



CIVL 2025 PLENARY – ANNEXE 39 ZB
PROPOSAL POLAND: WPRS FORMULA MODIFICATION



HG & PG Commission

ul. Wybrzeże Gdynskie 4, 01-531 Warszawa

tel.: (+48 22) 556 73 00

e-mail: info@kadra-paralotniowa.pl

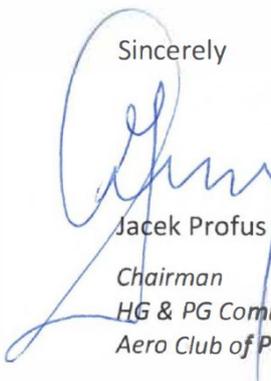
Dear all,

The HG & PG Commission of the Aero Club of Poland submit s a proposal of changes to the WPRS formula. Basically is focuses on the concept that pilots shall not be "penalized" by the fact the other pilots passed them by and only "awarded" for passing over other competitors.

Our colleague, Kuba Sto, has analyzed the statistics and proposes some small changes in the WPRS formula.

In the attachment to this recommendation please find Kuba's explanations and proposal for changes.

Sincerely



Jacek Profus
Chairman
HG & PG Commission
Aero Club of Poland

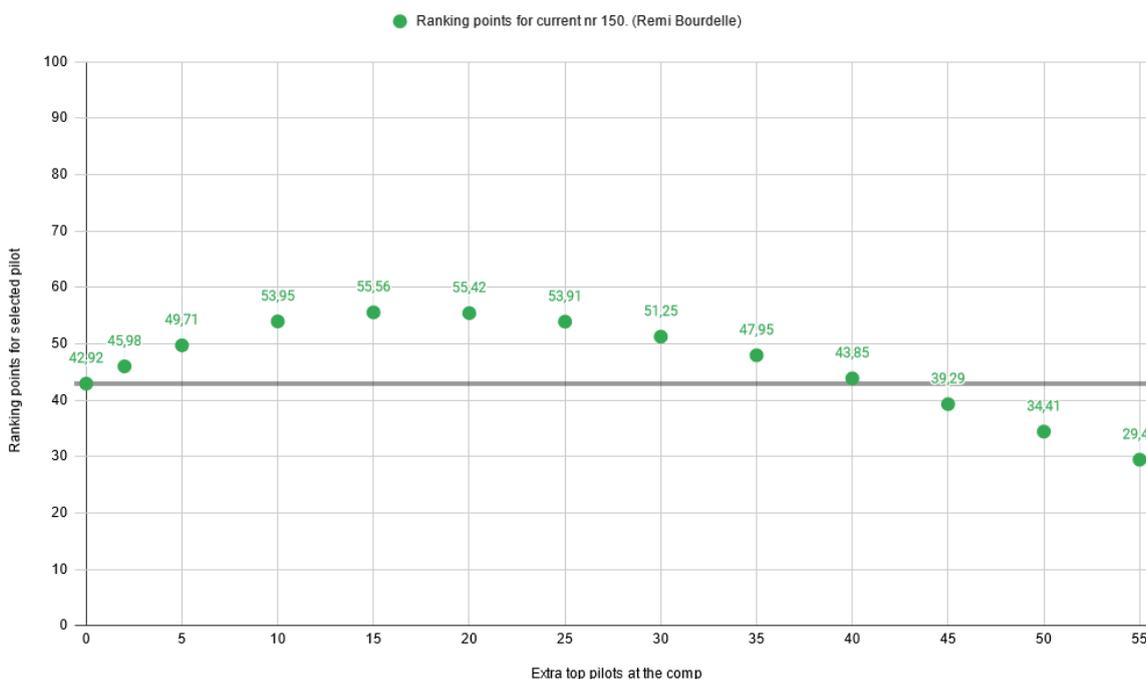
Proposal for changes to the WPRS formula

Background

WPRS is a well-established and widely accepted formula, so the proposed changes are not revolutionary but aim to address a specific issue. The problem with the current WPRS formula is **top-ranked pilots inflate points you can get from a comp no matter your result.**

The lower the quality of the comp (Pq), the stronger the effect. Top comps are not affected much, but for example at *Norwegian, Latvian & Lithuanian Open 2024* (a mid-level event), a pilot at the winner's level would get 11 more points if the world's top 10 pilots participated and placed ahead of everybody. A pilot ranked around 500th would gain about 8 extra points for losing with extra 10 world top pilots.

Ranking points from selected comp for selected pilot while adding extra top pilots who beat everybody



The proposed change is to **calculate a pilot's points based only on the competitors they outperform, rather than all participants in the competition.**

New formula was tested on the historic results to simulate cumulative effect on the ranking after a couple of years.

Tests results

Ranking was recalculated ~3 years back, to test how WPRS would differ on 1 September 2024 if the proposed formula was in use from January 2022.

[Watch recalculated ranking points](#) for every competition in the last 3 years:

[2022]PG French Open 2022 PQ: 0.822

Position	Pilot Name	Old Points	New Points	Difference
1	Luc Armant	98.6	107.562	+8.962
2	Honorin Hamard	97.22	104.449	+7.229
3	Charles Cazaux	95.839	101.785	+5.946
4	Maxime Pinot	94.459	99.392	+4.933
5	Simon Mettetal	93.078	96.976	+3.898
6	Julien Wirtz	91.797	94.331	+2.534
7	Alexandre Jofresa	90.416	92.955	+2.539
8	Andy Tallia	89.036	91.414	+2.378
9	Seiko Fukuoka Naville	87.754	89.548	+1.794
10	Martin Pelz	86.472	87.403	+0.931
11	Christian Biasi	85.092	85.779	+0.687
12	Nanda Walliser	83.81	84.669	+0.859
13	Pierre Remy	82.528	82.233	-0.295
14	Hanoux Pierre	81.246	80.959	-0.287
15	Joachim Oberhauser	79.965	78.761	-1.204
16	Jose Rebelo	78.683	76.913	-1.77
17	Clement Latour	77.5	75.46	-2.04
18	Jonathan Marin	76.218	73.207	-3.011
19	Damien Lacaze	74.936	72.044	-2.892
20	Stephane Drouin	73.753	70.481	-3.272
21	Nicolas Rovira	72.57	69.344	-3.226
22	Constance Mettetal	71.288	68.066	-3.222
23	Pawel Bedyński	70.105	67.102	-3.003
24	Federico Nevastro	68.921	65.626	-3.295
25	Emmanuel Nicolas	67.738	64.531	-3.207
26	Lois Goutagny	66.555	62.557	-3.998
27	Iustin Duthard	65.47	61.5	-3.97

[Watch recalculated WPRS ranking](#) for the last 3 years:

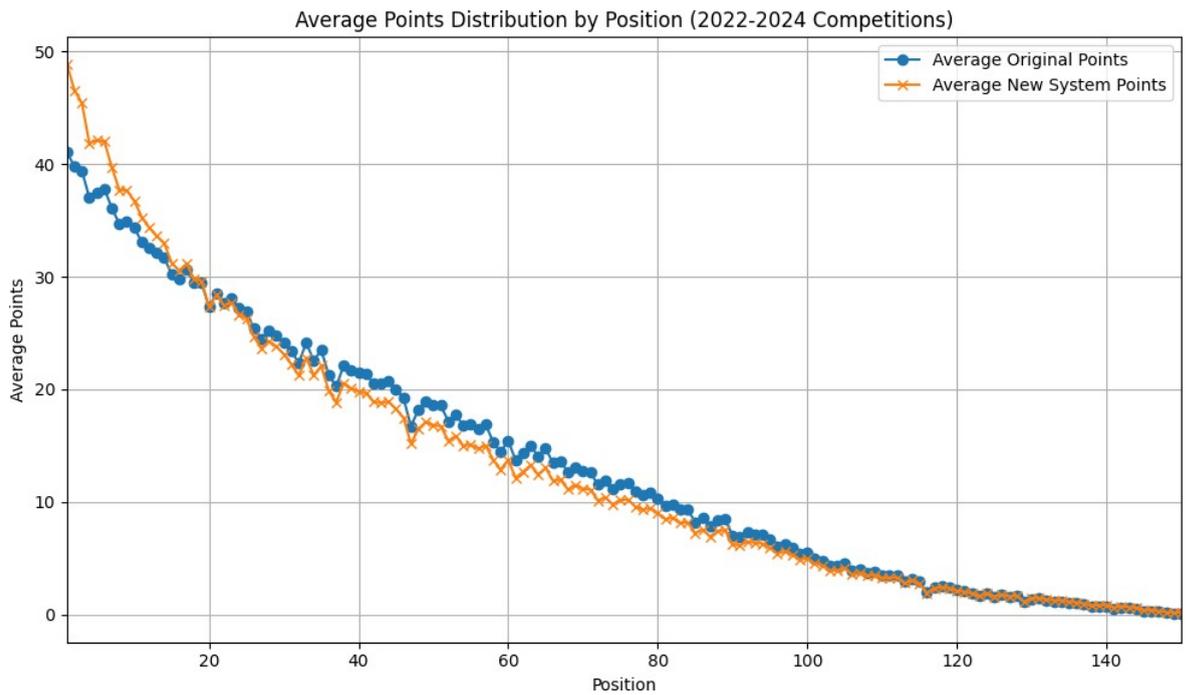
WPRS recalculated 3 years back (top 1000 positions shown)

2024 09

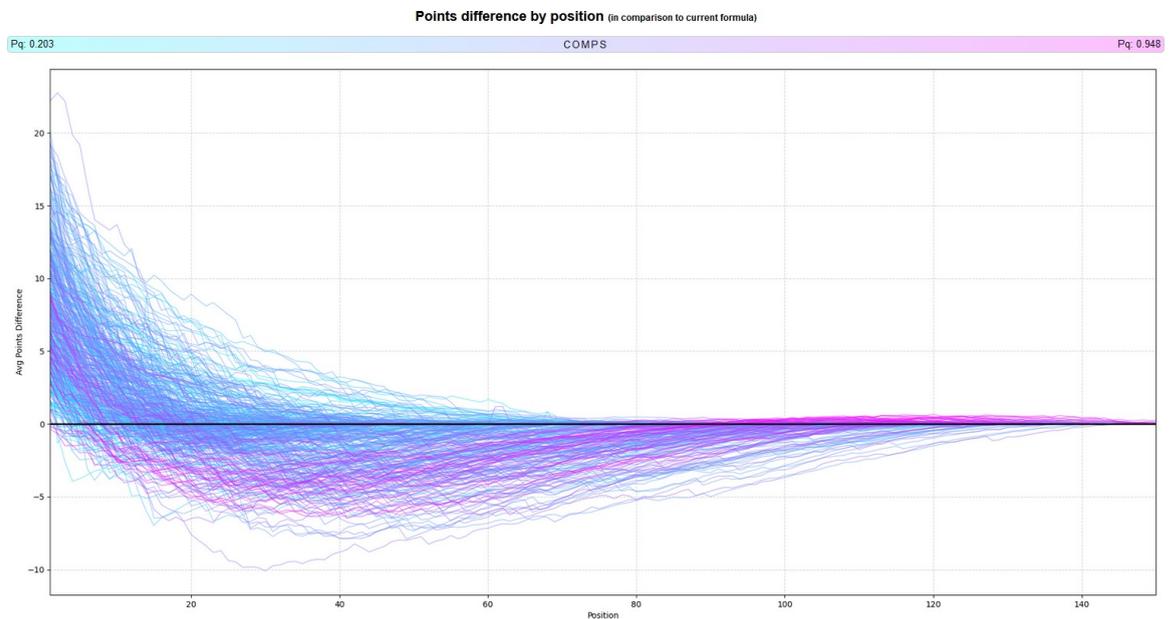
Current Formula			Proposed Formula		
Rank	Pilot / Points	Position / Ranking-Points / Competition	Rank / Diff	Pilot / Points	Position / Ranking-Points / Competition
1	Honorin Hamard 421.1	1 - 112.3 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 1 - 107.2 - Paragliding World Cup ... Yelmo Spain 2024 5 - 104.5 - 17th FAI European Paragliding Championships 5 - 97.1 - Paragliding World Cup ... Gourdon, France	1	Honorin Hamard 425.7	1 - 112.6 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 5 - 107 - 17th FAI European Paragliding Championships 1 - 107 - Paragliding World Cup ... Yelmo Spain 2024 2 - 99 - GERMAN OPEN 2024
2	Julien Wirtz 406.1	4 - 107.2 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 1 - 104.5 - Paragliding World Cup ... Gourdon, France 1 - 102.5 - Paragliding World Cup ... Grindelwald - Interlaken 2024 4 - 91.9 - Paragliding World Cup France 2023 ... Targasonne	2	Julien Wirtz 413.6	1 - 109.2 - Paragliding World Cup ... Gourdon, France 1 - 107.2 - Paragliding World Cup ... Grindelwald - Interlaken 2024 4 - 105.7 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 4 - 92.5 - Paragliding World Cup France 2023 ... Targasonne
3	Baptiste Lambert 401.2	2 - 110.6 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 2 - 102.6 - Paragliding World Cup ... Gourdon, France 3 - 94.4 - GERMAN OPEN 2024 7 - 93.6 - Paragliding World Cup ... Grindelwald - Interlaken 2024	3	Baptiste Lambert 406.1	2 - 109.9 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 2 - 105 - Paragliding World Cup ... Gourdon, France 3 - 96.4 - GERMAN OPEN 2024 7 - 94.8 - Paragliding World Cup ... Grindelwald - Interlaken 2024
4	Juan Sebastian Ospina Restrepo 395.7	2 - 109.2 - 17th FAI European Paragliding Championships 2 - 101 - Paragliding World Cup ... Grindelwald - Interlaken 2024 4 - 89.9 - Paragliding World Cup ... Gourdon, France 17 - 86.6 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu...	4	Maxime Pinot 402.8	1 - 116 - 17th FAI European Paragliding Championships 1 - 100.4 - Paragliding World Cup France 2023 ... Targasonne 1 - 94.3 - Flory Cup 2024 8 - 92.1 - Paragliding World Cup ... Grindelwald - Interlaken 2024
5	Maxime Pinot 388.7	1 - 110.7 - 17th FAI European Paragliding Championships 1 - 96.4 - Paragliding World Cup France 2023 ... Targasonne 9 - 92.1 - Paragliding World Cup ... Grindelwald - Interlaken 2024 1 - 89.5 - Flory Cup 2024	5	Juan Sebastian Ospina Restrepo 401.5	2 - 113.5 - 17th FAI European Paragliding Championships 2 - 104.7 - Paragliding World Cup ... Grindelwald - Interlaken 2024 4 - 96.6 - Paragliding World Cup ... Gourdon, France 17 - 83.7 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu...
6	Michal Gierlach 379.8	7 - 102.3 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 7 - 89.3 - GERMAN OPEN 2024 3 - 86.8 - 5TH BRITISH WINTER OPEN	6	Michal Gierlach 385.5	7 - 102.7 - 17th FAI European Paragliding Championships 7 - 100.3 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 3 - 83.8 - 5TH BRITISH WINTER OPEN 7 - 86.5 - GERMAN OPEN 2024
7	Daniel Tyrkas 372.1	5 - 96.6 - Paragliding World Cup ... Grindelwald - Interlaken 2024 8 - 95.2 - Paragliding World Cup ... Yelmo Spain 2024 6 - 95.2 - Paragliding World Cup ... Gourdon, France 18 - 85.1 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu...	7	Ferdinand Vogel 371.4	1 - 102 - GERMAN OPEN 2024 8 - 100.5 - 17th FAI European Paragliding Championships 2 - 86.2 - German Open 2023 2 - 82.6 - PARAGLIDING WORLD CUP TURKEY 2023 ... AKSARAY
8	Darko Stankovski 366.4	10 - 97 - 17th FAI European Paragliding Championships 7 - 93.4 - Paragliding World Cup ... Gourdon, France 5 - 90.3 - Paragliding World Cup France 2023 ... Targasonne 10 - 85.7 - GERMAN OPEN 2024	8	Daniel Tyrkas 370.9	5 - 99.1 - Paragliding World Cup ... Grindelwald - Interlaken 2024 8 - 93.5 - Paragliding World Cup ... Yelmo Spain 2024 6 - 93.3 - Paragliding World Cup ... Gourdon, France 2 - 85 - CZECH, SLOVAKIA AND SLOVENIA OPEN 2024
9	Joachim Oberhauser 366.3	3 - 108.9 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 5 - 91.9 - GERMAN OPEN 2024 10 - 86.1 - Paragliding World Cup ... Gourdon, France 14 - 77.4 - Paragliding World Cup France 2023 ... Targasonne	9	Joachim Oberhauser 362.9	3 - 107.9 - 13th Paragliding World Cup Superfinal Brazil 2024 ... Baixo Gu... 5 - 93 - GERMAN OPEN 2024 10 - 84.6 - Paragliding World Cup ... Gourdon, France 1 - 77.4 - 3rd Cuernisier International Trophy 2024
10	Ferdinand Vogel 361.8	8 - 100 - 17th FAI European Paragliding Championships 1 - 96.9 - GERMAN OPEN 2024	10	Darko Stankovski 361.1	10 - 96.3 - 17th FAI European Paragliding Championships 7 - 88.7 - Paragliding World Cup ... Gourdon, France

Tests reveal the following effects of the new formula:

1. The points distribution is steeper, with winners gaining more.



2. Pilots in the further places receive fewer points, as they no longer benefit from the higher-ranked pilots ahead of them.
3. Winning at lower quality comps becomes more rewarding
4. Finishing in the middle, especially at high-quality events becomes less rewarding.



5. Top 10 in the world is not affected much by the formula change.
6. Total ranking points pool remains almost the same each year.

New constant

Pq_{min} (set to 0.20) to prevent pilots with no ranking from disturbing the results and also to keep the total points pool per year similar to the current value (tested).

Ex-aequo positions issue fix

Ex-aequo positions can occasionally result in pilots receiving slightly fewer points than those ranked below them on the results list. Therefore, an exception is needed to reward consecutive tied pilots with the same points. This should be solved by an exception rule in a scoring software.

Proposal

New wording of Section 7E of the FAI Sporting Code, points 1, 2.1, 2.2, 2.3:

1. Explanation of the WPRS formula factors:

- **Pilot Performance (Pp):**
Represents the pilot's performance based on their placement in the competition.
- **Individual Participant Quality (Pq_pilot):**
Measures the quality of the pilots that the pilot has beaten in the competition, calculated using the sum of ranking points of top N beaten pilots.
- **Minimum Participant Quality (Pq_min):**
Arbitrary constant
- **Number of participants compared to other competitions in same ranking (Pn):**
Measures the value of a competition based on attendance
 - The success of the competition (Ta):
Measures the value of a competition based on number of tasks
- **Time devaluation (Td):**
The value of the competition should decrease over time, otherwise we would have an "all time best" ranking instead of a current ranking.

2. The actual WPRS formula:

The final ranking points (WPR) for a pilot are calculated using the following formula:

$$WPR = Pp \times Pq_{pilot} \times Pn \times Ta \times Td \times 100$$

The result is rounded to one decimal place.

The participant's place in a given ranking (at a ranking date) is decided by the sum of the top 4 results in the last 3 years.

2.1. Pilot Performance Factor (Pp)

Represents the pilot's performance based on their placement in the competition.

$$P_p = \max \left(P_{\text{placing}}^{(1+P_{q_pilot})}, P_{\text{placing}}^2 \right)$$

- **Pplacing:** Normalized placement of the pilot in the competition.

$$P_{\text{placing}} = \frac{\text{Last Place} - \text{Pilot's Position} + 1}{\text{Last Place}}$$

- **Pilot's Position:** The final position of the pilot in the competition.
- **Last Place:** The total number of participants

Purpose:

- Normalizes the pilot's placement to a value between 0 (last place) and 1 (firstplace).
- Ensures consistent comparisons across competitions of different sizes.

2.2. Individual Participant Quality Factor (P_{q_pilot})

Measures the quality of the pilots that the pilot has beaten in the competition, calculated using the sum of ranking points of top N beaten pilots.

$$P_{q_pilot} = \left(\frac{P_{q_srp_pilot}}{P_{q_srtp_pilot}} \times (1 - P_{q_min}) \right) + P_{q_min}$$

- **$P_{q_srp_pilot}$:** Sum of the ranking points of the top N beaten pilots.
- **$P_{q_srtp_pilot}$:** Sum of the ranking points of the top N pilots in the world.
- **P_{q_min} :** Minimum quality factor (set to 0.20).

Calculating $P_{q_srp_pilot}$ and $P_{q_srtp_pilot}$:

1. Identify Beaten Pilots:
 - Sort the pilots who placed below by ranking points in descending order.
2. Determine N:

$$N = \max \left(1, \left\lfloor \frac{\text{Number of Beaten Pilots}}{4} \right\rfloor \right)$$

- - Ensures focus on the top quarter of beaten pilots.
3. Obtain Ranking Points:
 - **For Beaten Pilots:** Collect the ranking points of the top N beaten pilots.
 - **For World Top Pilots:** Collect the ranking points of the top N pilots in the world rankings as of the competition date.

4. Calculate Sums:

- **Pq_srp_pilot:** Sum of the ranking points of the top N beaten pilots.
 - **Pq_srtp_pilot:** Sum of the ranking points of the top N world pilots.
-

2.3. Minimum Participant Quality Factor (Pq_min):

Constant set to 0.20 to prevent Pq_pilot from being too low.

No more changes from this point forward.
