

Technical manual



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I] – Introduction:

In this technical manual, you will be able to consult the processing of the data that you have chosen to analyze in the Terrastid application. Before you begin, please make sure that you are familiar with Visual Basic for Applications (VBA). Terrastid using this language, we have chosen to develop the application under several modules that will be detailed below.

To begin with, we'll explain what's behind each element of each page starting with the home.

II] – Home:



The image above shows Terrastid's welcome. When you launch the app, you are automatically redirected to home. You can notice 4 buttons.

The 'English flag' button is used to switch to the English version of Terrastid. When you click this button, about ten lines of code are executed.

```
Private Sub btn_anglais_Click()  
  
    'Quand on clique sur le drapeau anglais, on bascule sur la version anglaise de Terrastid (Feuille 'accueilEn')  
    Worksheets("accueilEn").Select  
  
    Sheets("tableauDeBord").Range("B1").Value = "Selected training :"  
    Sheets("tableauDeBord").Range("B2").Value = "Selected years :"  
    Sheets("tableauDeBord").Range("A6").Value = "Number of internships :"  
    Sheets("tableauDeBord").Range("A8").Value = "Numbers of firm :"  
    Sheets("tableauDeBord").Range("I1").Value = "Firm that welcome the most"  
  
    Sheets("tableauDeBord").Range("G11").Value = "Distribution of the whole internships"  
    Sheets("tableauDeBord").Range("B12").Value = "Internships in the world (Except the France)"  
    Sheets("tableauDeBord").Range("J12").Value = "Internships in France by region"  
    Sheets("tableauDeBord").Range("Q12").Value = "Internships in France by department"  
  
End Sub
```

When you click the button, you switch to a new Excel sheet that is translated into English. Then we can see that we change the text of several cells. The text changed is that of the dashboard. (The application is then almost entirely translated into English).

When you switch back to the French version of Terrastid, the code executed is the same. We just retranslate to the French text. To simplify, we change the text present in the cells.

The 'person with a book' button calls for a procedure. This procedure can be found in the 'guide' module.

```
Sub guideUtilisateur()  
    'On détaille au maximum l'utilité des boutons sur l'accueil avec un guide ergonomique  
    MsgBox "Bienvenue sur le guide utilisateur de Terrastid !", vbInformation, "Guide 1/10"  
    MsgBox "Ce guide a pour but de vous apprendre à utiliser Terrastid le plus efficacement possible", vbInformation, "Guide 2/10"  
    MsgBox "Terrastid permet, à partir d'un jeu de données, de visualiser les stages à partir d'une sélection d'une ou plusieurs formations sur une  
    MsgBox "En ce moment, vous êtes dans l'accueil. Vous pouvez voir 2 boutons. Le 1er 'Importer des données' permet d'insérer un nouveau jeu de d  
    MsgBox "Le bouton 'Tableau de bord' permet d'ouvrir un formulaire afin de sélectionner les données que vous voulez analyser.", vbInformation, '  
    MsgBox "A présent, allons sur le tableau de bord. (En cliquant sur le bouton valider du formulaire, vous y accéderez automatiquement)", vbInfo  
    Worksheets("tableauDeBord").Select  
    MsgBox "Vous voici sur le tableau de bord. Vous pouvez remarquer plusieurs indicateurs mais également, accéder au détail du nombre de stages.",  
    MsgBox "Vous pouvez également voir en dessous, la répartition des stages en fonction de 3 modalités. (Stages à l'étranger, par région et par dé  
    MsgBox "Retournons maintenant dans l'accueil.", vbInformation, "Guide 9/10"  
    Worksheets("accueil").Select  
    MsgBox "Le guide est à présent terminé. N'hésitez pas à le relancer si vous avez un doute. Bonne utilisation !", vbInformation, "Guide 10/10"  
End Sub
```

You can see that most of the lines are MsgBoxes. The user is explained the role of each page. You may also notice a 'UserGuideIn' procedure which is called when you are in Terrastid's English home.

The 'import data' button is used to insert a new dataset. We first look at whether the file that the user has chosen is a .xlsx or a .csv.

The executed code will then not be the same depending on the file extension.

When the file has been selected, we open it and copy the new data and paste them into a sheet of 'data' of the Terrastid application. Then, we close the file with the new data. Subsequently, a procedure is used to count the number of reception facilities. The fact that the number of structures can only change when the data is updated, it makes more sense to recalculate the number of reception structures when importing new data. Then, we look at the 3 structures that host the most.

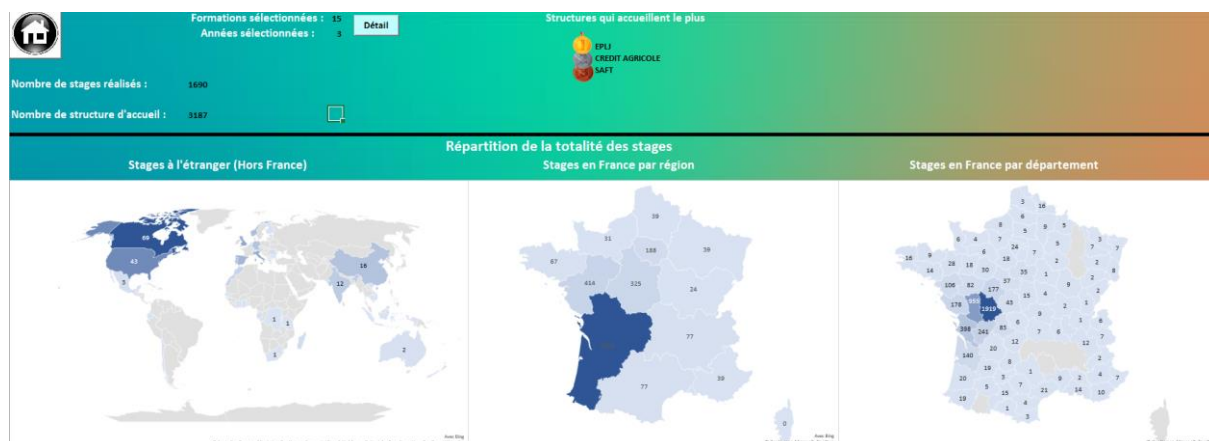
To do this, it is a whole process that is copied and glued into a new sheet. This sheet is used to do all the necessary calculations but in the end, it is deleted. The rankings have of course been saved in the dashboard as well as the number of reception facilities. Finally, an MsgBox confirming the import of the data appears.

The 'Dashboard' button allows you to open a userform. This userform allows you to select the data that the user wants to analyze. It can be said that this userform is the heart of the Terrastid application. It is when clicking on the 'Validate' button that almost all the calculations will be made.

The calculations will be done in the sheet 'donnéesSelectionnees'. Accessible by the user, this sheet makes it possible to operate the application and the dashboard analyses. The layout of this sheet allows Terrastid to adapt to the insertion of a new dataset without problems.

III] – Dashboard:

After analyzing terrastid's reception, let's look at the most technical aspect of the application, the dashboard.



This is where the results of the calculations will appear. As mentioned above, the list of structures that host the most is updated with each import of new data.

The number of reception facilities is also updated each time new data is imported. The number of internships completed, the number of courses selected and the number of years selected are updated when selecting new data with the form.

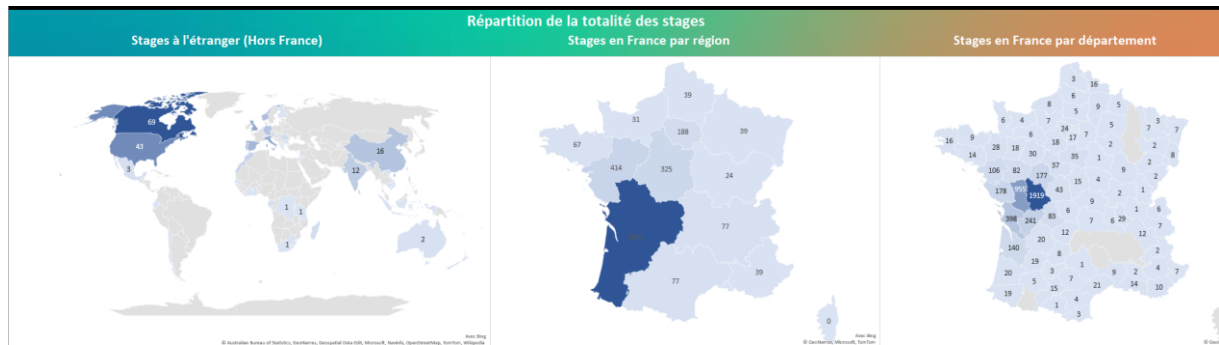
When you click on the detail button, you switch to a new sheet.

Années sélectionnées	Formations sélectionnées	Retour	Total	2020	2019	2018	
2020	DUT GEA 2 - Gest. et Management des Organisations-POITIERS		188	65	50	73	
2019	DUT GEA 2 - Gestion et Management des Organisations - NIORT		149	56	46	47	
2018	DUT GEA 2 opt Gestion Comptable et Financière - NIORT		53	19	14	20	
	DUT GEA 2-GCF- POITIERS		133	38	38	57	
	DUT GEA Année 1 - POITIERS		377	154	80	143	
	DUT Génie Electrique et Informatique Industrielle 1		1	1	0	0	
	DUT Génie Electrique et Informatique Industrielle 2		149	51	44	54	
	DUT Génie Mécanique et Productique 1		1	1	0	0	
	DUT Génie Mécanique et Productique 2		137	58	23	56	
	DUT Génie Thermique et Energie 1		137	50	38	49	
	Dut Génie Thermique et Energie 2		120	46	37	37	
	DUT Hygiène, Sécurité, Environnement 2		131	39	32	60	
	DUT Mesures Physiques 2		65	28	6	31	
	DUT Réseaux et Télécommunications 2		48	22	13	13	
	DUT Statistique et Informatique Décisionnelle 1		1	1	0	0	

We can see here that the details of each training is displayed. The sheet is of course dynamic in order to adapt to all possible situations.

Using a "For" loop, we calculate upstream the number of years and formations and we go through each row and column by inscribed in each cell, a NB.SI. ENS.

IV] – Maps:



Above you can see the distribution of all internships. These maps do not display the distribution of the courses that the user has selected but the entirety of the stages of the entire dataset.

First, we see a map of the world with the distribution of internships abroad.

The France has been excluded because what interests us are internships abroad.

Secondly, we see a map with the distribution of internships in France and by region.

And third, we see the distribution of internships by department.