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How AI and New Regulations Are Redefining the European Actuarial Pricing

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CONFIDENTIAL



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Agenda

- The New Context: AI & European Regulation
- Learnings from Previous Waves of Tech Innovation
- The UK Experience and the Price Walking Ban
- The Future of Pricing Workflows

The New Context: AI & European Regulation

The Convergence: Redefining the Actuarial Role



New Technologies

AI, Machine Learning
(GBMs, GAMs),
Generative AI,
Agentic AI



New Regulations

Evolving European
standards,
transparency,
and auditability

IMPACT

How do actuarial
teams adapt
without repeating
past mistakes?

**From data
manipulation to
business impact**

Evolving European regulations: price walking statement

Some standard regulatory requirement

- Gender-based pricing in insurance was banned in the EU
- General Data Protection Regulation (GDPR)

Price walking, also known as dual pricing or the "loyalty penalty," occurs when insurers **systematically** charge existing customers higher premiums at renewal than they would quote to an equivalent new customer with **the same risk profile**.

EIOPA Supervisory Statement: a Principles-Based Approach

✕ Non-Compliant

- Repeated increases based on low shopping propensity.
- Pricing based repeatedly on willingness to pay as opposed to risk.
- Bait-and-switch with sudden renewal increases.
- **Repeated** increases unrelated to risk or cost changes.

i Boxed Practices

- Insurers must have adequate supervisory and product governance measures.
- Greatest risks arise when differential pricing is **repeatedly** applied.
- New business discounts remain possible (with robust POG).

✓ Required Actions

- Product approval at highest level.
- Identify and protect vulnerable customers.
- Thorough product testing, monitoring, and review.
- Comprehensive documentation and oversight.

Technology available

Great opportunity for the pricing process: **how to adapt, what to leverage, and where?**



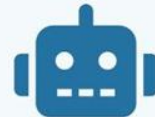
Predictive & Machine Learning AI

Predict from historical data to optimize pricing decisions.



Generative AI

Create new content and synthetic data based on identified patterns.



Agentic AI

Automate complex pricing pipelines with autonomous agents.

EU AI Act: Framework & Implications

Obligations for insurers and actuarial teams depend strictly on the AI system's use case and classification.

Prohibited AI

Some practices are banned, such as manipulative or exploitative uses.

High-Risk AI

Includes AI for risk assessment and pricing in life/health insurance. Strict obligations apply.

Limited Risk

Transparency duties for AI-generated content or assistants.

Minimal Risk

Most other tools. Allowed but governed by good practices.

Practical Takeaway for Actuarial Pricing

Readiness requires a clear governance framework:

Classification → Documentation → Data Controls → Explainability → Oversight → Monitoring

Pricing must be explainable, controlled, and monitored

Applying new technology to pricing is a great opportunity but **the challenge is doing it right**

Most AI tools still fall short of what actuarial work demands.

- ✗ Unreliable outputs
- ✗ Non-reviewable steps
- ✗ No grounding in actuarial logic
- ✗ Lack of governance

Learnings from Previous Waves of Tech Innovation

The Evolution of Pricing Technology in Europe

The Manual Era (pre-1990s)

Manual actuarial techniques with small databases

- Analysis based on aggregated observed loss ratios.
- Limited segmentation.
- Infrequent pricing updates.

The GLM Revolution (1990s to 2010s)

Incorporation of GLMs with standard software

- Deeper segmentation & individual analysis.
- Separation of frequency & severity.
- Dedicated pricing software.
- Risk pricing to commercial pricing shift.

The ML & Big Data Era (2010s onwards)

Introduction of Machine Learning algorithms

- More data availability.
- Stronger computation power.
- Cloud powered processes.

Looking back: What worked, what didn't, and why

What Didn't Work

- Innovations as individual efforts instead of company-wide initiatives.
- Investing in analytics without a plan for decision-making or deployment.
- "Black box" ML models lacking explainability in insurance processes.
- Gaps in governance and traceability as a root cause for failure.

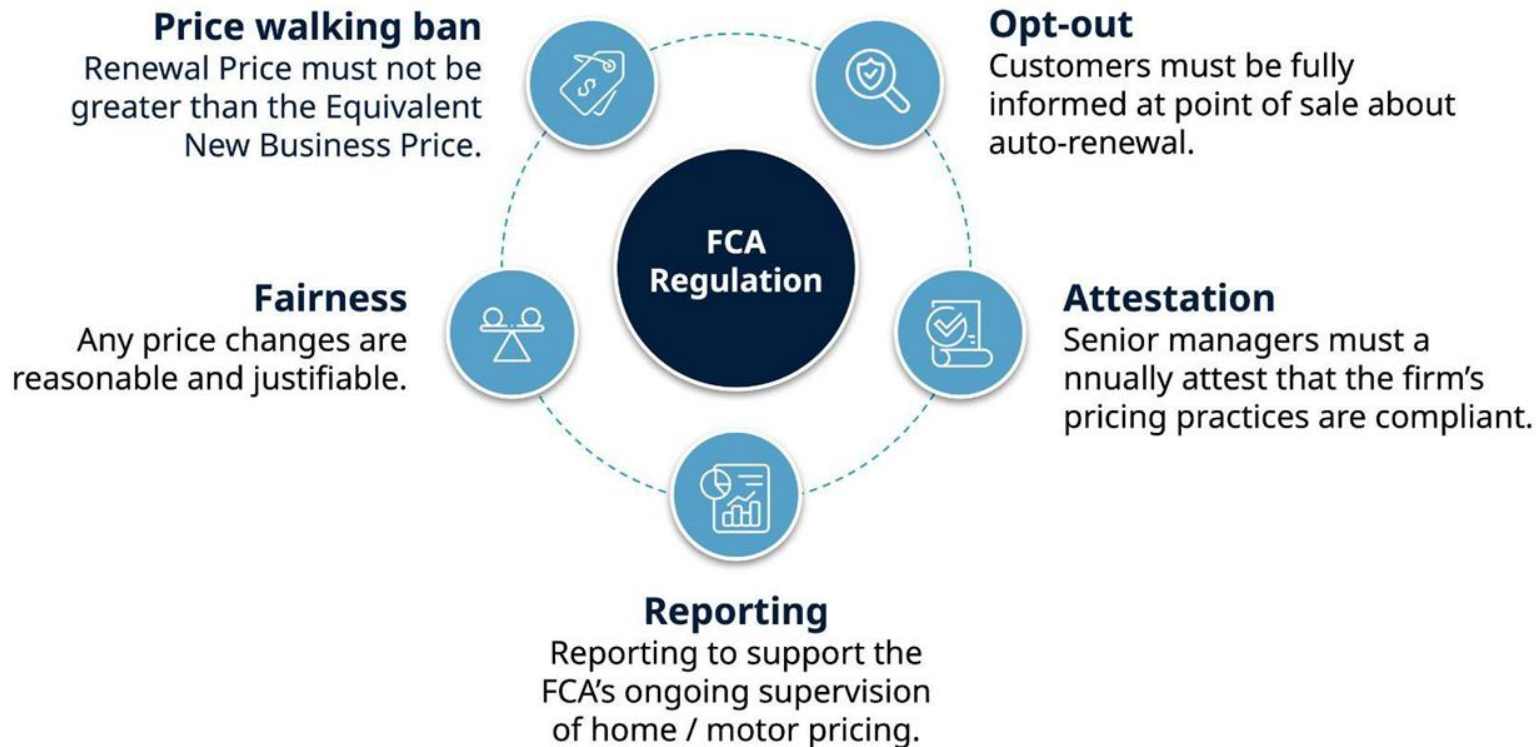
What Worked

- New technologies adapted to the insurance use case.
- Adding a criteria process to identify automation potential vs. expert judgment.
- Transparent AI as an essential for fairness, transparency, and regulation.
- Machine Learning utility in targeted, specific use cases.

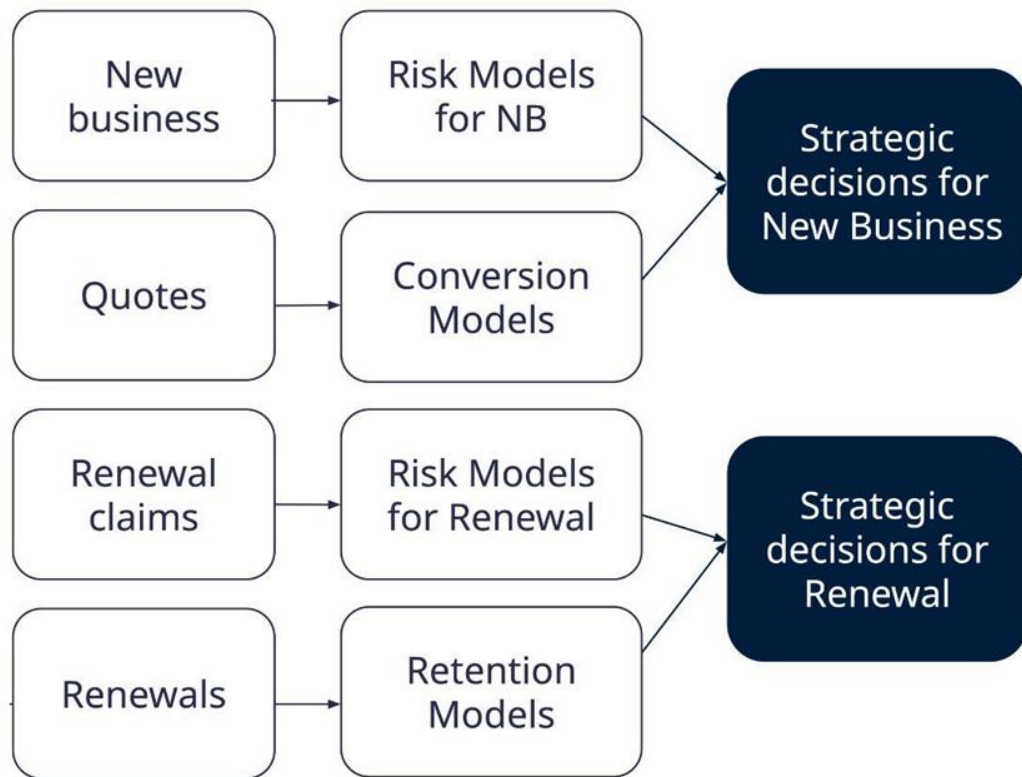
Technology alone is not enough without a robust framework for collaboration and governance.

The UK Experience and the Price Walking Ban

FCA Regulation



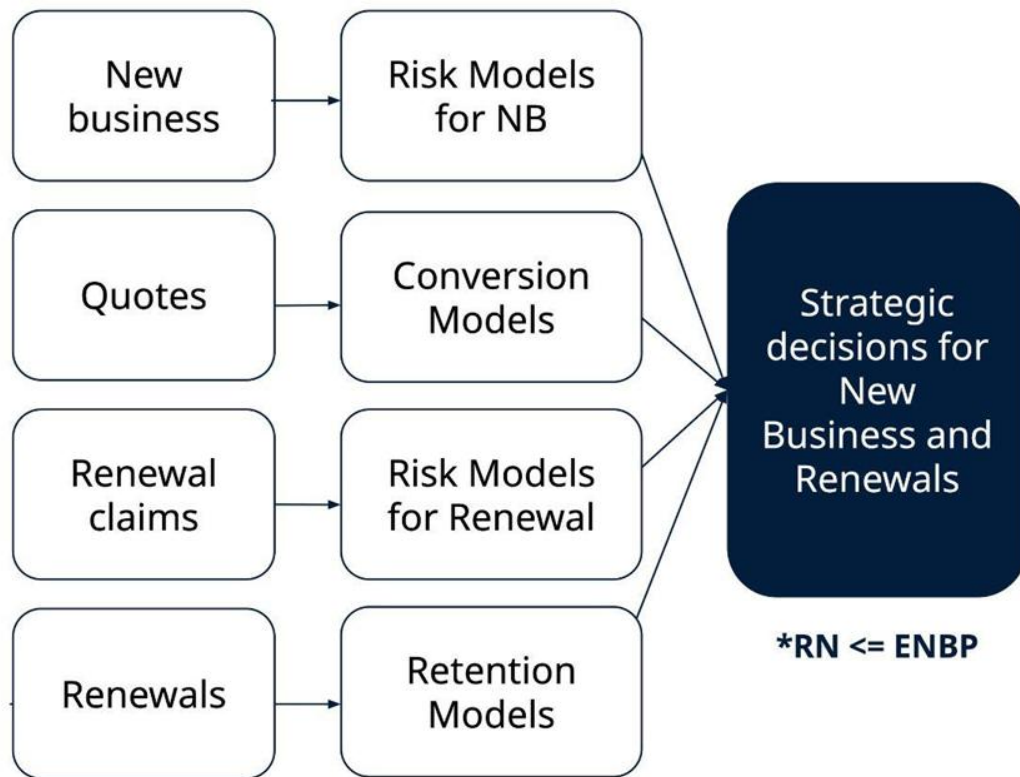
Analysis **before** Price Walking ban



Rating Table Example

Driver Age	NB	RN
18-25	1.50	1.35
26-40	1.20	1.30
41-50	1.00	1.10
50+	0.70	1.00

Analysis **after** Price Walking ban



***RN <= ENBP**

Rating Table Example

Driver Age	NB	RN
18-25	1.50	1.35
26-40	1.25	1.25
41-50	1.05	1.05
50+	0.85	0.85

New Business and Renewal teams cannot work independently

Operational Challenges: from theory to practice

How easy is to calculate **“What would this client pay if new today?”**:

Requires a clear communication between **pricing and IT teams in both directions**



Explainability becomes mandatory

Impact in optimisation practices



Individual

Ratebook

Improve version controls and governance

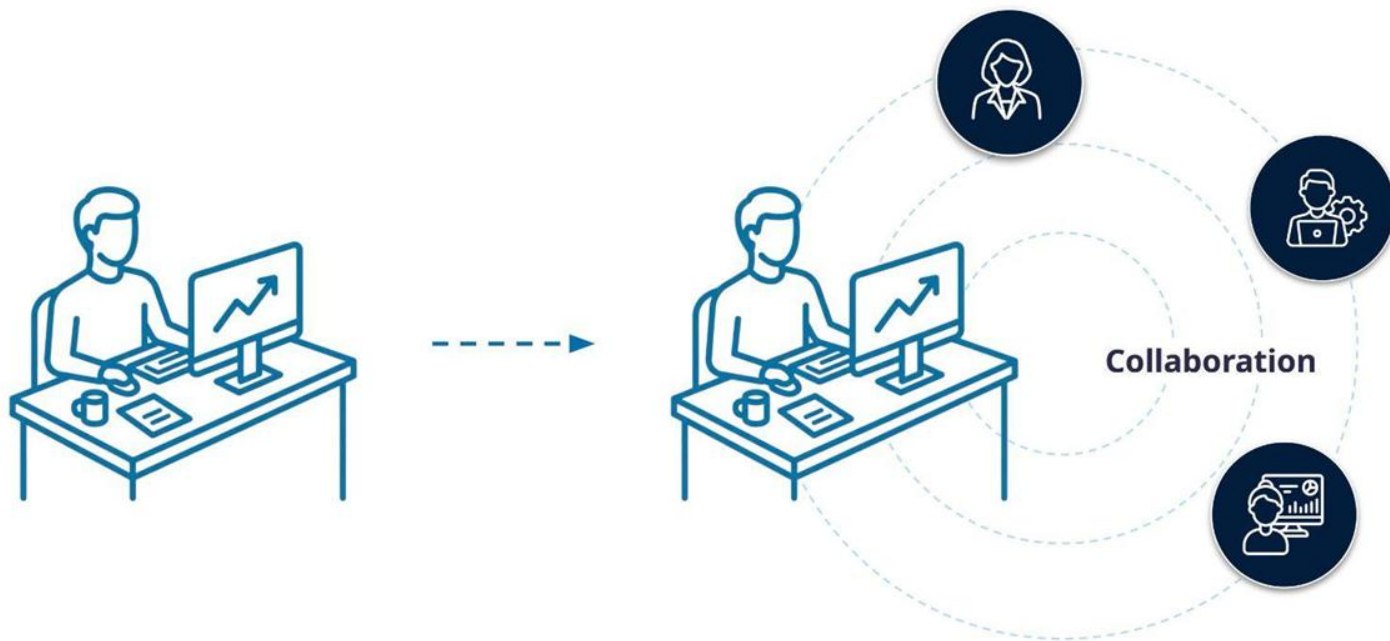
- Volatile period with multiple tariffs and new risk factors.
- Ease communication process with pricing team for fast deployment.
- Strict governance to be ready for future audits: A structured place where historic and current rate structures live.



Components	Rules	Inputs	Description	Versions	
Version		Date		Author	Comment
V3		12/01/24		Marco Banterle	Added limit on old drivers
V2		05/01/24		Marco Banterle	Updated Freq BI function
V1		09/10/23		Giovanni Frigeri	Imported from Rate Project 2024

The Future of Pricing Workflows

Cross-Team Collaboration as the Foundation for Change



Everything should be done in a robust way and **with human actuarial expertise oversight.**

This time, build **governance** and traceability from day one

Build for the future



Move from individual initiatives to embedded, scalable processes



Create a system where the company interacts, tracks, and manages the approval process.



Flexibility matters, but so does robustness.



Explainability become mandatory

Organizational Rethink: Moving beyond speed to structural change

1

Accelerate the process

The natural entry point for AI is to streamline and speed up existing workflows.

2

Strategic Transformation

As adoption deepens, AI reshapes the organization's structure and ways of working.

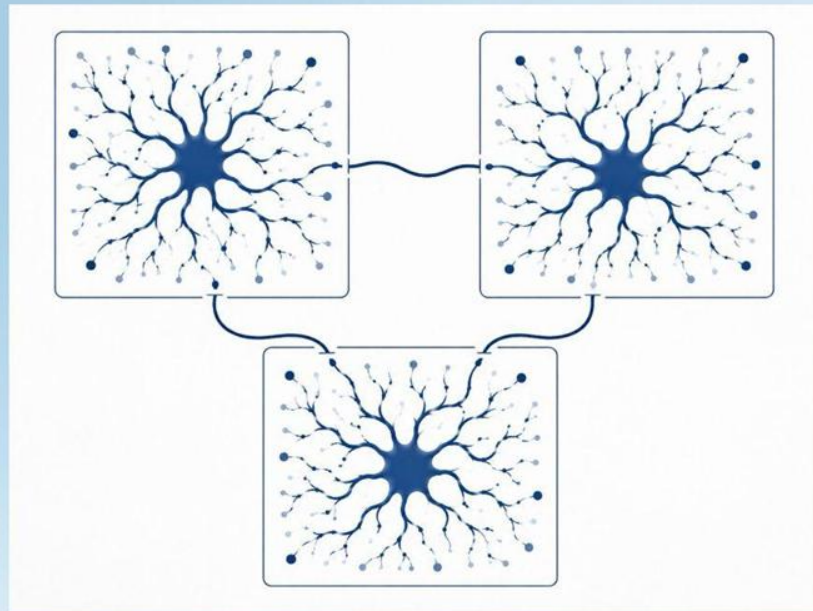
What Constraints do you put on AI today?

Continuous Redefinition of Boundaries: automation vs. human oversight.

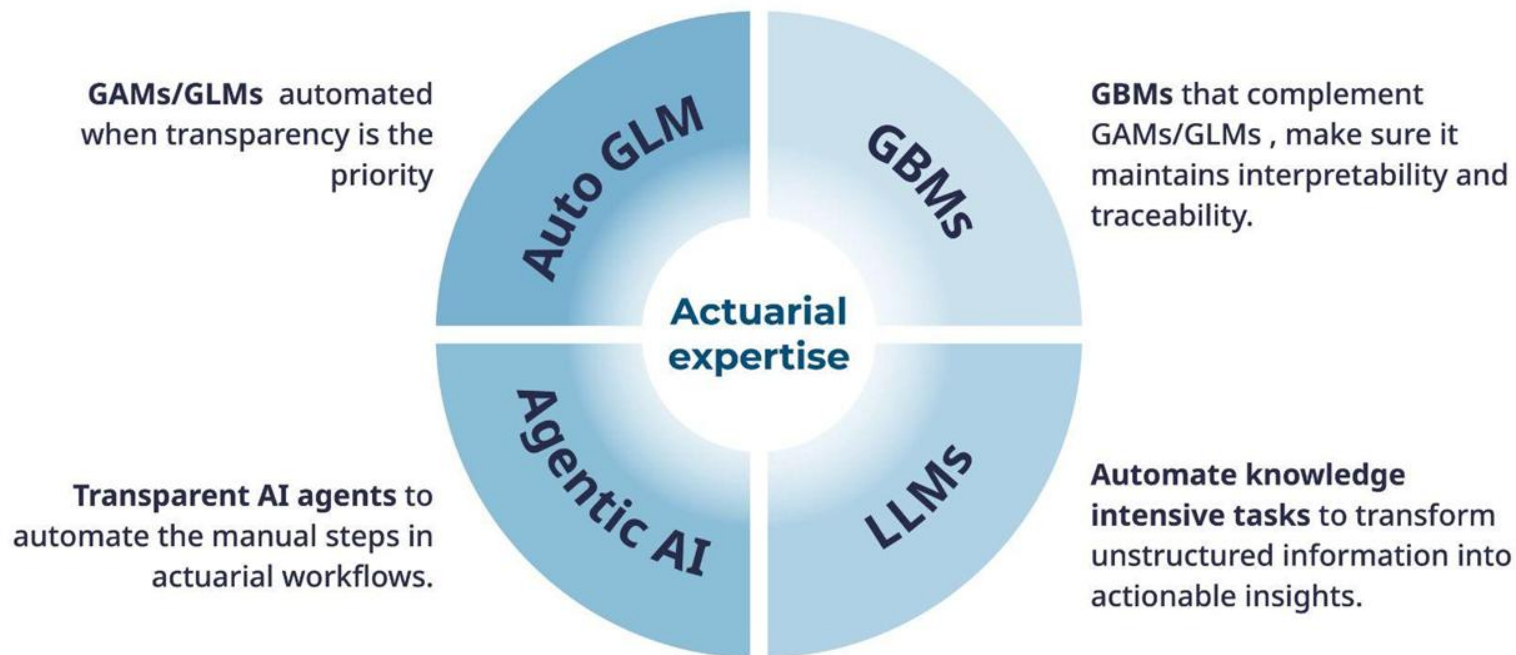
Transparent, traceable workflow. Even if empower with AI, process needs to be auditable

Humans stay in control review and approve changes before execution.

Constraints are **human and software deterministic checks.**



Apply the right AI where it matters, **keeping actuarial judgement at the center**



AI will not replace actuaries But workflows need to be rethought

- ✓ Create greater business impact.
- ✓ Keep updating, technology is evolving continuously.
- ✓ Governance, Transparency, and Traceability at the Core.
- ✓ Actuarial judgment remains essential, but it needs a clear, defined role in the new workflow.

