

# Infinity TournamentHelper

Documentation v0.5 von Thomas „Ieldin Soecr“ Hantschel

## Introduction

The Infinity TournamentHelper is a tool to support tournament organizers that are not able to use Corvus Bellis OTM for their Infinity or Aristeia tournaments. It allows the management of the following:

- Tournament rounds
- Participants
- Tables
- Pairings
- Results

The tool consists of a single EXE-File, no further configurations/installation processes are needed. Simply place the file in any place on your PC and get started.

## Usage

### Create new Tournament

After start up the tool will be opened empty. In the menu bar under **Tournament -> Create Tournament** a new tournament can be created. A new dialog opens that allows the tournament data to be inserted.

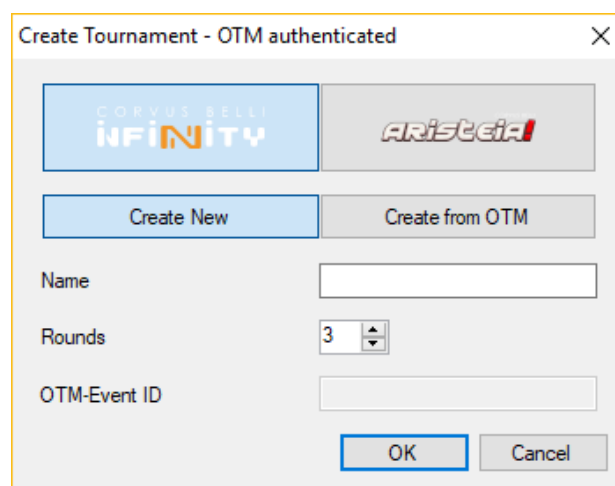


Abbildung 1: Create Tournament - Dialog

There are two options to create a new tournament that can be selected via radio button.

- **Create New:** Create a new independent tournament. Tournament name and the number of rounds can be set. These values cannot be changed afterwards.
- **Create from OTM:** Creates a tournament based on an existing OTM-Event. For this the event ID must be entered into the OTM-Event ID field. After this the tool gets the following data directly from OTM (Internet Connection is required)
  - Tournament name
  - Number of rounds

- Participants
- Tables
- Armylists or Teamcomposition (Depending on the game system)

You can get the event ID directly from the corresponding ITS/AGL/OTM page. It is part of the URL.

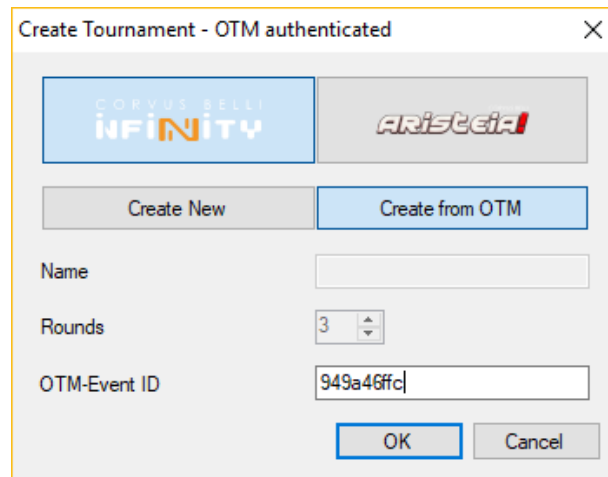
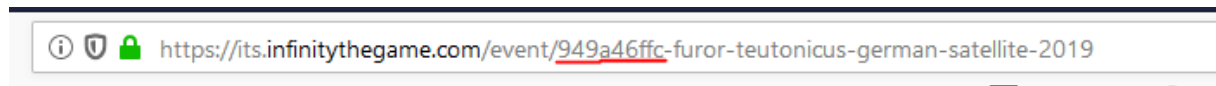


Abbildung 2: Create Tournament - OTM-Event ID

In addition when creating the tournament via OTM you can choose to import the current ELO ranking of the participant and use it as seed value.

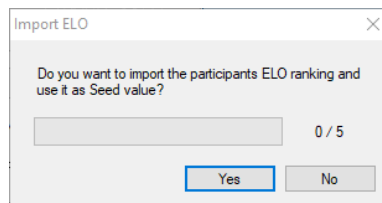


Abbildung 3: Create Tournament - ELO import

After the creation of the tournament is completed multiple tabs will be created to display and manage the tournament data:

- **Players:** Create/Delete/Change Participants
- **Tables:** Create/Delete/Change Tables
- **Round X:** Generate and manage pairings for each round, as well as insert the results
- **Result:** Player rankings
- **Additional Scores:** Create and manage additional scores
- **Analytics:** Analyse the tournament results

**IMPORTANT:** After a tournament has been created the game system (Infinity/Aristeia) cannot be changed anymore.

Nr	Table	Player One	Player Two	P1 OP	P2 OP	P1 VP	P2 VP	P1 TP	P2 TP	Note
1	Table: 001	Sombrero31	Oger	0	0	0	0	0	0	
2	Table: 002	Sergej Faehrich	Incendarius	0	0	0	0	0	0	
3	Table: 003	Teslarod	Marlow	0	0	0	0	0	0	
4	Table: 004	Winterwar_WDH	Ieldin Soecr	0	0	0	0	0	0	
5	Table: 005	Jacky	karolis	0	0	0	0	0	0	
6	Table: 006	FPAlpha	Atherakian	0	0	0	0	0	0	
7	Table: 007	Goldmund	HarlequinOfDeath	0	0	0	0	0	0	
8	Table: 008	Caducus	bahamutbbb	0	0	0	0	0	0	
9	Table: 009	iox	LOCUSTRON	0	0	0	0	0	0	
10	Table: 010	Dixipower	mosch	0	0	0	0	0	0	
11	Table: 011	WhelpSlayer	PPB_Timmy	0	0	0	0	0	0	
12	Table: 012	coleslaw	Paradur	0	0	0	0	0	0	
13	Table: 013	Taugenichts	maximilian13	0	0	0	0	0	0	
14	Table: 014	RTC	Tobi	0	0	0	0	0	0	
15	Table: 015	Durian Khaar	Quirk	0	0	0	0	0	0	
16	Table: 016	LoOn	Imp!	0	0	0	0	0	0	
17	Table: 017	Venenarius	Avessalom	0	0	0	0	0	0	
18	Table: 018	B1tSh1ft3r.GER	Motsognir	0	0	0	0	0	0	
19	Table: 019	Pirayak	W0rstC4se	0	0	0	0	0	0	
20	Table: 020	SoEinBasti	MrTapir	0	0	0	0	0	0	
21	Table: 021	Aneximander	multor	0	0	0	0	0	0	
22	Table: 022	Sven F	Fat	0	0	0	0	0	0	

Abbildung 4: Application overview

## Participant management

Nr	Name	ITS ID	Faction	Team	Seed	Lists
1	8Bit	Z2273	Yu Jing		0	
2	Aneximander	D5125	Anadna		0	
3	Atherakian	Y0090	Military Orders		0	
4	Avessalom	C8875	Yu Jing		0	
5	B1tSh1ft3r.GER	H3736	Tohaa		0	

Abbildung 5: Participant overview

Within the **Players**-tab you can manage the participants of the tournament. The chart displays all currently entered participants in an alphabetical order. The **Add Player** dialog allows to create new participants. The **pencil** symbol allows to change a participant entry and the **x** symbol to delete an entry.

**IMPORTANT:** After a tournament has been started you cannot delete participants anymore, but you will still be able to add and change them.

Each participant entry is composed of the following data:

- **Name (Obligatory):** Name of the participant. This can be his real name, ITS/AGL nick or anything else, that is completely up to the organizer.

- **ITS/AGL PIN (Optional):** PIN of the participant within the ITS/AGL system.
- **Faction/Sponsor (Optional):** Faction/Sectorial of the army the participant uses in the tournament. Sponsor of the participant in case of Aristeia.
- **Team (Optional):** Team/Club etc. of the participant.
- **Seed (Obligatory):** Numeric value between 0 and 10000.
- **Active state (Obligatory):** Shows if a participant is still actively participating in the tournament.
- **Lists/Aristos (Optional):** Lists/Aristos the player participates with.

Name, PIN and Faction/Sponsor are imported when creating the tournament via OTM. All participants which status is not set to “Confirmed” in OTM are set to inactive.

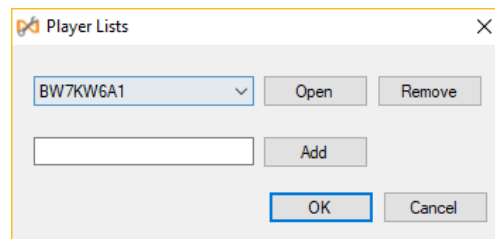


Abbildung 6: List dialog

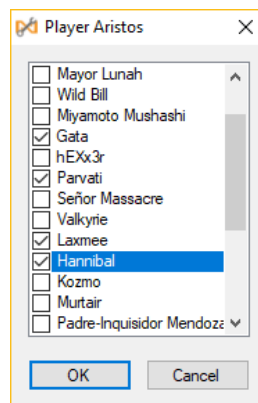


Abbildung 7: Aristo dialog

When clicking on the **list** symbol of a participant entry the list/aristo dialog will be opened.

Within this you can

- [INFINITY] Add/remove army list codes of that participant. When clicking on the **Open** button the list will be opened within **Army6** in your default browser.
- [ARISTEIA] Assign Aristos that the participant uses within his team.

If you are the event organizer within OTM and entered your credentials under **Settings**, the lists/teamcompositions from there will automatically imported when creating the event via OTM.

## Table management

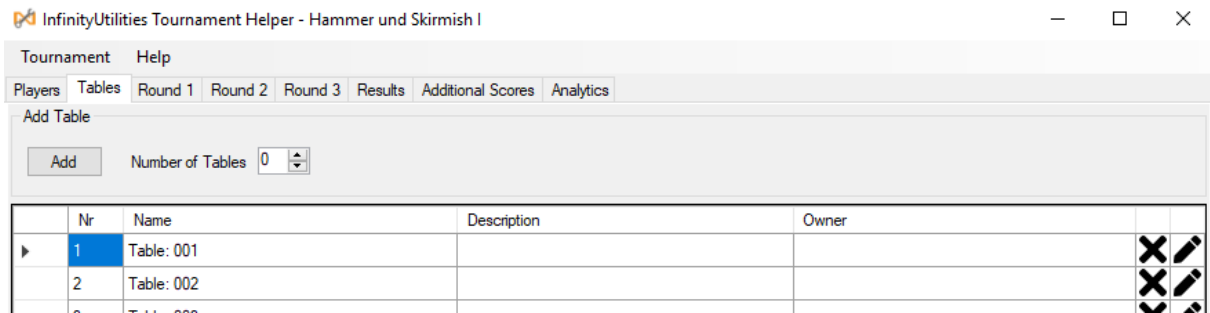


Abbildung 8: table overview

Within the Tables tab the tables for the tournament can be managed. The functions are similar to the participant management with the exception that to add extra tables only the number of tables has to be put in. They are added automatically with the name „Table: XXX“, where XXX is a ongoing number.

**IMPORTANT:** After a tournament has been started you cannot delete tables anymore, but you will still be able to add and change them.

Each table entry is composed of the following data:

- **Name (Obligatory):** Name of the table. Is automatically assigned by the system, but can be changed afterwards.
- **Description (Optional):** Additional information to the table. Can be any free text like special rules (e.g. forest counts as nimbus zone)
- **Owner (Optional):** Participant that owns the table. This will be taken into account when assigning tables.
- **Active state (Obligatory):** Shows if a table is still available to be played on.

When creating a tournament via OTM import the tool will automatically create a number of tables equal to half the maximal number of participants.

## Round management

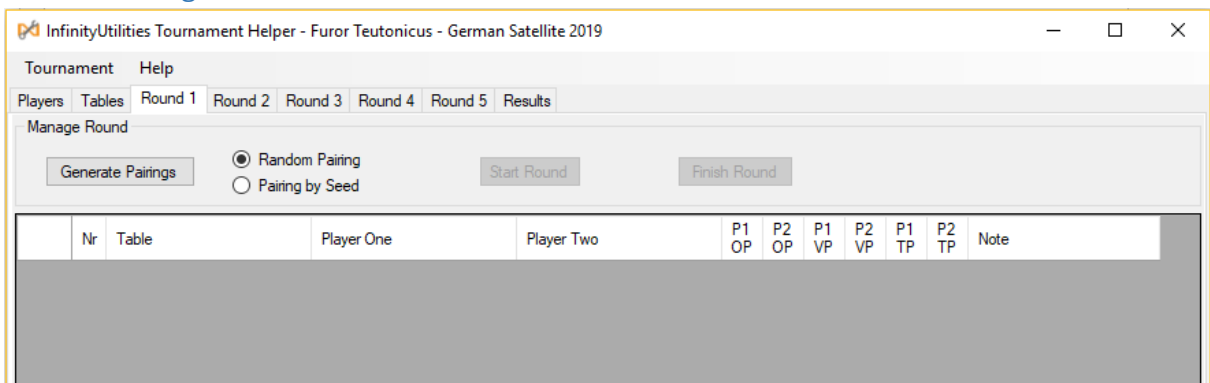


Abbildung 9: Round overview

Managing the tournament rounds is the heart of the application. On every Round X tab you can generate pairings and insert the results.

- **Generate Pairings:** Automatically creates the pairings for the round by using the pairing algorithm described later in this documentation. In the first round the pairings can be

generated randomly or based upon the seed value given to the participants. After generating the pairings, it is still possible to change these.

- **Start Round:** Starts the tournament round. After this it is no longer possible to change pairings and you can now insert the results.
- **Finish Round:** Finishes the round. Now the pairings for the next round can be generated. It is still possible to insert results.

**IMPORTANT:** To generate pairings you need an even number of active participants and enough tables, else an error message will be displayed and no pairings are generated. If you have an odd number of participants you can simply add a BYTE participant.

Nr	Table	Player One	Player Two	P1 OP	P2 OP	P1 VP	P2 VP	P1 TP	P2 TP	Note
1	Table: 001	PPB_Timmy	Androas	0	0	0	0	0	0	
2	Table: 002	MIC	Phayton	0	0	0	0	0	0	Player Two exists in another table
3	Table: 003	Sergej Faehrich	MrRedly	0	0	0	0	0	0	
4	Table: 004	maximilian13	14thbrooklyn	0	0	0	0	0	0	

Abbildung 10: illegal pairing

Illegal pairings are displayed red within the pairing table and within the note column the reason is shown. An illegal pairing can have the following reasons:

- The participants already played against each other in a previous round.
- At least one participant has already played on that table in a previous round.
- A participant or table is matched multiple times in that round.

Even with illegal pairings the tournament round can be started. But as these cannot be changed afterwards it is advised against

The 'Insert Results' dialog box contains the following data:

	Haqq34	Ben Kenobi
Objective Points:	2	6
Surviving Points:	119	161
Tournament Points:	0	2
Most Crits:	0	0

Abbildung 11: pairing results

After the round has been started the results of the different pairings can be inserted. To open the corresponding dialog, you have to click on the **Clipboard** Symbol by the pairing entry. In this dialog the

- [INFINITY] Objective, victory and tournament points for each participant can be added.
- [ARISTEIA] Victory, frag and tournament points for each participant can be added.

Note that the tournament points are calculated automatically when editing the objective/victory points but they can also be changed manually.

If additional Roundscores have been configured the values per participant can be inserted here.

In case of an Aristeia tournament you can also insert the Aristo results by clicking on the corresponding button below the scores.

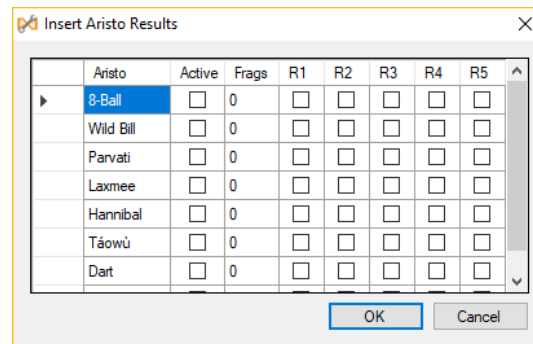


Abbildung 12: Aristo results

In this dialog the list of Aristos within that players team composition is shown. For each of these you can insert whether he has been used in this match, how may frags he has collected and in which game round he has scored.

## Result management

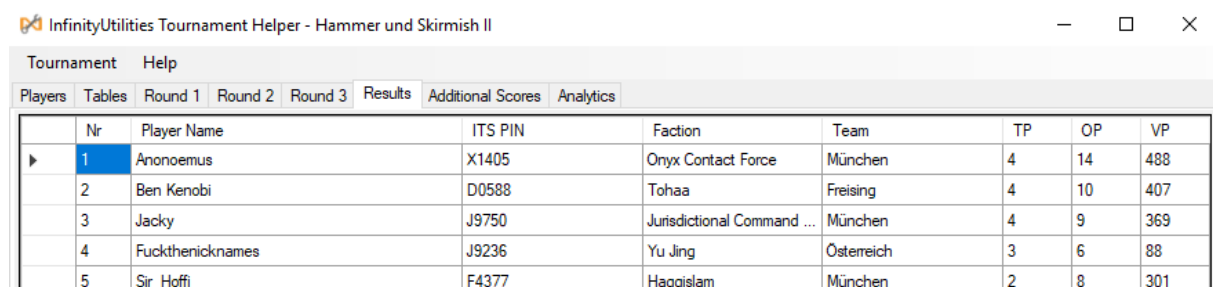


Abbildung 13: result overview

The chart in the **Result** tab shows the current ranking of all participants by TP – OP – VP / TO – VP – FP. These results also include unfinished rounds.

## Additional Scores management

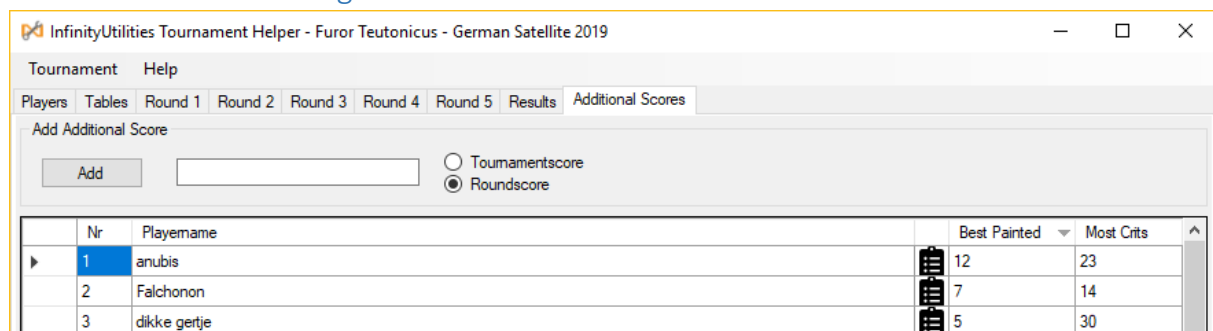


Abbildung 14: Additional Scores overview

Within the **Additional Scores** tab tournament organizers can create and manage any number of scores (e.g. Best Painted or most Crits) they want to use in the tournament. To add a new Score just set the name and click the **Add**-Button and it will create a new column within the chart. The table can be sorted based on a score by clicking on the corresponding header column.

There are two different types of additional scores:

- **Tournamentscores:** These scores can only be set once for the whole tournament. To do this you have to click on the **Clipboard**-symbol on the **Additional Scores** tab. Examples for Tournamentscores would be “Best Painted” or “Best Table”.
- **Roundscores:** These scores can be set in each round within the **Insert Results** dialog of each pairing. Within the **Additional Scores** tab the total of the inserted values is shown. Examples for Roundscores would be “Most Crits” or “Most Armypoints killed”.

To insert the scores for a specific player the dialog can be opened by clicking on the **Clipboard**-symbol.

## Analytics

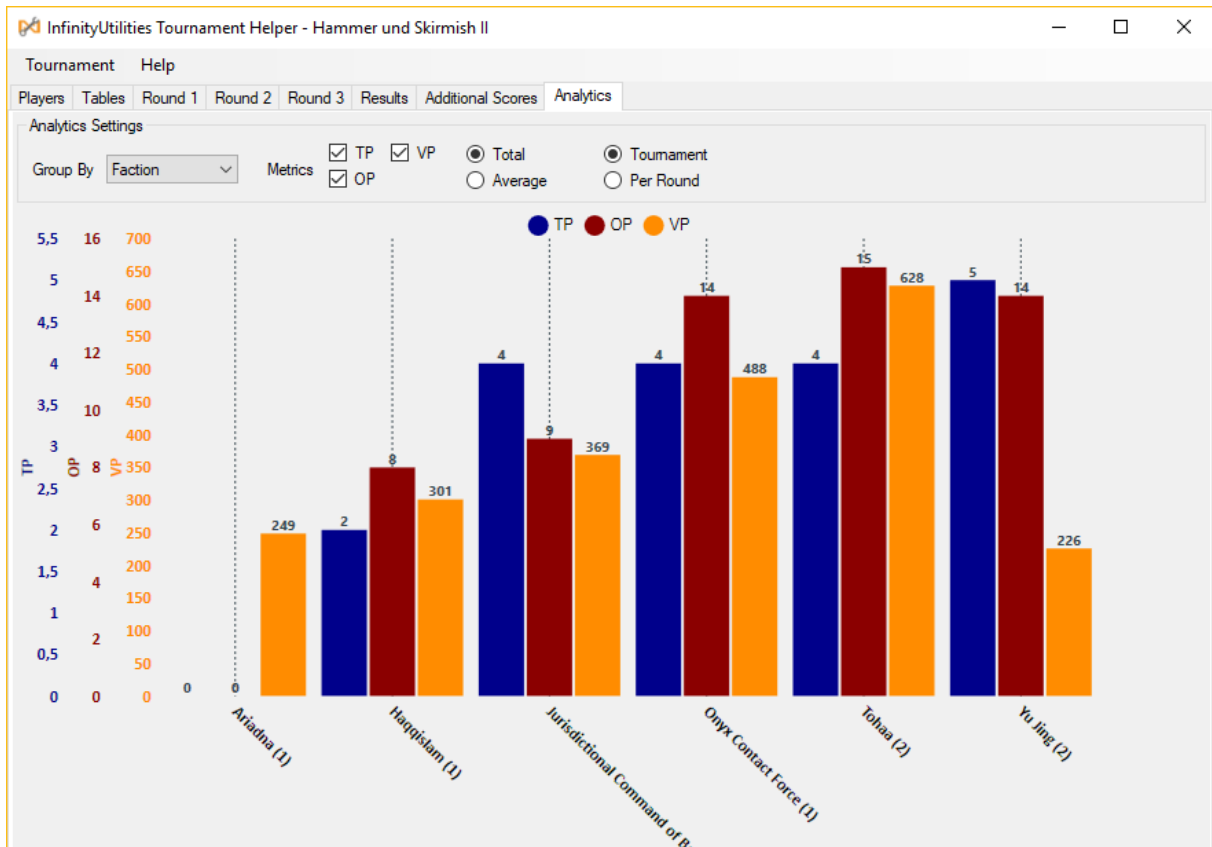


Abbildung 15: Analytics overview

The **Analytics** tab contains some logic to enable you to analyse the performance of players/teams/factions in the tournament. For this you have the following settings available:

- **Group By:** Determines for what dimension the metrics shall be calculated. Currently you can switch between Players, Teams and Factions
- **Metrics:** What data is currently displayed. You can add/remove any of them by (un)checking them.
- **Total/Average:** This radio button allows to switch between the sum and the average of each metrics. When grouped by Player this has no effect on the displayed data.
- **Tournament/Per Round:** This radio button allows to switch between the data being displayed for the whole tournament or the round average.

The bar chart on this tab will refresh with every settings change, displaying the current data.



## Additional Settings

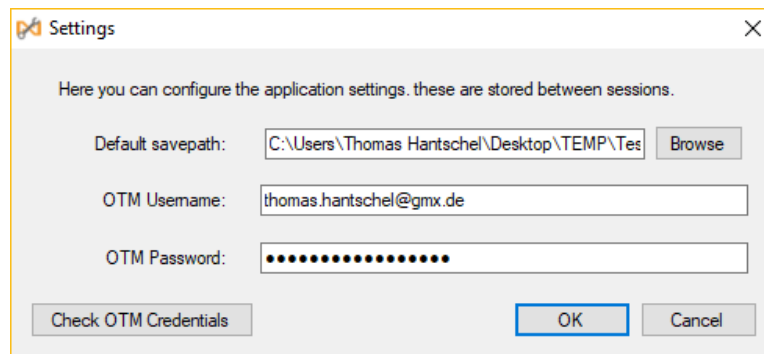


Abbildung 16 : Settings dialog

In the menu bar under **Help** the **Settings** option opens the **Settings** dialog. Here you can set some application wide settings, which will be stored between sessions. Currently the following settings can be configured:

- **Default savepath:** This is the default path that will be opened when saving/loading a tournament
- **OTM credentials:** Here you can add your OTM credentials to allow the use of some advanced functionalities in this tool (e.g. import Lists from OTM etc.). The credentials are stored encrypted on the local machine.

The settings file can be found under:

C:\%USERPROFILE%\AppData\Local\TournamentHelper

## Save and load

In the menu bar under **Tournament** the two options **Load Tournament** and **Save Tournament** are located. With these it is possible to save and load the tournament information locally in and from an ITF file.

You can create any number of ITF files for a tournament, it is not needed to always use the same. With this it is possible to save different states of the tournament e.g. before each round.

## Data export

Nr	Name	ITS ID	Faction	Seed	
1	14thbrooklyn	K6695		0	
2	Ali	Q3065		0	
3	Andreas			0	
4	anubis			0	
5	Arenikus	O4344		0	
6	B1tSh1ft3r.GER	H3736		0	
7	BobbyTables	U7863		0	
8	Cabaray	B7653	Ariadna	0	

Copy Players  
Export Players To Excel

Abbildung 17: data export

The content of each chart in this application can be exported simply by right clicking it. There are two options:

- **Copy XXX:** Copies the content of the chart into the cache (Including headers)

- **Export XXX To Excel:** Opens a new excel file with the chart content (Including headers). Excel must be installed on the computer.

### Report results to OTM

The TournamentHelper has the ability to automatically upload the tournament results to OTM without manual input. For this you can click **Tournament -> Report Tournament** in the menu bar to open the corresponding dialog.

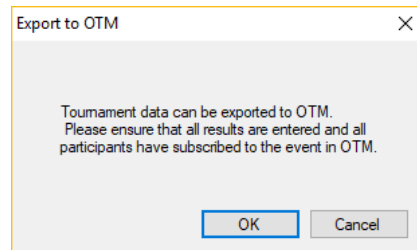


Abbildung 18: Report results dialog

In this dialog you are shown if the upload is possible or if some prerequisites are not fulfilled. These requirements are:

- The tournament has been created via OTM
- The last tournament round has been finished
- All active participants have an ITS PIN

This dialog will not open if:

- The current tournament is for Aristeia
- No valid OTM credentials have been added

After clicking the OK button the upload will begin. After it has been finished you can check if it was successful by opening it in OTM. Currently the following limitations are known:

- Byes and resting players are not uploaded. These information have to be inserted manually
- If participants are not confirmed in OTM their results are not added

### Update Factions/Aristos/Sponsors

After the first start of this tool the following files are created within it's folder:

- TournamentHelper\_Factions.json
- TournamentHelper\_Aristos.json
- TournamentHelper\_Sponsors.json

Each of these files contains a list of entries used within the TournamentHelper for Factions/Aristos/Sponsors. You can add/change/delete entries from these lists if needed to make the changes available within the tool.

### Create Tournamentsheets

In the menu bar under **Tournament -> Tournamentsheets -> Create New** creates a PDF file within the application folder, containing a tournament sheet for each currently active participant.

In the same menu the Option **Create Empty** generates an empty tournamentsheet to print.

Different Tournament sheets are generated for Infinity and Aristeia. For Infinity the following participant data are included:

- Name
- ITS PIN
- Faction

For Aristeia the following data are included:

- Name
- AGL PIN
- Sponsor
- Aristos (On the back side)

The image displays a grid of tournament score sheets for Aristeia. Each sheet is divided into several sections:
 

- Participant Information:** Fields for NAME, AGL-PIN, SPONSOR, and FACTION.
- Final Score:** A box for TP, VP, FP, and RANK.
- Rounds:** Three rounds (ROUND 1, ROUND 2, ROUND 3) with opponent names and scoring tables. Each scoring table has columns for OWN, OPP, VP, and FP.
- Notes/Markers:** Three sections for ROUND 1, ROUND 2, and ROUND 3, each containing a table for notes and markers.

 The sheets are arranged in two rows and three columns, with the first column containing the participant information and the final score, and the subsequent columns containing the round details and notes.

## Pairing algorithm

The algorithm to create the pairings each round is based on the swiss system. In that participants are paired based on their current performance within the tournament. In general, it works like this:

1. The pairings are generated based on the current ranking ascending, so rank 1 vs rank 2, 3 vs 4, etc.
2. Every participant can only play against another participant once per tournament. Should the same pairing be created in a subsequent round the next possible participant will be chosen as opponent (e.g. rank 3 already played against 4, he will be paired against 5).
3. Can a participant not be paired against anyone lower ranked than him he will be paired against a higher ranked opponent he has not played yet.
4. If it is not possible to resolve an illegal pairing automatically, it will be marked and can be changed by the organizer manually.

**IMPORTANT:** Pairings are only generated with all currently active participants and tables. Inactive participants and tables are ignored, but can be added back in subsequent rounds.

As the swiss system cannot be used during the first round of the tournament, the tool offers two ways to do so differently.

1. **Random:** The participants are paired randomly against each other.
2. **Seed:** The participants are paired based on the seed values assigned to them. Participants are matched against others with an equal or close seed value. The seed value can represent any way of ranking the players like there ITS score or experience level.

During the first round, for both ways to generate pairings, the algorithm will try to avoid matching players with the same faction/sectorial or from the same team against each other.

After the participants are matched against each other, the tables are assigned to each pairing. The algorithm tries to avoid assigning the same table multiple times to the same participant. In addition, it tries to avoid assigning the table to a pairing containing the owner of that table.

If that is not possible it will mark the pairing, so that the organizer can resolve that issue manually.

# Changelog

## Version 0.1

- Initial Release

## Version 0.2

- Added Additional Scores tab
- Changed pairing algorithm to include
  - Avoid matching of team members in the first round
  - Avoid Mirrormatches in the first round
  - Avoid assigning tables to matches with their owner

## Version 0.3

- Added Analytics tab
- Added Settings dialog
- Changed Player tab
  - Added List management
- Changed Tournament creation via ITS
  - If ITS credentials are set in the Settings dialog the tool will try to login to OTM
  - If successful it will also retrieve the player lists
- Bug Fixes
  - Opening the additional Scores dialog with no Tournament Score set crashes the application **FIXED**
  - Multiple Round scores are not saved in the Insert Results dialog **FIXED**

## Version 0.4

- Added Aristeia support
  - When creating a tournament choose between Infinity and Aristeia
  - Aristeia tournaments follow the same general logic with some exceptions
    - Instead of lists you can assign the team composition
    - The results for individual Aristos can be added
- Added ELO import as Seed value
- Added Create Tournamentsheet option

## Version 0.5

- Added result upload to OTM

## Version 0.6

- Updated Tournament Point calculation to ITS12 and AGL4
- Updated Infinity Army and Aristeia Aristo lists