

STATS PERFORM



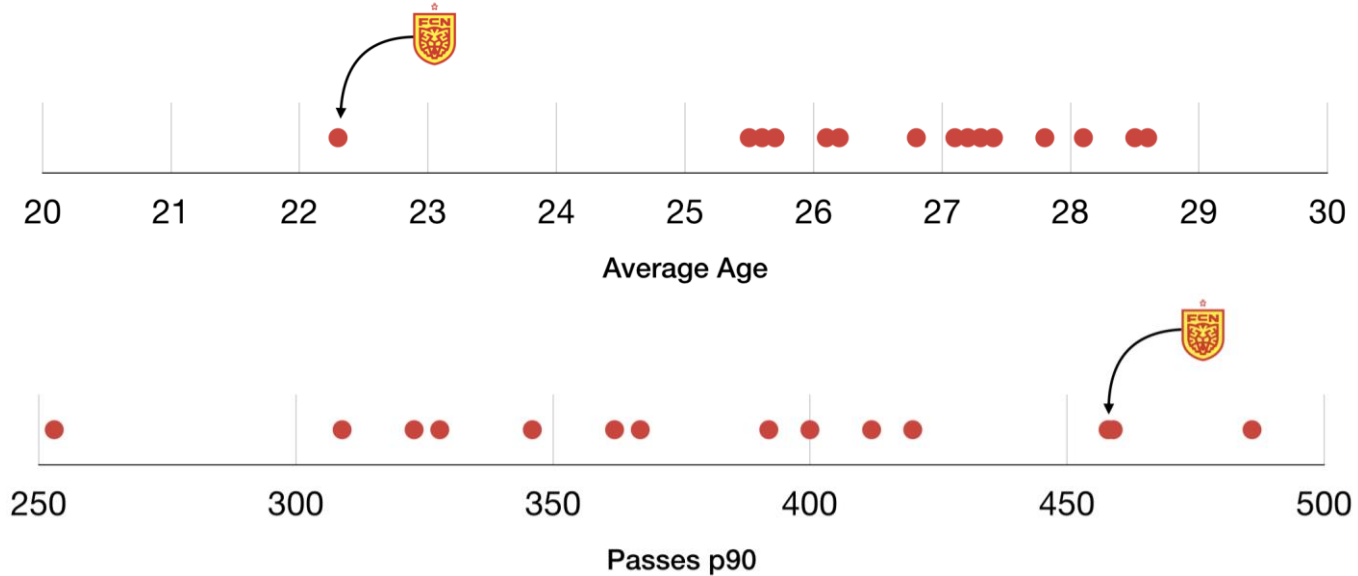
optapro

**Identifying and evaluating
strategies to break down a low-
block defence**

Vignesh Jayanth |  @VigneshJayanth1 | #OptaProForum



FC NORDSJÆLLAND



- 1 of 2 artificial pitches in Danish Superliga, big advantage in winter
- Most teams in the league will often defend in a low block against us





“We have a gut feel for how effective our strategies are at breaking a low-block but we have no hard evidence to challenge our assumptions”

“Using data to evaluate how we implement our game model is it's most interesting use case”

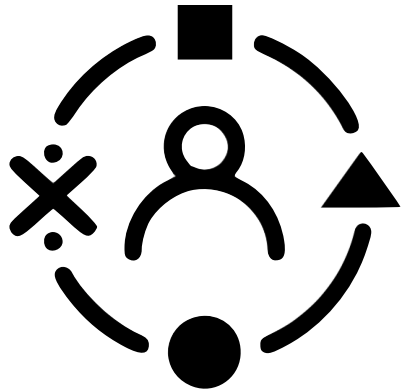
Flemming Pedersen, Head Coach



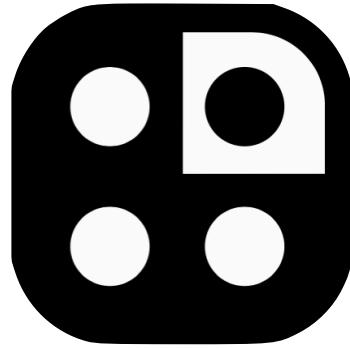
Key Takeaways...

- How is a low-block defined and how do we translate this through data?
- Identifying a methodology that identifies a low block and can be implemented
- How can a low-block be broken?
- How do the strategies employed directly link to game model?
- How can these bespoke metrics be used to analyze low block situations?
- How can this solution be directly linked to performance analysis

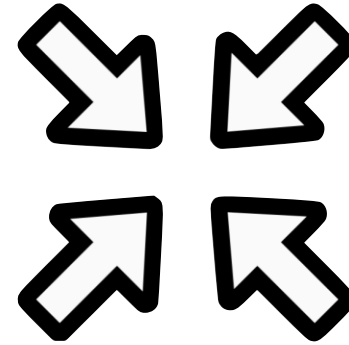
Working In Partnership With a Club....



expert
knowledge
to hand



specific
use case



narrowing
the focus of
investigation

The Challenge...

Identifying and
evaluating strategies
to break down
a **low-block**

This proposal should
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The Challenge...

Identifying and **evaluating strategies** to break down a **low-block**

This proposal should focus on overarching strategies within this particular scenario, however a focus should be on the **tactical approach of FCN**

- 1 Use tracking data to identify low-block situations
- 2 Identify when FCN successfully break a low-block
- 3 Use FCN play-book definitions to label strategies in use
- 4 Assess the strategy frequency and effectiveness

The Approach...

Rules-based concept,
using temporal-
geometrically triggers, rules
and filters

Positives:

- Lean on expert knowledge
- Buys acceptance of idea
- Coaches own false/positives
- Club specific
- No scary black-box to explain

Negatives:

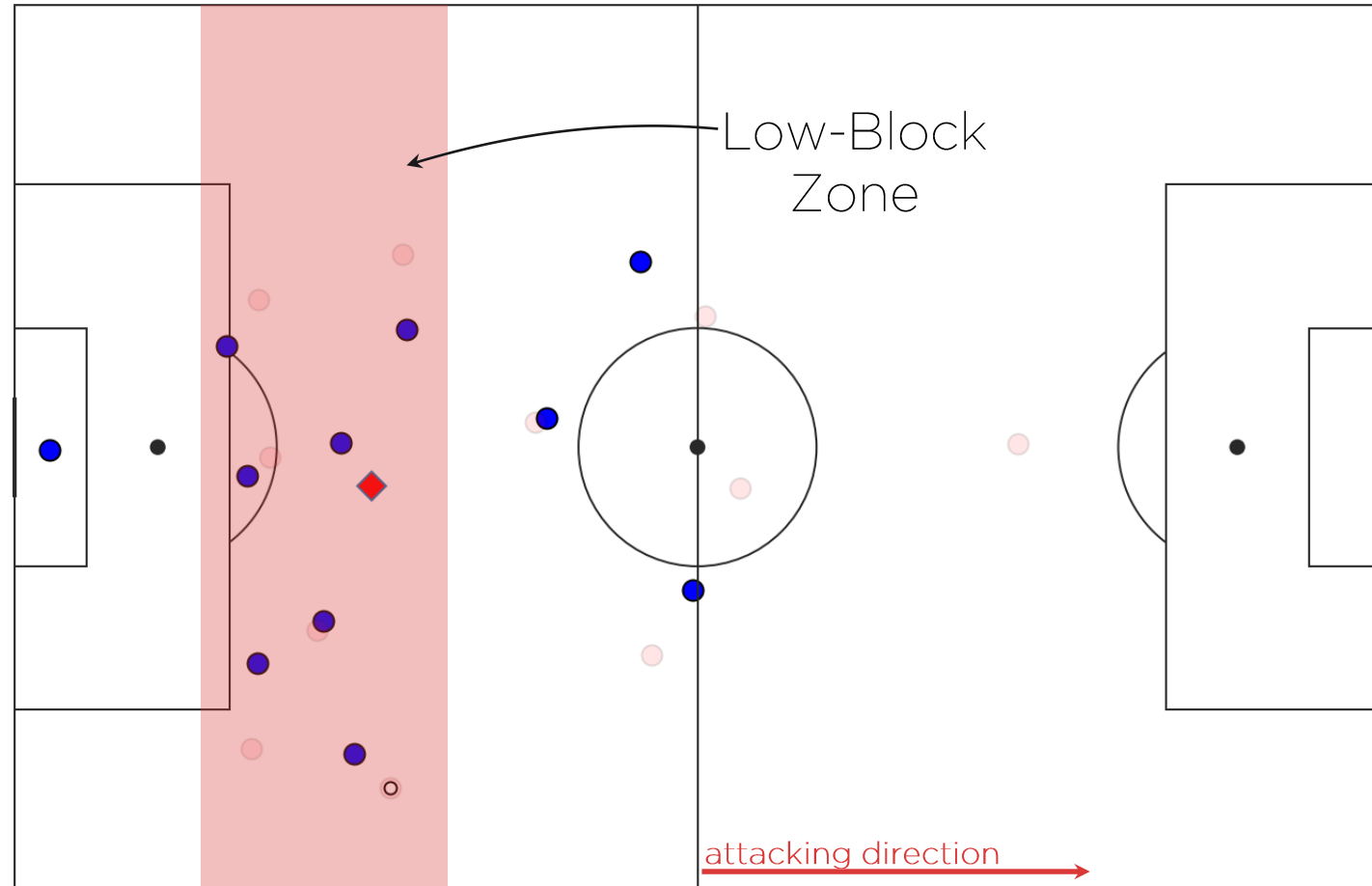
- Less tech sexy
- Iterative process

1 Use tracking data to identify low-block situations

All Rules must be passed

Rule 1:
to identify
a **low-block**

The 'centroid' of
the defensive team lies
within the
'Low-Block Zone'

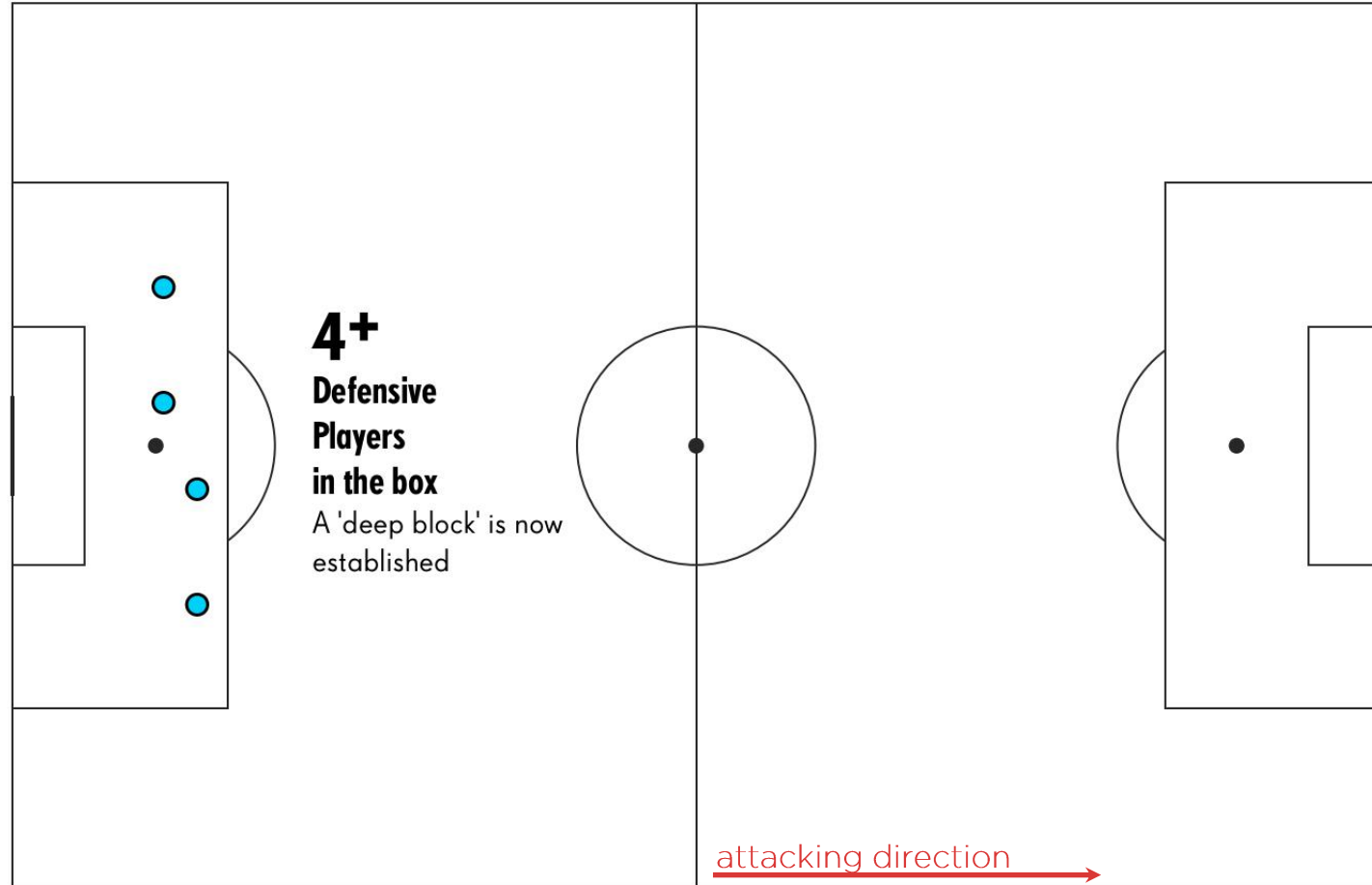


1 Use tracking data to identify low-block situations

All Rules must be passed

Rule 2:
to identify
a **low-block**

No more than 3
defenders in
the box

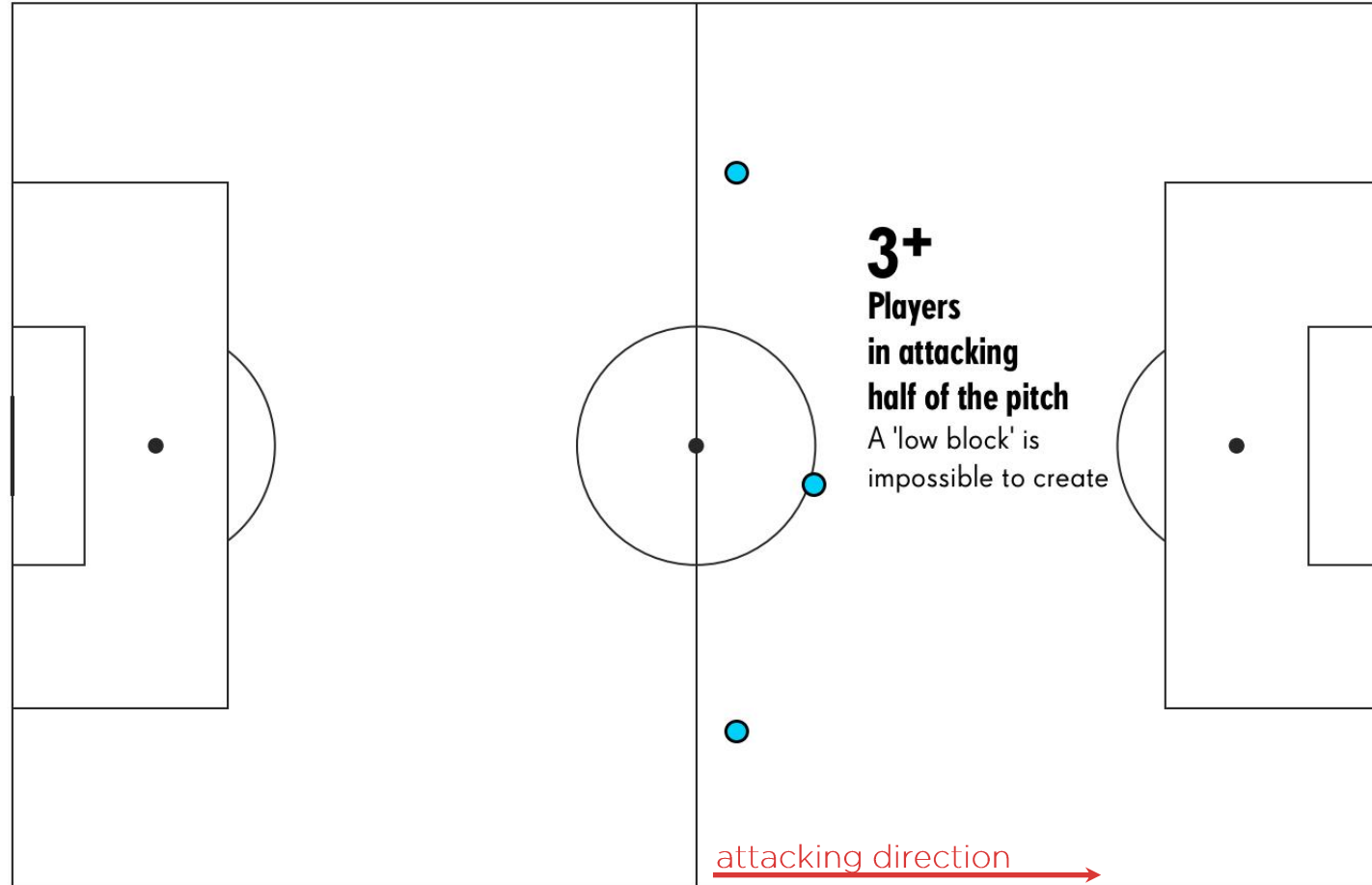


1 Use tracking data to identify low-block situations

All Rules must be passed

Rule 3:
to identify
a **low-block**

No more than 2
defensive players in the
FCN half

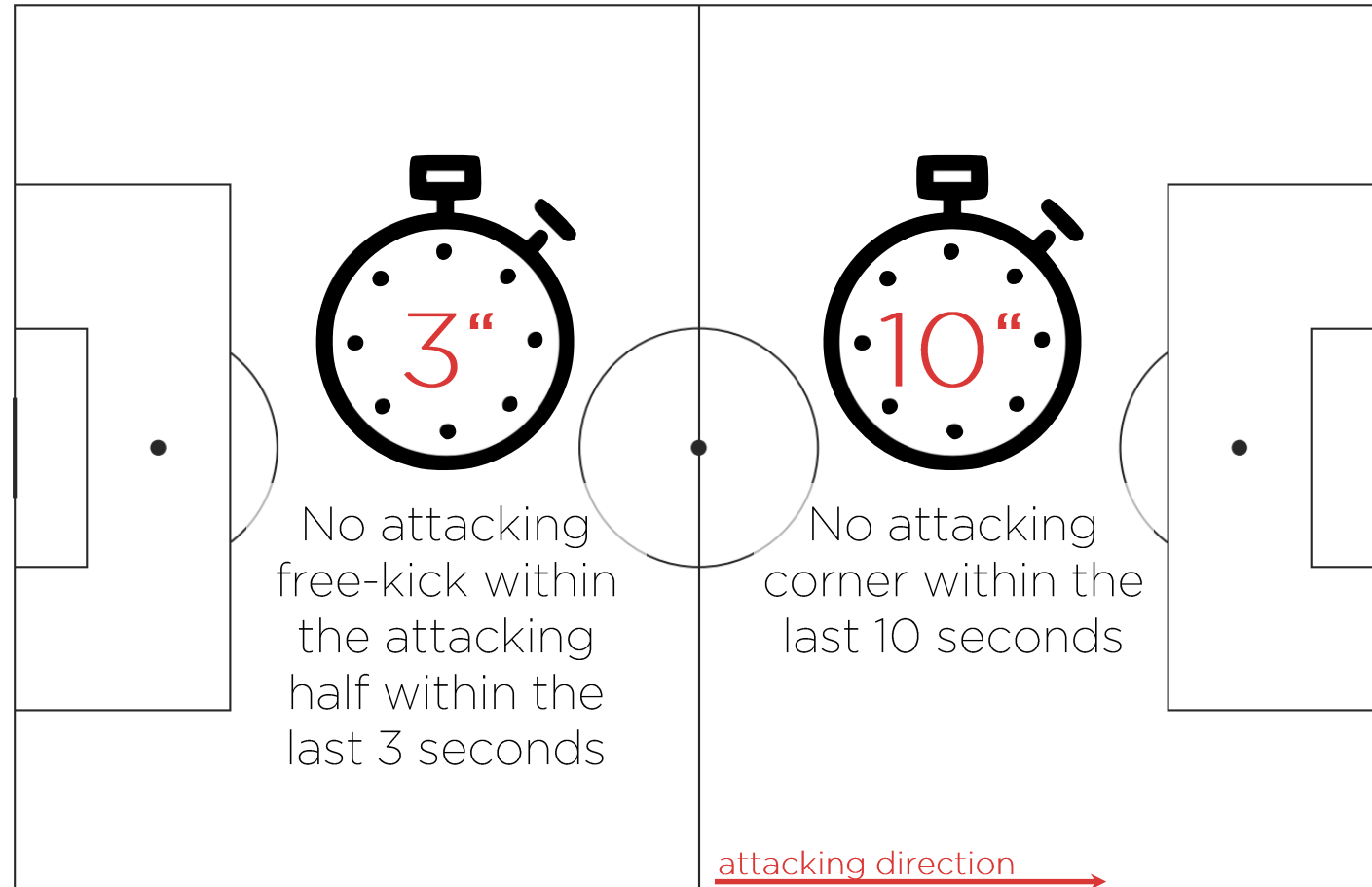


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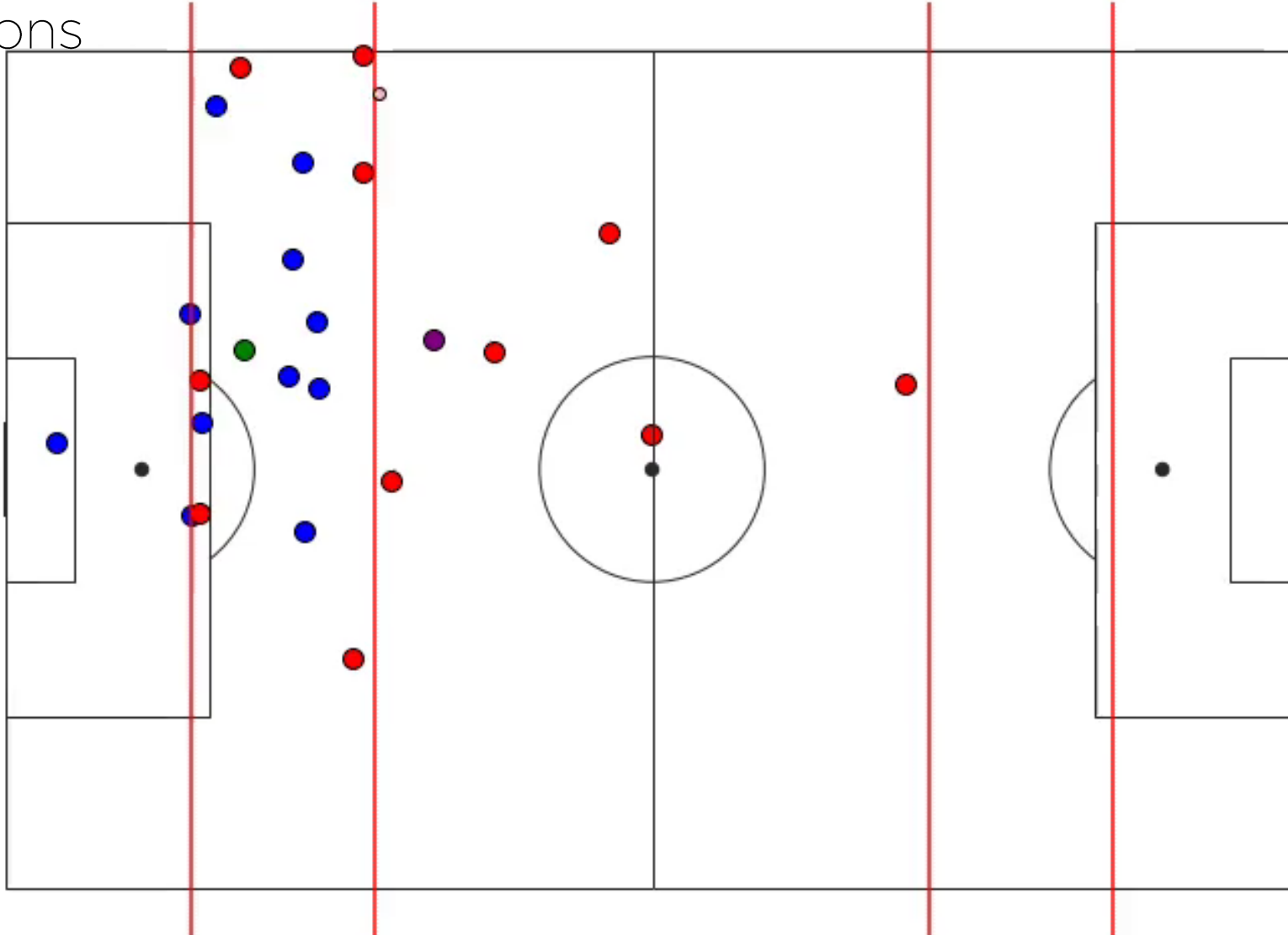
All Rules must be passed

Rule 4 & 5:
to identify
a low-block

Time base rules around
set-pieces



1 Use tracking data to identify low-block situations





“I have always felt that this sort of classification model should be trained using supervised learning with some sort of encoded representation of tactical shape and coach-tagged frames.

But I’m starting to move my thinking over to temporal-geometrically defined models like this one”

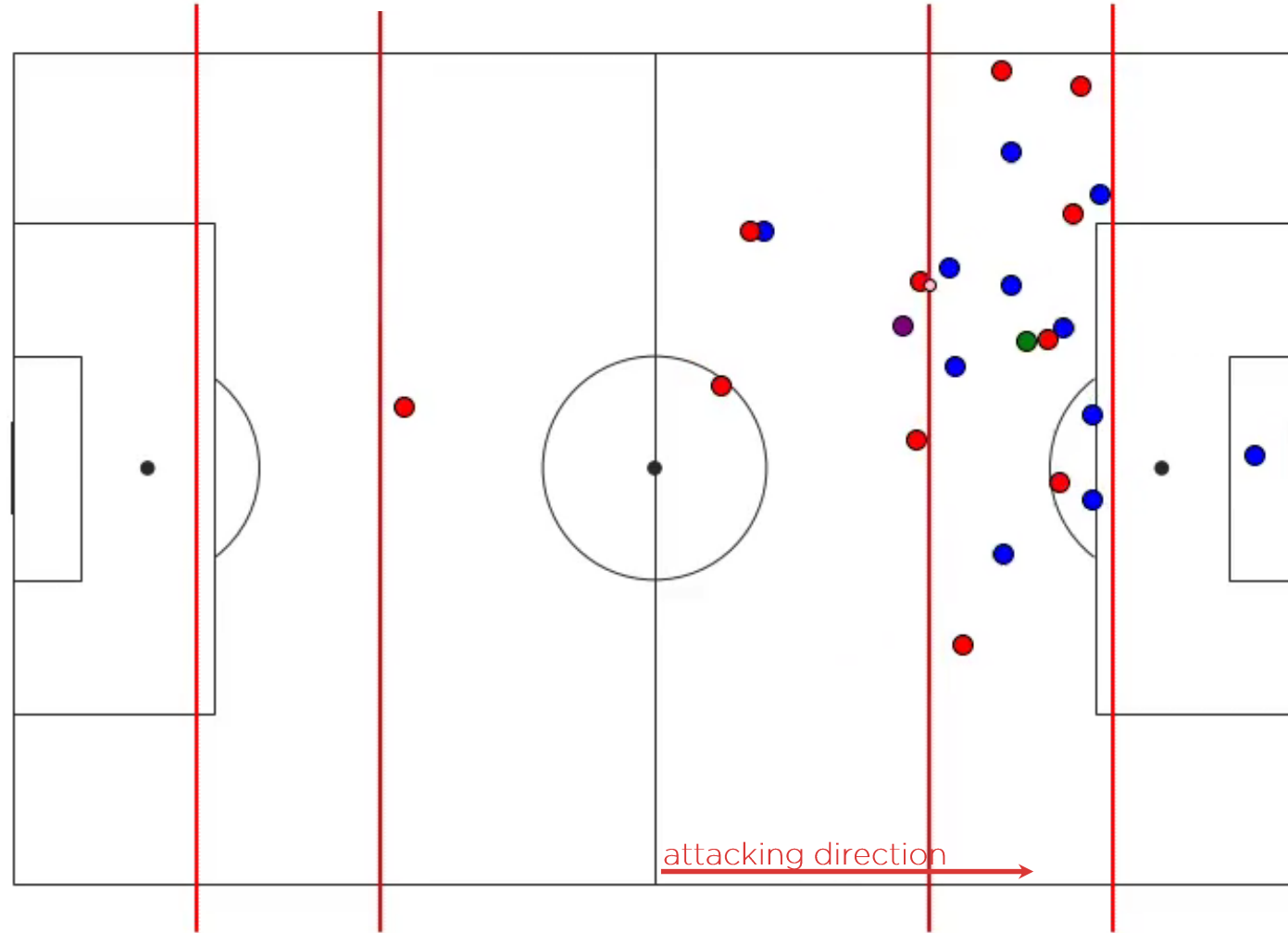
Devin Pleuler, Director of Analytics



2 Identify when FCN successfully break a low-block

A low-block structure is successfully broken when:

An FCN player receives the ball in-behind of the last two defenders (average position)



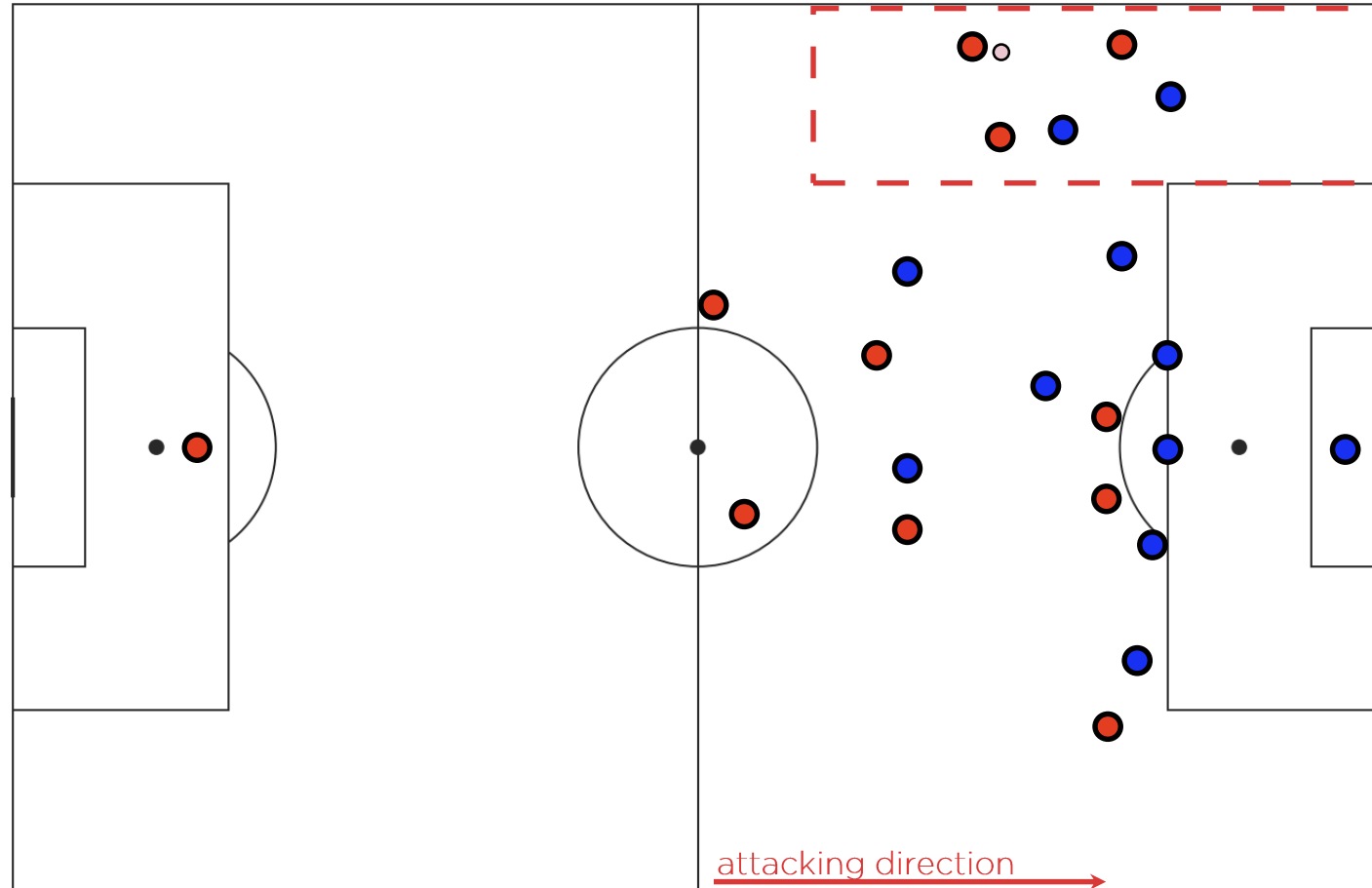
3 Use FCN play-book definitions to label strategies in use

Strategy 1:

Wide Overloads

An equal or numerical advantage in the wide areas of the pitch.

Players encouraged to play slow then quick, to break with runs down the half-space



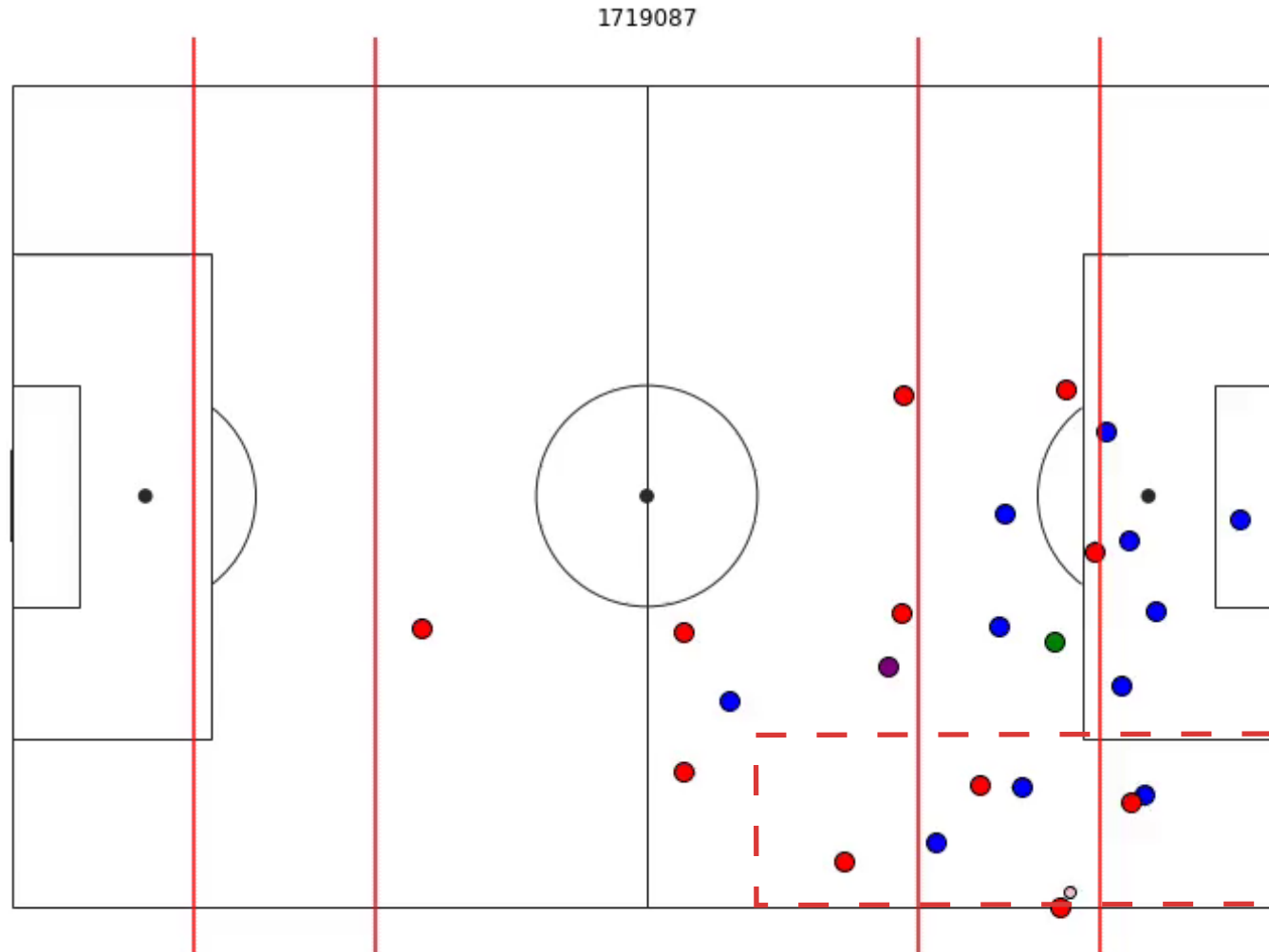
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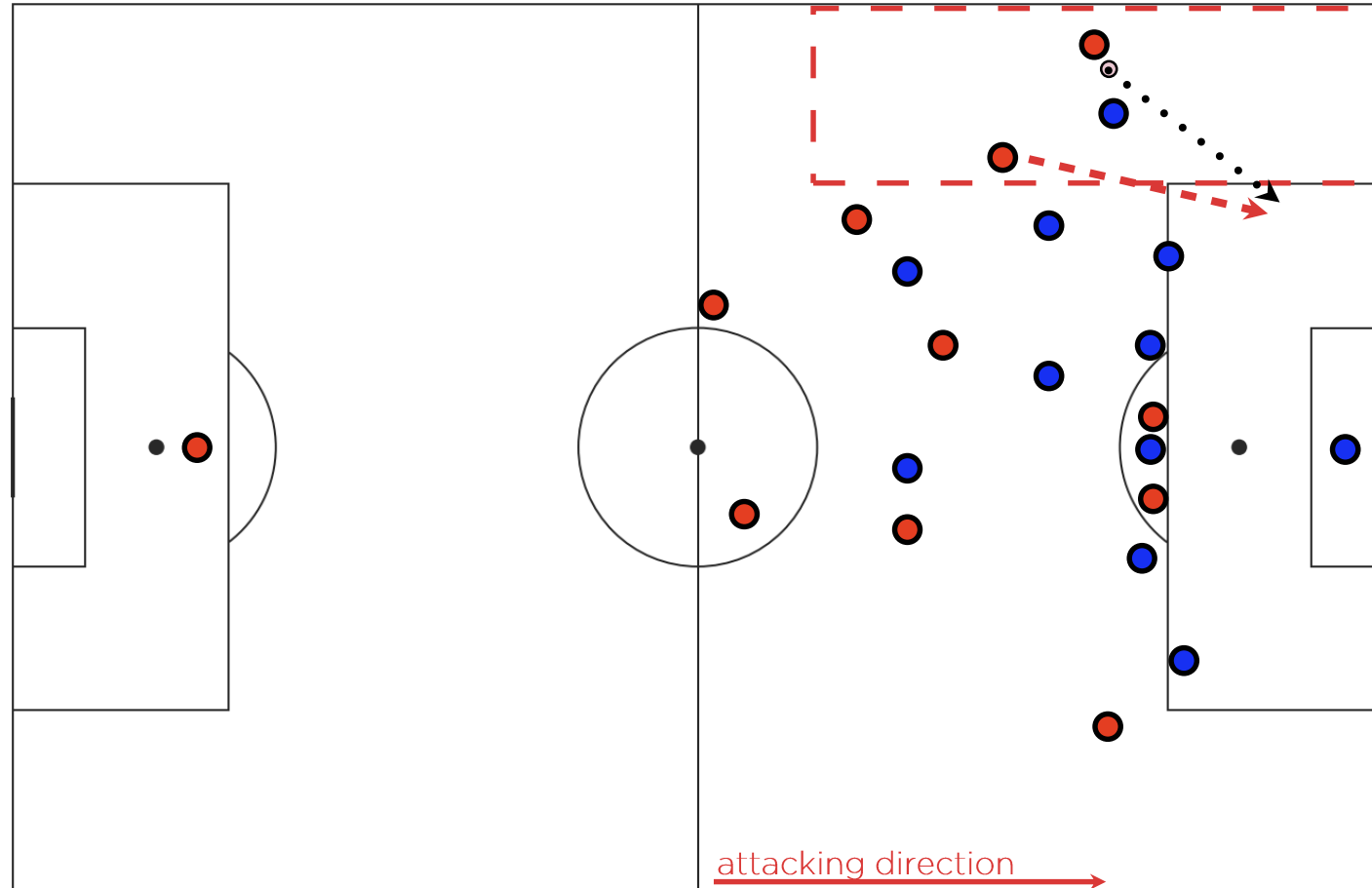
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Strategy 2: Wide Pocket to Half-Space Run

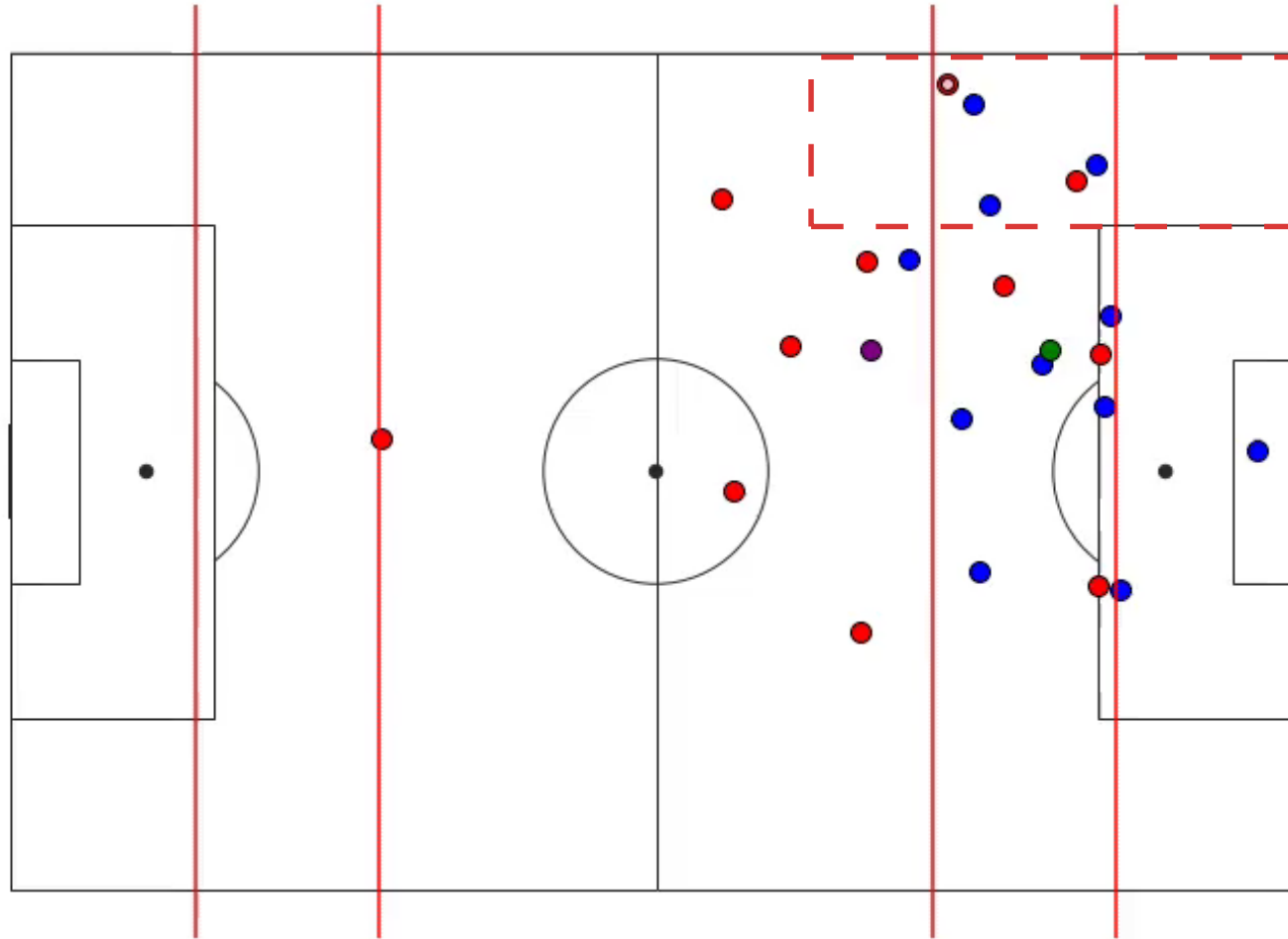
Possession in wide areas, gaps in defence within the half-space, assertive runs



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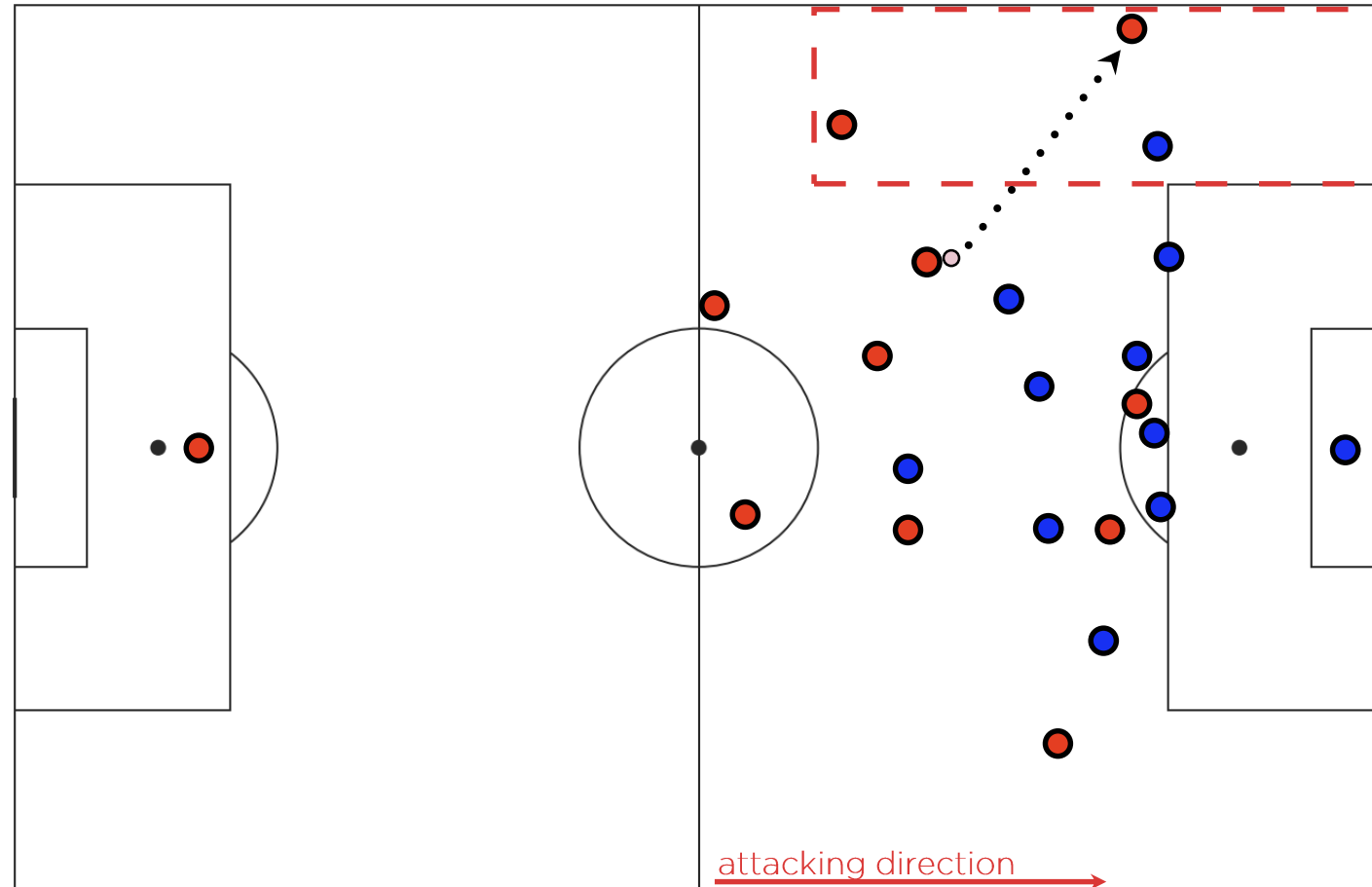


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Strategy 3:

Fast Switches to Wide Zones

Importance of high speed of pace when playing into wide areas.

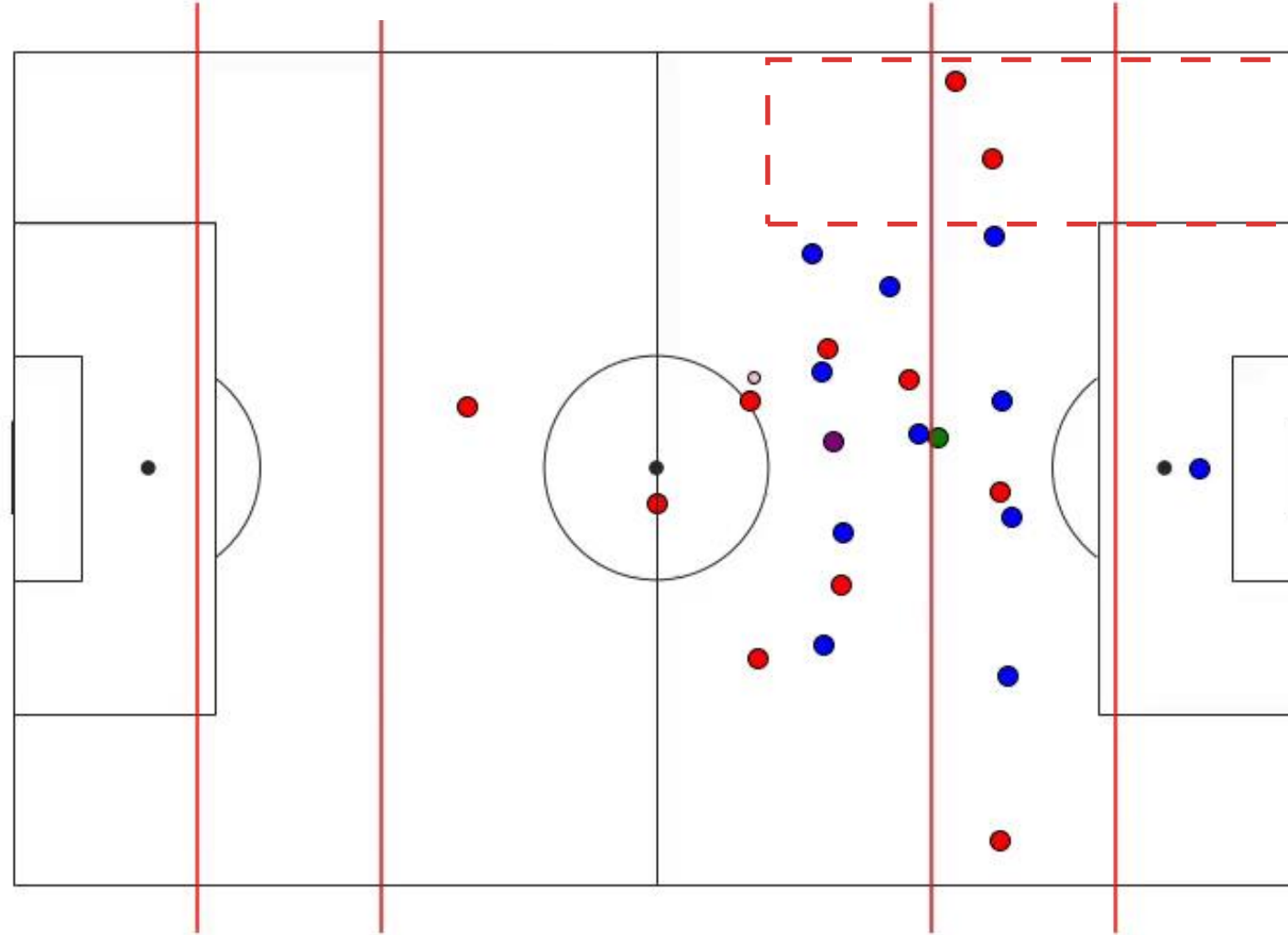


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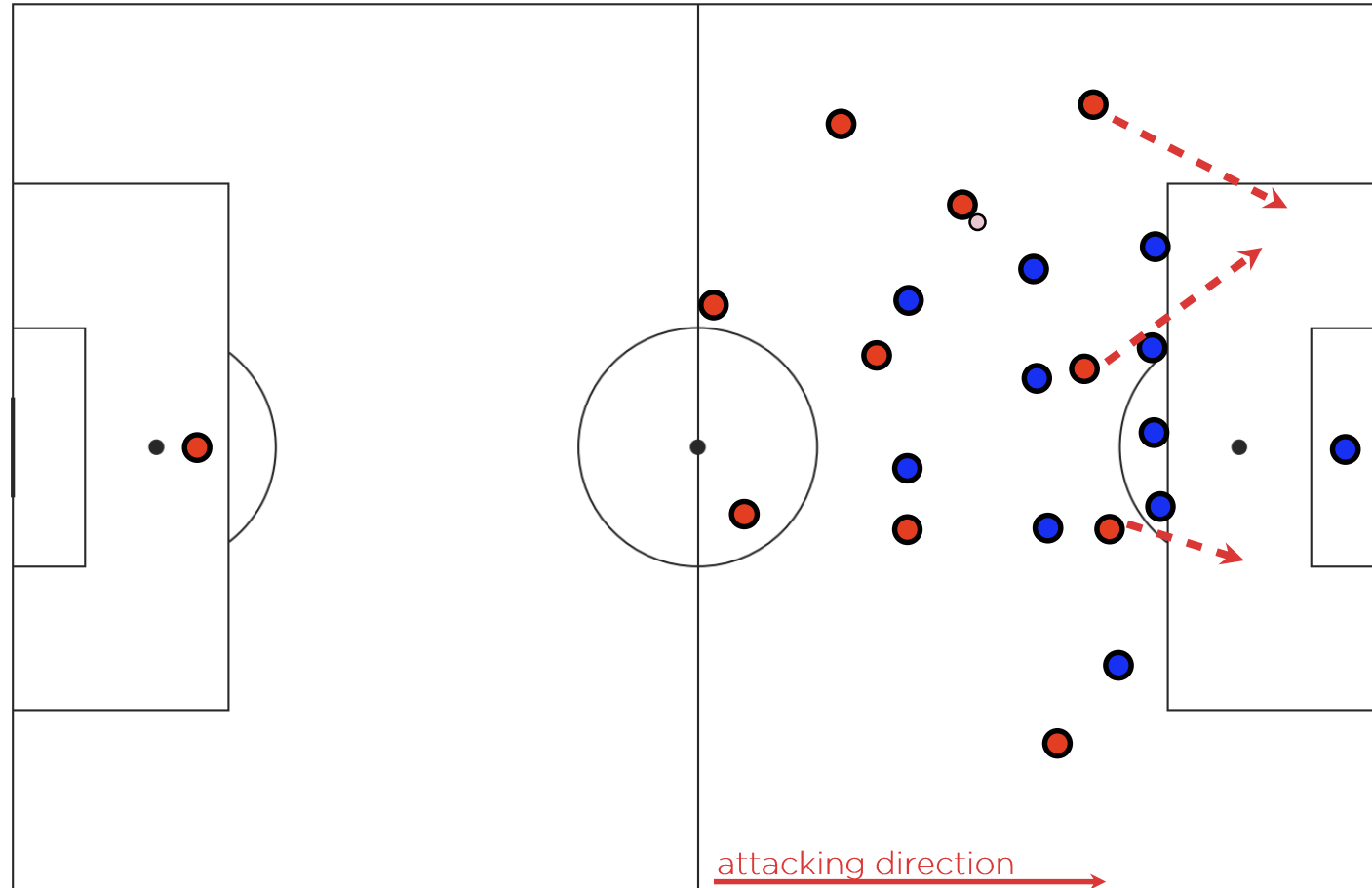


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Strategy 4:

Decisive off-ball runs at the defensive line

Assertive runs to attempt to be played in behind, triggers when players receive in pockets.

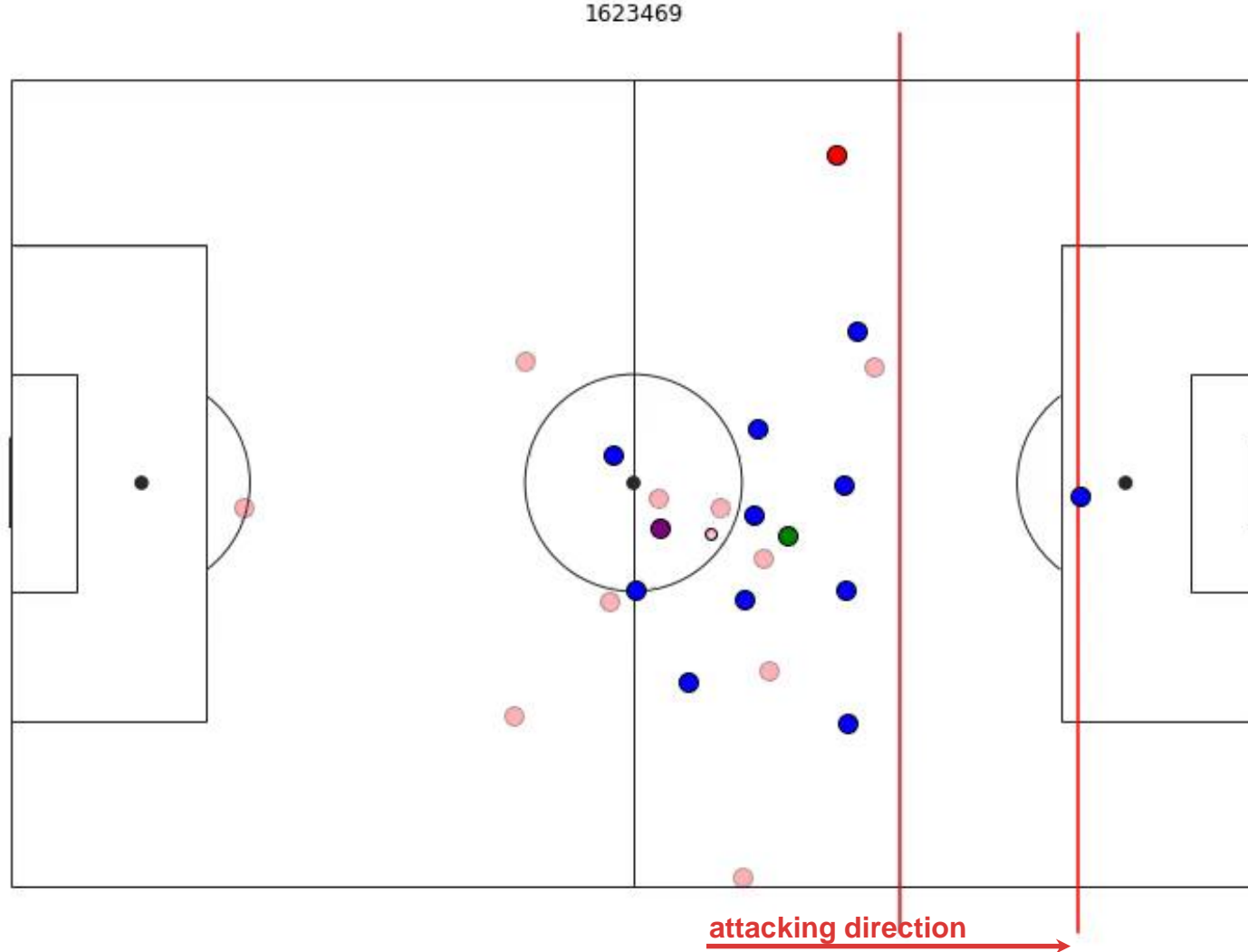


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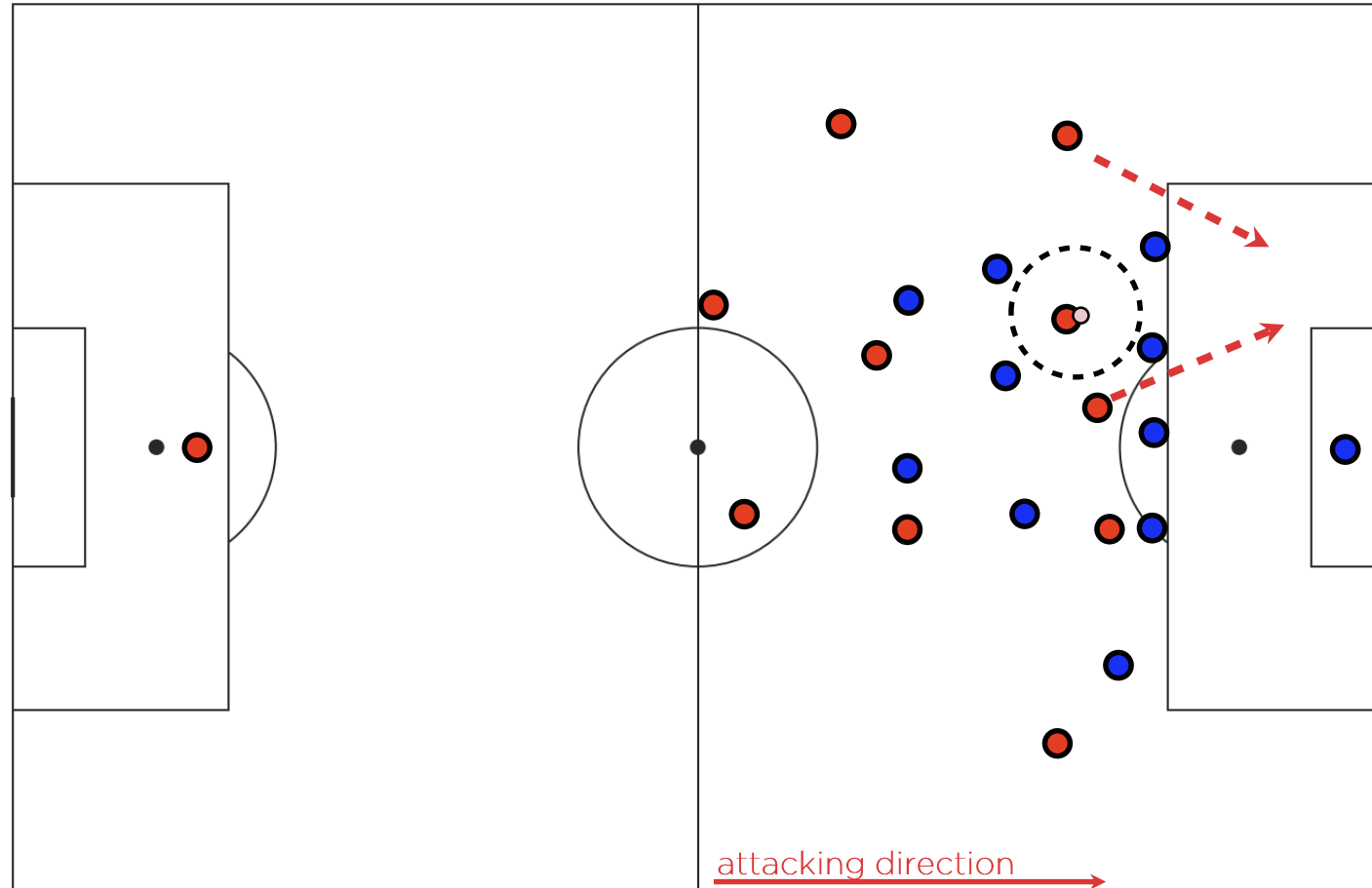
Assertive runs to attempt to be played in behind, triggers when players receive in pockets.



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Strategy 5: Receive in central pockets

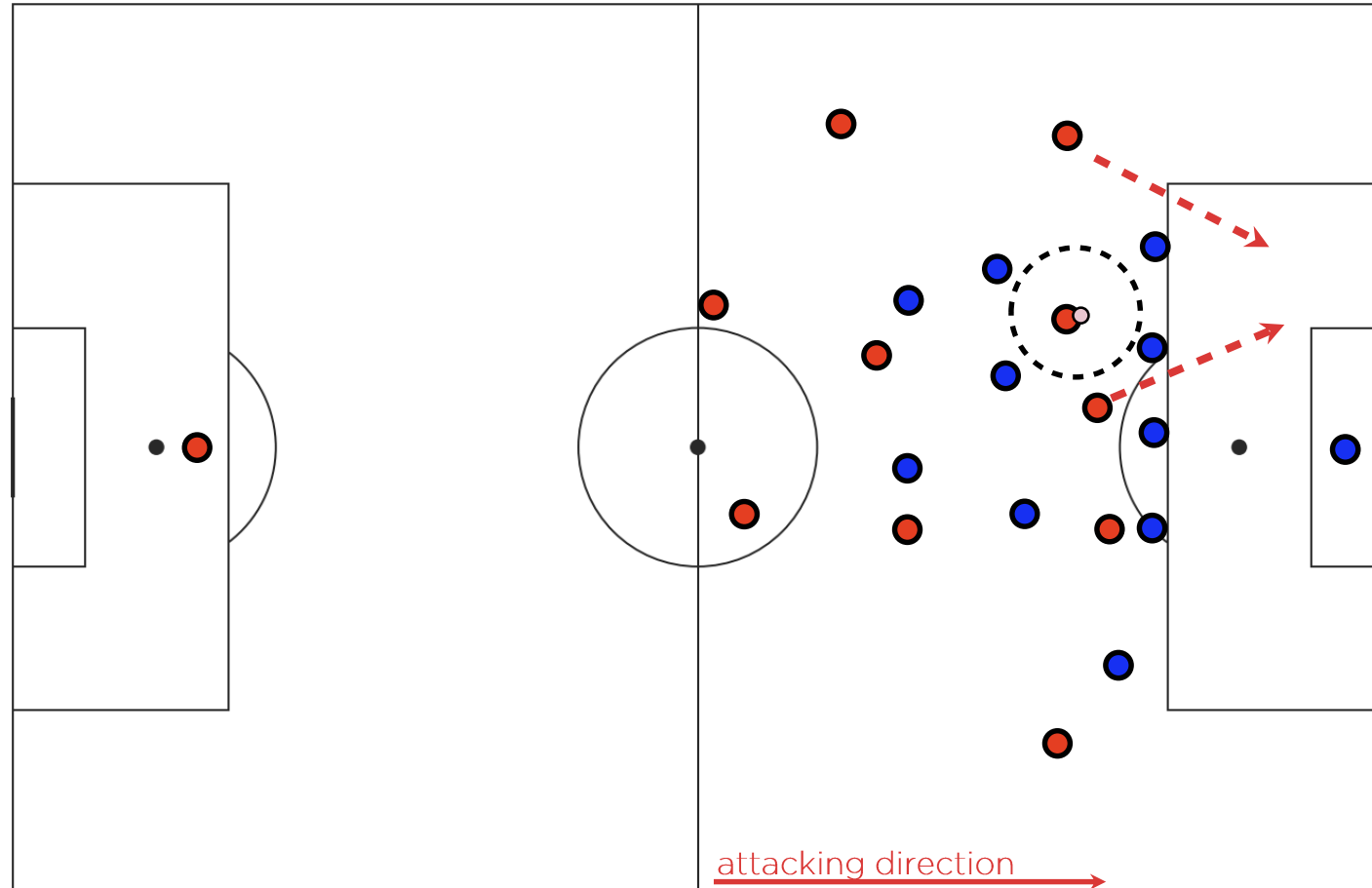
High importance to receive in space in central pockets with the ability to play forwards. Numerous run patterns at the defensive line by others.



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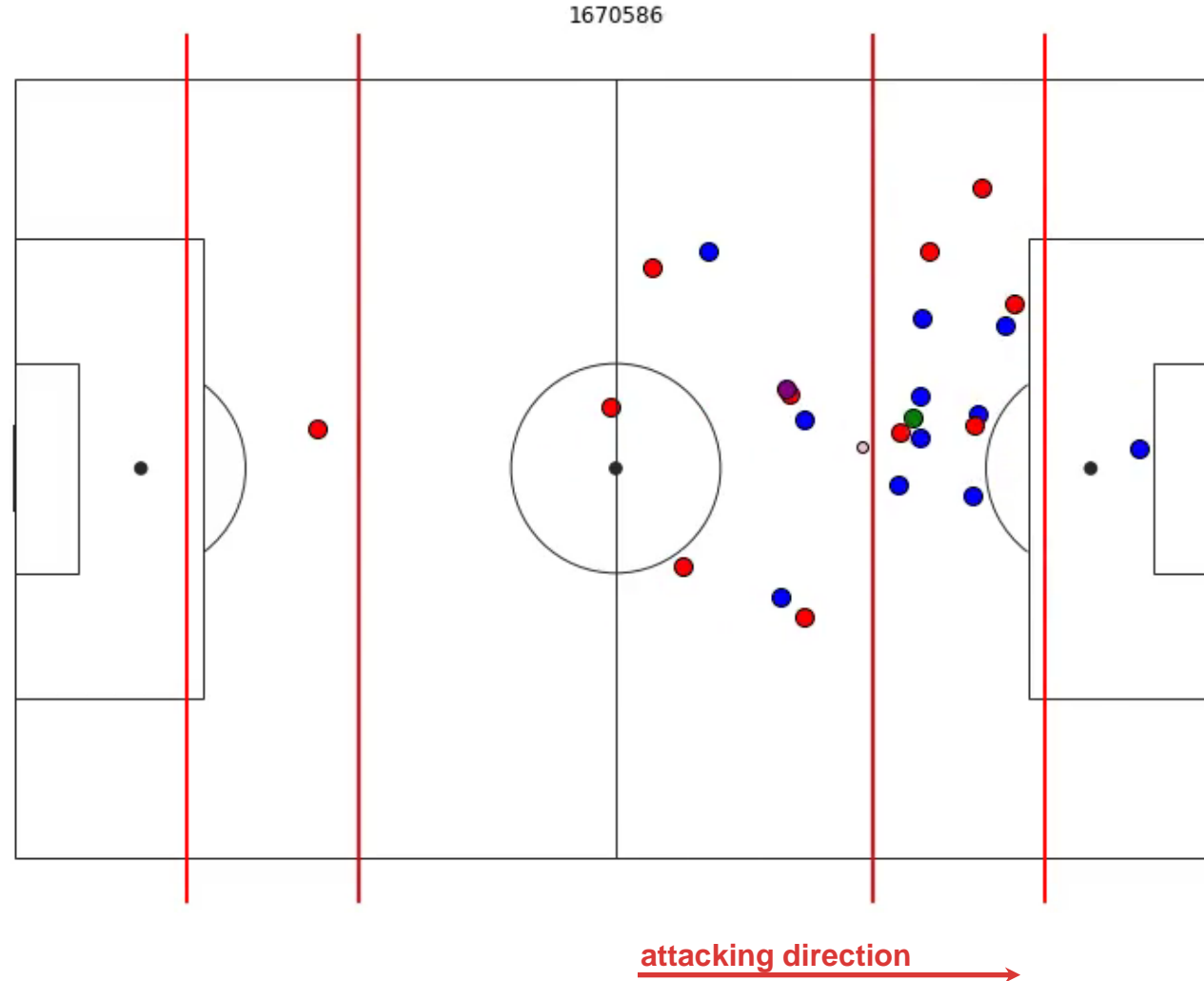
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4 Assess the strategy frequency and effectiveness

	Average per Sequence	P (break-through)	P (Shot given break-through)	Average xG (Shot given break-through)	xG of Strategy Attempt
Wide Overloads	1.11	0.149	0.012	0.11	0.0013
Wide Pocket to Half-Space Run	1.77	0.194	0.0345	0.21	0.0072
Fast Switches to Wide Zones	1.06	0.226	0.026	0.17	0.0044
Decisive off-ball runs at the defensive line	5.39	0.044	0.0247	0.20	0.0049
Receive in central pockets	2.21	0.083	0.0233	0.15	0.0035

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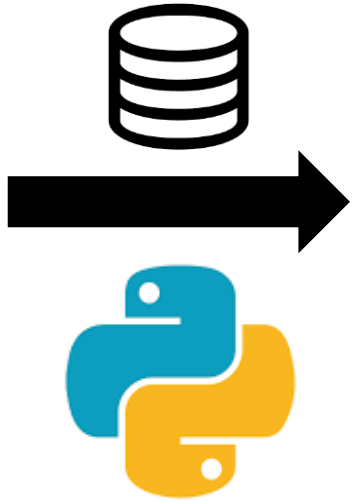
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The Workflow to Video.....



Automated workflow
Data -> Video in under 5 minutes!
club specific / game model monitoring

Future research...?

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Thank You



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Break

Ben Mackriell |  @OptaPro | #OptaProForum

