Modernizing Helios in the face of industry disruption

Response to Helios' RFP
29 Friday 2025

Meet Team 20

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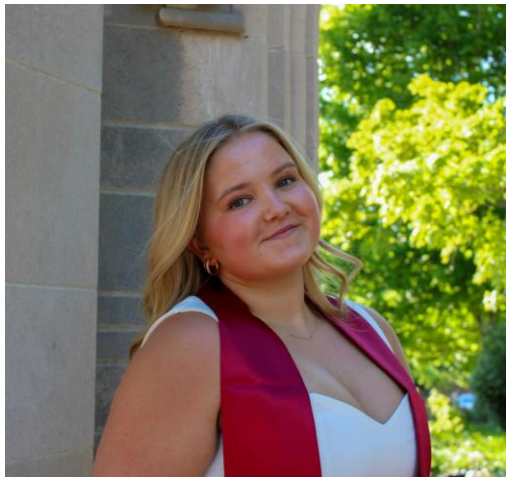

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Agenda

1 - Current Situation

2 - Recommendations

3 - Timeline

4 - Financial Analysis

5 - Risks & Mitigation

6 - Conclusion

Helios must modernize to keep pace with AI disruption while safeguarding compliance and ROTCE

Helios is a global financial powerhouse known for its critical role in the global banking industry. The rapid evolution of artificial intelligence, coupled with complex regulations and the changing consumer demands has made it increasingly difficult to keep pace.

AI powered startups and platforms are revolutionizing banking with faster services and more accurate models, directly competing and undermining Helios' core functions.

How should Helios navigate modernizing their operations to accelerate efficiency and meet financial targets without compromising regulatory trust, systemic importance, or their core business and values?

To reach 15% ROTCE, Helios must combine off-the-shelf efficiency, custom compliance tools, and disciplined innovation

Off-the-Shelf Solutions

- Partner with established vendors to rapidly modernize operations
- Optimize internal staff's workflows while maintaining client interactions
- Deliver immediate efficiency gains and ROTCE uplift

Custom-Built Tools

- Develop AI platforms leveraging Helios's proprietary regulatory & client data
- Tailor solutions to unique compliance and advisory needs
- Differentiate Helios with firm-specific insights

Maintain Innovation

- Establish a Helios Innovation Centre to research emerging technologies
- Hire young or technically-savvy candidates to mitigate attrition
- Ensure continuous improvement is core to business strategy

Proven vendor partnerships enable Helios to modernize quickly

Fraud Decision Software

Bridge Helios's global banking system with AWS Fraud Detection powered by Actimize

- Automates fraud decisioning to reduce manual reviews
- Flags and halts suspicious transactions in real time
- Integrates seamlessly with Helios's compliance-driven processes

- ✓ **Faster settlements** → near-instant transactions for clients
- ✓ **Lower fraud exposure** → material reduction in fraudulent activity processed
- ✓ **Operational efficiency** → cuts labor costs while preserving regulatory trust

Optimize operations via SaaS

Modernize critical business activities with Moody's SaaS solutions

- Support in managing portfolio risks and opportunities
- AI-powered Lending Suite: end-to-end loan origination
- Increased efficiency, capacity, and reliability in in underwriting and actuarial modeling

- ✓ **Accelerated Approvals** → accelerates credit assessments and loan approvals
- ✓ **Lower risk exposure** → reduces errors and enhances confidence in underwriting and actuarial modeling
- ✓ **Improved efficiency** → enables staff to work faster, with more reliability, and at higher output

.3% improvement in **ROTCE** by **Year 2**

Identify Weakness → **Modernize Fast** → **Improve Now**

Actimize, AWS, Moody's

Building AI-driven RegTech to ensures faster, auditable decisions and regulatory trust

Build AI-driven RegTech on Helios proprietary regulatory & policy data

- Trains exclusively on Helios's proprietary policy & regulatory data
- Automates KYC, AML triage, suitability, cross-border checks
- Enable faster, auditable decisions for advisors & compliance teams

- ✓ **Faster approvals** → quicker onboarding, product rollout
- ✓ **Lower compliance cost** → ~20-30% less KYC manual work; up to 50% in AML with ML-driven triage and STP
- ✓ **Regulatory trust** → transparent, explainable AI with evidence trails

Execution Model

Consultants + Partners

- **Our Consultants** → Strategy, governance, model validation, compliance assurance
- **Infosys** → Lead build partner (AI pipelines, integration)
- **Tech Mahindra** → Regional rollout, testing, DevOps capacity

AWS – Cloud Provider

- **Secure data storage & processing** (S3, regional residency)
- **AI services with guardrails** (Amazon Bedrock)
- **Policy-as-code** enforcement for compliance
- **Seamless integration** via API Gateway to Advisor Desktop

Design Blueprint → **Pilot & Build** → **Scale & Optimize**

Future-proofing Helios requires a lean, governance-first AI Lab that turns pilots into business value

- Lean, high-impact team (5–6 FTE) leverages AWS Bedrock to prototype and test AI solutions quickly in wealth, lending, and payments
- Governance and compliance embedded from Day 1 (SR 11-7, NIST AIRMF, EU AI Act) to ensure vendor use is regulator-ready and auditable
- Disciplined pipeline with go/kill gates and standardized hand off integrates Bedrock pilots into business units and prevents pilot purgatory
- Helios controls standards, data, and decision rights while Bedrock provides scale, future-proofing the bank and safeguarding ROTCE and talent retention

Wall Street Journal

By coupling culture, training, and redeployment, Helios ensures AI adoption strengthens its workforce

Regulatory First: All deployments reviewed heavily before scaling to ensure consistency across locations

Phased Rollout: All initiatives start at HQ, move to regional pilots, followed by global expansion

People Impact: Emphasis on staff redeployment to higher-value advisory/compliance roles

Culture & Training: Early training for frontline staff, emphasizing *human + AI partnership*

Teams & Governance

Executive Steering Committee:

- CEO, CFO, CRO, CIO
- Ensures alignment with ISO 42001, EU AI Act, PRA/FCA, OCC/Fed SR 11-7
- Approves risk policies, oversees cross-border compliance

Change Management & Training Team:

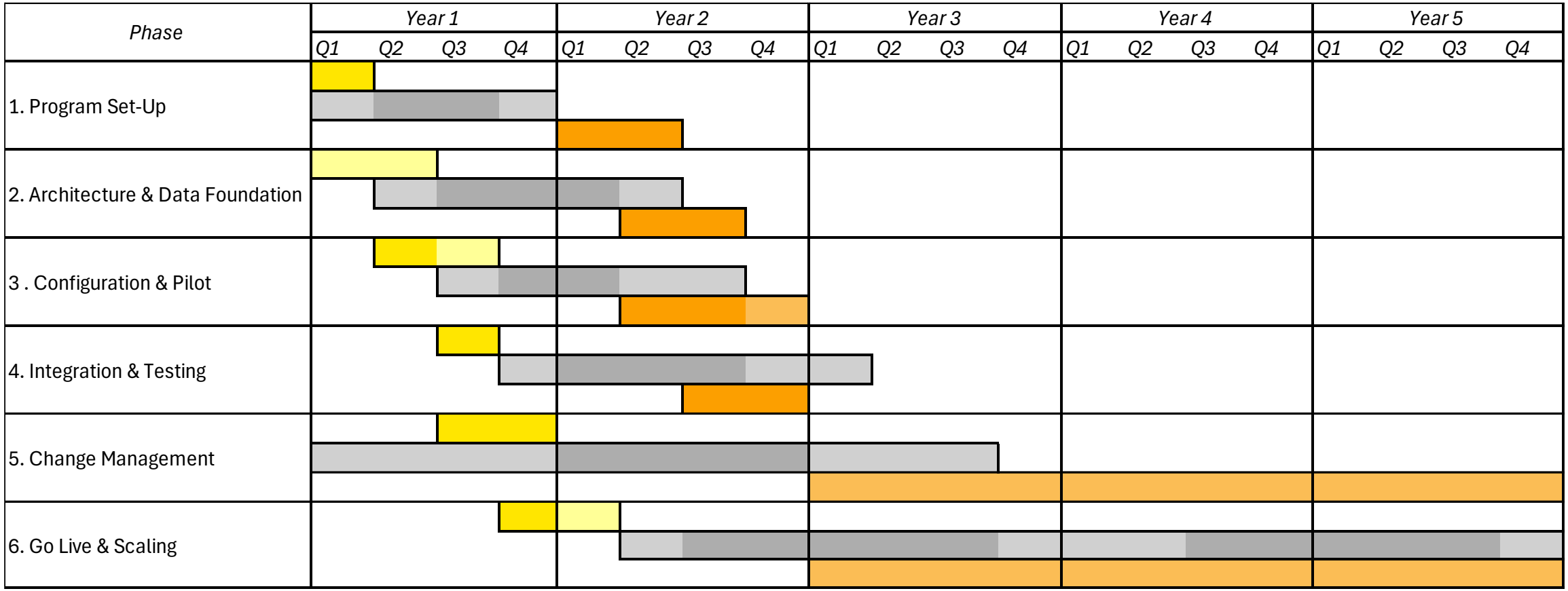
- HR & Learning teams
- Redeploy impacted staff into AI-powered roles

Helios Labs:

- Responsible AI & Model Risk Specialist
- Dedicated role for mitigating risk of future AI developments

By embedding oversight roles alongside technical teams, Helios protects its reputation for prudence and earns regulator confidence.

A 5-year roadmap that balances speed, compliance, and scale



1 2 3 **Full active execution:** primary development, deployment, or launch in progress.

Partial effort : monitoring, early preparation, testing, or closeout phase.

Our recommendations achieve target ROTCE with strong value creation and low variance

$1.5B
NPV

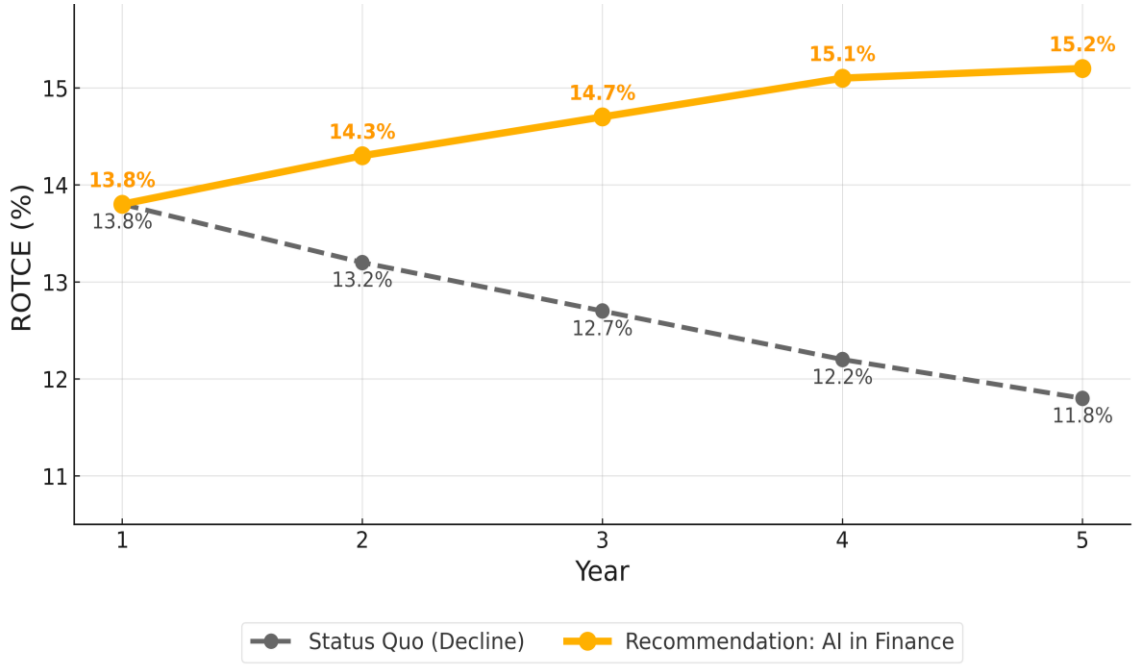
15.2%
ROTCE

.9%
ROTCE Variance

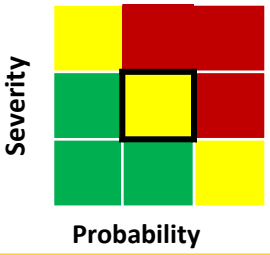
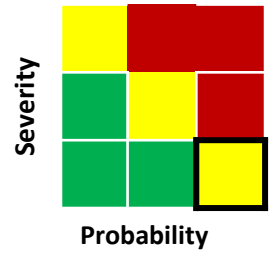
Est. breakeven:
- Rec 1: Q1, Y2
- Rec 2: Q3, Y3
- Rec 3: Q2, Y3

Key Assumptions:
- Total common equity and intangible assets remains stable
- Discount rate is 4.5%
- *Recouped Potential Losses* are factored into net benefit

Projected ROTCE Impact Over 5 Years



Proactive risk management to ensure ROTCE goals stay on track

Risk	Degree	Mitigation
Government Regulation Shifts (EU, AI Act, etc)		• Proactively engage regulators; join AI sandboxes (EU/UK/Asia) • Keep governance modular so new requirements can be added in quickly • Publish internal "AI assurance" reports
Vendor Dependency (Actimize, Moody's)		• Negotiate vendor exit clauses and pricing stability • Keep data standards, compliance controls, and decision rights in house
Company Reputation		• Begin with low-risk MVPs before client facing tools • Implement human-in-the-loop reviews for all high-risk AI outputs • Ensure communication with clients and investors on responsible AI use

With careful, disciplined execution, Helios can achieve 15% ROTCE while building a future-ready, compliant digital bank

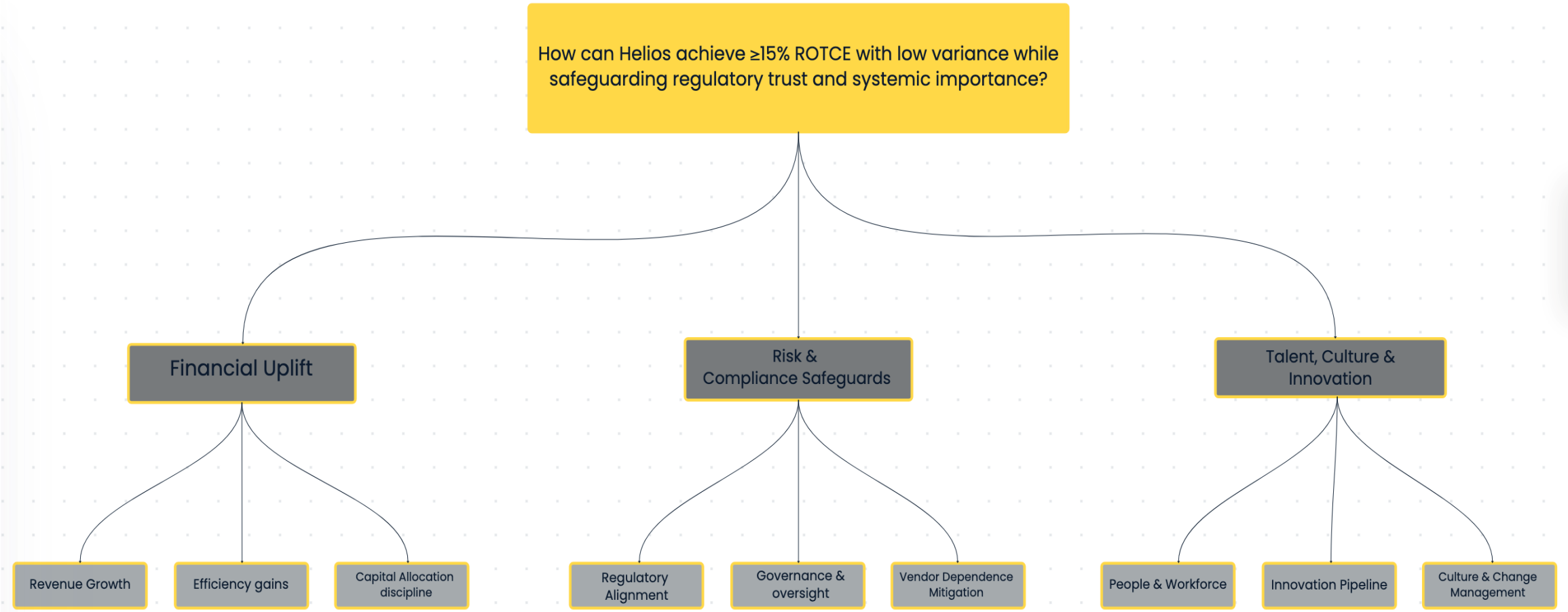
Helios is uniquely positioned to drive near-term ROTCE gains while innovating with custom, tailored solutions to elevate its capabilities to modern industry standards and invest in long-term growth through focused R&D.

With careful, calculated, and expert-led guidance, Helios can seamlessly transform into a modern and digital bank, maintaining its place in an ever-evolving finance and technology landscape.

Questions?

Appendix

Issue Tree


How can Helios achieve ≥15% ROTCE with low variance while safeguarding regulatory trust and systemic importance?
Financial Uplift
Risk & Compliance Safeguards
Talent, Culture & Innovation
Revenue Growth
Efficiency gains
Capital Allocation discipline
Regulatory Alignment
Governance & oversight
Vendor Dependence Mitigation
People & Workforce
Innovation Pipeline
Culture & Change Management

AI usage disclosure

AI tools such as ChatGPT were used to support research, analysis, and drafting throughout this proposal. All ideas and recommendations were created by our team, with AI serving to enhance speed, efficiency, and insight. Every AI-generated output was reviewed and validated to ensure accuracy and alignment with our strategic intent. In areas where specific data was unavailable—such as Helios' internal systems—we used public benchmarks and AI-assisted reasoning to develop informed estimates. We fully acknowledge the limitations of AI and take complete responsibility for the content and conclusions presented. With greater access to Helios' internal data during project kickoff, we will refine our models and provide more precise projections.

General Assumptions:

- Existing operations are largely manual and time consuming
- Helios has a functional front-end UI used by internal/external facing staff, which already integrates with an API gateway
- Helios currently uses AWS, but doesn’t utilize AWS Fraud Detector (it uses some other workflow to review transactions)

AI Disruption

We acknowledge the disruptive impact of AI across industries and are committed to keeping our project aligned with this evolving landscape. To ensure long-term relevance, we will conduct comprehensive yearly reviews to reassess and reorient the project in line with emerging technologies, shifts in the banking sector, and regulatory changes. In addition, we will adapt dynamically throughout the course of the project, making timely adjustments as needed to remain responsive to market and technological developments.

RFP Scope

As part of this engagement, we provide end-to-end support across strategy, implementation, and transformation. We lead vendor selection by evaluating AI partners like Moody's to ensure alignment with Helios' operational needs and regulatory requirements. Our integration support covers API connectivity, middleware configuration, and front-end compatibility, enabling seamless system interoperability. We develop custom AI models trained on Helios' proprietary data to drive long-term differentiation. Our data strategy work defines secure governance, ownership, and scalability frameworks. Change management is embedded through phased rollouts, cultural alignment, and staff training. This team also delivers detailed financial analysis—including ROI modeling and ROTCE impact—as well as risk and regulatory assessments to support board and compliance confidence. We ensure cybersecurity by evaluating vendor protections and reinforcing Helios' own control overlays. Finally, we structure the overall program with clear phases, workstreams, and stakeholder communication strategies to ensure successful delivery and organization-wide buy-in.

Cybersecurity and Data Strategy & Ownership acknowledgement

Data Ownership & Infrastructure: Helios will retain full ownership of its data and insights, even when using third-party tools. All integrations will route through secure internal systems, with no external data sharing unless explicitly authorized. Where custom AI is developed, proprietary data will remain in controlled environments. To support this, we'll ensure scalable infrastructure with strong governance, access controls, and data privacy safeguards.

Cybersecurity & Governance: We'll work closely with vendors to ensure data security within their systems while maintaining and evolving Helios's internal cybersecurity and governance layers. As the architecture changes, security policies will be updated accordingly, with continuous monitoring and threat detection across all systems.

Build vs. Buy: Reg-Tech

Building an in-house regulatory technology solution would strengthen Helios' reputation as a compliance leader by enabling advisors to adapt to evolving regulations faster than the market while maintaining full control over data governance and model transparency.

A proprietary tool can be tailored to Helios' internal processes, ensure regulatory agility across jurisdictions, and keep sensitive customer data in-house, reducing exposure risks.

Seamless integration with existing systems would minimize vendor dependencies, while long-term cost efficiency comes from avoiding licensing fees and reusing the platform across business lines.

Beyond efficiency, a homegrown reg-tech tool could differentiate Helios in client trust, demonstrate proactive compliance to regulators, and even be licensed to smaller institutions. Internal ownership also allows experimentation with AI-driven compliance monitoring aligned with Helios' ethical standards. Similar to Goldman Sachs' proprietary AI credit models for Marcus, which enhanced default prediction and credibility with regulators, Helios can position itself as future-ready in compliance leadership (https://www.marcus.com/us/en).

Acknowledgement of Relevant Stakeholders

Internal Staff (Employees): We've designed a phased, regulatory-first rollout that protects jobs and minimizes disruption. Staff will be upskilled early and gradually introduced to AI tools, with a focus on redeployment to higher-value advisory and compliance roles. This approach ensures human + AI collaboration is smooth and empowering.

Helios Executives & Board: Our plan addresses both short-term ROTCE improvement and long-term transformation, aligning with leadership's goals. By combining off-the-shelf AI tools with custom development, we maintain control, reduce risk, and position Helios as a future-ready, prudent market leader.

Regulators: All AI deployments will be reviewed for compliance with EU, U.S., and APAC regulations. We've incorporated safeguards aligned with the EU AI Act and OCC guidance, including explainability, strong governance, and embedded oversight roles to build regulator trust.

Competitors: We analyzed how leading banks are modernizing through AI and automation. Our strategy ensures Helios catches up quickly with current trends and maintains flexibility to respond to future moves by competitors through ongoing monitoring and innovation.

New Tech Privacy Policies

AWS Fraud Detector

Helios controls data; AWS only uses it to provide the service, Optional opt-out from AWS service-improvement use.
Source: https://docs.aws.amazon.com/frauddetector/latest/ug/opting-out-of-using-your-data-for-service-improvement.html

NICE Actimize

Helios is the data controller; Actimize is a processor, Public privacy policy covers websites, not client data.
Source: https://www.nice.com/company/legal/privacy-policy

Moody's

General privacy policy governs website data, Service data use is contractual, Helios must ensure compliance.
Source: https://www.moodys.com/web/en/us/legal/privacy-policy.html

AWS Bedrock

Data encrypted at rest/in transit; stays in chosen AWS Region, Not shared with model providers or used to train base models.
Source: https://docs.aws.amazon.com/bedrock/latest/userguide/data-protection.html

Amazon S3 Buckets

Default private; Helios sets IAM and bucket policies, Supports encryption, Block Public Access, and logging.
Source: https://docs.aws.amazon.com/AmazonS3/latest/userguide/security-best-practices.html

AWS Lambda

No separate privacy policy; secure via IAM, TLS, encryption, Avoid embedding sensitive data in logs or tags.
Source: https://docs.aws.amazon.com/lambda/latest/dg/security-dataprotection.html

Additional Information on Recommendations

- **Nice Actimize**: https://www.niceactimize.com/
- **Moody's Analytics**: https://www.moodys.com/
- **AWS Fraud Detector**: https://aws.amazon.com/fraud-detector/
- **AWS Bedrock**: https://aws.amazon.com/bedrock/
- **AWS Lambda**: https://aws.amazon.com/lambda/
- **AWS S3**: https://aws.amazon.com/s3/
- **FIS – SWIFT services**: https://www.fisglobal.com/en/solutions/payments/real-time-payments
- **Fiserv**: https://www.fiserv.com/

Appendix: Timeline

Timeline – Recommendation 1

1. Program Set-Up
Define program governance and secure executive sponsorship.
Develop business case for adopting NICE Actimize (fraud & AML) and Moody's (risk & credit analytics).
Vendor alignment: negotiate contracts, licensing, and implementation SLAs with NICE & Moody's.
Establish program KPIs (fraud detection rates, false positives, credit risk scoring accuracy).
Create joint working groups: consultants, client IT, compliance, and risk management teams.

2. Architecture & Data Foundation
Assess existing data architecture (transaction data, KYC, credit history).
Map integration requirements: NICE Actimize into transaction systems, Moody's into lending/credit workflows.
Design secure data pipelines for real-time fraud detection and risk scoring.
Define data governance, quality, and lineage processes (aligned with GDPR/ISO 42001).
Build test environments and sandboxes with anonymized data.

3. Configuration & Pilot
Configure NICE Actimize modules (fraud detection scenarios, AML transaction monitoring, case management workflows).
Configure Moody's credit risk models (credit scoring, stress testing, portfolio risk).
Develop APIs/ETL connectors to client's existing systems (payments, lending, core banking).
Run a limited pilot:
- Fraud detection on select geographies/transaction types.
- Moody's credit scoring on a controlled lending portfolio.

Validate results against benchmarks (reduction in false positives, improved decisioning).

4. Integration & Testing
Full integration of Actimize into payment rails and monitoring dashboards.
Integration of Moody's risk outputs into lending decision workflows and capital planning models.
Conduct UAT (User Acceptance Testing) with operations, compliance, and IT teams.
Stress test performance under peak loads (high transaction volumes, cross-border transfers).
Validate model risk management compliance (OCC SR 11-7, EU AI Act readiness).

5. Change Management
Develop training for fraud analysts, compliance officers, and credit risk teams.
Update SOPs to incorporate new workflows (fraud alerts triage, credit decision overrides).
Build awareness campaigns: explain how AI enhances—not replaces—expert judgment.
Establish "human-in-the-loop" protocols (manual review of flagged cases).
Continuous feedback loop: monitor user adoption and resistance points.

6. Go Live & Scaling
Roll out NICE Actimize across all transaction types (retail, wholesale, merchant acquiring).
Expand Moody's models to enterprise-wide lending & portfolio management.
Monitor KPIs: fraud detection improvements, default prediction accuracy, ROI.
Optimize models with feedback from production data.
Scale deployment globally (HQ London → EU, APAC, Americas, Africa).
Establish ongoing vendor support + advisory for enhancements and compliance updates.

Timeline – Recommendation 2

Program Set-Up

- Secure sponsorship from compliance and regulatory leadership.
- Develop a detailed business case for custom RegTech development.
- Establish project governance: roles, timelines, funding sources.
- Select implementation partner (Tech Mahindra or Infosys).
- Define KPIs: advisory turnaround time, compliance error reduction, model auditability.

Architecture & Data Foundation

- Assess Helios's regulatory data footprint (case logs, historical advisories, regulatory changes).
- Design API-based architecture to support LLM/QA pipelines.
- Set up secure AWS storage (S3) and vector index (OpenSearch or Aurora pgvector).
- Align data governance with region-specific compliance (MAS, OCC, GDPR).
- Establish access management policies and encryption protocols.

Configuration & Pilot

- Design prompts and workflow interfaces for regulatory advisors.
- Fine-tune open-source LLMs (e.g., Mistral) on anonymized Helios data.
- Develop search+retrieval functionality and feedback loop for human-in-the-loop.
- Pilot with selected APAC and US-based advisor teams.
- Evaluate: advisory speed, model accuracy, user satisfaction.

Integration & Testing

- Integrate with Advisor Desktop and internal knowledge bases.
- Build monitoring tools: model performance, auditability, escalation triggers.
- Conduct UAT with advisors and compliance teams.
- Stress-test solution with edge case regulations and high-volume periods.

Validate against regulatory reporting standards.

Change Management

- Train advisors on using RegTech interface and override workflows.
- Create knowledge artifacts for onboarding and use-case walkthroughs.
- Implement user feedback collection tools.
- Align internal audit, legal, and risk teams on model oversight policies.
- Deploy behavior nudges: highlight accuracy vs override behavior.

Go Live & Scaling

- Roll out RegAdvisor solution across all regulatory advisory teams.
- Monitor KPIs: advisory turnaround time, compliance quality, model usage.
- Set up enhancement roadmap based on live usage feedback.
- Conduct quarterly reviews with tech partner and internal leads.

Scale to EU regions with localized compliance data integrations

Timeline – Recommendation 3 (1/2)

Timeline:

First 90 days

- Appoint a lab lead who will report to the CIO
- Approve the 2-3 problem areas or branches
- Use NIST AI RMF as the baseline for your AI risk framework so you are prepped from day one

Within the second month

- Set up secure cloud sandbox and basic MLOps toolbox such as experiment tracking , CI (continous integration)/CD (continous delivery) for models and monitoring: https://cloud.google.com/architecture/mlops-continuous-delivery-and-automation-pipelines-in-machine-learning
- Set up two MVP's with clear KPIS and instrument evaluation up front so that they don't run into any "pilot purgatory": https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/charting-a-path-to-the-data-and-ai-driven-enterprise-of-2030

Third month

- Test and deliver the two MVP's in a pilot project so that Helios can capture value and risks and make notes
- If they don't go through this step they may run into that pilot purgatory

Quarters 2-3

- Run two more MVP's
- Move the strongest MVP to the proper business unit such as wealth, lending, payments, etc, whichever will own the product
- Start a regulatory-friendly pack so that everything is aligned with the EU AI act kicks in: https://www.reuters.com/world/europe/artificial-intelligence-rules-go-ahead-no-pause-eu-commission-says-2025-07-04/

Timeline – Recommendation 3 (2/2)

Quarter 4

- Target 3–4 MVPs delivered in Year 1, with 1–2 graduates into BU builds.
- mirrors how bank labs scale impact: small lab; business teams run production. (Example: RBC Borealis AI → Aiden transitioned research into a live trading product.)

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Year 2

- Create a standard handoff packet everytime an MVP is ready to leave the lab
    - Monitoring plan, model card, and certain metrics it needs to meet
- Make a go/kill gate= make a yes or no decision at the end of every MVP based on the handoff packed
- Evaluate about 6 ideas, deliver 3-4 MVPs, graduate 1-2 more to business units to build

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Year 3

- Evaluate 6-8 ideas, deliver 3-4 MVPs and graduate 2 more
- Operate at a large scale
- Have all high risk use cases mapped out
- Evaluate notes and case studies while keeping the team small and high impact

Appendix: Financials

Financial Assumptions:

- TCE will remain table (the same) throughout the course of our project
- Labor costs decrease over time as project scope changes to maintainence
- JPMC is a comparable firm at 2x of Helios' market cap
- Efficiency savings are factored in as a part of the greater revenue calculation
- "Recoup Potential Losses" is factored in as part of revenue
- Implementation costs as a % of licensing fees are scaled down to 50%, as API integrations in this project are lean
- Internal labor costs scale down after yr 2 in Rec 1, as main expense becomes standard maintenance
- Salaries used in calculations remain the same over the course of 5yrs
- The "standard" discount rate for banks is 4.50%
- AWS Bedrock costs increase YoY for the duration of the project as the Innovation Centre increases demand with new projects

Financial Calculations

5yr change in net income	$	1,839,957,833.00
Current Net Income	$	18,500,000,000.00

Market cap	$	420,000,000,000.00
Total Equity		$134,057,971,014

Year	*1*	*2*	*3*	*4*	*5*	*Total*
Total revenue by year	$ -	$ 409,786,860.00	$ 543,008,160.00	$ 592,508,160.00	$ 612,508,160.00	$ 2,157,811,340.00
Total cost by year	$ 51,767,707.00	$ 62,669,200.00	$ 67,672,200.00	$ 72,872,200.00	$ 62,872,200.00	$ 317,853,507.00
Total change in net income	**$ (51,767,707.00)**	**$ 347,117,660.00**	**$ 475,335,960.00**	**$ 519,635,960.00**	**$ 549,635,960.00**	**$ 1,839,957,833.00**
Change in ROTCE by year	-0.04%	0.26%	0.35%	0.39%	0.41%	1.37%

Current ROTCE		13.80%
Total Change in ROTCE		1.40%
New ROTCE		15.2%

NPV	$	1,561,665,429.89

Variance Analysis	**Variance Option**	**Variance**	**Weight as % of Total Investment**	**Variance Assigned**	**Total Variance**
Recommendation 1	*AI in Finance*	*0.7%*	*46%*	*0.3%*	***0.9%***
Recommendation 2	*Tangential Finance*	*1.0%*	*50%*	*0.5%*	
Recommendation 3	*Helios Ventures*	*2.6%*	*4%*	*0.1%*	

Breakeven Analysis	**Total Cost**		**Years to breakeven, based on time for revenue to match total cost** *(estimated based on calculated revenue and cost figures above)*
Recommendation 1	*$*	*145,693,500.00*	*est. ~ Q1 Yr2*
Recommendation 2	*$*	*158,000,007.00*	*est. ~ Q3 Yr3*
Recommendation 3	*$*	*14,160,000.00*	*est. ~ Q2 Yr3*

Note: We define "Tangential Finance" as efforts outside of our standard activities but still related to the core banking operations.

Nice Actimize & AMS Fraud Detection Cost

Nice Actimize + AWS Fraud Detector Pricing				
Product	Service	Public Pricing	Price per month (13m)	Annual cost
AWS Fraud Detector	ML scoring service for fraud risk	$.03 for first 100k, then $.0075	84750	1017000
Stripe Radar	payment fraud screening	$.05 list, range $.02 - $.07		
MS Dynamics 365 Fraud Protection	retired fraud site			
Competitors of Actimize	total transactions in a month			
Feedzai	(covering the following:			
SAS Fraud Management	Wholesale			
FICO Falcon	SWIFT			
	FIS real-time			
Actimize	decision agent	No public pricing		
upfront cost	15 M in implementation			
	10 M license fee			
Annual maintenance (20% cost)	2 M			

Fraud Detector cost per transaction

Flat rate for Actimize software, scaled for company size and risk

Helios Estimated Net Income 2024

Helios 2024 Market Cap	Helios Market Cap Weight	Profit Margin	Scaled Value
Payments & Transactions	30%	31%	126B
Global Banking & Markets	30%	28%	126B
Wealth & Asset Management	25%	24%	105B
Insurance & Risk	15%	19%	63B

Scaled to JPMorgan service lines + 15% insurance + risk estimated

Helios 2024

Segment	Weight (share of Revenue/Profit)	Revenue ($B)	Profit Margin	Effective Margin vs Revenue	Scaled Net Income ($B)	% Threat/year	Recoup/year	
Payments & Transactions	30%	46.8	31%	0.14	**6.5**	1.60%	104000000	Rec 1.1
Global Banking & Markets	30%	46.8	28%	0.13	**5.9**	1.40%	82600000	
Wealth & Asset Mgmt	25%	39	24%	0.11	**4.3**	1.20%	51600000	
Insurance & Risk	15%	23.4	19%	0.08	**1.8**	0.80%	14400000	148600000
Total	100%	**156**		0.118	**18.5**		252600000	
		13.5%x	18.5					
		15x	134.057971	TCE				
		0.135000036						
		20.10869565	Net Income Goal					

New Hire Salaries via Glassdor

Role	# of FTEs	Avg. Salary (£)	Rec 1.1	Rec 1.2	Rec 2	Cost
Program / Project Manager	1	75,000	0.30	0.30	1.00	$ 120,000.00
Business Systems Analysts (Actimize SMEs)	2	57,500	0.50	0.50	0.40	$ 80,500.00
IT / Data Integration Engineers	2	66,000	0.50	0.50	0.00	$ 66,000.00
Compliance / BSA Analysts	2	75,000	0.00	0.30	0.00	$ 22,500.00
Agile Coach / Scrum Master	1	80,000	0.25	0.25	0.40	$ 72,000.00
Vendor / Consulting Support	1 (part-time)	120,000	0.50	0.50	1.00	$ 240,000.00
Alert Triage Analysts	3	30,000	0.00	0.00	0.00	$ -
Model / Data Scientists	1	80,000	0.00	0.00	0.00	$ -
System Admins & Technical Support	1	60,000	0.30	0.30	0.10	$ 42,000.00
Reporting / Regulatory Team	1	70,000	0.00	0.10	0.30	$ 28,000.00
Total Estimated Cost			**$ 182,250.00**	**$ 211,750.00**	**$ 277,000.00**	**$ 671,000.00**

Capital Allocation Structure:

Capital Allocation	Required Capital	
Recommendation 1	$	*145,693,500.00*
Recommendation 2	$	*165,000,000.00*
Recommendation 3	$	*14,160,000.00*
Total Capital Required	$	324,853,500.00

Capital allocated to each recommendation is the total cost of each

Recommendation 1 - Revenue Analysis

Revenue Analysis

Year	*1*	*2*	*3*	*4*	*5*	*Total*
Recommendation 1 - AWS						
Revenue						
Labor Cost Savings	$ -	$ 16,639,668.00	$ 16,639,668.00	$ 16,639,668.00	$ 16,639,668.00	$ 66,558,672.00
Recoup Potential Losses	$ -	$ 104,000,000.00	$ 104,000,000.00	$ 104,000,000.00	$ 104,000,000.00	$ 416,000,000.00
Net change in revenue	$ -	$ 120,639,668.00	$ 120,639,668.00	$ 120,639,668.00	$ 120,639,668.00	$ 482,558,672.00
Cost						
Actimize Licensing	$ 15,000,000.00	$ 15,000,000.00	$ 15,000,000.00	$ 15,000,000.00	$ 15,000,000.00	$ 75,000,000.00
Implementation	$ 10,000,000.00	$ -	$ -	$ -	$ -	$ 10,000,000.00
AWS Fraud Detector	$ 101,700.00	$ 101,700.00	$ 101,700.00	$ 101,700.00	$ 101,700.00	$ 508,500.00
Labor	$ 182,250.00	$ 136,687.50	$ 45,562.50	$ 45,562.50	$ 45,562.50	$ 455,625.00
Net change in costs	$ 25,283,950.00	$ 15,238,387.50	$ 15,147,262.50	$ 15,147,262.50	$ 15,147,262.50	$ 85,964,125.00
Net change in net income	$ (25,283,950.00)	$ 105,401,280.50	$ 105,492,405.50	$ 105,492,405.50	$ 105,492,405.50	$ 396,594,547.00
Recommendation 1 - Moody's Integration						
Revenue						
Labor Cost Savings	$ -	$ 38,825,892.00	$ 38,825,892.00	$ 38,825,892.00	$ 38,825,892.00	$ 155,303,568.00
Global Banking & Markets	$ -	$ 82,600,000.00	$ 82,600,000.00	$ 82,600,000.00	$ 82,600,000.00	$ 330,400,000.00
Wealth & Asset Management	$ -	$ 51,600,000.00	$ 51,600,000.00	$ 51,600,000.00	$ 51,600,000.00	$ 206,400,000.00
Insurance and Risk Solutions	$ -	$ 14,400,000.00	$ 14,400,000.00	$ 14,400,000.00	$ 14,400,000.00	$ 57,600,000.00
Total Recouped Potential Losses	$ -	$ 148,600,000.00	$ 148,600,000.00	$ 148,600,000.00	$ 148,600,000.00	$ 594,400,000.00
Net increase in revenue	$ -	$ 187,425,892.00	$ 187,425,892.00	$ 187,425,892.00	$ 187,425,892.00	$ 749,703,568.00
Cost						
Moody's Licensing	$ 9,600,000.00	$ 9,600,000.00	$ 9,600,000.00	$ 9,600,000.00	$ 9,600,000.00	$ 48,000,000.00
Implementation	$ 4,800,000.00	$ -	$ -	$ -	$ -	$ 4,800,000.00
Labor	$ 211,750.00	$ 158,812.50	$ 52,937.50	$ 52,937.50	$ 52,937.50	$ 529,375.00
Training	$ 6,400,000.00	$ -	$ -	$ -	$ -	$ 6,400,000.00
Net change in costs	$ 21,011,750.00	$ 9,758,812.50	$ 9,652,937.50	$ 9,652,937.50	$ 9,652,937.50	$ 59,729,375.00
Net change in net income	$ (21,011,750.00)	$ 177,667,079.50	$ 177,772,954.50	$ 177,772,954.50	$ 177,772,954.50	$ 689,974,193.00

Recommendation 2 & 3 – Revenue Analysis

REC 2 - Software							
Revenue							
Labor Cost Savings	$ -	$ 46,221,300.00	$ 92,442,600.00	$ 92,442,600.00	$ 92,442,600.00	$ 323,549,100.00	
Global Banking & Markets	$ -	$ 20,000,000.00	$ 50,000,000.00	$ 67,000,000.00	$ 75,000,000.00	$ 212,000,000.00	
Wealth & Asset Management	$ -	$ 2,000,000.00	$ 5,000,000.00	$ 8,000,000.00	$ 10,000,000.00	$ 25,000,000.00	
Insurance and Risk Solutions	$ -	$ 10,000,000.00	$ 30,000,000.00	$ 45,000,000.00	$ 50,000,000.00	$ 135,000,000.00	
Payment and Transfer Banking	$ -	$ 5,000,000.00	$ 13,000,000.00	$ 17,000,000.00	$ 20,000,000.00	$ 55,000,000.00	
General savings	$ -	$ 8,000,000.00	$ 22,000,000.00	$ 30,000,000.00	$ 32,000,000.00	$ 92,000,000.00	
Net change in revenue	$ -	$ 91,221,300.00	$ 212,442,600.00	$ 259,442,600.00	$ 279,442,600.00	$ 842,549,100.00	
Cost							
Software Costs	$ 5,000,000.00	$ 20,000,000.00	$ 15,000,000.00	$ 10,000,000.00	$ -	$ 50,000,000.00	
Implementation Costs	$ 2,000,000.00	$ 10,000,000.00	$ 18,000,000.00	$ 27,000,000.00	$ 27,000,000.00	$ 84,000,000.00	
Internal Labor	$ 1,000,000.00	$ 2,000,000.00	$ 3,000,000.00	$ 3,000,000.00	$ 3,000,000.00	$ 12,000,000.00	
Consulting Fees	$ 2,000,000.00	$ 3,000,000.00	$ 4,000,000.00	$ 5,000,000.00	$ 5,000,000.00	$ 19,000,000.00	
Net change in costs	$ 10,000,000.00	$ 35,000,000.00	$ 40,000,000.00	$ 45,000,000.00	$ 35,000,000.00	$ 165,000,000.00	
Net change in net income	$ (10,000,000.00)	$ 56,221,300.00	$ 172,442,600.00	$ 214,442,600.00	$ 244,442,600.00	$ 330,000,000.00	
REC 3 - Innovation Center							
Revenue	$ -	$ 10,500,000.00	$ 22,500,000.00	$ 25,000,000.00	$ 25,000,000.00	$ 83,000,000.00	
Cost							
Labor	$ 2,272,000.00	$ 2,272,000.00	$ 2,272,000.00	$ 2,272,000.00	$ 2,272,000.00	$ 11,360,000.00	
AWS Bedrock	$ 200,000.00	$ 400,000.00	$ 600,000.00	$ 800,000.00	$ 800,000.00	$ 2,800,000.00	
Net change in costs	$ 2,472,000.00	$ 2,672,000.00	$ 2,872,000.00	$ 3,072,000.00	$ 3,072,000.00	$ 14,160,000.00	
Net change in net income	$ (2,472,000.00)	$ 7,828,000.00	$ 19,628,000.00	$ 21,928,000.00	$ 21,928,000.00	$ 68,840,000.00	

Finances-Rec 2

Cost Breakdown (5-Year, $M)

Category	Yr1	Yr2	Yr3	Yr4	Yr5	5-Yr Total	Notes / Drivers
Build & Development	5	20	15	10	0	50	EY blueprint, US pilot, APAC scale, EU optional (Yr4)
Security & Compliance Hardening	0	0	0	5	0	5	Pen testing, audits, certifications
AWS Cloud OPEX	2	5	8	10	12	37	Bedrock, S3, API gateways, multi-region scaling
Partner Sustain Pods	0	5	10	12	15	42	Infosys (core dev), Tech Mahindra (integration/regional)
EY Governance Retainer	2	3	4	5	5	19	Strategy refresh, model validation, benefit tracking
Helios Internal CoE	1	2	3	3	3	12	10–15 FTE: product owner, validators, SRE
Training Costs	0	0	0	0	0	—	(embedded elsewhere or part of partner costs)
Total (Base Case)	**10**	**35**	**40**	**45**	**40**	**160**	EU optional adds $10–15M (Yr4–5)

Benefit Breakdown (5-Year, $M)

Benefit Component	Yr1	Yr2	Yr3	Yr4	Yr5	Steady-State Annual	Notes / Drivers
KYC / Onboarding Savings	0	15	40	55	60	60	Automates ~30% of 2,000 FTE workload
KYC Faster Onboarding (Revenue)	0	5	10	12	15	15	Faster client approvals, more accounts opened
Cross-Border Savings	0	2	5	5	5	5	Faster regional product approval, 50 FTE freed
Cross-Border Revenue	0	3	8	12	15	15	New APAC product launches, speed to market
Suitability Savings	0	1	2	2	2	2	Compliance advisor time cut 30%
Suitability Revenue	0	2	5	8	10	10	Faster product placement → ~1–2% WM uplift
Sanctions / AML Savings	0	10	30	45	50	50	50% reduction in false-positive triage workload
Loss Avoidance (Fines)	0	5	10	10	10	10	Avoid ~$50M fine every 5 yrs (risk-adjusted)
Audit / Remediation Savings	0	2	5	8	10	10	50% fewer audit findings → $10M saved
RWA Capital Efficiency	0	0	5	10	10	10	$1–2B freed capital → $10M earnings
Total Benefits	–	**45**	**120**	**167**	**187**	**187**	Across cost savings + revenue + capital

Finances-Rec 2

P&L Projection (Base Case, $M)

Year	Total Cost	Total Benefit	Net Cash Flow	Cumulative Net	Key Notes
Yr1	10	0	**-10**	-10	Blueprint, EY setup, AWS infra; no benefit yet
Yr2	35	45	**10**	0	US pilot (KYC, AML modules) → early savings
Yr3	40	120	**80**	80	APAC rollout; AML, KYC automation scale
Yr4	45	167	**122**	202	EU enhancements, cross-border revenue ramp
Yr5	40	187	**147**	349	Steady-state: ~$187M recurring benefit
Total (5yr)	**165**	**519**	**354**	–	ROI ~214%; payback in Yr2–3

ROI & Valuation Metrics

Metric	Value (Base Case)	Notes / Drivers
Total 5-Year Cost	**$165M**	Build + cloud + partner sustain + EY + CoE
Total 5-Year Benefit	**$519M**	Compliance savings + revenue uplift + RWA efficiency
Net Benefit (5-Year)	**$354M**	Benefit – Cost
ROI (Cash-on-Cash)	**~214%**	519 ÷ 165 – 1
NPV (10% discount rate)	**~$200M**	Discounted net cash flows
IRR (Internal Rate of Return)	**>40%**	Benefits ramp fast vs. costs
Payback Period	**2.5–3 years**	Break-even between Yr2–Yr3
ROTCE Uplift (by Yr5)	**+12 bps**	Cost savings + revenue + RWA efficiency

Scenario	5-Yr Cost	5-Yr Benefit	Net Benefit	ROI (Cash-on-C	NPV (10%)	IRR	Payback	ROTCE Uplift (Yr5)	Key Assumptions
Downside	$170M	$340M	+$170M	~100%	~$50M	~15–20%	~5 yrs	+8 bps	- 20% automation realized - Adoption <50% - Cost overrun +10% - Revenue uplift muted
Base	$165M	$519M	+$354M	~214%	~$200M	>40%	2.5–3 yrs	+12 bps	- 30–40% automation - US + APAC rollout - EU optional - Moderate revenue uplift
Upside	$180M	$720M	+$540M	~300%	$400M+	~60%+	~2 yrs	+18–20 bps	- 50%+ automation - Adoption >80% - EU rollout included - Faster revenue ramp - Full RWA efficiency

Recommendation 3 Cost Analysis Cont.

Model	IN $/1k	OUT $/1k
Claude Sonnet 3.7	0.003	0.015
Amazon Nova Lite	0.001	0.004
Assumption	Pilot	Enterprise
Queries per day	1000	100000
Tokens IN per query	10	10
Tokens OUT per query	50	50
Days per year	365	365
Annual Input tokens	3,650,000	365,000,000
Annual Output tokens	18250000	1825000000
Annual Input cost	10.95	1095
Annual Output cost	273.75	27375
Total Bedrock Cost	284.7	28470
Cost per query	0.00078	0.00078
so for a pilot project, using around 1,000 queries a day		
would be $285/year		
at an enterprise scale (100k queries a day)		
28.5kyear		
cost per query would stay the same		
even at the enterprise scale, using bedrock would be under 30k per year		
Overall, would estimate around $2.3M in year 1 cash needed to launch the lab		
peopel would be the most expensive at 1,807,000		
build and intergration would come in around $465,000		
bedrock usuage would be around 20,000 if we were to midpoint it		

Recommendation 3 Cost Analysis

Salaries	Low end	High end	Midpoint/Avg
ML Enginners at JP Morgan	$167,000.00	$252,000.00	
AI Strategists	$160,000.00	$273,000.00	
Responsible AI/Model Risk	$214,000.00	$324,000.00	
	$541,000.00	$849,000.00	$695,000.00
Add in Benefits	$1,406,600.00	$2,207,400.00	$1,807,000.00
Non people costs			
MVP Build/Integration (3 MVPS)	$180,000.00	$750,000.00	$465,000.00
Year 1 Cash Needed (Subtotal)	$1,586,600.00	$2,957,400.00	$2,272,000.00
https://aws.amazon.com/bedrock/pricing/		https://docs.aws.amazon.com/bedrock/latest/userguide/bedrock-pricing.html	
AWS Bedrock (managed as a "service"-how Helios will use it will depend on the MVPs they are working on			
https://www.cloudforecast.io/blog/aws-bedrock-pricing/			
AWS Bedrock			
AWS's managed service for building generative AI applications			
you pay as you go			
since it runs inside AWS, it ties into key management, cloudwatch (monitoring) and access control which keeps all the information within AWS enviornment			

JPMorgan's Compliance Headcount

- In 2015, JPMorgan reportedly hired **8,000 compliance officers**, and a disclosure suggested that out of a workforce of 236,000, around **43,000 employees were involved in compliance functions**—suggesting a large compliance staffing base .

Estimating Helios's Compliance Advisor Headcount

If we assume:

- **Helios total headcount** is approximately **half of JPMorgan's** (~236k / 2 = ~118k)
- **Compliance specialization** is similar in relative size (so ~43,000 / 2 = ~21,500 employees)

Thus, **Helios could have around 21,500 compliance-focused employees**.

However, we're focusing on **advisors**—those in direct regulatory/compliance advisory roles (i.e., second-line-of-defense professionals), not the broader support or operational staff.

Based on typical financial institutions, compliance advisors form a subset—often **~20%** of all compliance-oriented staff.

- So, estimate: **21,500 x 20% ≈ 4,300 advisors**.

Summary Table

Final Estimate for Helios:

We estimate that **Helios has around 4,300 advisors** working in regulatory/compliance-related roles.

This number provides a reasonable, conservative proxy for the **user base our RegTech solution (Helios RegAdvisor) will serve**.

Would you like me to include assumptions or sensitivity ranges (e.g., 15–25% advisor proportion) to reflect uncertainty in your slide deck or appendix?

Company	Total Headcount	Compliance-related Roles	Advisor/Compliance FTEs (~20%)
JPMorgan (2023)	~236,000	~43,000	~8,600
Helios (Est'd)	~118,000	~21,500	~4,300

Financial Support

- OCC – Model Risk Governance (SR 11-7 / OCC 2011-12) (treating our AI investment as any other financial model): https://www.occ.gov/news-issuances/bulletins/2011/bulletin-2011-12.html
- Congress.gov – U.S. financial regulations & laws (legal source for financial data and privacy laws): https://www.congress.gov/
- JPMorgan Chase financials (Helios's financials scaled relative to JPMorgan): https://www.jpmorganchase.com/ir
- Salary benchmarks (London finance/tech roles, Glassdoor): https://www.glassdoor.com/Salaries/london-salary-SRCH_IL.0,6_IM1035.htm

Appendix: General Sources

Recommendation 3 Financial Sources

https://www.stlouisfed.org/on-the-economy/2025/feb/impact-generative-ai-work-productivity

https://www.entrepreneur.com/business-news/jpmorgan-to-cut-headcount-in-some-divisions-due-to-ai/491864

https://www.nasdaq.com/articles/ai-efficiency-trim-jpmorgan-jpm-headcount-10-over-five-years

https://www.lyzr.ai/blog/ai-credit-scoring/

https://www.reuters.com/business/finance/jpmorgan-says-ai-helped-boost-sales-add-clients-market-turmoil-2025-05-05/

https://superagi.com/ai-in-banking-2025-dynamic-micro-personalization-strategies-for-enhanced-customer-engagement/

https://superagi.com/ai-in-banking-2025-dynamic-micro-personalization-strategies-for-enhanced-customer-engagement/

https://aws.amazon.com/bedrock/pricing/

https://www.cloudforecast.io/blog/aws-bedrock-pricing/

https://docs.aws.amazon.com/bedrock/latest/userguide/bedrock-pricing.html

https://www.businessinsider.com/jpmorgan-how-artificial-intelligence-transforming-workflows-efficiencies-2025-5

Financials- Rec 2 Sources

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https://www.ft.com/content/22dd2c21-6ebf-4e0e-8bbf-2984429422a7?utm_source=chatgpt.com

https://www.bcg.com/publications/2025/risky-times-call-for-innovation-in-bank-compliance?utm_source=chatgpt.com

https://www.fourthline.com/blog/how-much-do-banks-spend-on-compliance

Recommendation 1 Sources

https://www.reuters.com/technology/artificial-intelligence/jpmorgan-engineers-efficiency-jumps-much-20-using-coding-assistant-2025-03-13/

https://www.marketwatch.com/story/jpmorgans-increased-tech-spending-will-let-it-develop-products-at-speed-analyst-62bc514e

https://www.businessinsider.com/everything-we-know-about-how-banks-using-ai-2024-8

https://www.reuters.com/breakingviews/banks-grab-ai-generated-tiger-by-tail-2024-06-26/

https://www.anz.com.au/bluenotes/2024/november/anz-platforms-payments-banking-elliott-fy24/

https://www.ainvest.com/news/anz-strategic-cost-cutting-operational-overhaul-blueprint-creation-digitally-disrupted-era-2508/
https://www.moodys.com/web/en/us/solutions/capital-management/actuarial-modeling.html

https://www.moodys.com/web/en/us/solutions/portfolio-management.html

https://www.fnlondon.com/articles/ubss-rob-karofsky-on-using-ai-to-boost-us-wealth-arm-60-of-our-efforts-are-focused-on-productivity-afab7867

https://www.wsj.com/articles/the-man-behind-bank-of-americas-13-billion-tech-agenda-3d770a2d

https://www.bcg.com/publications/2025/tech-banking-transformation-starts-with-smarter-tech-investment

https://www.moodys.com/web/en/us/solutions/lending.html

Recommendation 3 General Sources

- Artificial Intelligence Research
- https://rbcborealis.com/
- https://rbcborealis.com/applications/aiden
- Citigroup's AI Transformation: Strategic Analysis and Competitive Positioning
- https://www.wsj.com/articles/gm-raided-silicon-valley-to-build-its-new-ai-team-heres-what-its-doing-758fd0d9

Change Management Resources

Team Management & Strategy Questions

AI & Data Protection Guidance played a part in team structuring and change management, as Helios leads with compliance in mind.

- GDPR (EU official): https://gdpr-info.eu/
- UK GDPR (ICO guidance): https://ico.org.uk/for-organisations/uk-gdpr-guidance-and-resources/
- APPI (Japan, official translation): https://www.japaneselawtranslation.go.jp/en/laws/view/4054
- PIPL (China, English overview – DLA Piper): https://www.dlapiperdataprotection.com/index.html?t=law&c=CN
- DPDP (India, MeitY): https://www.meity.gov.in/
- LGPD (Brazil, English overview – DLA Piper): https://www.dlapiperdataprotection.com/index.html?t=law&c=BR
- POPIA (South Africa, regulator site): https://popia.co.za/
- NDPA (Nigeria): https://ndpa.gov.ng/
- ISO/IEC 42001 (AI management standard): https://www.iso.org/standard/81230.html
- IAPP (privacy resources): https://iapp.org/
- White & Case (global privacy guide): https://www.whitecase.com/insight-our-thinking/data-privacy-global-guide
- DLA Piper (Global Data Protection Handbook): https://www.dlapiperdataprotection.com/

Articles on Effective Change management for teams and organizations:

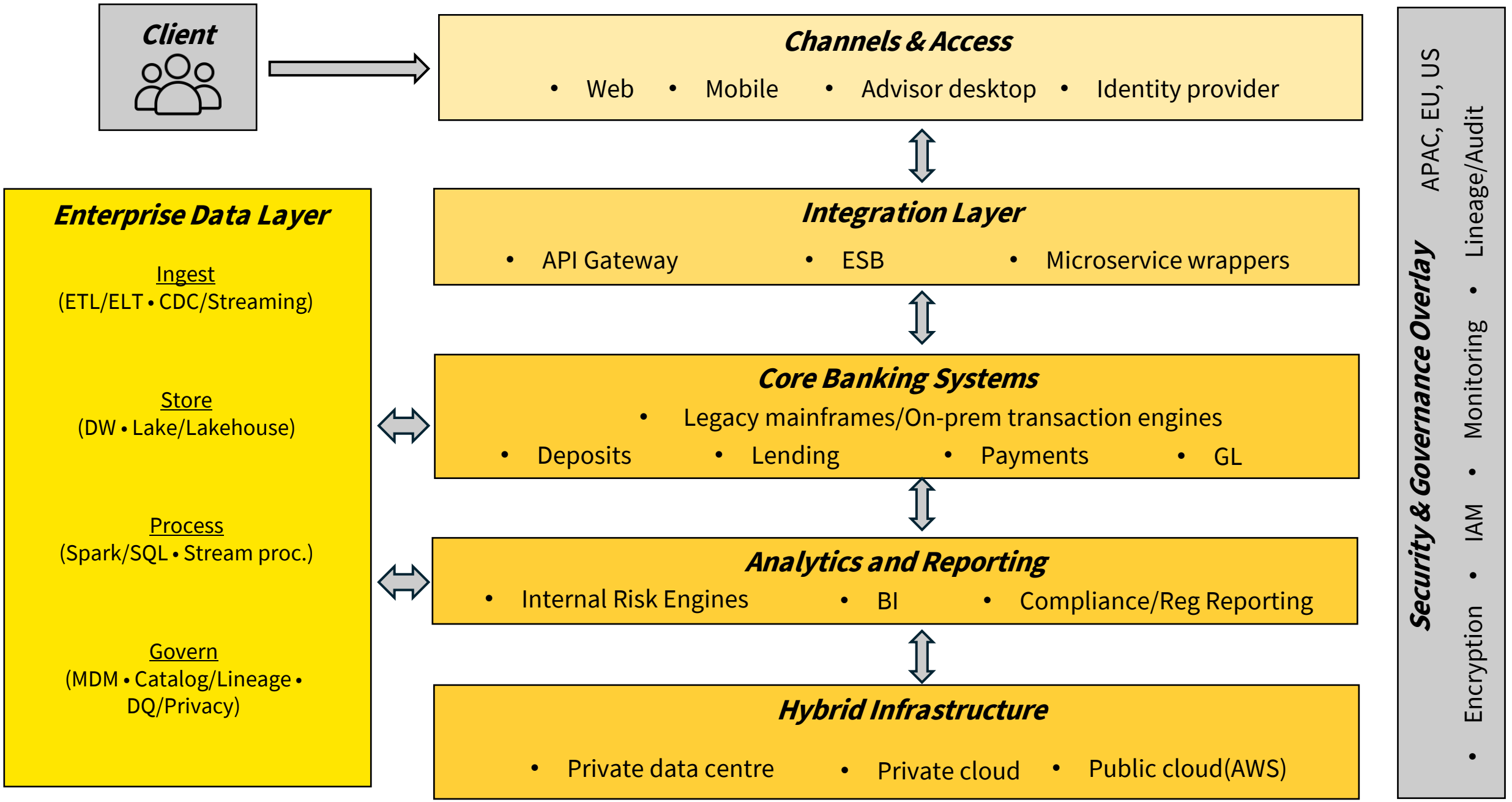
How to transform your organization in turbulent times: https://www.ey.com/en_us/insights/workforce/how-to-transform-your-organization-in-turbulent-times

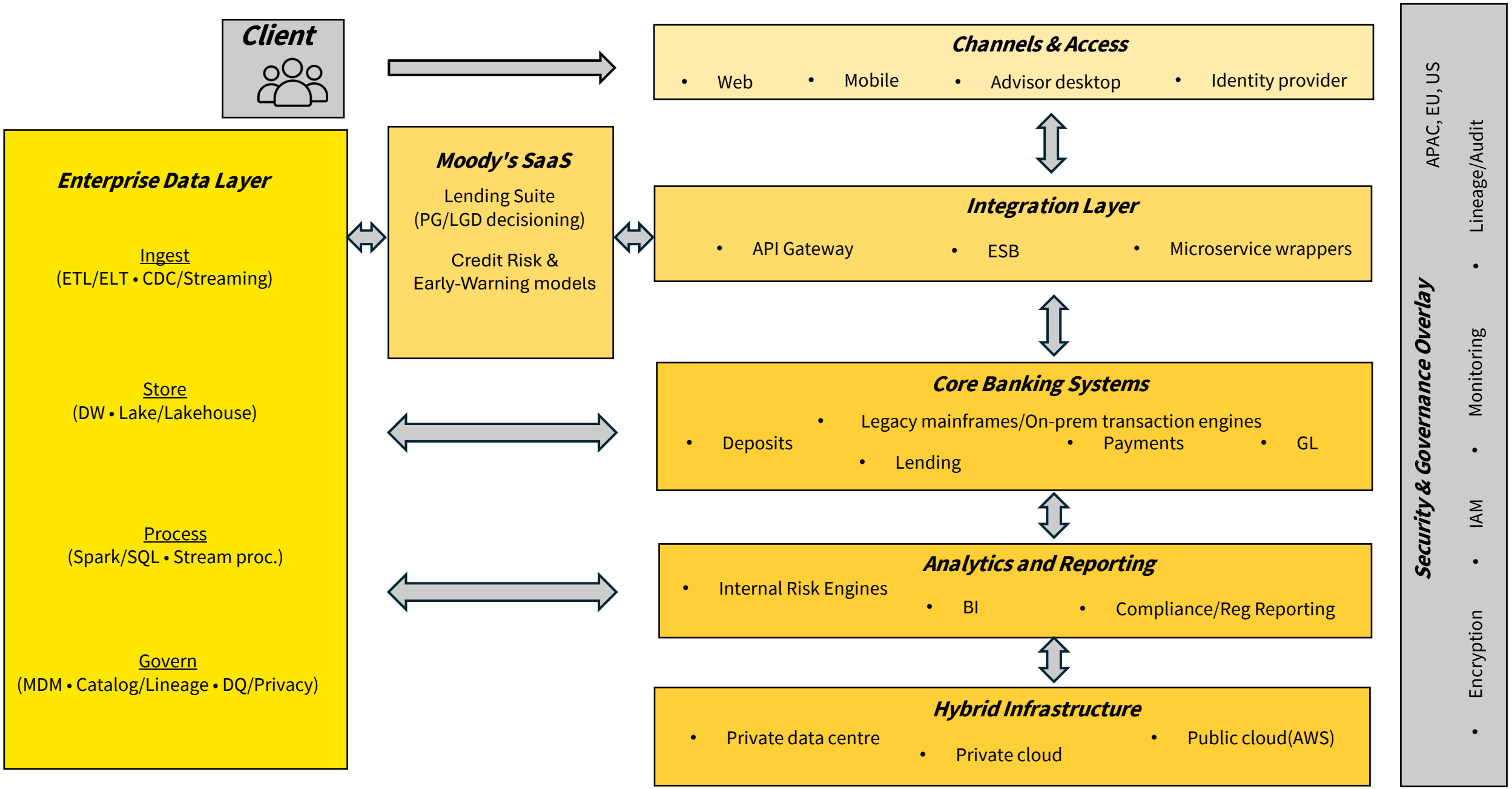
Navigating Change in the Workplace: Strategies for Teams: https://usewhale.io/blog/navigating-change-essential-strategies-for-beginners/

Risks and Mitigations Sources

- https://www.ncontracts.com/nsight-blog/ai-and-regulatory-risks
- https://www.bis.org/fsi/publ/insights63.pdf
- https://www.wilmerhale.com/-/media/files/shared_content/editorial/publications/documents/law360---how-banks-can-manage-risk-as-ai-adoption-expands.pdf
- Can AI Salve Banking's Regulatory Pain?
- https://www.pymnts.com/news/banking/2024/banks-see-risk-in-dependence-on-big-techs-ai-capabilities
- https://www.fsb.org/2024/11/the-financial-stability-implications-of-artificial-intelligence/
- https://www.sciencedirect.com/science/article/abs/pii/S1544612324013084
- https://nypost.com/2025/08/14/business/plaid-ceo-zach-perret-on-ai-fraud-fednow-and-how-u-s-banking-can-catch-global-peers
- https://en.wikipedia.org/wiki/Reputational_damage
- https://www.businessinsider.com/banks-ai-cybersecurity-threats-hackers-generative-ai-2025-3

Appendix:
Tech Architecture

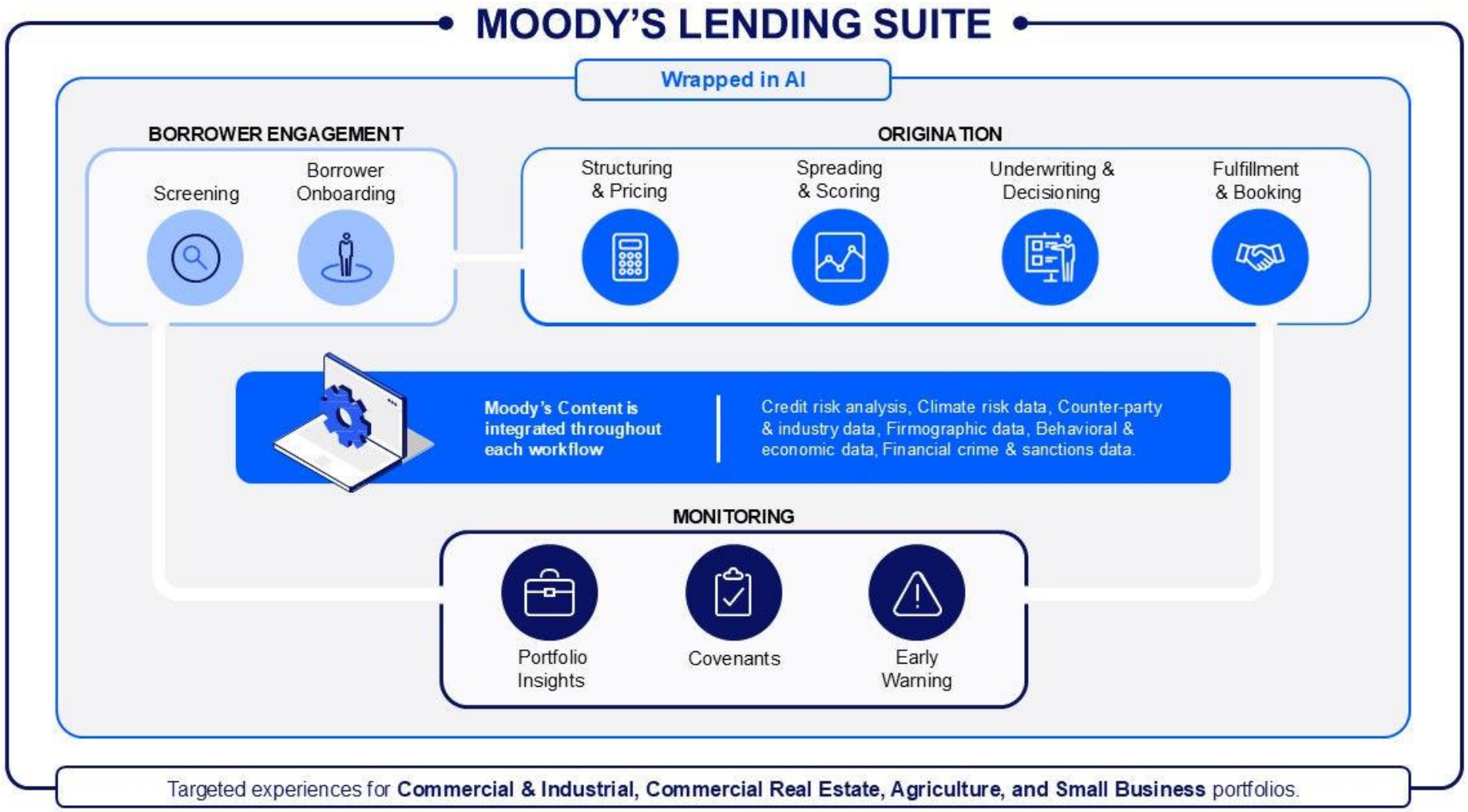

Client
Channels & Access
• Web • Mobile • Advisor desktop • Identity provider
Integration Layer
• API Gateway • ESB • Microservice wrappers
Core Banking Systems
• Legacy mainframes/On-prem transaction engines
• Deposits • Lending • Payments • GL
Analytics and Reporting
• Internal Risk Engines • BI • Compliance/Reg Reporting
Hybrid Infrastructure
• Private data centre • Private cloud • Public cloud(AWS)
Enterprise Data Layer
Ingest
(ETL/ELT • CDC/Streaming)
Store
(DW • Lake/Lakehouse)
Process
(Spark/SQL • Stream proc.)
Govern
(MDM • Catalog/Lineage • DQ/Privacy)
Security & Governance Overlay
APAC, EU, US
• Encryption • IAM • Monitoring • Lineage/Audit


Client
Enterprise Data Layer
Ingest
(ETL/ELT • CDC/Streaming)
Store
(DW • Lake/Lakehouse)
Process
(Spark/SQL • Stream proc.)
Govern
(MDM • Catalog/Lineage • DQ/Privacy)
Moody's SaaS
Lending Suite
(PG/LGD decisioning)
Credit Risk &
Early-Warning models
Channels & Access
• Web • Mobile • Advisor desktop • Identity provider
Integration Layer
• API Gateway • ESB • Microservice wrappers
Core Banking Systems
• Deposits • Legacy mainframes/On-prem transaction engines • Payments • GL • Lending
Analytics and Reporting
• Internal Risk Engines • BI • Compliance/Reg Reporting
Hybrid Infrastructure
• Private data centre • Private cloud • Public cloud(AWS)
Security & Governance Overlay
APAC, EU, US
• Lineage/Audit
• Monitoring
• IAM
• Encryption

Appendix: Moody's

Overview of Moody's CreditLens ™

This tool modernizes lending operations, which previously relied on manual underwriting, risk assessments, and structuring



Overview of Moody's PortfolioStudio™

This tool modernizes the Wealth and Asset Management Practice, which previously relied on manual analysis, measurement, and construction

Risk/return measurement	• Calculate risk measures such as internal, economic, regulatory capital • Evaluate shifts in credit quality • Understand correlations and concentrations • Conduct instrument-level analysis • Support pricing, hedging, selling, and structuring
Portfolio analytics	• Stress test portfolio resiliency and perform what-if analyses across all asset classes • Use different inputs and model assumptions to analyze the market risk of your portfolio through time allowing you to take proactive mitigation decisions • Easily articulate portfolio management strategies to stakeholders with robust reporting • Perform analysis on sustainability, physical and transition risks across your portfolios helping you test the impact on asset values
Concentration risk	• Detects and quantifies concentration risk across names and segments • Analyzes portfolio correlations using Moody's global model • Supports strategic credit and risk management decisions
Physical, transition and emerging risks	• Analyzes physical, transition, and emerging climate risks in credit portfolios • Quantifies impact on capital, provisions, and earnings under multiple scenarios • Enables scenario analysis, stress testing, and regulatory alignment
Portfolio optimization	• Scenario analysis and stress testing • Risk-based limit setting • What-if analysis • Portfolio optimization techniques

Overview of Moody's AXIS™ Actuarial System

This actuarial modeling tool modernizes the Insurance and Risk Solutions Practice, saving time for analysis, interpretation, and assessment

Pricing and product development	Capabilities include defining detailed product features by age and risk class, configuring distribution compensation structures, establishing reserve methods, capital targets, and tax assumptions, simulating sales illustrations, projecting earnings, calculating profitability and return metrics, and iteratively adjusting inputs to solve for target values.
Liability valuation	Capabilities include running multiple reserve calculations on in-force data—covering statutory, Solvency II, tax, public reporting, economic balance sheets, embedded values, options and guarantees, and capital requirements—while supporting multiple files, tracing reserve movements, and generating outputs for IFRS 17 and US GAAP LDTI.
Asset allocation and investment	Capabilities include importing investment data and projecting cash flows, asset movements, earnings, balance sheet values, and multiple accounting bases over long horizons, with support for structured finance assets through Moody's cash flow engine.
Risk and capital	Capabilities include supporting global regulatory capital frameworks (such as Solvency II, C-ROSS, NAIC, and Hong Kong RBC), modeling at policy, product, line of business, or entity level, projecting in-force portfolios and new business plans, and performing stochastic calculations at time zero or nested within projections.
Earnings and performance analysis	Capabilities include analyzing reserve margins by assumption, producing movement analysis reports, performing source of earnings analysis for projected and actual results, and conducting experience analysis against expectations to refine assumptions.
Business planning	Capabilities include projecting financials over long horizons with dynamic asset-liability interaction, calculating detailed cash flows, earnings on multiple bases, return metrics, embedded value, and risk measures, applying company-specific formulas, and performing sensitivity and stress testing for informed profitability and planning decisions.
Stress testing and ORSA	Capabilities include applying stress tests at company, product, or line-of-business levels; modeling deterministic and interacting scenarios; conducting reverse stress testing to quantify required assumption changes; and combining stresses with management actions such as reinsurance, repricing, investment strategies, hedging, or sales adjustments to assess impacts on profit, earnings, and capital.

Overview of Nice Actimize Features Relevant to Helios

Enterprise Fraud & AML Monitoring	24/7 monitoring of transactions across channels, with AI/ML-driven risk scoring to assess whether to block, delay, or allow activity in real time. Perfect for detecting payment fraud, account takeovers, and sophisticated threats.
Unified Alert & Case Management	A single platform consolidates alerts, visual relationships among entities, and workflows to prioritize and manage investigations efficiently.
Anti-Money Laundering Suite	Tools for KYC/CDD, watchlist screening, suspicious activity detection, and streamlined SAR filing—powered by AI/ML to lower false positives and improve accuracy.
Collective Intelligence & Model Transparency	Actimize leverages consortium-fed analytics—learning from peer institutions globally—while providing full visibility into model logic and governance to support regulator audits.
Visual Analytics & Open Analytics	Business-friendly dashboards and self-service analytics let users visualize risk trends in real time and configure rules or workflows without IT bottlenecks.
AI-Enhanced Fraud Investigations	Their newer solution integrates generative AI to automate fraud investigations—from detection to case resolution, including auto-populating SARs and streamlining claims processes.