



UEFA Euro 2020 Championship Group Stage Analysis Report

City A.M.

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Key terms are defined in the Glossary

Terms highlighted in yellow in this Report are key terms related to the proprietary quantitative analysis utilised by Carteret Analytics to produce the various insights on the players. Each key term will be highlighted in yellow when it is first used in the Report, and each is defined in more detail in the **Glossary** at *Section 5* of this Report (Page 7).

Report 'Headlines'

- The aim of this report is to analyse the performance of every player in the Euro 2020 Group Stage who has played for a minimum of 90 minutes, using quantitative data analysis to calculate each player's **Carteret Rating** (a proprietary and objective measure of how good a player really is - removing all the subjective noise and opinions).
- Portugal captain **Cristiano Ronaldo** was the best performing player in the Euro 2020 Group Stage (Exhibit 1) with a **Carteret Rating** of **412.5**. **Ronaldo's** two penalties scored against France took him to **109** international goals - a joint world record for men's international goalscoring. **Ronaldo** is also the tournament's leading goal scorer (five goals) with an impressive shot conversion of **45%** (five goals/11 shots), Belgium's **Romelu Lukaku** is a close second with a shot conversion of **43%** (three goals/seven shots).
- **Ronaldo** has an average **Carteret Match Impact (CMI)** of **14.6%**, this is more than double Portugal's team average of **6.1%**, demonstrating his significant contribution to his national team winning football matches.
- **Belgium (Carteret Rating 1789.8)** (Exhibit 2) is the best performing country in the tournament so far. However, playmaker **Kevin De Bruyne** is the only Belgium player to make the Euro 2020 Team of the Group Stage, with a **Carteret Rating** of **378.5**.
- **Spain (Carteret Rating 1765.1)** has the most players in the Euro 2020 Team of the Group Stage, with defenders **Jordi Alba (Carteret Rating 263.2)** and **Aymeric Laporte (Carteret Rating 293.1)** both making the team. Having only recently qualified to play for his country, **Laporte** has produced three impressive performances (average CMI **9.8%**) that have helped Spain concede only a single goal so far. **Laporte** scored his first senior international goal against Slovakia.
- Germany goalkeeper **Manuel Neuer (Carteret Rating 229.6)** is the best performing goalkeeper. **Neuer** is utilised as a 'sweeper keeper' with a passing accuracy of 92%. Belgium's **Thibaut Courtois** follows closely with a **Carteret Rating** of **222.0**.
- **Scotland (Carteret Rating 831.5)** were the most inferior team to compete in the Euro 2020 Group stage, scoring only one point in their 0-0 draw against England. Midfielder **Callum McGregor** scored Scotland's only goal in their match against Croatia - although they were ultimately defeated 3-1.
- England defender **Reece James** has made the Euro 2020 Team of the Group Stage, despite playing only one match for his country so far in the tournament. **James** demonstrated a high level of game control against Scotland, successfully completing **80** of his **81** attempted passes (**99%**).
- According to our objective analysis of the Group Stage data (Exhibit 4), the Euro 2020 final will be contested between Belgium and Netherlands, with **Belgium** ultimately being crowned Euro 2020 Champions. The data also indicates that England will be knocked out of the tournament by Germany in the Round of 16.

1. Player Performance Rankings

Exhibit 1: Table outlining the objective performance levels of the top ten performing players in the UEFA Euro 2020 Group Stage.


				
Power Ranking	Player	Positions	Country	Carteret Rating
1	Cristiano Ronaldo	Centre Forward	Portugal	412.5
2	Marco Verratti	Midfielder	Italy	397.2
3	Kevin De Bruyne	Midfielder	Belgium	378.5
4	Manuel Locatelli	Midfielder	Italy	336.7
5	Ciro Immobile	Centre Forward	Italy	324.7
6	Emil Forsberg	Midfielder	Sweden	307.1
7	Georginio Wijnaldum	Midfielder	Netherlands	306.3
8	Luka Modric	Midfielder	Croatia	300.5
9	Pierre-Emile Højbjerg	Midfielder	Denmark	299.8
10	Aymeric Laporte	Defender	Spain	293.1

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2. Team Performance Rankings

Exhibit 2: The UEFA Euro 2020 top ten teams of the Group Stage based on a team's objective performance (Including Home Nations).

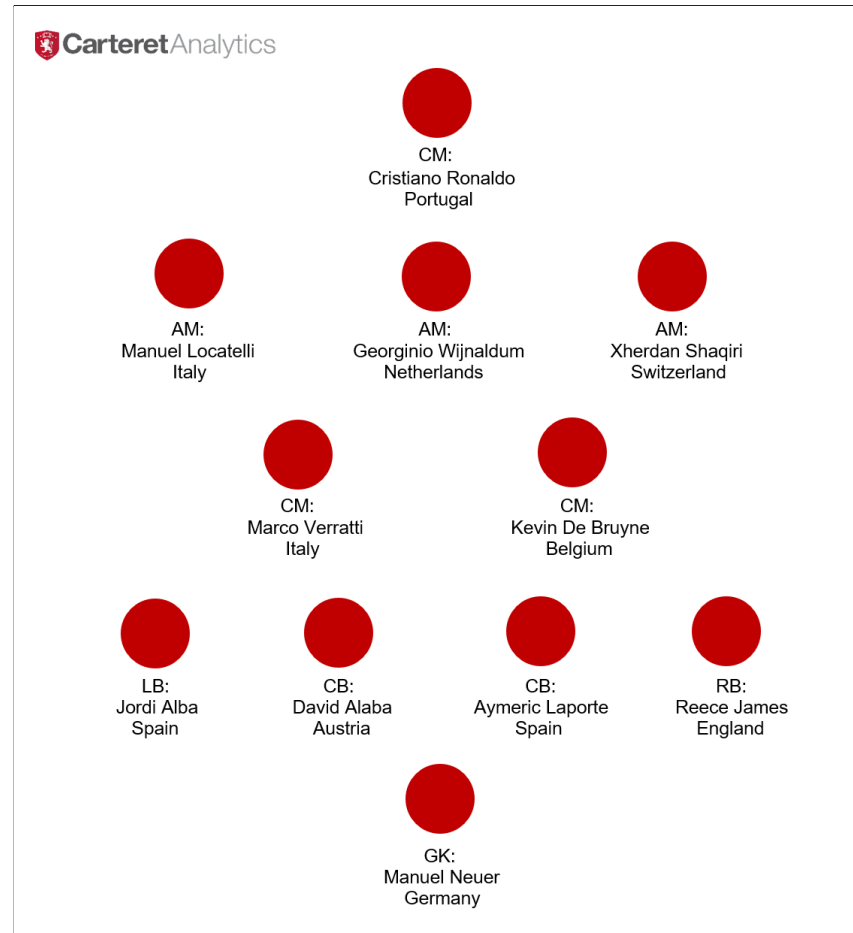
		
Power Ranking	Country	Carteret Rating
1	Belgium	1798.8
2	Italy	1780.9
3	Netherlands	1775.3
4	Spain	1765.1
5	Germany	1634.6
6	Portugal	1593.8
7	Switzerland	1552.5
8	Denmark	1486.7
9	France	1402.5
10	Croatia	1370.7
16	England	1086.1
18	Wales	1029.3
24	Scotland	831.5

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3. UEFA Euro 2020 Team of the Group Stage

Exhibit 3: The UEFA Euro 2020 team of the Group Stage based on a player's objective performance.

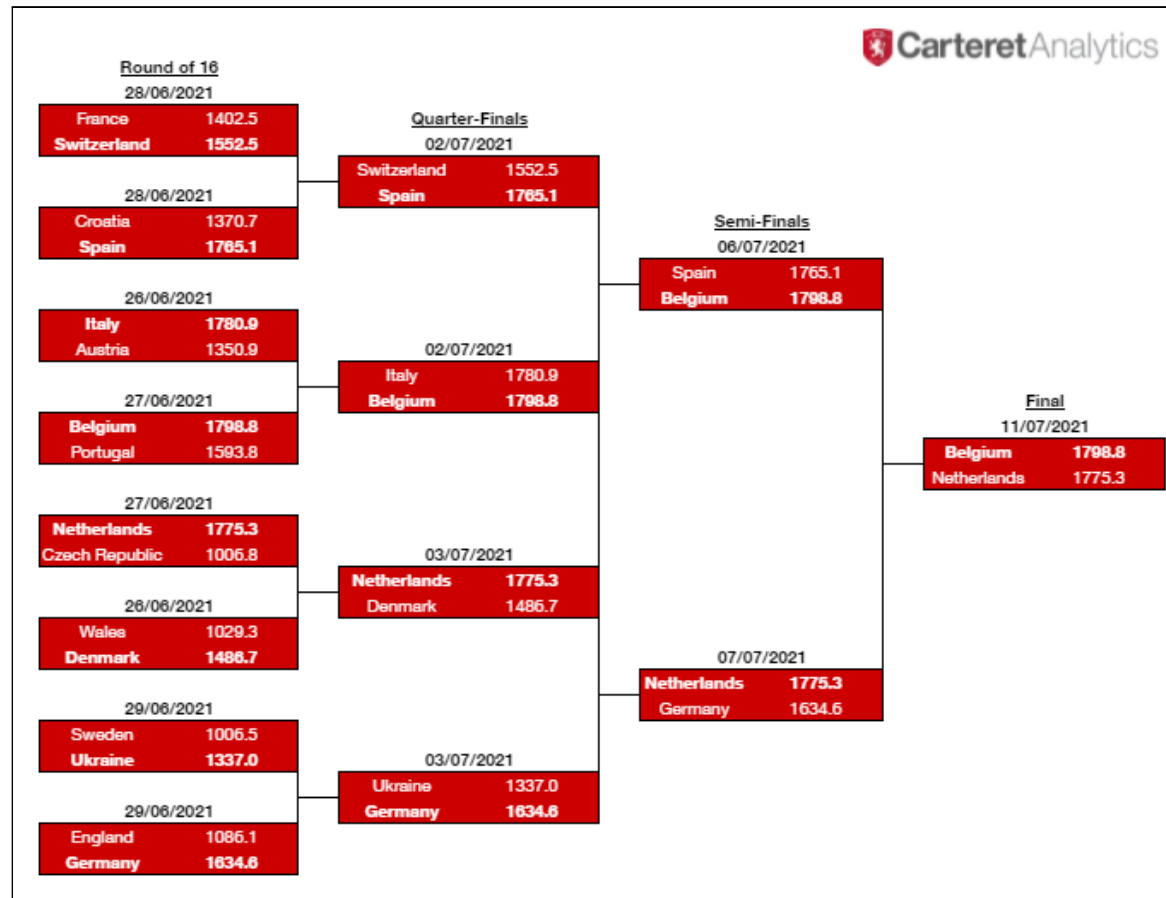


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4. Who will be the Champions?

Exhibit 4: A flow diagram based on each team's combined objective performance levels, indicating who will be crowned the UEFA Euro 2020 Champions.



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5. Glossary

Carteret Match Impact (“CMI”)

The Carteret Match Impact (CMI) is a proprietary and objective measure of each player’s contribution to the overall team performance in each individual match. It is particularly instructive in helping us understand the objective contribution each player has made, in a specific match, to the team achieving the match outcome.

Carteret Rating

This is a proprietary and objective method of determining how good a football player really is (and aims to accurately predict future performance in various scenarios set by the football club). It is based on a series of leading-edge algorithms that have been developed by Carteret Analytics. These algorithms have evolved from the quantitative analysis utilised in investment banking by its sister company, Carteret Capital, for, inter alia, asset and equities trading strategies, pricing and hedging of derivatives, portfolio optimisation and risk management. The algorithmic methodology assesses each player by identifying every match in which he/she has been involved (for which we have data) and then identifying and isolating the Key Match Events (“KMEs”) in each and every one of those matches. Then, for each and every KME, in each and every single match, we analyse that player’s contribution to each of those KMEs. This is a substantial piece of analysis, and one which produces a unique *Carteret Rating* for the player.

It is a dynamic rating, and it changes with each additional match played. Its ‘beauty’ is in its pure objectivity - ignoring characteristics such as age and nationality, and avoiding the ‘noise’ of subjective considerations that are frequently taken into account (often wrongly) in trying to determine the ability, attributes, characteristics and the ‘fit’ of a player into the club style or systems. It is an exceptionally accurate rating, with an *r-squared value* between 0.88-0.90 for Premier League players - demonstrating that it is very precise at predicting how good a player will be in the future. The dynamic nature of the Carteret Rating also enables Carteret Analytics to accurately predict the impact of the player in different clubs and different leagues.

Key Match Events (“KMEs”)

Key Match Events (“KMEs”) are events that we have identified (through constant quantitative testing) as having the greatest influence on the outcome of a football match. Our current quantitative modelling includes 42 KMEs, and in very general terms these are events that, to varying degrees, lead to a goal being scored; could lead to a goal being scored; lead to a goal being conceded; or could lead to a goal being conceded. The *Carteret Rating* - which is obviously the proprietary objective measure that permeates everything that we do - measures a player’s creation and contribution to each and every KME, in each and every match for which we have data on that player. This is a huge piece of data analysis, and is the reason why the *Carteret Rating* is so accurate and predictive.