Client Case Study

Driving Innovation in Insurance: How VidaCaixa Launched a New Variable Annuity Product with Numerix

Numerix CrossAsset Python SDK and Numerix Economic Scenario Generator (ESG) powered this market-first innovation.

Overview

VidaCaixa, the life insurance and pension subsidiary of CaixaBank, is the market leader in Spain and manages €131 BN in assets on behalf of millions of clients. Founded in 1904, the firm has a long-standing tradition of helping individuals and businesses plan for their financial future, while embracing innovation and sustainable practices.

In 2017, amid historically low European interest rates and changing investor needs, VidaCaixa was the first to develop and introduce a Variable Annuity product conceived and built from the ground up in Spain. To achieve this goal, the firm needed a partner capable of combining speed, deep analytics expertise, and robust infrastructure.

After evaluating multiple providers, VidaCaixa chose Numerix not only for its advanced capabilities in pricing and risk analytics, powerful Python SDK, and economic scenario generation, but also for its strong commitment to knowledge transfer and its deep quantitative expertise. Numerix's openness in training and knowledge sharing was a key factor, and it remains today a trusted partner for ongoing technical discussions.

Challenges

Launching a new Spanish Variable Annuity product came with both strategic and technical challenges. VidaCaixa needed to deliver an innovative, high-quality investment product within an ambitious timeline, while operating in a low-interest rate environment and a shifting regulatory landscape. At the same time, client expectations were evolving, and VidaCaixa needed to balance attractive investment opportunities with strong financial guarantees.

Developing a Variable Annuity embedded within a unit-linked product—or one where the benefits (such as returns or payouts) are directly tied to the performance of underlying investment funds or assets—required VidaCaixa to overcome the following key hurdles:

Complex Valuation Needs

Managing diversified portfolios across multiple assets and risk profiles required a robust IT system to value thousands of policies efficiently, together with economic scenario generation (ESG) seamlessly integrated into a robust pricing framework.

Regulatory Approval

Because Solvency II did not explicitly cover VidaCaixa's innovative Variable Annuity product, the insurance company needed to introduce a workflow capable of delivering results with the precision and reliability needed to satisfy stringent regulatory and capital standards.

Cross-Functional Collaboration

The joint efforts of the Financial Risk, Actuarial and Capital Management, and Investments teams were fundamental to ensuring that the solution adhered to the regulatory framework, was consistent with the company's investment strategy, and remained aligned with the strategic priorities of the Group.

Speed and Scalability

VidaCaixa needed to deploy an infrastructure capable of delivering fast, precise valuations for thousands of policies — while remaining adaptable for future product launches.

Solution

Numerix CrossAsset Python SDK and Numerix ESG Engine

Through a series of in-depth exchanges, VidaCaixa and Numerix forged a long-term partnership to design and implement a comprehensive pricing and risk framework tailored to the firm's needs. This framework was brought to life by leveraging Numerix's CrossAsset Python SDK together with its ESG Engine.

Key elements of the collaboration include:

Customizable Infrastructure
Built on the Numerix CrossAsset Python SDK, the pricing and risk solution provided a flexible foundation for integration with VidaCaixa's IT systems and evolving product strategy.

Advanced Economic Scenario Generation
Numerix ESG enabled VidaCaixa to calibrate and simulate multi-asset scenarios, incorporating both actuarial and financial risk factors.

End-to-End Implementation

VidaCaixa and Numerix operated as a single team, reviewing requirements, testing capabilities, and refining workflows iteratively to ensure efficiency and regulatory compliance.

Expertise and Best Practices

Numerix's experience from similar international projects accelerated implementation, minimized risk, and ensured alignment with global market standards.

> "From day one, Numerix felt like an extension of our team. Their experts worked closely with us, reviewing requirements, testing solutions, and adapting as our needs evolved. The seamless collaboration allowed us to move quickly and confidently, delivering a robust, future-ready solution that fully aligns with our long-term strategy."
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> Raúl Merino, Market Risk Management, VidaCaixa

Implementation Process

From concept to delivery, VidaCaixa's partnership with Numerix has been marked by collaboration and agility. Decisions were made quickly, requirements were validated iteratively, and solutions were stress-tested to meet both performance and compliance goals.

The integrated framework enables VidaCaixa to:

- Efficiently value thousands of policies with speed and accuracy
- Generate complex ESG-driven scenarios consistent with unit-linked portfolio dynamics
- Calibrate hybrid models for ensuring robust representation of market behavior and effective management of embedded options
- Build a reusable infrastructure to launch new annuity and investment products in the future

Key Results

The collaboration between VidaCaixa and Numerix delivered a solution that not only addressed immediate technical challenges but also strengthened VidaCaixa's position as an innovator within the Spanish insurance sector. By combining Numerix's advanced analytics with VidaCaixa's vision, the company successfully launched a first-of-its-kind Variable Annuity product that aligned with client needs, regulatory standards, and business growth objectives.

Business impact:

- First-mover advantage in the Spanish insurance market
- Over €4 billion in assets under management within the product
- Enhanced risk transparency and pricing precision
- Streamlined workflows, saving significant time and resources

> "Numerix provided the tools, expertise, and collaborative approach we needed to bring a new and truly innovative product to the Spanish market. The solution not only met our immediate goals but gives us the flexibility to evolve and grow as our needs change."
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> Raúl Merino, Market Risk Management, VidaCaixa

Looking Forward

VidaCaixa continues to evolve its business and adapt processes for greater efficiency and scalability. With Numerix CrossAsset and its Python SDK embedded into the IT infrastructure, the firm now has a future-proof foundation for innovation in pricing, analytics, and scenario generation.

Numerix remains a strategic partner, contributing global insights and advanced modeling capabilities to support new product development and IT strategy as VidaCaixa expands its leadership in the Spanish insurance market.

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