

# Compliance Without Compromise.

How HSBC can respond to Model Risk Management (SS1/23). Practically.



Fast forward to compliant. **With SAS.**



# SS1/23: A New Regulatory Landscape

Where getting compliant fast means getting ahead.

The PRA's SS1/23 presents an immense shake up to model risk management (MRM). Given that non-compliance isn't an option, the only question is how quickly HSBC can get compliant and continue to drive the right outcomes for customers, shareholders, and colleagues without interruption.

**You don't want more talk; you want a practical solution.**  
**That's what SAS is here for.**

We've produced this guide to show how we can help HSBC swiftly become compliant with SS1/23, and then get ahead.

**Fast Forward to Compliant. With SAS.**

**SS1/23 is a significant regulation, affecting every model you generate. It pays to get ahead of it now before it takes effect on Friday 17th May 2024:**

- **Create a One Bank approach to model management.**
- **Drive consistency and simplification across your modelling communities.**
- **Support strategic decision making and intelligent risk taking.**
- **Simple attestation at the macro bank level down to the individual business units.**

# How SAS Can Help HSBC Meet and Exceed SS1/23

SS1/23 is based around five key principles, each of which SAS solutions address in their entirety while also going beyond to ensure HSBC is not only fully compliant now, but remains so, regardless of how the regulation may evolve.

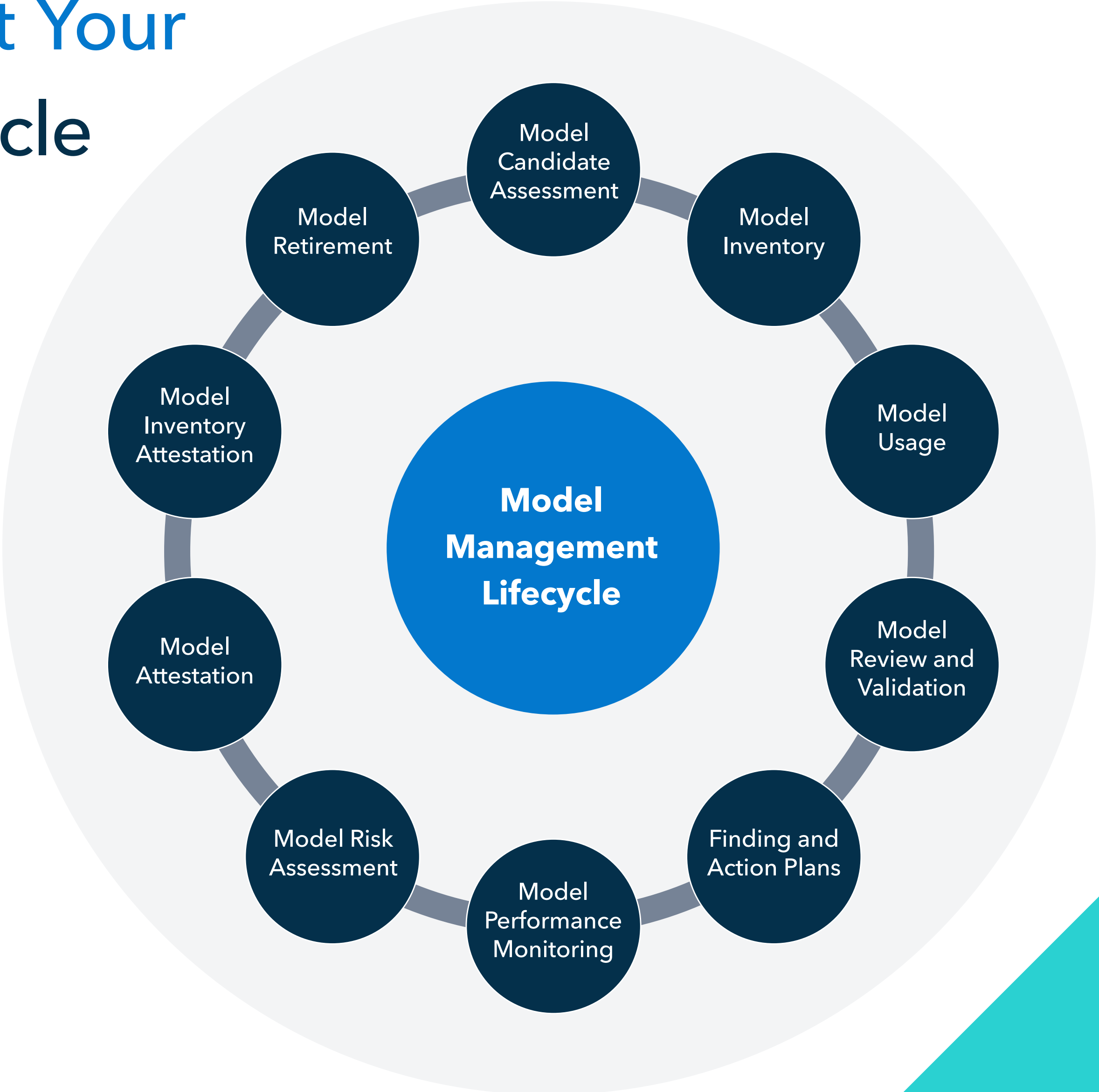
SS1/23 Principle	<b>Model &amp; model risk identification</b> Define a model, a model inventory, and a risk-based tiering approach to categorise models.	<b>Governance</b> Promote and support an MRM culture throughout the firm.	<b>Model oversight</b> Create robust model development, implementation, and usage processes with regular testing and monitoring.	<b>Independent model validation</b> Provide effective challenge to model development and use to assure models are suitable for their intended purpose.	<b>Model risk mitigants</b> Establish measures to address model under-performance and procedures for post-model adjustments.
How SAS addresses and exceeds	Reduced time to understand model risk, model classification, and information completeness through: <ul style="list-style-type: none"> <li>• Pre-built business content (e.g., attestations) and schedules for completeness checks.</li> <li>• An out-of-the-box classification model that is model type agnostic.</li> <li>• Pre-built model monitoring reports that are delivered with the solution.</li> </ul>	Automated and accelerated achievement of MRM culture through: <ul style="list-style-type: none"> <li>• Fully integrated model governance platform that links and integrates across model objects -no manual linkages required.</li> <li>• Pre-built risk reporting and board-level reporting delivered out of the box.</li> <li>• Workflows that will automate tasks once the model is added to the inventory.</li> </ul>	Increased efficiency allowing HSBC to focus on value-adding model development activity through: <ul style="list-style-type: none"> <li>• Supporting AI and machine learning models by providing explainability of these models whether SAS or open source. Our solutions also integrate with Vertex AI.</li> <li>• Integration with SAS Model Manager (when licenced) across the three lines of defence.</li> <li>• Solution updates in line with regulatory changes making maintaining compliance easier.</li> </ul>	Faster delivery of robust model validation processes: <ul style="list-style-type: none"> <li>• Out-of-the-box model risk assessment methodology.</li> <li>• Easily show the importance of individual models as well as their importance based on business context.</li> <li>• Enforce adherence to agreed validation strategies.</li> <li>• Pre-built controls that provide additional validation and explainability - by default - for AI and machine learning models.</li> <li>• Pre-built data drift monitoring to identify when production data becomes significantly different from training data used for model development.</li> </ul>	Reduced time to establish required measures: <ul style="list-style-type: none"> <li>• Limits and constraints are included out of the box.</li> <li>• Solution provides ability to do model scenario analysis allowing users to test the impact of model degradation.</li> </ul>

# Infuse Integrity Throughout Your Model Management Lifecycle

Close the loop on inconsistent modelling.

Whichever coding language(s) your organisation uses, SAS's fully agnostic solutions helps infuse your model management lifecycle with the integrity it needs to de-risk every model generated, and bring more models into production, driving greater value for HSBC.

With 24/7 hosted managed services, SAS shoulders the responsibility for the day-to-day running of your MRM. This reduces the staffing level HSBC requires for oversight and frees up your resources to focus on core business. Our solutions remain backed by full SAS technical support, automated updates to meet regulatory evolution, and data and model validation at every step.



# SAS MRM Key Features

Build compliance into your model management lifecycle at every step:

Comprehensive		
Every piece of data used in model development, validation, and monitoring is checked to ensure it is complete, accurate, timely, appropriately aggregated, and effectively governed.	Achieve comprehensive import model meta data regardless of programming language and govern models developed in any technology, with complete document and workflow management.	Full auditing capabilities with governance tools that enforce appropriate signoffs, legal reviews and testing on a consolidated platform that records the entire conversation.
Flexible		
With workflows and an approval process for each phase in the model life cycle, HSBC can spin up, pause, rework, and rethink models at any point in the way that best suits.	Adapt and implement policies to accommodate changing regulatory guidance on model development, validation, implementation, usage monitoring, and change management.	
Scalable		
Automated model validation and performance measurement gives HSBC the means to scale up its model management and usage by orders of magnitude.	Enterprise-wide consolidated and standardised model inventory within a proven reporting framework, so HSBC can model risk uniformly across the globe.	Our solutions are delivered as 'Software as a Service' in SAS Cloud, meaning they can scale up and down as you need, driving more models into production with ease.
Simple		
Clear, concise, customisable dashboards enable you to distribute meaningful data visualisation reports easily, and offer fast look up on any risk models that require amending and investigating.	Our solutions are out-of-the-box and configurable in-house, removing the need for lengthy onboarding or high-level technical expertise. It significantly lowers the cost of entry as a result.	Integrated business glossary, SAS and third-party metadata management, and lineage visualisation, all in robust and controlled locations.

**“Systematic cost reduction can only be achieved with an end-to-end approach to MRM. Such an approach seeks to optimise and automate key modelling processes, which can reduce model-related costs by 20 to 30 percent.”**

- McKinsey.

# Benefits to Integrating SAS Solutions into HSBC's Workflows

Trust the only MRM solution that can deliver.

- **Cost reduction:** Increased automation requires fewer resources to support the model risk management process.
- **Reduced operational risk:** Removing manual processes associated with data import and model verification significantly reduces the opportunity for error at every step of the lifecycle and instils far greater confidence in its outputs.
- **Increased transparency:** Seamless sharing of information across 1st, 2nd, and 3rd lines of defence creates a unified view of the model information, helping users make the most appropriate decisions.
- **Enhanced quality:** By eliminating the need for standalone templates and duplicated data requests, HSBC's staff are empowered to model in a uniform manner, providing no opportunity for uneven qualitative approaches.
- **Heightened awareness:** With visibility into every stage in the model management lifecycle the HSBC board can be assured of the viability and feasibility of every model proposed.
- **Technical reassurance:** Through partnering with SAS for model risk management, HSBC can be assured of not only ongoing support with the SAS solutions it uses, but high-quality support, from a provider with a global footprint and unmatched reputation for delivering on its promises.

Receive end-to-end coverage of the model management lifecycle through SAS. Integrate them seamlessly into HSBC's workflows - fully agnostic of coding language - to deliver uniformity in modelling and inspire confidence at every stage.

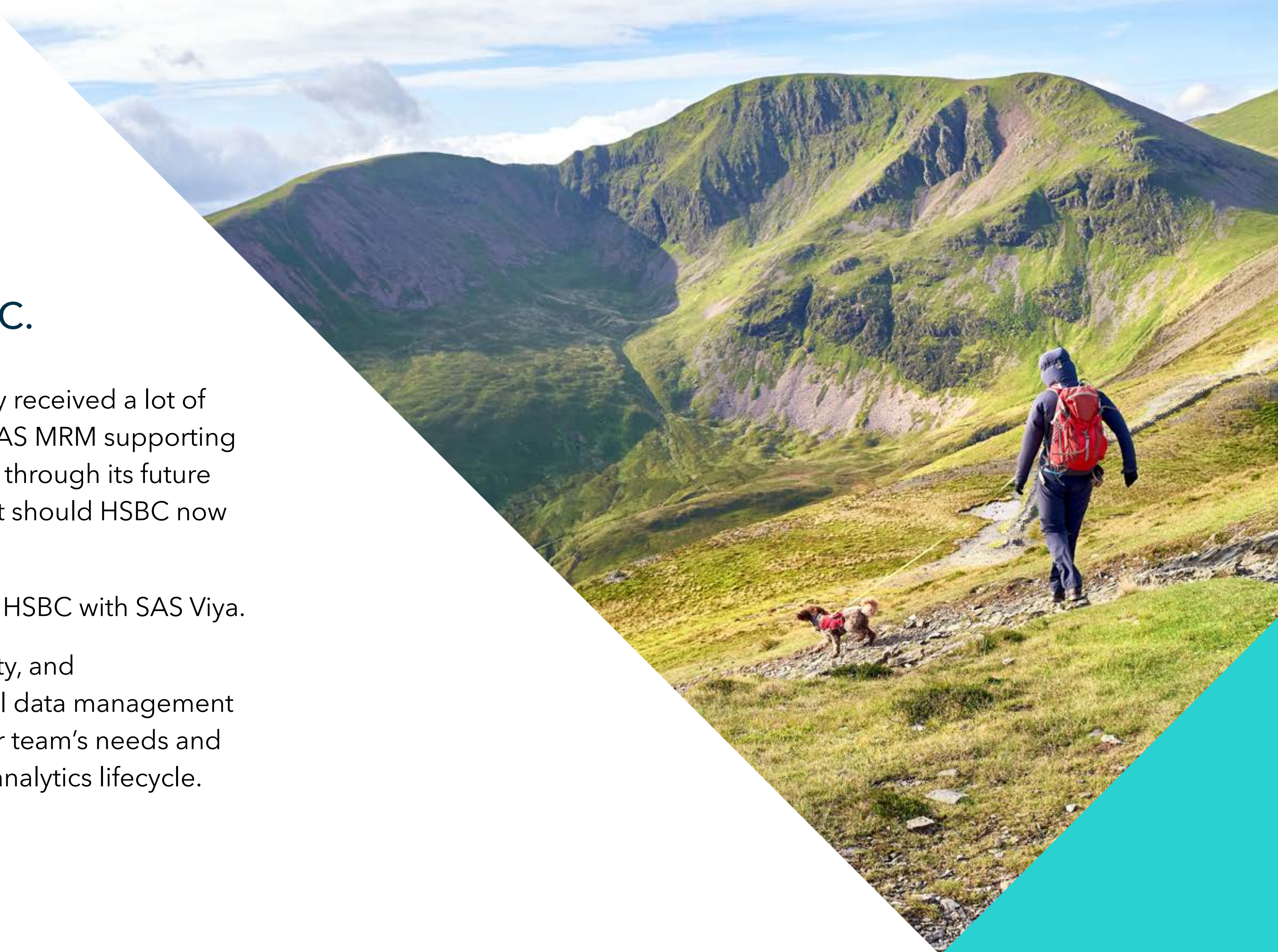
# Looking Beyond SS1/23

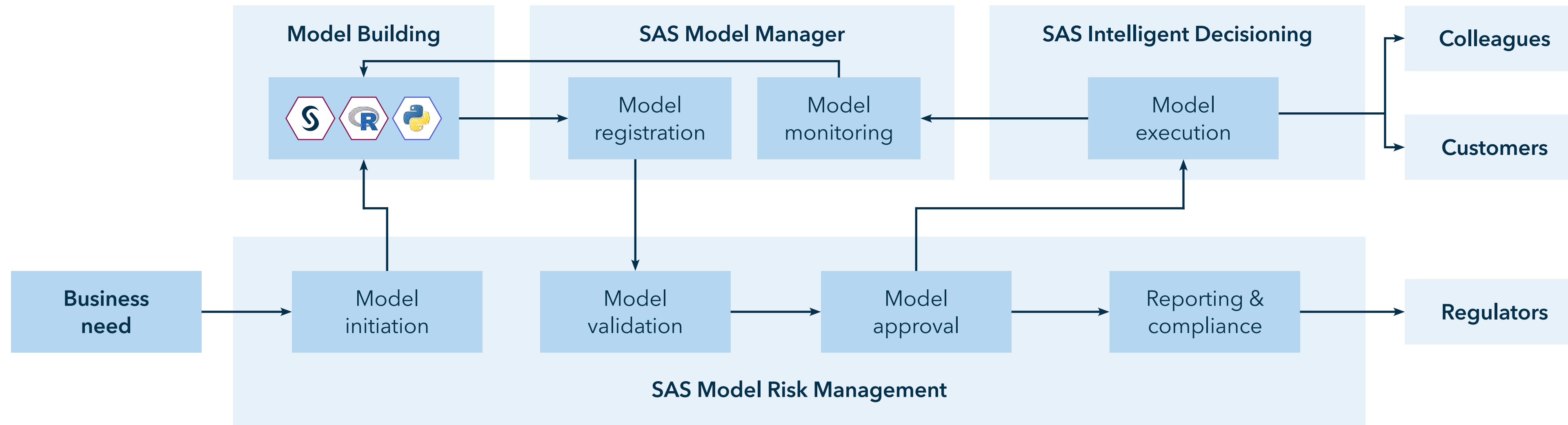
## Creating a unified ecosystem within HSBC.

SS1/23 is an important regulatory measure and has rightly received a lot of attention within the banking sector. But with the likes of SAS MRM supporting HSBC's compliance with SS1/23, both at its inception and through its future iterations, what more could HSBC now achieve? And what should HSBC now be doing to realise its ambitions?

The answer lies in developing a unified ecosystem across HSBC with SAS Viya.

SAS Viya expands on the principles of simplicity, uniformity, and comprehensiveness found in SAS MRM, to encompass full data management and insight deployment. AI-based, SAS Viya aligns to your team's needs and talents to drive and sustain momentum throughout your analytics lifecycle.





- Drive consistency and simplification across modelling communities, strategic decision-making, and intelligent risk taking.
- Embed ownership of model risk earlier in the modelling lifecycle to further drive a culture of model risk.
- Enable modelling communities to continue to build models at scale using the SAS or open-source languages, frameworks, and tools they prefer, and once models have been built, downstream processes such as model validation, approval, deployment, execution, and monitoring can be fully standardised and automated.

A unified ecosystem provides HSBC with the best opportunity to face the challenges of the next decade and beyond head on, and with full confidence that its modelling is reliable, with minimised risk, and with actionable insight.

**What challenges will banking face in the next decade? Discover the answer in our sponsored Economist report, 'Banking in 2035: three possible futures.'**



# The Winning Edge

SAS is a long-standing, trusted partner of 70 banks worldwide, including 12 G-SIBs.

We are recognised as a leader in risk technology and are the only vendor to earn a top-five rank in the Chartis RiskTech 100 every year since 2005, while also winning four prestigious prizes at the 2021 Risk.net Risk Technology Awards.

## SAS: A Partner You Can Bank On

SAS's rich heritage in banking and financial services is unmatched. We leverage our people's extensive expertise and combine it with innovative AI and analytics to provide our customers with solutions for banking that are sustainable, scalable, and which deliver a material advantage.

**3,500**

financial services  
customers worldwide

**90%**

of the top 100 global  
banks use SAS

**92**

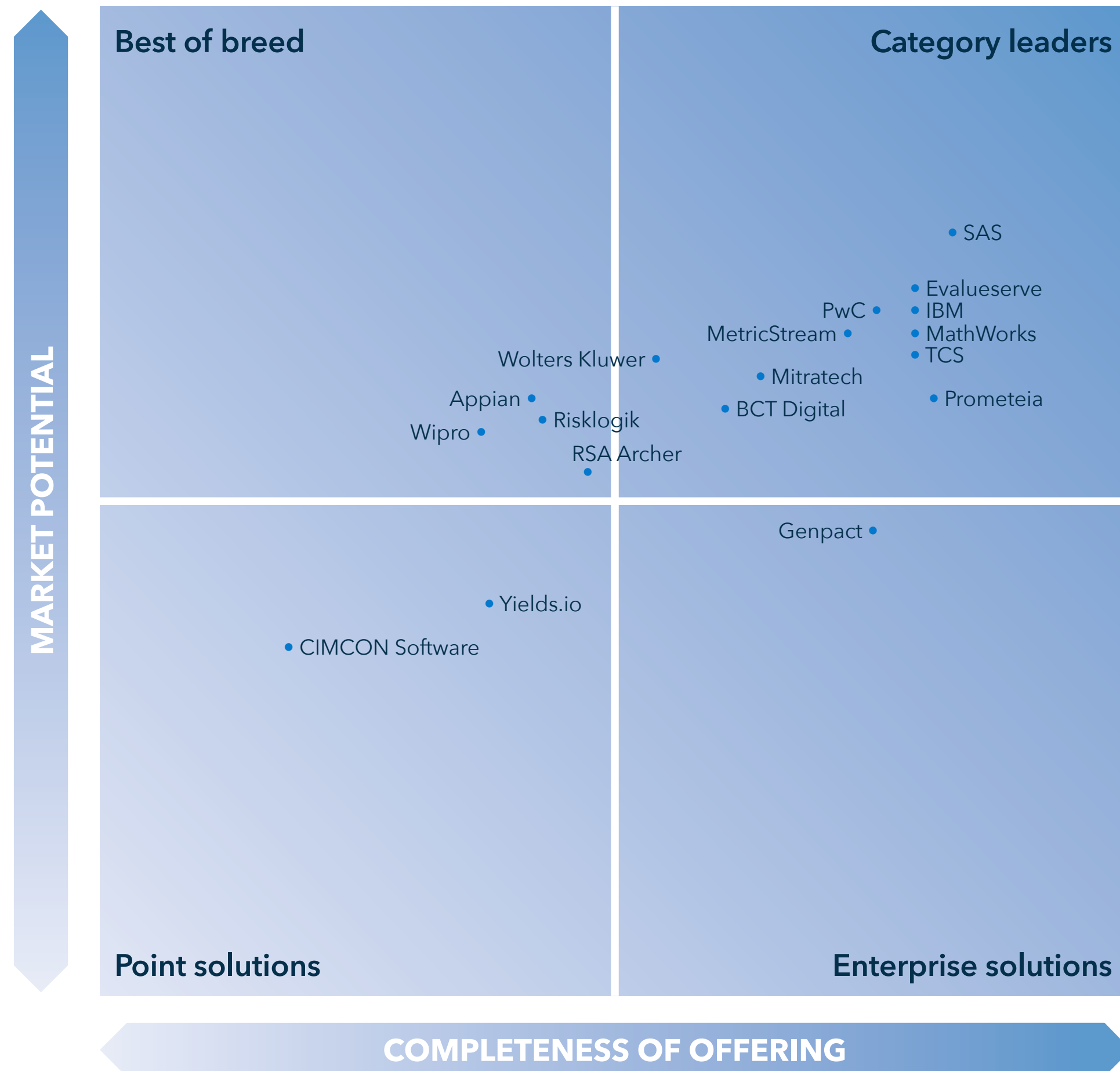
countries with banks  
using SAS

**40+**

years of analytics  
innovation experience

We help banks around the world achieve minimum capital risk and liquidity requirements, while keeping their portfolios matched to their risk appetite. By leveraging advanced risk modelling techniques, our customers reap the rewards of greater automation, integrated risk and finance processes, and smarter strategic planning.

# Chartis RiskTech Quadrant for Model Risk Management, 2023



**“SAS has a long history of delivering sophisticated yet intuitive solutions to guide risk practitioners through turbid economic conditions. In complement to SAS’s No. 3 overall ranking in the Chartis RiskTech100® 2023, its consistently high scores across its model validation and model risk governance quadrant evaluations demonstrate the breadth and depth of SAS’s risk and compliance solutions.”**

SAS is the ONLY vendor to score HIGH across ALL criteria.



## Further resources

## What next?

Get in touch with your Account Manager **Stephen O'Reilly** at [stephen.oreilly@sas.com](mailto:stephen.oreilly@sas.com) or **Jayne Findlay** at [jayne.findlay@sas.com](mailto:jayne.findlay@sas.com) to discuss what more SAS can help HSBC achieve with its model management.

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