

## Performance indicators

Based on [Impect](#) data and for outfield players, the CIES Football Observatory has developed performance indicators in **eight game areas**, as well as a general index fully comparable between positions.

The areas of play and associated indicators are as follows:

- **air defence**: aerial duels won compared to the team average and success rate (defensive positions only).
- **ground defence**: ground duels won in own half compared to team average and success rate; interceptions in own half compared to the team average.
- **build-up**: successful passes from own half compared to the team average and success rate.
- **orchestration**: successful passes from the opponent's half compared to the team average and success rate.
- **take on**: successful dribbles and success rate; progressive carries of at least eight metres towards the opponent's goal.
- **chance creation**: passes leading to a shot weighted by the probability of a goal (xG of shots); passes leaving a maximum of one opponent (not including the goalkeeper) closer to the goal than the ball; passes received by a teammate in the central rectangle of the opponent's penalty box.
- **shooting**: number and effectiveness of shots (difference between goals scored and expected); frequency of goals.
- **air attack**: aerial duels won compared to the team average and success rate (attacking positions only).

The values for each domain are weighted by the sporting level of the matches played, according to [this method](#), as well as by the average number of minutes per match played, to value rarely substituted starting 11 players.

To determine a **general absolute index**, the indicators for each area of play are converted into rank and transformed via a standardised quantile, retaining only the right half of a normal distribution (quantiles between 0.5 and 1). The calculation considers the maximum value between the indicators as above, the average of the three best scores, and the maximum value between the average and the median, with a rescaling of the values from 40 to 100. A further adjustment by position ensures the index's comparability for all players.

The **general relative index** is the ratio between the player's general absolute index value and the average measured for players of his club of employment, to highlight the footballers who outperform their teammates (any values above one).