

## Revision of the FIFA / Coca-Cola World Ranking

### Overview

The new model for calculating the FIFA/Coca-Cola World Ranking (FWR) was developed over two years during which time a large number of different algorithms was tested and extensively discussed.

Throughout this review and consultation process, the main aim was to identify an algorithm that is not only intuitive, easy to understand and improves overall accuracy of the formula, but also addresses feedback received about the previous model and provides fair and equal opportunities for all teams across all confederations to ascend the FWR.

### About the new formula

The Elo method of calculation adds/subtracts points (as opposed to averaging points) for individual matches to/from a team's existing point total. The points which are added or subtracted are partially determined by the relative strength of the two opponents, including the logical expectation that teams higher in the ranking should fare better against teams lower in the ranking.

Elo ratings have been used in other sports for decades. A modified version of the Elo rating is currently in use for the FIFA Women's World Ranking.

Termed by FIFA as "SUM", the new algorithm developed specifically for the new FWR was fine-tuned to reflect a number of FIFA's considerations, including the following:

- Adjusting the game weightings to give:
  - o less importance to friendly matches and more importance to final round competitions, such as the FIFA World Cup Finals
  - o more importance to knock-out stage matches than group stage matches in final competitions
- Excluding losses in knock-out rounds of final competitions from the calculation

The formula for the SUM algorithm is as follows:

$$P = P_{\text{before}} + I * (W - W_e)$$

**P<sub>before</sub>**: Points before the match

#### **I: importance of match**

- I= 05 Friendly matches played outside of International Match Calendar windows
- I= 10 Friendly matches played during International Match Calendar windows
- I= 15 Group phase matches of Nations League competitions
- I= 25 Play-off and final matches of Nations League competitions
- I= 25 Qualification matches for Confederations final competitions and for FIFA World Cup final competitions
- I= 35 Confederation final competition matches up until the QF stage
- I= 40 Confederation final competition matches from the QF stage onwards; all FIFA Confederations Cup matches
- I= 50 FIFA World Cup final competition matches up until QF stage
- I= 60 FIFA World Cup final competition matches from QF stage onwards



A two-step procedure guided the conversion:

- 1) The previous ranking table was converted into a new table without displacement in the order of the teams; i.e. each team retained its relative rank position. In instances where teams shared the identical rank (R), the teams which followed were given the next immediate rank possible.

Example: If there were two teams in position no. 11, they both got R = 11, and the following team got R = 12 (instead of R =13).

- 2) The points for seeding were calculated:

$$P_{\text{seeding}} = 1600 - (R - 1) * 4$$

Examples:

Pseeding for team with R= 1 is 1600

Pseeding for team with R = 3 is 1592

Pseeding for team with R = 100 is 1204

Pseeding for team with R = 200 is 804

### Benefits of the new formula

1. One of the main advantages of SUM is that it allowed for a smooth transition from the previous ranking formula to the new one. All teams started SUM in rank order of the old FWR. Once the conversion was done, the results of the 2018 FIFA World Cup Russia™ were then calculated.
2. Annual average point calculation – which was part of the previous world ranking formula – is not factored in the SUM equation. Consequently the issues which arose in conjunction with the previous calculation method will be mitigated, or disappear entirely, including the devaluation of points through time, daily point fluctuations, and the ability of teams to influence ranking position by avoiding friendly matches.
3. The Confederation weighting variables of the previous formula, which made rising in the standings more challenging for teams from Confederations other than Europe or South America, has been removed. Teams will now have an equal chance to improve in the standings irrespective of their regional affiliation.
4. New categories of matches and match weightings have been introduced to effectively distinguish the least from the most important types of matches. To begin, friendly matches are given a lower weighting relative to competitive matches. Further, friendlies are now also distinguished between those played during International Match Calendar windows (value = 10) versus those played outside the official calendar dates (value = 5).

Competitive matches in championship tournaments are now distinguished between group stage matches and late-stage knock-out matches in order to reward the most successful teams in the most difficult competitions. Furthermore, to mitigate the negative consequences of losing matches in championship tournaments, losses in the knock-out rounds of final competitions will not result in point deductions for the losing team.

5. The ranking of host nations who do not play competitive qualification matches in the period before championship competitions will not be as severely or negatively impacted with the SUM formula as with the previous one. Thanks to the sum-of-points calculation method, successful results in friendly matches will result in point gains more substantive than the existing formula currently allows.