

# F9 DRONE SPORT ZOOM TECHNICAL MEETING

*Saturday 25<sup>th</sup> March 2023*

## Agenda

- Follow-up of the 2022 F9 Technical Meeting
- F9 Drone Sport Subcommittee
- F9 Subcommittee Basecamp projects
- FAI Sporting Code Volume F9 Drone Sport
- FAI Sporting Code CIAM General Rules
- F9U change from provisional to official class?
- The World Games (TWG)
- Drone Racing World Cup
- 2023 World Drone Racing Championship (WDRC)



# CIAM general rules applicable for a Technical Meeting



- **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 will be published before the CIAM Plenary Meeting planned 1<sup>st</sup> April 2022**



## Follow-up of the 2022 F9 Technical Meeting (1/3)

- **2022 F9 Drone Sport Technical Meeting hold by zoom on Saturday 9<sup>th</sup> April 2022**
- **Minutes published on the FAI website on 17<sup>th</sup> April 2022**
- **Drone Soccer class (F9A)**
  - **Decision to establish a CIAM Drone Sport S/C WG for Drone Soccer activities' development** chaired by David Roberts (USA)
  - **WG responsibilities** (April 2022 Terms of Reference)
    - Propose F9A class rules' changes
      - ⇒ ***F9A rules changes proposals considered for the 2023 Edition FAI Sporting Code F9 Drone Sport Volume***
    - Determine a format milestones and calendar towards an annual FAI F9A World Cup and/or a FAI F9A World Championship every 2 years
      - ⇒ ***2 Drone Soccer Open International Cup events registered on the 2023 FAI Calendar & another one expected in France***
    - Define guidelines for an educational project based on F9A practice



## Follow-up of the 2022 F9 Technical Meeting (2/3)

### ● RC Multi-rotor Drone Racing class (F9U)

- **S/C Basecamp exchanges hold on October 2021 not conclusive regarding changes of the rules:**
    - C.1.5 Video system (Use of digital FPV devices)
    - C.9.3 Judge (Other possibilities than judges dedicated to each pilot)
  - **Decision to continue the discussion within the S/C WG for F9U Rules Changes Proposals** (established end December 2021 chaired by Jose-Manuel Martinez Ibanez (ESP))
  - **WG responsibilities** (April 2022 Terms of Reference)
    - Review the actual F9U class rules in order to identify rules which may be amended in addition to the two items above
    - Propose for the S/C agreement the modifications of the rules with the duly justification
- ⇒ ***F9A rules changes proposals considered for the 2023 Edition FAI Sporting Code F9 Drone Sport Volume***



## Follow-up of the 2022 F9 Technical Meeting (3/3)

### ● Drone e-Sport

- **Drone Racing well adapted for e-Sport** and good opportunity to attract the new generations to practice Aeromodelling
- **Decision to establish a CIAM Drone Sport S/C WG for Drone e-Sport activities' development** chaired by Sotir Lazarkov (BUL)
- **WG responsibilities** (April 2022 Terms of Reference)
  - Propose rules for international e-Drone Racing competition
  - Define the guidelines of an e-DroneRacing World Cup concept
  - Identify the FPV multiplayer simulators available on the market and evaluate their compatibility with the e-Drone Racing competition rules
  - Define the specifications of a Competition Management System to support the concept of e-DroneRacing World Cup proposed
    - ⇒ ***E-Drone Racing competition organised during the 2023 WDRC in South Korea***



## F9 Drone Sport Subcommittee

- **Chairman:** Bruno DELOR
- **Composition** (*according to CIAM General Rules A.7.2*)
  - In addition to the Chairman, members must all be from different countries
  - Members are selected by the Chairman from the F9 Technical Experts appointed by NACs
  - 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>)
- **27 countries represented in 2023** (*instead 34 in 2022*)
  - **Europe (16):** BEL - BUL - ESP - FIN - FRA - GBR - GER - GRE - HUN - ITA - LAT - LUX - MKD - NOR - POL - POR - SUI - SWE
  - **Asia & Oceania (7):** AUS - HKG - INA - JPN - KOR - THA - TPE
  - **America (2):** CAN - USA
  - **Africa (2):** ISR - RSA

*Note: AUT, BRA, LTU, NZL, SLO, SUI & SWE no more represented*



- **3 Basecamp projects to exchange**

- CIAM - F9U Drone Racing WG (*named 'CIAM Drone Sport Subcommittee' until 2023*)
- CIAM - F9A Drone Soccer WG
- CIAM - Drone Racing E-Sport WG

- **Appointment on each Basecamp project done according to the interests expressed on the answers to the survey sent on January 22, 2023 to update the Subcommittee**

**F9  
Subcommittee  
Basecamp  
projects  
(1/2)**





# FAI Sporting Code Volume F9 Drone Sport (1/2)

- **Volume F9 Drone Sport**
  - **Part A:** Drone Racing World Cup rules
  - **Part B:** F9A (Drone Soccer) rules
  - **Part C:** F9U (RC Multi-rotor Drone Racing) rules
- **Content of the Volume F9** not subject to Plenary Meeting approval considering the provisional statute of the F9A and F9U classes
  - ⇒ ***Under control of CIAM Bureau with possibility to update at any time during the year***
- **2023 Edition dated 1<sup>st</sup> February 2023**
  - **Electronic vote on the main proposals done mid January 2023**
  - **4 proposals for F9A (Drone Soccer) class**
    - Battery pack up to 4S in F9A-B subclass (B.1.2)
    - Drone ball passing entirely through the goal ring to score the goal (B.8.4)
    - Penalty shot: Possibility to stage the penalty shots at the end of the set (B.0.1)
    - Yellow card: Ejection of the player for the rest of the set (B.9.3)
    - Red card: Ejection of the player for the rest of the match (B.9.4)



## FAI Sporting Code Volume F9 Drone Sport (2/2)

- **2023 Edition dated 1<sup>st</sup> February 2023 (end)**
  - **7 proposals for F9U (RC Multi-rotor Drone Racing) class**
    - Possibility to combine analog and digital video devices in the event & mention of the specifications to respect for a digital device (C.1.5)
    - Number of models: Change of the model before the race no more possible after leaving the preparation area (C.3)
    - Race no more stopped in case of an early start + Pilot(s) starting early disqualified from the race (C.6.2)
    - Simplification of the optional way to proceed for the final stage with successive final races: Final over as soon as a finalist won two final races (C.6.5)
    - Possibility of individual reflights limited to the qualification stage (C.8)
    - Officials required to run the event: Race director introduced in addition to the event director (C.9.2)
    - Removal of the obligation of a judge assigned to each pilot (C.9.3)
- **No proposals submitted by NACs for the Agenda of the CIAM Plenary Meeting**

# ● CIAM General Rules 11<sup>th</sup> March 2023 Zoom Technical Meeting

## ■ B.1.2.7 Category F9 - Drone Sport

*CIAM Bureau*

This category includes the following classes (provisional classes):

F9A - ~~RC~~ Drone Soccer

F9U - ~~RC Multi-rotor~~ Drone Racing

**Reason:** F3U RC Multi-rotor FPV Racing introduced 1<sup>st</sup> January 2016 as a new class in the category F3 Radio Controlled Flight.

New category F9 Drone Sport introduced 1<sup>st</sup> January 2019. So, F3U became F9U and had been renamed 'RC Multi-rotor Drone Racing'.

F9A Drone Soccer introduced 1<sup>st</sup> May 2019 in the Volume F9. By mistake, the F9A had been taken into account in the edition 2020 of the Volume CIAM General Rules as 'RC Drone Soccer' instead 'Drone Soccer'. This must be corrected.

In addition, it is proposed to only consider 'Drone Racing' to name the F9U class. Mention of 'RC Multi-rotor' is no more necessary.

***Unanimously recommended to the CIAM Plenary Meeting***



**FAI Sporting  
Code  
CIAM General  
Rules  
(1/2)**

# ● CIAM General Rules 11<sup>th</sup> March 2023 Zoom Technical Meeting (continue)



## FAI Sporting Code CIAM General Rules (2/2)

### ■ C.15.1 CIAM championship naming policy

*CIAM Bureau*

Remove from the table the line 'F9U World (European) Championship for RC Multi-rotor Drone Racing'

**Reason:** Introduction on the table in CIAM General Rules Volume Edition 2019 does not result from a from rule change proposal.

A.9 'Only official classes may be considered for a World Championship status'..

F9U being still a provisional class cannot be considered for the World Championship status.

So, the CIAM championship naming policy must not apply to that class.

This does not prevent to recognise the WDRC as a CAT1 event.

***Unanimously recommended to the CIAM Plenary Meeting***



## **F9U change from provisional to official 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.’



## **F9U change from provisional to official 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.’

⇒ ***Recommendation expected from the Technical Meeting regarding change of F9U from provisional to official class***



## The World Games (TWG) (1/2)

- **TWG 2022 (11<sup>th</sup> edition)**

- 7<sup>th</sup> July (Opening Ceremony) to 17<sup>th</sup> July (Closing Ceremony) in Birmingham, Alabama, USA
- Led by the International World Games Association (IWGA) and recognized by the International Olympic Committee (IOC)
- 3600 athletes for 36 sports & 100 countries participating

- **TWG 2022 Drone Racing event**

- **Dates & location:** 9<sup>th</sup> to 10<sup>th</sup> July in Protective Stadium
- **Organised by** David ROBERTS and his team on behalf Birmingham Organization Committee (BOC)
- **Competition format:**
  - Limited participation (32 athletes qualified)
  - Scenario B with double elimination sequence applied



## The World Games (TWG) (2/2)

### ● Drone Racing competition (*continued*)

#### ■ Participation

- Men: 22 competitors (including 3 juniors) from 18 countries
- Women: 10 competitors (including 2 juniors) from 10 countries
- Countries represented: 20

#### ■ Results

1- Killian ROUSSEAU (FRA) - Junior

2- Pawel LASZCZAK (POL)

3- Alejandro ZAMORA CABAÑAS (ESP) - Junior

**Best woman:** Wanraya WANNAPONG (THA) - Junior

### ● TWG 2025 (*12<sup>th</sup> edition*)

- 7<sup>th</sup> to 17<sup>th</sup> August 2025 in Chengdu (CHN)
- Announcement of the disciplines expected beginning May at the 2023 IWGA General Meeting

## ● Drone Racing World Cup

- Challenger Series (*effective from 2017*)
- Masters Series (*introduced in 2019*)



## Drone Racing World Cup (1/3)

	2016	2017	2018	2019	2022
<b>Number of contests considered for the World Cup ranking</b>	9	16	22	24	8
<b>Number of organising countries</b>	7	12	17	19	8
<b>Number of registrations</b>	327	575	1004	913	239
<b>Average number of participants per contest</b>	36	36	46	38	30
<b>Number of competitors placed</b>	229	434	669	566	171
<b>Number of concerned countries</b>	17	37	41	46	22
<b>Number of juniors (under 18 years)</b>	18	76	133	149	52
<b>Ratio of juniors</b>	8%	18%	20%	26%	30%
<b>Number of concerned countries</b>	4	18	23	28	11
<b>Number of women</b>		6	13	15	5
<b>Number of concerned countries</b>		6	9	11	4
<b>Number of participants placed in:</b>					
<b>9 contests</b>				1	
<b>8 contests</b>				1	
<b>7 contests</b>			1	4	
<b>6 contests</b>	1		9	5	
<b>5 contests</b>		7	10	9	1
<b>4 contests</b>	2	7	12	15	7
<b>3 contests</b>	11	11	34	50	13
<b>2 contests</b>	66	113	144	103	17
<b>1 contest</b>	149	296	459	378	133
	<b>229</b>	<b>434</b>	<b>669</b>	<b>566</b>	<b>171</b>

- Significant decrease noted in 2022 of the numbers of World Cup events and competitors participating

⇒ **Real challenge to recover the 2019 level of activity**

# ● 2022 Drone Racing World Cup



## Podium

- 1- MinJae KIM (KOR) - Junior - 114 points
- 2- Minseo LEE (KOR) - Junior - 91 points
- 3- Dimo SHTEREV (BUL) - 88 points



## Drone Racing World Cup (1/3)

- 6 competitors (including 5 juniors) from Korea in the top 10 10
  - ⇒ **First time that the winner of the World cup is not from Europe & confirmation of very high level of Korea in Drone Racing**
- 52 juniors placed in the World Cup ranking which represents 30% of the total number of competitors
  - 6 juniors placed in the top 10 - 5 World Cup events won by a junior
    - ⇒ **Confirmation of the juniors ability to be rapidly very competitive in that class**

## ● 2023 Drone Racing World Cup events

### ■ Challenger Series

- 8 Challenger Series events from 7 countries actually registered on the FAI Calendar + Event for Bulgaria in process of being registered
- Proposals for other Challenger Series events still on progress

FAI Korea Drone Race World Cup	Incheon City	Korea	May 18 to 20
"Trofeo del Centenario" AERONAUTIC	Pratica di Mare (Roma)	Italy	June 17 & 18
Aichtal F9U	Aichtal	Germany	June 24 & 25
French Drone Racing World Cup	Charnay Les Mâcon	France	July 1 & 2
DX Racing	Bela Crkva	Serbia	July 8 & 9, 2023
FAI Namwon Drone Race World Cup	Namwon	Korea	August 11 to 13
Drone Racing World Cup Hungary	Zalaegerszeg	Hungary	September 22 to 24
Phoenix Drone Racing	Prilep	North Macedonia	October 7 & 8

### ■ Masters Series

- FAI had been very recently approached by an organiser for a Drone Racing event with limited participation to be held in Hong-Kong second part of November 2023
- More information expected beginning of May



**Drone Racing  
World Cup  
(2/2)**



## ● Bidding process

- Invitation to bid document distributed to all NACs on 7<sup>th</sup> July 2022 with a deadline to submit fixed on 15<sup>th</sup> October
- Decision to award the WDRC to South Korea taken by the CIAM Bureau on 1<sup>st</sup> November 2022 and announced during the 2022 FAI General Conference

## ● Location and dates

- Namwon, Jeolla Province, South Korea
- Friday 6<sup>th</sup> October (Opening ceremony) to Monday 9<sup>th</sup> October (Closing Ceremony)

- **Organiser:** Korea Aero Models Association (KAMA) in coordination with the Federation of Korea Aeronautics (KFA) and the city of Namwon

- **Bulletin 1:** Distributed and published on 4th February 2023 with the 2023 WDRC Sporting Rules document

**WDRC website:** <https://www.fai.org/wdrc2023>

**2023 World  
Drone  
Racing  
Championship  
(WDRC)  
(1/3)**



## ● Participants

### ■ National teams consisting of

- Maximum of 5 competitors providing that at least one competitor is Female and at least one is Junior
- A team manager
- Helpers (one maximum permitted for each competitor) and supporters

### ■ Other individual competitors qualified

- 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> in the 2022 World Games (TWG) in Birmingham, Alabama, USA
- 16 best placed competitors in the Drone Racing World Cup ranking based on the contests hold during the 12 months period from 1<sup>st</sup> August 2022 up to 31 July 2023
- 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> in every Drone Racing World Cup contest held during that 12 months period and in which at least 40 competitors had flown

- **Preliminary Entry Form** (*Intent to enter a team with estimated number of participants*): **15<sup>th</sup> June 2023 deadline**

## 2023 World Drone Racing Championship (WDRC) (2/3)



## ● Officials

### ■ FAI Jury

- Bruno DELOR (FRA) - President
- Antonis PAPADOPOULOS (GRE)
- Mikyung YOO (KOR)

### ■ Supervisor Judge: Sotir LAZARKOV (BUL)

### ■ Pilots' Judges *(including 1 reserve present on the venue)*

- Angelika MÖBIUS (GER)
- Eric LI-KOO (GBR)
- Oscar CHINELLO (ITA)
- Pascal BERLU (FRA)
- Samson KIM (KOR)

## ● Sub events

- Online Drone Racing E-competition
- FAI Drone Soccer Open International Cup & Korea Drone Soccer Competition
- Drone Sports and Advanced Air Mobility Show Conference and Exposition

**2023 World  
Drone  
Racing  
Championship  
(WDRC)  
(3/3)**



The set of slides updated as necessary, Minutes and list of participants will be uploaded before Friday 31<sup>th</sup> March on the CIAM Plenary Meeting 2023 webpage

<https://www.fai.org/page/ciam-plenary-2023>



**FAI Drone Sport mini site**  
Click here: [www.FAI Drone Sport](http://www.FAI Drone Sport)

***4 sections***

*Drone Racing World Championship*

*Drone Racing World Cup*

*Drone Soccer*

*Pictures & Videos*