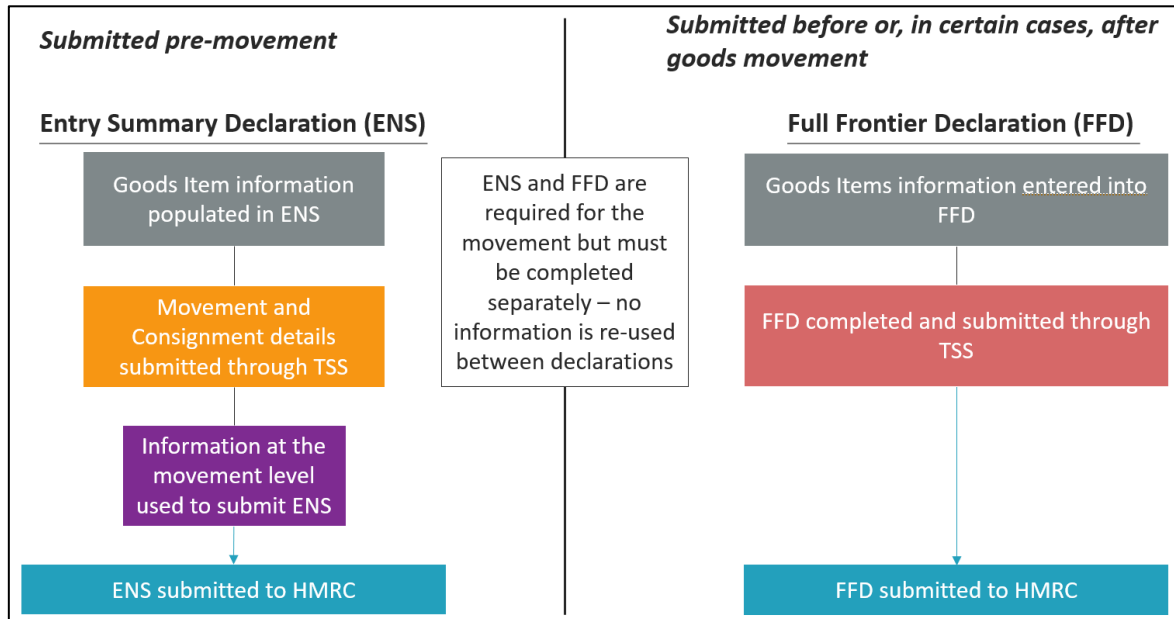


Exhibit 2

Full Frontier Declarations are required for any goods movements from the RoW excluding EU to Northern Ireland (NI), as well as for some scenarios of goods moving from Great Britain (GB) to NI (e.g., those moving into Inventory-Linked Ports (ILPs) and when using certain special procedures).

The TSS Full Frontier Declaration process has two steps:

1. **An Entry Summary Declaration**, required before goods move. TSS supports Entry Summary Declarations for all movements from Greater Britain (GB) to Northern Island (NI) via RoRo and via air into inventory-linked locations. TSS will not support Entry Summary Declarations (or data safety and security equivalents) for maritime (sea) movements for GB to NI or for movements from RoW excluding EU to NI; these must be completed outside of TSS

TSS raises Entry Summary Declarations based on the information traders declare at the following levels:

- Declaration movement level information
- One or more consignments associated with that declaration movement
- One or more goods items associated with that consignment

2. **A Full Frontier Declaration**, completed in TSS before goods move if sending via RoRo from Great Britain (GB) to Northern Island (NI), or after the goods move as an arrived declaration, if the goods are moving from RoW excluding EU to NI by air or if you are completing a diversion entry from a special procedure into free circulation. For maritime (sea) movements you can complete either a pre-lodged or arrived Full Frontier Declaration. See the [Full Frontier Declaration: Step-by-step guide](#) on NICTA for more detail



A Full Frontier Declaration is separate from the Entry Summary Declaration, and TSS will not populate any information from the Entry Summary Declaration into the Full Frontier Declaration. A Full Frontier Declaration accounts for all the customs data in one declaration (unlike the TSS simplified journey).

TSS will raise Full Frontier Declarations for traders based on information from the following:

- Full Frontier Declaration
- One or more goods items associated with that Full Frontier Declaration

Should the Full Frontier Declaration be rejected during validation with other systems, traders are able to update the Full Frontier Declaration and its associated goods items directly before resubmitting.

Duty requirements are calculated on the completion of all other fields. If the declaration is being made before a goods movement, traders can review the duty calculations in the TSS Portal prior to payment. Please see the [Payments: Step-by-step guide using TSS](#) guide on NICTA for further details on payments options available, in particular for declarations relating to goods already in Northern Ireland.

3.4.1 Using Full Frontier Declarations for inventory-linked goods / movements

TSS also supports Full Frontier Declarations for movements of goods via ILPs in Northern Ireland. For these movements, traders will require additional information for their declarations. Guidance can be found on NICTA in the [Inventory-Linked Ports](#) guide and the [Full Frontier Declaration: Step-by-step guide](#).

Note: for movements via maritime inventory-linked locations (e.g., Belfast Port), additional API calls will be required by traders wishing to submit their Full Frontier Declarations via the API. In addition to the Full Frontier Declaration call, separate API calls will be required:

1. To claim any inventory and obtain the inventory reference for the declaration
2. To submit the Full Frontier Declaration (including the inventory reference) – as for other Full Frontier Declaration movements
3. To check the status of the goods' release from inventory, following submission of the relevant declarations

For further information, traders should speak to the TSS API service team. Guidance can be found in the [I need to know more](#) section of this guide.

4 Detailed declaration processes using API

The TSS API supports traders with declarations within both the TSS simplified journey and the TSS Full Frontier Declaration journey outlined above. The process is different in each case.

4.1 TSS simplified journey – API process

Within the TSS simplified journey, TSS has removed some duplicate data entry requirements for traders by re-using data across declarations.

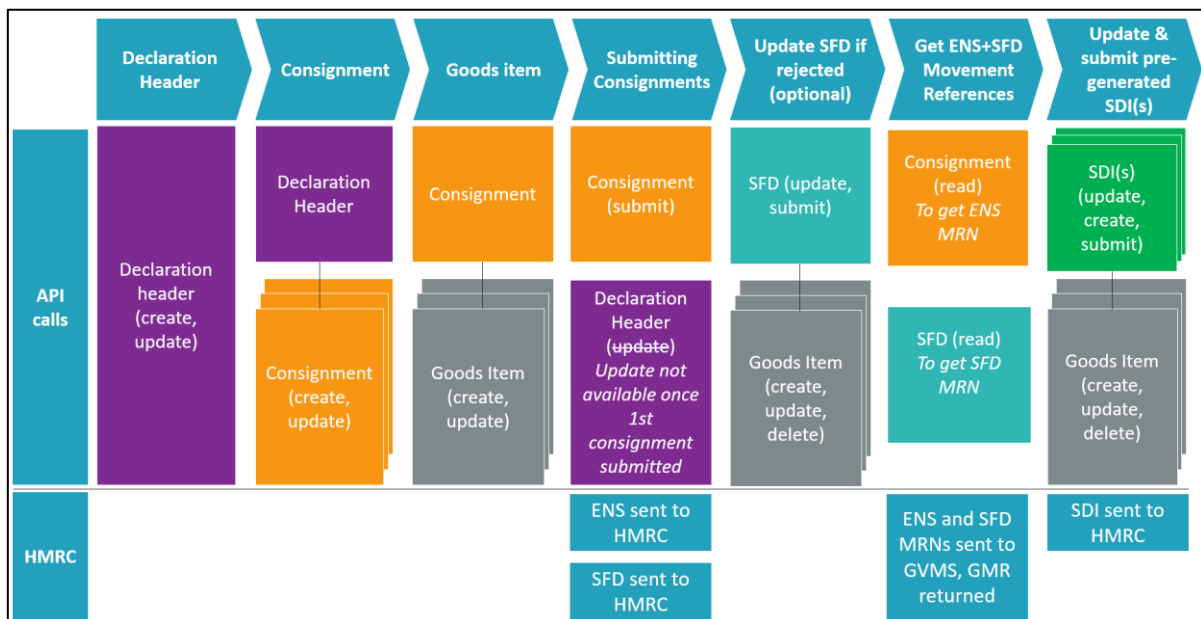


Exhibit 3: API Calls in the TSS simplified journey

Table 2: Breakdown of the declaration process and API calls involved in each step

Step	Trader input	API calls involved
Declaration Header / Movement	Trader creates a new Declaration Header. The declaration header contains information about a movement (i.e., a truck crossing the frontier)	Declaration header (create, update) Declaration headers can be created. TSS gives back a reference that starts with 'ENS'. Not all information needs to be provided at once, the declaration header can be updated, which requires the reference.
Consignment	Trader creates one or more consignments. A consignment	Declaration header → Consignment (create, update)



Step	Trader input	API calls involved
	<p>describes the importer, exporter, consignor and consignee. They require a reference to an existing Declaration Header when created, to relate them to the physical movement information (e.g., truck details).</p>	<p>Consignments can be created, requiring the Declaration header reference ('ENS ...') to be submitted. TSS will give back a reference that starts with 'DEC'. Consignments can be updated, using that reference.</p>
<p>Goods item</p>	<p>Trader creates between 1 and 99 goods items in each consignment. Each goods item describes a type of good. If that good is controlled, it requires a commodity code. If at least one goods line is controlled, then all goods lines in the consignment require a commodity code. For most traders, goods items are the resource through which they submit the largest data volume to TSS.</p>	<p>Consignment → Goods Item (create, update)</p> <p>Goods items can be created. TSS will give back a reference that does not start with a specific abbreviation, and has the numbers 0–9 and letters a–f.</p> <p>Goods items can be updated using that reference.</p>
<p>Submitting Consignments</p>	<p>Traders submit their Consignments. In the background, TSS uses the data entered under the Declaration Header, Consignment and Goods Item to create two declarations with HMRC:</p> <ul style="list-style-type: none"> • The Entry Summary Declaration for each Declaration Header • The Simplified Frontier Declaration for each consignment <p>In the TSS Portal, this ensures traders don't enter the same information twice. In the API, we follow a consistent approach with the TSS Portal.</p>	<p>Consignment (submit)</p> <p>Consignments can be submitted. Declaration headers and Goods items can't be submitted.</p> <p>The information contained is then processed into the declarations that TSS raises with HMRC.</p> <p>Declaration Header (update)</p> <p>Once one consignment on a Declaration Header is submitted, you can no longer update the Declaration Header – that information is already sent to HMRC.</p>



Step	Trader input	API calls involved
Update Simplified Frontier Declaration if rejected (optional)	<p>HMRC's Customs Declaration System (CDS) may reject the Simplified Frontier Declaration raised by TSS if it does not meet the legal requirements for a valid declaration. This happens when the information contained in the Consignment, or its goods items is incorrect or incomplete. Traders are notified in an email that contains a reference to a Simplified Frontier Declaration.</p> <p>While the Simplified Frontier Declaration itself is rejected, traders may need to update specific goods items, rather than the Simplified Frontier Declaration resource.</p>	<p>SFD (update, submit) → Goods Item (create, update, delete)</p> <p>Simplified Frontier Declarations cannot be created by traders: TSS does this on their behalf. They can be updated through the API if rejected by CDS, and then be re-submitted.</p> <p>A Simplified Frontier Declaration has a reference that starts with 'DEC' like a consignment but is a different number to the Consignment it is based on. The Simplified Frontier Declaration number can be found by using the Lookup call, which requires a consignment reference.</p> <p>The goods items from the Consignment which generated the Simplified Frontier Declaration are then associated with the Simplified Frontier Declaration and can be updated. New goods items can be added, or items can be removed prior to submitting the Simplified Frontier Declaration.</p>
Create Goods Movement Reference (GMR)	<p>Traders require a Goods Movement Reference (GMR) from HMRC's Goods Vehicle Movement Service (GVMS) as detailed in the Creating Goods Movement References in the TSS simplified journey section of this guide.</p>	<p>Please refer to the Creating Goods Movement References in the TSS simplified journey section of this guide.</p>
<i>Goods movement takes place at this point; the next step is the importer's responsibility</i>		
Updating and submitting TSS	<p>When goods have been arrived, TSS will automatically generate a</p>	<p>Supplementary Declaration (lookup, update, create, submit, create) →</p>



Step	Trader input	API calls involved
<p>generated Supplementary Declaration</p>	<p>Supplementary Declaration, ready for the trader to complete.</p> <p>Completing the Supplementary Declaration is a mandatory requirement to complete HMRC's simplified declaration process, that started with the Simplified Frontier Declaration.</p> <p>Traders may need to update both the Supplementary Declaration resource and its associated goods items to complete a valid declaration.</p>	<p>Goods Item (create, update, delete, lookup)</p> <p>TSS creates a draft Supplementary Declaration based on the arrived consignment details. The Supplementary Declaration can be updated and submitted through the API. TSS also allows you to create a new Supplementary Declaration based on an existing Supplementary Declaration to allow you to complete details for consignments where the number of goods items at the Supplementary Declaration level exceeds 99.</p> <p>TSS sends the original draft Supplementary Declaration reference to the Importer to notify them of the need to complete the declaration.</p> <p>Alternatively, to find the Supplementary Declaration generated by TSS, traders can use the Lookup call to find a Supplementary Declaration by using the reference of the associated Simplified Frontier Declaration.</p> <p>The goods items can be updated, and new goods items can be added, or items removed, prior to submitting the Supplementary Declaration. To obtain an overview of current goods items associated with a Supplementary Declaration, the Lookup method under Goods Item can be used.</p>



4.2 Creating Goods Movement References in the TSS simplified journey

This section only relates to TSS users of the TSS simplified journey. It only applies to RoRo movements. Entry Summary Declaration only movements are not supported at this time.

There are two methods for creating a GVMS GMR – one from within TSS and one through GVMS directly.

The benefit of using the TSS method is that all your authorised consignments in your goods movement will be added automatically to your GMR. This will help to ensure that your GMRs are compliant with HMRC requirements. When you create your GMR through TSS, the GMR will be automatically lodged with GVMS.

Before using the TSS API to create, update, submit and cancel GMRs you must authorise TSS to do this on your behalf. To do this please ask the Primary Account holder to visit your Company Profile on the TSS Portal and follow the [GMR Automation](#) authorisation process that appears below the API management section.

here' and an 'Authorise' button."/>

To create a GMR via TSS you would need to first:

1. Identify the movement header number for which you wanted to create a GMR
2. Identify the route_id for the movement

Having identified these, API call create GMR with the:

- Movement header number (ens_lrn)
- Route_id



- Whether the movement is unaccompanied or not: if unaccompanied by providing the trailer registration numbers; if accompanied by providing the vehicle registration number

Then:

1. If the call is successful this will return a TSS GMR local reference number (gmr_lrn), which you can use to reference the GMR within TSS
2. After performing a successful API 'Create GMR', API submit the GMR using the gmr_lrn, which you received as a return from the call to create the GMR
3. After a wait period of 90 seconds, API read the GMR using the gmr_lrn you need to specify the fields that you want to read
4. This will return all the information held by TSS about your GMR, including the GVMS gmr_id the values for the fields that you want to read will be returned. You should always specify that you want to read the status and the gmr_id

When you use the API Submit on the GMR local reference number (gmr_lrn), TSS will:

- Look for all ENS consignments Authorised for Movement associated with the movement ens_lrn
- Look for an associated Authorised for Movement's SFD/EIDR for each ENS consignment
- Take the MRNs/EORI for those authorised ENS and pre-lodged customs declarations/EIDRs
- Create a GMR within GVMS with the transport details you had originally provided

If the transport details change after you have created your gmr_id, you should call API Update GMR with the new transport details, and issue API Submit call after the update

If you have not changed your transport details but have added more consignments to the movement, you must make sure that they are authorised for movement **and** you must be sure to call API Submit GMR. This will recreate the GMR with all authorised for movement consignments.

To collect the barcode for this GMR:

- Access the TSS Portal GMR dashboard
- Select all Open GMR Detail
- Look for the GMR for which you need the barcode
- Open the GMR details and click on the **Generate Barcode** button on that screen

For more details please refer to the [Creating a Goods Movement Reference](#) guide on NICTA.

If you do not wish to use the TSS method of creating a GMR you will need to use the API to:



- Use the TSS API to read all the MRNs/EORI for EIDR for all your authorised for movement from the ENS and SFD consignments
- Create a GMR in GVMS
- Add all the ENS/SFD and ENS/EIDR pairs to your GMR

4.3 Full Frontier Declarations – API process

In most situations where a Full Frontier Declaration is submitted, an Entry Summary Declaration is also required. Traders moving goods between Great Britain (GB) and Northern Island (NI) can still submit Entry Summary Declarations for Full Frontier Declaration movements using TSS. However, no information is carried across from the Entry Summary Declaration into the subsequent customs declaration.

Table 3 explains the Entry Summary Declaration and associated API steps in detail. Guidance on the Full Frontier Declaration process follows.

Note: this is not the complete process for all Full Frontier Declaration movements. For movements via inventory-linked maritime ports, additional API calls will be necessary to claim the inventory and look up the goods' status. Please consult the API Service team for further guidance (see the [I need to know more](#) section in this guide).

Table 3: API calls in the Entry Summary Declaration for the Full Frontier Declaration

Step	Trader input	API calls involved
Declaration Header	Trader creates a new Declaration Header. The Declaration header contains information about a movement (i.e., a truck crossing the frontier)	Declaration header (create, update) Declaration headers can be created. TSS gives back a reference that starts with 'ENS'. Not all information needs to be provided at once – with the reference, the header can be updated. When using Full Frontier Declarations, traders will need to declare that no subsequent declarations should be triggered – using the API field nosfd_reason.
Consignment	The trader creates one or more Consignments. A consignment describes the importer, exporter, consignor and consignee. Consignments require a reference to	Declaration header → Consignment (create, update) Consignments can be created, requiring the Declaration header



Step	Trader input	API calls involved
	an existing Declaration Header when created, to relate them to the physical movement information (e.g., truck details).	reference (with the prefix 'ENS') to be submitted. TSS will give back a reference that starts with 'DEC'. Consignments can be updated, using that reference.
Goods item	Trader creates between 1 and 99 goods items in each consignment. Each goods item describes a type of good. If that good is controlled, it requires a commodity code. For most traders, Goods Items are the resource through which they submit the largest data volume to TSS.	Consignment → Goods Item (create, update) Goods items can be created. TSS will give back a reference, and goods items can be updated using that reference.
Submitting Consignments	Traders submit their Consignments. In the background, TSS uses the data entered under the Declaration Header, Consignment and Goods Item to create the Entry Summary (ENS) Declaration for each Declaration Header	Consignment (submit) Consignments can be submitted. Declaration headers and Goods items cannot be submitted. The information contained is then processed into the Entry Summary Declaration that TSS raises with HMRC.

Separately from the Entry Summary Declaration submission, traders need to complete a Full Frontier Declaration containing all relevant customs information.

Exhibit 4 below shows the various steps in the Full Frontier Declaration process, and the resources available in the API to complete them. Table 4 describes the declaration and API steps in detail.

Note: no information is carried across from the Entry Summary Declaration.

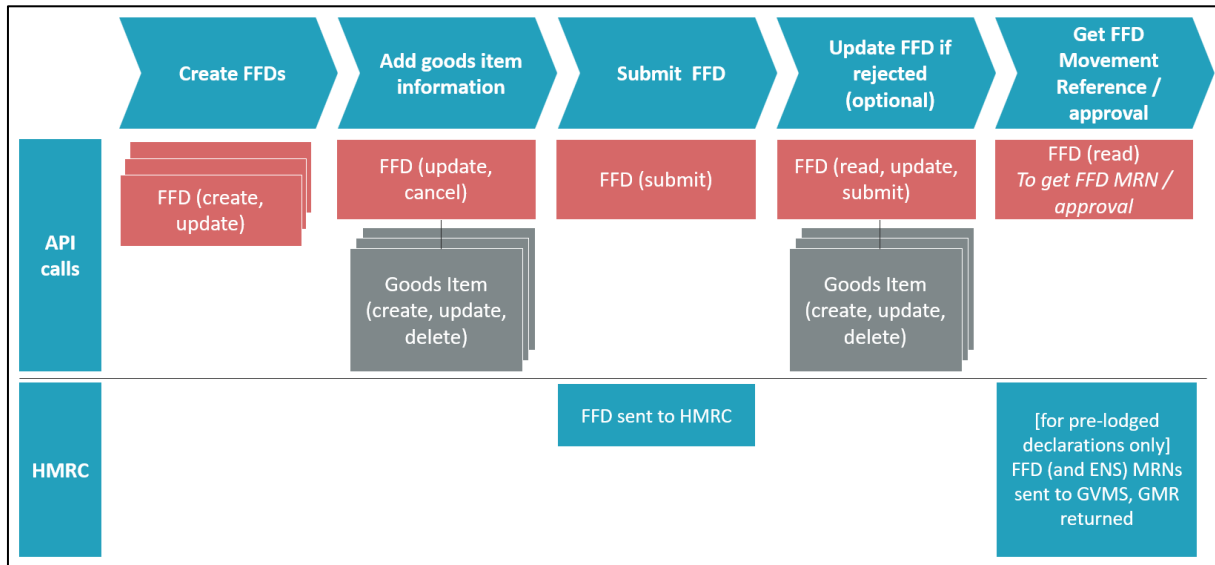


Exhibit 4: Full Frontier Declaration process with the API

Table 4: Breakdown of the Full Frontier Declaration (FFD) process and API calls

Step	Trader input	API calls involved
Create Full Frontier Declaration	Trader creates a new Full Frontier Declaration, distinct from the Entry Summary Declaration which includes the goods to be declared. This will include information on the importer, exporter, and carrier (and the haulier if different from the carrier), as well as the type of procedure associated with the movement.	FFD (create, update) Full Frontier Declarations can be created. TSS gives back a reference which starts with the prefix 'FFD'. A Full Frontier Declaration consignment is then available to which goods items can be added. Traders can also return to the Full Frontier Declaration prior to adding goods to update the movement information.
Add goods item	Trader creates between 1 and 99 goods items in each consignment. Each goods item describes a type of good. If that good is controlled, it requires a commodity code. For most traders, Goods items are the resource through which they submit the largest data volume to TSS.	FFD → Goods Item (create, update, delete) Goods items can be created/ added to the Full Frontier Declaration consignment. TSS will give back a reference that does not start with a specific abbreviation, and has numbers 0-9 and letters a-f. Goods items can be updated using that reference prior to submission;



Step	Trader input	API calls involved
		details can be updated using the op_type 'update', or 'deleted'.
Submit Full Frontier Declaration	Once all information is entered, trader submits Full Frontier Declaration. This submission will generate the calculation of duties owed on the movement.	FFD (submit)
Update Full Frontier Declaration if rejected (optional)	<p>HMRC's Customs Declaration System (CDS) may reject the Full Frontier Declaration that TSS raised if it doesn't meet the legal requirements for a valid declaration. This happens when the information in the Full Frontier Declaration or its goods items is not correct or complete. Traders are notified in an email, containing a reference to the relevant Full Frontier Declaration.</p> <p>Traders can also read Full Frontier Declarations after they have submitted, but only amend details if the declaration is rejected.</p> <p>While the Full Frontier Declaration as a whole is rejected, traders may need to update specific goods items, rather than the Full Frontier Declaration resource.</p>	<p>FFD (read, update, submit) → Goods Item (create, update, delete)</p> <p>Full Frontier Declarations can be updated through the API if rejected by CDS. They can then be re-submitted.</p> <p>A Full Frontier Declaration has a reference that starts with 'FFD'. Using the Full Frontier Declaration reference number, traders can perform the required reads in order to update the declaration or view the information it contains.</p> <p>Both the Full Frontier Declaration consignment details and associated goods items can be updated. New goods items can be added, or items can be removed prior to submitting.</p>
Get GMR	For Full Frontier Declarations submitted in advance of a goods movement, traders require a Goods Movement Reference (GMR) from HMRC's Goods Vehicle Movement Service (GVMS). You will require an authorised Entry Summary Declaration and its associated Entry Summary Declaration MRN to cover	<p>FFD read</p> <p>Full Frontier Declarations can be read to retrieve the Movement Reference Numbers as required. Traders can also read declaration numbers and status, as at any other time during the process.</p>



Step	Trader input	API calls involved
	<p>the movement of the Full Frontier Declaration.</p> <p>Where no GMR is required, a valid Full Frontier Declaration MRN will still be needed to prove that the Full Frontier Declaration has been submitted successfully, along with any payments owed.</p>	

5 Suggested approach to data preparation

To move goods, traders need to know information about their specific shipment, and enrich it with additional data required by customs rules. A declaration to move goods requires a combination of:

- Data that can be derived from the shipment information itself (e.g., the quantity of goods shipped)
- **Customs declaration** data that is not obvious from the shipment info itself, but needs to be added, which will either be:
 - Valid for multiple shipments
 - Valid for a specific shipment

A combination of these is required to use the API to generate valid declarations. This is shown in **Error! Reference source not found.**

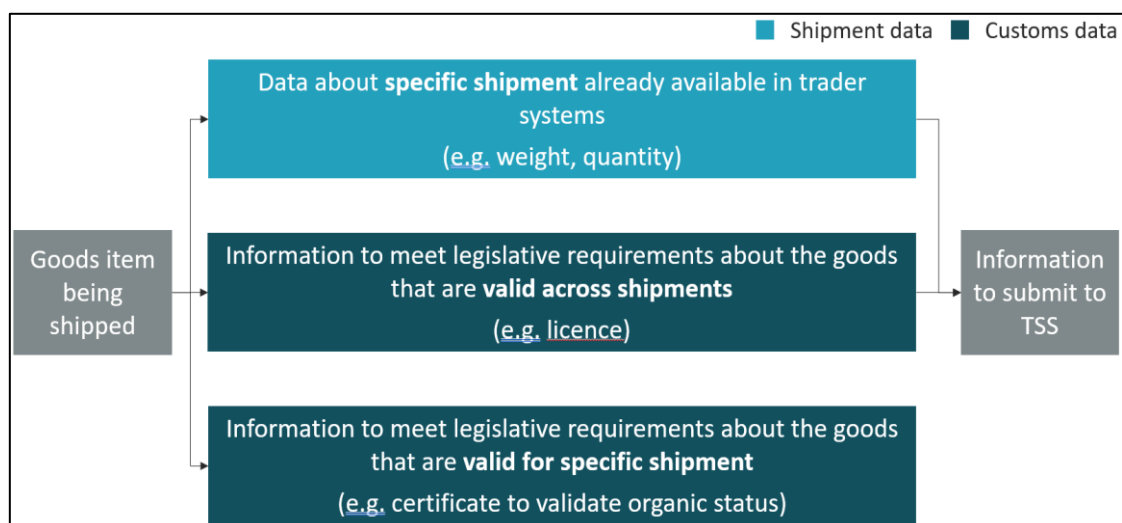


Exhibit 5: Shipment and Customs data in submissions to TSS



We recommend traders build a high-quality dataset iteratively using a four-step process:

1. Determine overall data structure
 - Decide on the data model you would like to adopt – how do you fill the gap between your existing goods data and the requirements of a declaration?
 - Prepare data input: shipment, customs data, identify controlled goods and specific licenses, certificates or other authorisations for those to fulfil all legal requirements
 - Develop the API client based on the specification in the [TSS API reference](#) guide
2. Prepare item level data to complete declarations
 - Use [NICTA](#) to learn about the detailed declaration process requirements for the declarations you're trying to automate (Entry Summary Declaration, Simplified Frontier Declaration, Supplementary Declaration or Full Frontier Declaration)
 - Add legislative information about a good from the Tariff referencing the relevant declaration data guides on NICTA
 - Remember not to exceed the 99-line item limit
 - If you are using the API to address the backlog of Supplementary Declarations, you can refer to the [Supplementary Declaration Assistant](#) on NICTA for guidance on simplifying the process
3. Perform a sample test
 - Test goods data set by declaring goods in test version of the declaration (Entry Summary Declaration, Simplified Frontier Declaration, Supplementary Declaration or Full Frontier Declaration)
 - Submitting through the test environment sends declarations to HMRC's CDS Trader Dress Rehearsal, which behaves similarly to the live version and can validate declarations
 - In case of errors, identify them and improve based on:
 - The API specification in the [TSS API reference](#) guide for technical errors
 - NICTA error code guidance and data guides for data errors
 - Re-run testing to eliminate errors
4. Perform a large dataset test, in collaboration with the TSS API support team:
 - To test larger volumes of declarations with many goods before moving to the live environment, please first make the necessary arrangements with the API support team who can provide additional guidance on this process
 - Approach this gradually. As your confidence grows in the validity of your data, increase the size and complexity of your data



- Please do not use the TSS test environment for volume testing. There is a risk that large volumes may affect system functionality for other users
- Your access to the TSS test environment may be revoked if you don't comply with this reasonable use request

6 API updates

The latest version of API is available for testing and declaration submission. The API matches the functionality available manually through the TSS Portal.

In preparation for updates, TSS supports traders in trialing their API clients and their data using the TSS test environment before they move to the live environment to submit declarations. Traders should ensure adequate technical and data preparation to minimise errors. This will often involve consultation between the core business process, customs, and technical staff. In particular, it is essential that traders who declare controlled goods familiarise themselves with the customs requirements specific to the goods they are moving and follow the guidance on building the API dataset set out above; see the [Guidance on controlled goods and the Online Tariff Tool](#) guide on NICTA for support.

7 I need to know more

For general **queries on TSS** or the declarations process, please contact the [TSS Contact Centre](#) for support on 0800 060 8888 or raise a ticket through the TSS Portal.

For advice and **support with the TSS API**, including initial set up and ongoing advice, or for information regarding using the API for inventory-linking, please set up a call with the TSS API service team. There are two ways to do this:

1. Contact the [TSS Contact Centre](#) and ask to arrange a call back
2. Raise a ticket through the TSS Portal:
 - Log in to the TSS Portal
 - Select **Submit an Enquiry** in the Get Help section at the bottom of the page
 - Under **Create Case**, you can enter **Enquiry Type** from the drop-down, enter an **Enquiry Short Description**, and **Details of Enquiry**. Please see steps and image below:
 - Select 'Declaration Queries' in **Enquiry Type**
 - Enter a description starting 'API –' in **Enquiry Short Description**
 - Enter 'API Support' and any further details in the **Details of Enquiry** field



* Enquiry Type	Declaration Queries
* Enquiry Short Description	API -
* Details of Enquiry	API Support

In case you have not registered for TSS, you can do so [here](#).

There are additional guides available on [NICTA](#) to support you with trade into and out of Northern Ireland:

- [Introduction to customs](#)
- [Documents for GB:NI goods movement](#)
- [Data guide: TSS declaration data requirements](#)
- [Supplementary declarations: Step-by-step guide](#)
- [Tariffs on goods movements into NI](#)
- [Full Frontier Declaration: Step-by-step guide](#)
- [How to use the TSS Portal](#)

You can also consult the [TSS Contact Centre](#) for support on 0800 060 8888.

8 API FAQ

Q I would like to update my Simplified Frontier Declaration or Supplementary Declaration, but do not have the fields available to describe the goods I'm moving in the Simplified Frontier Declaration and Supplementary Declaration resources of the API?

A Simplified Frontier Declarations and Supplementary Declarations have Goods Items associated with them, which you can update with the information describing the goods you're moving. Use the Goods Item API resource and use either the Simplified Frontier Declaration DEC number or the Supplementary Declaration DEC number as the consignment reference.

Q How do I create my Supplementary Declaration?

A You do not need to create your Supplementary Declaration. TSS creates one on your behalf once your consignment has arrived in Northern Ireland. Instead, you can update it and the Goods Items associated with it, and submit it once done. There are specific circumstances where this one draft Supplementary Declaration might not be enough to meet your requirements, and you need to be able to create additional drafts – see



below and in the [Guidance for API Users](#) and [Note: Completing the Supplementary Declaration where number of goods items exceed the 99 items limit](#) sections above.

Q I need to add more than 99 goods items to my Supplementary Declaration.

A Use the API Supplementary Declaration create call to create a new draft Supplementary Declaration based on an existing one which is not closed. Add goods items to the new draft Supplementary Declaration.

Q How do I submit a Goods Item?

A You do not need to submit individual Goods Items. Instead, you may need to submit the consignment, Simplified Frontier Declaration or Supplementary Declaration that the goods item is associated with.

Q How do I get to my Supplementary Declaration from my Entry Summary Declaration DEC number?

A There is no direct method available for this. It takes one additional step through the Simplified Frontier Declaration:

- The Lookup method for a Simplified Frontier Declaration takes a `consignment_reference` (DEC#) as an argument, and returns the `sfd_number` field (also DEC#)
- The Lookup method for a Supplementary Declaration takes this `sfd_number` field as an argument, and returns the `sup_dec_number` (SUP#)

Q Which DEC numbers do I use as a reference when I create goods items?

A You should use the reference to the:

- Consignment if you're editing a consignment (which results in an Entry Summary Declaration and Simplified Frontier Declaration being submitted for you). It starts with 'DEC', and you will have received it when submitting a consignment
- Simplified Frontier Declaration if you are updating goods items under a rejected Simplified Frontier Declaration. You would find the Simplified Frontier Declaration DEC number which looks like 'DEC0000xxx' by looking it up from the Entry Summary Declaration DEC number which also has the same format. The Entry Summary Declaration DEC number is what is returned to you when you using the Consignment submit call. Lookup the Simplified Frontier Declaration DEC number using the Simplified Declaration lookup call with the Entry Summary Declaration DEC number as a parameter
- Supplementary Declaration if you are updating a Supplementary Declaration that TSS generated for you. You can get this by using the Supplementary Declaration lookup call with the Simplified Frontier Declaration DEC number as the parameter. It starts with 'SUP'



- Q** How do I know which goods items are on a Simplified Frontier Declaration or on a **Supplementary Declaration**?
- A** The Goods Item has a Lookup operation, which takes either the Simplified Frontier Declaration DEC number (i.e., the number of the Simplified Frontier Declaration consignment beginning with 'DEC') or the Supplementary Declaration reference as an argument, and returns a list of goods items
- Q** Can I remove a Goods Items from my consignment when I'm doing my Supplementary Declaration?
- A** Once submitted, the consignment is final. The consignment and its goods items are completely separate data elements in TSS from the Supplementary Declaration and its goods items. Therefore, you can still remove Goods Items from your Supplementary Declaration. To do so, you can look up the list of Goods Items on a Supplementary Declaration with the lookup function for Goods Items and delete items. Use the Goods Item lookup call with either the Simplified Frontier Declaration DEC number (beginning with 'DEC') or the Supplementary Declaration number (beginning with 'SUP')
- Q** Can I remove a Goods item from my consignment when updating my Simplified Frontier Declaration (SFD)?
- A** Once submitted, the consignment is final. The consignment and its goods items are completely separate data elements in TSS from the Simplified Frontier Declaration (SFD) and its goods items. Therefore, you can still remove goods items from your Simplified Frontier Declaration if it is rejected by CDS and you want to update it. To do so, you can look up the list of goods items on a Simplified Frontier Declaration with the lookup function for goods items and delete items.
- Q** I have called the API submit on my consignment and I want to read the related Simplified Frontier Declaration consignment MRN. Even though the Simplified Frontier Declaration has been 'authorised for movement' there is no value in the Simplified Frontier Declaration movement_reference_number field. Why is this?
- A** If you have stated at the consignment (header) level that the consignment contains controlled goods, when the consignment is 'authorised for movement', the movement_reference_number field will be populated and can be read on the simplified_frontier_declaration API call. However, if the consignment does not contain controlled goods it will be held as an Entry In Declarant's Record (EIDR), and when changed to 'authorised for movement' the eori_for_eidr field will be populated. This eori_for_eidr is an authorisation number for moving your Simplified Frontier Declaration held as EIDR in TSS and can be read on the simplified_frontier_declaration API call.
- Q** Can I remove a goods item from a Simplified Frontier Declaration while updating my Supplementary Declaration?
- A** Once approved by CDS, the Simplified Frontier Declaration is final. The Simplified Frontier Declaration consignment and its goods items are completely separate data



elements in TSS from the Supplementary Declaration and its goods items. Therefore, you can instead remove goods items from your Supplementary Declaration. To do so, you can look up the list of goods items on a Supplementary Declaration with the lookup function for goods items and delete items.

Q Do I need to submit my Simplified Frontier Declaration?

A TSS automatically submits the Simplified Frontier Declaration on your behalf. Should the Simplified Frontier Declaration be rejected by HMRC's CDS, you have the option to update and submit it via the API.

Q I have received a notification that I need to submit a Supplementary Declaration, but I don't know which of my movements this is about?

A As an Importer, this may happen if your haulier submitted the Declaration Header and Consignment. When you do a lookup operation on your Supplementary Declaration, the originating Simplified Frontier Declaration reference is returned. You can then read the Simplified Frontier Declaration. Additionally, you can look up a list of goods items to understand which of your movements the Supplementary Declaration relates to.

Q I want to create a GMR outside of TSS using GVMS directly: which MRN do I enter to obtain my GMR?

A You need to obtain two MRNs to do so. One is the MRN on the consignment. The other is the MRN on the Simplified Frontier Declaration and/or the EORI for EIDR. You need to send both to HMRC's GVMS to get a GMR for all consignments. See the [Creating a Goods Movement Reference on GVMS](#) guide on NICTA for detailed instructions.

Q I have followed the API guide and implemented everything correctly according to the guide but I still get an error saying that TSS has not been authorised to manage GMRs on my behalf. How can I fix this?

A You need to authorise TSS to create, update, submit and cancel GMRs on your behalf within your Company Profile. Please ask the Primary Account holder for the company profile to authorise TSS.

Q Why do I need a wait period in my API client between submitting my draft GMR and reading it?

A You need this as at peak periods GVMS may take some time to respond with your gmr id. If within 90 seconds of making the GMR Submit call the status of your GMR does not change to 'Open' from 'Draft' and does not contain a gmr id then please raise a case with TSS.

Q I have tried to check my truck/trailer in at the port but the ferry company tells me that the registration details in my GMR don't match those on my vehicle or trailer. What could be the problem?



- A** It's possible that you may have made a call to the GMR Update function to update your truck/trailer registration number(s) but not followed this up with a GMR Submit call. Every time you create or update your GMR you should call the GMR Submit endpoint. If you fail to do this, then GVMS won't have the most up-to-date information about your movement and your truck or trailer may not be permitted to board the ferry.
- Q** I can create a Consignment not associated to a Declaration Header in the TSS Portal, but the Declaration Header field is mandatory in the API. Why is that?
- A** Currently the API does not support the Consignment First functionality from the TSS Portal.
- Q** Why does the arrival time in the API declaration header show as one hour ahead of the time?
- A** This is because the time you have entered is taken by the API as GMT and is time zone agnostic. The TSS Portal time zone always tracks the UK time zone hence one hour is added to the arrival time when the TSS Portal is in BST. Be sure to have the API send times as GMT.
- Q** One of my line items returned an error. Can I keep adding line items to the consignment?
- A** Yes, you can keep adding line items to the consignment.
- Q** Are all the line items for the consignment still available?
- A** Yes, all the line items for the consignment they were successful are still available to view in the TSS Portal.
- Q** I don't want to do a one-shot upload. Do I need to upload all my consignments and line items in one go?
- A** No, you don't need to upload all your consignments in one go.
The upload API mimics the way of working with the TSS Portal; you can add information, go away, and come back and add more and repeat that process.
- Q** Is there an API call to get a report?
- A** You can read all the fields on any of the declarations which you or your API account can access using the reference number of the declaration.
- Q** Can I remove one of my consignments whilst the upload is in progress?
- A** You can do this from the TSS Portal. Any reports you had compiled at your end would need to be updated to reflect this.
Any items that you tried to add to the consignment would be rejected.
- Q** Is there a time limit on how long my consignment and line items can exist on the TSS Portal? Is there a time limit between when I create a consignment, and when I need to submit it?



- A** No there is no time limit. You can keep adding more line items to the consignment for as long as the consignment exists on the Portal, and it has not been submitted. The consignment won't be removed at any time unless you remove it.
- However, you need to comply with the **When to Submit** guidance on [GOV.UK](https://www.gov.uk).
- Q** I want to submit consignments from the TSS Portal.
- A** You can submit consignments from the TSS Portal. Any reports you had compiled at your end would need to be updated to reflect this.
- Q** I want to submit all my consignments associated with a header in one go
- A** This is not available in the TSS Portal and therefore you can't do that with the API. The API mimics the way users create headers, consignments and line items.
- Q** I want to check my API credentials work but I cannot login to the webpage using them
- A** You can't login to any TSS Portal interactively using the API account. You can only run API calls using the API account. Use a test call in curl, for example:
- ```
curl -u "username:password" -H "Content-type:application/json" -X GET https://api.tsstestenv.co.uk/api/x_fmrc_tss_api/v1/choice_values/port
```
- Q** I am on the test system and trying to create test Supplementary Declarations. But I don't have a Simplified Frontier Declaration let alone a Supplementary Declaration?
- A** Check that you have used a TSS registered EORI in the Entry Summary Declaration importer field. Since the test system only has a few TSS accounts on it, it is likely that the importer field on the Entry Summary Declaration refers to an EORI of an account not present on the [test system](#). If the importer EORI on the consignment is not registered with TSS, TSS will not produce a Simplified Frontier Declaration or Supplementary Declaration.
- Q** I am on the test system and trying to create test Supplementary Declarations. I have an Entry Summary Declaration and Simplified Frontier Declaration; both have arrived but where is my Supplementary Declaration?
- A** If your Entry Summary Declaration / Simplified Frontier Declaration consignment contained controlled goods, it would have been sent to the HMRC CDS trader dress rehearsal environment and would not have 'arrived'. Contact the API support team to have your Simplified Frontier Declaration 'arrived' so that a Supplementary Declarations created in draft.
- Q** I am on the test system and submitted Entry Summary Declaration and Simplified Frontier Declaration, but both are authorised for movement and have been so for a while. I don't want to wait for my draft Supplementary Declaration to be created.
- A** If your consignment contains standard goods exclusively, create an Entry Summary Declaration for it in the API with an arrival time (in GMT) in the very near future. As soon as that time has passed create your draft Supplementary Declaration



If your consignment contains controlled goods, call the API support team to intervene to manually 'arrive' your consignments so that the draft Supplementary Declaration can be submitted

**Q** How can I get a list of my Supplementary Declarations in 'draft'?

**A** A list of Supplementary Declarations in 'draft' status can be extracted by using the Supplementary Declaration API call with filter parameter and status = draft. This will return a list of Supplementary Declaration numbers in a JSON payload.

**Q** How do I find the Entry Summary Declaration number to which my Supplementary Declaration is related?

**A** Use the Simplified Frontier Declaration lookup with the 'sup\_dec\_number' parameter and the SUP number as the value, this will return the Simplified Frontier Declaration consignment number.

Then use the Simplified Frontier Declaration read API call to read the 'ens\_consignment\_reference' number.

**Q** How do I read the movement information related to my Supplementary Declaration?

**A** Use the SD read call to read the arrival\_date\_time, port\_of\_arrival and transport\_document\_number from the Supplementary Declaration.

**Q** How can I find the Entry Summary Declaration movement reference number related to my Supplementary Declaration?

**A** Use the consignment read API call to read the declaration\_number field; this will return the original Entry Summary (ENS) Declaration movement header number.

It is not possible to read the Entry Summary Declaration movement header if you are the importer. You can only read the Entry Summary Declaration movement header if you were the original submitter or the haulier/carrier.

## 9 Appendix 1

Exhibit 6 articulates the prefixes and format of reference numbers within the TSS simplified journey.

Use the diagram below to understand reference numbers and how the different data elements relate to each other through the declaration journey of Entry Summary Declaration, Simplified Frontier Declaration and Supplementary Declaration.

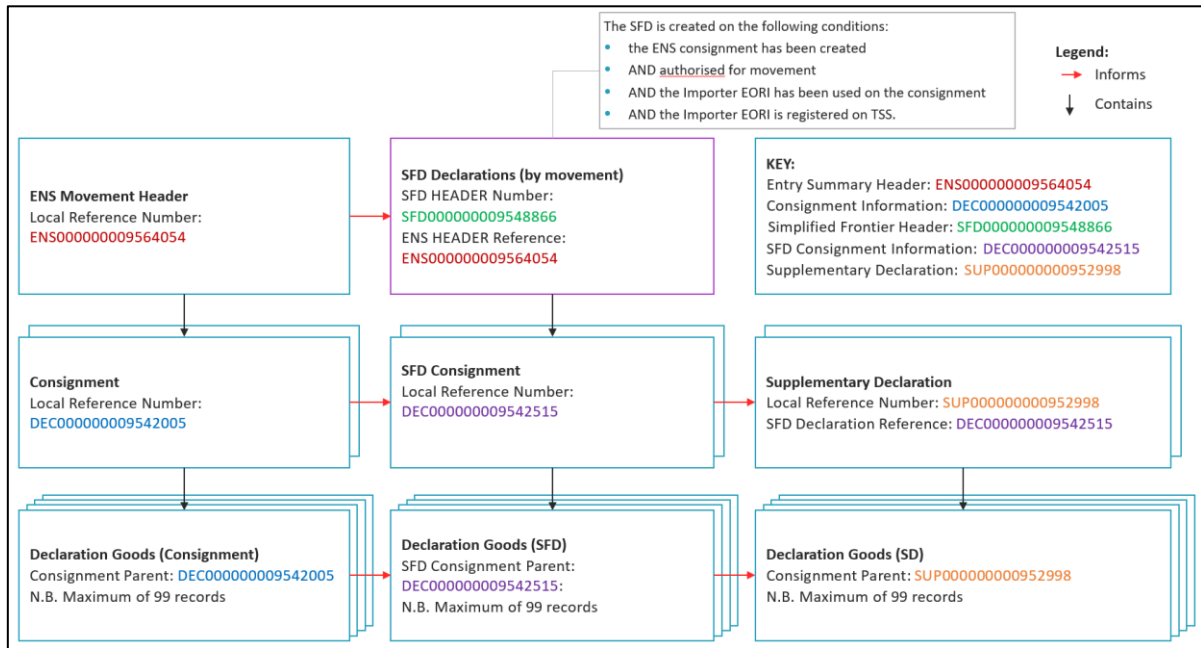


Exhibit 6

## 10 Changes to guidance and policy

Last updated March 2023.

**March 2023:** Updated to reflect UCC changes.

**December 2022:** Updated to reflect GMR Automation.

**August 2022:** New section on GMR Automation.

**July 2022:** Addition of Change Log.

**June 2022:** Additional FAQs added around the 99-item limit on Supplementary Declarations.

**February 2022:** Updated to reflect introduction of agents and intermediaries' ability to use their own Duty Deferment Account to make payments for Full Frontier Declarations via the API.