

F9 DRONE SPORT ZOOM TECHNICAL MEETING

Saturday 9th April 2022



- **Previous F9 Technical Meeting:** Saturday 10th April 2021
- **According the CIAM General Rule A.5.2:**
 - Technical Meeting held by the Subcommittee Chairman prior to the CIAM Plenary Meeting
 - Eligible to attend: Subcommittee members, voting 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
- **Publication of the Technical Meeting Minutes:** no later than Friday 22th April 2022



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>)
- **34 countries represented in 2022**
 - Europe (21): AUT - BEL - BUL - ESP - FIN - FRA - GBR - GER - GRE - HUN - ITA - LAT - LTU - LUX - MKD - NOR - POL - POR - SLO - SUI - SWE
 - Asia & Oceania (8): AUS - HKG - INA - JPN - KOR - NZL - THA – TPE
 - America (3): BRA - CAN - USA
 - Africa (2): ISR - RSA
- **Use of Basecamp for the Subcommittee exchanges**



Major Drone Racing events

● Drone Racing World Cup

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

⇒ *No World Cup ranking in 2020 & 2021 due to Covid*

● World Drone Racing Championship (WDRC)

- Initially, awarded to China in October 2017 for 3 years
- 1st edition hold 1 to 4 November 2018 in Shenzhen
- 2nd edition hold 10 to 14 December 2019 in Ningbo

⇒ *No WDRC Grand Final in 2020 & 2021 due to Covid*

● The World Games (TWG) 2022 in Birmingham, Alabama (USA)

- TWG is led by the International World Games Association (IWGA) and recognized by the International Olympic Committee (IOC)
- TWG 2021 had been postponed to July 2022 when the 2020 Olympic Games in Tokyo had been postponed to 2021 due to Covid
- 3600 athletes - 36 sports & 58 disciplines
- FAI concerned by 2 air sports (Drone Racing & Canopy Piloting)



● Consequence of the competition break generated in 2020 and 2021 by the Covid situation

- The number of World Cup events actually published on the FAI Calendar is half the number of events in 2018 and in 2019
- In addition, a decrease of the number of competitors participating in World Cup events may be unfortunately expected as a

⇒ *Real challenge to recover the sporting activity level*

Drone Racing World Cup

	2016	2017	2018	2019	2022
Number of contests	9	16	22	24	12
Number of organising countries	7	12	17	19	9
Number of registrations	327	575	1004	913	
Average number of participants per contest	36	36	46	38	
Number of competitors placed	229	434	669	566	
Number of concerned countries	17	37	41	46	
Number of juniors (under 18 years)	18	76	133	149	
Ratio of juniors	8%	18%	20%	26%	
Number of concerned countries	4	18	23	28	
Number of women		6	13	15	
Number of concerned countries		6	9	11	





World Drone Racing Championship (WDRC)

● 2021 WDRC Grand Final

- Evaluation done by ASFC of different locations Shanghai, Taiyuan (Shanxi Province) and Wuxi (Jiangsu Province)
- Finally, the 2021 WDRC Grand Final had been cancelled considering the uncertainties in the prevention and control policies even if China was considering to be able to hold it applying “Group Quarantine” for the event (*announcement done at the 10th April 2021 CIAM F9 Technical Meeting*)

● 2022 WDRC Grand Final

- Beginning October 2021, ASFC informed FAI about the possibility to hold mid October the 2022 WDRC in Tuiyuan (Shanxi Province)
- It looks actually difficult for ASFC to organize a satisfactory event under the current circumstances

Note: this also concerns the 2022 FAI General Conference in Wuhan

- **2023 WDRC Grand Final:** Call for proposals to be launched just after the 7th May 2022 CIAM Plenary Meeting



World Games 2022 (1/3)

- **Dates:** July 7 (Opening Ceremony) to July 17 (Closing Ceremony)
- **Drone Racing competition :** July 9 and 10 in Protective Stadium (instead Barber Motorsports Park initially allocated)
- **FAI responsibilities**
 - **Sporting rules:** TWG 2022 Drone Racing sporting rules Edition 1st January 2022 (*published on March 5*)
 - **Selection process** Drone Racing selection rules distributed on 17th July 2021
 - **Nomination of the FAI Officials** (8 persons): International FAI Jury and Judges
 - Supervisor judge: Sotir LAZARKOV (BUL)
 - Pilot judges: Oscar CHINELLO (ITA) - Jose-Manuel MARTINEZ-IBANEZ (ESP) - Angelika MÖBIUS (GER) - Frédéric THEUREL (FRA)
- **Responsibility of the organization of the event:** Birmingham Organization Committee (BOC) with the support of the Drone Soccer US chaired by David ROBERTS

⇒ **FAI web TWG 2022 minisite:** <https://www.fai.org/worldgames2022>



World Games 2022 (2/3)

- **Number of athletes: 32** (20 men & 12 women prescribed by IWGA)
- **Competition format:** Scenario B with double elimination sequence applied including for the final stage
- **Men and women reference ranking lists**
 - Based on the results of the 2019 WDRC Grand Final and World Cup contests held in 2019 and 2021
 - For each competitor, the sum of his (her) three best event results (numbers of points) is considered taking into account one World Cup contest per organising country
- **Athletes' selection**
 - Men selection list with the 60 best placed competitors on the reference ranking list
 - Qualification of the best placed competitors with one athlete in each gender for each country concerned
 - One man and one woman wild cards allocated to USA as host country
 - Due to a higher number of withdrawals than expected, a second man competitor had been finally qualified for some countries considering the selection list

Note: Due to Ukraine invasion, IWGA decided to ban BLR and RUS from participating



World Games 2022 (3/3)

● Drone Racing competitors qualified (in date of 8th April 2022)

- **Women:** 10 competitors (from 10 countries) qualified due to the RUS competitor banned and withdrawal of the AUS and GER competitors

Note: The 2 slots for women not used had been allocated to men

- **Men:** 22 competitors (from 19 countries) qualified

Note: KOR , POL and FRA concerned by a second competitor qualified

- **23 countries participating**

				PLACE IN THE RANKING LIST	TOTAL OF POINTS	Number of	
						Done	Taken in account
1	ROUSSEAU Killian	Jun	FRA	1	172	4	3
2	PETERSONS Tomass		LAT	2	170	6	3
3	PARK SungJu		KOR	3	164	8	3
4	LASZCZAK Pawel		POL	4	148	6	3
5	KANG ChangHyeon		KOR	5	130	4	2
6	KONG Haisen		CHN	11	110	3	2
7	RASTAS Aleks		FIN	11	110	4	3
8	VOLSKIS Arminas		LTU	11	110	4	3
9	PELLICHERO Maximilien		BEL	14	109	6	3
10	SPACEK David		CZE	15	108	5	3
11	LASZCZAK Bartlomiej		POL	15	108	10	3
12	GIORDANA Julien		FRA	20	101	6	3
13	BARELLA Matteo		ITA	29	90	8	3
14	MODIG David		SWE	32	87	2	2
15	RONTO Roland		HUN	33	85	4	3
16	GRACE Dane Adam		DEN	37	80	2	2
17	NOLTE Nick		GER	39	79	3	2
18	BITMATT Thomas		AUS	40	78	1	1
19	KAMIZEKI Fuga	Jun	JPN	40	78	2	2
20	ZAMORA CABAÑAS	Jun	ESP	56	67	2	2
21	NIKOV Bojan		MKD	57	66	7	3
22	TURNER Evan		USA	Wild card			

				PLACE IN THE RANKING LIST	TOTAL OF POINTS	Number of	
						Done	Taken in account
1	WANNAPONG Wanraya	Jun	THA	1	87	4	3
2	RIZZO Luisa		ITA	2	54	2	2
3	CHAO Ting Yu		TPE	4	25	2	2
4	SAITO Mika		JPN	5	21	1	1
5	LIANG AoLin	Jun	CHN	7	18	1	1
6	MO Gageon		KOR	10	10	3	1
7	MIKLEWSKA Alina		POL	11	9	1	1
8	LIMORA Karina		LAT	14	2	2	2
9	KA-KI Lai		HKG	16	1	1	1
10	LESSARD Ryan		USA	Wild card			



FAI Sporting Code Volume F9 Drone Sport

- **Volume F9 Drone Sport**

- Drone Racing World Cup rules
- F9A (Drone Soccer) rules
- F9U (RV Multi-rotor Drone Racing) rules

- **Content of the Volume** 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*

- **Last release is dated 1st March 2022** (*previous one was 1st January 2021*)

- Drone Racing World Cup rules change : sum of the best 3 (instead 4) event results (number of points) taken into account for the World Cup competitors' score
- **Justification**
 - Improve the interest of the World Cup considering the decrease of the number of events registered
 - Offer a better chance for the competitors outside Europe to be well placed



Evaluation of the F9 rule change proposal (1/2)

- **Proposals published on the Agenda of the 2022 Plenary Meeting Agenda**
 - Evaluation must be done by the concerned Technical Meeting with a recommendation for the CIAM Delegates
 - Vote on all Sporting Code proposals scheduled May 1 to 3
- **Proposal from Germany on Drone Soccer Subclass F9A-B**

B.1.1. Weight and size

b) Subclass F9A-B

The total weight of the drone ball including all equipment necessary for flight (including outer frame and batteries) shall not exceed ~~300 g~~ 400 g.

The diameter of the frame must be ~~20 cm ± 2 cm~~ **22 cm ± 2 cm**.

Reason: Drone balls in the previous dimensions are very difficult to make yourself. Since last year there have been very inexpensive balls that can be used excellently for this class and that can be bought worldwide. Unfortunately, these balls have a diameter of 230mm and a take-off weight of approx. 350g. The use of these balls represents an opportunity to promote class F9A in youth work



Evaluation of the F9 rule change proposal (2/2)

● History of the FAI Drone Soccer class (F9A)

- 1st May 2019: Introduction of F9A as a provisional class
- 1st January 2020: Introduction of two subclasses: F9A-A (400 mm diameter) and F9A-B (200 mm diameter)
- 1st January 2021: based on a German request, weight of the drone ball in subclass F9A-B increased to 300 g (instead 200 g initially)

● Drone Soccer context: introduced as a FAI class considering it was an attractive and promising drone team sport

- Based on a match (3 sets of 3 minutes) between 2 teams (3 to 5 players per team) with each player piloting a drone soccer
- Easy for the public to understand and to follow
- Well adapted for practice in a gymnasium

● F9A-B Subclass: interesting for educational purpose



Other items

● Drone Racing class (F9U)

- **C.1.5 Video system:** Implementation of possibility to use digital HD FPV system
- **C.9.3 Judges:** Introduction of flexibility giving for example possibility to use a centralized video recording with the 4 pilots' video on a unique large screen avoiding necessity of one judge dedicated to each pilot as actually specified in the rules

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⇒ *Basecamp S/C discussion hold on October 2021 had not been conclusive
Necessary to continue the discussion in order to be in situation to do S/C proposals
of rules' changes before 15 November 2022*

● E-sport in Drone Racing

- Launching of an International Series of Drone Racing e-competitions
- 3 components necessary
 - Simulator
 - Competition Management System
 - Digital platform

⇒ *Opportunity to make Drone Racing a global hybrid sport by combining real sport and e-sport*