

the KA Continental Performance Factors - Elo Ranking (Excerpt)

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§ 1 Introduction	3
1. Source & understanding	3
2. Ranking Periods	3
3. Tiers & Classes of global rankings	3
4. Competitions	4
5. Selected Basic Definitions of the KA System	7
§ 2 Club Points Calculation	8
1. Frame of club points	8
2. ELO Points	9
3. Points allocation rounds	10
4. Upgrade Points (Stage Bonus)	10
5. Structural-Matrix Points	11
6. Depreciation Rule	12
7. Initial Value	14
§ 3 Club Ranking Settings	14
1. Ranking order	14
2. IC3	14
3. IC2 Pts	15

4. Extended IC3 / IC2 Pts	16
5. Inter-continental matches	16
6. The Vise Rule	16

§ 4 Leagues Ranking 17

1. Basic points	17
2. Premium Points	17
3. Ranking order	18

§ 1 Introduction

1. Source & understanding

This document is an excerpt from **CPF Regulation**, which is part of set regulations of **the KA Football Big Data Analytics System** (the KA System).

Description deals with **Continental Performance Factors (CPF)** and **continental club & leagues rankings**.

Continental rankings are designed to assess the performance of football clubs on the basis of their results in international matches. Rankings are created separately for each continent (federation/confederation FIFA members) as a result of which it arises six components that next are together form a significant contribution to the KA Football Leagues Global Rating and the KA Football Club Global Rating.

2. Ranking Periods

Continental club & leagues rankings are determined every calendar quarter.

The KA Football Club Global Rating (hereinafter also referred to as 'club global ranking' or 'global ranking') is set every calendar quarter, in the form of quarterly rankings.

The KA Football Leagues Global Rating (hereinafter also referred to as 'leagues global ranking' or 'global ranking') is set twice a year, in the form of Start Season Ranking (usually in July) and Opening Year Ranking (usually in January).

The KA methodology let to provide rankings also in other periods.

3. Tiers & Classes of global rankings

The KA System for global evaluation of leagues and clubs is based on the scheme where there are 4 (four) Tiers. Each of the Tier is divided into Classes. The highest Tier has two Classes. The others have 3 Classes. Classes, with the exception of the Classes assigned to the lowest Tier, are marked with asterisks, from 6 to 0.5 asterisk (white asterisk). They are called "the Chamber" the basic range of the global ranking. The 9th and the 10th class are also called as "the Antechamber" (the 2nd range). The lowest classes (11th) are also called as „the Yard". Within the leagues global ranking, the last class is also divided into subclasses (grades).

Clubs					Leagues	
TIER	CLASS	No	Mark	Range	CLASS	TIER
HIGH				the Chamber		WORLD
	High Supreme	I	★★★★★		World Ultimate	
	Primary High	II	★★★★★		World Top	
MASTER						CONTINENTAL
	Grand Master	III	★★★★★		Upper Continental	
	Principal Master	IV	★★★		Prime Continental	
	Master Standard	V	★★		Lower Continental	
PRO ATHLETIC						INTER-ZONE
	Upper Athletic	VI	★★		Upper Inter-Zone	
	Advanced Athletic	VII	★		Middle Inter-Zone	
	Qualified Athletic	VIII	☆		Lower Inter-Zone	
REGULAR ATHLETIC						DOMESTIC
	the Bench Class	IX	<>	the AnteChamber	Intermediate	
	the Scarf Class	X	⌘		Secondary	
	the Pitch Class	XI	⬠	the Yard	Elementary:	
			λ		National Grade	
			β1		Union Grade	
			β2		Regional Grade	
			γ		Local Grade	

4. Competitions

CPF measure clubs performance in the **official competitive international club competitions** (mostly continental).

The „club competition” is understood to be a full and named contest with the participation of at least two clubs, in which the purpose of participation in such a contest is to win it, confirmed by a title or trophy. The „club competition” may include a single match or a series of matches. Only teams with the status of football clubs may participate in club competitions, while other types of teams are allowed to participate as guests. Matches against such other teams are omitted from the rankings. Guest participation does not disturb the club nature of the competition, if teams that are not clubs constitute no more than 25% of the teams participating in the competition. If it is uncertain whether a place in the tournament will be occupied by a club or a non-club team - then such unfilled places are not considered.

"Official" competitions are those organized or recognized by FIFA, or by one of the continental federations (confederations), hereinafter referred jointly to as "FIFA entities." The term FIFA entity

also includes a regional organization member of continental federations (confederations), but only with respect to being an organizer (developer) and not an entity authorized to recognize competitions arranged by other organizations. "Official international competitions" may include also, competitions organized by other football regional organization or two or more national associations (or bodies governing leagues), as long as organized or recognized by the FIFA entity. However, joint competitions, in particular leagues or such as national cups together organized by more than one national association (or bodies governing leagues), will not be never considered as "official international competitions" if the organization of such competitions would entail the absence (defunct) of competitions of this kind in the country concerned. Such competitions may then be dealt with under separate rules as domestic competitions.

Recognition of competitions occurs when the FIFA entity does not express a clear objection to the organization of the competition in question, in particular, it does not schedule matches of its own competition on dates that cause a conflict of matches calendars. Recognition does not demand that competition shall be officially sanctioned or authorized by the FIFA entity.

The "competitive" means games that are not recognized as: invitational tournaments or exhibition games (including matches also known as a friendly, a scrimmage, a demonstration, a preseason game, a warmup match, or a preparation match). In competitive tournaments, the winner receives the official championship (winner) title and at least half of the places (berths) must be conditional, i.e. a club to get the opportunity to play in such a competition or start from a certain stage or have status as „seeded/unseeded”, must achieve a certain result in other competitions (in particular in a national league). The condition relating to number of conditional berths doesn't applied, if a tournament forms a common system of competitions with a continental club championship or be a tournament organized by the FIFA entity.

"International" club competition takes place if at least two clubs have the opportunity to participate, one participating daily in the league of one country and the other club participating in the league of the other country. If a club does not play in a league competition, the home country is taken into account.

Games in which the majority of teams are amateur teams or not A-teams (such kind of a youth team) are not included, unless such competitions have regulatory links (rules of transition between games, relegation, promotion) with professional or semi-professional club competitions.

Official competitive international club competitions are recognized in 5 pots:

- pot1 continental championships tournaments (a competition in which a club wins the club championship of the continent/federation) and large competitions (at least 9 clubs) which form a common system with continental championship
- pot2 other large continental tournaments (at least 9 clubs) which do not form a common system with continental championship
- pot3 small continental tournaments (less then 9 clubs), not to be mini master tournaments (pot 5)
- pot4 inter-continental tournaments, not to be mini master tournaments (pot 5) - *about inter-continental tournaments see one of the next chapter*
- pot5 mini master tournaments (not more than 4 teams) where at least one berth is for a winner of other international competitions, in particular super cups like two-teams cups or two-teams similar special matches with trophy/title for a winner

Depends on which pot is considered, a distinction is made between competition of the 1st Category and the next lower categories of a competition.

- pot1

In pot1 a continental championship tournament is assigned by the 1st Category.

Tournaments not to be a continental championships, but forming a common system of competitions with a continental championship receive a category that results from the hierarchy of games forming the system in accordance with the regulations of a given federation (rules of transition between games, relegation, promotion, berths). The highest category assigned under this way is the 2nd Category.

If tournaments that form a common system of competitions with continental championships can be awarded different categories, then they are awarded the lowest category among the categories that can be considered.

Important rule is used here, according to it, all specials play-offs or matches of play-in games, in which a win give a right to participate in the competition, even when they are arrange outside this competition are recognized as part of this (as a preliminary phase), if both competitions (games) are in the same ranking season.

Tournaments below the 4th Category are assigned values such as for the preliminary part of the 4th Category tournament in the calculation rules.

- pot2

For large continental tournaments that don't have the status of „continental championship” or in clear do not form a system with continental championship are classified according to following rules:

the 1st Category	the most of clubs in the examined competition attend in the proper part of the current edition of continental championship or if such championship has been completed, participated in the proper part of the last completed continental championship (if closing occurred not earlier then 12 month before starting examined competition)
the 2nd Category	the most number of clubs in the examined competition participate in the current edition of continental championship or if such championship has been completed, participated in the last completed continental championship, or participate in the current edition of competition which form a system with continental championship and having 1st or 2nd category or if such competition has been completed, participated in the last completed such the 1st or 2nd category competition (if closing occurred not earlier then 12 month before starting examined competition); if there are more then one 2nd category competition meeting above criteria all of them are considered
the 3rd Category	the most number of clubs in the examined competition participate in the current edition of a competition which form a system with continental championship and having the 3rd category or if such championship has been completed, participated in the last completed such the 3rd category competition (if closing occurred not earlier then 12 month before starting examined competition); if there are more then one 3rd category competition meeting above criteria all of them are considered; the most number means also the same number as number of clubs participate in a competition which form a system with continental championship and having the 1st of 2nd category
the 4th Category	other competitions

- pot3/pot4

For pot3 and pot4, the following rules of quality are applied:

the 1st Category	the most of clubs or most clubs that are participate or guaranteed a berth in the proper part of the examined competition come from the World Tier and Upper Continental Class leagues, with at least 25% of the total number of clubs being High Tier and Grand Master Class
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the 2nd Category	the most of clubs or most clubs that are participate or guaranteed a berth in the proper part of the examined competition come from the Chamber leagues, with at least 25% of the total number of clubs have status of Chamber
the 3rd Category	the most of clubs or most clubs that are participate or guaranteed a berth in the the proper part of the examined competition come from the Chamber & Antechamber leagues
the 4th Category	other competitions

- pot2/pot3/pot4 - special „common system” rule

If competitions which does not form a common system with a continental championship forms its own system, it will be categorized according to how the hierarchy of this system works, taking into account the category of the competition placed at the top of the pyramid, which will be determined according to the principle related to pot 1, pot 2 or pot 3.

- pot5

In the case of pot5, the category of the competition is determined by the appointment source rule.

According to this principle, the category of international competitions in which the club has obtained the appropriate position giving it the right to participate in the super cup is examined. To determine the category of competition, a higher category is assumed from all source games of all participators. If not all the clubs have nominations then only these source games which had given nomination are considered. If only one team has a nomination from other international competition, then the category of that international competition is taken into account. If all nominations do not come from international competitions (for all berths), the above rules of quality for pot1-4 shall apply accordingly.

The competitions which are taken into account for season 2022/23 or season 2023 are:

the 1st Category

UEFA Champions League, UEFA Super Cup, Copa Libertadores, Recopa Sudamericana, AFC Champions League, CONCACAF Champions League, CAF Champions League, CAF Super Cup, OFC Champions League.

the 2nd Category

UEFA Europa League, Copa Sudamericana, AFC Cup, CONCACAF Central American Cup, Caribbean Cup, Leagues Cup, Campeones Cup, CAF Confederation Cup, FIFA Club World Cup, Arab Club Champions Cup.

the 3rd Category

UEFA Europa Conference League, Caribbean Shield, African Football League

the 4th Category

Livonia Cup

5. Selected Basic Definitions of the KA System

Materiality Index (MI) — means the number determined for a concerned list of clubs, countries or leagues as well as for other lists established under the KA System as the arithmetic mean of points obtained respectively by all that clubs, countries, leagues or assigned to records on the list; clubs, countries, leagues and other entries with a score of 0 (zero) or fewer points are not taken into account when calculating the average.

Higher Materiality Index (HMI) — means the number specified for a concerned list of clubs, countries or leagues, as well as for other lists established in the KA system as a arithmetic mean

of points obtained respectively by all clubs, countries, leagues or other items (records), which received the same or higher result than the Materiality Index.

Lower Materiality Index (LMI) — means the number specified for a concerned list of clubs, countries or leagues, as well as for other lists established in the KA system as the arithmetic mean of points obtained respectively by all clubs, countries, leagues or other items (records), which received lower result than the Materiality Index; clubs, countries, leagues and other entries with a score of 0 (zero) or fewer points are not taken into account when calculating the average.

Relative Points Score (RPS) — means the converted points score from any ranking or list within the KA System according to the formula:

$$PV \div SFRL \cdot 10.000$$

where:

PV - a points value assigned in a ranking or list to a specific record

SFRL - the sum of all points in a ranking or list assigned to all records

Basic the KA System Coefficients are multipurpose key values, composed among others of **Maximum System Coefficient (MaxSystem)** and **Minimum Coefficient (MinSystem)**. Every season (twice while determining leagues global rankings), the exact values of the MaxSystem and the MinSystem are established according to special algorithms. The standard worth of the MaxSystem is 1.5, and for the MinSystem is 0.5. If the MaxSystem is increased, parallelly the MinSystem is reduced. If the difference between the MaxSystem and the MinSystem (**the KA Football Spread**) become much wider then 1 (one) it means the disproportion between the strength of the top segment of a club football and the bottom segment is growing and it upsets the balance in the world of football.

Continental Indexes - indexes are calculated from a football big data set. They are related to a club football, not to national teams. The primary source data is collected on the basis of players' activity in major football tournaments with national teams. The system assumes that every footballer appearing in a given tournament not only represents his national team, but also the football league in which he is playing. The points values collected by a player are assigned to his league, and then added up within the federation to which the league belongs. **Power Index of Federation (PIF)** is the most significant factor (in a form of percentage number) used in the KA System. It represents actual strength & attraction of the continent, from the perspective of a club football. Sum of all PIFs is equal to 100%. The **VIF (Virtual Performance Index Federation)** and **BIF (Balanced Index Federation)** values are also assigned to the continents.

NFRI - means the Nations Football Reputability Index showing the position of the country in the football world, from the perspective of its overall recognition, reputation, prestige and quality of players. NFRI is based on the results of national teams and other criteria related to the activity of countries in the football world as well as takes into consideration most famous individual trophies for football players. NFRI goes back the furthest among other ratings provided by the KA System and covers up to 16 years back.

§ 2 Club Points Calculation

1. Frame of club points

Every club obtain points value containing following items:

- **Initial Value** - points earned on the closing of period or initial value assigned to a club according to special specimen if a club did not appear in the previous ranking;
- **ELO Change** - points added or subtracted to the Initial Value, calculated on the ELO Method calculating on a base of match result; this is a standard and a base calculation;

- **Upgrade Points (Stage Bonus)** - special correction points added to the Initial Value let to counteract petrification of the ranking (works in particular when an underdog club has a quick increase of quality);
- **Bonus Structural Points** - special correction points added to the Initial Value let to adjust the ranking order to a significant achievements of certain clubs in the completed season (in particular when a club wins a competition);
- **Apex Structural Correction** - special correction points subtracted to the Initial Value let to adjust ranking order with relation to the top clubs did not meet expectations with reference anticipated positions in the completed club championship season;
- **Depreciation** - special correction points subtracted to the Initial Value let to counteract petrification of the ranking (works in particular for clubs that they obtained certain value in previous periods and don't play currently international matches; it has a considerable because standard ELO Method keeps the rating value notwithstanding rated item is not active).

2. ELO Points

Every club receives the points for match outcomes according to the ELO method scheme.

The points (the ELO Change) are determined by the relative strength of the two opponents where the factor of an expected outcome is calculated and with using the factors related to completed match: importance match factor, the outcome factor and the difference goals factor.

Score of the ELO Change is added (or subtracted) to the points value of a football club under the last completed ranking (Initial Value), and on this basis, they shall be fixed the new ultimate ranking points.

$$\text{ELO Change} = I2 \cdot IDG \cdot (MO - EMO)$$

I2 - Importance Index

IDG - Index Difference Goals (DG)

MO - Match Outcome

EMO - Expected Match Outcome

where:

Importance Index (I2)

1st Category Competition Proper = 2

2nd Category Competition Proper or Preliminary the 1st Category Competition = 1

3rd Category Competition Proper or Preliminary the 2nd Category Competition = 0,75

4th Category Competition Proper or Preliminary the 3rd Category Competition = 0,5

Preliminary the 4th Category Competition or lower categories = 0,25

Index Difference Goal (IDG)

if DG (Difference Goals) is 0 or 1, IDG = 1

if DG is 2, IDG = 1,5

if DG is larger then 2, $IDG = \frac{11 + DG}{8}$

note: IDG is the same for both teams

Match Outcome (MO)

if win, MO = 1

if draw, MO = 0,5
if loss, MO = 0

Expected Match Outcome (EMO)

$$EMO = \frac{1}{10^{-RD/CARC} + 1}$$

where:

CARC (Certain Amount of Rated Clubs) = Number of clubs in the ranking ÷ 2

RD (Ranking Difference) = (RDPos + RD_IC3 + RDPts) ÷ 3

RDPos = difference between clubs positions in the ranking · 2

RD_IC3 = difference between clubs IC3 in the ranking · (CARC ÷ 2)

RDPts = difference between clubs ranking points in the ranking

3. Points allocation rounds

The input data for the determination of the ELO Change (position, the ranking points and the IC3) is considered to be the data resulting from the establishment of the ranking, after the end of a previous round.

In the first round, as the starting point of calculations — the status resulting from the closing of the ranking for the previous period is assumed (last round of the previous period). The first round runs from the beginning of the ranking period until the day before the day on which any club that played a match in that first round would have played another match. If matches are played in different time zones, the local time zone is considered as a valid.

Closing the first round results in the establishment of the provisional ranking.

The next round starts after the first round closes and takes into account the input values (position, the ranking points and the IC3) from the provisional ranking set at the end of the first round. The next round shall run from the day following the end of the previous round until the day preceding the day on which any club which has played a match in that subsequent round would have played another match.

Further subsequent rounds shall be determined according to the rules set out above. A round in which matches are played on the last day of the ranking period, or a round in which no matches are played after the last match of this round — until the end of the ranking period — is the last round of the ranking period.

4. Upgrade Points (Stage Bonus)

If an opposite team is from upper level class (according to the last completed the KA Football Club Global Rating) the team can obtain extra special points value.

Upgrade Points are due for matches of the proper part of 1st Category Competition or inter-continental 1st/2nd Category Competition, as well for matches of the proper part stages after main stage¹ of other competitions.

Upgrade points are assigned as following products:

¹ The main stage is the first stage of the proper part of the competition, but if the proper part of the competitions contains a group stage or more then one group stages, that is a group stage or earlier group stage.

- win = 1 pt · difference in class · category index
- draw = 0,5 pt · difference in class · category index
- loss = 0,25 pt · difference in class · category index

The category index is as follow:

1st Category Competition = 1
2nd Category Competition = 1
3rd Category Competition = 0,75
4th Category Competition = 0,5
Lower categories = 0,25

Difference in class means a value that is the result of the difference between the numbers that represent the class number in the class hierarchy.

If a club meets a team of a higher class more than once during a ranking period, its class changes provisionally in order to receive Upgrade Points (the class change takes place before the second match and each subsequent match in which the team plays with an opponent with a higher class). This procedure is necessary because the global ranking (in which the team's class is fixed) is not determined continuously but only quarterly after all continental rankings are closed, while Upgrade Points are awarded after each round.

To do this, the estimated value of the class is calculated. At the beginning, you look for the club with the lowest point value, which is greater than or equal to the point value assigned to a given club, based on the continental ranking determined after the last completed round. The search concerns four clubs: a club that is assigned to the value sought (the „counterpart club“), a club that ranks one place higher than the „counterpart club“ and clubs that occupy two and three places higher than the "counterpart club". For all these clubs, a class value (from 1 to 11) is found (according the last completed the KA Football Club Global Rating) and the average of these four values is finally calculated. The value thus calculated is the provisional value of the class in the question. The provisional class value is then compared with the club class determined according the last completed the KA Football Club Global Rating, and if the provisional value is lower (i.e., that the club class is higher) then this class value is used to determine the Upgrade Points.

If it is not possible to determine the provisional value of the class in the above way (i.e., the average value cannot be calculated), then the value of the provisional class is determined exclusively according to the class of the „counterpart club“.

If the team has entered into the "upgrade points procedure" its provisional class works for all matches during the ranking period. It means that if this team has upper level class (provisional) in relation to a class of an opposite team in the next match, then this the 2nd team with lower level class obtains Upgrade Points with relation to provisional class of that first team set under the "upgrade points procedure".

5. Structural-Matrix Points

Bonus Structural Points - Victory Prize (BSP-VP)

Win a competition gives additional points to the club as follow:

1st Category Competition = 2
2nd Category Competition = 1
3rd Category Competition = 0,75
4th Category Competition = 0,5
Lower categories = 0,25

If tournament which belongs to the type from pot1, that form a common system of competitions with continental championships, could be assigned different categories, then it is ascribed the most upper category among the categories that can be considered, in order to apply BSP-VP rule.

Bonus Structural Points - Master Circle (BSP-MC)

Furthermore clubs receive points for participating in advanced stages of the continental championship competitions (bonus phases: quarter-final, semi-final and final), according to the formula:

$$\frac{exRank}{SCoef1} \div SCoef2$$

where:

exRank = a position in the previous ranking

SCoef1 = the stage coefficient: QF = 9, SF = 5, F = 3

SCoef2 = the stage coefficient: QF = 2, SF = 1, F = ½

The final amount of the BSP-MC for the stage cannot be higher than:

QF = 0,5 pt

SF = 1 pts

F = 1,5 pts

The club receives points for each stage it reaches. The points are added up. Bonus Structural Points (VP/MC) are awarded on the end day when the season of continental championship or other tournament is completed².

Apex Structural Correction

If a club meets all following criteria:

- has not reached the quarter-final in the just completed edition of the continental championship
- had position not lower than 8 in the last ranking

it obtains negative point value according to the formula:

$$-\frac{SV}{\left(1 + \frac{exRank}{10}\right)} \cdot VC$$

SV (Stack Value) = 3 (when a club has participated in the proper part of the tournament) or 6 (when a club has not participated in the proper part of the tournament)

exRank = a position in the previous ranking

VC (the Vise Coefficient) = average score of the top 8 Ranking Points in the previous ranking divided by 100

Apex Structural Correction points are awarded on the day when the season of continental championship is completed³.

6. Depreciation Rule

Each club may receive negative depreciation of the ranking value every ranking period, if its activity is not significant. Depreciation is set after closing last round within the ranking period.

The value of the reduction is made according to the following formula:

$$(exPts \times DC) \times PC \times AC$$

² If the club starts the games with the bonus phase, then the value of the points obtained in this bonus phase is reduced by half (after limitation).

³ If all clubs start from the quarter-finals then the condition applies to whether the club has reached the semi-finals, and if all clubs start the semi-finals then the condition applies to whether the club has not reached the final. In the above cases, the result of the formula is divided by 2 or 4, respectively. If there is only the final phase in the tournament, then the APS formula does not apply.

where:

exPts = value of points set on closing the previous ranking period

DC = depreciation coefficient

PC = period coefficient

AC = activity coefficient

DC (depreciation coefficient) is equal to:

$$\frac{exMaxPts}{100} \cdot 21 \%$$

where:

ExMaxPts is the highest score in the previous ranking [*not lower than 50 pts*]

but if the exPts is lower then the average value of points obtained by all clubs set in the last ranking (exAv) then DC is made according to the following formula:

$$DC_{alt} = \frac{-(exPts - exAV)}{exAV - BotInd}$$

where:

exAV shall not be less than 1 pt

$$BotInd = \frac{exMaxPts}{100} \cdot 0,476$$

Alternative DC cannot be lower than standard DC.

PC (period coefficient) is equal to:

$$\frac{ND \div 1461}{1 \div 16}$$

where:

1461 = number of days in 4 years

ND = number of days within the ranking period

AC (activity coefficient) is equal to:

$$\left(\frac{MI - MP1}{MI} + \frac{HMI - MP2}{HMI} \right) \div 2$$

where:

MI - Materiality Index related to number of matches played by all teams in the last 12 months

HMI - Higher Materiality Index related to number of matches played by all teams in the last 12 months
 MP1 = number of matches played by the club in the last 12 months; no more than MI
 MP2 = number of matches played by the club in the last 12 months; no more than HMI

Depreciation may cause negative final score for clubs on very low positions and finally withdrawing such a club from the ranking.

7. Initial Value

If the club is not ranked in the previous ranking, it obtains the new initial value. The initial value is a virtual base, to which the ELO Change is added or subtracted.

The initial value is equal to the product of the country point value in the last completed continental leagues ranking and coefficient dependent on the category of the competition, increased by one pt.

The coefficient is as follow:

1st Category Competition Proper = 20%
2nd Category Competition Proper or Preliminary the 1st Category = 10%
3rd Category Competition Proper or Preliminary the 2nd Category = 7,5%
4th Category Competition Proper or Preliminary the 3rd Category = 5%
Preliminary the 4th Category or lower categories = 2,5%

The Initial Value cannot be lower than 0,5 pt.

§ 3 Club Ranking Settings

1. Ranking order

Clubs are set in descending order according to the points obtained. A negative score causes clubs to be removed from the ranking.

Upgrade Points are added only within the limit. The limit is count in such a way that the sum of Upgrade Points obtained in last 12 months, cannot be larger than 10% of highest score of the Ranking Points in the previous ranking.

If clubs have the same pointed score, the rules of differentiations are as follow:

- higher position of the country in the previous continental leagues ranking
- higher position of the club in the current domestic league table

Differentiating factors are applied until the next period will be completed.

2. IC3

IC3 (Inter-Continental Club Coefficient) is the indicator based on continental ranking points, taking into account the index of the continent (**PIF**). The IC3 is 50% of a weight of the club coefficient within the KA Football Club Global Rating. The IC3 is also the input to the ELO Change calculation.

The IC3 is calculated according to the following formula:

$$\frac{PTS}{PTS_{1st}} \cdot MaxCont$$

where:

- PTS - the ranking points
- PTS_{1st} - the ranking points of the 1st club in the ranking
- MacCont - coefficient separately set for every of 6 continents (federations)

MaxCont

The MaxCont is the higher of the following two values:

- sum of the **MaxSystem** and the product of the MaxSystem and the **PIF**, then the sum is multiplied by the **VIF**; but if the PIF is greater than 50%, then above product is the result of multiplying the MaxSystem and 50%;
- six times the **PIF**, whereby when the result of this product is greater than 1.5 (one and a half) then this result is the sum of the number 1.5 (one and a half) and the **PIF**, and when the product is less than the sum of the **MinSystem** and the **PIF** - then the result is the sum of the **MinSystem** and the **PIF**.

Adjustment of IC3

A club that obtained as a result of applying the basic IC3 formula, a coefficient with the height below the **Federation Value (PIF or VIF, whichever is higher)**, and that club, obtained ranking points at least equal to the average number of points calculated for a single club in the ranking (**Materiality Index**) — is determined for it finally the IC3 in the height of the MinSystem plus the value calculated according to the formula:

$$(NoMIR - PosC + 1) \cdot \frac{(NoMI2 - (NoMIR - NoC1))}{10000}$$

NoMIR - the number of clubs that in the ranking got a score at least equal to the average (**Materiality Index**)

PosC - number indicating the club's position in the ranking

NoMI2 - number of clubs that in the ranking got a score at least equal to the **Lower Materiality Index** for the ranking

NoC1 - number of clubs that in the ranking got a score at least equal to the average number of points (**Materiality Index**) and the basic IC3 for these clubs is at least equal to the Federation Value

The IC3 calculated as above shall not be higher than the Federation Value, and may not be lower than the basic IC3.

Adjustment procedure of the IC3 does not apply to clubs belonging to the Federation for which the Federation Value is not higher than the MinSystem.

For other clubs with the basic IC3 at the height lower than the MinSystem - the IC3 is determined ultimately at the height of the MinSystem.

3. IC2 Pts

Ranking points are converted to RPS. Because RPS allows you to compare values from different rankings these values are also presented on web page as RPS multiplied with PIF.

A subsidiary value is also set for clubs: IC2 Pts (Inter-Continental Club Points). This value is important for clubs of lower quality, where an alternative **ARC** (AnteChamber Rating Coefficient) value is calculated, which is finally converted to the club coefficient within the KA Football Club Global Rating.

IC2 Pts is calculated as = $RPS \cdot PIF$.

4. Extended IC3 / IC2 Pts

The initial values of IC3 and IC2 Pts are subject to limited correction according to **Attraction & Impact Factors** procedure - AIF (Club AIF). Under the Club AIF procedure most influential clubs are selected, which had the biggest impact on results of last completed FIFA World Cup and continental championship of national teams. AIF Ranking is updated every quarter.

Extended IC3 and IC2 Pts are applied within the KA Football Club Global Rating.

5. Inter-continental matches

Matches played within official competitive international club competitions by teams from different continents (continental federation/confederation) have a separate algorithms.

The first default requires the use of separate calculations indicated below.

Differences with relation to continental matches:

- $CARC$ (Certain Amount of Rated Clubs) = Number of clubs in the global ranking $\div 2$
- RD (Ranking Difference) = $(RDPos + RD_RC2 + RD_IC2Pts) \div 3$
 - $RDPos$ = difference between clubs positions in the global ranking $\cdot 2$
 - RD_RC2 = difference between clubs Rating Club Coefficient ($RC2$) in the global ranking $\cdot (CARC \div 2)$
 - RD_IC2Pts = difference between clubs IC2 Pts ($IC2P$) in the global ranking

If the club does not appear in the club global ranking, then virtual values are determined for that club: $IC2P$, $RC2$ and ranking position, based on procedures similar to those used to determine the Initial Value. If the club is in the club global ranking with an $IC2P$ value of zero, then this coefficient is also estimated.

A change in the ELO Change value may in some cases also cause an extra temporary increase / decrease $IC3$ or decrease $MaxCont$.

The application of the above algorithm requires the matches to be played as part of an inter-continental tournament. An intercontinental tournament can be held by FIFA, an inter-continental organization or at least two entities from different continents.

If an intercontinental match is played as part of a non-intercontinental tournament then the guest appearance mode applies. Under this mode, clubs from a continent other than that of the hosting tournament will have their ranking values adjusted so that the club is treated, for calculation purposes, as a club from the continent in which the tournament is held.

6. The Vise Rule

If the average value of the ranking points assigned to clubs in the ranking is larger then 10, then score of every team is reducing by the percentage number of:

$$100\% - (10 \div \text{Average value of the ranking points})$$

The new ranking points replace the points set on closing the previous ranking period for the purpose of further calculations in next period (N/A - the Upgrade Points Limit).

Negative scores are switched into zero value.

§ 4 Leagues Ranking

1. Basic points

After closing the last round in the ranking period every league receives points according to the formula:

TLP + AvP + LS

TLP (timeline points) = $\text{SumCP} \div \text{TIM}$

SumCP = sum of points of all clubs from the certain league set after closing the ranking (including negative scores)

TIM (time index) = $1461 \div \text{ND}$, where ND is number of days within the ranking period

AvP (average points) = $\text{SumCP} \div \text{DEN}$

DEN (denominator)

to calculate the DEN factor, firstly one have to count:

- number of clubs from the country that received a point score (positive or negative) at the closing of the period ranking (Number of Clubs Rated; NCR)
- arithmetic mean of all NCR's above zero assigned to all countries (Average Clubs Rated; ACR)

and then, the DEN is calculated as:

- if the NCR is equal to or greater than the ACR, the DEN is equal to NCR
- if the NCR is less than ACR, the DEN is calculated according to the formula:

$$\text{NCR} + [(1 - \frac{\text{NCR}}{\text{ACR}}) + (1 - \frac{\text{NoC}}{\text{NoCSum}})] \div 2$$

NoC - number of countries that have the same or fewer value of the NCR as the country for which the denominator is determined (number includes also that country)

NoCSum - total number of countries that have NCR above zero

LS (last shot) = sum of ELO Change values received at ranking period of all clubs from the certain league

if LS is negative, final LS = 0

if **SumCP** is greater or equal to the average of all SumCP's, final LS = LS

if SumCP is lower than the average of all SumCP's,

final LS = $\text{LS} \cdot (\text{SumCP} \div \text{the average of all SumCP's})$

2. Premium Points

Premium Points are awarded to leagues for participating of clubs in advanced stages of the competition.

Premium Points are awarded as follow⁴:

	QF	SF	Final	Win Competition
1st Category Competition	0,5 pt	0,5 pt	0,5 pt	0,5 pt
2nd Category Competition			0,5 pt	0,5 pt
3rd Category Competition			0,25 pt	0,5 pt
4th Category Competition			0,25 pt	0,25 pt
under 4th Category				0,25 pt

Premium Points are added once for every premium phase at the moment (at the ranking period) when officially is confirmed that club reach a certain stage or win competitions. Premium Points are limited to values obtained in last 12 months.

3. Ranking order

Leagues are set at the end of the period in descending order according to the points obtained (Basic nad Premium). A negative score causes league to be removed from the ranking.

If leagues have the same pointed score, the highest spot of the country in the last completed **NFRI** ranking decides about higher position. **NFRI** set at the same day as the continental ranking is recognizes as „last completed”.

NFRI position used as differentiating factor is applied until the next period will be completed.

4. ICLP

RPS points obtained in the leagues rankings in combination with the **PIF** value give the basic indicator used for the purposes of the global ranking, i.e., ICLP (Inter-Continental League Points).

They are supplied also additional values of “ICLP” with the combination with the **VIF** and the **BIF**.

⁴ If a club starts the competition from a given premium phase, the league does not receive points for that phase. The same rule applies if the premium phase is the first phase of the proper part of the competition and the advancement to this premium phase took place on a national elimination round basis. Premium points are not awarded in tournaments that do not establish a common system with the continental championships, unless at least half of the national associations belonging to the continental federation (confederation) are represented in these tournaments (the number of members that run the leagues is taken into account and associations represented in all international torunaments forming a common system with that tournament) whereby, if the tournament is organised by a subcontinental federation then the number of members of that federation is taken into account. If such tournament has birth for the continental champion premium points are also awarded.