



F9 DRONE SPORT TECHNICAL MEETING

Saturday 16th March 2024

CIAM General Rules for the Technical Meetings



Introduction

- **According the CIAM General Rule A.5.2**
 - Technical Meeting held by the Subcommittee Chairman prior to the CIAM Plenary Meeting
 - Are eligible to attend Subcommittee members, voting CIAM Delegates / Alternates and any others approved by their NAC
 - The meeting *'shall consider items in the Agenda for the purpose of discussion and briefing of all those present and shall, through the Subcommittee Chairman, make their recommendations'* to the Plenary Meeting
 - **Only one person per country may vote**
- **Minutes of the Technical Meeting** to be published on the FAI website

AGENDA



- **2023 F9 Drone Sport Technical Meeting**
- *F9 Drone Sport Subcommittee*
- *F9 Drone Sport Volume*
- *Status of the F9U class (official vs. provisional)*
- *CIAM General Rules Volume*
- *Drone Soccer development*
- *Drone Racing World Cup*
- *World Drone Racing Championship*
- *The World Games (TWG)*
- *2024 e-Drone Racing World Cup*

Back to the 2023 Technical Meeting



- **Zoom meeting:** Sunday 26th March 2023
- **Participation:** 31 persons from 19 countries
- **Minutes:** Published 29th March 2023 on the FAI website
- **F9U change from provisional to official class**

⇒ ***Technical meeting recommendation (unanimous) : Refer back to the F9 S/C for further consideration before to finalise a position***

**2023 F9 Drone
Sport
Technical
Meeting**

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F9 Drone Sport Subcommittee

- **Chairman:** Bruno DELOR
- **Composition** (*according to CIAM General Rules A.7.2*)
 - Members are selected by the Chairman from the F9 Technical Experts appointed by NACs - Members must be from different countries
 - Subcommittee members serve as individual expert consultants and are not obliged to represent the views of their NAC
 - List of the members of the Subcommittee published on the FAI website (<https://www.fai.org/page/ciam-subcommittees>)
- **28 countries actually represented**
- **Basecamp projects to exchange**
 - CIAM - F9U Drone Racing WG
 - CIAM - F9A Drone Soccer WG
 - CIAM - Drone Racing E-Sport WG

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F9 Drone Sport Volume (1/4)

- **Volume F9 Drone Sport**

- **Part A:** Drone Racing World Cup rules
- **Part B:** F9A (Drone Soccer) rules
- **Part C:** F9U (Drone Racing) rules

- **Content of the Volume F9** not subject to Plenary Meeting approval considering the current provisional statute of the Drone Sport classes

⇒ *Under control of CIAM Bureau with possibility to update at any time during the year*

- **Changes introduced in the 2024 Edition**

- Effective 1st January 2024
- Corrections of typing errors or incorrect English wordings
+ Clarification of rules and specifications



F9 Drone Sport Volume (2/4)

● Changes introduced in the 2024 Edition

(continued)

■ F9A class - Drone Soccer

- Mention of the materials authorised for the protective frame (plastic or composite but not metal) - Removal of the minus 2 cm tolerance for the diameter of the drone ball (*B.1.1*)
- Introduction of specifications for the LED light device to install on the drone ball (*B.1.5*)
- Introduction of specifications for the protection cage (*B.2.2*)
- Total number of players in a team restricted to the number of active players plus 2 additional players (*B.4.2*)
- Contact of a flying drone ball on a drone ball on ground may be subject to a warning if unintentional (*B.9.2*), or to a yellow card if intentional (*B.9.3*)
- Assistant referees changed as scoring referees (*B.12.2.3*)



F9 Drone Sport Volume (3/4)

● Changes introduced in the 2024 Edition

(continued)

■ F9U class - Drone Racing

- Clarification of rules/specifications
- Modification of the video transmitter requirements (C.1.5)
- Introduction of specifications for the LED light unit instead to require the organiser to define a list of authorised devices (C.1.6)
- Requirement for the identification letters and numbers to be readable (unaided) at arm's length instead 6 mm height (C.1.7)
- Races with 3 laps to complete and 3 minutes flight time defined as the standard way to proceed for the entire event (C.6)
- Laps not finished will no more be considered (C.6.1)
- Allocation of 2 minutes maximum to be ready to start after the models have been placed on the start area (C.6.2)
- Competitors not finishing their flight ranked in the race considering the number of laps completed and the corresponding registered time (C.6.4)
- Inclusion of a new paragraph to resume cases for disqualification from the race mentioned before in C.7.3 and for disqualification from the event (C.9)

Proposals for the Plenary Meeting submitted by Germany



F9 Drone Sport Volume (4/4)

- **B.2.2 Padding of the cage** - *New provision*
All hard surfaces (if there are any) of the cage must be covered by padding to protect the material of the drone balls.
- ⇒ **Included as follows in the 2024 Edition:**
B.2.2 Flying zone - Protection cage
Hard parts of the protection cage must be covered with a shock absorbing material to protect the drone balls.
- **B.9.2 Warning** - *Add the following cause for a warning:*
 - The enemy model is attacked when it is on the ground
- ⇒ **Included as follows in the 2024 Edition:**
B.9.2 Warning
 - Unintentional contact during a set of a flying drone ball on a done ball which is on ground.
- B.9.3 Yellow card**
 - Intentional contact during a set of a flying drone ball on a done ball which is on ground.

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Status of the F9U class (1/2)

- **CIAM General Rule A.9**

“Only official classes may be considered for a World Championship status”

- **CIAM General Rule A.9.1**

“Before being considered for adoption as an official FAI class, rules of the provisional class must first have been used in each year of a two-year period up to the year of consideration.

The rules must have been used in at least five international contests, or three World Cup contests. All the contests must be registered on the FAI Sporting Calendar and involve a total of at least five FAI member countries with at least two countries per contest and at least 50 competitors in total per year”.

- **CIAM General Rule A.10.2**

“a) For official classes, a period of two years of no changes to model aircraft/space model specifications, manoeuvre schedules and rules will be strictly enforced.

...

d) Provisional classes are not subject to this two-year rule cycle.”



Status of the F9U class (2/2)

- **CIAM General Rule C.2.1.1**

“Each World Championship is normally held every other year (2-year cycle).”

- **CIAM General Rule C.14.1**

“Before a class can be considered by the CIAM for a World and/or Continental Championship, there must be a minimum period of two years from the time the class becomes official.

The rules must have been used in at least five international contests, or three World Cup contests, each with a minimum of six FAI member countries participating. At least two contests must be held in each of the two years with a total of at least 60 competitors in each year.”

⇒ **F9 Subcommittee:** *No objection formulated to consider F9U (Drone Racing) as an official class instead a provisional*

Action: *CIAM Bureau change’s proposal of the CIAM General Rules concerned for CIAM Plenary Meeting approval*

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CIAM General Rules Volume (1/2)

● Changes in CIAM General Rules Volume - CIAM Bureau proposals

■ A.7 SUBCOMMITTEES

The CIAM may set up Subcommittees, which are consulted for advice on sporting and technical matters in the special category concerned.

Note: The current permanent Subcommittees are:

.... F9 Drone ~~Sport~~**Sports**

Subsequent additional changes - Plural for Drone Sports in the CIAM General Rules Volume. This concerns page 4 and provisions A.7.1, A.8, B.1.2.7 C.5.1 and C.8



CIAM General Rules Volume (2/2)

● Changes in CIAM General Rules Volume - CIAM Bureau proposals (continued)

■ B.1.2.7 Category F9 - Drone Sports

~~This category includes the following classes (provisional classes):~~

~~F9A - Drone Soccer~~

~~F9U - Drone Racing~~

This category is divided into the following classes:

i) Official class

F9U - Drone Racing

ii) Provisional class

F9A - Drone Soccer

■ C.15.2 Current World Championships

C.15.2.1 Class F (Model Aircraft)

Add "F9U (Senior + 4th junior member)" in "Even Years"

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Drone Soccer development (1/4)

- **1st May 2019** - Introduction of the Drone Soccer provisional class (F9A) with drone balls diameter 40 mm
- **27th & 28th September 2019** - Drone Soccer International tournament in Korea during the Gimcheon International Drone Soccer Festival
- **1st January 2020** - Introduction of an additional F9A-B subclass with drone balls diameter 20 cm considering it is easier to practice and interesting for educational purpose
- **8th & 9th October 2023** - Korea Drone Soccer Open International Cup held as a sub event of the WDRC in Namwon, Korea
- **2024 Drone Soccer Open International events**

German Drone Ball Cup	Hannover	Germany	February 2 to 4
FAI F9A Drone Soccer USA Open International Cup	Alexandria, Virginia	USA	April 26 to 28
FAI Korea Drone Soccer Open International	Seoul city	Korea	June 1 & 2
Hong Kong International Drone Soccer Competition	Hong Kong	Hong Kong, China	July 20



Drone Soccer development (2/4)

● FAI Drone Soccer World Cup

■ Concept

- Based on the World Cup organised in team sports such as football or basketball
- Qualification phase with qualifying tournaments for the final tournament named 'FAI Drone Soccer World Cup Grand Final'

■ World Cup Grand Final

- **Periodicity:** Held every 2 years
- **FAI event category:** CAT1 event similar to a CIAM World Championship - At least 8 teams participating from different countries must be complied
- **Number of teams qualified:** 16 in F9A-A & 24 in F9A-B
- **Event of the format**
 - Group stage - Every team plays a match against each other team of the group
 - Knockout stage with 8 teams qualified in F9A-A & 16 in F9A-B
 - Final stage with a play-off match for the 3rd place



Drone Soccer development (3/4)

● FAI Drone Soccer World Cup

(continued)

■ Qualifying tournaments

- Time period defined by considering the dates of the World Grand Final and previous edition
- CIAM Open International World Cup event (CAT2)
- For each subclass, 2 events maximum may be selected for any country on its own behalf unless the country extends over more than three time zones - In that case, 1 event may be selected within each time zone of the country with a maximum of 4 events for the country on its own behalf
- **Event of the format:** Group stage - Knockout stage - Final stage with a play-off match for the 3rd place



Drone Soccer development (4/4)

● FAI Drone Soccer World Cup

(continued)

■ Qualification for the World Cup Grand final

- Placing of the teams by considering their sum of points in the qualifying tournaments
- Guidelines:
 - One team qualified per country
 - Automatic qualification of a team from the reigning World Cup Champion country
 - Wild card for the hosting country in case it does not get a team qualified
- In case the number of countries selected from the qualifying phase ranking is not sufficient to respect the format defined (16 teams in F9A-A and 24 in F9A-B), the following possibilities will be considered:
 - Award wild cards to additional countries which are not placed in the qualifying phase ranking
 - Qualify additional team(s) for the countries having more than one team well ranked in the qualifying phase ranking

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● Drone Racing World Cup

- Challenger Series (*effective from 2016*)
- Masters Series (*introduced in 2019*)



Drone Racing World Cup (1/3)

	2016	2017	2018	2019	2022	2023
Number of contests considered for the World Cup ranking	9	16	22	24	8	11
Number of organising countries	7	12	17	19	8	9
Number of registrations	327	575	1004	913	239	397
Average number of participants per contest	36	36	46	38	30	36
Number of competitors placed	229	434	669	566	171	272
Number of concerned countries	17	37	41	46	22	31
Number of juniors (under 18 years)	18	76	133	149	52	87
Ratio of juniors	8%	18%	20%	26%	30%	32%
Number of concerned countries	4	18	23	28	11	15
Number of women		6	13	15	5	17
Number of concerned countries		6	9	11	4	8



Drone Racing World Cup (2/3)

● 2023 Drone Racing World Cup

Podium

- 1- **Killian ROUSSEAU (France)**
129 points
- 2- **Pawel LASZCZAK (Poland)**
126 points
- 3- **Roland RONTTO (Hungary)**
99 points



- **87 juniors from 15 countries** placed in the World Cup ranking which represents 32% of the total number of competitors
4 juniors from different countries placed in the top 10
Best placed junior, Arthur VALTIER from France, is 4th
- **17 women from 8 countries** placed in the World Cup ranking
Best placed woman, Gayeon MO from Korea, is 16th

● 2024 Drone Racing Open International events

■ 12 World Cup events all from different countries

PIHAB FAI Drone Racing World Cup	Capas, Tarlac	Philippines	February 16 to 18
Aircrasher FAI Worldcup	Aichtal	Germany	May 11 & 12
Paris Drone Racing World Cup	La Queue en Brie	France	May 18 & 19
FAI Korea Drone Racing World Cup	Seoul City	Korea	June 1 & 2
Drone Racing World Cup Hungary	Mogyoród	Hungary	June 7 to 9
Trofeo F9U World Cup Italia	Sumirago (VA)	Italy	June 22 & 23
Drone Club Varna Cup	Varna	Bulgaria	July 20 & 21
DX Racing Serbia	Bela Crkva	Serbia	July 27 & 28
Riyadh Drone Racing World Cup	Riyadh	Saudi Arabia	September 12 to 14
THSF İstanbul Drone Racing World Cup	İstanbul	Turkey	September 21 & 22
Phoenix Drone Racing	Prilep	North Macedonia	October 12 & 13
ASFC F9U World Cup Chongqing, China	Chongqing	People's Republic of China	October 24 to 27

■ 2 additional Non World Cup events

VII Trofeo Secchia F9U	Modena	Italy	September 7 & 8
FAI Hong Kong Open Drone Racing Championship	Hong Kong	Hong Kong, China	Sept. or Oct.



**Drone Racing
World Cup
(3/3)**

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● 2023 WDRC - Namwon, Korea

- Organised by KAMA in coordination with Namwon city



World Drone Racing Championship (1/3)



- **Participation:** 114 competitors from 28 countries including 12 female / 40 juniors
- **Spectacular ceremonies**
- **Sub events** (e-Drone Racing Cup, Drone Soccer Open International Cup)
- **Drone Conference and Exposition**





https://www.youtube.com/watch?v=T6ULdKtgQXM&list=PLyXQtZ_gjrxArzjll6ZiTak1lvLkiBroE&index=1



World Drone Racing Championship (2/3)

● 2024 WDRC

- Hangzhou, People's Republic of China
- Thursday 31th October to Sunday 3th November 2024
- **Venue:** Shangcheng District Sports Center
- **Organised by** ASFC with China National Sports Group (CNSG)



- **Bulletin 1:** Distributed and published on 2nd March 2024 with the 2024 WDRC Sporting Rules document
- **Preliminary Entry Form** (*Intent to enter a team mentioning the NAC contact person and an estimated number of participants*): **15th May 2024**



World Drone Racing Championship (3/3)

● Participants

■ National teams consisting of

- A Team manager
- Maximum three competitors (without age or gender requirements)
- Optionally, one additional competitor age Junior (without gender requirement) **and/or** one additional competitor gender Female (without age requirement)
- Helpers (one maximum permitted for each competitor) & supporters

■ Individual competitors qualified (*Wild cards*)

- Reigning 2023 Overall and Junior World Champions
- 16 best placed competitors in the Drone Racing World Cup ranking based on the contests held during the 12 months period from 1st August 2023 up to 31 July 2024
- Winners of a CIAM Drone Racing World Cup contests held during that 12 months period and in which at least 40 competitors had flown
- ASFC entitled to issue three wild cards for individual competitors from China including the Chinese individual competitors eventually qualified as stated above

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- Luisa Rizzo second place in the World Games Athlete of the Year 2023 poll with 22 nominees



**The World
Games (TWG)**
(1/4)



This is the most outstanding performance obtained by an Air Sports athlete in the World Games Athlete of the Year poll



The World Games (TWG) (2/4)

- **TWG 2025 (12th edition)**

- Thursday 7th (Opening Ceremony) to Sunday 17th (Closing Ceremony) August 2025 in Chengdu, Sichuan, People's Republic of China
- TWG led by the International World Games Association (IWGA)
- Air sports represented with the Drone Racing discipline

- **Drone Racing event**

- **Venue:** Secondary stadium in Dong'an Lake Sports Park, Chengdu
- **Format**
 - Mixed men and women event with a unique classification
 - 32 athletes including, wherever possible, 8 to 10 women
 - Scenario B with double elimination sequence applied



The World Games (TWG) (3/4)

● Drone Racing event *(continued)*

■ **Schedule** *(To be confirmed)*

- Monday 11th August: Arrival day
- Tuesday 12th August: Acclimatisation
- Wednesday 13th August: Model processing - Pilot's track walking through - Competitor's meeting - **Official practice**
- Thursday 14th August to Saturday 16th August: **Competition with night sessions flight**
- Sunday 17th August: Reserve date

■ **Selection rules**

- **Reference ranking lists** (men and women) based on the 2024 Drone Racing World Cup events and WDRC by considering for each pilot the sum of the best 3 event's results (numbers of points)
- **First step**
 - One athlete selected per country for each gender considering the 50 higher placed in the reference ranking list concerned
 - In case an athlete declines, the next best ranked competitor will be retained subject to respect one athlete per country



The World Games (TWG) (4/4)

● Drone Racing event

■ Selection rules

(continued)

➤ Second step

- In case the 1st stage does not permit to select the required number of athletes, a second male competitor from a same country will be selected by following the ranking of the 50 higher placed in the reference ranking list
- If this is not still sufficient, a third male competitor from a same country will be then selected in same conditions

➤ Wild cards

- China being the host country, ASFC may propose one male and/or one woman athlete to participate with a wild card subject no athlete for the gender concerned may be considered for China with the selection provisions stated above
- CIAM may offer a wild card to three countries not represented with the selection process stated above

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2024 e-Drone Racing World Cup (1/2)

- **2024 e-Drone Racing World Cup** - Based on a series of virtual international events run on different racing circuits
- **World Cup event format**
 - **Practice flight session** - Limited for each pilot to a cumulative time or number of laps of the circuit that can be completed
 - **Qualification stage**
 - Period of time (e.g. 7 days) defined for the qualification stage
 - Each pilot flies alone (Flights 'asynchronous') and is authorised a defined number of attempts to register times to complete the number of consecutive laps defined for the event
 - Ranking calculated by considering the fastest registered time
 - **First part of the competition**
 - 8 pilots per race
 - **Scenario A** = 128 pilots selected from the qualification stage - First part with two rounds (*24 races in total*)
 - or*
 - **Scenario B** = 64 pilots selected from the qualification stage - First part with one round (*8 races in total*)
 - The 4 best placed in each race qualified for the next round



2024 e-Drone Racing World Cup (2/2)

● World Cup event format

(continued)

■ Second part of the competition

- Run on a day different from first step with livestreaming and English language commentator
- 32 pilots qualified from the first part of the competition - 4 pilots per race
- 1/8th finals - Quarter finals - Semi finals - Final and small final (*16 races in total*)
- The 2 best placed in each race qualified for the next round

● World Cup rules

■ Points allocation

- Points allocated to each pilot depend on the placing in the event of the concerned pilot
- Points allocated will depend on the number of pilots who have effectively flown at least in the qualification stage

■ World Cup ranking

Determined by considering the sum of the best three event results (numbers of points) for each pilot

■ CIAM medals and diplomas

● World Cup Grand Final



The Minutes, list of participants and presentation updated as necessary will be uploaded on the following webpage:

<https://www.fai.org/page/ciam-plenary-2024>



FAI Drone Sports

4 mini sites

Drone Racing World Cup

E-Drone Racing World Cup

FAI World Drone Racing Championships

Drone Soccer

2 additional sections: Pictures & Videos