

Data-Driven Tactical Analysis

Floris Goes, PhD

SCISPORTS

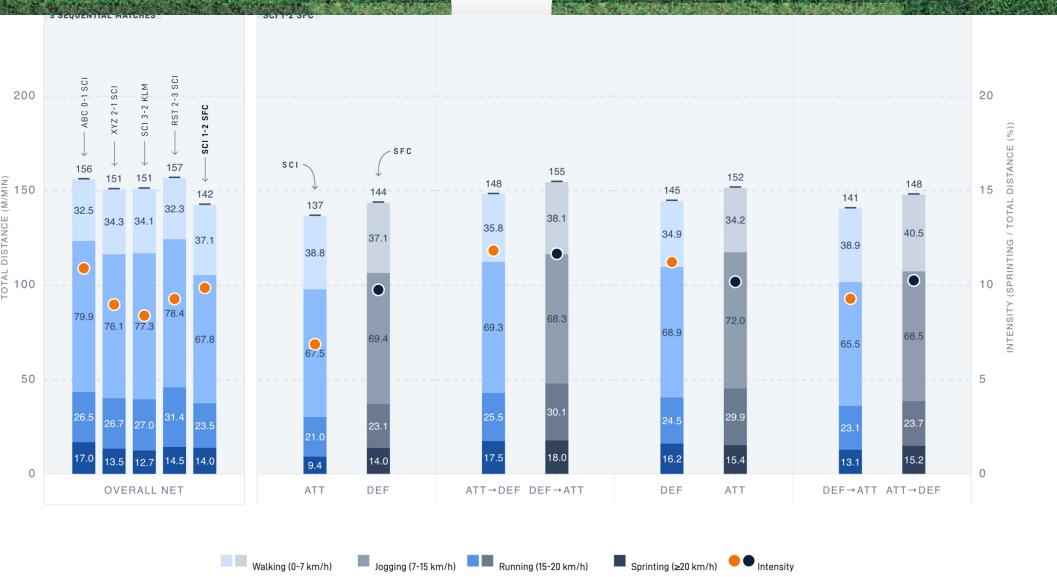


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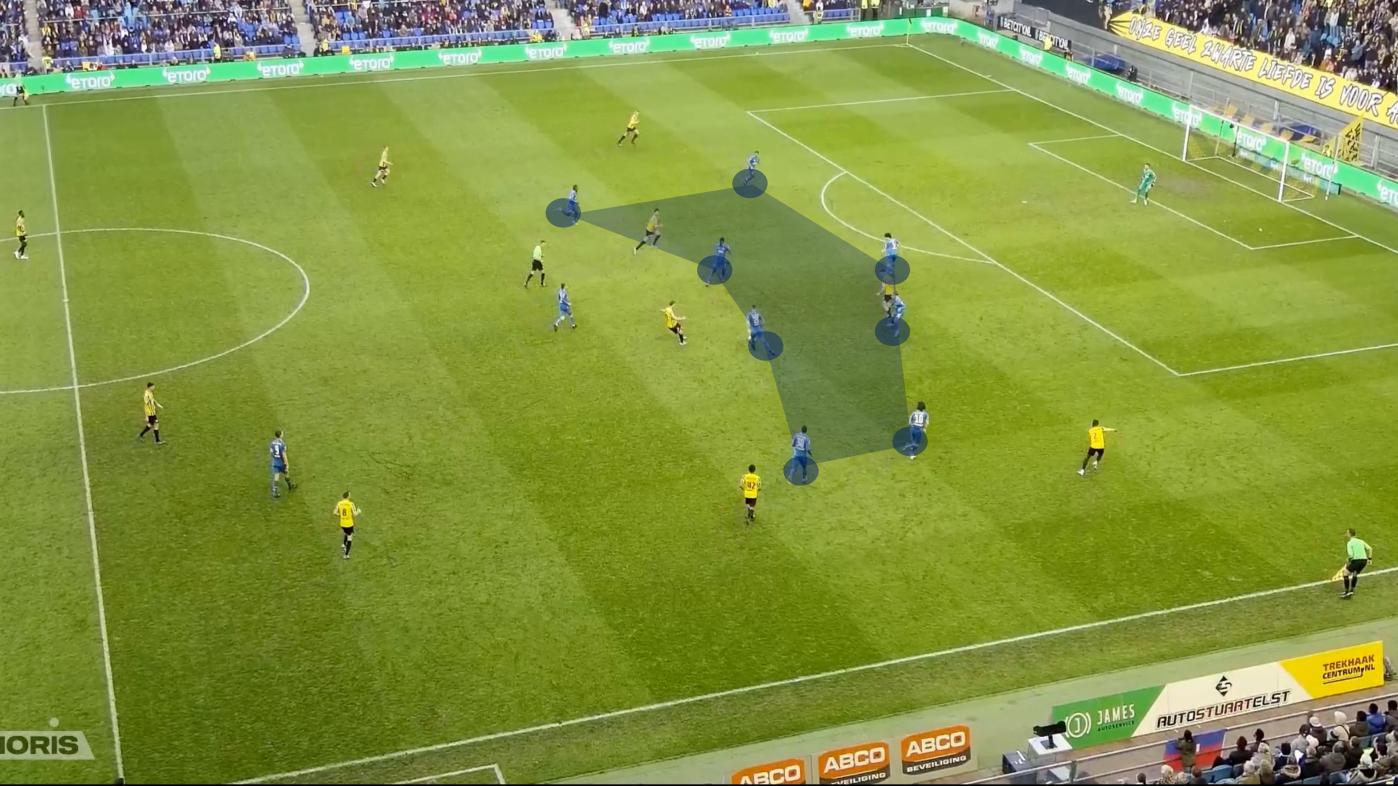
The secret of successful attacks

Floris Reinier Goes

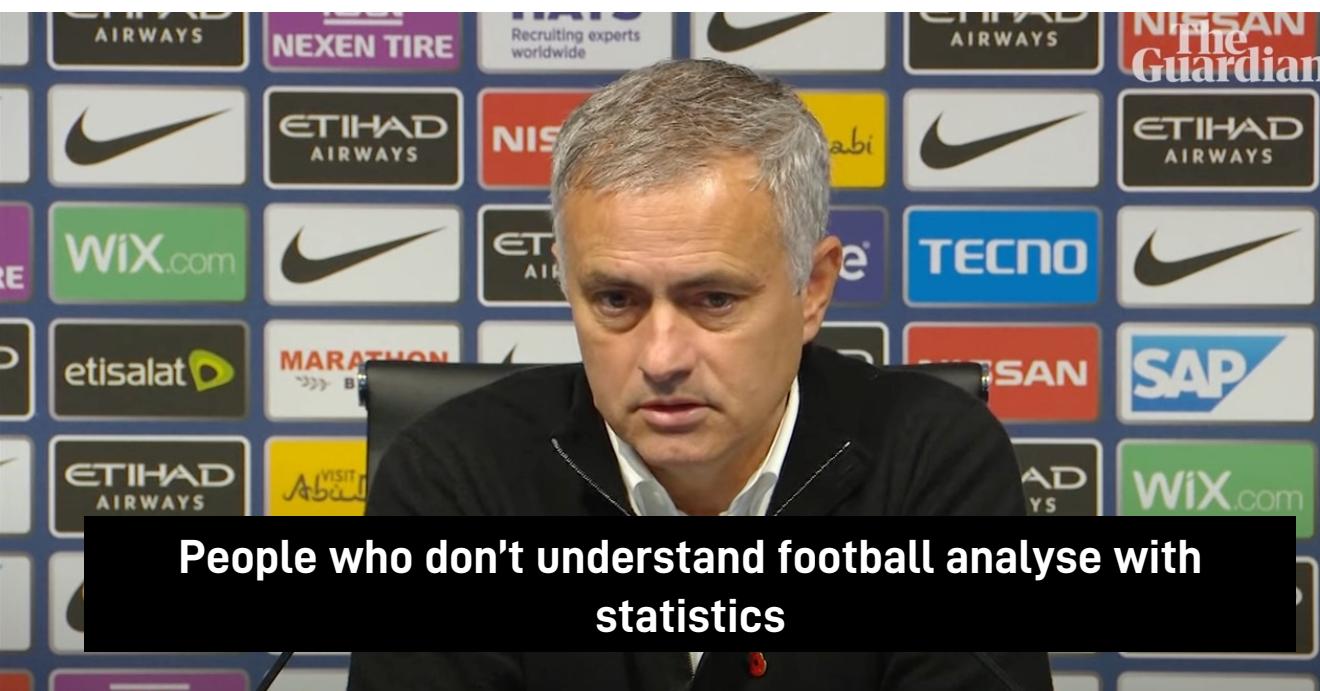


Tactical behaviour in professional soccer successful attacks

Floris Reinier Goes



Deriving actionable tactical info from position data



People who don't understand football analyse with statistics



Data gets too much attention, if those data people don't get out of football, I'll stop watching



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SCI SPORTS

- Rafael van der Vaart is wrong.
- Match stats have meaning, but lack actionable value.
- The most important actions (and players) are often overlooked and undervalued.
- ChatGPT is not going to steal your job, despite the internet trying to convince you otherwise.



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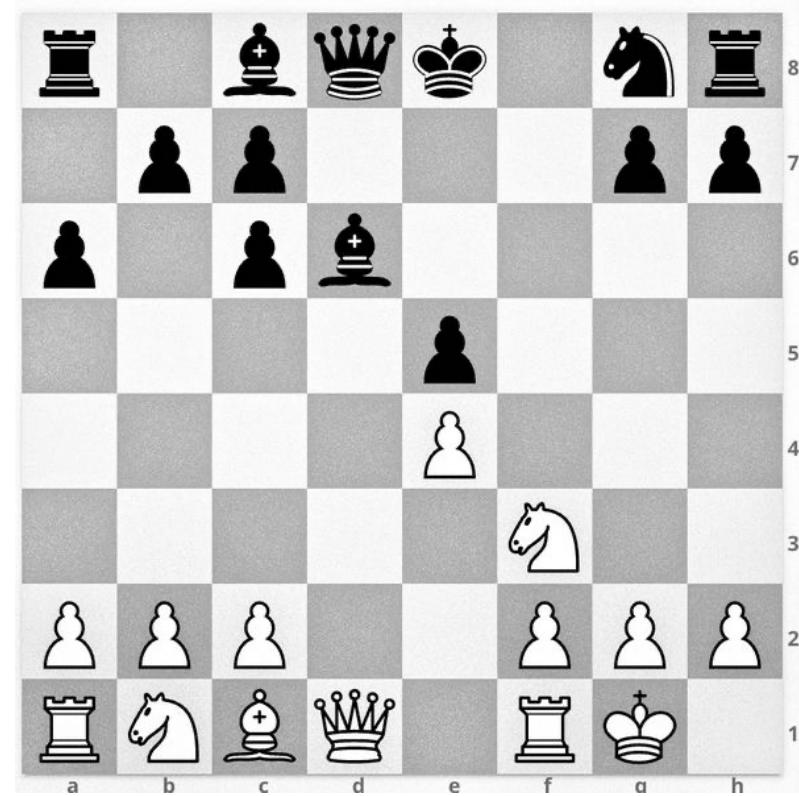
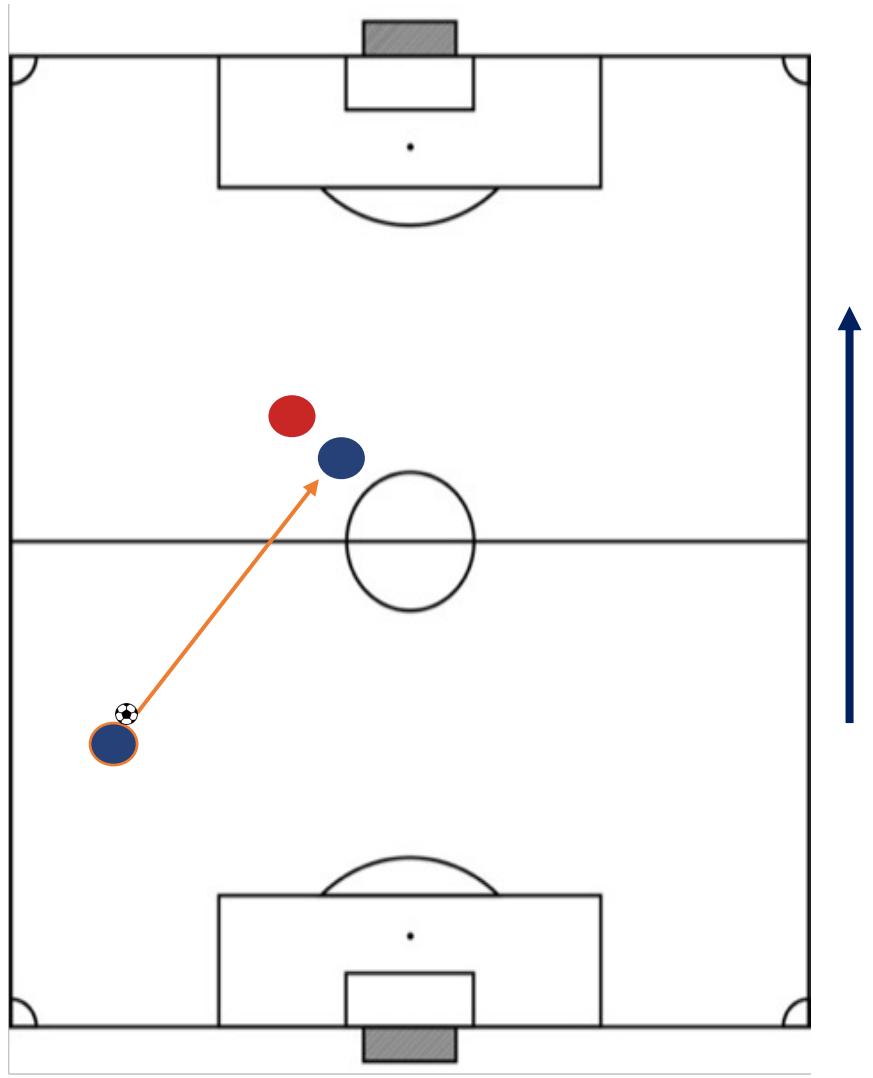


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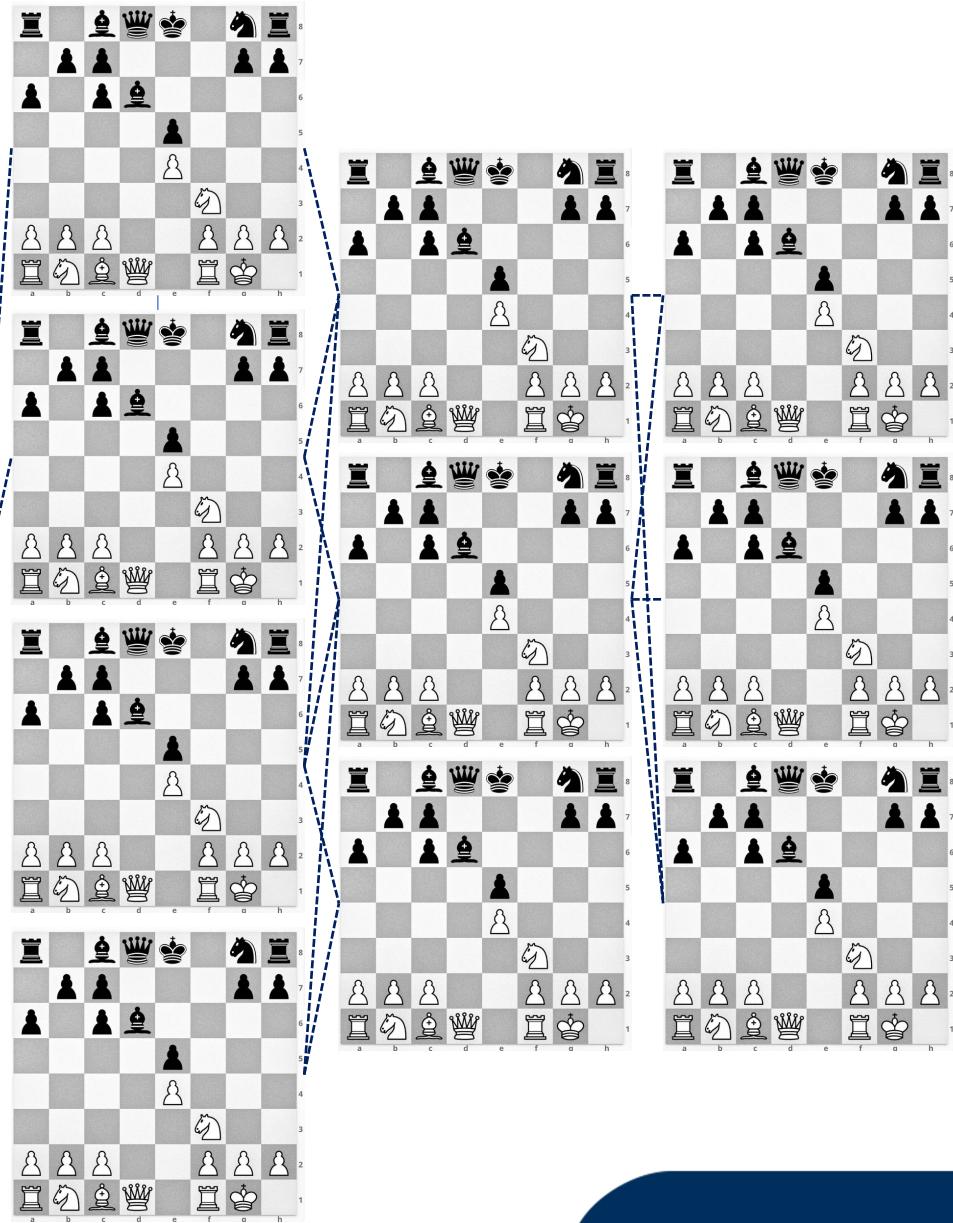
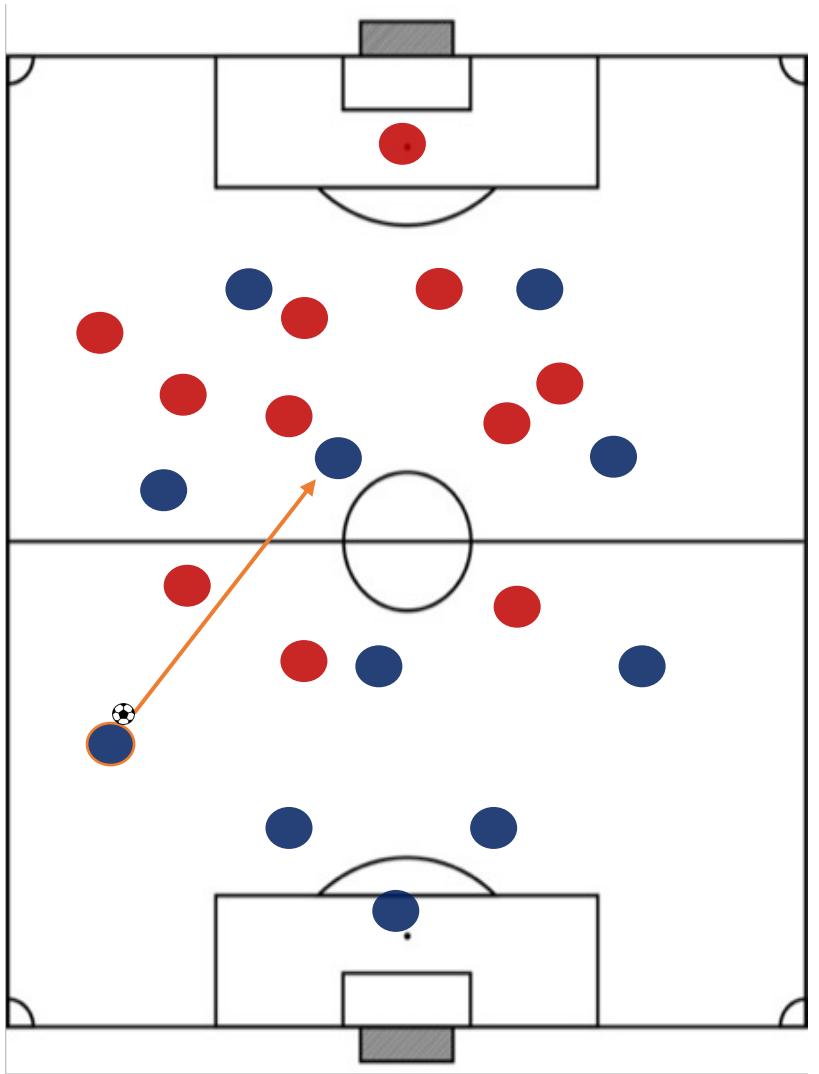
Inspire

SCISPORTS



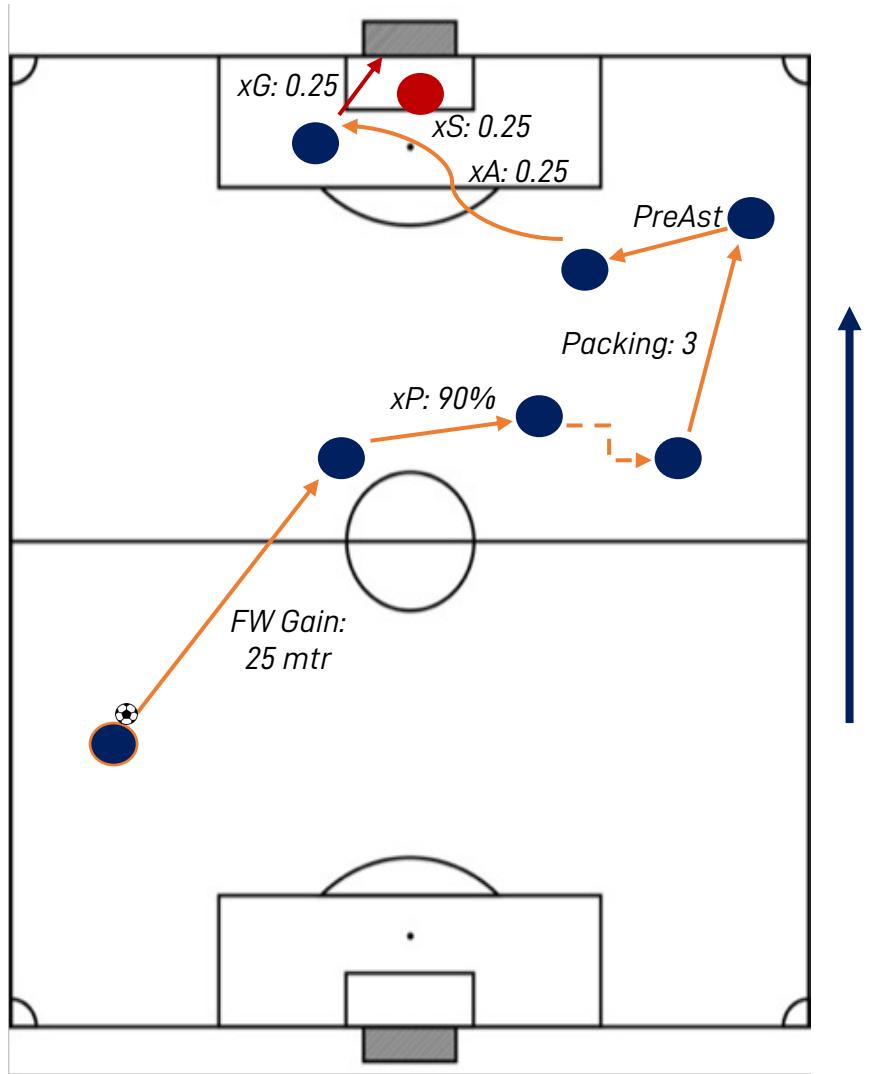
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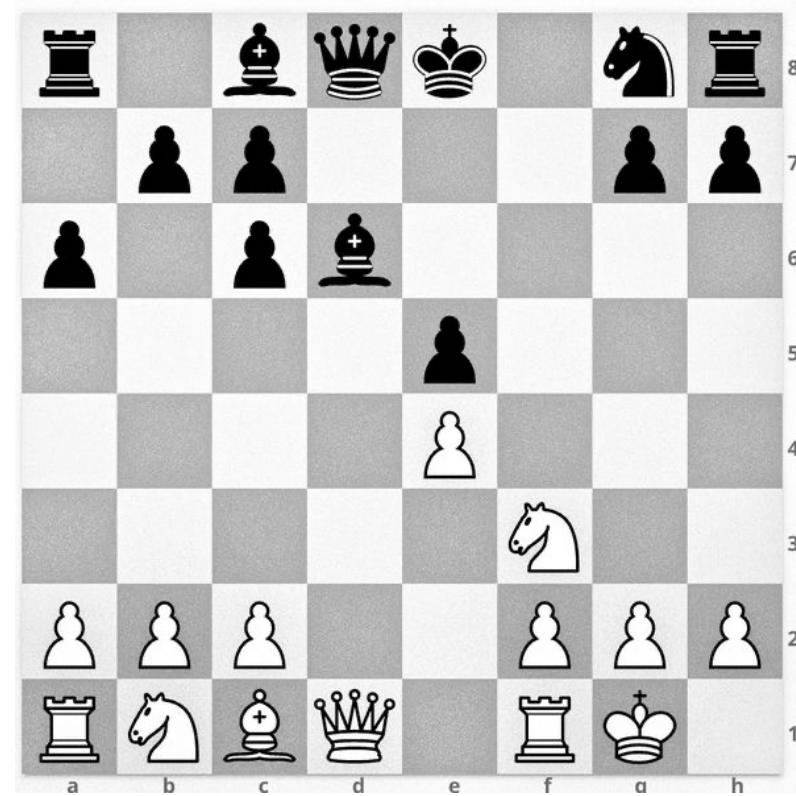
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	Duke	Alabama
Possession (%)	36.1	63.9
Passes	533	1136
Pass Accuracy (%)	54.0	79.9
Final 3rd Penetrations	24	102
Score Box Penetrations	6	15
Shots	11	28
Shots on Target	6	11
Big Chances	5	9
Fouls	20	24
Free Kicks	14	16
Goal Kicks	14	8
Throw Ins	34	41
Corners	2	16
Yellow Cards	3	3
Red Cards	0	0



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Granularity



Availability



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PLAYER	ROLE	TIME	TOT DIST	M/MIN	DIST >20KM/H	DIST >25KM/H	HI-RUNS	SPRINTS
Swen Schäfer	GOA	87	4.741	54	17	1	1	0
Felix Friedmann	FOR	87	10.679	122	1.071	294	38	17
Isaia Bergamaschi	DEF	86	11.111	128	970	221	33	14
Miguel Barbosa	DEF	87	9.148	105	596	94	28	5
Dyan Eding	DEF	79 ↓	8.060	101	378	97	22	7
Alfonso Lo Duca	MID	66 ↓	8.478	128	699	130	38	7
Quintijn Schreur	MID	87	10.463	120	527	242	13	10
Dany Rijssbergen	MID	83	10.550	126	727	98	31	6
Julian Goncalves	MID	87	11.472	131	920	102	45	6
Jordie Habing	MID	66 ↓	8.120	123	696	171	32	9
Linus Bloemen	FOR	66 ↓	8.070	122	684	197	28	10
Ernesto Emons	MID	1	272	152	18	7	0	1
Jorno Strijbis	FOR	20 ↑	2.273	109	172	39	8	2
Louis Brooks	MID	20 ↑	2.277	109	305	82	14	5
Louis Guilmette	MID	20 ↑	2.447	118	260	39	10	3
Idris Habte	DEF	7 ↑	883	121	65	0	3	0
Average (All fieldplayers)	-	-	6.953	120	539	121	23	7

Disclaimer: This report is based on live data and therefore dependent on the live data provider. Therefore, SciSports cannot guarantee the same quality compared to our post match reports.

Are we measuring the right
things?

- What happened?

- How did it happen?

- Why did it happen?

- What could have happened?

European Journal of Sport Science, 2020
<https://doi.org/10.1080/17461391.2020.1747552>

REVIEW

Unlocking the potential of big data to support tactical performance analysis in professional soccer: A systematic review

F.R. GOES ¹, L.A. MEERHOFF ², M.J.O. BUENO⁵, D.M. RODRIGUES³, F.A. MOURA ⁵, M.S. BRINK¹, M.T. ELFERINK-GEMSER¹, A.J. KNOBBE², S.A. CUNHA ⁴, R.S. TORRES³, & K.A.P.M. LEMMINK¹

¹Center for Human Movement Sciences, University of Groningen, University Medical Center Groningen (UMCG), Groningen, The Netherlands; ²Leiden Institute of Advanced Computer Sciences (LIACS), Leiden University, Leiden, The Netherlands;

³Institute of Computing (IC), University of Campinas, Campinas, Brazil; ⁴Sport Sciences Department (DCE), University of Campinas, Campinas, Brazil & ⁵Sport Sciences Department, State University of Londrina, Londrina, Brazil



 Check for updates



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Goes et al. EJSS (2020)

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- What happened?
- How did it happen?
- Why did it happen?
- What could have happened?



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Goes et al. EJSS (2020)

SCI SPORTS

- What happened?
- 
- How did it happen?

**How does this
help me win?**



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Goes et al. EJSS (2020)

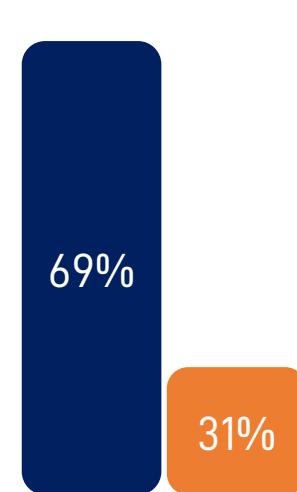
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Link to (contextual) succes

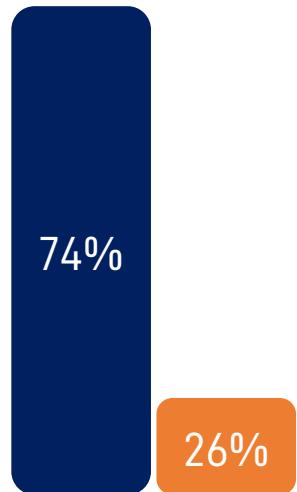
- What happened?



- How did it happen?



Sports Science
(N=54)



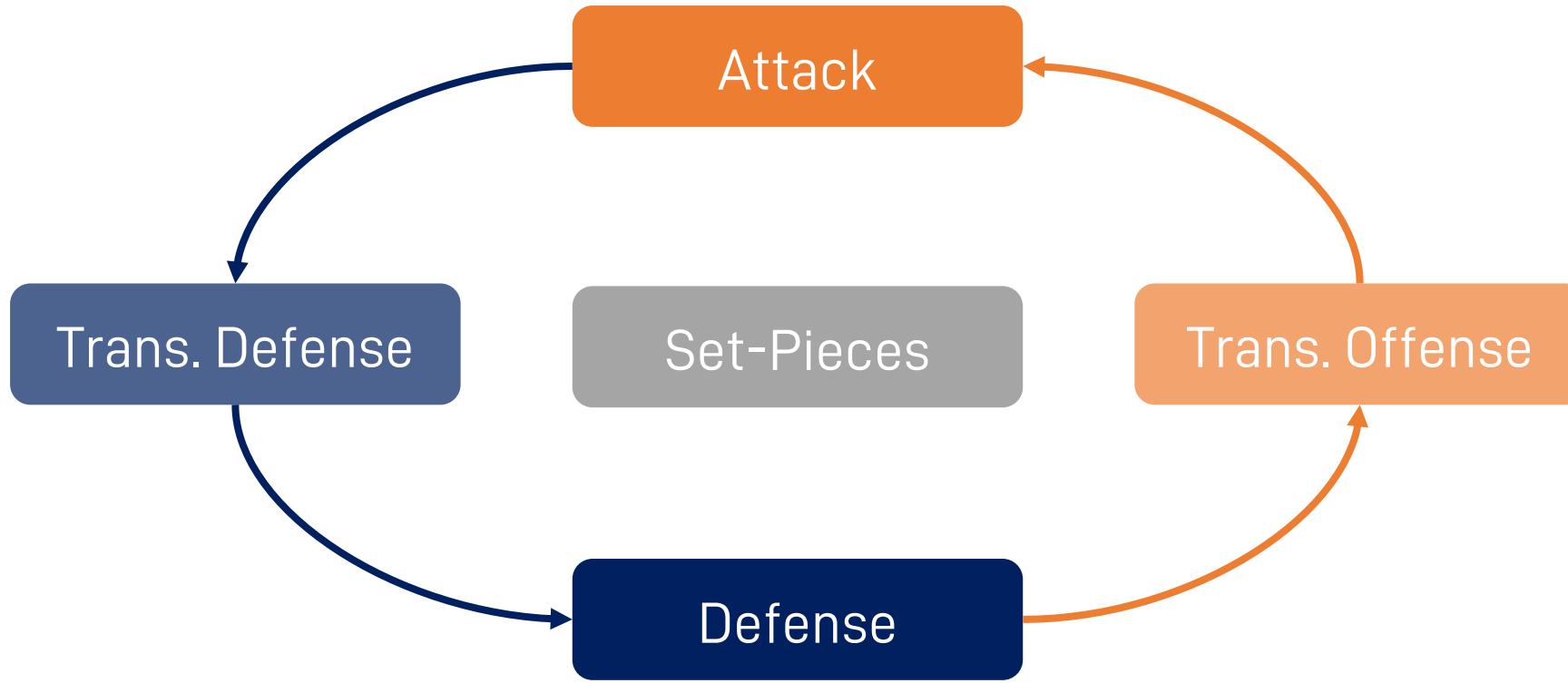
Computer Science
(N=19)



People who don't understand football
analyse with statistics

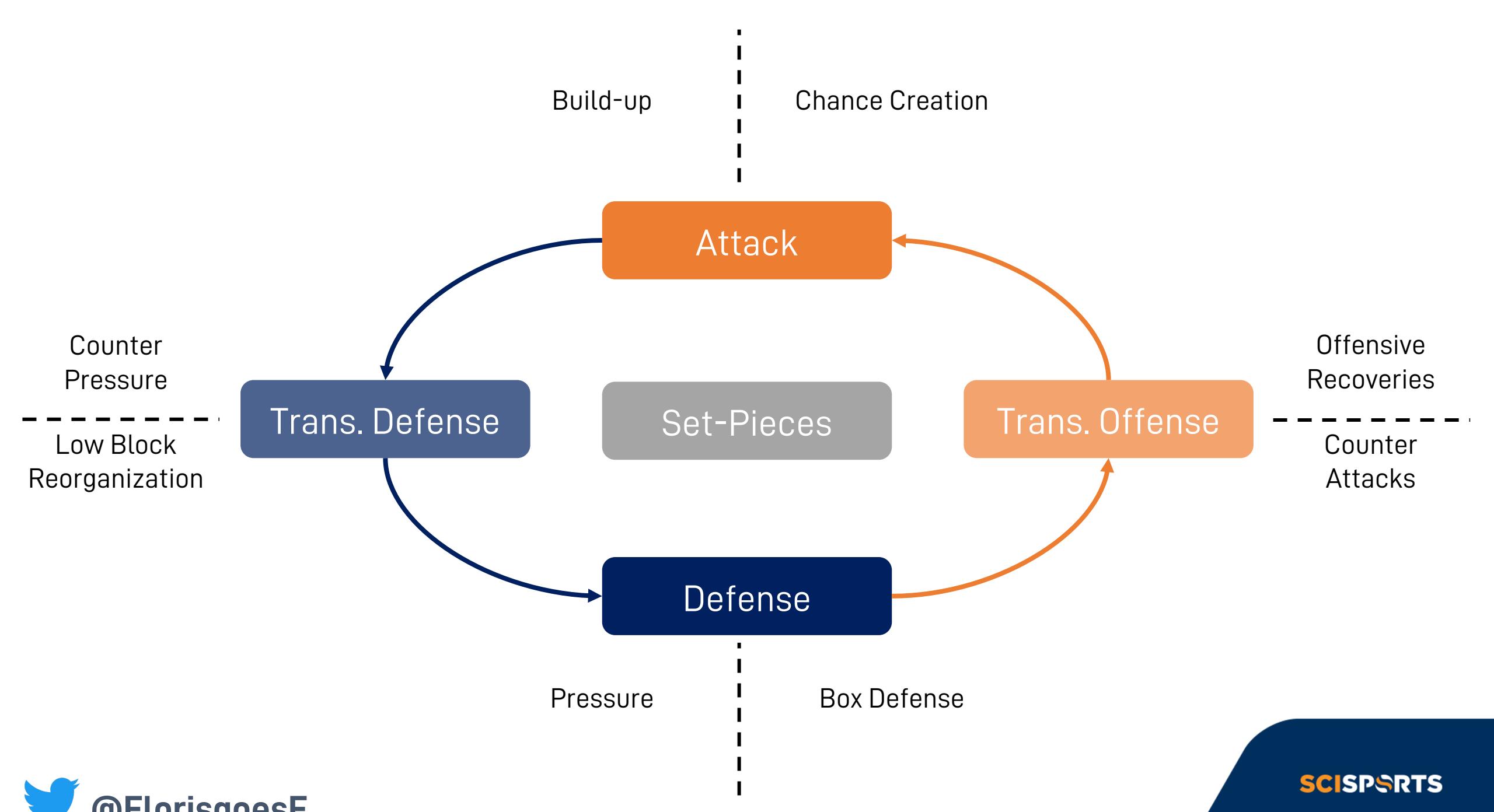
Context, Context, Context

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Space x Time Interaction in Context

Counter Pressure

Low Block
Reorganization

Build-up

Chance Creation

Attack

Defense

Pressure

Box Defense

Aggressive Recoveries

Counter Attacks



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Physical x Tactical: Total Distance

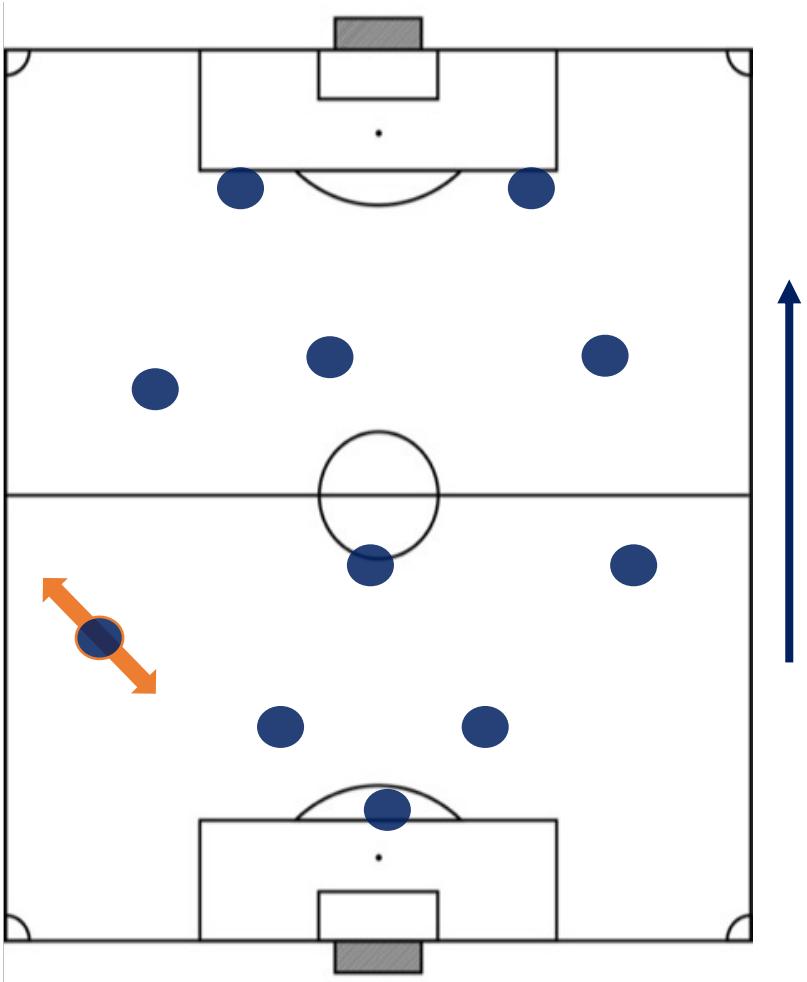
Team Tactical: Inter-Team Coupling



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Physical x Tactical: Total Distance



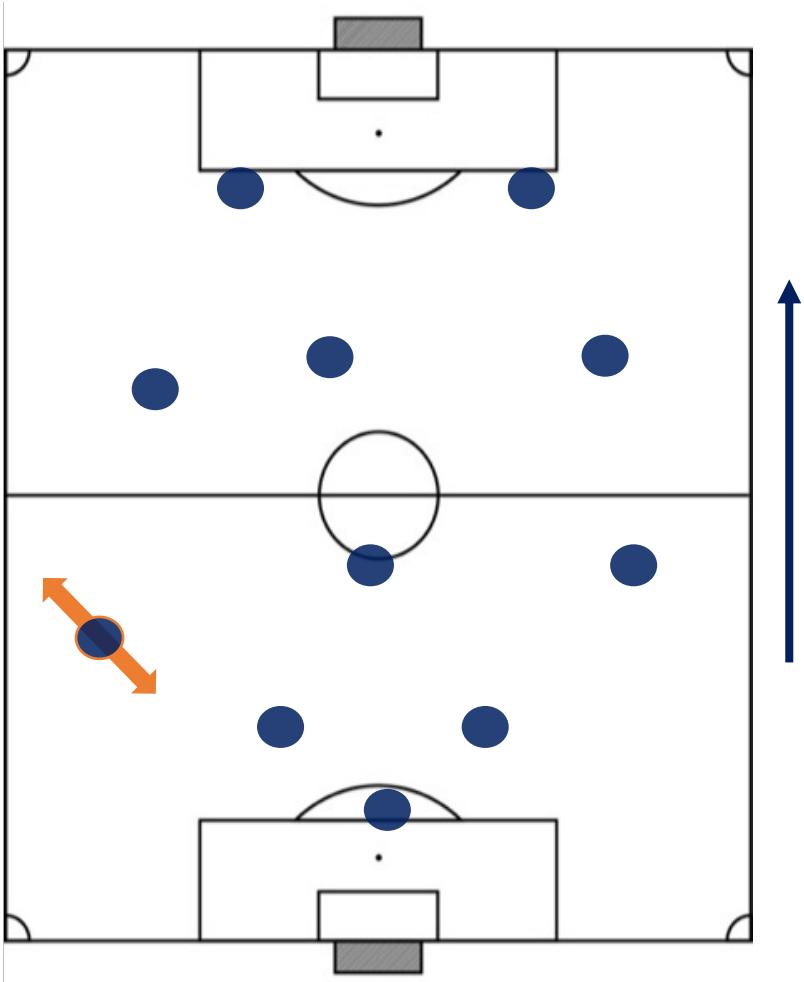
Team Tactical: Inter-Team Coupling



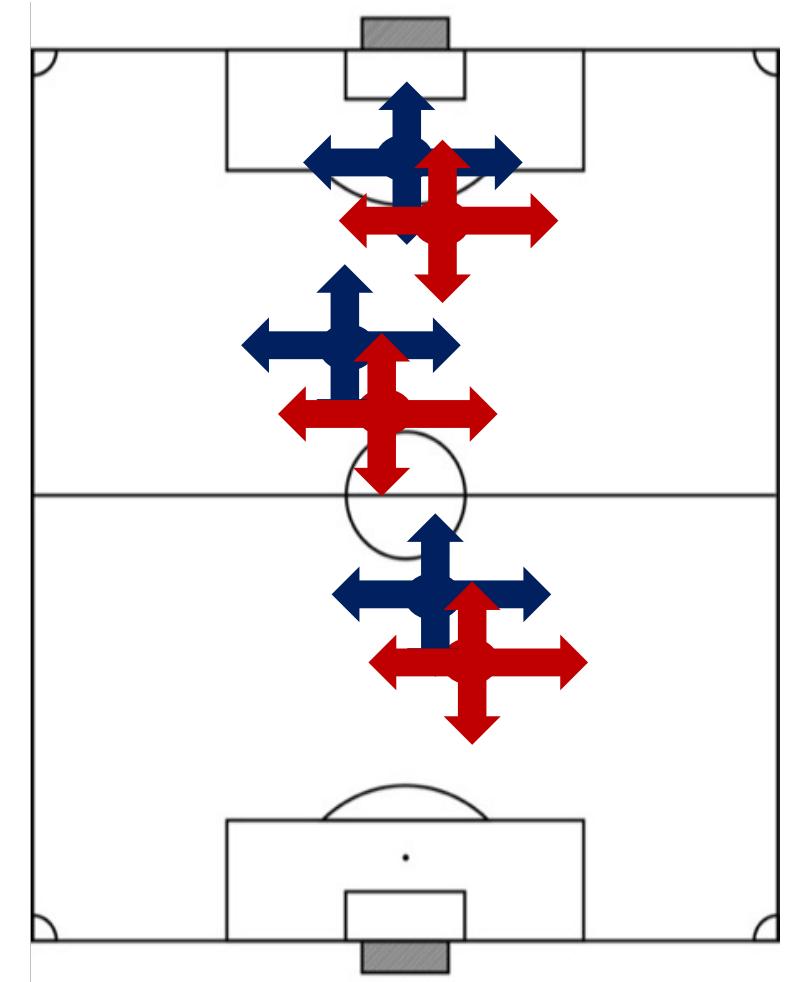
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Physical x Tactical: Total Distance



Team Tactical: Inter-Team Coupling



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Physical report

GWR 1 - 1 GCN 08/09/2020 | Football League



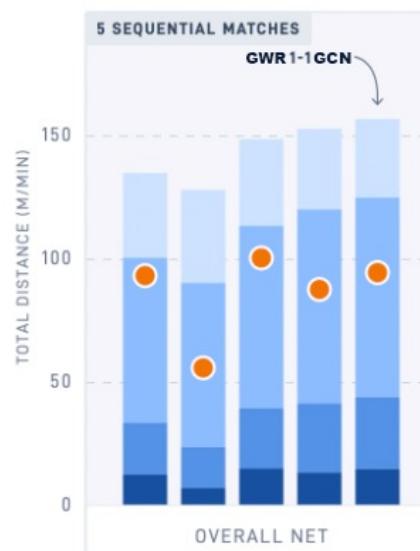
Physical

Overall net i[DOWNLOAD PDF](#)

Overall net

Team distance and intensity i Opponent values

Attacking

[TO PHYSICAL PERFORMANCE DETAILS](#)

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Physical report

FT 2 - 0 MTR 24/02/2021 | Football League

Physical

Overall net

Attacking

Attack → Defense

Defending

Defense → Attack

Attacking

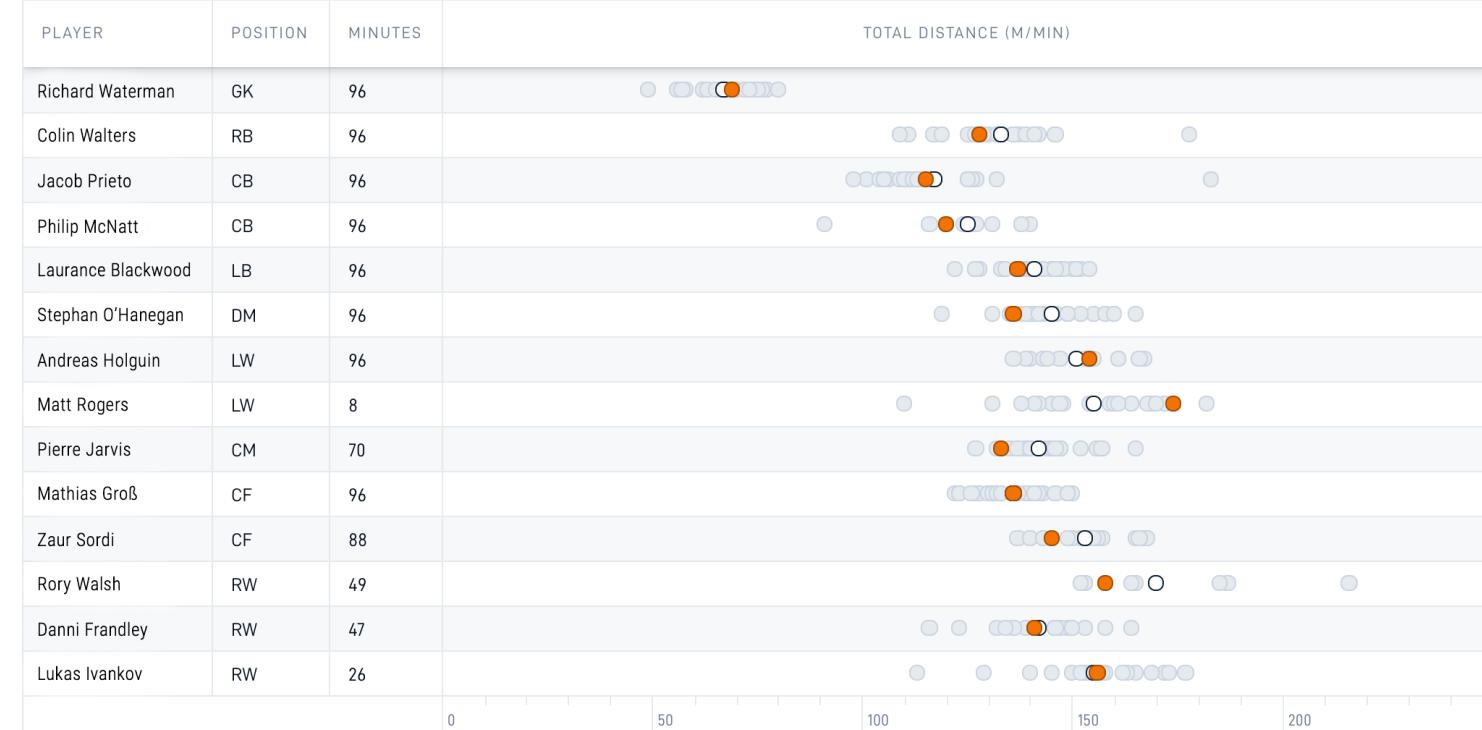
TEAM

PLAYERS

DOWNLOAD PDF

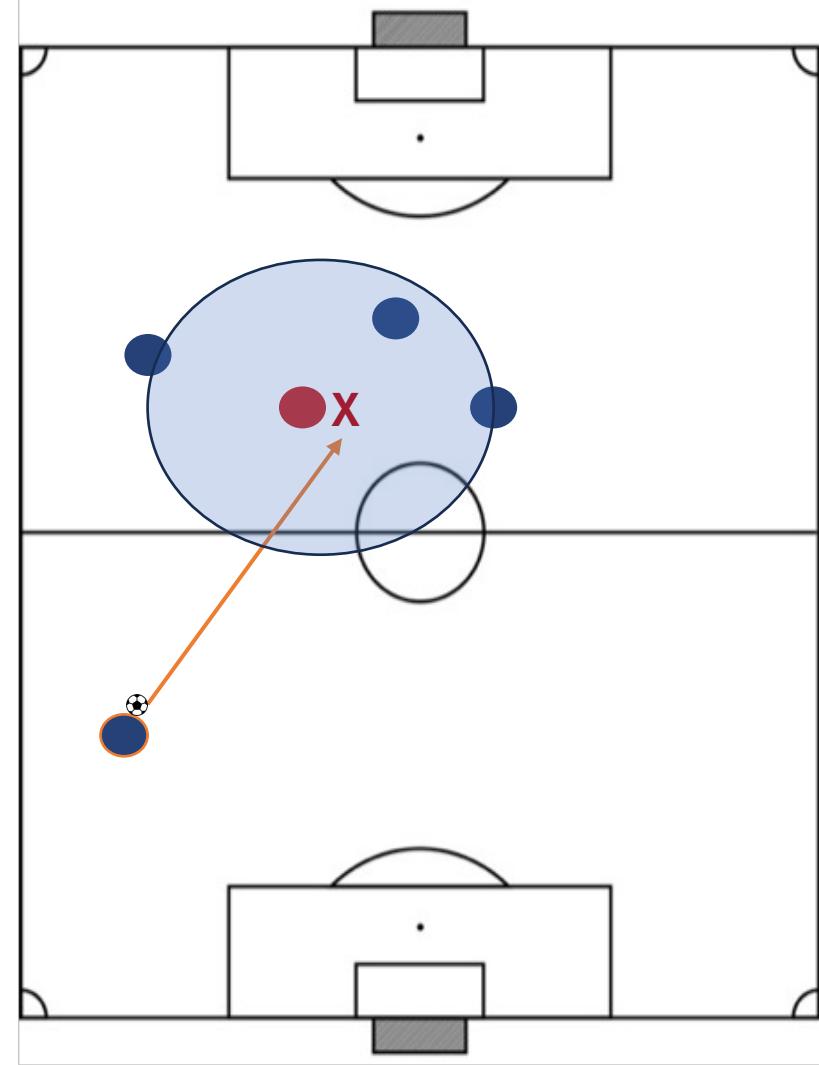
Player distance and intensity

Total distance (m/min)

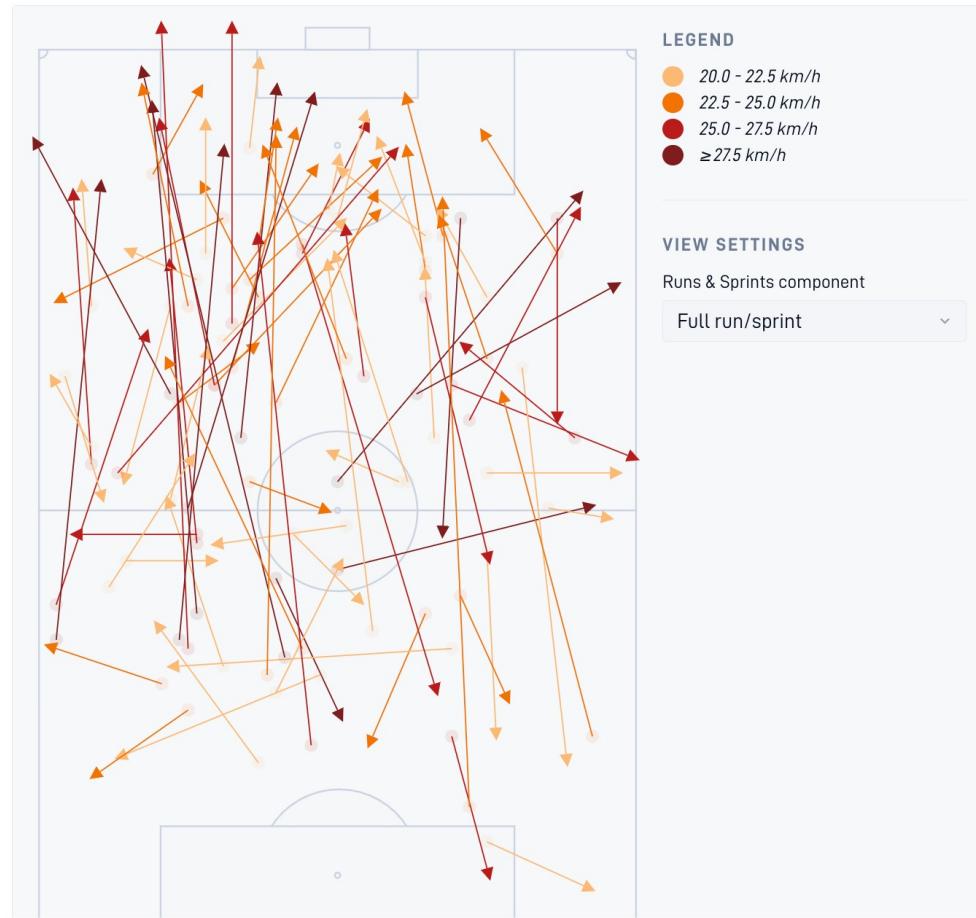


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Counter Pressure Intensity



Attacking Transition / Med+ intensity



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FIGURE 2

Rose plots of relative phase distributions for inter-team variables.

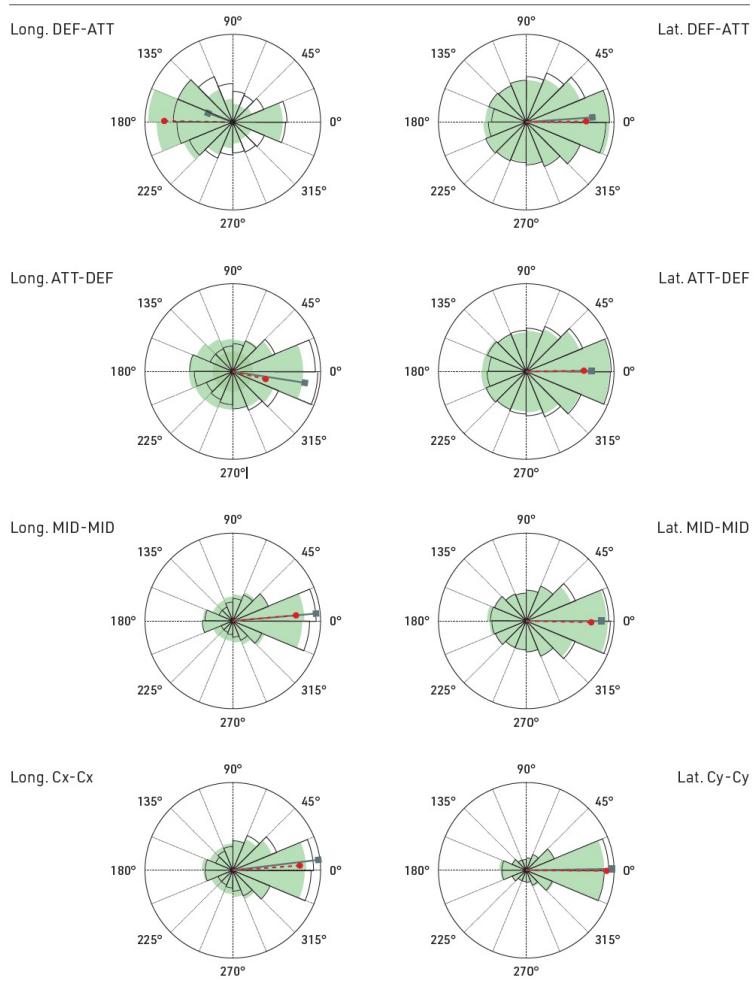
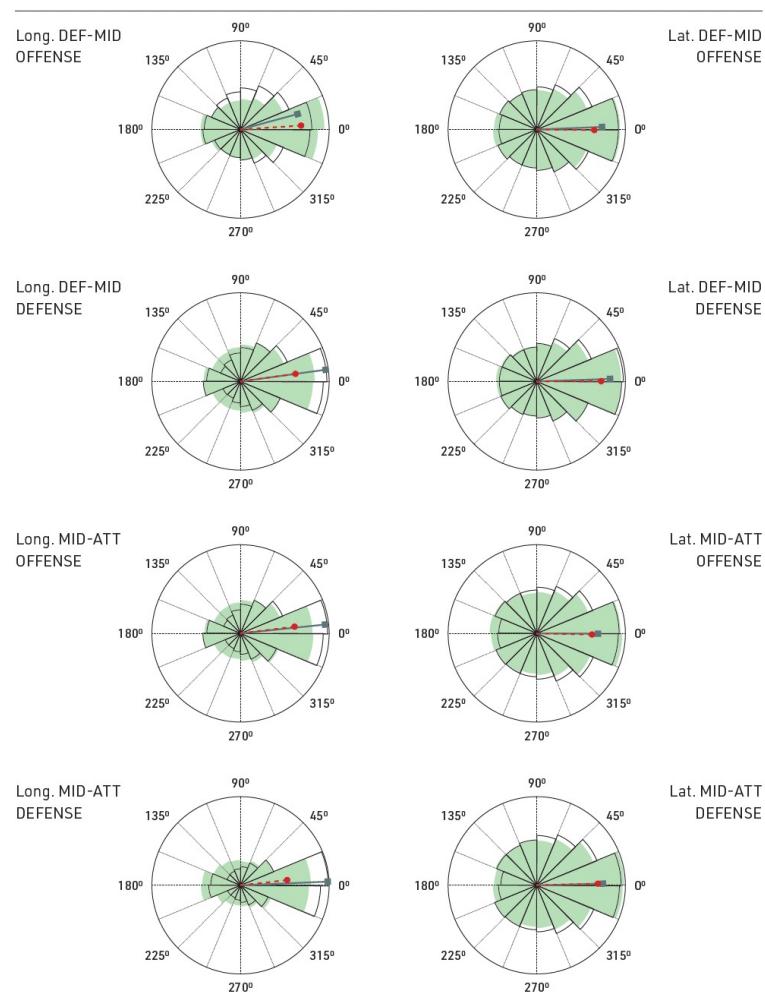
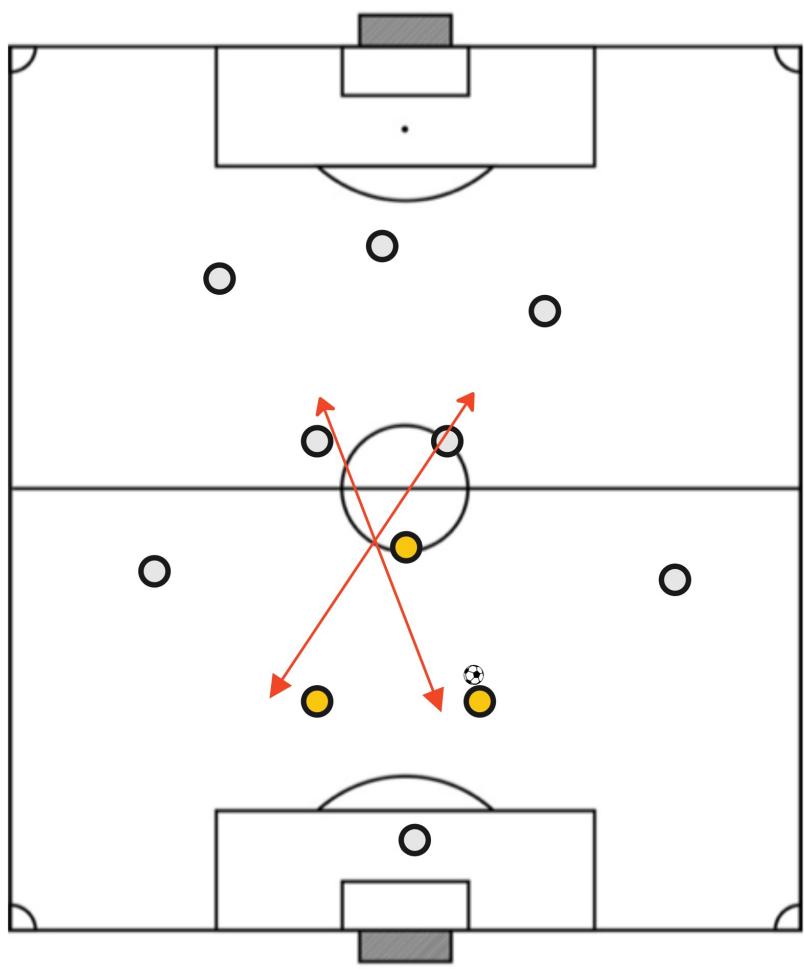


FIGURE 3

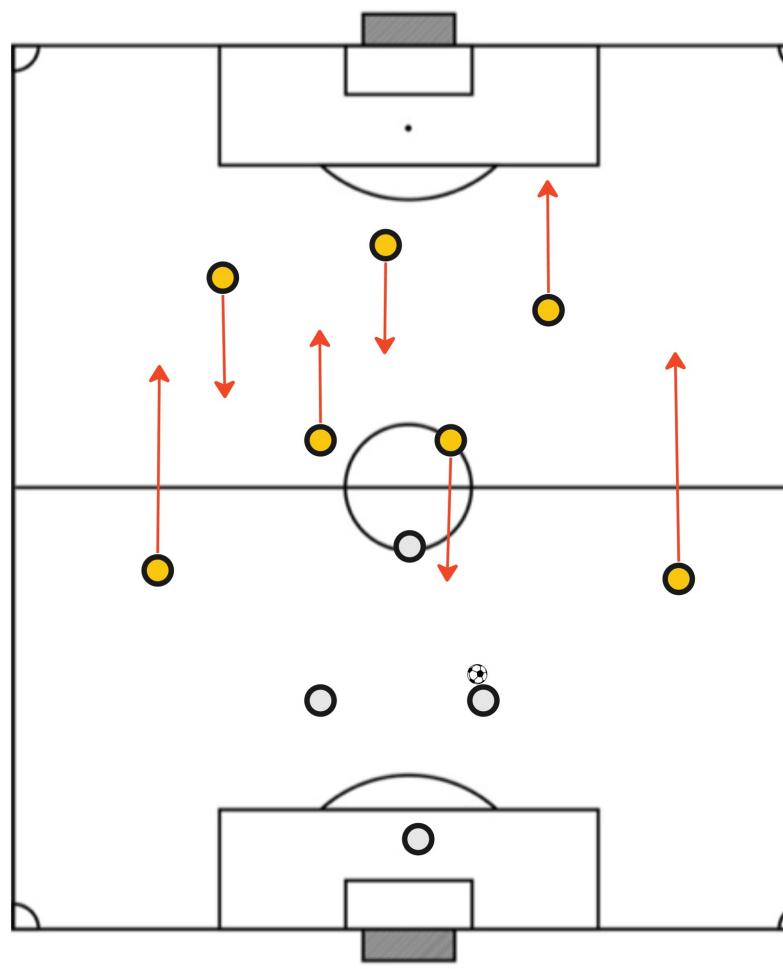
Rose plots of relative phase distributions for intra-team variables.



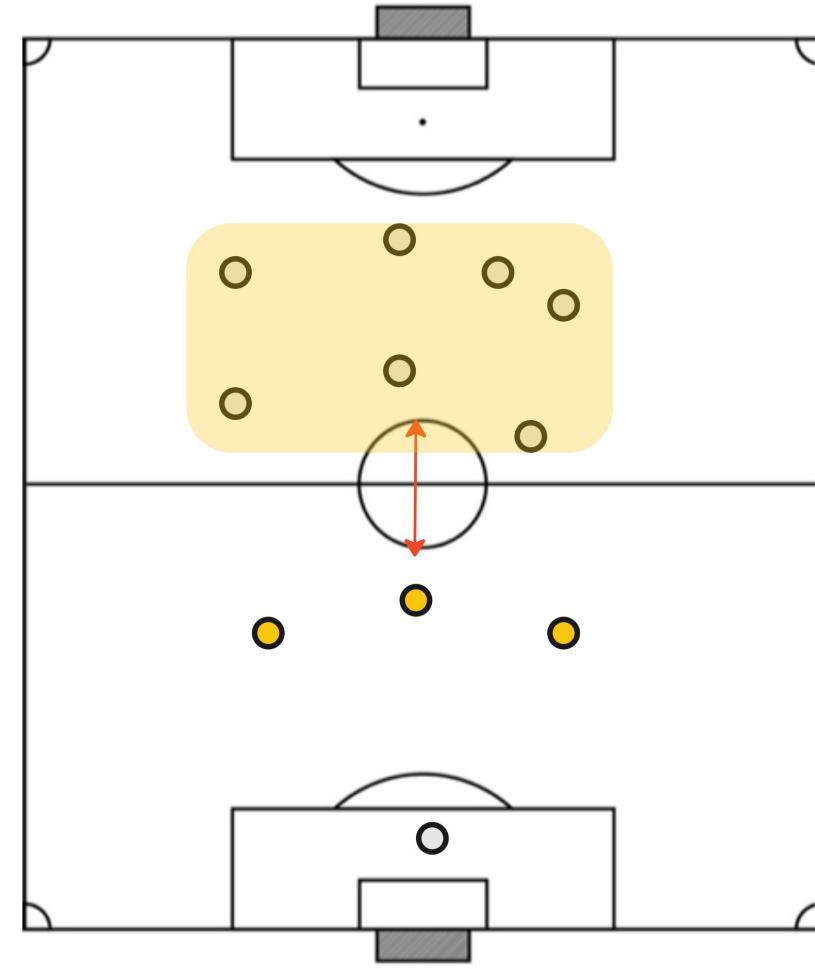
On Ball Disruption



Off Ball Disruption



Defensive Asynchrony



How to make valuable information actionable?

My Game Plan

ATTACK → DEFENSE

Conceded shots

High pressure

Final third penetrations

MATCH SETTINGS

Team

FC SciSports

Matches

AFC 0-5 SCI 28/11/2020

Pitch zone



NEW ANALYSIS

Final third penetrations

EDIT ANALYSIS



CUSTOMIZE COLUMNS

TIME	MATCH	SUCCESSFUL BALL RETRIEVAL	FINAL ZONE PENE
51'	SFC 0-5 SCI 28/11/2020	Yes	Final third (within 10m)
52'	SFC 0-5 SCI 28/11/2020	No	Final third (within 10m)
54'	SFC 0-5 SCI 28/11/2020	No	Final third (within 10m)
Average (All)	-	-	-

J. Wall

A. Doe

B. Someone

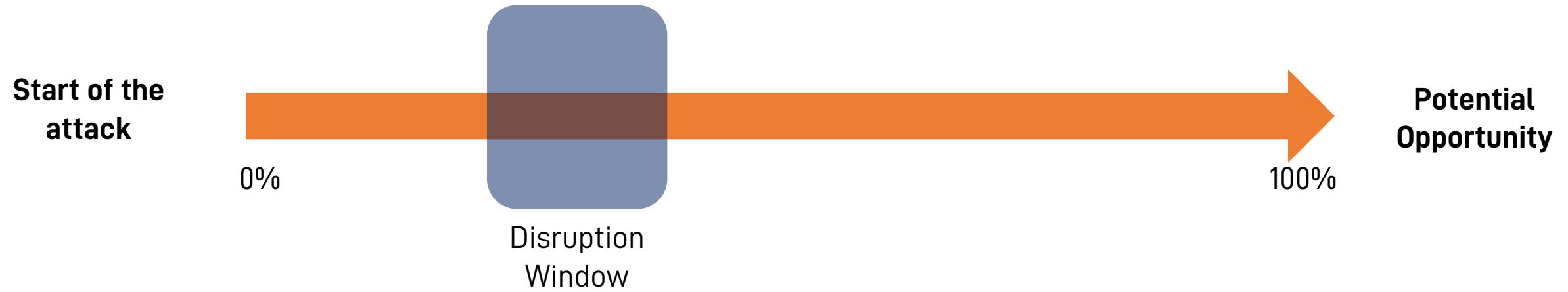


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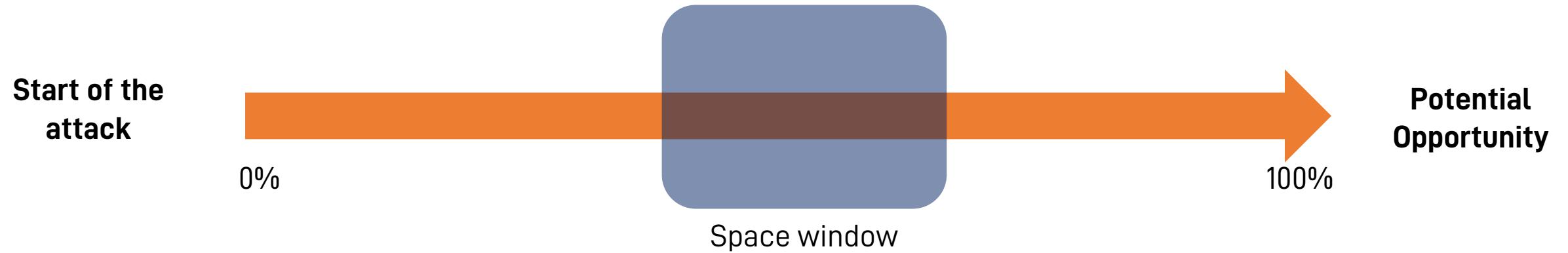
Timeline of a successful attack



Timeline of a successful attack

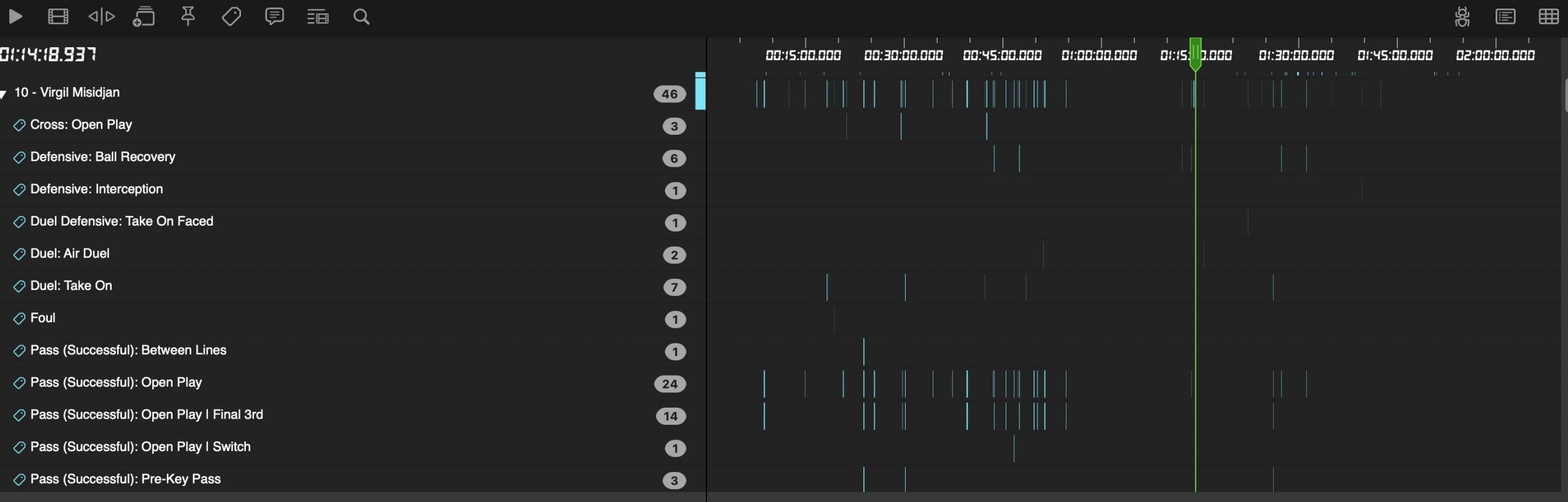


Timeline of a successful attack





Timeline



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Thank You

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