

<b>OWNER:</b> <b>DG TAXUD</b>	<b>ISSUE DATE:</b> <b>24/02/2017</b>	<b>VERSION:</b> <b>5.03</b>
<p><b>Taxation and Customs Union DG</b></p> <p><b>FITSDEV3 Project</b></p> <p><b>Specifications, Development, Maintenance and Support of European IT Services in the area of taxation and excise</b></p> <p><b>Subject:</b></p> <p><b>TIN Algorithms - Public - Functional Specification</b> <b>(FS-TIN Algorithms-Public)</b></p>		
<p><b>Framework Contract TAXUD/2013/CC/121</b></p> <p><b>Specific Contract Nr 03</b></p>		

---

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## Table of Contents

1	Introduction.....	4
1.1	Objective of this Document.....	4
1.2	Applicative Issues.....	4
1.3	Intended Audience.....	4
1.4	Structure of this Document.....	4
1.5	Related Documents.....	4
1.5.1	Reference Documents.....	4
1.5.2	Applicable Documents.....	4
1.6	Document Conventions.....	5
1.7	Terminology.....	5
1.7.1	Abbreviations and Acronyms.....	5
1.7.2	Definitions.....	5
1.8	Versioning.....	5
2	Scope.....	7
3	MS Specific Algorithms.....	8
3.1	Austria.....	8
3.2	Belgium.....	9
3.3	Bulgaria.....	11
3.4	Croatia.....	12
3.5	Cyprus.....	13
3.6	Czech Republic.....	14
3.7	Denmark.....	16
3.8	Estonia.....	18
3.9	Finland.....	20
3.10	France.....	22
3.11	Germany.....	23
3.12	Greece.....	27
3.13	Hungary.....	28
3.14	Ireland.....	29
3.15	Italy.....	31
3.16	Latvia.....	33
3.17	Lithuania.....	35
3.18	Luxembourg.....	37
3.19	Malta.....	40
3.20	Netherlands.....	41
3.21	Poland.....	42
3.22	Portugal.....	45
3.23	Romania.....	46

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

3.24	Slovakia.....	48
3.25	Slovenia.....	49
3.26	Spain.....	50
3.27	Sweden.....	52
3.28	United Kingdom.....	56

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

# 1 INTRODUCTION

## 1.1 OBJECTIVE OF THIS DOCUMENT

The aim of this document is to provide the Tax Identification Number (TIN) algorithms used to check the validity of a TIN depending on a Member State (MS).

The Functional Specification (FS) are intentionally presented in a way that is appropriate for any technical solution.

## 1.2 APPLICATIVE ISSUES

It is essential that the implementation of these algorithms does not allow their content to be deciphered by a process of reverse engineering of any application.

## 1.3 INTENDED AUDIENCE

This document is intended for:

- The Directorate-General Taxation and Customs Union (DG TAXUD);
- The Members States Administration (MSA).

## 1.4 STRUCTURE OF THIS DOCUMENT

- Chapter 1      **Introduction:** introduces the purpose and the structure of this document;
- Chapter 2      **Scope:** defines the scope of this document;
- Chapter 3      **MS Specific Algorithms:** enumerates and defines all the algorithms of the MSs who are willing to share this information.

## 1.5 RELATED DOCUMENTS

### 1.5.1 REFERENCE DOCUMENTS

Ref.	Title	Reference	Version	Date
R01	ToW - Functional Specification	FITSDEV2-SC13-FS-ToW	1.11	26/03/2013
R02	VAT Number Construction Rules Functional Description	VIES-VAT Validation Routines-v17.0	17.0	11/01/2016

*Table 1: Reference Documents*

### 1.5.2 APPLICABLE DOCUMENTS

Ref.	Title	Reference	Version	Date
A02	Framework Contract	TAXUD/2013/CC/121	N/A	12/07/2013
A03	Specific Contract n° 03	TAXUD/2015/DE/115	N/A	01/08/2015
A04	Framework Quality Plan	FD3-FQP	1.00	15/01/2014

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

Ref.	Title	Reference	Version	Date
A05	Contract Quality Plan	FD3-SC03-CQP	1.00	25/09/2015

*Table 2: Applicable Documents*

## 1.6 DOCUMENT CONVENTIONS

Reference documents are shown in square brackets [].

## 1.7 TERMINOLOGY

### 1.7.1 ABBREVIATIONS AND ACRONYMS

Acronym	Meaning
ASCII	American Standard Code for Information Interchange
DG TAXUD	Directorate-General Taxation and Customs Union
EU	European Union
FS	Functional Specification
MS	Member State
MSA	Member State Administration
TIN	Tax Identification Number
ToW	TIN-on-the-Web
TS	Technical Specification
VAT	Value Added Tax
VIES	VAT Information Exchange System

*Table 3: Abbreviations and Acronyms*

### 1.7.2 DEFINITIONS

Definition	Meaning
Character	Can be a letter or a numeric.
Letter	Character in the range [A-Z] and [a-z].
Numeric	Character in the range [0-9].

*Table 4: Definitions*

## 1.8 VERSIONING

The versioning of this document is based on major and minor numbers in the form x.y. These two numbers are synchronized with the two first numbers of the TIN algorithms JAR version. Whenever a functional change is needed in an algorithm, and the new version of the algorithm becomes less restrictive than the previous one, the major number of this document is incremented. While an algorithm needs some clarifications, but without requiring any modification in the implementations, or when an algorithm becomes more restrictive the minor number of this document is incremented.

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

In addition, a third number z is added at the end in case of documentation issue, which does not change any algorithm except for clarification. This number is free and therefore not synchronized with the TIN algorithms JAR version.

For example, if a country decides to extend the length of all its TIN by prefixing them by one character, while still authorising the previous numbers the algorithm become less restrictive. This means that countries that are still using the previous version of the algorithm will "block" TINs that are valid according to the new rules. In such a case, the major number of this document release number will be incremented.

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 2 SCOPE

TIN-on-the-Web (ToW) must provide any person that has a Web access with the ability to check the validity of a Tax Identification Number (TIN).

The end-user specifies the TIN. The validation is done by checking the syntax correctness of the TIN, depending on the MS algorithm(s).

The goal of this document is to fully specify the MS algorithms to be used by the TIN validation process of ToW.

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3 MS SPECIFIC ALGORITHMS

**Important preliminary remark:** when querying a TIN, the user should not be requested to ask which algorithm is applicable but (s)he must be able to just put the TIN and the check module will validate the TIN against the algorithm(s); if one of the algorithm(s) is correct, then the result must be that the TIN is valid.

### 3.1 AUSTRIA

<b>Structure: TIN Format</b>	[C1, C2, "-", C3, C4, C5, "/", C6, C7, C8, C9]	Where C1 to C9 are characters and C1 and C2 are separated from the rest by a hyphen and C3 to C5 are separated from C6 to C9 by a slash.  Note: the hyphen and the slash are not mandatory in all cases (e.g. for IT processing, hyphen and slash should be omitted).
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9	A numeric.
<b>Structure: Special Characters</b>	If any, special characters (dash, slash or other signs) should be skipped.	

<b>Syntax: Check Digit</b>	C9	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 1</li> <li>C2 2</li> <li>C3 1</li> <li>C4 2</li> <li>C5 1</li> <li>C6 2</li> <li>C7 1</li> <li>C8 2</li> </ul> </li> <li>If the product of a doubling operation is &gt; 9, sum the digits of the product;</li> <li>Add up the results of the above multiplications;</li> <li>The result of the sum of the digits is subtracted from 100 and the unit digit of this operation is the check digit.</li> </ol>
<b>Syntax: Sample</b>	931736581	<ol style="list-style-type: none"> <li><math>9 * 1 = 9, 3 * 2 = 6, 1 * 1 = 1, 7 * 2 = 14, 3 * 1 = 3, 6 * 2 = 12, 5 * 1 = 5, 8 * 2 = 16;</math></li> <li><math>1 + 4 = 5, 1 + 2 = 3, 1 + 6 = 7;</math></li> <li><math>9 + 6 + 1 + 5 + 3 + 3 + 5 + 7 = 39;</math></li> <li><math>100 - 39 = 61, 1</math> is the check digit.</li> </ol>

Table 5: MS Specific Algorithms - Austria 2



DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.2 BELGIUM

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]	Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11	A numeric.
Structure: Special Characters	If any, special characters (dash, slash or other signs) should be skipped.	
Structure: Rules	C1, C2	Two last digits of a year.
	C3, C4	A month (in the range 00...12, 00 is acceptable for person not born in Belgium and with an uncertain date of birth).
	C5, C6	A day of month (in the range 00...31 depending on month and year, 00 is acceptable for person not born in Belgium and with an uncertain date of birth).
Syntax: Check Digit	C10, C11	<ol style="list-style-type: none"> <li>1. Get the remainder of the division by 97 of the number composed by C1, C2, C3, C4, C5, C6, C7, C8 and C9;</li> <li>2. 97 - remainder of the previous division is the check number.</li> </ol>
Syntax: Sample	00012511119 (person born 25/01/1900)	<ol style="list-style-type: none"> <li>1. <math>125111 \text{ MOD } 97 = 78</math>;</li> <li>2. Check digit = <math>97 - 78 = 19</math>.</li> </ol>

Table 6: MS Specific Algorithms - Belgium 1

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]	Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11	A numeric.
Structure: Special Characters	If any, special characters (dash, slash or other signs) should be skipped.	
Structure: Rules	C1, C2	Two last digits of a year.
	C3, C4	A month (in the range 00...12, 00 is acceptable for person not born in Belgium and with an uncertain date of birth).
	C5, C6	A day of month (in the range 00...31 depending on month and year, 00 is acceptable for person not born in Belgium and with an uncertain date of birth).

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

<b>Syntax: Check Digit</b>	C10, C11	<ol style="list-style-type: none"> <li>1. Get the remainder of the division by 97 of the number composed by number 2 and C1, C2, C3, C4, C5, C6, C7, C8 and C9;</li> <li>2. 97 - remainder of the previous division is the check number.</li> </ol>
<b>Syntax: Sample</b>	00012511148 (person born 25/01/2000)	<ol style="list-style-type: none"> <li>1. <math>2000125111 \text{ MOD } 97 = 49</math>;</li> <li>2. Check digit = <math>97 - 49 = 48</math>.</li> </ol>

*Table 7: MS Specific Algorithms - Belgium 2*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

### 3.3 BULGARIA

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10]	Where C1 to C10 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.
Structure: Rules	C1, C2	Two last digits of a year.
	C3, C4	A month (in the range 1...12, 21...32, 41...52): <ul style="list-style-type: none"> <li>Range 21...32: add 20 if the date of birth is &lt; 01/01/1900;</li> <li>Range 41...52: add 40 if the date of birth is &gt; 31/12/1999).</li> </ul>
	C5, C6	Day of month (in the range 1...31).
Syntax: Check Digit	C10	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <div> <div>C1</div> <div>2</div> </div> <div> <div>C2</div> <div>4</div> </div> <div> <div>C3</div> <div>8</div> </div> <div> <div>C4</div> <div>5</div> </div> <div> <div>C5</div> <div>10</div> </div> <div> <div>C6</div> <div>9</div> </div> <div> <div>C7</div> <div>7</div> </div> <div> <div>C8</div> <div>3</div> </div> <div> <div>C9</div> <div>6</div> </div> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>Check digit = remainder if remainder &lt; 10 Check digit = 0 if remainder = 10.</li> </ol>
Syntax: Sample	7501010010	<ol style="list-style-type: none"> <li><math>7 * 2 = 14, 5 * 4 = 20, 0 * 8 = 0, 1 * 5 = 5, 0 * 10 = 0, 1 * 9 = 9, 0 * 7 = 0, 0 * 3 = 0, 1 * 6 = 6</math>;</li> <li><math>14 + 20 + 0 + 5 + 0 + 9 + 0 + 0 + 6 = 54</math>;</li> <li><math>54 \text{ MOD } 11 = 10</math>;</li> <li>Check digit = 0.</li> </ol>

Table 8: MS Specific Algorithms – Bulgaria

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.4 CROATIA

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]	Where C1 to C11 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11	A numeric.
<b>Structure: Rules</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	Random number.
	C11	Check digit by the international standard ISO 7064 (MOD 11, 10).

Syntax: Check Digit	C11	<div><div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>
---------------------	-----	---

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

*Table 9: MS Specific Algorithms – Croatia*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.5 CYPRUS

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8	A numeric.
	C9	A capital letter.
Structure: Rules	C1	0 or 9 for individuals.

Syntax: Check Digit	C9	<div><div><div>1. Add up the numbers in the even positions;</div><div>2. Consider all the numbers at the odd positions of the field and for each number find the corresponding value from the table below, and add them up:</div><div><div><div>01</div><div>10</div><div>25</div><div>37</div><div>49</div><div>513</div><div>615</div><div>717</div><div>819</div><div>921</div></div></div><div>3. Add the two sums obtained;</div><div>4. Get modulo 26 of the result of the previous addition;</div><div>5. Remainder + 65 gives the American Standard Code for Information Interchange (ASCII) code of a character (A to Z) which is the check character.</div></div></div>
Syntax: Sample	00123123T	<div><div><div>1. <math>0 + 2 + 1 + 3 = 6</math>;</div><div>2. <math>1 + 0 + 7 + 5 = 13</math>;</div><div>3. <math>6 + 13 = 19</math>;</div><div>4. <math>19 \text{ MOD } 26 = 19</math>;</div><div>5. <math>19 + 65 = 84 = T</math>.</div></div></div>
	99652156X	<div><div><div>1. <math>9 + 5 + 1 + 6 = 21</math>;</div><div>2. <math>21 + 15 + 5 + 13 = 54</math>;</div><div>3. <math>21 + 54 = 75</math>;</div><div>4. <math>75 \text{ MOD } 26 = 23</math>;</div><div>5. <math>23 + 65 = 88 = X</math>.</div></div></div>

Table 10: MS Specific Algorithms - Cyprus

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.6 CZECH REPUBLIC

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, ["/"], C7, C8, C9]	Where C1 to C9 are characters.  YYMMDD999 - 1 block of 9 digits issued for people born till 31.12.1953.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9	A numeric.
<b>Structure: Special Characters</b>	If any, special characters (slash) between C6 and C7 should be skipped; it is purely optional.	
<b>Structure: Rules</b>	C1, C2	Two last digits of a year.
	C3, C4	Month (in the range 1...12 for male) or month + 50 (in the range 51...62 for female).
	C5, C6	Day of month (in the range 1...31 depending on month and year).
<b>Syntax: Check Digit</b>	Not publicly available	
<b>Syntax: Sample</b>	Not publicly available	

Table 11: MS Specific Algorithms - Czech Republic 1

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, ["/"], C7, C8, C9, C10]	Where C1 to C10 are characters.  YYMMDD999C - 1 block of 10 digits issued for people born after 1.1.1954.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.
<b>Structure: Special Characters</b>	If any, special characters (slash) should be skipped.	
<b>Structure: Rules</b>	C1, C2	Two last digits of a year: Must be within the range: <ul style="list-style-type: none"> <li>00 - last two digits of current year for people born in 2000 and later;</li> <li>54 - 99 for people born between 1954 and 1999.</li> </ul>
	C3, C4	Month (in the range 1...12 only for male) or month + 20 (in the range 21...32 only for male) or month + 50 (in the range 51...62 only for female) or month + 70 (in the range 71...82 only for female).
	C5, C6	Day of month (in the range 1...31 depending on month and year).

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

<b>Syntax: Check Digit</b>	Not publicly available
<b>Syntax: Sample</b>	Not publicly available

*Table 12: MS Specific Algorithms - Czech Republic 2*



DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.7 DENMARK

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, "-", C7, C8, C9, C10]	Where C1 to C10 are characters. C1 to C6 are separated from C7 to C10 by a hyphen. This hyphen is optional and should be skipped in the validation.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.
<b>Structure: Rules</b>	C1, C2	Day of month (in the range 1...31 depending on month and year).
	C3, C4	Month (in the range 1...12).
	C5, C6	Two last digits of a year.

<b>Syntax: Check Digit</b>	C10	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 4</li> <li>C2 3</li> <li>C3 2</li> <li>C4 7</li> <li>C5 6</li> <li>C6 5</li> <li>C7 4</li> <li>C8 3</li> <li>C9 2</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition. The remainder must not be 1;</li> <li>Check digit = 11 – remainder, or check digit = 0 if the result of the modulo operation of the third step is 0.</li> </ol>
<b>Syntax: Additional Rules on Check Digit</b>	Several ranges of figures are not possible and should be reported as erroneous if a TIN is checked in those ranges:	

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

The Structure of TIN's in Denmark					
Date of birth position 1 - 2	Month of birth position 3 - 4	Year of birth position 5 - 6	Serial number position 7 - 10	Remarks	
				Gender position 10	Year
1 - 31	1 - 12	00 - 99	0001 - 0999	Odd figures = men Even figures = women	1900 - 1999
1 - 31	1 - 12	00 - 99	1000 - 1999	Odd figures = men Even figures = women	1900 - 1999
1 - 31	1 - 12	00 - 99	2000 - 2999	Odd figures = men Even figures = women	1900 - 1999
1 - 31	1 - 12	00 - 99	3000 - 3999	Odd figures = men Even figures = women	1900 - 1999
1 - 31	1 - 12	00 - 36	4000 - 4999	Odd figures = men Even figures = women	2000 - 2036
1 - 31	1 - 12	37 - 99	4000 - 4999	Odd figures = men Even figures = women	1937 - 1999
1 - 31	1 - 12	00 - 36	5000 - 5999	Odd figures = men Even figures = women	2000 - 2036
1 - 31	1 - 12	37 - 57	5000 - 5999	Vacant figures	
1 - 31	1 - 12	58 - 99	5000 - 5999	Odd figures = men Even figures = women	1858 - 1899
1 - 31	1 - 12	00 - 36	6000 - 6999	Odd figures = men Even Figures = women	2000 - 2036
1 - 31	1 - 12	37 - 57	6000 - 6999	Vacant figures	
1 - 31	1 - 12	58 - 99	6000 - 6999	Odd figures = men Even figures = women	1858 - 1899
1 - 31	1 - 12	00 - 36	7000 - 7999	Odd figures = men Even figures = women	2000 - 2036
1 - 31	1 - 12	37 - 57	7000 - 7999	Vacant figures	
1 - 31	1 - 12	58 - 99	7000 - 7999	Odd figures = men Even figures = women	1858 - 1899
1 - 31	1 - 12	00 - 36	8000 - 8999	Odd figures = men Even figures = women	2000 - 2036
1 - 31	1 - 12	37 - 57	8000 - 8999	Vacant figures	
1 - 31	1 - 12	58 - 99	8000 - 8999	Odd figures = men Even figures = women	1858 - 1899
1 - 31	1 - 12	00 - 36	9000 - 9999	Odd figures = men Even figures = women	2000 - 2036
1 - 31	1 - 12	37 - 99	9000 - 9999	Odd figures = men Even figures = women	1937 - 1999

Syntax: Sample	010111-1113	<ol style="list-style-type: none"> <li><math>0 * 4 = 0, 1 * 3 = 3, 0 * 2 = 0, 1 * 7 = 7, 1 * 6 = 6, 1 * 5 = 5, 1 * 4 = 4, 1 * 3 = 3, 1 * 2 = 2;</math></li> <li><math>0 + 3 + 0 + 7 + 6 + 5 + 4 + 3 + 2 = 30;</math></li> <li><math>30 \text{ MOD } 11 = 8;</math></li> <li>Check digit = <math>11 - 8 = 3.</math></li> </ol>
----------------	-------------	---

Table 13: MS Specific Algorithms - Denmark

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.8 ESTONIA

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]	Where C1 to C11 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11	A numeric.
<b>Structure: Rules</b>	C1	In the range 1...6.
	C2, C3	Two last digits of a year.
	C4, C5	Month (in the range 1...12).
	C6, C7	Day of month (in the range 1...31 depending on month and year).
	C8, C9, C10	In the range 001...710.

<b>Syntax: Check Digit</b>	C11	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 1</li> <li>C2 2</li> <li>C3 3</li> <li>C4 4</li> <li>C5 5</li> <li>C6 6</li> <li>C7 7</li> <li>C8 8</li> <li>C9 9</li> <li>C10 1</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>Check digit: <ol style="list-style-type: none"> <li>If remainder is less than 10, the remainder is the check digit;</li> <li>If remainder is 10, use the following table instead of the previous one: <ul style="list-style-type: none"> <li>C1 3</li> <li>C2 4</li> <li>C3 5</li> <li>C4 6</li> <li>C5 7</li> <li>C6 8</li> <li>C7 9</li> <li>C8 1</li> <li>C9 2</li> <li>C10 3</li> </ul> </li> </ol> <ul style="list-style-type: none"> <li>If remainder is less than 10, the remainder is the check digit;</li> <li>If remainder is 10, the check digit is 0.</li> </ul> </li> </ol>
<b>Syntax: Sample</b>	37102250382	1. $3 * 1 = 3$ , $7 * 2 = 14$ , $1 * 3 = 3$ , $0 * 4 = 0$ , $2 * 5 = 10$ ,

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

	<div><div>2 * 6 = 12, 5 * 7 = 35, 0 * 8 = 0, 3 * 9 = 27, 8 * 1 = 8;</div><div>2. 3 + 14 + 3 + 0 + 10 + 12 + 35 + 0 + 27 + 8 = 112;</div><div>3. Check digit: 112 MOD 11 = 2.</div></div>
32708101201	<div><div>1.</div><div><div>I grade weight:</div><div><div>3270810120</div><div>1234567891</div></div></div><div><div>Products :</div><div><div>340680</div><div>210</div><div>4018</div></div></div><div><div>2. 3 + 4 + 21 + 0 + 40 + 6 + 0 + 8 + 18 + 0 = 100;</div><div>3. Check digit: 100 MOD 11 = 1.</div></div></div>
46304280206	<div><div>1.</div><div><div>I grade weight:</div><div><div>4630428020</div><div>1234567891</div></div></div><div><div>Products:</div><div><div>491200</div><div>120</div><div>205618</div></div></div><div><div>2. 4 + 12 + 9 + 0 + 20 + 12 + 56 + 0 + 18 + 0 = 131;</div><div>3. 131 MOD 11 = 10;</div><div>4.</div><div><div>II grand weight:</div><div><div>4630428020</div><div>3456789123</div></div></div><div><div>Products:</div><div><div>122401600</div><div>1528724</div></div></div><div><div>5. 12 + 24 + 15 + 0 + 28 + 16 + 72 + 0 + 4 + 0 = 171;</div><div>6. Check digit: 171 MOD 11 = 6.</div></div></div></div>

Table 14: MS Specific Algorithms - Estonia

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.9 FINLAND

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]		Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C8, C9, C10		A numeric.
	C7		A letter (+, - or A: see below).
	C11		A numeric or a letter (see below).
Structure: Rules	C1, C2	Day of month (in the range 1...31 depending on month and year).	
	C3, C4	Month (in the range 1...12).	
	C5, C6	Two last digits of a year.	
	C7	+ , - or A <u>Note:</u> <ul style="list-style-type: none"> <li>"+" (plus) means year of birth between 1800 and 1899;</li> <li>"-" (minus) means years between 1900 and 1999;</li> <li>"A" means 2000 and above.</li> </ul> The structure check should absolutely ensure that one of the 3 characters is included in the TIN.	

Syntax: Check Digit	C11	<div><div><div>1. Concatenate C1, C2, C3, C4, C5, C6, C8, C9, C10 (warning: C7 is not part of the check digit);</div><div>2. Calculate the modulo 31 of the abovementioned number;</div><div>3. The result of calculating modulo 31 will give as a result a number, which will provide the check mark through the following table:</div></div><div><div>00</div><div>11</div><div>22</div><div>33</div><div>44</div><div>55</div><div>66</div><div>77</div><div>88</div><div>99</div><div>10A</div><div>11B</div><div>12C</div><div>13D</div><div>14E</div><div>15F</div><div>16H</div><div>17J</div><div>18K</div></div></div>
---------------------	-----	---

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

		19 L 20 M 21 N 22 P 23 R 24 S 25 T 26 U 27 V 28 W 29 X 30 Y
<b>Syntax: Sample</b>	131052-308T	1. 131052308; 2. $131052308 \text{ MOD } 31 = 25$ ; 3. Check character = T.

*Table 15: MS Specific Algorithms - Finland*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.10 FRANCE

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13]	Where C1 to C13 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C8, C9, C10, C11, C12, C13	A numeric.
<b>Structure: Rules</b>	C1	Must be 0, 1, 2 or 3.
<b>Syntax: Check Digit</b>	C11, C12, C13	<ol style="list-style-type: none"> <li>1. Concatenate C1, C2, C3, C4, C5, C6, C7, C8, C9, C10;</li> <li>2. Get modulo 511 of the result of the previous result;</li> <li>3. Check digit = remainder if remainder &lt; 100, C11 = 0 (if remainder &lt; 10, C11 = 0 and C12 = 0).</li> </ol>
<b>Syntax: Sample</b>	30 23 217 600 053	<ol style="list-style-type: none"> <li>1. 3023217600;</li> <li>2. 3023217600 mod 511 = 53;</li> <li>3. Check digit = 053.</li> </ol>

Table 16: MS Specific Algorithms - France

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.11 GERMANY

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]	Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11	A numeric.
Structure: Special Characters	If any, slash should be skipped.	
Structure: Rules	C1	Must never be 0.
	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	One and only one mandatory duplicate value: one of the first ten digits is used twice (the recurrent digits don't have to be located at subsequent positions but they can be).

Syntax: Check Digit	C11	<ol style="list-style-type: none"> <li>1. Take C1 modulo 10. If result is 0, result is 10;</li> <li>2. Multiply the result by 2;</li> <li>3. Take modulo 11 of the result. This value is called X;</li> <li>4. Take modulo 10 of C2 + X. If result is 0, result is 10;</li> <li>5. Multiply the result by 2;</li> <li>6. Take modulo 11 of the result. This value is called Y;</li> <li>7. Apply steps 4, 5 and 6 in an analogue way for digits C3 to C10. Consider that last value called Z;</li> <li>8. 11 - Z = check digit. If check digit = 10, replace it by 0.</li> </ol>
Syntax: Sample	26954371827	<ol style="list-style-type: none"> <li>1. <math>2 \text{ MOD } 10 = 2</math>;</li> <li>2. <math>2 * 2 = 4</math>;</li> <li>3. <math>4 \text{ MOD } 11 = 4</math>;</li> <li>4. <math>(6 + 4) \text{ MOD } 10 = 0</math> replaced by 10;</li> <li>5. <math>2 * 10 = 20</math>;</li> <li>6. <math>20 \text{ MOD } 11 = 9</math>;</li> <li>7. <math>(9 + 9) \text{ MOD } 10 = 8</math>;</li> <li>8. <math>2 * 8 = 16</math>;</li> <li>9. <math>16 \text{ MOD } 11 = 5</math>;</li> <li>10. <math>(5 + 5) \text{ MOD } 10 = 0</math> replaced by 10;</li> <li>11. <math>2 * 10 = 20</math>;</li> <li>12. <math>20 \text{ MOD } 11 = 9</math>;</li> <li>13. <math>(4 + 9) \text{ MOD } 10 = 3</math>;</li> <li>14. <math>2 * 3 = 6</math>;</li> <li>15. <math>6 \text{ MOD } 11 = 6</math>;</li> <li>16. <math>(3 + 6) \text{ MOD } 10 = 9</math>;</li> <li>17. <math>2 * 9 = 18</math>;</li> <li>18. <math>18 \text{ MOD } 11 = 7</math>;</li> </ol>



DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

	19. $(7 + 7) \text{ MOD } 10 = 4$ ; 20. $2 * 4 = 8$ ; 21. $8 \text{ MOD } 11 = 8$ ; 22. $(1 + 8) \text{ MOD } 10 = 9$ ; 23. $2 * 9 = 18$ ; 24. $18 \text{ MOD } 11 = 7$ ; 25. $(8 + 7) \text{ MOD } 10 = 5$ ; 26. $2 * 5 = 10$ ; 27. $10 \text{ MOD } 11 = 10$ ; 28. $(2 + 10) \text{ MOD } 10 = 2$ ; 29. $2 * 2 = 4$ ; 30. $4 \text{ MOD } 11 = 4$ ; 31. Check digit = $11 - 4 = 7$ .
--	--

Table 17: MS Specific Algorithms - Germany 1

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]	Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11	A numeric.
Structure: Special Characters	If any, slash should be skipped.	
Structure: Rules	C1	Must never be 0.
	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	One and only one mandatory duplicate or triple value: <ul style="list-style-type: none"> <li>One of the first ten digits is used twice (the recurrent digits do not have to be located at subsequent positions but they can be);</li> <li>One of the first ten digits is used tree times (only two recurrent digits are allowed to be one after another).</li> </ul>

Syntax: Check Digit	C11	<ol style="list-style-type: none"> <li>Initialize the variable X to 10.</li> <li>Take <math>C1 + X</math> modulo 10. If result is 0, result is 10;</li> <li>Multiply the result by 2;</li> <li>Take modulo 11 of the result. Update the value of variable X with the result of this operation;</li> <li>Take <math>C2 + X</math> modulo 10. If result is 0, result is 10;</li> <li>Multiply the result by 2;</li> <li>Take modulo 11 of the result. Update the value of variable X with the result of this operation;</li> <li>Apply steps 5, 6 and 7 in an analogue way for digits C3 to C10. Consider that last value called Y;</li> <li><math>11 - Y =</math> check digit. If check digit = 10, replace it by 0.</li> </ol>
Syntax: Sample	86095742719	<ol style="list-style-type: none"> <li><math>(8 + 10) \text{ MOD } 10 = 8</math>;</li> </ol>

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

		2. $8 * 2 = 16$ ; 3. $16 \text{ MOD } 11 = 5$ ; 4. $(6 + 5) \text{ MOD } 10 = 1$ ; 5. $1 * 2 = 2$ ; 6. $2 \text{ MOD } 11 = 2$ ; 7. $(0 + 2) \text{ MOD } 10 = 2$ ; 8. $2 * 2 = 4$ ; 9. $4 \text{ MOD } 11 = 4$ ; 10. $(9 + 4) \text{ MOD } 10 = 3$ ; 11. $3 * 2 = 6$ ; 12. $6 \text{ MOD } 11 = 6$ ; 13. $(5 + 6) \text{ MOD } 10 = 1$ ; 14. $1 * 2 = 2$ ; 15. $2 \text{ MOD } 11 = 2$ ; 16. $(7 + 2) \text{ MOD } 10 = 9$ ; 17. $9 * 2 = 18$ ; 18. $18 \text{ MOD } 11 = 7$ ; 19. $(4 + 7) \text{ MOD } 10 = 1$ ; 20. $1 * 2 = 2$ ; 21. $2 \text{ MOD } 11 = 2$ ; 22. $(2 + 2) \text{ MOD } 10 = 4$ ; 23. $4 * 2 = 8$ ; 24. $8 \text{ MOD } 11 = 8$ ; 25. $(7 + 8) \text{ MOD } 10 = 5$ ; 26. $5 * 2 = 10$ ; 27. $10 \text{ MOD } 11 = 10$ ; 28. $(1 + 10) \text{ MOD } 10 = 1$ ; 29. $2 * 1 = 2$ ; 30. $2 \text{ MOD } 11 = 2$ ; 31. Check digit = $11 - 2 = 9$ .
	65929970489	32. $(6 + 10) \text{ MOD } 10 = 6$ ; 33. $6 * 2 = 12$ ; 34. $12 \text{ MOD } 11 = 1$ ; 35. $(5 + 1) \text{ MOD } 10 = 6$ ; 36. $6 * 2 = 12$ ; 37. $12 \text{ MOD } 11 = 1$ ; 38. $(9 + 1) \text{ MOD } 10 = 0$ replaced by 10; 39. $10 * 2 = 20$ ; 40. $20 \text{ MOD } 11 = 9$ ; 41. $(2 + 9) \text{ MOD } 10 = 1$ ; 42. $1 * 2 = 2$ ; 43. $2 \text{ MOD } 11 = 2$ ; 44. $(9 + 2) \text{ MOD } 10 = 1$ ; 45. $1 * 2 = 2$ ; 46. $2 \text{ MOD } 11 = 2$ ; 47. $(9 + 2) \text{ MOD } 10 = 1$ ; 48. $1 * 2 = 2$ ; 49. $2 \text{ MOD } 11 = 2$ ; 50. $(7 + 2) \text{ MOD } 10 = 9$ ; 51. $9 * 2 = 18$ ;

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

	52. $18 \text{ MOD } 11 = 7$ ; 53. $(0 + 7) \text{ MOD } 10 = 7$ ; 54. $7 * 2 = 14$ ; 55. $14 \text{ MOD } 11 = 3$ ; 56. $(4 + 3) \text{ MOD } 10 = 7$ ; 57. $7 * 2 = 14$ ; 58. $14 \text{ MOD } 11 = 3$ ; 59. $(8 + 3) \text{ MOD } 10 = 1$ ; 60. $2 * 1 = 2$ ; 61. $2 \text{ MOD } 11 = 2$ ; 62. Check digit = $11 - 2 = 9$ .
--	---

*Table 18: MS Specific Algorithms - Germany 2*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.12 GREECE

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9	A numeric.
<b>Syntax: Check Digit</b>	Not publicly available	
<b>Syntax: Sample</b>	Not publicly available	

*Table 19: MS Specific Algorithms - Greece*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.13 HUNGARY

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10]	Where C1 to C10 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.
Structure: Rules	C1	8.

Syntax: Check Digit	C10	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 1</li> <li>C2 2</li> <li>C3 3</li> <li>C4 4</li> <li>C5 5</li> <li>C6 6</li> <li>C7 7</li> <li>C8 8</li> <li>C9 9</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>Check digit = remainder.</li> </ol>
Syntax: Sample	8071592153	<ol style="list-style-type: none"> <li><math>8 * 1 = 8, 0 * 2 = 0, 7 * 3 = 21, 1 * 4 = 4, 5 * 5 = 25, 9 * 6 = 54, 2 * 7 = 14, 1 * 8 = 8, 5 * 9 = 45;</math></li> <li><math>8 + 0 + 21 + 4 + 25 + 54 + 14 + 8 + 45 = 179;</math></li> <li><math>179 \text{ MOD } 11 = 3;</math></li> <li>Check digit = 3.</li> </ol>

Table 20: MS Specific Algorithms - Hungary

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.14 IRELAND

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters. C9 is optional.
Structure: Range	C1, C2, C3, C4, C5, C6, C7	A numeric.
	C8	A letter in the range [A-W].
Structure: Rule	C9	A letter in the range [A-I], or "W".

Syntax: Check Digit	<div>1. In reverse order, each digit is multiplied by a weight started at 2:</div> <table><tr><td>C7</td><td>2</td></tr><tr><td>C6</td><td>3</td></tr><tr><td>C5</td><td>4</td></tr><tr><td>C4</td><td>5</td></tr><tr><td>C3</td><td>6</td></tr><tr><td>C2</td><td>7</td></tr><tr><td>C1</td><td>8</td></tr><tr><td>LetterToNumber(C9)</td><td>9</td></tr></table> <div>2. LetterToNumber(C9) is based on the following mapping: “A”=1, “B”=2, “C”=3, “D”=4, “E”=5, “F”=6, “G”=7, “H”=8, “I”=9 A “W” or absence of character in position 9 is allocated a numeric value of 0.</div> <div>3. Add up each result;</div> <div>4. The remainder of the modulo 23 indicates the character position on the alphabet according to the following mapping: 0=“W”, 1=“A”, 2=“B”, 3=“C”... 22=“V”</div>		C7	2	C6	3	C5	4	C4	5	C3	6	C2	7	C1	8	LetterToNumber(C9)	9
C7	2																	
C6	3																	
C5	4																	
C4	5																	
C3	6																	
C2	7																	
C1	8																	
LetterToNumber(C9)	9																	
Syntax: Samples	1234567T	<div>1. <math>0 * 9 + 1 * 8 + 2 * 7 + 3 * 6 + 4 * 5 + 5 * 4 + 6 * 3 + 7 * 2 = 112</math>;</div> <div>2. <math>112 \text{ MOD } 23 = 20 = T</math>.</div>																
	1234567TW	<div>1. <math>0 * 9 + 1 * 8 + 2 * 7 + 3 * 6 + 4 * 5 + 5 * 4 + 6 * 3 + 7 * 2 = 112</math>;</div> <div>2. <math>112 \text{ MOD } 23 = 20 = T</math>.</div>																
	1234577W	<div>1. <math>0 * 9 + 1 * 8 + 2 * 7 + 3 * 6 + 4 * 5 + 5 * 4 + 7 * 3 + 7 * 2 = 115</math>;</div> <div>2. <math>112 \text{ MOD } 23 = 0 = W</math>.</div>																
	1234577WW	<div>1. <math>0 * 9 + 1 * 8 + 2 * 7 + 3 * 6 + 4 * 5 + 5 * 4 + 7 * 3 + 7 * 2 = 115</math>;</div> <div>2. <math>112 \text{ MOD } 23 = 0 = W</math>.</div>																


DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

	1234577IA	<ol style="list-style-type: none"> <li><math>1 * 9 + 1 * 8 + 2 * 7 + 3 * 6 + 4 * 5 + 5 * 4 + 7 * 3 + 7 * 2 = 124;</math></li> <li><math>124 \text{ MOD } 23 = 9 = I</math></li> </ol>
--	-----------	---

*Table 21: MS Specific Algorithms - Ireland*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.15 ITALY

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16]	Where C1 to C16 are characters.											
Structure: Range	C1, C2, C3, C4, C5, C6, C9, C12, C16	A letter (uppercase or lowercase).											
	C7, C8, C10, C11, C13, C14, C15	A numeric.											
Structure: Rules	C7, C8	Two last digits of a year.											
	C9	<p>A letter representing a month; the letter can only take the values:</p> <ul style="list-style-type: none"> <li>January: A</li> <li>February: B</li> <li>March: C</li> <li>April: D</li> <li>May: E</li> <li>June: H</li> <li>July: L</li> <li>August: M</li> <li>September: P</li> <li>October: R</li> <li>November: S</li> <li>December: T.</li> </ul>											
	C10, C11	Day of month (in the range 1...31 for men) or day of month + 40 (in the range 41...71 for women).											
	C12, C13, C14, C15	<p>A code (1 letter + 3 numeric) representing the place of birth, being a city (when born in Italy) or a country (when born out of Italy), from the following list of values:</p>  <p>N:\TIN\TIN on EUROPA\00 ALGORIT</p>											
	C7, C8, C10, C11, C13, C14, C15	<p>When two or more individuals have the same fifteen alphanumeric character, one or more of the seven numerical characters are replaced, starting from the right, according to correspondence shown in the following table:</p> <table border="1"> <tr> <td>0 = L</td><td>4 = Q</td><td>8 = U</td></tr> <tr> <td>1 = M</td><td>5 = R</td><td>9 = V</td></tr> <tr> <td>2 = N</td><td>6 = S</td><td></td></tr> <tr> <td>3 = P</td><td>7 = T</td><td></td></tr> </table>	0 = L	4 = Q	8 = U	1 = M	5 = R	9 = V	2 = N	6 = S		3 = P	7 = T
0 = L	4 = Q	8 = U											
1 = M	5 = R	9 = V											
2 = N	6 = S												
3 = P	7 = T												



DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## Syntax: Check Digit

- Each of the first fifteen characters, depending on its relevant position (even or odd), is converted into a numeric value, according to correspondence shown in the tables below:

EVEN POSITION				
A or 0 = 0	F or 5 = 5	K = 10	P = 15	U = 20
B or 1 = 1	G or 6 = 6	L = 11	Q = 16	V = 21
C or 2 = 2	H or 7 = 7	M = 12	R = 17	W = 22
D or 3 = 3	I or 8 = 8	N = 13	S = 18	X = 23
E or 4 = 4	J or 9 = 9	O = 14	T = 19	Y = 24
				Z = 25

ODD POSITION				
A or 0 = 1	F or 5 = 13	K = 2	P = 3	U = 16
B or 1 = 0	G or 6 = 15	L = 4	Q = 6	V = 10
C or 2 = 5	H or 7 = 17	M = 18	R = 8	W = 22
D or 3 = 7	I or 8 = 19	N = 20	S = 12	X = 25
E or 4 = 9	J or 9 = 21	O = 11	T = 14	Y = 24
				Z = 23

- The numerical values thus determined are added together and their sum is divided by 26. The check character (C16) is obtained by converting the remainder of the division in the corresponding alphabetic character according to the table below:

Check-digit				
0 = A	5 = F	10 = K	15 = P	20 = U
1 = B	6 = G	11 = L	16 = Q	21 = V
2 = C	7 = H	12 = M	17 = R	22 = W
3 = D	8 = I	13 = N	18 = S	23 = X
4 = E	9 = J	14 = O	19 = T	24 = Y
				25 = Z

## Syntax: Sample

DMLPRY77D1  
5H501F

D	M	L	P	R	Y	7	7	D	1	5	H	5	0	1	Total
7	12	4	15	8	24	17	7	7	1	13	7	13	0	0	135
															Mod(26)
															5 => F

Table 22: MS Specific Algorithms - Italy

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.16 LATVIA

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]		Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11		A numeric.
Structure: Rules	C1, C2	Day of month (in the range 1...31 depending on month and year.	
	C3, C4	Month (in the range 00...12).	
	C5, C6	Two last digits of a year.	
	C7	Digit indicating the century: <ul style="list-style-type: none"><li>0: person born between 1800 and 1899;</li><li>1: person born between 1900 and 1999;</li><li>2: person born from 2000 or above.</li></ul>	
Structure: Sample	01011012345.		

Syntax: Check Digit	Not publicly available
Syntax: Sample	Not publicly available

Table 23: MS Specific Algorithms - Latvia 1

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]		Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11		A numeric.
Structure: Rules	C1	Digit “3”	
	C2	Digit “2”	
	C3, C4, C5, C6, C7, C8, C9, C10	Digit from 0 to 9, generated automatically by information system.	
Structure: Sample	32579461005		

Syntax: Check Digit	Not publicly available
Syntax: Sample	Not publicly available

Table 24: MS Specific Algorithms - Latvia 2<sup>1</sup>

<sup>1</sup> This algorithm is applicable as of 01/07/2017.

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.17 LITHUANIA

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]		Where C1 to C11 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11		A numeric.
Structure: Rules	C1	Can only take the value 1 to 6.	
	C2, C3	Two last digits of a year.	
	C4, C5	Month (in the range 1...12).	
	C6, C7	Day of month (in the range 1...31 depending on month and year).	
Structure: Sample	10101010005.		

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

Syntax: Check Digit	C11	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1     1</li> <li>C2     2</li> <li>C3     3</li> <li>C4     4</li> <li>C5     5</li> <li>C6     6</li> <li>C7     7</li> <li>C8     8</li> <li>C9     9</li> <li>C10    1</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>C11 = remainder if remainder is not 10;</li> <li>If remainder is 10, calculate a new check digit with over corresponding weight: <ul style="list-style-type: none"> <li>C1     3</li> <li>C2     4</li> <li>C3     5</li> <li>C4     6</li> <li>C5     7</li> <li>C6     8</li> <li>C7     9</li> <li>C8     1</li> <li>C9     2</li> <li>C10    3</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>C11 = remainder if remainder is not 10; if remainder is 10, C11 = 0.</li> </ol>
Syntax: Sample	33309240064	<ol style="list-style-type: none"> <li><math>3*1=3; 3*2=6; 3*3=9; 0*4=0; 9*5=45; 2*6=12; 4*7=28; 0*8=0; 0*9=0; 6*1=6</math></li> <li><math>3 + 6 + 9 + 0 + 45 + 12 + 28 + 0 + 0 + 6 = 109</math></li> <li><math>109 \text{ MOD } 11 = 10</math></li> <li><math>3*3=9; 3*4=12; 3*5=15; 0*6=0; 9*7=63; 2*8=16; 4*9=36; 0*1=0; 0*2=0; 6*3=18</math></li> <li><math>9 + 12 + 15 + 0 + 63 + 16 + 36 + 0 + 0 + 18 = 169</math></li> <li><math>169 \text{ MOD } 11 = 4 \text{ (i.e. C11)}</math></li> </ol>

Table 25: MS Specific Algorithms - Lithuania

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.18 LUXEMBOURG

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13]	Where C1 to C13 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C8, C9, C10, C11, C12, C13	A numeric.
<b>Structure: Rules</b>	C1, C2, C3, C4	Four digits of a year.
	C5, C6	Month (in the range 01...12).
	C7, C8	Day (in the range 01...31).

<b>Syntax: Check Digit</b>	C12	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 2</li> <li>C2 1</li> <li>C3 2</li> <li>C4 1</li> <li>C5 2</li> <li>C6 1</li> <li>C7 2</li> <li>C8 1</li> <li>C9 2</li> <li>C10 1</li> <li>C11 2</li> <li>C12 1</li> </ul> </li> <li>If the product of a doubling operation is &gt; 9, sum the digits of the product;</li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 10 of the result of the previous addition;</li> <li>If remainder = 0, C12 is valid. Otherwise the TIN is not valid.</li> </ol>
	C13	<ol style="list-style-type: none"> <li>Create an array <math>n</math> containing the individual C1 to C11 and C13 of the TIN (where <math>n_i</math> = the value of the corresponding C), taken from right to left:</li> </ol>

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

		<table><tr><th>Digits</th><th><math>n_i</math></th><th><math>i</math></th></tr><tr><td>C13</td><td><math>n_0</math></td><td>0</td></tr><tr><td>C11</td><td><math>n_1</math></td><td>1</td></tr><tr><td>C10</td><td><math>n_2</math></td><td>2</td></tr><tr><td>C9</td><td><math>n_3</math></td><td>3</td></tr><tr><td>C8</td><td><math>n_4</math></td><td>4</td></tr><tr><td>C7</td><td><math>n_5</math></td><td>5</td></tr><tr><td>C6</td><td><math>n_6</math></td><td>6</td></tr><tr><td>C5</td><td><math>n_7</math></td><td>7</td></tr><tr><td>C4</td><td><math>n_8</math></td><td>8</td></tr><tr><td>C3</td><td><math>n_9</math></td><td>9</td></tr><tr><td>C2</td><td><math>n_{10}</math></td><td>10</td></tr><tr><td>C1</td><td><math>n_{11}</math></td><td>11</td></tr></table> <div>2. Initialize the checksum <math>c</math> to 0;</div> <div>3. For each index <math>i</math> of the array <math>n</math>, starting at 0, replace <math>c</math> by <math>d(c,p(i \bmod 8, n_i))</math>, according to the following tables:</div> <table><tr><th colspan="2" rowspan="2"><math>d(i,j)</math></th><th colspan="10"><math>j</math></th></tr><tr><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th></tr><tr><th rowspan="10"><math>i</math></th><th>0</th><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><th>1</th><td>1</td><td>2</td><td>3</td><td>4</td><td>0</td><td>6</td><td>7</td><td>8</td><td>9</td><td>5</td></tr><tr><th>2</th><td>2</td><td>3</td><td>4</td><td>0</td><td>1</td><td>7</td><td>8</td><td>9</td><td>5</td><td>6</td></tr><tr><th>3</th><td>3</td><td>4</td><td>0</td><td>1</td><td>2</td><td>8</td><td>9</td><td>5</td><td>6</td><td>7</td></tr><tr><th>4</th><td>4</td><td>0</td><td>1</td><td>2</td><td>3</td><td>9</td><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><th>5</th><td>5</td><td>9</td><td>8</td><td>7</td><td>6</td><td>0</td><td>4</td><td>3</td><td>2</td><td>1</td></tr><tr><th>6</th><td>6</td><td>5</td><td>9</td><td>8</td><td>7</td><td>1</td><td>0</td><td>4</td><td>3</td><td>2</td></tr><tr><th>7</th><td>7</td><td>6</td><td>5</td><td>9</td><td>8</td><td>2</td><td>1</td><td>0</td><td>4</td><td>3</td></tr><tr><th>8</th><td>8</td><td>7</td><td>6</td><td>5</td><td>9</td><td>3</td><td>2</td><td>1</td><td>0</td><td>4</td></tr><tr><th>9</th><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> <table><tr><th colspan="2" rowspan="2"><math>p(m,n)</math></th><th colspan="10"><math>n</math></th></tr><tr><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th></tr><tr><th rowspan="8"><math>m</math> (mod 8)</th><th>0</th><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><th>1</th><td>1</td><td>5</td><td>7</td><td>6</td><td>2</td><td>8</td><td>3</td><td>0</td><td>9</td><td>4</td></tr><tr><th>2</th><td>5</td><td>8</td><td>0</td><td>3</td><td>7</td><td>9</td><td>6</td><td>1</td><td>4</td><td>2</td></tr><tr><th>3</th><td>8</td><td>9</td><td>1</td><td>6</td><td>0</td><td>4</td><td>3</td><td>5</td><td>2</td><td>7</td></tr><tr><th>4</th><td>9</td><td>4</td><td>5</td><td>3</td><td>1</td><td>2</td><td>6</td><td>8</td><td>7</td><td>0</td></tr><tr><th>5</th><td>4</td><td>2</td><td>8</td><td>6</td><td>5</td><td>7</td><td>3</td><td>9</td><td>0</td><td>1</td></tr><tr><th>6</th><td>2</td><td>7</td><td>9</td><td>3</td><td>8</td><td>0</td><td>6</td><td>4</td><td>1</td><td>5</td></tr><tr><th>7</th><td>7</td><td>0</td><td>4</td><td>6</td><td>9</td><td>1</td><td>3</td><td>2</td><td>5</td><td>8</td></tr></table> <div>4. Check digit <math>c</math> if <math>c = 0</math>, C13 is valid. Otherwise, the TIN is not valid.</div>	Digits	$n_i$	$i$	C13	$n_0$	0	C11	$n_1$	1	C10	$n_2$	2	C9	$n_3$	3	C8	$n_4$	4	C7	$n_5$	5	C6	$n_6$	6	C5	$n_7$	7	C4	$n_8$	8	C3	$n_9$	9	C2	$n_{10}$	10	C1	$n_{11}$	11	$d(i,j)$		$j$										0	1	2	3	4	5	6	7	8	9	$i$	0	0	1	2	3	4	5	6	7	8	9	1	1	2	3	4	0	6	7	8	9	5	2	2	3	4	0	1	7	8	9	5	6	3	3	4	0	1	2	8	9	5	6	7	4	4	0	1	2	3	9	5	6	7	8	5	5	9	8	7	6	0	4	3	2	1	6	6	5	9	8	7	1	0	4	3	2	7	7	6	5	9	8	2	1	0	4	3	8	8	7	6	5	9	3	2	1	0	4	9	9	8	7	6	5	4	3	2	1	0	$p(m,n)$		$n$										0	1	2	3	4	5	6	7	8	9	$m$ (mod 8)	0	0	1	2	3	4	5	6	7	8	9	1	1	5	7	6	2	8	3	0	9	4	2	5	8	0	3	7	9	6	1	4	2	3	8	9	1	6	0	4	3	5	2	7	4	9	4	5	3	1	2	6	8	7	0	5	4	2	8	6	5	7	3	9	0	1	6	2	7	9	3	8	0	6	4	1	5	7	7	0	4	6	9	1	3	2	5	8
Digits	$n_i$	$i$																																																																																																																																																																																																																																																																																											
C13	$n_0$	0																																																																																																																																																																																																																																																																																											
C11	$n_1$	1																																																																																																																																																																																																																																																																																											
C10	$n_2$	2																																																																																																																																																																																																																																																																																											
C9	$n_3$	3																																																																																																																																																																																																																																																																																											
C8	$n_4$	4																																																																																																																																																																																																																																																																																											
C7	$n_5$	5																																																																																																																																																																																																																																																																																											
C6	$n_6$	6																																																																																																																																																																																																																																																																																											
C5	$n_7$	7																																																																																																																																																																																																																																																																																											
C4	$n_8$	8																																																																																																																																																																																																																																																																																											
C3	$n_9$	9																																																																																																																																																																																																																																																																																											
C2	$n_{10}$	10																																																																																																																																																																																																																																																																																											
C1	$n_{11}$	11																																																																																																																																																																																																																																																																																											
$d(i,j)$		$j$																																																																																																																																																																																																																																																																																											
		0	1	2	3	4	5	6	7	8	9																																																																																																																																																																																																																																																																																		
$i$	0	0	1	2	3	4	5	6	7	8	9																																																																																																																																																																																																																																																																																		
	1	1	2	3	4	0	6	7	8	9	5																																																																																																																																																																																																																																																																																		
	2	2	3	4	0	1	7	8	9	5	6																																																																																																																																																																																																																																																																																		
	3	3	4	0	1	2	8	9	5	6	7																																																																																																																																																																																																																																																																																		
	4	4	0	1	2	3	9	5	6	7	8																																																																																																																																																																																																																																																																																		
	5	5	9	8	7	6	0	4	3	2	1																																																																																																																																																																																																																																																																																		
	6	6	5	9	8	7	1	0	4	3	2																																																																																																																																																																																																																																																																																		
	7	7	6	5	9	8	2	1	0	4	3																																																																																																																																																																																																																																																																																		
	8	8	7	6	5	9	3	2	1	0	4																																																																																																																																																																																																																																																																																		
	9	9	8	7	6	5	4	3	2	1	0																																																																																																																																																																																																																																																																																		
$p(m,n)$		$n$																																																																																																																																																																																																																																																																																											
		0	1	2	3	4	5	6	7	8	9																																																																																																																																																																																																																																																																																		
$m$ (mod 8)	0	0	1	2	3	4	5	6	7	8	9																																																																																																																																																																																																																																																																																		
	1	1	5	7	6	2	8	3	0	9	4																																																																																																																																																																																																																																																																																		
	2	5	8	0	3	7	9	6	1	4	2																																																																																																																																																																																																																																																																																		
	3	8	9	1	6	0	4	3	5	2	7																																																																																																																																																																																																																																																																																		
	4	9	4	5	3	1	2	6	8	7	0																																																																																																																																																																																																																																																																																		
	5	4	2	8	6	5	7	3	9	0	1																																																																																																																																																																																																																																																																																		
	6	2	7	9	3	8	0	6	4	1	5																																																																																																																																																																																																																																																																																		
	7	7	0	4	6	9	1	3	2	5	8																																																																																																																																																																																																																																																																																		
C12, C13	The TIN is only valid if the check digits of C12 and C13 are valid.																																																																																																																																																																																																																																																																																												
Syntax: Sample	1893120105732	Verification of C12: <div>1. <math>1 * 2 = 2, 8 * 1 = 8, 9 * 2 = 18, 3 * 1 = 3, 1 * 2 = 2, 2 * 1 = 2, 0 * 2 = 0, 1 * 1 = 1, 0 * 2 = 0, 5 * 1 = 5, 7 * 2 = 14, 3 * 1 = 3;</math></div> <div>2. <math>1 + 8 = 9, 1 + 4 = 5;</math></div> <div>3. <math>2 + 8 + 9 + 3 + 2 + 2 + 0 + 1 + 0 + 5 + 5 + 3 = 40;</math></div> <div>4. <math>40 \bmod 10 = 0;</math></div> <div>5. Check digit = remainder = 0, C12 is valid.</div>																																																																																																																																																																																																																																																																																											
	1893120105732	Verification of C13: <div>1.</div>																																																																																																																																																																																																																																																																																											

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

Digits	$n_i$	$i$
C13	2	0
C11	7	1
C10	5	2
C9	0	3
C8	1	4
C7	0	5
C6	2	6
C5	1	7
C4	3	8
C3	9	9
C2	8	10
C1	1	11

2.  $c = 0$ ;

3.

$i$	$n_i$	$p(i \bmod 8, n_i)$	$d(c, p(i \bmod 8, n_i))$	$c$
0	2	2	$d(0, 2)$	2
1	7	0	$d(2, 0)$	2
2	5	9	$d(2, 9)$	6
3	0	8	$d(6, 8)$	3
4	1	4	$d(3, 4)$	2
5	0	4	$d(2, 4)$	1
6	2	9	$d(1, 9)$	5
7	1	0	$d(5, 0)$	5
8	3	3	$d(5, 3)$	7
9	9	4	$d(7, 4)$	8
10	8	4	$d(8, 4)$	9
11	1	9	$d(9, 9)$	0

4. Check digit = 0, C13 is valid.

18931201057  
32

C12 and C13 are valid, the TIN is valid.

Table 26: MS Specific Algorithms - Luxembourg

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.19 MALTA

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8]		Where C1 to C8 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7		A numeric.
	C8		A letter.
Structure: Rule	C8	M, G, A, P, L, H, B or Z.	
	C1 - C7 when C8 is A or P	C1 - C7 is included between 1 (0000001) and 9999999.	
	C1 - C7 when C8 is M, G, L, H, B or Z	C1 - C5 is included between 0 (00000) and 32000 and C6 - C7 are included between 00 and 99 (but with the strict exclusion of 0000000).	
Structure: Special Characters	From an IT perspective, there should always be 8 characters. If the first 4 digits are omitted in the query, the result should anyway be reported in 8 characters by including leading zeros. E.g. when "199Z" or "34581M" is queried, the results should be shown respectively as "0000199Z" and "0034581M".		
Structure: Sample	1234567A.		

Syntax: Check Digit	Not publicly available
Syntax: Sample	Not publicly available

Table 27: MS Specific Algorithms - Malta 1

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9	A numeric.
Structure: Rule	C1-C2	C1-C2 can only take the values 11, 22, 33, 44, 55, 66, 77 or 88

Syntax: Check Digit	Not publicly available
Syntax: Sample	Not publicly available

Table 28: MS Specific Algorithms - Malta 2



DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.20 NETHERLANDS

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9	A numeric.

<b>Syntax: Rule</b>	C9	<ol style="list-style-type: none"> <li>1. Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1    9</li> <li>C2    8</li> <li>C3    7</li> <li>C4    6</li> <li>C5    5</li> <li>C6    4</li> <li>C7    3</li> <li>C8    2</li> </ul> </li> <li>2. Add up the results of the above multiplications;</li> <li>3. Get modulo 11 of the result of the previous addition;</li> <li>4. Check digit = remainder (if remainder = 10, the TIN is not valid).</li> </ol>
<b>Syntax: Sample</b>	174559434	<ol style="list-style-type: none"> <li>1. <math>1 * 9 = 9, 7 * 8 = 56, 4 * 7 = 28, 5 * 6 = 30, 5 * 5 = 25, 9 * 4 = 36, 4 * 3 = 12, 3 * 2 = 6</math>;</li> <li>2. <math>9 + 56 + 28 + 30 + 25 + 36 + 12 + 6 = 202</math>;</li> <li>3. <math>202 \text{ MOD } 11 = 4</math>;</li> <li>4. Check digit = 4.</li> </ol>

Table 29: MS Specific Algorithms - Netherlands

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.21 POLAND

This algorithm is the same as the one used for this MS in VIES-VATValidationRoutines [R02].

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10]	Where C1 to C10 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.

<b>Syntax: Rule</b>	C10	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 6</li> <li>C2 5</li> <li>C3 7</li> <li>C4 2</li> <li>C5 3</li> <li>C6 4</li> <li>C7 5</li> <li>C8 6</li> <li>C9 7</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>Check digit = remainder (if remainder = 10, the TIN is not valid).</li> </ol>
<b>Syntax: Sample</b>	2234567895	<ol style="list-style-type: none"> <li><math>2 * 6 = 12, 2 * 5 = 10, 3 * 7 = 21, 4 * 2 = 8, 5 * 3 = 15, 6 * 4 = 24, 7 * 5 = 35, 8 * 6 = 48, 9 * 7 = 63;</math></li> <li><math>12 + 10 + 21 + 8 + 15 + 24 + 35 + 48 + 63 = 236;</math></li> <li><math>236 \text{ MOD } 11 = 5;</math></li> <li>Check digit = 5.</li> </ol>

Table 30: MS Specific Algorithms - Poland 1

<b>Structure: Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11]		Where C1 to C11 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11		A numeric.
<b>Structure: Rule</b>	C1 - C2	Stand for the last numbers of the year of birth.	
	C3 - C4	Stand for the month of birth. However for birthdates between 1900 and 1999 no change to C3 - C4 is made, for other birthdates: <ul style="list-style-type: none"> <li>Between 1800 and 1899: month field is increased by 80;</li> <li>Between 2000 and 2099: month field is increased by 20;</li> <li>Between 2100 and 2199: month field is increased by 40;</li> </ul>	

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

- Between 2200 and 2299: month field is increased by 60.

The adopted method of coding the month of birth allows distinguishing at least five centuries.

Therefore, the following months in the various centuries will have the following numbers:

MONTH	CENTURY				
	1800-1899	1900-1999	2000-2099	2100-2199	2200-2299
JANUARY	81	01	21	41	61
FEBRUARY	82	02	22	42	62
MARCH	83	03	23	43	63
APRIL	84	04	24	44	64
MAY	85	05	25	45	65
JUNE	86	06	26	46	66
JULY	87	07	27	47	67
AUGUST	88	08	28	48	68
SEPTEMBER	89	09	29	49	69
OCTOBER	90	10	30	50	70
NOVEMBER	91	11	31	51	71
DECEMBER	92	12	32	52	72

C5 - C6	Stand for the day of the birth.
C7 - C9	Stand for an ordinal number.
C10	Denotes sex (digits 0, 2, 4, 6, 8 for females and digits 1, 3, 5, 7, 9 for males).

<b>Syntax: Rule</b>	C11	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 1</li> <li>C2 3</li> <li>C3 7</li> <li>C4 9</li> <li>C5 1</li> <li>C6 3</li> <li>C7 7</li> <li>C8 9</li> <li>C9 1</li> <li>C10 3</li> </ul> </li> <li>Add up the last digits of the above multiplications results;</li> <li>Value of the last digit of the sum deduct from 10. If this last digit is 0, the TIN is invalid;</li> <li>The result of subtraction is the check digit.</li> </ol>
<b>Syntax: Sample</b>	02070803628	<ol style="list-style-type: none"> <li>A person born on the 08/07/1902, sex - female;</li> <li><math>0 * 1 = 0</math>, <math>2 * 3 = 6</math>, <math>0 * 7 = 0</math>, <math>7 * 9 = 63</math>, <math>0 * 1 = 0</math>, <math>8 * 3 = 24</math>, 0</li> </ol>

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

		$* 7 = 0, 3 * 9 = 27, 6 * 1 = 6, 2 * 3 = 6;$ 3. $0 + 6 + 0 + 3 + 0 + 4 + 0 + 7 + 6 + 6 = 32;$ 4. $10 - 2 = 8;$ 5. Check digit = 8.
--	--	---

*Table 31: MS Specific Algorithms - Poland 2*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.22 PORTUGAL

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9	A numeric.

<b>Syntax: Rule</b>	C9	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 9</li> <li>C2 8</li> <li>C3 7</li> <li>C4 6</li> <li>C5 5</li> <li>C6 4</li> <li>C7 3</li> <li>C8 2</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>Check digit = 11 - remainder: <ul style="list-style-type: none"> <li>If check digit ≤ 9 then check digit is OK (11 – remainder);</li> <li>If check digit = 10 then check digit is 0 (zero);</li> <li>If check digit = 11 then check digit is 0 (zero).</li> </ul> </li> </ol>
<b>Syntax: Sample</b>	299999998	<ol style="list-style-type: none"> <li><math>2 * 9 = 18, 9 * 8 = 72, 9 * 7 = 63, 9 * 6 = 54, 9 * 5 = 45, 9 * 4 = 36, 9 * 3 = 27, 9 * 2 = 18</math>;</li> <li><math>18 + 72 + 63 + 54 + 45 + 36 + 27 + 18 = 333</math>;</li> <li><math>MOD(333;11) = 3</math>;</li> <li>Check digit = <math>11 - 3 = 8</math>.</li> </ol>

Table 32: MS Specific Algorithms - Portugal

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.23 ROMANIA

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13]	Where C1 to C13 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13	A numeric.
<b>Structure: Rules</b>	C1	<p>In the range 1...9:</p> <ul style="list-style-type: none"> <li>• 1 is for the male person born between 1900 and 1999;</li> <li>• 2 is for the female person born between 1900 and 1999;</li> <li>• 3 is for the male person born between 1800 and 1899;</li> <li>• 4 is for the female person born between 1800 and 1899;</li> <li>• 5 is for the male person born between 2000 and 2099;</li> <li>• 6 is for the female person born between 2000 and 2099;</li> <li>• 7 is for the foreign male obtaining temporary residence in Romania;</li> <li>• 8 is the foreign female obtaining temporary residence in Romania;</li> <li>• 9 is for the foreign citizens.</li> </ul>
	C2, C3	Two last digits of a year (in the range 00...99).
	C4, C5	Month (in the range 1...12).
	C6, C7	Day of month (in the range 1...31 depending on month and year).
	C8, C9	County or district code (can only take the values 01 to 47 as well as 51 and 52).
<b>Structure: Sample</b>	8001011234567.	
<b>Syntax: Check Digit</b>	Not publicly available	
<b>Syntax: Sample</b>	Not publicly available	

Table 33: MS Specific Algorithms – Romania 1

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13]	Where C1 to C13 are characters.
------------------------------	--	---------------------------------

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13	A numeric.
<b>Structure: Rules</b>	C1	9.
	C2, C3, C4	0.
	C5, C6, C7, C8, C9, C10, C11, C12	In the range 0...9.
<b>Structure: Sample</b>	900012345678.	

<b>Syntax: Check Digit</b>	Not publicly available
<b>Syntax: Sample</b>	Not publicly available

*Table 34: MS Specific Algorithms - Romania 2*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.24 SLOVAKIA

Structure: TIN Format	[C1 C2 C3 C4 C5 C6 C7 C8 C9 C10]		Where C1 to C10 are digits.
Structure: Range	C1...C10		A numeric
Structure: Special Characters	If there is slash between C6 and C7, it should be skipped.		
Structure: Rules	C1, C2	In the range 0...9	
	C3, C4	In the range 01...12 or in range 51...62	
	C5, C6	In the range 01...31	
	C7 – C10	In the range 0...9	
Syntax: Check Digit	C10	If the number consisting of the digits C1, C2 is lower than 54, C10 might not be present.	
Syntax: Sample	7711167420	C1...C10 numeric	
	281203054	C1...C9 numeric, C10 is not present because C1, C2 is lower than 54	

Table 35: MS Specific Algorithms – Slovakia 1

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10]	Where C1 to C10 are characters.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.
Structure: Special Characters	No.	
Structure: Rules	C1 to C10	In the range 0...9
Syntax: Check Digit	No syntax check: only validation of structure.	

Table 36: MS Specific Algorithms – Slovakia 2



DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.25 SLOVENIA

This algorithm is the same as the one used for this MS in VIES-VATValidationRoutines [R02].

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8]	Where C1 to C8 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8	A numeric.
<b>Structure: Rules</b>	C1, C2, C3, C4, C5, C6, C7	Must be between 1000000 and 9999999 included.

<b>Syntax: Check Digit</b>	C8	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1    8</li> <li>C2    7</li> <li>C3    6</li> <li>C4    5</li> <li>C5    4</li> <li>C6    3</li> <li>C7    2</li> </ul> </li> <li>Add up the results of the above multiplications;</li> <li>Get modulo 11 of the result of the previous addition;</li> <li>Check digit = 11 - remainder. If result = 10, Check digit = 0.</li> </ol>
<b>Syntax: TIN Format</b>	15012557	<ol style="list-style-type: none"> <li><math>1 * 8 = 8, 5 * 7 = 35, 0 * 6 = 0, 1 * 5 = 5, 2 * 4 = 8, 5 * 3 = 15, 5 * 2 = 10</math>;</li> <li><math>8 + 35 + 0 + 5 + 8 + 15 + 10 = 81</math>;</li> <li><math>81 \text{ MOD } 11 = 4</math>;</li> <li>Check digit = <math>11 - 4 = 7</math>.</li> </ol>

Table 37: MS Specific Algorithms - Slovenia

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

### 3.26 SPAIN

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8	A numeric.
	C9	A letter.
<b>Structure: Special Characters</b>	From an IT perspective, there should always be 9 characters. If digits are omitted in the query, the result should anyway be reported in 9 characters by including leading zeros. E.g. 54237A should be understood as 00054237A and should not be blocking the check.	
<b>Structure: Sample</b>	12345678A	

Syntax: Check Digit	C9	<div>1. Take the remainder of modulo 23 of the 8 first characters;</div> <div>2. Add 1 to the remainder of operation 1;</div> <div>3. The check letter corresponds to this figure in the table below:</div> <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>T</td><td>R</td><td>W</td><td>A</td><td>G</td><td>M</td><td>Y</td><td>F</td><td>P</td><td>D</td><td>X</td><td>B</td><td>N</td><td>J</td><td>Z</td><td>S</td><td>Q</td><td>V</td><td>H</td><td>L</td><td>C</td><td>K</td><td>E</td></tr></table>																								T	R	W	A	G	M	Y	F	P	D	X	B	N	J	Z	S	Q	V	H	L	C	K	E
T	R	W	A	G	M	Y	F	P	D	X	B	N	J	Z	S	Q	V	H	L	C	K	E																										
Syntax: Sample	(000)54237A	<div>1. <math>(000)54237 \bmod 23 = 3</math>;</div> <div>2. <math>3 + 1 = 4</math>;</div> <div>3. Check character = A.</div>																																														

Table 38: MS Specific Algorithms - Spain 1

<b>Structure: TIN Format</b>	[C1,C2, C3, C4, C5, C6, C7, C8, C9]	Where C1 to C9 are characters.
<b>Structure: Range</b>	C1, C9	A letter.
	C2, C3, C4, C5, C6, C7, C8	A numeric.
<b>Structure: Rule</b>	C1	Must be X, Y, Z, K, L or M.
<b>Structure: Sample</b>	X1234567A.	

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

Syntax: Check Digit	C9	0. Replace the leading letter by the corresponding digit and concatenate the result with the other characters:										
		<table><tr><td>X</td><td>Y</td><td>Z</td><td>K</td><td>L</td><td>M</td></tr><tr><td>0</td><td>1</td><td>2</td><td>0</td><td>0</td><td>0</td></tr></table>	X	Y	Z	K	L	M	0	1	2	0
X	Y	Z	K	L	M							
0	1	2	0	0	0							
		1. Follow the Syntax Check from algorithm 1 above.										
Syntax: Sample	X1234567L	0. Replace X by 0 ➔ 01234567; 1. $01234567 \text{ MOD } 23 = 19$ ; 2. $19 + 1 = 20$ ; 3. Check character = L.										
	Z1234567R	0. Replace Z by 2 ➔ 21234567; 1. $21234567 \text{ MOD } 23 = 1$ ; 2. $1 + 1 = 2$ ; 3. Check character = R.										
	M2812345C	0. Replace M by 0 ➔ 02812345; 1. $02812345 \text{ MOD } 23 = 20$ ; 2. $20 + 1 = 21$ ; 3. Check character = C.										

Table 39: MS Specific Algorithms - Spain 2

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.27 SWEDEN

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, “-“ or “+”, C7, C8, C9, C10]		Where C1 to C10 are characters. C1 to C6 may be separated from C7 to C10 by a hyphen or a plus sign.  Note: the hyphen or plus sign has an importance but may still be skipped for the purpose of TIN validation.
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10		A numeric.
Structure: Special Characters	If any, hyphen and plus signs should be skipped.		
Structure: Rules	C1, C2	Two last digits of a year.	
	C3, C4	Month (in the range 1...12).	
	C5, C6	Day of month (in the range 1...31 depending on month and year).	
Syntax: Check Digit	C10	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C1 2</li> <li>C2 1</li> <li>C3 2</li> <li>C4 1</li> <li>C5 2</li> <li>C6 1</li> <li>C7 2</li> <li>C8 1</li> <li>C9 2</li> </ul> </li> <li>Add up the results of the above multiplications. NB: 12 is regarded as 1 + 2;</li> <li>The unit digit in the sum of the digits is subtracted from 10 and the result is the check digit. If the resulting number is 10, the check digit is 0.</li> </ol>	
Syntax: Sample	640823-3234	<ol style="list-style-type: none"> <li><math>6 * 2 = 12, 4 * 1 = 4, 0 * 2 = 0, 8 * 1 = 8, 2 * 2 = 4, 3 * 1 = 3, 3 * 2 = 6, 2 * 1 = 2, 3 * 2 = 6</math>;</li> <li><math>1 + 2 + 4 + 0 + 8 + 4 + 3 + 6 + 2 + 6 = 36</math>;</li> <li>Check digit = <math>10 - 6 = 4</math>.</li> </ol>	

Table 40: MS Specific Algorithms - Sweden 1

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, "-", C7, C8, C9, C10]	Where C1 to C10 are characters. C1 to C6 may be separated from C7 to C10 by a hyphen.  Note: the hyphen sign has no importance and may be skipped for the purpose of TIN validation.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.
<b>Structure: Rules</b>	C1, C2	Two last digits of a year.
	C3, C4	Month (in the range 1...12).
	C5, C6	Day of month + 60 (in the range 61...91 depending on month and year).

Syntax: Check Digit	C10	<div>1. Multiply the values of each position by the corresponding weight:</div> <div><div>C12</div><div>C21</div><div>C32</div><div>C41</div><div>C52</div><div>C61</div><div>C72</div><div>C81</div><div>C92</div></div> <div>2. Add up the results of the above multiplications. NB: 12 is regarded as 1 + 2;</div> <div>3. The unit digit in the sum of the digits is subtracted from 10 and the result is the check digit. If the resulting number is 10, the check digit is 0.</div>
Syntax: Sample	640883-3231	<div>1. <math>6 * 2 = 12, 4 * 1 = 4, 0 * 2 = 0, 8 * 1 = 8, 8 * 2 = 16, 3 * 1 = 3, 3 * 2 = 6, 2 * 1 = 2, 3 * 2 = 6</math>;</div> <div>2. <math>1 + 2 + 4 + 0 + 8 + 1 + 6 + 3 + 6 + 2 + 6 = 39</math>;</div> <div>3. Check digit = <math>10 - 9 = 1</math>.</div>

*Table 41: MS Specific Algorithms - Sweden 2*

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, "-" or "+", C9, C10, C11, C12]	Where C1 to C12 are characters. C1 to C8 may be separated from C9 to C12 by a hyphen or a plus sign.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12	A numeric.
<b>Structure: Special Characters</b>	If any, hyphen and plus signs should be skipped.	

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

Structure: Rules	C1, C2	Can only be 18 or 19 or 20 (i.e. century of birth).
	C1, C2, C3, C4	Four digits of a year.
	C5, C6	Month (in the range 01...12).
	C7, C8	Day of month (in the range 01...31 depending on month and year).

Syntax: Check Digit	C12	<ol style="list-style-type: none"> <li>Multiply the values of each position from C3 to C11 by the corresponding weight: <ul style="list-style-type: none"> <li>C3    2</li> <li>C4    1</li> <li>C5    2</li> <li>C6    1</li> <li>C7    2</li> <li>C8    1</li> <li>C9    2</li> <li>C10   1</li> <li>C11   2</li> </ul> </li> <li>Add up the results of the above multiplications. NB: 12 is regarded as 1 + 2;</li> <li>The unit digit in the sum of the digits is subtracted from 10 and the result is the check digit. If the resulting number is 10, the check digit is 0.</li> </ol>
Syntax: Sample	19640823-3234	<ol style="list-style-type: none"> <li><math>6 * 2 = 12, 4 * 1 = 4, 0 * 2 = 0, 8 * 1 = 8, 2 * 2 = 4, 3 * 1 = 3, 3 * 2 = 6, 2 * 1 = 2, 3 * 2 = 6</math>;</li> <li><math>1 + 2 + 4 + 0 + 8 + 4 + 3 + 6 + 2 + 6 = 36</math>;</li> <li>Check digit = <math>10 - 6 = 4</math>.</li> </ol>

Table 42: MS Specific Algorithms - Sweden 3

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, "-", C9, C10, C11, C12]	<p>Where C1 to C12 are characters. C1 to C8 are separated from C9 to C12 by a hyphen.</p> <p>Note: the hyphen sign has no importance and may be skipped for the purpose of TIN validation.</p>
Structure: Range	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12	A numeric.
Structure: Rules	C1, C2	Can only be 18 or 19 or 20 (i.e. century of birth).
	C1, C2, C3, C4	Four digits of a year.
	C5, C6	Month (in the range 01...12).
	C7, C8	Day of month + 60 (in the range 61...91 depending on month and year).

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

<b>Syntax: Check Digit</b>	C12	<ol style="list-style-type: none"> <li>Multiply the values of each position by the corresponding weight: <ul style="list-style-type: none"> <li>C3      2</li> <li>C4      1</li> <li>C5      2</li> <li>C6      1</li> <li>C7      2</li> <li>C8      1</li> <li>C9      2</li> <li>C10    1</li> <li>C11    2</li> </ul> </li> <li>Add up the results of the above multiplications. NB: 12 is regarded as 1 + 2;</li> <li>The unit digit in the sum of the digits is subtracted from 10 and the result is the check digit. If the resulting number is 10, the check digit is 0.</li> </ol>
<b>Syntax: Sample</b>	19640883-3231	<ol style="list-style-type: none"> <li><math>6 * 2 = 12, 4 * 1 = 4, 0 * 2 = 0, 8 * 1 = 8, 8 * 2 = 16, 3 * 1 = 3, 3 * 2 = 6, 2 * 1 = 2, 3 * 2 = 6;</math></li> <li><math>1 + 2 + 4 + 0 + 8 + 1 + 6 + 3 + 6 + 2 + 6 = 39;</math></li> <li>Check digit = <math>10 - 9 = 1.</math></li> </ol>

*Table 43: MS Specific Algorithms - Sweden 4*

DG TAXUD	REF: FS-TIN Algorithms-Public
TIN Algorithms - Public - Functional Specification	VER: 5.03
<b>Erreur ! Utilisez l'onglet Accueil pour appliquer Heading 1 au texte que vous souhaitez faire apparaître ici.</b>	

## 3.28 UNITED KINGDOM

<b>Structure: TIN Format</b>	[C1, C2, C3, C4, C5, C6, C7, C8, C9, C10]	Where C1 to C10 are characters.
<b>Structure: Range</b>	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	A numeric.
<b>Structure: Sample</b>	1234567890.	

<b>Syntax: Check Digit</b>	No syntax check: only validation of structure.
----------------------------	--

*Table 44: MS Specific Algorithms - United Kingdom 1*

Structure: TIN Format	[C1, C2, C3, C4, C5, C6, C7, C8, C9]		Where C1 to C9 are characters.
Structure: Range	C1, C2		A letter.
	C3, C4, C5, C6, C7, C8		A numeric.
	C9		A letter or whitespace (meaning optional in this last case).
Structure: Rules	C1	Must not be D, F, I, Q, U, V.	
	C2	Must not be D, F, I, O, Q, U, V.	
	C1, C2	Combination of C1 and C2 must not be GB, NK, TN or ZZ.	
	C9	Must be A, B, C, D or a whitespace.	
Structure: Sample	AA123456A.		

<b>Syntax: Check Digit</b>	No syntax check: only validation of structure.
----------------------------	--

*Table 45: MS Specific Algorithms - United Kingdom 2*