Setup manual for

Standard Excel file

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ICE

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I. What is a *Standard Excel file*?

Standard Excel file is a Microsoft Excel Worksheet with a very specific format. It is used by *ICE* to import data for further analysis. Columns and rows have strictly defined roles and should contain data according to *Standard.* It is vital that in order to import data into *ICE* each row and column **must be filled** with data, the software does not support importing from an Excel file with missing values. A sample file properly formatted can be found in the GitHub software repository and can be used as a template.

IMPORTANT

When using *ICE*, you can import data from an Excel file only if it has an **.xlsx** extension. To use a file with a different extension, open it in Excel or another program and save it as file with **.xlsx** extension.

II. Sample file and template

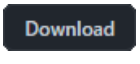
To get started, you can download the sample file or template of *Standard Excel file* from software GitHub repository by following instructions below.

1. Launch your browser and enter link *https://github.com/MariuszMalinka/ICE* into address bar.

   A GitHub repository will appear on your screen. In the central frame, you can access any file of the software. Among those files there is a *documentation* folder containing sub folders for every major software version.

2. Click on the name of *documentation* folder.

3. Click on the folder named after your software version.

4. Choose files you are interested in and click on the 

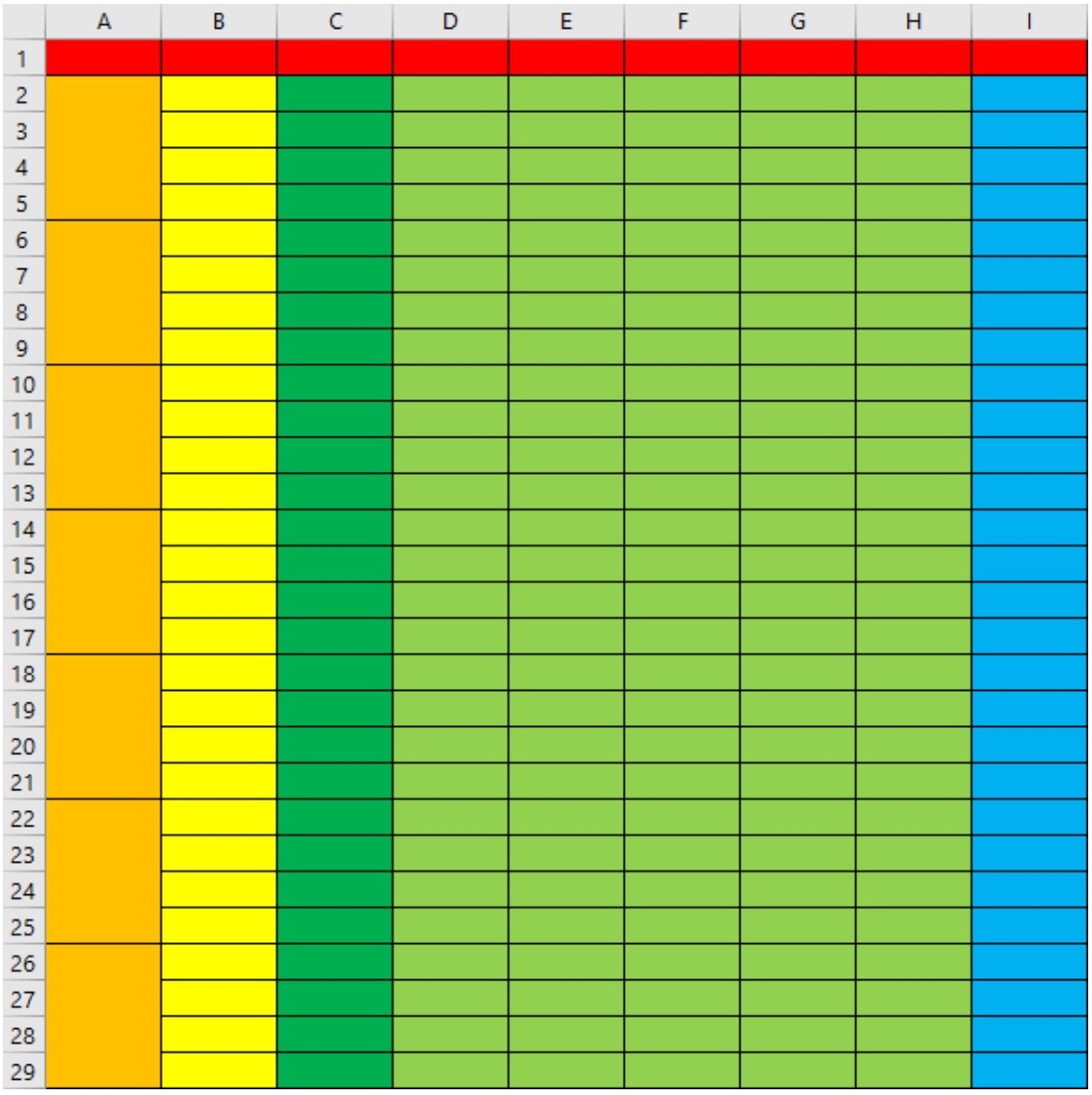
button.

III. Creating a new *Standard Excel file*

The *ICE* can operate on files regardless of the number of columns, but due to expectation of our customers the *Standard Excel file* format was created. It is composed of one header row, two columns containing date and time, one column made of optimal values for the given input values, five columns made with input values and the last one with comments not interpreted by the software.

To illustrate the appearance of the *Standard Excel file* format, the columns and rows are highlighted in the document with colors as follows:

Red	Orange	Yellow	Green	Light green	Blue
Header	Date	Time	Optimal value	Input value	Comments



Standard Excel file template with colors

IV. Rows and their intended use

In the *Standard* format we can distinguish two main types of rows. The first one is header and the second one is row with values.

Header	The first row of Excel is reserved for column names. Column names are important for the user interface. These names are called by the software to request the user to enter input values. The headings are not mandatory to enter, but their comprehensive description makes everything much clearer. Example header names are day, hour, optimal value, input values (5 columns) and comments.
Row with values	Each row after the header is interpreted by *ICE* as a row containing values used to build the mathematical model. The cells in these rows contain data of a specific type depending on which column they are in. The *ICE* software does not specify a maximum number of rows, it will build a model using each row containing data.

NOTE

The latest software version does not allow importing files with incomplete data. In case there is empty row, it should be removed from the file. This may be changed in future versions.

V. Columns and their intended use

In the *Standard* format we can distinguish five types of columns. Only two of them are used to create mathematical model.

Date	The column named Date can contain days of week and dates in the Long Date format of an Excel cell. At the moment, this column is not interpreted by the *ICE* software. This functionality will appear in a future version.
Time	The Time column indicates exact time when the data was collected. Those cells are in Excel Time format. At the moment, this column is not interpreted by the *ICE* software. This functionality will appear in a future version.
Optimal value	The Optimal value column is reserved for values that are assumed to be the ideal output values for given input values. Correctly assuming the optimal value is the key to getting the most accurate final values from *ICE*. The values in this column are crucial to the proper operation of the software.
Input values	In the *Standard* there are five columns reserved for input values. They are not required to be filled in all, but empty columns must be filled with zeros for the program to work properly. The names of columns containing input values are called by the software to request the user to enter those values.
Comments	This column will never be interpreted by *ICE* software. Its purpose is to contain explanation of any unexpected occurrence in data.

VI. File implementation

Once you have configured your file, you can compare it with the sample file shown below. If everything looks similar, you can run *ICE* software and apply your file. For additional information please reach out to the *Help* documentation.

	A	B	C	D	E	F	G	H	I
1	Day	Hour	Optimal	Input 1	Input 2	Input 3	Input 4	Input 5	Comments
2	Mon	09:00	0	1	2	3	4	5	Comment
3	Mon	12:00	0	1	2	3	4	5	Comment
4	Mon	15:00	0	1	2	3	4	5	Comment
5	Mon	18:00	0	1	2	3	4	5	Comment
6	Tue	09:00	0	1	2	3	4	5	Comment
7	Tue	12:00	0	1	2	3	4	5	Comment
8	Tue	15:00	0	1	2	3	4	5	Comment
9	Tue	18:00	0	1	2	3	4	5	Comment
10	Wen	09:00	0	1	2	3	4	5	Comment
11	Wen	12:00	0	1	2	3	4	5	Comment
12	Wen	15:00	0	1	2	3	4	5	Comment
13	Wen	18:00	0	1	2	3	4	5	Comment
14	Thu	09:00	0	1	2	3	4	5	Comment
15	Thu	12:00	0	1	2	3	4	5	Comment
16	Thu	15:00	0	1	2	3	4	5	Comment
17	Thu	18:00	0	1	2	3	4	5	Comment
18	Fri	09:00	0	1	2	3	4	5	Comment
19	Fri	12:00	0	1	2	3	4	5	Comment
20	Fri	15:00	0	1	2	3	4	5	Comment
21	Fri	18:00	0	1	2	3	4	5	Comment
22	Sat	09:00	0	1	2	3	4	5	Comment
23	Sat	12:00	0	1	2	3	4	5	Comment
24	Sat	15:00	0	1	2	3	4	5	Comment
25	Sat	18:00	0	1	2	3	4	5	Comment
26	Sun	09:00	0	1	2	3	4	5	Comment
27	Sun	12:00	0	1	2	3	4	5	Comment
28	Sun	15:00	0	1	2	3	4	5	Comment
29	Sun	18:00	0	1	2	3	4	5	Comment

Example file configuration.