RegGenome

Strengthening Supervisory Capacity

Supervisory use case

AT A GLANCE

An organised, evidence-linked starting point for supervisory reviews, giving supervisors more capacity for the work that needs their judgement.

Once calibrated to an authority's framework, a baseline assessment for each supervised institution can be produced on a same-day basis.

1. The supervisory challenge

Financial sector supervisors assess supervised institutions' policies, procedures, risk-management arrangements, and supporting evidence against regulatory requirements and guidance. Doing so across multiple institutions and successive assessment cycles can be labour-intensive: supervisory teams need time to investigate material risk areas, assess institutional context, and determine appropriate action.

2. The approach: RegGenome supports the supervisor

RegGenome's regulatory data and models can help support supervisory teams. RegGenome's tools bring together applicable laws, regulations, and guidance; the supervisory authority's assessment framework and rubric; and material submitted by supervised institutions. Using this information, the tools produce a machine-based first-pass assessment—the baseline assessment—of whether that material aligns with the relevant requirements. By organising requirements within a shared regulatory ontology, RegGenome makes key attributes of requirements—such as scope, force, source, and effective date—explicit, rather than requiring the model to infer them solely from unstructured text. As a result, all findings in the baseline assessment are linked to the relevant requirements and supporting evidence, enabling supervisors to inspect, challenge, accept, or reject the baseline assessment and build on the results.

The opportunity is not to automate supervision or supervisory decisions, but to assist with repetitive, provision-by-provision aspects of supervisory reviews and to provide a highly consistent, rules-driven assistant to the supervisor. RegGenome's baseline assessment focuses on matching evidence with the authority's requirements. It does not assess the effectiveness of controls or risk management systems of supervised institutions.

Integrating a baseline assessment into the supervisory process can help increase the breadth, depth, and traceability of supervisory reviews.

Dimension	Benefits and outcomes
Breadth—wider coverage	The machine quickly and systematically screens regulatory criteria and institutional material, helping supervisors to cover wider ground and more institutions in less time.
Depth—use of expertise	Support with routine comparisons against regulatory criteria gives supervisors more time to focus on complex and nuanced matters that require supervisory judgement.
Traceability—strong review trail	Systematically linking findings to evidence and building a quality-assured register of facts for each assessment creates a record that can be reviewed, challenged, preserved, and more easily compared across institutions.

3. What our pilot testing has shown

In a supervisory pilot with a Central Bank involving several supervised institutions, RegGenome tested whether, using structured data in a controlled environment, its models could create a baseline assessment of questionnaire responses from supervised institutions that supervisors could use as a credible starting point. The concept was tested by benchmarking the machine-based assessment against past supervisory reviews of the same responses. The process involved two steps, described below.

Creating a machine-based baseline assessment	
Calibration Framework:	The calibration model used the national laws and regulations, the authority's supervisory guidance, and the authority's template questionnaire for firms regarding their controls as inputs. For each question included in the questionnaire, the model produced a draft "assessment guideline" that set out how the question should be interpreted, to whom and when it applies, and the types of artefacts and compliance outcomes a compliant firm is expected to be able to demonstrate. The calibration process and assessment guidelines were reviewed and approved by the supervisory authority.
Baseline Assessment:	The baseline assessment model used the set of assessment guidelines produced by the calibration model, the authority's risk scoring guidance, and the actual responses from the authority's supervised institutions as inputs. For each firm, the model processed these inputs to produce a baseline assessment in a structured format for supervisory review and a set of indicative risk scores for each question that were based on the supervisor's risk guidance and methodology. The baseline assessment report provided source-linked evidence supporting the indicative score, as well as recommendations on the types of firm artefacts supervisors could request to fill evidentiary gaps. Note: The pilot was based on assessing responses to a specific questionnaire. All survey responses were fully anonymised.

The two-step process—calibrate an assessment framework first, then assess institutions' inputs to create a baseline assessment—allows supervisors to understand how each part of the baseline assessment is created and to apply logged, attributable changes to this logic over time. The same process can also be used to build bespoke, detailed baseline assessment frameworks from local laws and regulations with oversight from supervisors.

How did the results compare to human-led assessments?

The pilot compared the baseline assessment with the human-led assessment of the same information to ensure the baseline assessment was a credible starting point. The initial machine-based and human-led assessments differed in meaningful ways. The RegGenome technical team and supervisory staff examined those differences and refined how the model

applied the supervisory criteria, including how the model treated high-level and specific questions, risk-sensitive scoring, and interpretation of institutional answers and incomplete responses.

After a few iterations, RegGenome's baseline assessments were more than 90% aligned with or only one score level away from the existing human-led assessments. The level of agreement rose with added iterations, by addressing areas of divergence. Once fully calibrated, the baseline assessment report can be generated for any given supervised institution on a same-day basis, with multi-institution baseline assessments ready for supervisory review within a week. All components of the assessment provide a clear link between the evidence and the indicative assessment, so all elements can be reviewed and adjusted by supervisors.

4. Implications for supervisory capacity

RegGenome-enabled baseline assessments are not a replacement for a supervisory assessment—they provide an organised starting point that maps evidence to requirements. The baseline assessment augments the supervisory toolkit by streamlining labour-intensive reviews of submitted responses against requirements, creating more time for tasks requiring expert judgement. The baseline assessment also helps preserve supervisors' decisions and promotes consistency.

RegGenome contribution	Allows supervisors to spend more time on
Systematic identification of required elements missing from responses	Assessing effectiveness of controls and risk management rather than focusing on completeness of the evidence base
Uniform application of a defined rubric across institutions and responses	Interpreting legal, historical, institutional, and risk context and identifying themes and patterns
Evidence-linked findings that can be reproduced and checked	Evaluating evidence, resolving ambiguity, and assessing materiality
A documented baseline for subsequent reviews	Conducting deeper dives into material issues

5. Conditions for effective use

Controlled inputs, traceability, and supervisory validation are all critical elements

The model's outputs are probabilistic, meaning they are based on likelihood rather than fixed rules, so they can vary. They reflect the model's assessment of the available information rather than a definitive conclusion. Machine-readable regulatory data (the regulatory requirements in a format computers can process) provides deterministic guardrails for those outputs: fixed rules that do not vary. These guardrails keep the outputs grounded in the regulatory text, combining the flexibility of the model's drafting with the consistency of fixed regulatory requirements.

When creating the baseline assessment, RegGenome's preliminary results are linked to the authority's underlying supervisory requirements and evidence to enable verification by supervisors. Traceability reduces the potential for model error but does not establish that every conclusion is correct or aligned with supervisory judgement. Supervisors validate and adjust the baseline assessment based on their expertise and integrate it into their broader supervisory processes.

Secure processing is required

In any operational deployment, the authority and RegGenome must confirm the security architecture, including access controls, segregation of information, retention, auditability, and permitted uses of client data.

Keeping current is part of the process

As with any supervisory process, RegGenome's tools require up-to-date information to keep their baseline assessments effective. RegGenome tracks changes in legislation and works with supervisors to ensure corresponding effects in regulatory guidance and supervisory criteria are tracked and incorporated through a controlled process. This helps ensure the information is kept current in the dynamic regulatory environment. Any material changes are tested and approved before deployment.

Calibration requires an investment in time

Calibration and model validation require an initial investment in time, which can then be replicated across the ongoing supervisory workflow.

6. Conclusion: a supervisory capability, not a one-off tool

For an authority considering adoption, a staged rollout would begin with a defined assessment scope, agreed-upon success measures, and supervisor-led quality assurance. RegGenome works with supervisors to measure effectiveness before deployment, including demonstrated reliability, effective security controls, and meaningful gains in supervisory capacity. Once these thresholds are met, the capability can be embedded in regular workflows, with supervisors retaining ownership of all assessments and decisions.

> **This is not an investment to replace supervisory judgement. It is an investment in making better use of supervisors' time.**

Exploring how a baseline assessment could support your supervisory reviews?

We'd be glad to walk you through a demo and discuss what a scoped first stage could look like for your authority.

Contact us: info@reg-genome.com | reg-genome.com

We're in Singapore from 16 to 19 November for Insights2040 and the Singapore FinTech Festival. Meet us at the RegGenome Partner Lounge on 16 and 17 November, join our workshop on 17 November, or find us on the UK Pavilion (stand 5K25, Hall 5) on Thursday 19 November from 13:00.