LOTOIA GLOSSARY

Understanding the statistical analysis report of the HYBRIDE engine

This glossary explains the main technical terms used in LotoIA reports. Its purpose is to make reading clearer, without turning these indicators into a promise of winnings. LotoIA is a statistical analysis tool: it describes how the engine builds its grids, it does not predict any draw.

Framework & method

Statistical analysis	Study of the shapes, distributions and numerical behaviours observed in the generated grids. In LotoIA, it is used to understand how the HYBRIDE engine builds its grids, not to predict a draw.
HYBRIDE	Name of LotoIA's statistical engine. It generates grids according to construction rules, weightings and measurable constraints.
Run	Execution of a test or an analysis. A session during which the engine generates grids and its results are measured.
OOS / Out-of-sample	Test carried out on a period that was not used to tune the engine directly. An important method to avoid validating a setting only because it works on data that is already known.
Backtest	Method that replays the history of past draws to observe how the engine would have behaved on those dates.
Harness	Technical tool that orchestrates the backtests: grid generation, comparison, metric computation and export of the results.
Grids per draw	Number of grids generated by HYBRIDE for each draw replayed during the run.
Balanced mode	Generation mode aiming to produce balanced grids according to certain internal constraints of the engine.

Statistical measures

Statistical signature	Measurable footprint left by the engine in the generated grids: sum, spread, zones, consecutive numbers, stars, etc.
Shape divergence	Gap between the distribution of HYBRIDE grids and a reference distribution (pure chance or real draws).
JSD / Jensen-Shannon divergence	Mathematical measure used to compare two distributions. The higher the JSD, the further the shape of HYBRIDE grids moves away from the reference.
Distribution	Spread of the observed values. E.g.: how many grids have a sum between 120 and 130, how many have 2 even numbers, etc.
Reference / baseline	Comparison model used to know whether HYBRIDE behaves like pure chance or has a signature of its own.
Chance / random	Grids generated uniformly, without any HYBRIDE logic. A neutral comparison basis.
Real draws	Official history of past draws. Sometimes used as a narrative reference point, but never as a predictive promise.

Noise floor	Level of deviation naturally expected due to sampling randomness. Prevents over-interpreting a small gap.
Monte Carlo	Method that repeats a large number of random simulations to estimate what can happen by pure chance.
p-value	Indicator assessing whether an observed deviation can be attributed to noise. A low p-value = a deviation hardly compatible with mere random noise.
FDR / Benjamini-Hochberg	Statistical correction used when many indicators are tested at the same time. Limits the risk of false positives.

Importance of a deviation

Material	The deviation is statistically detectable relative to the noise floor. Caution: a material deviation can still be very small in practical importance.
Statistically significant	Deviation detectable by statistical tools. Does not necessarily mean important or useful.
Practical importance	Actual level of importance of a deviation. A deviation can be visible yet too small to justify an optimisation.
Negligible	Deviation detected but small in practical importance. Mathematically visible, but not necessarily a real improvement topic.
Marked shape divergence	Deviation strong enough to clearly characterise a signature of the HYBRIDE engine.
Effect tier	Ranking of the observed effect (e.g. negligible or strong). Distinguishes the truly important deviations from micro-deviations.

Grid checks

Tier 1	First level of checks: compliance with simple bounds (sum, spread, consecutive numbers, ESI).
Tier 2	Second level: finer measurement of the distributions and of the engine's statistical signature.
Sum	Total of the main numbers of a grid.
Spread	Gap between the smallest and the largest number. E.g.: for 7-21-24-29-35, spread = 35 - 7 = 28.
Standard deviation / std	Measure of the internal dispersion of the numbers around their mean. Indicates whether they are clustered or spread out.
ESI	Internal structure indicator measuring a form of overall distribution of the grid.
freq_1_31	Measures how many numbers of a grid fall within the 1 to 31 zone.
nb_pairs	Number of even numbers in a grid.
nb_consecutifs	Number of runs of consecutive numbers. E.g.: 16-17 counts as one run.

Zones & stratification

Stratification	Distribution of the numbers across zones. HYBRIDE can enforce a “1 number per zone” logic.
1_per_zone	A grid contains one number in each defined zone. A strong construction constraint of the engine.
2_in_one_zone	Two numbers of the same grid fall within the same zone.
3_in_one_zone	Three numbers of the same grid fall within the same zone.
Free	Grid that does not follow a strict zone-distribution constraint.

Secondary (Chance / Stars)

Secondary	Complementary element of the game: the Chance number for the French Loto, the stars for EuroMillions.
chance_value	Value of the Chance number generated for a Loto grid.
chance_in_T1	Measures whether the Chance number repeats the one from the previous draw.
etoiles_in_T1	Measures whether the generated stars repeat one or more stars from the previous draw.
etoiles_basse	Smallest star of a EuroMillions grid.
etoiles_haute	Largest star of a EuroMillions grid.
etoiles_ecart	Gap between the two stars of a EuroMillions grid.

Engine mechanisms

T-1	The previous draw. E.g.: for the draw of 8 June, T-1 = the draw immediately before it.
Hard-exclude	Mechanism preventing certain recent numbers from being reused immediately. A construction signature of the engine, not a rule of the real game.
Brake	Mechanism reducing the weight of certain numbers in the generation, without necessarily forbidding them entirely.
Persistent brake	Persistent brake applied across several recent contexts or windows.
Decay	Time-decay mechanism. Gradually reduces the influence of older information.

Generation footprint

Generation footprint	Reading of the numbers that HYBRIDE generates more or less often than expected. Engine introspection, not a prediction.
Uniform deviation	Gap between the frequency generated by HYBRIDE and an expected uniform frequency.
Intra-zone deviation	Deviation measured within a single zone. Shows which numbers HYBRIDE favours or disfavours within that zone.
Overweighting	A number is generated more often than expected relative to a uniform reference.

Underweighting	A number is generated less often than expected relative to a uniform reference.
Generation frequency	Number of times a number appears in the grids generated by HYBRIDE.
Synthesis grid	Grid built from the most representative numbers of a run. Illustrates the engine's signature, not a prediction of any result.
Observed / random ratio	Comparison between the engine's backtest results and a theoretical level of chance. Analyses behaviour, guarantees no future performance.

Limitations & legal framework

Run limitation	Known point limiting the interpretation of the report. E.g.: decay disabled, future leak accepted in the MVP, non-final test context.
Future leak	Situation where future information could influence a test computation. To be monitored or corrected to achieve perfect temporal isolation.
ANJ	Autorité Nationale des Jeux (the French gambling regulator). Its framework requires responsible communication: no prediction, no promise of winnings, no illusion of control.
ANJ disclaimer	Reminder stating that LotoIA is a statistical analysis tool, not a prediction tool nor a guarantee of winnings.
Irreducible randomness	A lottery draw remains random. No statistical analysis can guarantee or predict the result.