



2020 UEFA European Football Championship Scotland v Czech Republic - Monday 14 June 2021

Quantitative Analysis - Match Review

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Strictly Private and Confidential

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Notes to this Report

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 2* of this Report (Page 4).

Report ‘Headlines’

- The aim of this Report is to analyse the performance of every player in the Scotland v Czech Republic match played on Monday 14 June 2021. It has been completed using quantitative data analysis to calculate the **Carteret Match Impact (CMI %)**, a proprietary and objective measure of each player’s contribution to the overall team performance in each individual match.
- Based on our objective data analysis, Czech Republic’s centre forward **Patrik Schick** was the most influential player on the pitch, with a **CMI of 15.9%**. **Schick** scored both goals for his team, impressively one being from the halfway line.
- Scotland captain **Andrew Robertson (CMI 11.6%)** had the greatest impact on his team’s overall performance, making **6** key passes and **7** accurate crosses - more than any other player. **Robertson** also attempted more dribbles than any other Scotland player (**4**) with a **75%** success rate.
- Scotland’s central defender **Liam Cooper (CMI 9.4%)** attempted more passes than any other Scotland player (**81**) with a strong pass completion of **80%**.
- **Grant Hanley (CMI 9.3%)** made a total of **5** clearances in the match, this is more than double the number of clearances made by any other Scotland. The next highest number of clearances was two made by **Andrew Robertson**.
- **John McGinn** lost possession eight times during the match, this was double that of any other Scotland player, this highlights a lack of game control.
- Centre forward **Ryan Christie** failed to register a shot on target and was substituted at half time. His replacement **Che Adams**, also failed to register a shot on target, but the data indicates that with a higher **CMI 5.8%**, **Adams** made a greater overall contribution to the match than **Christie (CMI 4.7%)**.

1. Team Performance Rankings

1.1 Team Performance Rankings Table

Exhibit 1: Table outlining the objective performance levels of every Scotland and Czech Republic player: Scotland v Czech Republic on Monday 14 June 2021

Scotland				Czech Republic			
Player	Position	CMI %	CMI % Rank	Player	Position	CMI %	CMI % Rank
Andrew Robertson	Defender Left	11.60%	1	Patrik Schick	Centre Forward	15.90%	1
Liam Cooper	Defender Right	9.40%	2	Tomas Soucek	Midfielder	10.30%	2
Grant Hanley	Defender Centre	9.30%	3	Vladimir Coufal	Defender Right	9.30%	3
David Marshall	Goalkeeper	9.20%	4	Tomas Kalas	Goalkeeper	8.20%	4
Scott McTominay	Midfielder	8.50%	5	Ondrej Celustka	Defender Centre	7.90%	5
John McGinn	Midfielder	7.70%	6	Jakub Jankto	Midfielder	6.70%	6
Stephen O'Donnell	Midfielder	6.30%	7	Jan Boril	Defender Left	6.30%	7
Stuart Armstrong	Midfielder	6.20%	8	Vladimír Darida	Midfielder	5.70%	8
Che Adams	Centre Forward	5.80%	9	Lukas Masopust	Defender Right	5.40%	9
Jack Hendry	Defender Centre	5.40%	10	Tomás Vaclik	Goalkeeper	5.30%	10
Callum McGregor	Midfielder	5.30%	11	Matej Vydra	Midfielder	4.80%	11
Ryan Christie	Centre Forward	4.70%	12	Adam Hložek	Centre Forward	4.60%	12
Lyndon Dykes	Centre Forward	4.10%	13	Tomás Holess	Defender Right	3.50%	13
James Forrest	Midfielder	2.80%	14	Alex Kral	Midfielder	3.10%	14
Ryan Fraser	Midfielder	2.20%	15	Petr Sevcik	Midfielder	1.60%	15
Kevin Nisbet	Centre Forward	1.40%	16	Michael Krmencik	Centre Forward	1.60%	16

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2. Glossary

This Report contains references to key terms, highlighted in yellow when they are first used, that are defined in full in this 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.