



ABE

— DYNAMICS —

1ABE USER GUIDE

A SCIENTIFIC APPROACH TO TIME SERIES FORECASTING

PREDICT. UNDERSTAND. DECIDE.

Make better decisions with 1ABE,
the scientific forecasting platform that
combines physics, fluid dynamics and AI
to deliver clear, interpretable and
actionable forecasts.



SCIENTIFIC
FOUNDATION



QUANTIFIED
UNCERTAINTY



TRANSPARENT
METHODOLOGY



PROFESSIONAL
REPORTS



1ABE + nABE
ECOSYSTEM



CONTINUOUS
RESEARCH



[ABE-DYNAMICS.COM](https://abe-dynamics.com)

WHAT DOES 1ABE PREDICT?

1ABE predicts the **expected mean value of the next time interval**,
not a single instantaneous observation.

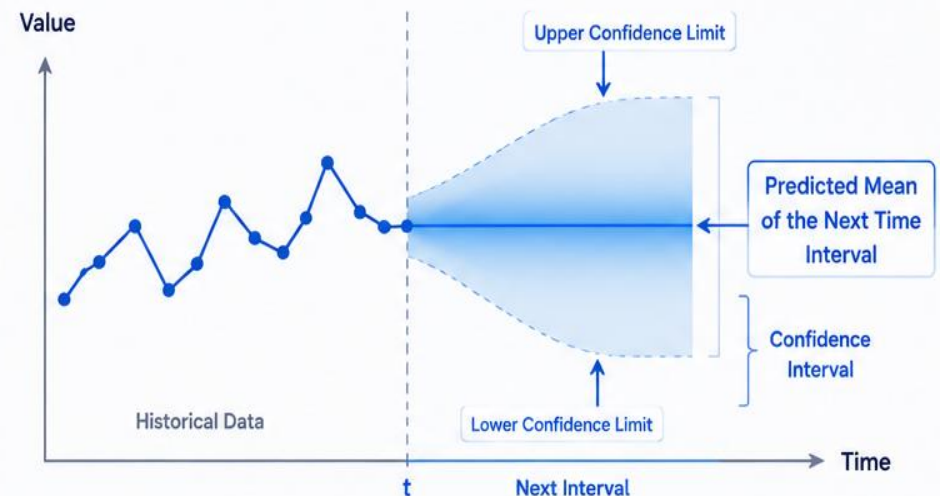
TRADITIONAL FORECAST

Predicts a single next value



1ABE FORECAST

Predicts the mean of the next time interval.



Focuses on a single instant in time.



More sensitive to noise and volatility.



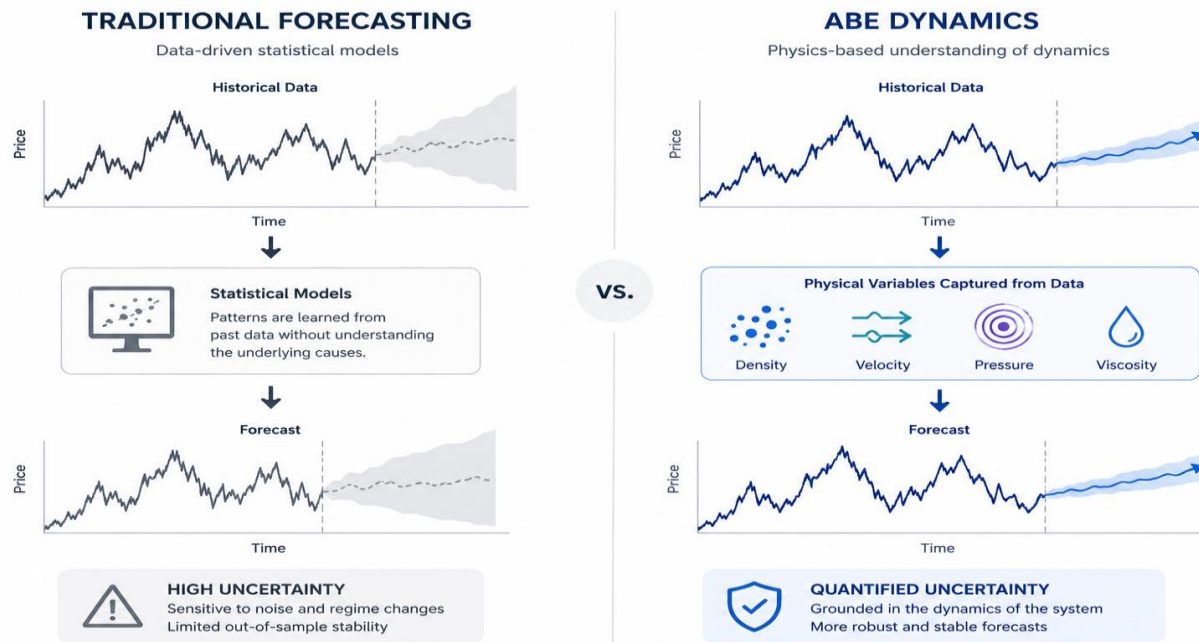
Focuses on the expected behaviour over the next time interval.



More robust, stable and reliable.



1ABE predicts the expected mean value of the next time interval, providing a more robust and scientifically grounded forecast.



1. Why do we need a new forecasting method?

Every day, governments, financial institutions, companies and researchers attempt to predict the future evolution of complex systems. Financial markets, energy demand, commodity prices, exchange rates, industrial processes and many other time-dependent phenomena influence important economic and strategic decisions.

Despite decades of research, forecasting remains one of the most challenging scientific problems. Most existing methods identify statistical relationships or learn patterns directly from historical observations. While these approaches can produce useful predictions in many situations, they generally describe the observed behaviour rather than the underlying physical mechanisms that generate it.

As a consequence, prediction uncertainty often increases significantly when market conditions change or when the system evolves under new circumstances that were not represented in the historical data.

ABE (Acceleration Balance Equation) was developed from a different perspective.

Instead of considering a time series simply as a sequence of numerical observations, ABE interprets every series as a dynamic system governed by internal interactions that evolve over time. This approach allows the construction of physical variables such as density, velocity, pressure and viscosity directly from the observed data, providing a coherent mathematical description of the dynamics responsible for the evolution of the series.

The objective of ABE is therefore not only to estimate future values, but to understand the dynamic behaviour of the system itself and use that information to generate scientifically grounded forecasts together with an estimation of their associated uncertainty.

1ABE is the first practical implementation of this framework. It has been specifically designed to analyse and forecast individual time series, providing users with an intuitive platform capable of generating detailed forecasting reports while preserving the complete scientific methodology developed within the ABE framework.

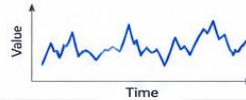
The 1ABE Workflow

1



Historical Time Series

Input data: the observed values of the variable over time.

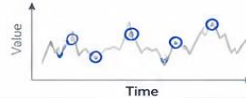


2



Node Detection

Identification of significant points that define the structure of the series.

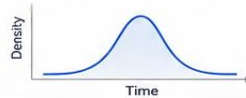


3



Density

Estimation of how information is distributed along the series.



4



Velocity

Measurement of the local rate of change and its direction.

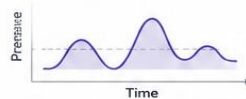


5



Pressure

Dynamic potential generated by density and velocity interactions.

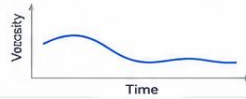


6



Viscosity

Resistance to change that controls the smoothness of the dynamics.

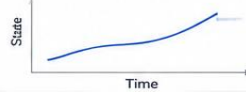


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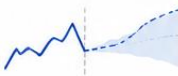
$$\frac{d^3x}{dt^3} = F_{int} + F_{ext}$$

ABE Equation

Acceleration Balance Equation describes the system dynamics.

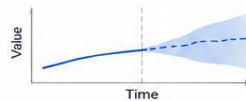


8



Forecast

Prediction of future evolution based on the dynamic model.

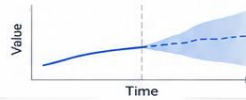


9



Confidence Interval

Quantification of uncertainty associated with the forecast.



10



Final Scientific Report

Comprehensive PDF report with analysis, graphs and conclusions.

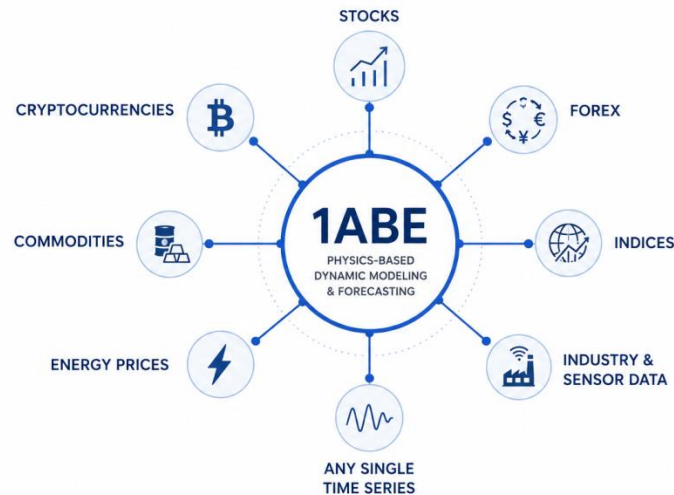


The following chapters describe each stage of this workflow, its scientific basis, and the information provided to the user.



1ABE: ONE TECHNOLOGY, MULTIPLE APPLICATIONS

Applicable to any single time series



2. What Can 1ABE Do?

Modern forecasting problems appear in almost every scientific, industrial and financial discipline. Although the observed systems may be very different, they all share a common characteristic: they evolve through time.

1ABE has been designed to analyse the dynamics of a **single time series**, independently of its origin. Rather than being limited to financial markets, the methodology can be applied to any temporal process in which successive observations describe the evolution of an underlying dynamic system.

Typical applications include:

- Stocks
- Exchange rates
- Commodities
- Cryptocurrencies
- Market indices
- Interest rates
- Energy prices
- Industrial sensors
- Environmental measurements
- Medical signals
- Scientific experiments

The methodology remains identical regardless of the application. The only required input is a chronological sequence of observations.

Once the data are processed, 1ABE reconstructs the dynamic state of the system and generates a complete scientific analysis together with a forecast of its future evolution and an estimation of the associated uncertainty.

Unlike many forecasting tools, 1ABE does not simply provide a predicted value. It produces a detailed description of the internal dynamics of the analysed series, allowing users to better understand why a forecast has been obtained and how reliable that forecast is expected to be.

WHAT DOES THE USER RECEIVE?



3. Chapter 3: What information will I receive?

Every analysis performed by 1ABE generates a comprehensive scientific report designed to explain not only the forecast itself, but also the dynamic behaviour of the analysed system.

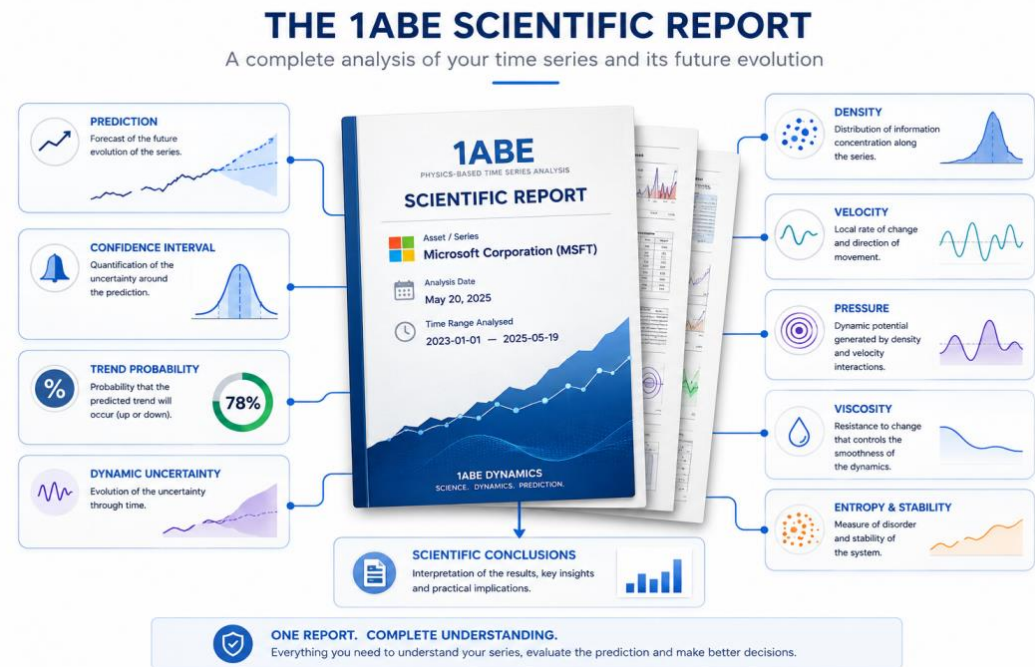
Instead of returning a single predicted value, the platform delivers multiple complementary indicators that help users understand the evolution of the series, evaluate the quality of the prediction and quantify the associated uncertainty.

Every report combines numerical results, graphical representations and physical variables derived from the ABE methodology into a single document that can be interpreted without requiring advanced mathematical knowledge.

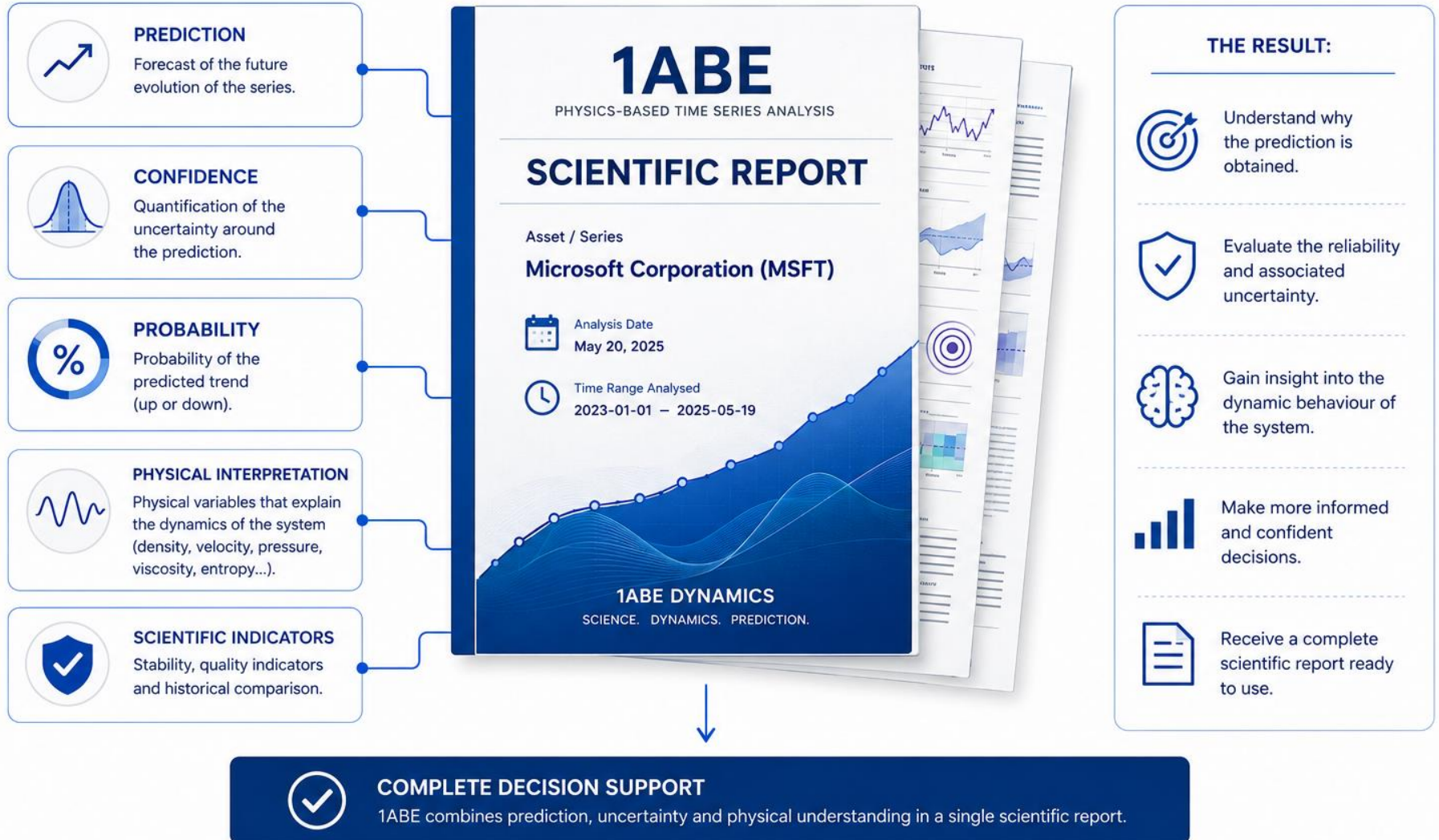
Depending on the selected configuration, the report may include:

- Future forecast
- Confidence interval
- Trend probability
- Dynamic uncertainty
- Density evolution
- Velocity evolution
- Pressure field
- Physical viscosity
- Stability indicators
- Entropy analysis
- Prediction quality indicators
- Historical comparison
- Scientific interpretation

The objective is not simply to predict the future evolution of a time series, but to provide users with a complete understanding of the dynamic mechanisms responsible for that prediction.



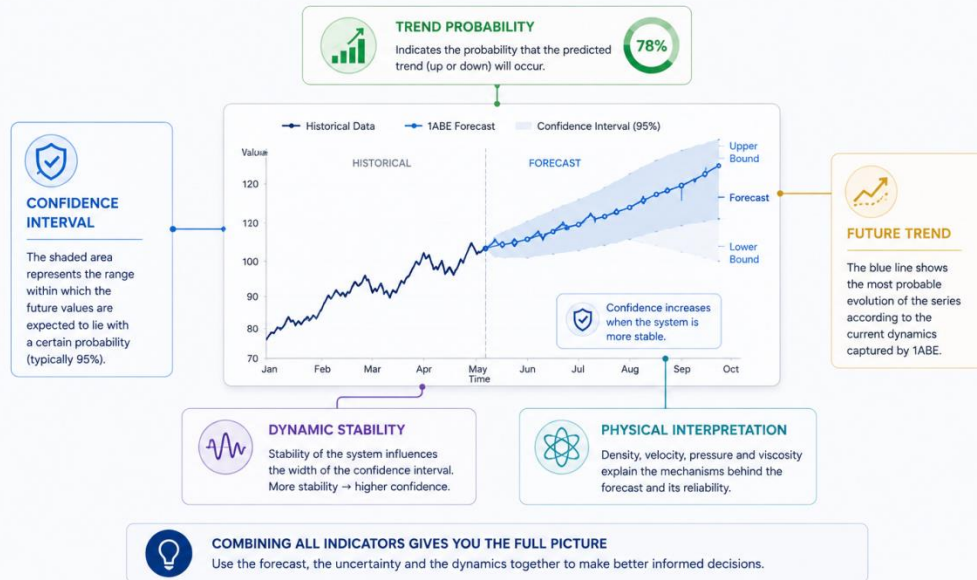
EVERY PREDICTION INCLUDES



HOW TO INTERPRET YOUR 1ABE RESULTS

A prediction is more than a number.

Every element of the report provides key information to understand the forecast.



4. How Should I Interpret My Results?

The primary objective of 1ABE is not simply to predict the future value of a time series, but to provide users with sufficient information to evaluate the reliability of that prediction.

For this reason, every forecast should be interpreted together with the accompanying scientific indicators. The predicted trajectory describes the most probable future evolution of the analysed series according to the current dynamic state reconstructed by the ABE model.

However, no real system evolves with absolute certainty.

Consequently, each prediction is accompanied by a confidence interval that quantifies the expected uncertainty surrounding the forecast.

In addition to the confidence interval, 1ABE provides dynamic variables such as density, velocity, pressure and viscosity.

These variables describe the internal state of the system and often explain why a prediction is considered highly reliable or, conversely, why greater uncertainty should be expected.

Users are therefore encouraged to interpret the report as a complete scientific diagnosis rather than focusing exclusively on the predicted value itself.

The greatest strength of 1ABE lies not only in forecasting future behaviour, but also in explaining the physical dynamics responsible for that forecast.

HOW TO READ A 1ABE FORECAST



1. FORECAST

Check the predicted trajectory.
This is the most probable future evolution of the series.



2. CONFIDENCE INTERVAL

Evaluate the range of uncertainty.
The wider the interval, the greater the uncertainty.



3. TREND PROBABILITY

Review the probability of the predicted trend (up or down). Higher probability means greater reliability.



4. DYNAMIC VARIABLES

Analyse density, velocity, pressure, viscosity, entropy and stability.
They explain the behaviour of the system.



5. SCIENTIFIC INTERPRETATION

Combine all indicators to understand the mechanisms behind the forecast and its reliability.



6. DECISION

Use the complete information to make more informed and confident decisions.

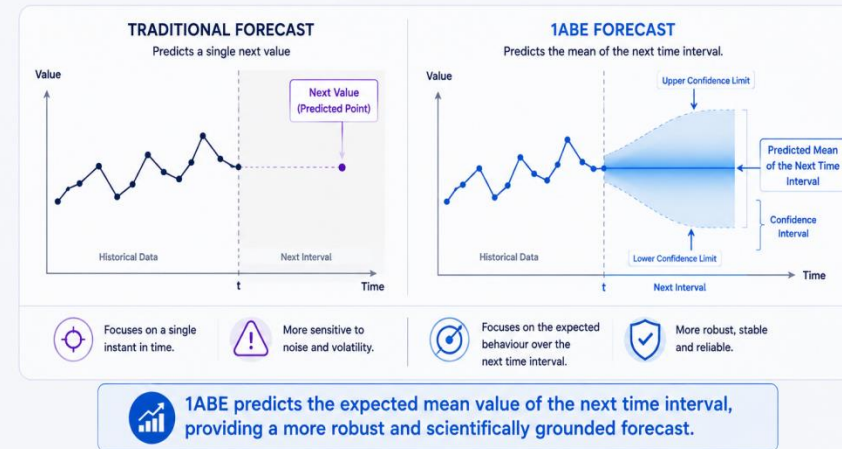
THE 1ABE FORECAST

The forecast represents the most probable future evolution of the analysed time series according to its current dynamic state.



WHAT DOES 1ABE PREDICT?

1ABE predicts the **expected mean value of the next time interval**, not a single instantaneous observation.



5. What Does the Forecast Mean?

The forecast generated by **1ABE** represents the most probable future evolution of the analysed time series according to the dynamic state reconstructed from the available historical information.

Unlike many conventional forecasting methods that attempt to predict the exact value of the next observation, 1ABE is designed to predict the expected mean value of the next time interval.

This approach provides a more robust description of the future evolution of the system by focusing on its expected behaviour over the forthcoming interval rather than on a single instantaneous value.

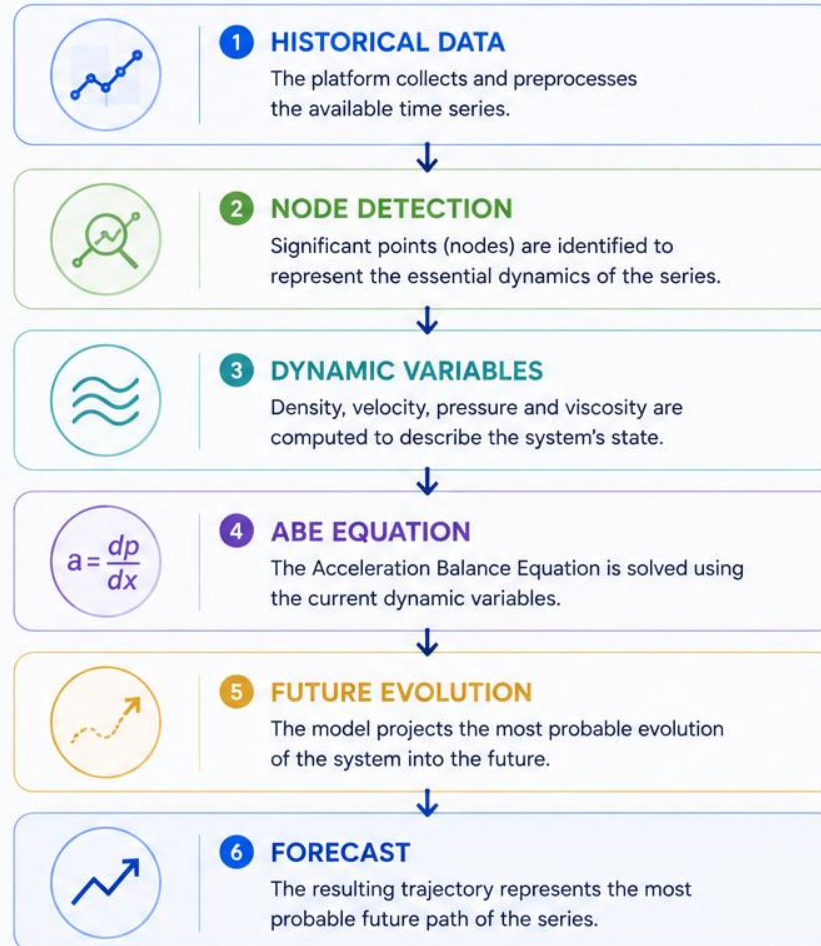
The predicted mean is accompanied by a confidence interval, a trend probability and additional scientific indicators that allow users to evaluate the expected reliability of the forecast and quantify its associated uncertainty.

Consequently, 1ABE provides not only a numerical prediction, but also a complete scientific interpretation of the expected evolution of the analysed time series.

1ABE predicts the expected mean value of the next time interval, rather than attempting to estimate a single instantaneous observation.

HOW IS THE FORECAST GENERATED?

From historical data to the most probable future evolution.



SCIENCE. DYNAMICS. PREDICTION.

Every forecast is the result of a rigorous physical modelling process that captures the true behaviour of the system.

THE CONFIDENCE INTERVAL EXPLAINED

Every scientific prediction contains uncertainty.

1ABE quantifies that uncertainty to help you evaluate the reliability of every forecast.



6. How Certain Is the Forecast?

Every scientific prediction contains a degree of uncertainty.

This is a fundamental characteristic of all dynamic systems and should not be interpreted as a weakness of the forecasting methodology.

Rather than hiding this uncertainty, 1ABE explicitly estimates it and includes it in every scientific report.

The confidence interval defines the range within which future observations are expected to evolve with a specified probability, assuming that the current dynamics remain unchanged.

A narrow confidence interval generally indicates that the reconstructed dynamic state is stable and that the forecast is expected to be more reliable.

Conversely, a wider interval suggests that the system exhibits greater variability or that the current dynamics are less stable, increasing the uncertainty associated with the prediction.

The confidence interval therefore allows users to evaluate not only the predicted trajectory itself, but also the confidence that should be placed in that prediction.

For this reason, the confidence interval should always be interpreted together with the forecast and the remaining scientific indicators included in the report.

"1ABE never provides a prediction without also quantifying its expected uncertainty."

HOW SHOULD THE CONFIDENCE INTERVAL BE INTERPRETED?

From the forecast to an informed decision.

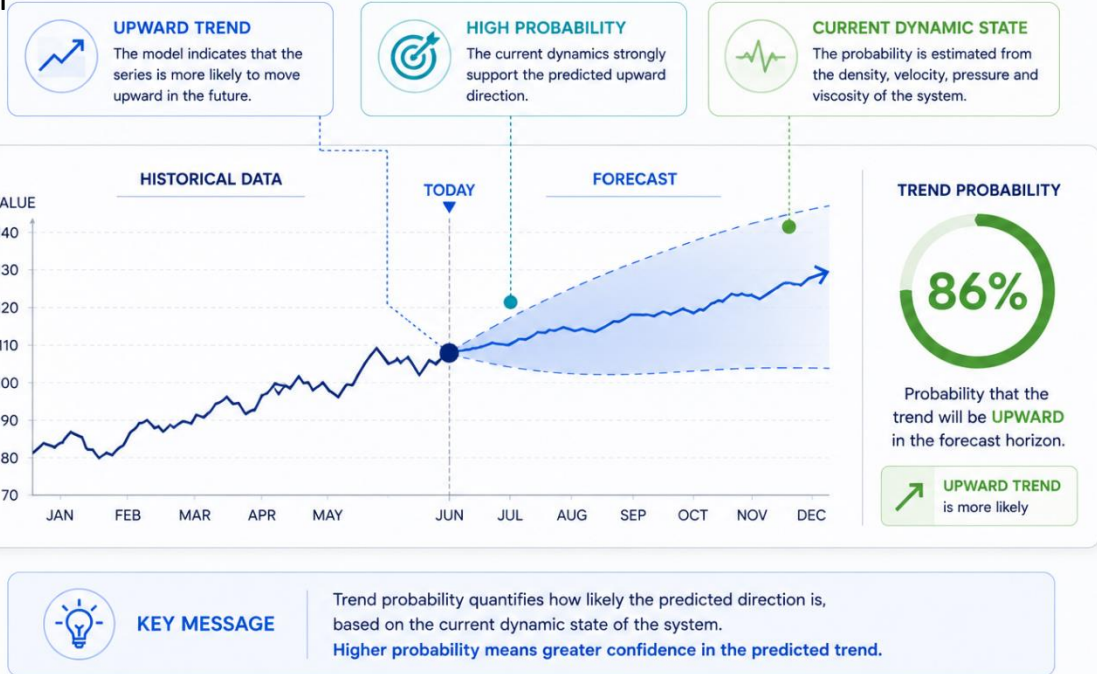


REMEMBER

The confidence interval does not predict the future, it helps you understand how much confidence to place in it.

TREND PROBABILITY EXPLAINED

In many practical applications, predicting the correct direction of movement is often more valuable than predicting the exact numerical value.



Conversely, lower probabilities indicate that the system is evolving under less stable conditions or that multiple future scenarios remain plausible.

Trend probability should therefore be interpreted together with the confidence interval and the remaining dynamic indicators provided in the scientific report.

Taken together, these variables provide a much richer description of the expected future evolution than a single forecast alone.

HOW SHOULD TREND PROBABILITY BE USED?

Integrate probability with all key indicators for better decision-making.



1 PREDICTED TREND

The model determines the most probable direction (upward or downward).



2 TREND PROBABILITY

The probability quantifies how likely that direction is according to the current dynamics.



3 CONFIDENCE INTERVAL

The interval shows the range within which future values are expected to evolve.



4 OVERALL RELIABILITY

Combine trend probability, interval width and other indicators to assess the reliability of the forecast.



5 DECISION

Use all the information together to make more informed, objective and confident decisions.



REMEMBER

Trend probability is a powerful guide, but should never be used in isolation. Integrate it with all other indicators for the best results.

8. What Are the Limitations of 1ABE?

Like every scientific forecasting methodology, 1ABE has a clearly defined scope of application. The platform has been specifically designed to analyse the dynamics of a **single time series** and to generate forecasts based on the information contained within that series.

When the future evolution of a system is determined predominantly by its own internal dynamics, 1ABE is capable of reconstructing its current state and producing highly informative forecasts together with an estimation of their associated uncertainty.

However, some real-world systems are strongly influenced by external factors that are not directly represented in the analysed series. In these situations, the future behaviour depends not only on the internal evolution of the series itself but also on the interactions with other variables. Since these external influences are not explicitly modelled by 1ABE, the uncertainty associated with the prediction may increase.

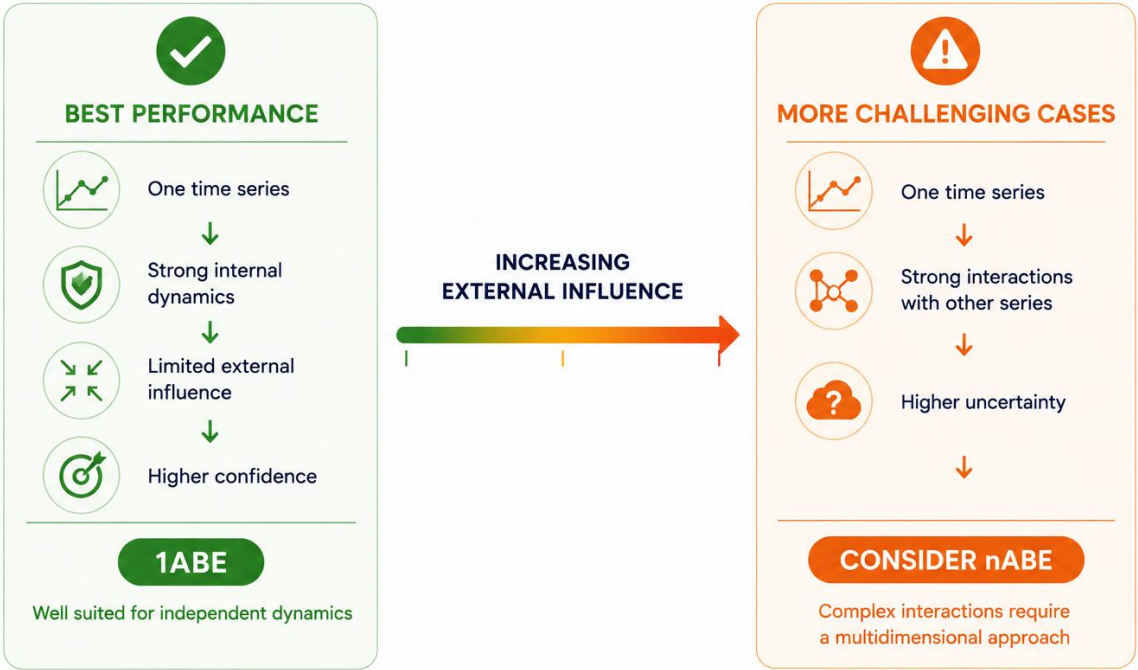
This does **not** mean that the methodology is incorrect. Rather, it reflects the natural limitation of analysing a complex system using only a single observed variable.

Understanding these situations is one of the reasons why the ABE framework was extended towards **nABE**, a multidimensional methodology capable of modelling the interactions among multiple time series simultaneously.

For this reason, every 1ABE report includes indicators designed to help users evaluate the expected reliability of each forecast.

THE LIMITATIONS OF 1ABE

Understanding when 1ABE performs best is just as important as understanding what it can do.



WHEN IS 1ABE THE RIGHT CHOICE?

1ABE is designed to analyse a single time series
when internal dynamics dominate.



SINGLE TIME SERIES

Analysis focused on one
observed variable.



INTERNAL DYNAMICS

The future evolution is mainly
driven by the system itself.



LIMITED EXTERNAL INFLUENCE

Minimal interactions with other
external variables.



1ABE

The optimal approach for accurate,
reliable and interpretable forecasts.



SCIENTIFIC FORECAST

Generate forecasts with quantified
uncertainty and scientific rigour.



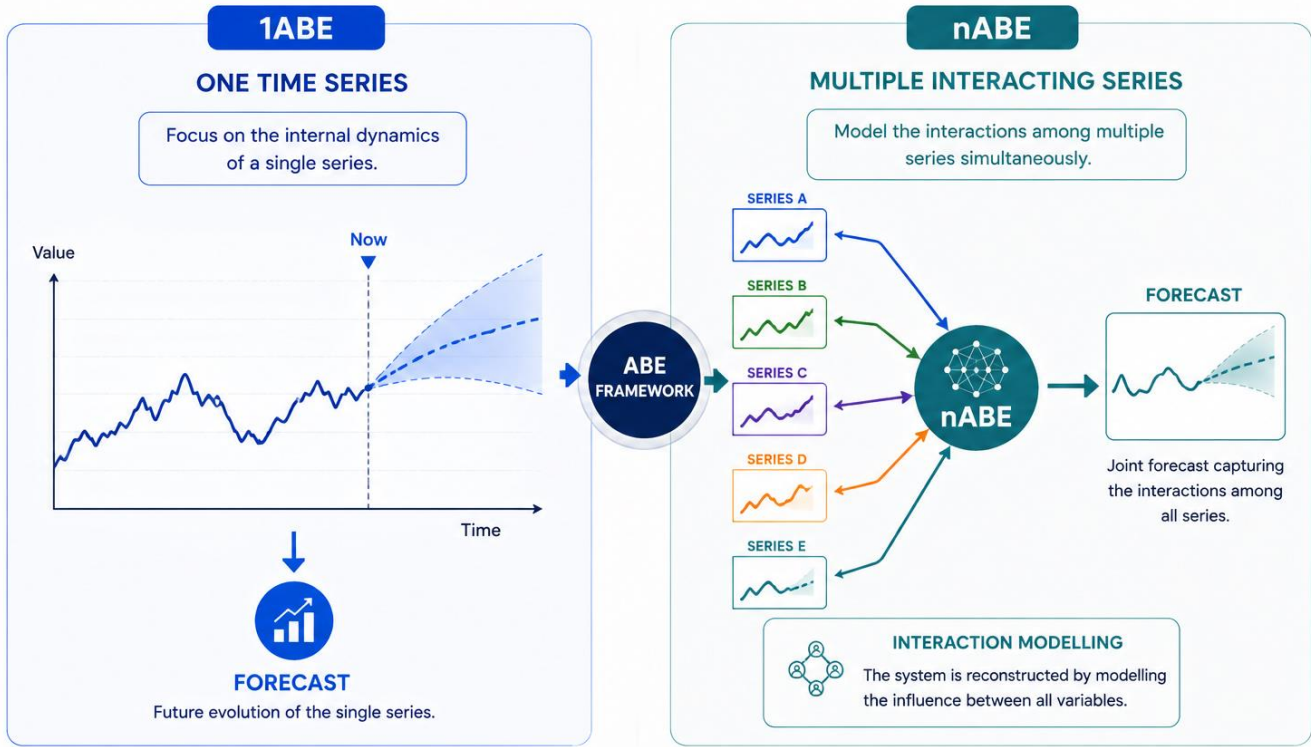
If external interactions become significant and start to
dominate the system's evolution, **consider nABE**.

9. When Should I Use nABE Instead? – improving 1ABE....

Many real-world systems do not evolve independently. Financial markets, macroeconomic indicators, industrial processes and numerous natural phenomena are continuously influenced by the interaction of multiple variables. Although 1ABE analyses the internal dynamics of a single time series, some situations require these external interactions to be explicitly incorporated into the forecasting model. This is precisely the objective of **nABE**. nABE extends the ABE framework from one dimension to multiple interacting dimensions, allowing the simultaneous analysis of several related time series. Instead of studying each variable separately, nABE reconstructs the complete dynamic system by modelling the interactions among all participating variables. As a result, the methodology can capture external influences that are not directly available when analysing a single series alone. Both methodologies therefore complement each other. 1ABE provides an efficient solution whenever a single time series contains sufficient information to describe its future evolution. nABE becomes the preferred methodology whenever the behaviour of the analysed system depends strongly on the interaction between multiple variables.

1ABE vs nABE

Two complementary methodologies for different levels of complexity.



WHICH METHOD SHOULD I CHOOSE?

A simple guide to select the most suitable methodology for your analysis.



ONE TIME SERIES

You want to analyse and forecast a single variable.



USE 1ABE

Ideal when the series is mainly driven by its own internal dynamics.

1ABE



SCIENTIFIC FORECAST

Obtain a forecast with quantified uncertainty and reliability indicators.

OR



MULTIPLE INTERACTING SERIES

The behaviour of the system depends on the interaction between several variables.



USE nABE

Ideal when external interactions have a significant impact on the evolution.

nABE



SCIENTIFIC FORECAST

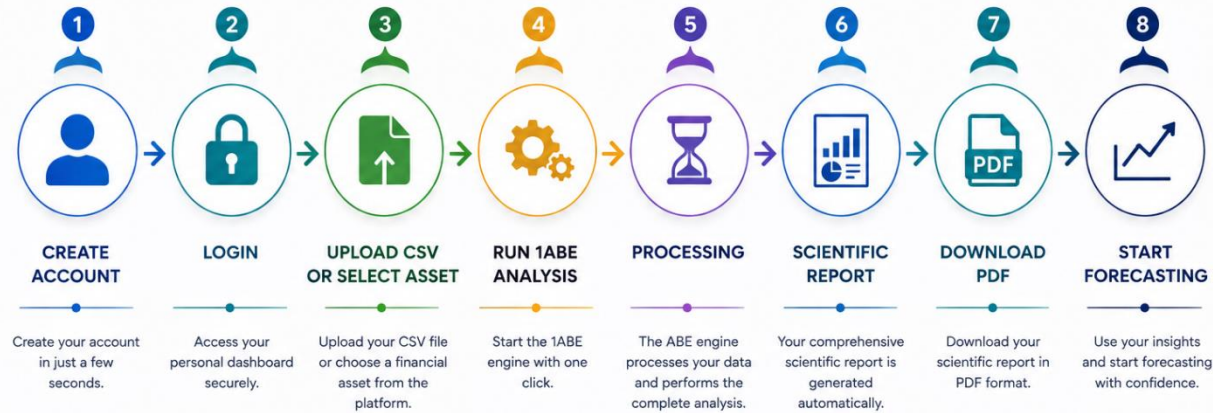
Joint forecast capturing the interactions among all series.



Both 1ABE and nABE are part of the ABE Dynamics ecosystem.
Different tools for different levels of complexity.

GET STARTED WITH 1ABE

A simple, fast and automated process from your data to your scientific forecast.



FAST • AUTOMATED • SCIENTIFIC • RELIABLE

1ABE combines advanced science with an intuitive platform to deliver powerful insights in just a few minutes.

ABE
DYNAMICS

10. How Do I Start Using 1ABE?

Using 1ABE has been designed to be straightforward, regardless of the user's technical background.

After creating an account, users simply upload the time series they wish to analyse or select one of the supported financial assets directly from the platform.

Once the data have been submitted, the ABE engine automatically reconstructs the dynamic state of the system and performs the complete scientific analysis.

Within a short time, the platform generates a comprehensive report containing the forecast, confidence interval, trend probability and all associated scientific indicators.

The report can then be downloaded, reviewed and used to support future decisions.

No advanced mathematical knowledge or programming experience is required.

The platform has been designed to make the scientific capabilities of ABE accessible through a simple and intuitive user experience.

THE USER JOURNEY

From your data to your scientific forecast in 5 simple steps.



A SCIENTIFIC PROCESS. A SIMPLE EXPERIENCE.

1ABE automates complex science to deliver clear, reliable and actionable forecasts.



READY TO START?

A simple path from your data to better decisions
with scientific forecasting.



1. CREATE YOUR ACCOUNT

Sign up in just a few seconds
and access the 1ABE platform.



2. CHOOSE AN ASSET

Select from hundreds of financial assets
or upload your own time series.



3. RUN 1ABE

Launch the 1ABE analysis.
Our engine does the rest.



4. RECEIVE YOUR SCIENTIFIC REPORT

Get a comprehensive report with forecasts,
uncertainty, probabilities and scientific indicators.



5. UNDERSTAND YOUR FORECAST

Interpret the results with clarity and confidence
using our intuitive visualisations.



6. MAKE BETTER DECISIONS

Use scientific insights to support
your decisions with greater confidence.

START TODAY →

11. Ready to Start?

1ABE has been developed to make scientific forecasting accessible through a simple, intuitive and fully automated platform.

Whether you are analysing financial markets, industrial processes, scientific measurements or any other temporal system, the platform provides objective forecasts together with quantified uncertainty and a complete scientific interpretation of the analysed dynamics.

The entire workflow has been designed to minimise complexity while preserving scientific rigour.

Users simply upload their data, launch the analysis and receive a comprehensive report that supports informed decision-making.

If your forecasting problems involve multiple interacting variables, the ABE ecosystem also provides nABE, extending the methodology to multidimensional systems. We invite you to discover how ABE Dynamics can help you better understand the behaviour of your data through a new scientific approach to time series forecasting.

THE ABE DYNAMICS ECOSYSTEM

A complete framework for scientific forecasting and decision-making.



1ABE

Analyse a single time series with scientific rigour.
Obtain forecasts, uncertainty and complete interpretation.



nABE

Extend the analysis to multiple interacting series.
Model dependencies and improve forecasting accuracy.



PROFESSIONAL FORECASTING

Apply ABE in real-world environments.
Support informed decisions with quantified confidence.



RESEARCH

Advance the science behind ABE Dynamics.
Collaborate, validate and publish.



FUTURE DEVELOPMENTS

Continuous innovation to expand capabilities,
applications and global impact.



Building the future of scientific forecasting.

12. Why Choose ABE Dynamics?

ABE Dynamics has been created to provide a scientific alternative to traditional forecasting methodologies.

Rather than relying exclusively on statistical fitting or black-box models, the platform reconstructs the dynamic state of the analysed system and generates forecasts together with an objective estimation of their associated uncertainty.

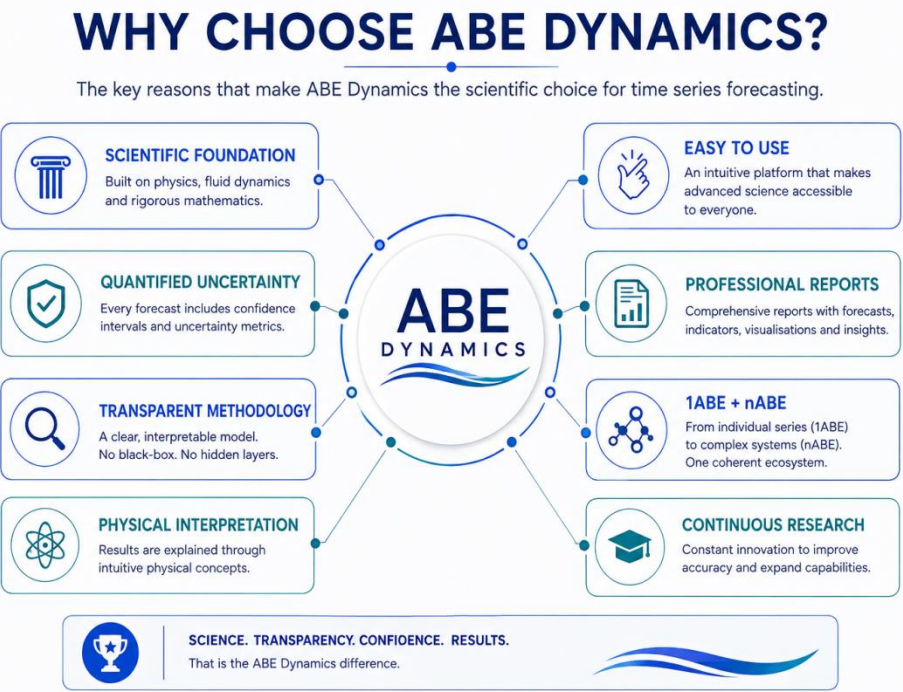
Every analysis is accompanied by a complete scientific report, allowing users not only to obtain a prediction but also to understand the confidence that can reasonably be placed in it.

The ABE ecosystem has been designed to evolve continuously.

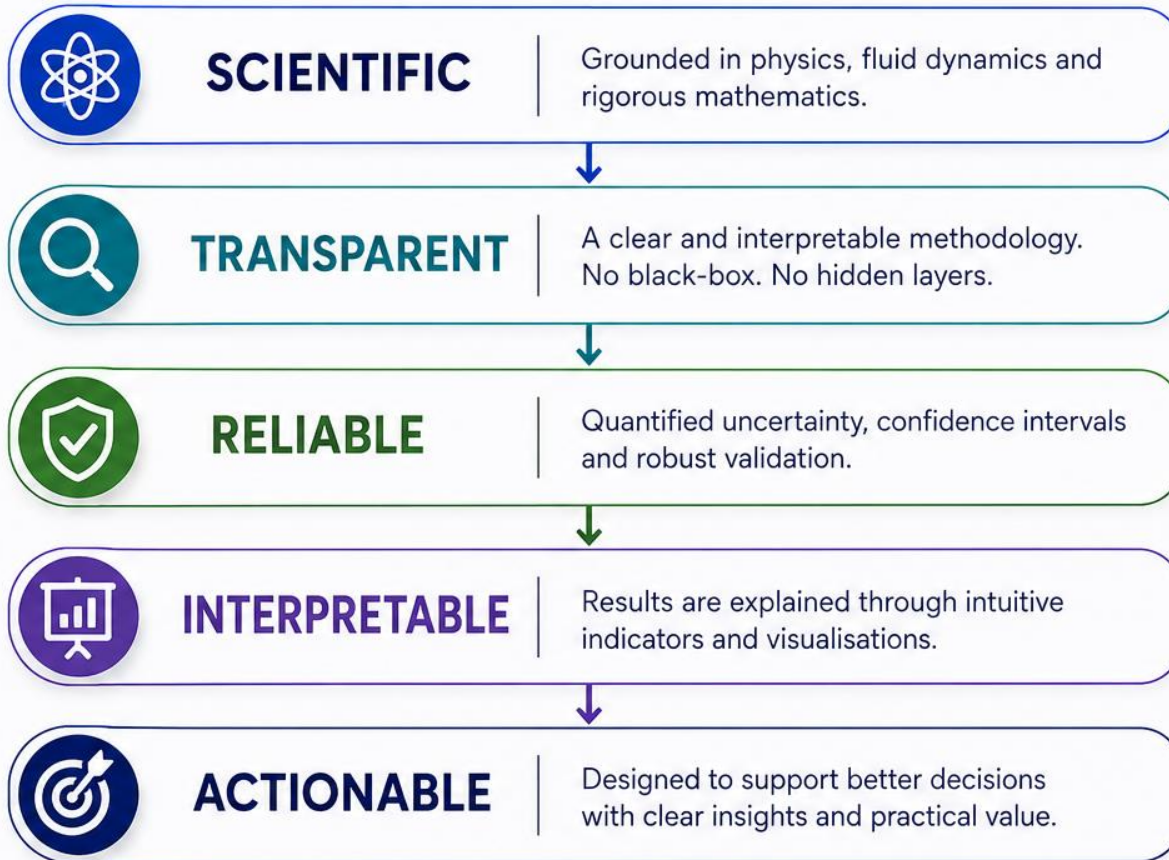
From 1ABE for individual time series to nABE for multidimensional systems, the methodology provides a coherent scientific framework capable of addressing increasingly complex forecasting problems.

Our objective is simple:

To make scientific forecasting accessible, transparent and useful for researchers, analysts, companies and decision-makers.



WHY USERS CHOOSE ABE DYNAMICS



ABE DYNAMICS

1. ANALYSED TIME SERIES: JPM

13 SEP 2024 - 11 SEP 2026 1ABE

The market or system history used by 1ABE to identify its dynamic structure.

1. ANALYSED TIME SERIES



DATA POINTS

500

13 Sep 2024 - 11 Sep 2026

LATEST VALUE

356.6799

Interval: 1d

SERIES MEAN

286.1534

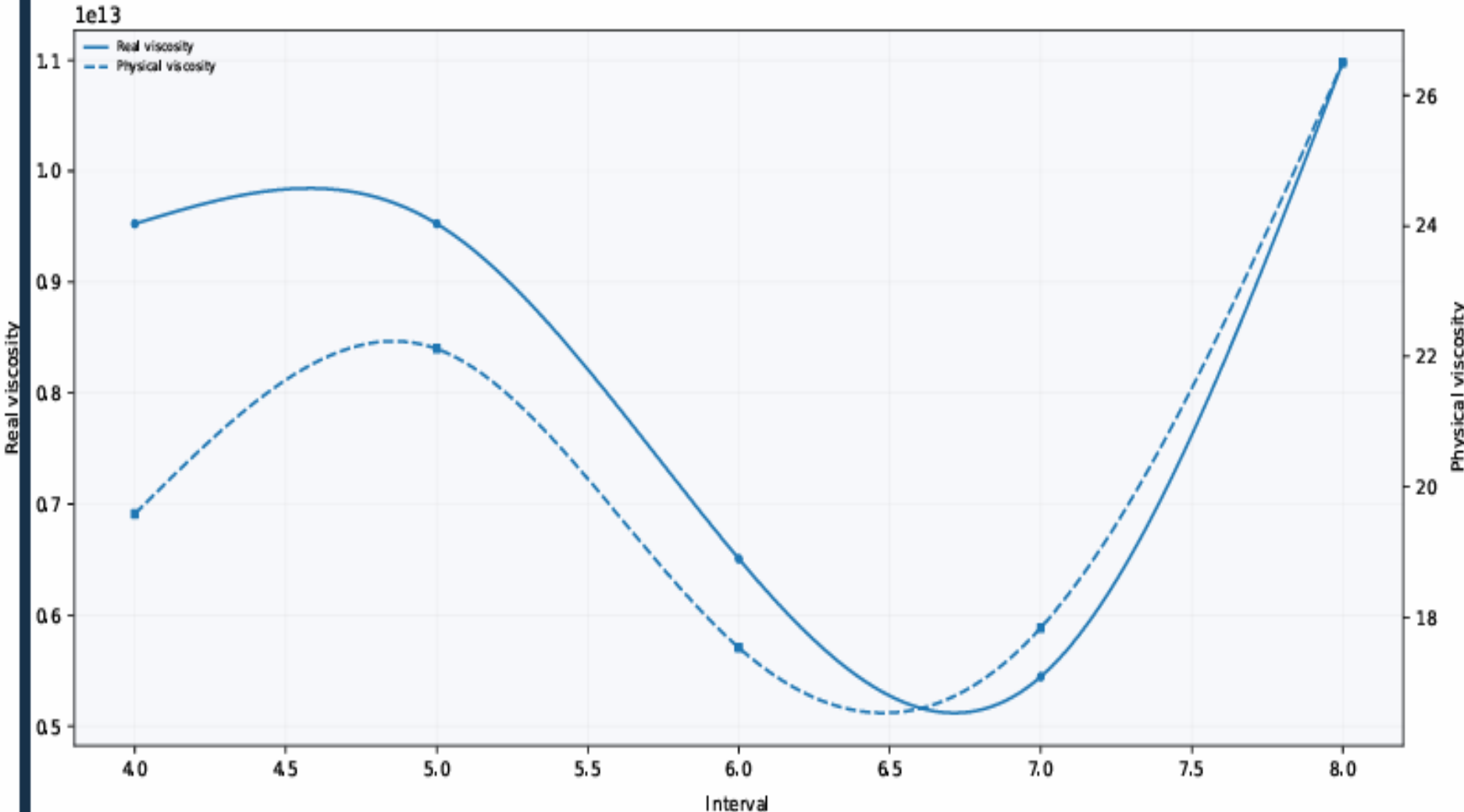
Std. deviation: 39.0326

2. DYNAMIC VISCOSITY ANALYSIS: JPM

1ABE

Real and physical viscosity provide two complementary views of the internal dynamics detected by 1ABE.

2. REAL AND PHYSICAL VISCOSITY



VISCOSITY CORRELATION

0.8378

83.8%

ABSOLUTE RELATIONSHIP

3. NEXT-INTERVAL MEAN PREDICTION

14 SEP 2026 - 16 OCT 2026 **1ABE**

Operational forecast after the validated Koopman improvement layer; the original 1ABE forecast remains visible for transparency.

OPERATIONAL FINAL MEAN

357.7234

Forecast interval: 14 Sep 2026 - 16 Oct 2026

DIRECTION

UP

vs. latest completed interval

1ABE BEFORE KOOPMAN

357.7234

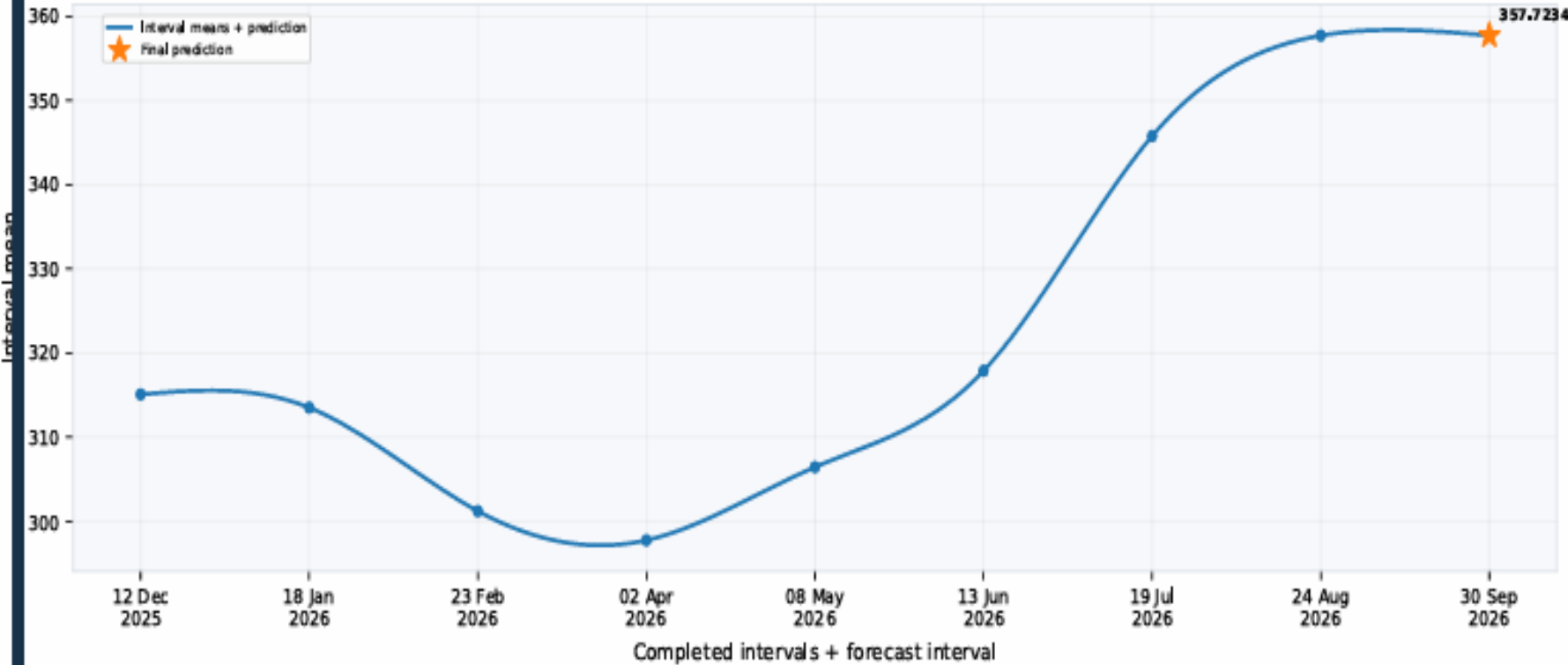
Unmodified corrected 1ABE forecast

EXPECTED CHANGE

+0.00%

predicted mean vs. reference

4. INTERVAL MEANS AND PREDICTION



Reading: 1ABE first produces its independent forecast. Koopman then acts as a second-opinion diagnostic and, only because the walk-forward test selects mode 'baseline', may modify the operational final forecast. See page 7 for both roles.

4. WALK-FORWARD VALIDATION

1ABE

Historical out-of-sample style testing used to quantify directional performance. When Koopman is enabled, original 1ABE and the operational post-ABE result are kept

OPERATIONAL HIT RATE

89.49%

Original 1ABE: 89.49% | 276 tests

TESTS

276

historical prediction points

BACKTEST STEP

1

observations per step

WINDOW

200

observations

FINAL 1ABE CONFIGURATION

Node method: 13
Number of intervals: 8
Prediction horizon / L: 25 values

WHAT THE HIT RATE MEANS

The percentage reports directional success over the walk-forward tests. It is a validation statistic for the selected configuration and should be read together with the prediction horizon, sample size and benchmark comparison.

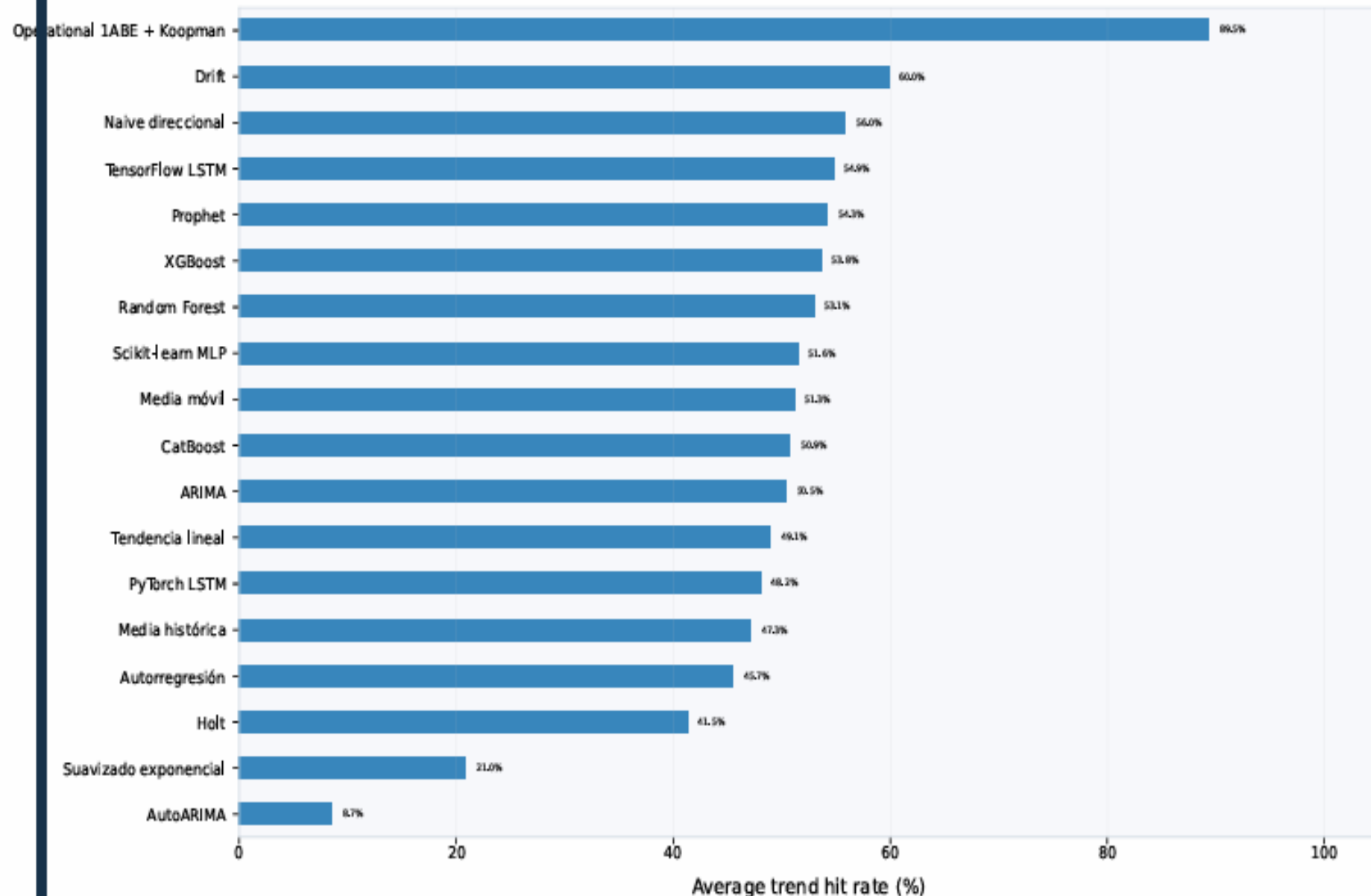
Operational 1ABE + Koopman 89.49%



5. FORECASTING METHOD COMPARISON

Trend hit rate of the final corrected IABE configuration compared with the available alternative forecasting methods.

5. TREND-HIT-RATE COMPARISON



6. 1ABE PROBABILISTIC FORECAST

1ABE

Compact scientific summary of the central 1ABE forecast and the normalized directional probability mass.

CENTRAL 1ABE FORECAST

357.7234

Maximum relative likelihood = 100%

LATEST REFERENCE

357.7140

FORECAST CHANGE

—————→
+0.0094 (+0.00%)

PROBABILITY MASS UP

56.7%

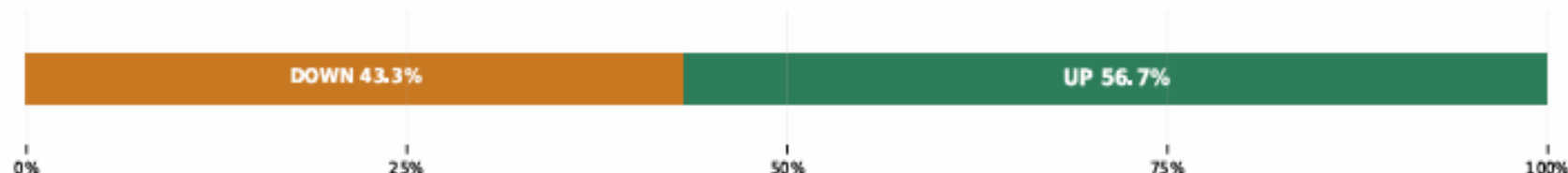
P(next interval mean > 357.7140)

PROBABILITY MASS DOWN

43.3%

P(next interval mean < 357.7140)

DIRECTIONAL PROBABILITY BALANCE



Dominant direction: UP (56.7% of normalized ABE probability mass).

The central forecast and the UP/DOWN probabilities answer different questions: the forecast is the maximum-likelihood 1ABE value, whereas UP and DOWN split the total normalized probability mass relative to the latest reference value.

ABE action-based probability layer: Independent walk-forward probability calibration remains a separate validation step.

7. KOOPMAN: VALIDATION + PREDICTIVE IMPROVEMENT 1ABE

Koopman is external to the physical 1ABE equations. It is used after 1ABE in two separate and explicit ways.

ROLE 1 — VALIDATION / SECOND OPINION

Koopman reads the dynamic observables already created by 1ABE. It does not alter density, pressure or viscosity in this role.

1ABE direction: UP

Koopman direction: UP

KOOPMAN SUPPORTS THE CURRENT 1ABE DIRECTION

Historical agreement: 82.97% (n=229) | disagreements: n=47

When both agreed, directional hit rate: 89.08%

ROLE 2 — PREDICTIVE IMPROVEMENT

Walk-forward compares 1ABE, Koopman and the 80/20 blend. A post-ABE replacement requires at least 1.00 percentage point of validated gain; near ties prefer the conservative blend.

Selected mode: baseline

Operational final mean: 357.7234

Blend: 80% 1ABE + 20% Koopman

Backtest gain vs. 1ABE before Koopman: +0.00 points

Koopman gain +0.00 pp is below the conservative minimum of 1.00 pp; 1ABE preserved.

1ABE BEFORE KOOPMAN

357.7234

Hit rate: 89.49%

KOOPMAN

365.3405

Hit rate: 75.36%

80/20 BLEND

359.2468

Hit rate: 88.04%

OPERATIONAL FINAL

357.7234

Hit rate: 89.49%

Interpretation: agreement is not accuracy. Role 1 reports whether Koopman confirms 1ABE and, crucially, who historically wins when they disagree. Role 2 may change the operational forecast only after a conservative walk-forward gain threshold; otherwise original 1ABE is preserved. Physical ABE variables are never altered by Koopman.

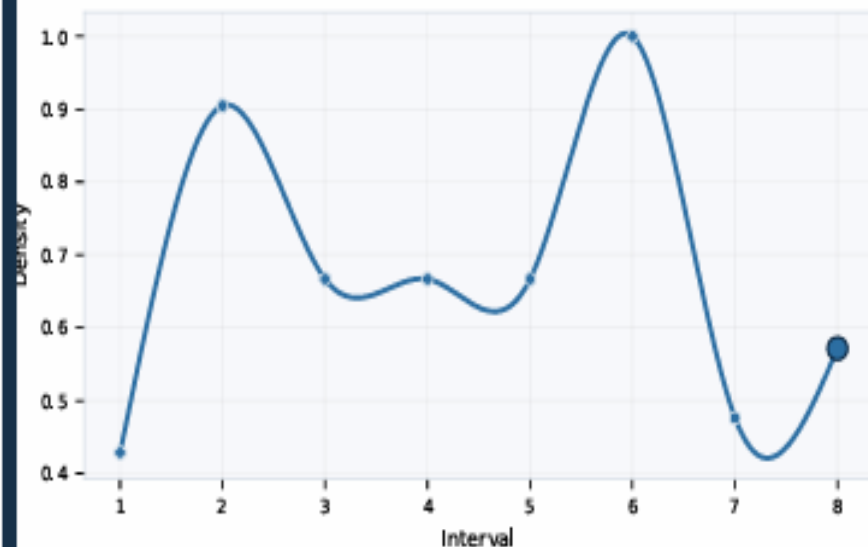
8. FINAL 1ABE PHYSICAL VARIABLES

14 SEP 2026 - 16 OCT 2026

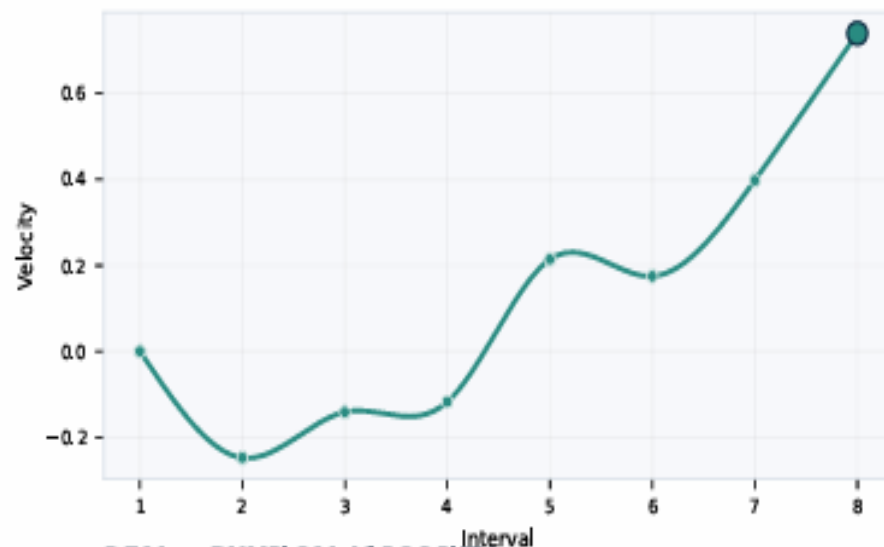
1ABE

Physical variables of the final selected 1ABE configuration used to obtain the forecast.

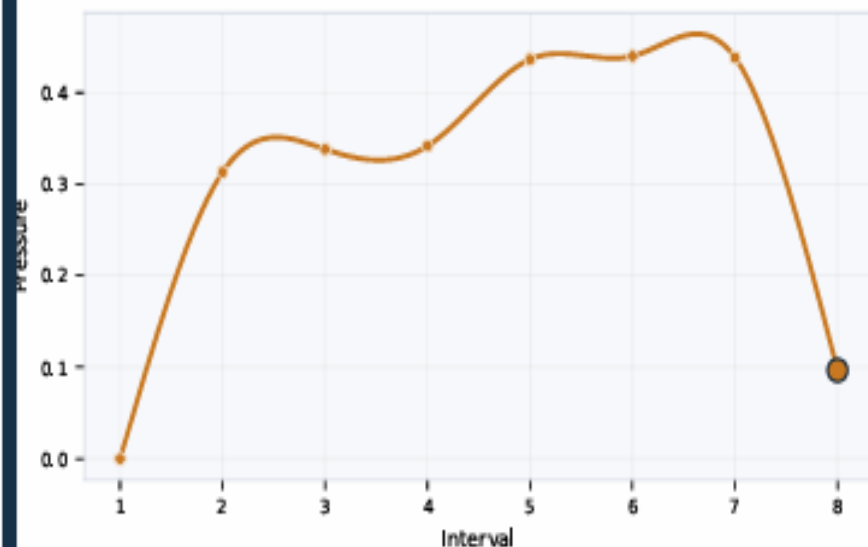
DENSITY



VELOCITY

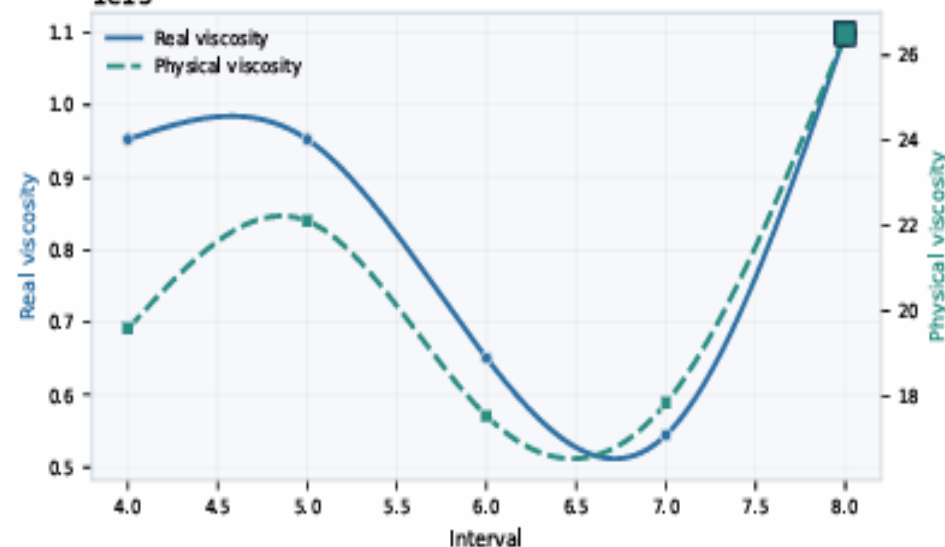


PRESSURE



REAL + PHYSICAL VISCOSITY

1e13



These four graphs correspond to the final 1ABE configuration used for the prediction: density, velocity, pressure and the real/physical viscosity pair.

9. 1ABE VALUE ERROR VALIDATION

1ABE

Numerical distance between the walk-forward prediction and the subsequently observed value. This complements trend hit rate by measuring prediction magnitude a

MAE

6.7892

Mean absolute error

RMSE

14.4345

Root mean square error

MEDIAN AE

3.3220

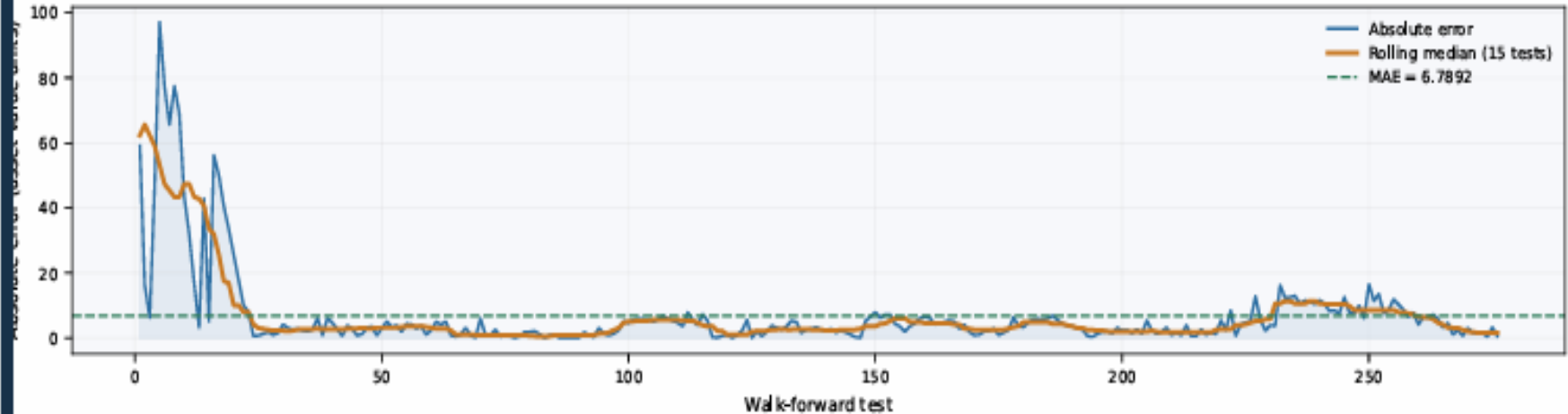
Typical absolute error

MAXIMUM AE

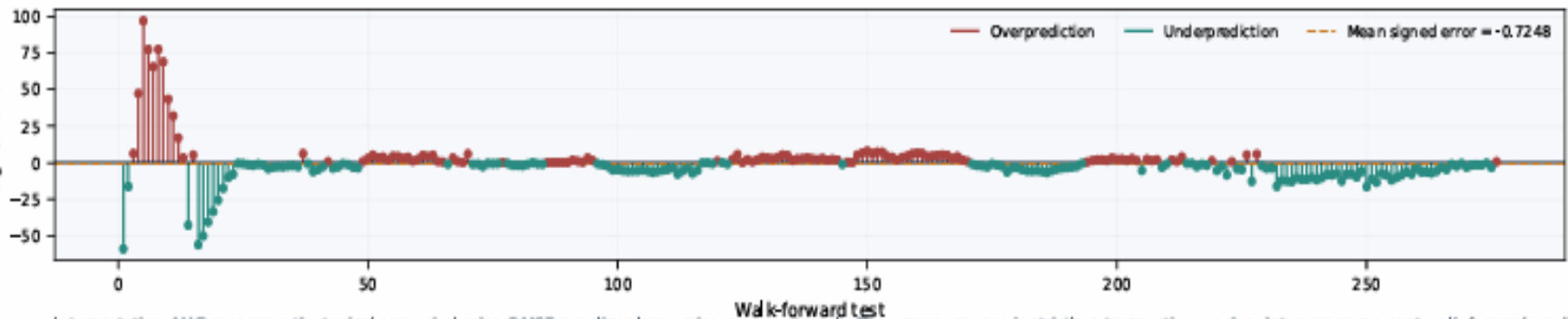
97.0695

Largest error | n=276

ABSOLUTE VALUE ERROR OVER WALK-FORWARD TESTS



SIGNED ERROR: OVERPREDICTION / UNDERPREDICTION



Interpretation: MAE measures the typical numerical miss; RMSE penalizes large misses more strongly. The error sequence is strictly retrospective: each point compares a past walk-forward prediction with the value that became known afterwards.

12. Why Start with 1ABE?

1ABE has been designed as the most accessible way to experience the ABE Dynamics methodology. It enables users to analyse a single time series through the same scientific principles that form the foundation of the complete ABE framework, while keeping the process simple, fast and cost-effective. For many applications, analysing a single series is sufficient to obtain valuable forecasts, confidence intervals and trend probabilities that support informed decision-making. As a result, 1ABE represents the ideal starting point for discovering how the ABE methodology reconstructs dynamic behaviour and quantifies forecasting uncertainty. Users can experiment with different assets, compare historical predictions and evaluate the quality of the generated reports before deciding whether their applications require the additional capabilities provided by nABE. Rather than replacing nABE, 1ABE introduces the methodology through an affordable and practical solution that allows every user to experience the scientific approach developed by ABE Dynamics. It is the first step into a complete ecosystem designed for scientific forecasting.



GROW WITH ABE DYNAMICS

Start simple with 1ABE and scale up as your needs grow.



WHY START WITH 1ABE?

-  **AFFORDABLE**
Lower cost entry point compared to nABE.
-  **SCIENTIFIC METHODOLOGY**
Built on physics, fluid dynamics and rigorous mathematics.
-  **PROFESSIONAL REPORTS**
Receive detailed reports with insights, visualisations and interpretation.
-  **QUANTIFIED UNCERTAINTY**
Confidence intervals, uncertainty metrics and trend probabilities.
-  **EASY TO USE**
Intuitive platform designed for users of all experience levels.
-  **UPGRADE ANYTIME**
Move to nABE whenever your applications grow in complexity.



START SIMPLE. GROW WITH CONFIDENCE.



COST ABOUT 1ABE ????
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COST ABOUT 1ABE ????
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READY TO START?

Try 1ABE Today

Experience the power of **1ABE** with your own time series.

To try 1ABE and obtain your forecasts, confidence metrics and scientific report, contact us to acquire your online license.



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Request your 1ABE online license and start using the platform.

- ✓ 1ABE online via PC and web
- ✓ Fast, secure and easy to use
- ✓ Professional reports and clear insights
- ✓ Affordable and scalable



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and through
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2. GET YOUR LICENSE
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3. ACCESS ONLINE
Log in from our website using your PC and start analyzing.



4. GET RESULTS
Receive forecasts, metrics and your scientific report.



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1ABE: UNDERSTANDING AND PREDICTING THE DIRECTION OF DYNAMICS

1ABE is particularly effective (A LOT EFFECTIVE!!!!) at identifying and predicting the future trend of a time series, revealing whether its dynamics are expected to move upward or downward over the next interval.

However, 1ABE analyzes each time series independently. For this reason, while trend prediction can achieve high accuracy for certain assets, predicting the exact future value is inherently more difficult when external variables influence the system.

This is precisely where nABE becomes essential. By simultaneously modelling the interactions between multiple time series, nABE is designed to capture those external influences and improve the prediction of future values.

1ABE predicts the direction.

nABE goes further — towards predicting the value.

***NEXT STEP: nABE — TOWARDS GREATER PREDICTIVE ACCURACY, IMPROVING
1ABE; EVEN TRADING ALSO.....***