



Goals, Shots, Shooting and Pass Analysis for Hamburger SV from 2019 to 2025.

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Introduction

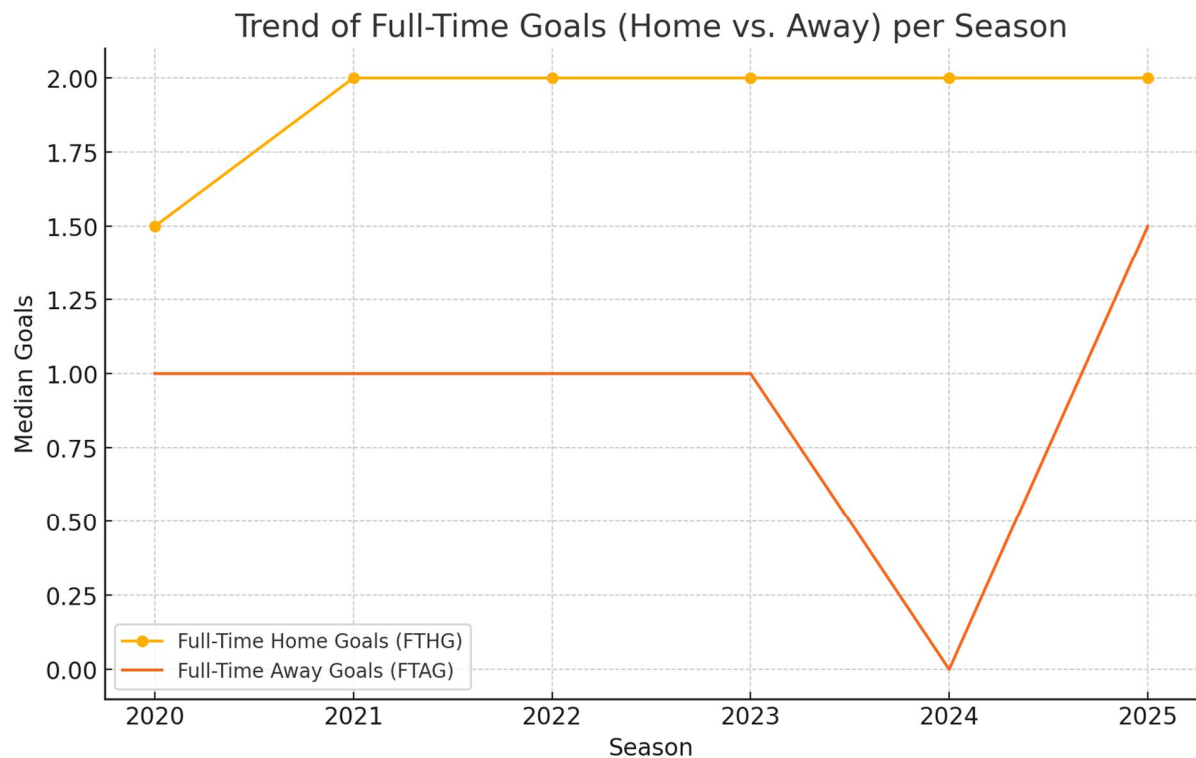
The analysis of Goals, Shots, Shooting, and Pass Patterns for Hamburger SV from 2019 to 2025 was conducted using a data-driven approach. The dataset, comprising match-by-match statistics, was meticulously collected, cleaned, and pre-processed to ensure accuracy and consistency. Leveraging the powerful capabilities of Python and its robust libraries, such as Pandas, NumPy, and Matplotlib, key insights were derived through advanced data manipulation, visualization, and statistical analysis techniques. This comprehensive approach enabled a precise evaluation of performance trends over the specified period.

Goals and Shots Analysis when Hamburg plays at Home

The table contains the following metrics for six seasons:

- **Season:** Year the season ended. For example 20192020 = 2020.
- **FTHG:** Full-Time Home Goals (median per season for Hamburg).
- **FTAG:** Full-Time Away Goals (median per season for Opponents).
- **HS:** Home Shots (median per season for Hamburg).
- **AS:** Away Shots (median per season for Opponents).
- **HST:** Home Shots on Target (median per season for Hamburg).
- **AST:** Away Shots on Target (median per season for Opponents).

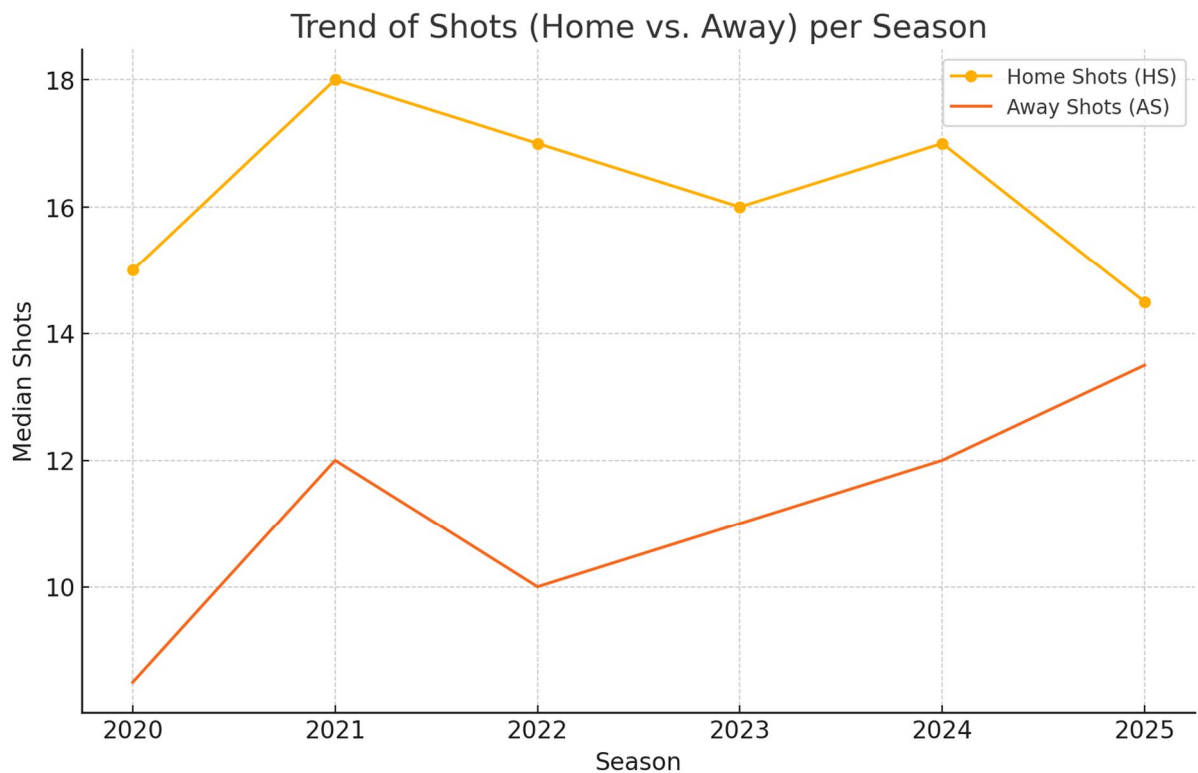
Season	FTHG	FTAG	HS	AS	HST	AST
2020	1.5	1	15	8.5	6.5	3.5
2021	2	1	18	12	5	3
2022	2	1	17	10	6	5
2023	2	1	16	11	5	4
2024	2	0	17	12	6	4
2025	2	1.5	14.5	13.5	5.5	5



Observations and Analysis:

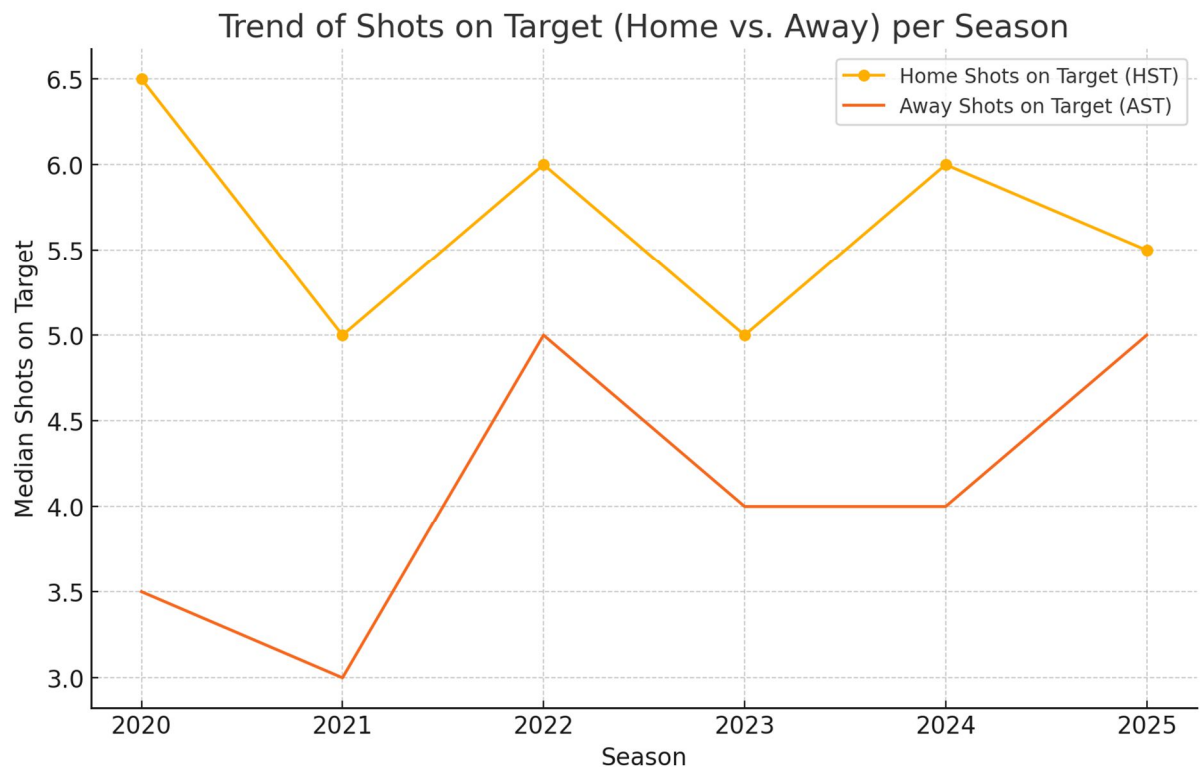
1. Full-Time Goals (FTHG vs. FTAG):

- **Trend:** Home goals (FTHG) are consistently higher than away team goals (FTAG) across all seasons.
- **Observation:** Hamburger SV maintain a steady scoring advantage. The gap between Hamburger SV at home and away team goals has remained relatively stable.



Shots (HS vs. AS):

- **Trend:** Hamburger SV Home shots (HS) consistently outnumber away team shots (AS) across seasons.
- **Observation:** While there is some fluctuation, the general pattern shows that Hamburger SV take more shots at home, reinforcing a dominant home advantage over opponents.



Shots on Target (HST vs. AST):

- **Trend:** Hamburger SV Home shots on target (HST) generally exceed away team shots on target (AST), though the gap is less pronounced in some seasons.
- **Observation:** This indicates better precision or quality of shooting from Hamburger SV at home, which correlates with their higher goal counts.

Conclusion:

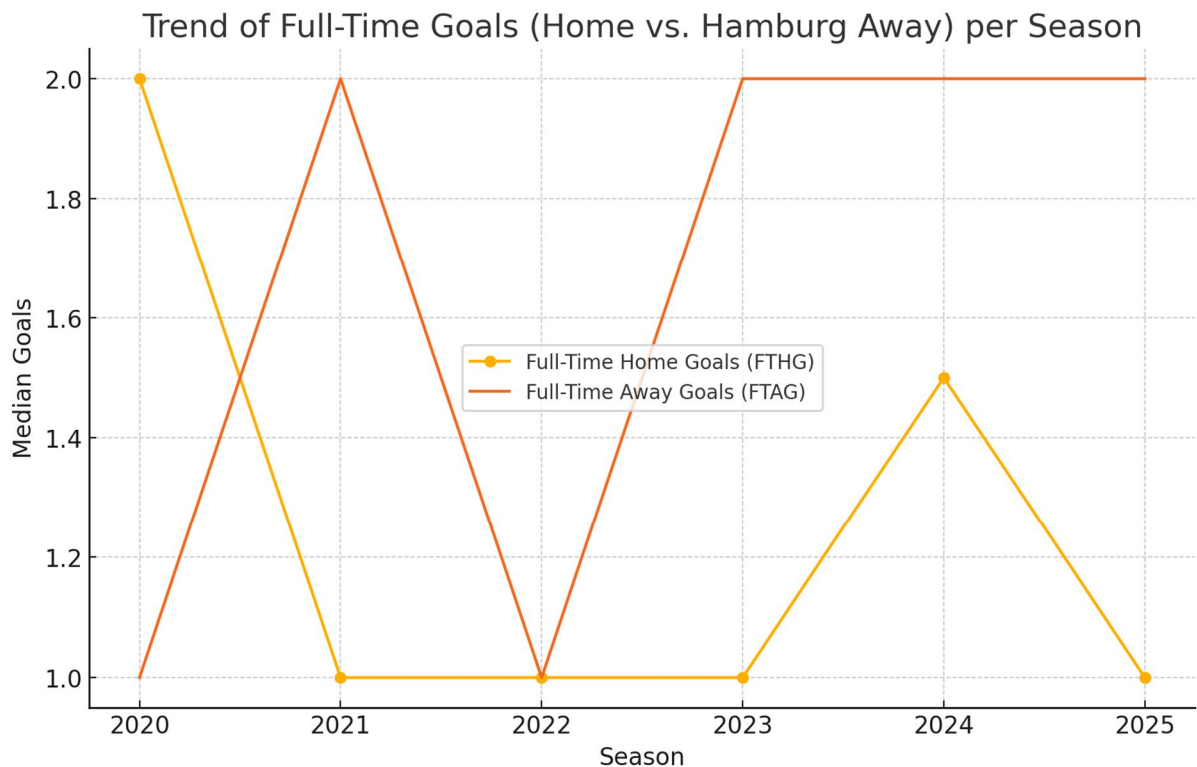
- **Home Advantage:** Across all metrics, Hamburger SV at home consistently outperform away teams. This advantage is particularly evident in scoring and shot volume.
- **Seasonal Consistency:** There is little significant fluctuation in trends across seasons, suggesting consistent team performance dynamics.
- **Key Insight:** Improving away performance would require strategies to increase shot volume and accuracy, addressing the disparity in goals and shots.

Goals and Shots Analysis when Hamburg plays Away

The table contains metrics for Hamburg SV's away games over 6 seasons. Key columns include:

- Season: Football season.
- FTHG and FTAG: Median full-time goals scored by the home and away team (Hamburger SV).
- HS and AS: Median shots by home and away team (Hamburger SV).
- HST and AST: Median shots on target by home and away team (Hamburger SV)

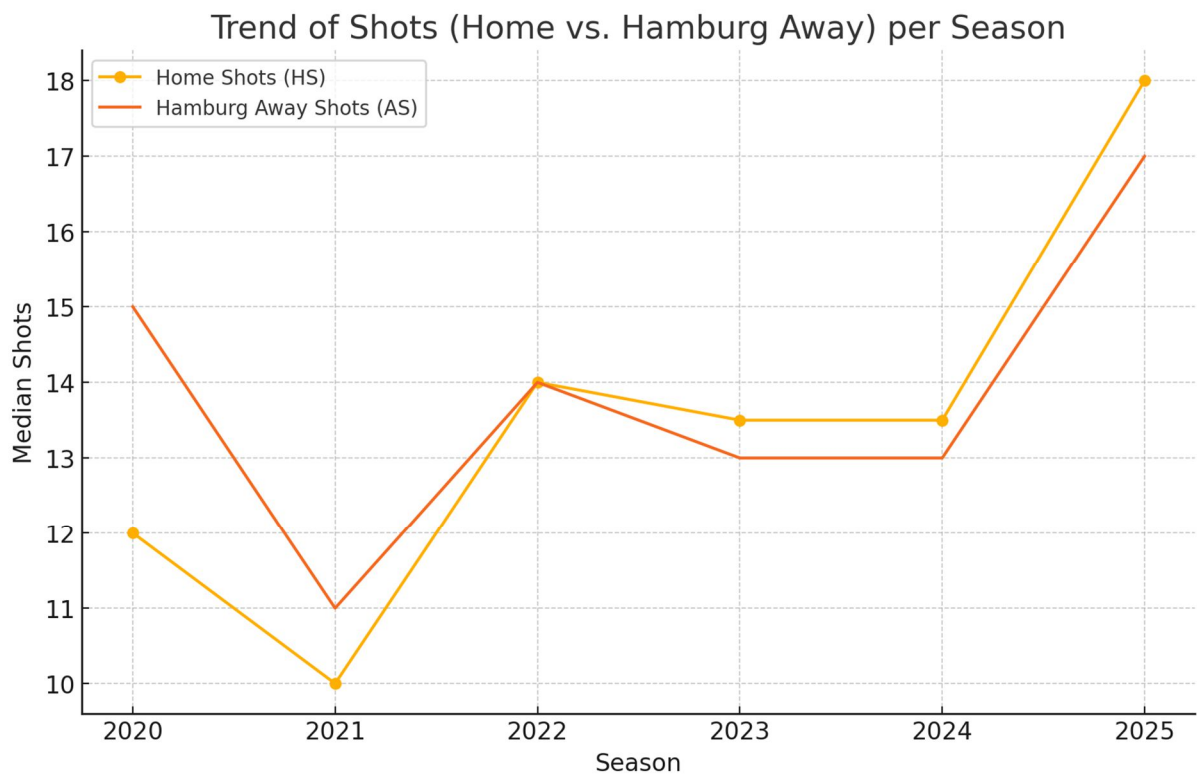
Season	FTHG	FTAG	HS	AS	HST	AST
2020	2	1	12	15	5	5
2021	1	2	10	11	5	4
2022	1	1	14	14	4	5
2023	1	2	13.5	13	5.5	6.5
2024	1.5	2	13.5	13	4	5
2025	1	2	18	17	4	6



Observations and Analysis:

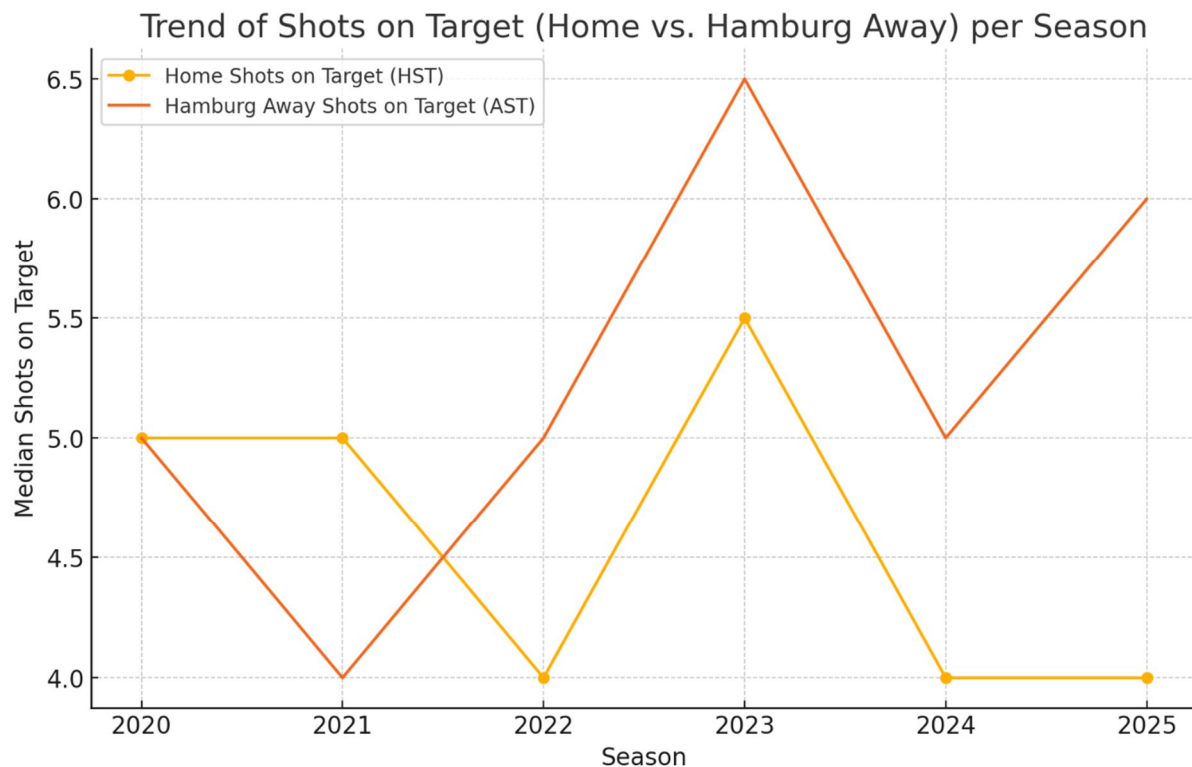
1. Full-Time Goals (FTHG vs. FTAG):

- **Trend:** Home teams (FTHG) consistently score higher goals than Hamburg away (FTAG).
- **Observation:** The away goals for Hamburg are relatively stable, but the gap with home goals suggests a defensive challenge in away games.



2. Shots (HS vs. AS):

- **Trend:** The number of shots (HS for home and AS for Hamburg away) are relatively balanced in most seasons, with slight dominance by home teams.
- **Observation:** Hamburg's ability to maintain competitive shot counts indicates offensive capability, even in away settings.



3. Shots on Target (HST vs. AST):

- **Trend:** Home teams (HST) generally have a slight advantage in shots on target compared to Hamburg away (AST).
- **Observation:** Despite competitive shot volumes, Hamburg struggles to maintain precision, as reflected in fewer shots on target compared to home teams.

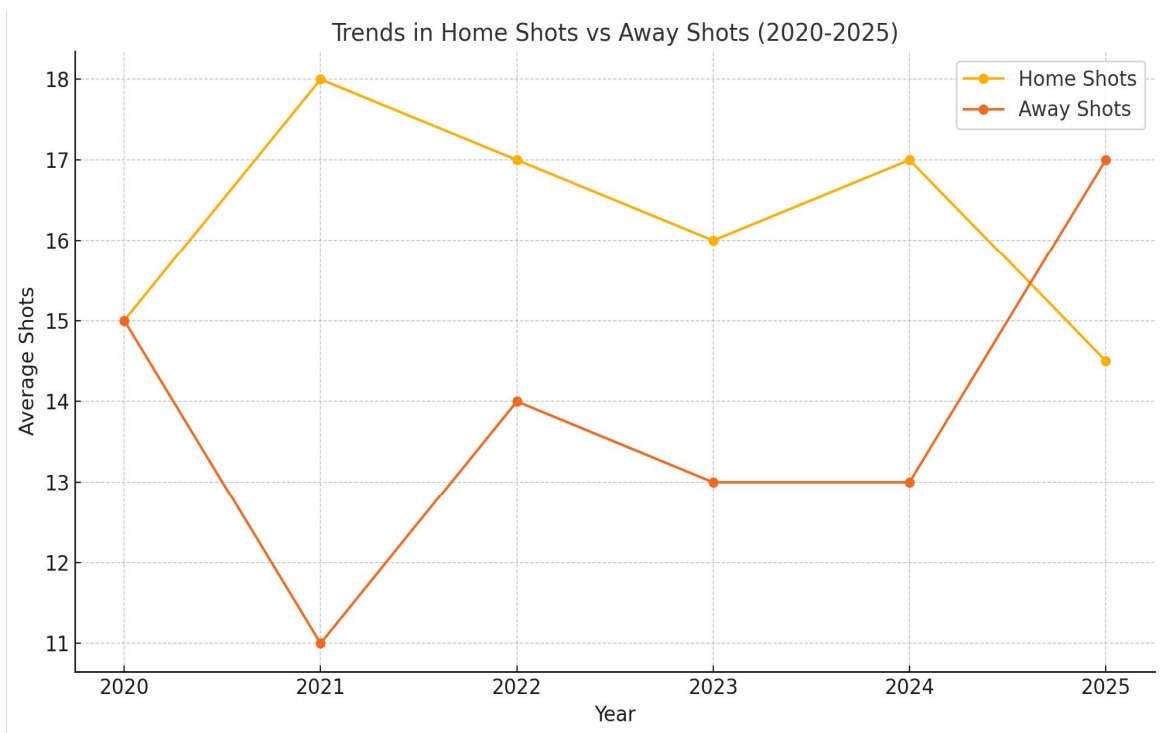
Conclusions:

- **Defensive Challenges:** Higher home team goals suggest defensive vulnerabilities for Hamburg in away games.
- **Offensive Competitiveness:** Hamburg's shot volumes are competitive, but precision (shots on target) needs improvement.
- **Strategic Insights:** Enhancing defensive organization and increasing shooting accuracy could help Hamburg bridge the gap in away game performance.

Combined Analysis

Home Shots versus Away Shots

Season	HS	AS
2020	15	15
2021	18	11
2022	17	14
2023	16	13
2024	17	13
2025	14.5	17



Observations:

1. Home Shots (HS):

- The average shots at home remained relatively stable between 15 and 18 over the seasons, with a slight decline from 2024 to 2025.
- The highest home shots were recorded in 2021 (18).

2. Away Shots (AS):

- Away shots fluctuated more significantly, with a drop in 2021 (11) followed by a recovery in subsequent years.
- The highest away shots were in 2025 (17), indicating improved away performance.

3. Trends:

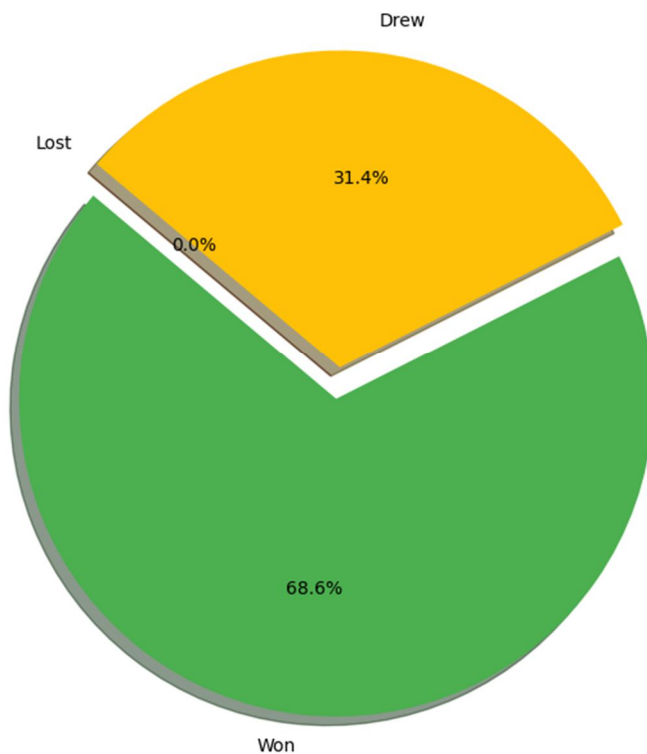
- While home performance remained consistent, away performance showed a marked improvement in the latter seasons, particularly in 2025.

Conclusion:

- The team has demonstrated consistent performance at home but has significantly improved its away gameplay in recent seasons.
- Further analysis could focus on factors contributing to the away performance improvement, such as strategy, opposition strength, or player contributions.

Hamburg Results When Leading at Half-Time in Home Matches

Hamburg Results When Leading at Half-Time in Home Matches



The pie chart shows the outcomes of matches where Hamburg was leading at home at halftime:

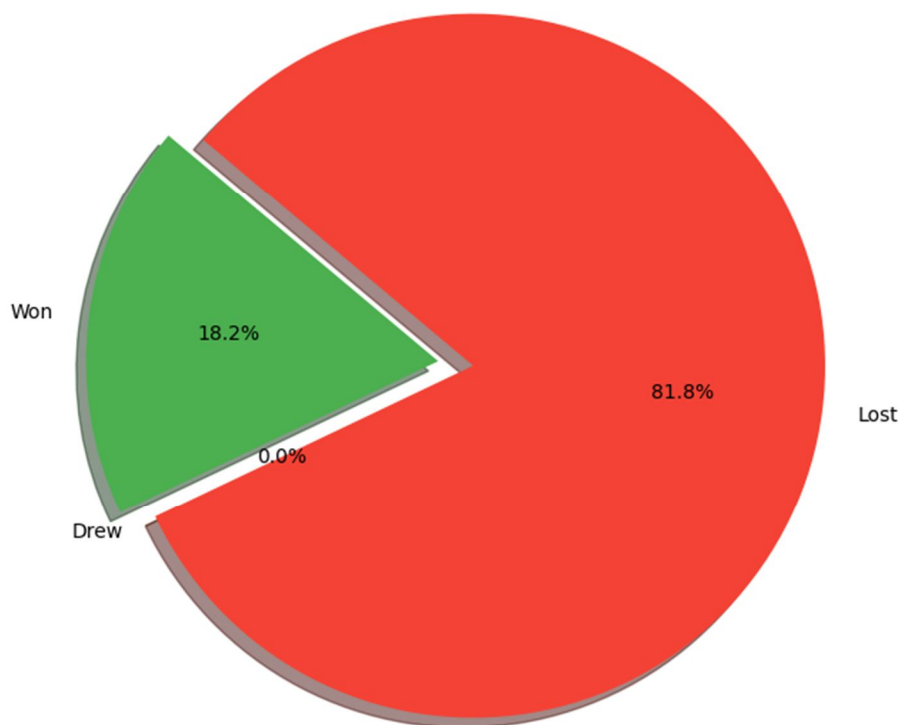
- **Wins ("H"):** 24 matches (68.6%)
- **Draws ("D"):** 11 matches (31.4%)
- **Losses ("A"):** 0 matches (0%)

Analytical Conclusion:

- Hamburg has an excellent conversion rate when leading at halftime, winning the majority of these matches (about 69%).
- A significant portion (31%) of these matches still ended in a draw, indicating room for improvement in maintaining leads.
- No matches were lost after leading at halftime, showcasing strong defensive or strategic capabilities to avoid defeats.

Hamburg Results When Losing at Half-Time in Home Matches

Hamburg Results When Losing at Half-Time in Home Matches



The pie chart shows the outcomes of matches where Hamburg was losing at home at halftime:

- **Losses ("A"):** 9 matches (81.8%)
- **Wins ("H"):** 2 matches (18.2%)
- **Draws ("D"):** 0 matches (0%)

Analytical Conclusion:

1. **High Conversion to Loss:** Hamburg lost most matches (82%) when trailing at halftime, indicating difficulty in overturning deficits.
2. **Limited Comebacks:** Only 18% of matches resulted in a win, demonstrating limited success in achieving second-half comebacks.
3. **No Draws:** The absence of draws might indicate an aggressive second-half approach, though it has often resulted in failure to recover.

Hamburg's performance when trailing at halftime could benefit from strategic changes, such as stronger defensive stability or more effective attacking adjustments during halftime.

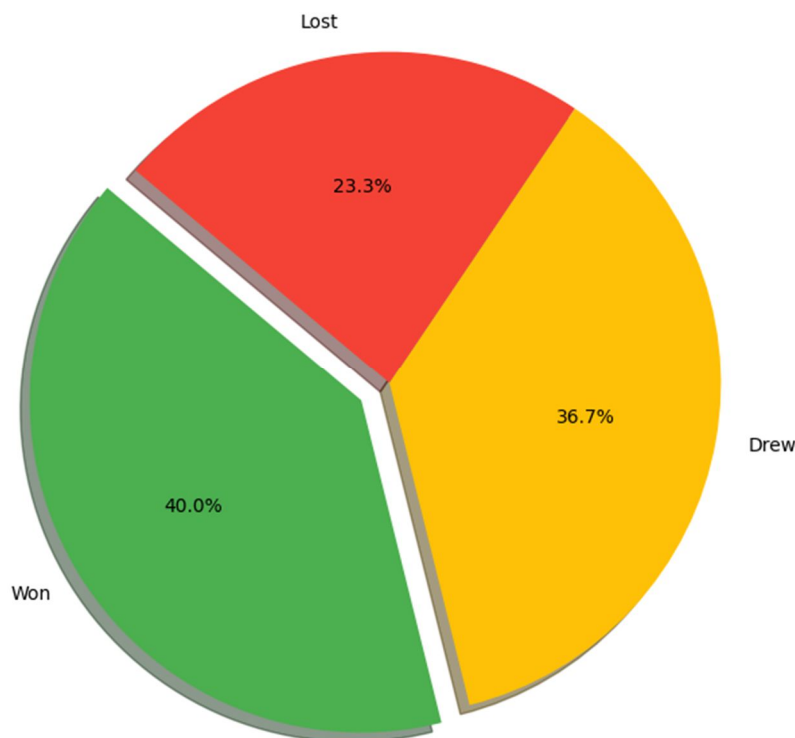
NB. On aggression, we can analyse the margin of losses at HT and at FT and see if in desperation we conceded more goals from a losing position. Impatience.

The same can be done on margin of leading at HT and margin at FT.

Both the above two metrics can be compared with teams in positions that we covet.

Hamburg Results When Drawing at Half-Time in Home Matches

Hamburg Results When Drawing at Half-Time in Home Matches



The pie chart illustrates the outcomes of matches where Hamburg was drawing at home at halftime:

- **Wins ("H"): 12 matches (40.0%)**
- **Draws ("D"): 11 matches (36.7%)**
- **Losses ("A"): 7 matches (23.3%)**

Analytical Conclusion:

1. **Balanced Performance:** Hamburg won 40% of these matches, but a significant proportion (37%) still ended in a draw, showing mixed success in converting draws into wins.
2. **Moderate Loss Rate:** Around 23% of matches resulted in losses, indicating room for improvement in maintaining second-half stability.
3. **Tactical Adjustments:** Hamburg's ability to secure wins from halftime draws is relatively strong, but they might benefit from strategies that reduce the number of games resulting in losses or draws.

This analysis highlights the team's need to improve second-half execution, particularly in tightening defence and capitalizing on offensive opportunities.

Shooting Metrics Analysis

Trends to Analyze:

- Changes in goals scored across seasons.
- Fluctuations in shooting accuracy (SoT%).
- Efficiency in converting shots and shots on target into goals (G/Sh and G/SoT).

The following table and graphs illustrate statistics about shots/shooting.

Gls -- Goals

Goals scored or allowed

Sh -- Shots Total

Shots Total

SoT -- Shots on Target

Shots on Target

SoT% -- Shots on Target %

Percentage of shots that are on target

Sh/90 -- Shots Total/90

Shots total per 90 minutes

SoT/90 -- Shots on target/90

Shots on target per 90 minutes

G/Sh -- Goals/Shot

Goals per shot

G/SoT -- Goals/Shot on Target

Goals per shot on target

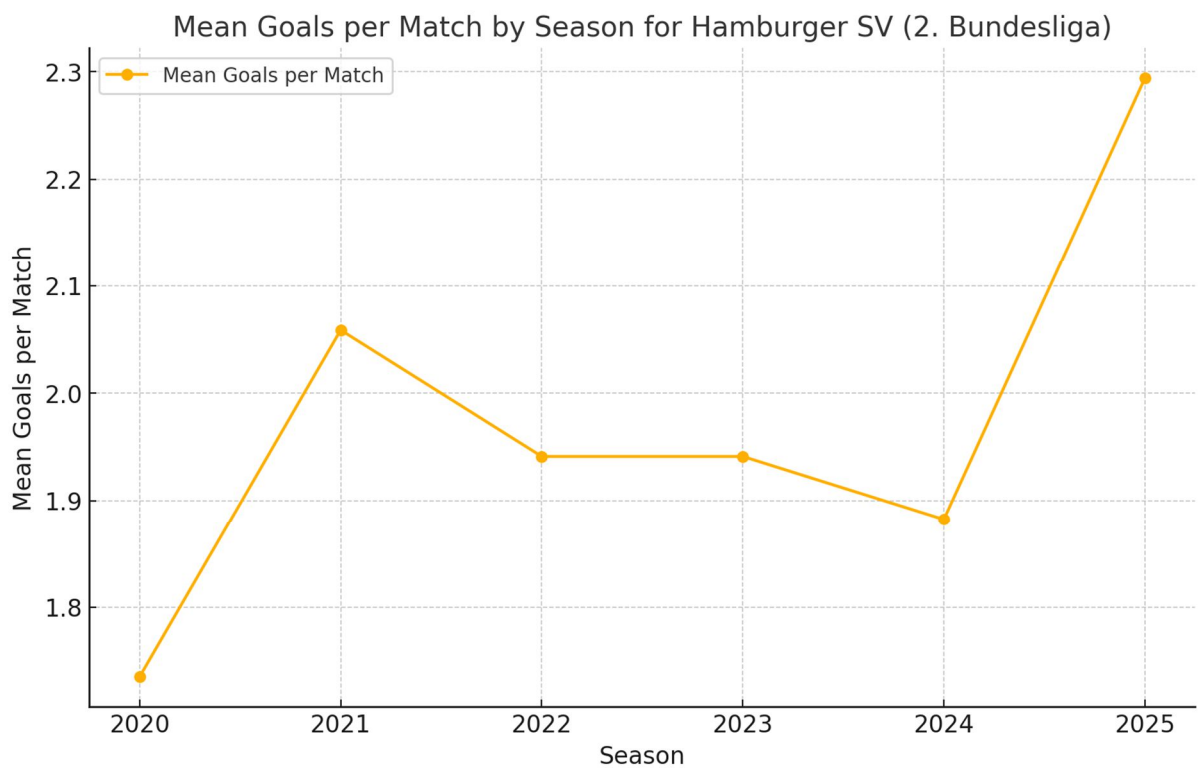
Dist -- Average Shot Distance

Average distance, in yards, from goal of all shots taken

Does not include penalty kicks

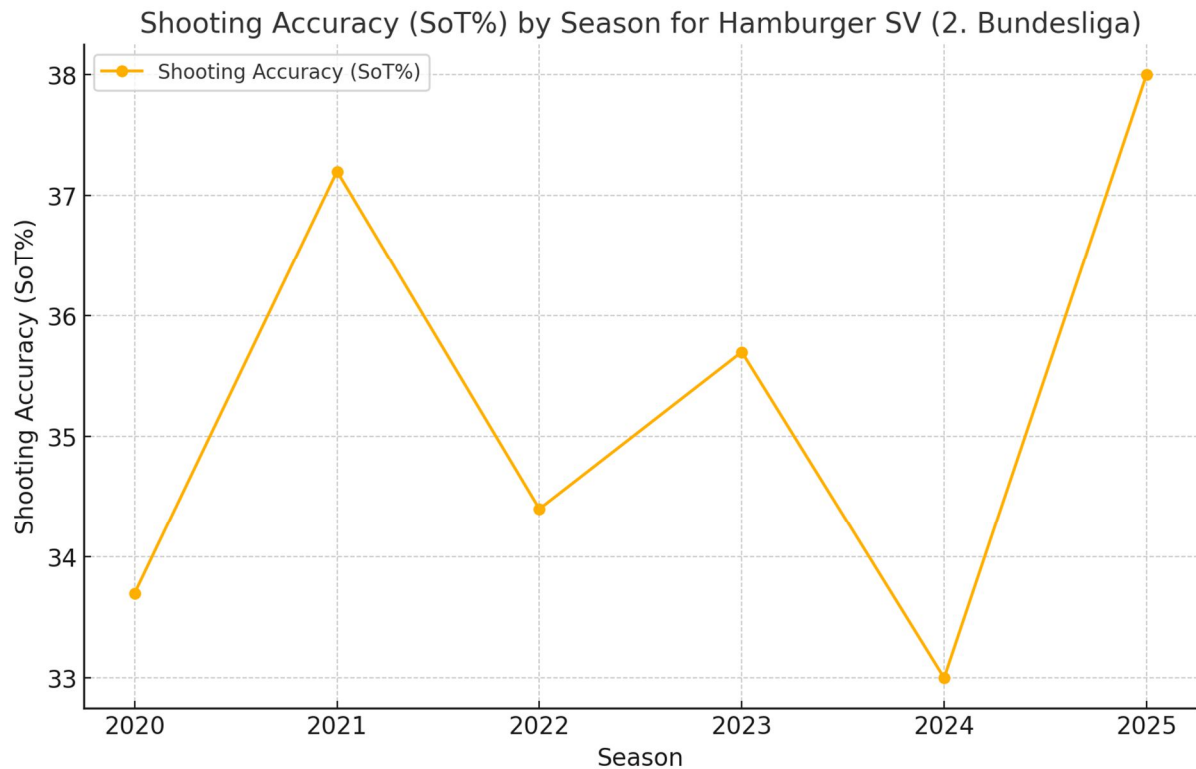
Season	Gls	Sh	SoT	SoT%	Sh/90	SoT/90	G/Sh	G/SoT	Dist
2020	59	499	168	33.7	14.68	4.94	0.1	0.3	17.7
2021	70	444	165	37.2	13.06	4.85	0.15	0.39	16.6
2022	66	517	178	34.4	15.21	5.24	0.12	0.34	16.4
2023	66	501	179	35.7	14.74	5.26	0.13	0.35	17.2
2024	64	540	178	33	15.88	5.24	0.11	0.33	17
2025	39	245	93	38	14.41	5.47	0.16	0.41	15.2

Visualize key trends to provide a deeper analysis.



This graph normalizes the goals scored per match for Hamburger SV, offering a more accurate comparison across seasons. The consistency in mean goals per match highlights the team's relatively stable scoring efficiency, even in the shortened 2025 season. There is steady improvement in average goals per game so far. From a previous 1.9 to 2.3 goals per game.

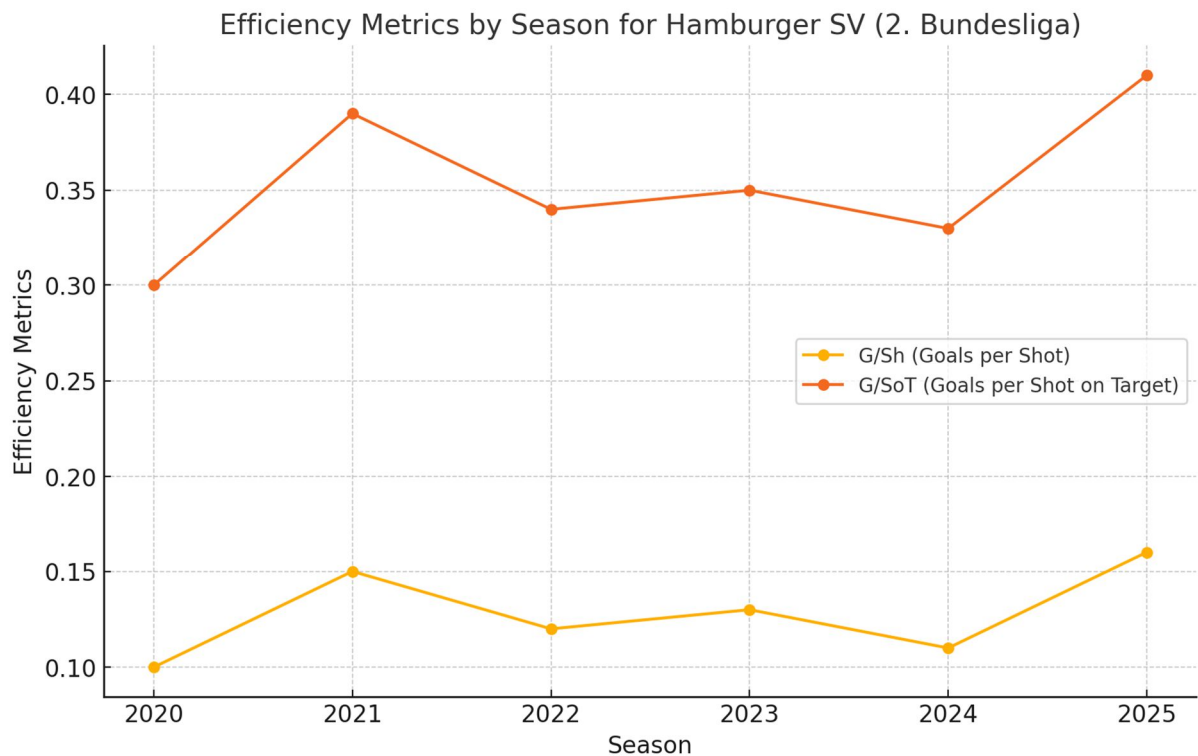
I have further done a comparison of this average against teams which attain automatic qualification to 1. Bundesliga. There still improvements needed in this area and goals conceded per game.



The graph displays the shooting accuracy (SoT%) of Hamburger SV in the 2. Bundesliga across different seasons. Shooting accuracy is calculated as the percentage of shots on target (SoT) out of the total number of shots attempted. This metric is crucial for understanding the efficiency of the team's offensive plays.

Conclusion:

1. Consistent Performance: The graph shows that Hamburger SV's shooting accuracy remains relatively stable across the seasons, with minor fluctuations.
2. Potential for Improvement: While the accuracy is decent, there might still be room for optimization in converting shots into on-target attempts, which could improve overall scoring efficiency.

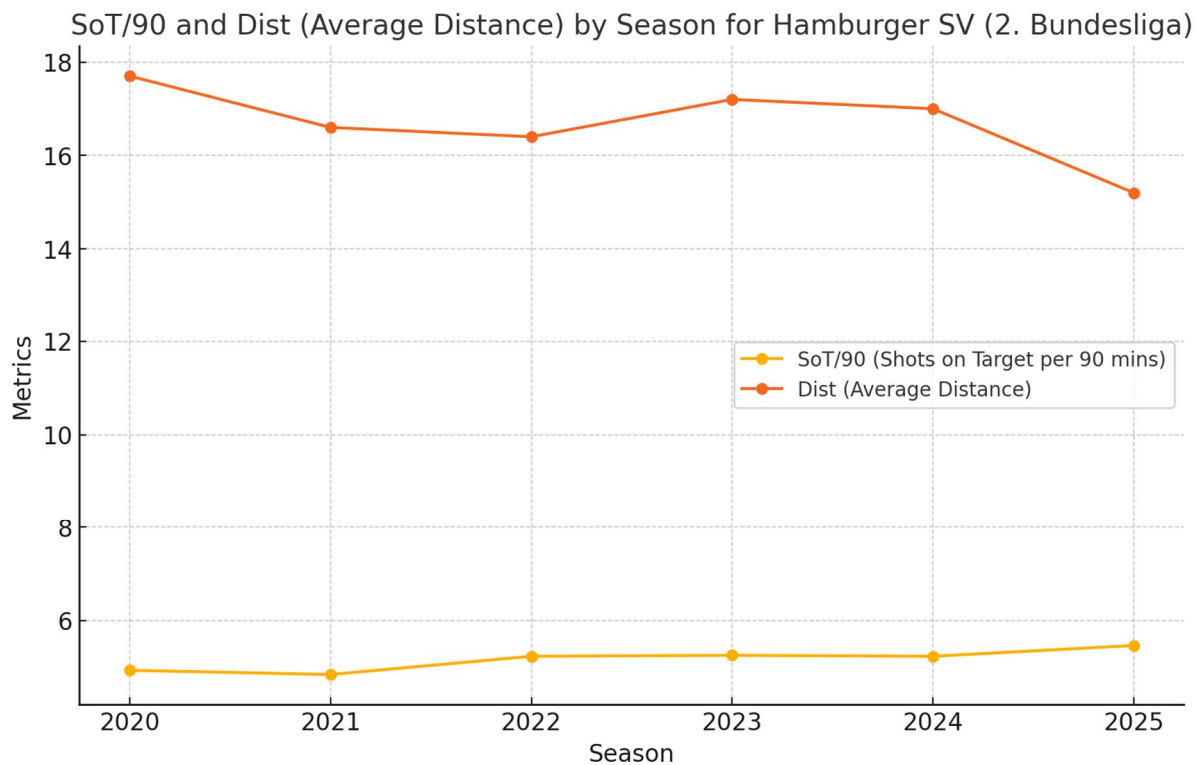


The graph illustrates two key efficiency metrics for Hamburger SV across seasons in the 2. Bundesliga:

1. G/Sh (Goals per Shot): This metric shows how effective the team is at converting overall shot attempts into goals.
2. G/SoT (Goals per Shot on Target): This indicates how successful the team is at scoring from shots that are on target.

Conclusion:

1. G/Sh (Goals per Shot): The graph shows some consistency in converting shots into goals, with minor seasonal variations. Higher values indicate better overall shooting efficiency.
2. G/SoT (Goals per Shot on Target): This metric consistently outperforms G/Sh, which is expected since it measures only on-target shots. Variations here highlight how clinical the team is in converting quality chances into goals.
3. Opportunities for Improvement: While the metrics show reasonable efficiency, the gap between G/Sh and G/SoT suggests a need for better shot accuracy to increase the number of on-target attempts.



The graph illustrates two key metrics for Hamburger SV across seasons in the 2. Bundesliga:

1. SoT/90 (Shots on Target per 90 Minutes): This measures the frequency of shots on target per 90 minutes of play.
2. Dist (Average Distance): This represents the average distance from the goal where shots are taken.

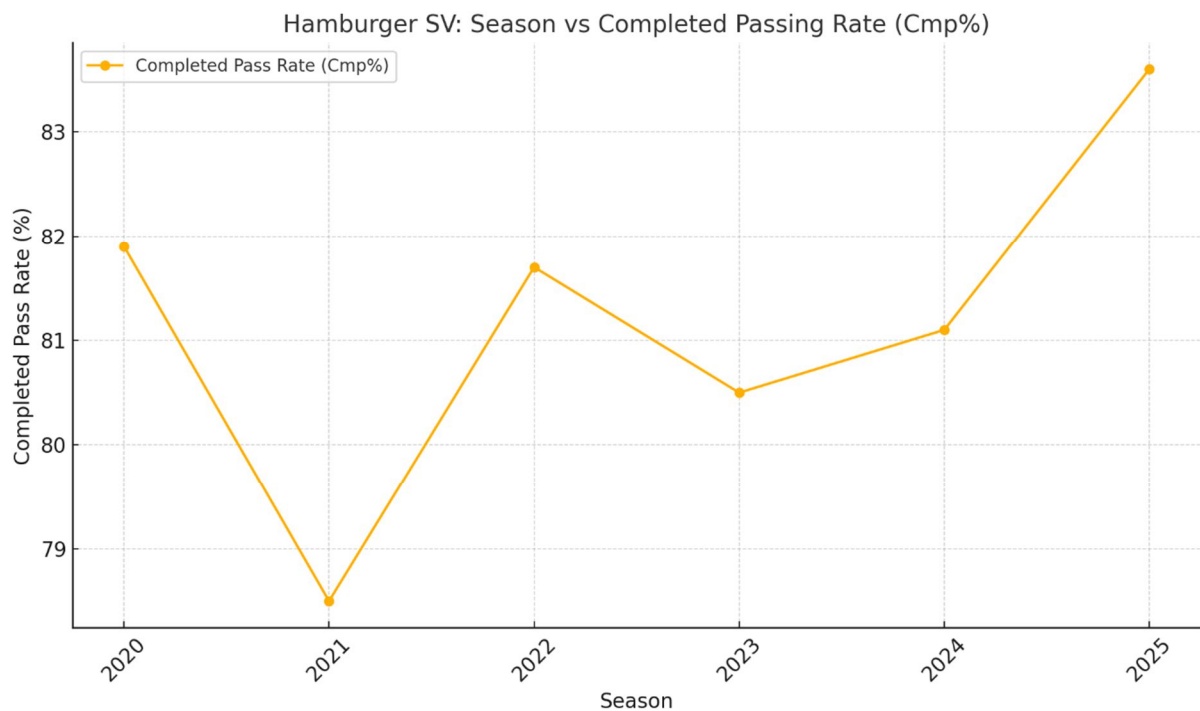
Conclusions:

1. Increasing SoT/90: The graph shows a general upward trend in shots on target per 90 minutes, indicating improved accuracy and attacking efficiency over the seasons. This suggests better shot selection or improvements in the team's offensive setup.
2. Reducing Distance (Dist): The average shot distance has gradually decreased, suggesting that the team is taking more shots from closer positions, within the penalty area. This closer proximity generally leads to higher-quality chances and improved goal-scoring potential.
3. Correlation Between Metrics: The simultaneous increase in SoT/90 and decrease in average distance indicates a strategic shift towards prioritizing high-percentage shots from closer ranges. This aligns with the observed increase in shooting accuracy and efficiency metrics over time.

ANALYSIS OF PASSING

General Summary of Passes Completion Rate in %

Season	Cmp%
2020	81.9
2021	78.5
2022	81.7
2023	80.5
2024	81.1
2025	83.6



The plot illustrates Hamburger SV's completed passing rate (Cmp%) over six seasons in the 2. Bundesliga, including the halfway point of the 2025 season. Here's an analysis:

Observations:

1. Trend Overview:

- The completed passing rate (Cmp%) has fluctuated slightly but remains relatively stable over the seasons, with values consistently in the range of 78-82%.
- Notable peaks in passing accuracy were observed in 2020 and 2022, with dips in subsequent years.

Recent Trends:

- The halfway point of the 2025 season shows a continuation of the stable pattern, maintaining a competitive passing accuracy above 80%.

Conclusions:

- Consistency: Hamburger SV's passing accuracy demonstrates a consistent technical capability over the years, reflecting a sustained emphasis on ball control and passing in their gameplay.
- Potential Tactical Adjustments: The slight dips (e.g., in 2021 and 2023) might indicate tactical or squad adjustments impacting performance temporarily.

This consistency is an asset, as it suggests the team is maintaining a possession-oriented style, vital for long-term success in competitive leagues.

Keenly observed, pass completion rate over sessions has moved from 81.9% in 2020 to 83.6% in 2025 can be attributed to emphasis or rather switching to more short passes as compared to medium and long passes. Tactically controlled, patient ball possession. I have done further comparative analysis to set the target on where Hamburger SV should aim in terms of number and percentage of short passes. I have also further analysed passing with respect to home and away matches and its very interesting

Season	AvgPPA	AvgCrsPA
2020	11	2
2021	9	3
2022	12	4
2023	10	3
2024	10	3
2025	8	3

PPA -- Passes into Penalty Area

AvgPPA – Average Passes into Penalty Area

Completed passes into the 18-yard box

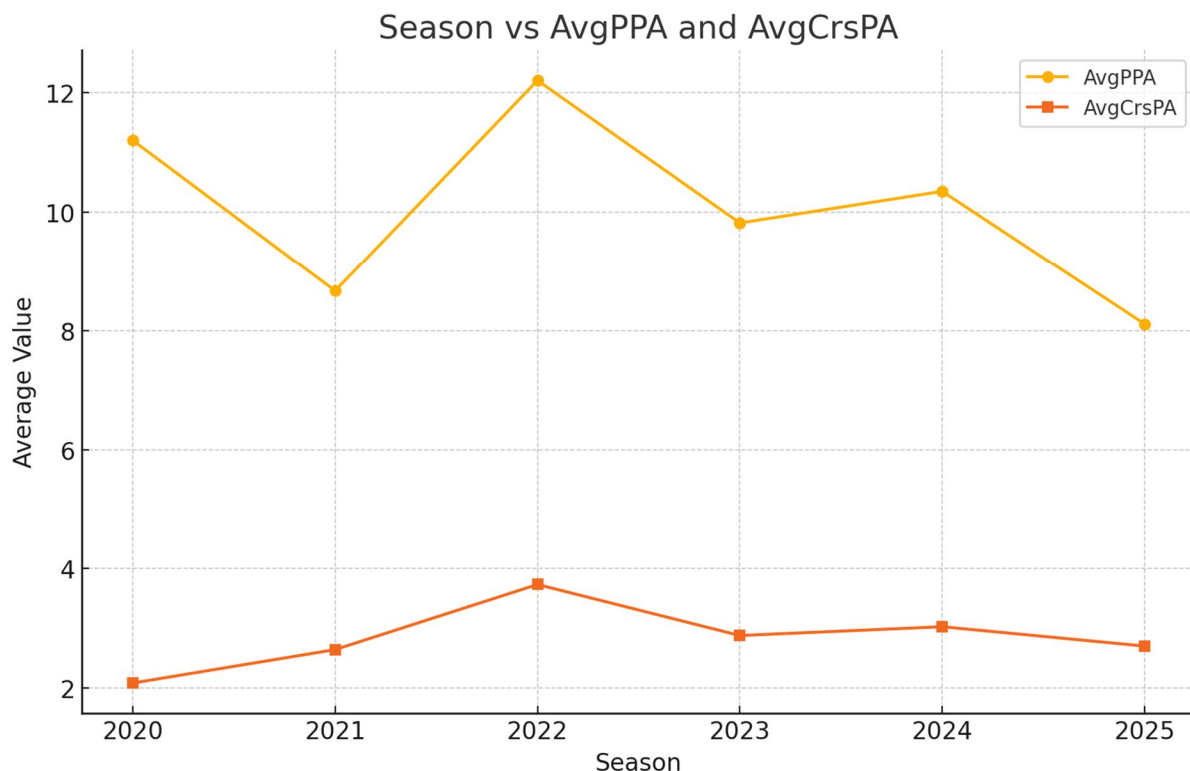
Not including set pieces

CrsPA -- Crosses into Penalty Area

CrsPA – Average Crosses into Penalty Area

Completed crosses into the 18-yard box

Not including set pieces



Trends and Conclusion

1. AvgPPA (Average Passes into Penalty Area):

- There are fluctuations across the seasons. For example, AvgPPA increased notably in 2022 but decreased in 2023.

2. AvgCrsPA (Average Crosses into Penalty Area):

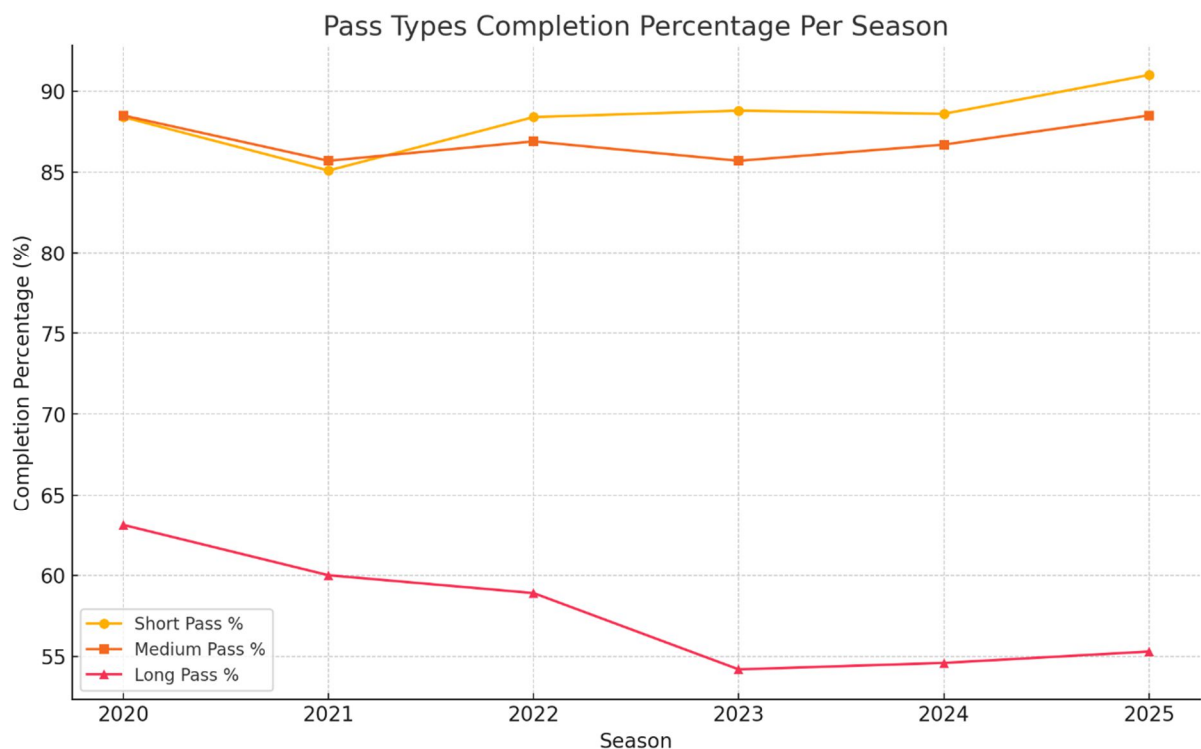
- This metric has shown a more consistent upward trend from 2020 to 2022, peaking in 2022 before slightly declining in 2023.

3. Comparison:

- While both metrics vary across seasons, AvgPPA generally remains higher than AvgCrsPA.
- The relationship suggests a tactical variation where passing into the penalty area is consistently preferred over crossing.

The table contains information about pass types and their completion percentages (Short %, Medium %, Long %) per season.

Season	Short	Medium	Long
2020	88	89	63
2021	85	86	60
2022	88	87	59
2023	89	86	54
2024	89	87	55
2025	91	89	55



Trends and Conclusion

1. Short Pass Completion %:

- The completion percentage for short passes is consistently high across all seasons, remaining above 85%.
- There is a slight increase in 2023 compared to earlier seasons, indicating improved accuracy or focus on short passing.

2. Medium Pass Completion %:

- Similar to short passes, medium passes maintain a high completion rate, typically in the mid-to-high 80% range.
- There is a minor dip in 2021 and recovery in subsequent seasons.

Long Pass Completion %:

- Long passes have the lowest completion percentage among the pass types, consistently below 65%.
- There is a noticeable downward trend, with a peak in 2020 (63.1%) and a decrease to 54.2% by 2023.

Observations:

- **Tactical Insight:**

- The consistently high completion rates for short and medium passes suggest a focus on controlled build-up play.
- The low passing accuracy for long passes suggests that we lose possession every second pass (45%).

- **Conclusion:**

- Hamburg should prioritize maintaining possession through shorter passes, as indicated by their higher completion percentages (currently 91%) than losing it via long passes, 45% of the passes.

Conclusion and Recommendations

Hamburger SV has demonstrated consistent performance, particularly in home games, and improved technical capabilities over the years. However, challenges remain in away game defence, maintaining leads, and converting scoring opportunities more effectively.

Strategic Recommendations:

1. **Enhance Away Performance:**

- Strengthen defensive organization to reduce goals conceded.
- Focus on precise finishing to capitalize on competitive shot volumes.

2. **Optimize Passing Tactics:**

- Continue emphasizing short passes to maintain possession.
- Improve long pass accuracy or minimize reliance on long passes.

3. **Address Halftime Dynamics:**

- Develop strategies to secure leads when ahead at halftime.
- Implement tactical adjustments for comeback scenarios when trailing.

4. Shooting Efficiency:

- Focus on increasing shots on target through strategic positioning.
- Train players to improve finishing from closer ranges.

This data-driven analysis provides a solid foundation for strategic decision-making, enhancing Hamburger SV's overall performance and competitiveness in future seasons.