

# ECB Guide to Internal Models<sup>1</sup> Updates on Credit Risk

Risk Advisory - Quantitative Risk Services

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# Introduction

On the **28th of July 2025**, the ECB published an updated version of its Guide to Internal Models. This release significantly enhances the supervisory expectations for institutions using internal models under the IRB approach, aligning the guidance with the legislative changes introduced under the Capital Requirements Regulation III (CRR3), effective from January 2025. **This publication focuses specifically on the changes introduced in the Guide that relate to credit risk and serves as a continuation of our earlier publication on the Guide's updates relevant to Machine Learning (ML). You can access that publication [here](#).**

The revised guide is more than a routine update – it represents a strategic shift in supervisory tone and granularity. The 2025 ECB Guide to Internal Models includes explicit references to the EBA Supervisory Handbook on IRB Validation, signalling a stronger alignment with EBA supervisory methodologies and reinforcing consistency in validation practices by expanding expectations on governance, validation, and risk quantification. The guide aims to offer clarity and harmonisation across significant institutions operating in the euro area.

Notable changes include:

- Alignment of roll-out plans and permanent partial use (PPU) with CRR3, including five-year timeframes and granular IRB permissions.
- Codified responsibilities for senior management and the management body when submitting model applications to the ECB.
- Refined expectations on internal validation and audit, especially at calibration segment level and override treatment.
- Clarifications on the definition of default (DoD), including days-past-due logic, joint obligors, and cross-jurisdictional Unlikely To Pay (UTP) triggers.
- Enhanced rules for the estimation of risk parameters (PD and LGD), covering data sourcing, reference value comparisons, and modelling under data deficiencies.

## How do the changes affect IRB model permissions and roll-out plans?

Permissions must be granted per exposure class, rating system, and LGD/CCF approach. Roll-out plans are expected to be time-bound-typically not exceeding five years-unless otherwise justified. Material changes require ECB approval.

## What is the ECB's expectation on PPU?

Banks must assess PPU materiality at exposure type level and compare realised LGD/CCF against CRR-standardised values under Article 176(3), even for non-modelled components.



## What role does senior management play in internal model governance?

Senior management is responsible for ensuring applications are complete and compliant. Submissions must be withheld if major deficiencies exist or if implementation is incomplete.

## What are the new expectations for internal validation and audit?

Validation must include segment-level PD calibration, override impact analysis, and defined escalation thresholds. Audit must focus on high-risk areas and align with the EBA IRB Handbook.

## How is the DoD clarified in the new Guide?

Default under DPD occurs on the 91<sup>st</sup> consecutive day past due. Joint obligors must be modelled separately. UTP triggers should ensure consistency across jurisdictions.

## What are the changes in the PD estimation?

Avoid double counting in pooled datasets, ensure PD mapping excludes non-default risks, and avoid using external ratings as inputs in shadow models.

## What is the ECB's approach to LGD calibration under the 2025 Guide?

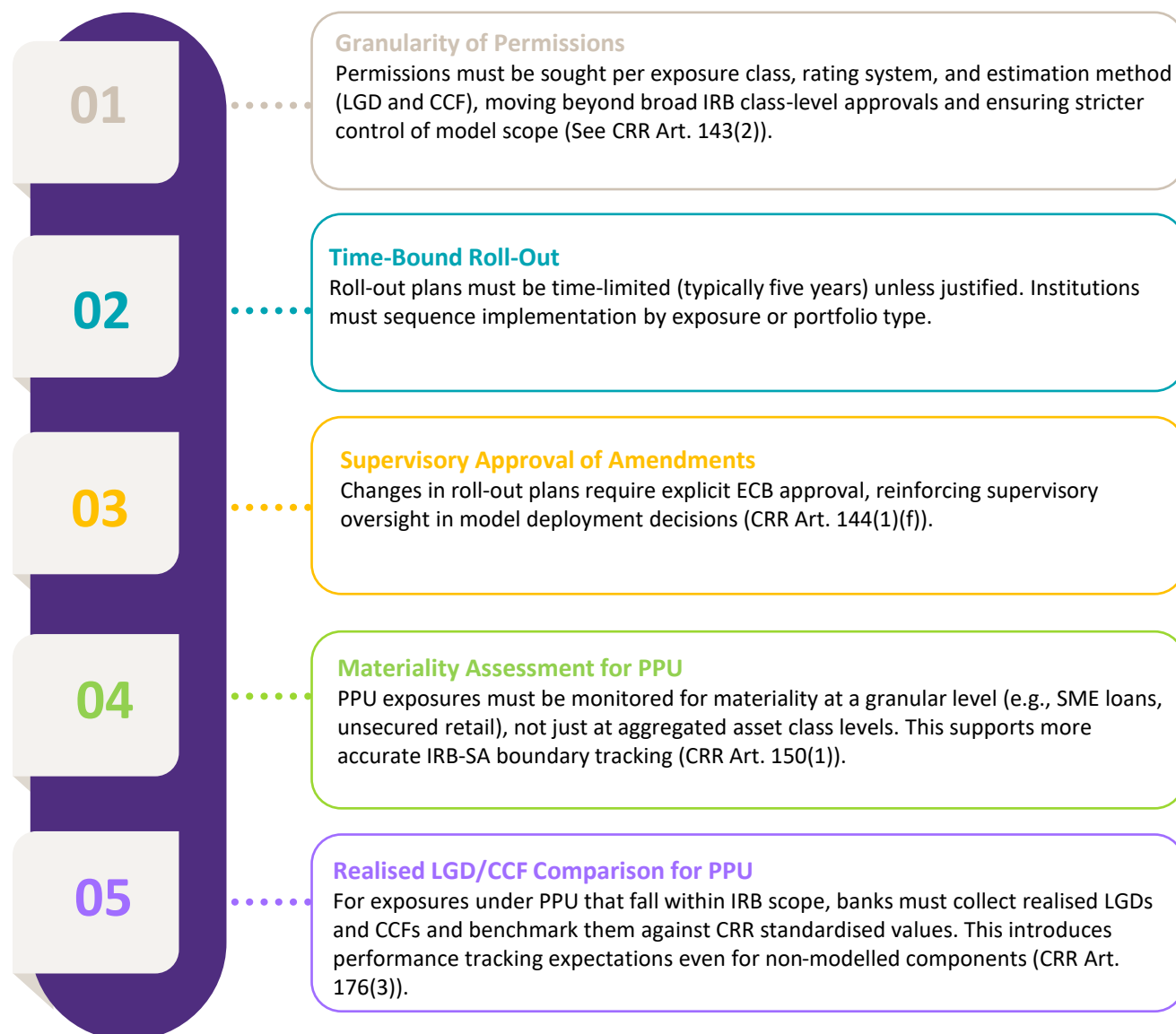
Downturn LGD must match the LRA segment level. Reference values must be based on the two worst loss years. Merges and Acquisitions (M&A) histories must be merged; Margin of Conservatism (MoC) applied if data is incomplete.

# ECB Guide to Internal Models

## A. Roll-out and Permanent Partial Use (PPU)

The revised ECB Guide to Internal Models introduces a more structured and prescriptive approach to IRB model roll-out and the treatment of PPU, reflecting the operationalisation of CRR3 provisions and aiming to ensure improved comparability, supervisory consistency, and transparency in model permissions and standardised component tracking.

### Key Enhancements in the revised Guide



#### CCF Specificities:

- Banks must seek IRB permissions separately for each estimation approach, including distinct approval for CCF models, alongside LGD. This enhances control and transparency over CCF model scope (CRR Art. 143(2)).
- Even for non-modelled EAD components under PPU, banks must collect and compare realised CCFs against standardised CRR values. This aligns with new expectations for performance monitoring and boundary integrity.
- The Guide does not introduce changes to the estimation, calibration, or validation of on-balance sheet EAD exposures or broader advances modelling techniques. Updates are focused specifically on CCF treatment.

#### Previous Guide Comparison:

- Prior guidance focused on high-level IRB-SA ratios and lacked granularity in permission or implementation obligations.
- There was no requirement to compare realised LGDs/CCFs under PPU against CRR standardised values.

# ECB Guide to Internal Models

## B. Internal Validation and Internal Audit

The revised Guide tightens expectations around internal validation and audit by integrating the EBA IRB Validation Handbook and introducing formal governance over model performance testing, override tracking, and audit prioritisation. These changes reflect the ECB's goal of strengthening control functions, ensuring that model performance deviations are properly flagged, escalated, and corrected, and that audit practices are closely aligned with the actual risk posed by models.

### ECB revised Guide: What's New



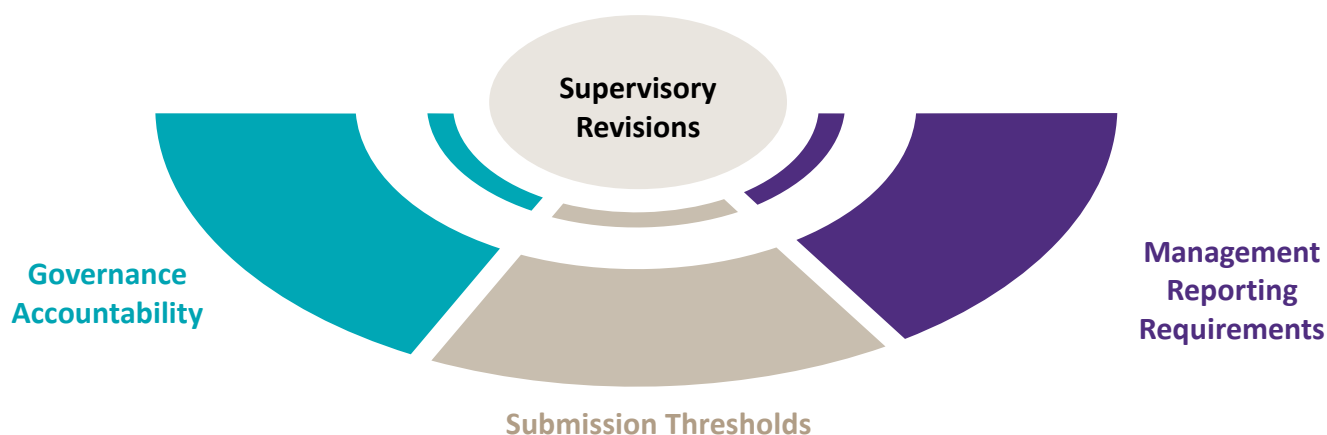
### Previous Guide Comparison

- ❑ The previous Guide prescribed a general risk-based validation structure but lacked specificity on calibration segment-level expectations, override-related MoC applications, and escalation governance.
- ❑ Internal audit governance was restricted to independence, frequency, and basic scoping. It did not require cross-linking with validation outcomes or the use of external references such as the EBA IRB Handbook.

# ECB Guide to Internal Models

## C. Management Body and Senior Management Responsibilities

The revised Guide reinforces the strategic oversight obligations of senior management and the management body by introducing clear conditions under which model applications must not be submitted. The ECB is elevating accountability by tying submission readiness directly to internal validation outcomes, internal control findings, and system implementation status. This reflects a broader supervisory shift toward proactive governance and risk ownership.



01

Senior Management and the management body are responsible for overseeing the completeness, reliability, and governance of internal model applications. This includes:

- Ensuring model development, documentation, and validation meet supervisory expectations;
- Actively monitoring model risk as part of the institution's overall risk governance framework;
- Reconciling model outcomes with internal and external expectations, including validation findings and audit feedback;
- Ensuring internal control functions (e.g., Risk Control, Compliance) have sufficient independence and access to escalate material concerns prior to application submission.

02

The ECB Guide introduces explicit **non-submission conditions**. Institutions must not submit an IRB application if any of the following apply:

- **Non-compliance:** Internal control functions (Risk Control, Compliance, Internal Audit) have formally flagged material non-compliance with the CRR or the ECB Guide;
- **Outstanding deficiencies:** Known deficiencies (e.g., model underperformance, validation failures) that require remediation remain unresolved, regardless of whether a model change is formally required;
- **Incomplete implementation:** The IRB model has not yet been implemented in the production environment, including full data feeds, use testing, or integration into risk management and capital planning processes.

03

Senior Management is expected to receive **structured, periodic reporting** on all aspects of internal model readiness and performance. This includes:

- KPIs/KRIs on model accuracy, discriminatory power, calibration, and overrides;
- Internal validation and audit findings, including unresolved issues and follow-up actions;
- Status updates on model change implementation and risk control reviews;
- Reporting frequency should align with the materiality of the portfolio and model complexity—e.g., quarterly for high-impact portfolios (corporate, SME), and semi-annually for low-risk segments.

**Important note:** The previous Guide provided broad governance guidance (e.g., around roles and escalation pathways) but did not specify concrete submission prohibition criteria or require validation-aligned internal reporting content. The revised ECB Guide addresses this by introducing binding thresholds and governance processes, significantly raising the bar for submission readiness.

# ECB Guide to Internal Models

## D. Definition of Default (DoD)

The revised ECB Guide to Internal Models introduces critical clarifications to the DoD aimed at ensuring consistent application of default recognition across jurisdictions, improving risk comparability, and closing loopholes observed under the previous framework. These updates are designed to eliminate interpretational variance, promote accurate default recognition timing, and align DoD mechanics with CRR3 expectations. The Guide also reinforces the importance of consistent application of the default definition across models and institutions, avoiding practices that previously created inconsistencies and underestimation of credit risk.



### DPD Counting Mechanisms

Default must be recognised on the 91st consecutive calendar day of arrears. The use of proxies (e.g., “three missed instalments” or month-end cut-offs) is prohibited. Banks must track payments daily, and legacy IT setups may require upgrading to meet this precision.

### Joint Obligations

Defaults must be recognised individually per obligor. A default by one joint borrower does not automatically trigger default for others unless explicitly stated in the contract or legal framework. This rule applies across all portfolio types, ensuring that PD estimates reflect obligor-specific default risk.

### Cross-Jurisdiction Triggers

Where borrowers have exposures in multiple countries, default recognition must be consistent across jurisdictions. The ECB requires harmonised UTP triggers and centralised governance to avoid fragmented default treatment.

### Cure Period and Return-to-Performing Status

Institutions must define when a borrower exits default. Reclassification should not rely solely on a few repayments; instead, there must be sustained credit improvement supported by financial evidence.

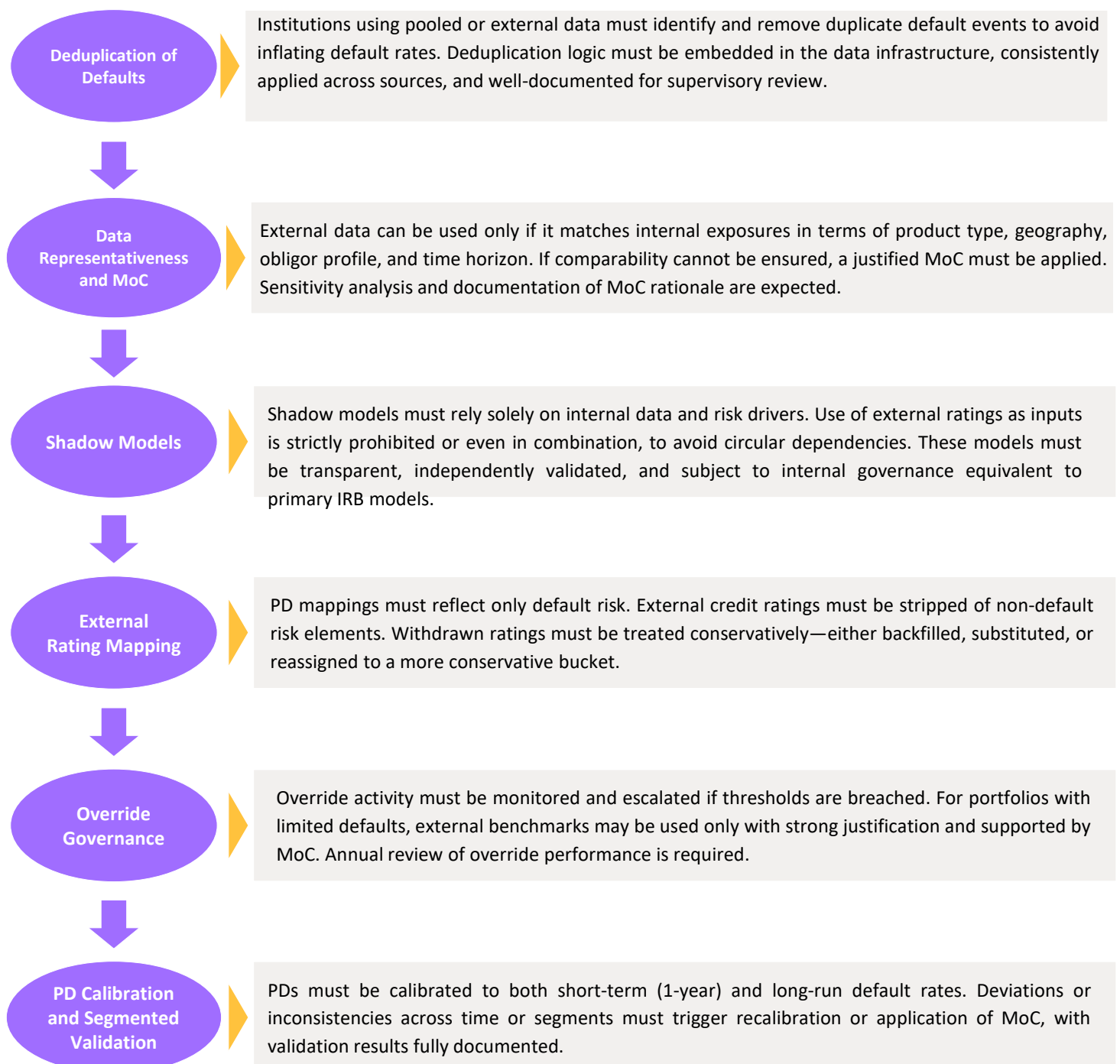
### IT and Monitoring Infrastructure

Banks must have systems in place that monitor arrears daily to apply the 91-day rule accurately. Cross-border groups are expected to ensure consistent implementation across jurisdictions and platforms.

# ECB Guide to Internal Models

## E. Probability of Default (PD)

The revised Guide expands ECB expectations around PD estimation through stricter guidance on default event handling, representativeness of data, and calibration consistency. The updates aim to ensure PD estimates are not biased by duplicated defaults or model overlays and that shadow models are appropriately controlled. This aligns PD estimation practices with a more realistic and conservative view of credit risk under stress and forward-looking scenarios. Institutions must ensure transparency and robustness in PD calibration by justifying all assumptions and data transformations.



# ECB Guide to Internal Models

## F. Loss Given Default (LGD) Estimation

The revised ECB Guide introduces more prescriptive expectations for downturn LGD calibration, benchmarking practices, and post-merger data integration. The revisions aim to address gaps in comparability, ensure calibration is conservative during stress conditions, and prevent artificial bias in LGD estimates due to disposals or incomplete data histories. LGD estimates must reflect empirical economic downturn experience and be justified with robust methodological documentation. This reinforces the ECB's push for resilient, scenario-validated, and auditable LGD estimation practices.

### Downturn Calibration Granularity

Downturn LGD calibration must match the segmentation used for long-run averages (LRA). Each segment needs at least two downturn periods and sufficient observed losses. Unrelated asset classes should not be pooled. Segmentation must be justified through loss distribution and economic analysis.

### Reference Value Benchmarking

Banks must identify the two worst LGD outcome years and calculate a default-weighted average as the reference. This benchmark validates LGD estimates. Deviations must be explained with macroeconomic rationale and sensitivity analysis. Reference values are now a supervisory anchor.

### Massive Disposals

LGDs affected by NPL or bulk disposals must be adjusted to exclude distortions from sale pricing or one-off recoveries. Banks must prove long-term relevance if such data are retained. Carve-out documentation is required for sale discounts and recovery methods.

### Post-Merger Data Consolidation

After M&A, loss and recovery histories of acquired entities must be merged. If data are missing, banks must estimate the gap, apply a conservative MoC, and document the integration process. This must be finalised before LGD model use or IRB submission.

### Collateral Valuation and Guarantees

Collateral valuation must factor in haircuts, legal delays, and enforcement risk. Guarantees are only recognised if enforceable and historically effective. Documentation must support the approach.

### Discounting Approach and Recovery Timeframes

Discounting assumptions must be clear and economically sound. Recovery timelines must reflect actual experience—overly optimistic assumptions must be justified with evidence.

# How can Grant Thornton support you?

We provide comprehensive internal model advisory services to help institutions comply with the ECB's Guide to Internal Models. Our support covers IRB roll-out planning, PPU assessments, model development, calibration, and validation testing, default definition remediation and compliance, LGD downturn calibration, and data representativeness. We also assist in strengthening model governance, aligning audit and validation practices with supervisory expectations, and ensuring full regulatory submission readiness under CRR3.

## Methodology Development and Parameter Estimation Support

Methodology development and/or review including scorecard and calibration support for PD/LGD/EAD, mapping to external sources, and margin of conservatism estimation and application.

## Definition of Default and UTP Frameworks

Operationalisation and Data Remediation of DoD logic including 91-day past due rules, cross-jurisdictional UTP triggers, and borrower-level attribution in joint exposures.

## Data Architecture & Performance Tracking

Design of data capture and performance monitoring tools for realised LGDs and CCFs, including benchmarking against CRR standardised values to meet regulatory requirements.

## Model Validation & Escalation Frameworks

Design and implementation of PD/LGD/CCF validation processes, calibration segment testing, override monitoring, and escalation governance—aligned with the EBA IRB Handbook.

## Roll-Out Planning & Permissions Management

Development of granular roll-out plans across exposure classes and rating systems. Assistance with documentation and supervisory applications under the new CRR3-aligned permission regime.

## Internal Audit & Model Risk Assurance

Design of risk-based internal audit frameworks tailored to model materiality, validation outcomes, and audit cycle planning in line with the EBA IRB Handbook.

## Model Governance & Strategic Oversight

Supporting management bodies with readiness assessments, quality control, and governance frameworks to ensure model submissions meet supervisory thresholds for completeness and reliability.



# Contact

Our team supports institutions in aligning with the revised ECB Guide to Internal Models. From IRB permissions and model validation to governance and submission readiness, we offer targeted expertise across the internal model lifecycle. Get in touch to see how we can support your compliance and implementation needs.



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