The Next Wave of Digital Transformation in the Banking, Financial, and Insurance Sectors

A Whitepaper

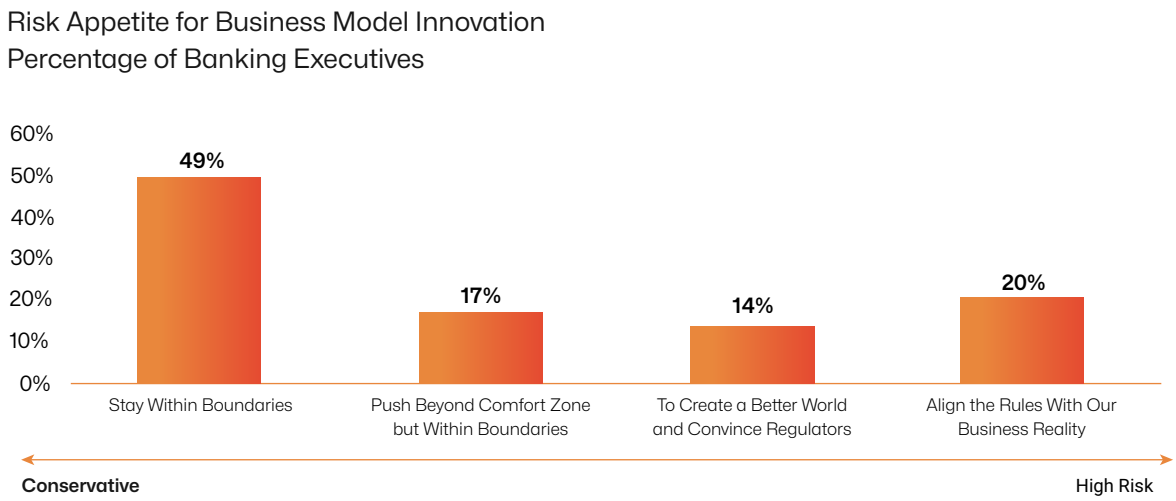
Leaders in the banking, financial, and insurance sectors have been on a journey to operationalize their digital transformation ambitions for well over a decade. Now, according to Gartner's research, 46% of all financial services industry organizations (FSIs) are already scaling and refining their digital business initiatives.

Meanwhile, the pace of technological change and scale of disruption show no signs of slowing. The businesses that emerge as winners will be those that view digitalization not as an exercise to go through but as something that never ends. And the time to act is now.

Success requires players in these sectors to be bold, adaptive, creative, and perhaps most importantly, resilient.

Digital transformation remains elusive as leaders focus mostly on optimization

An increasing number of financial institutions are investing in artificial intelligence and open banking. But leaders are still very conservative with their approach to business model innovation.



n=35 Banking Executives

Q.Which statement best describes or comes closest to your organization's risk appetite for business model in order to drive digital transformation?

Source: Gartner 2020 View from the Borad of Directors Survey

Becoming a truly digitally "primed" and resilient FSI business requires diligent practice and continuous exploration. It's an ongoing process that leverages outcomes-based innovation and iteration to optimize and differentiate the firm in the face of fierce competition – all while minimizing risk and keeping costs under control.

In this paper, we'll explore some of the forces in play that are shaping the future of digitalization in the banking, financial, and insurance sectors, the emerging technologies that are enabling the next frontier of transformation, and the strategies and tools that forward-looking business leaders should leverage as they chart their course forward.

How Did We Get Here?

When considering the next wave of digital enablement and innovation in the financial services industry, it's helpful to look at some of the key social and macroeconomic trends in play.

Over the last year, several compelling and sometimes conflicting forces have converged, leaving leaders of FSI businesses of all sizes contemplating how best to navigate the next frontier of digital transformation.

The Forces in Play

The pandemic accelerated the digital transformation imperative on several levels. Notably, it left a lasting impact on consumer preferences and behaviors – which means FSI businesses need to change with them.

Today, over three-quarters of US consumers say they prefer to conduct their banking through digital channels. Of these, 41% prefer to use mobile apps, while 37% choose to use their financial institution's website to transact. And according to Forrester Research, digital (online and mobile) are the top channels through which US borrowers purchase home loans.

Meanwhile, the disruption caused by FinTechs and digital giants continues to intensify. New competitors are turning the traditional FSI market on its head through technology innovation and distribution. We can expect them to continue their steady march into the realm of financial services, flooding the market with faster, better, and cheaper services and forever altering the competitive landscape, according to a Forrester report.

Traditional firms need to develop and formalize their position on FinTechs, understand how they represent a potential threat, evaluate their options for engagement, and determine whether partnering with them is a smart and viable option.While always high on the business agenda, cybersecurity will be elevated to the top of FSI firms' strategic priorities in the year ahead.

Acts of cybercrime against financial services organizations – and their customers – will continue to rise.

One of the reasons is that over the last year, ubiquitous connectivity, remote working arrangements, and the ongoing adoption of cloud computing solutions (which exist side-by-side with traditional on-premises infrastructure and workloads in many organizations) have heightened the attack surface in most FSI organizations.

These recent statistics highlight the scope and severity of the risk:

- The average financial services employee has 11 million files available to them, while employees of larger FSI organizations can access 20 million files.
- Because of the increasing number of cyber-attacks on the financial sector, 70% of financial organizations rank cybersecurity as their biggest concern.

90% of respondents said they were concerned about the potential of banking or credit fraud as banking and credit become more digital.

Now, FSI firms need an actionable end-to-end strategy to prevent account takeovers, deter new account fraud, and stop suspicious payment transactions in their tracks.

To **effectively respond** to these market dynamics, they need to enhance their core digital capabilities in innovative ways to address changing customer needs, competitive and cyber-threats, and economic conditions.

5 Trends to Watch in 2022 and Beyond

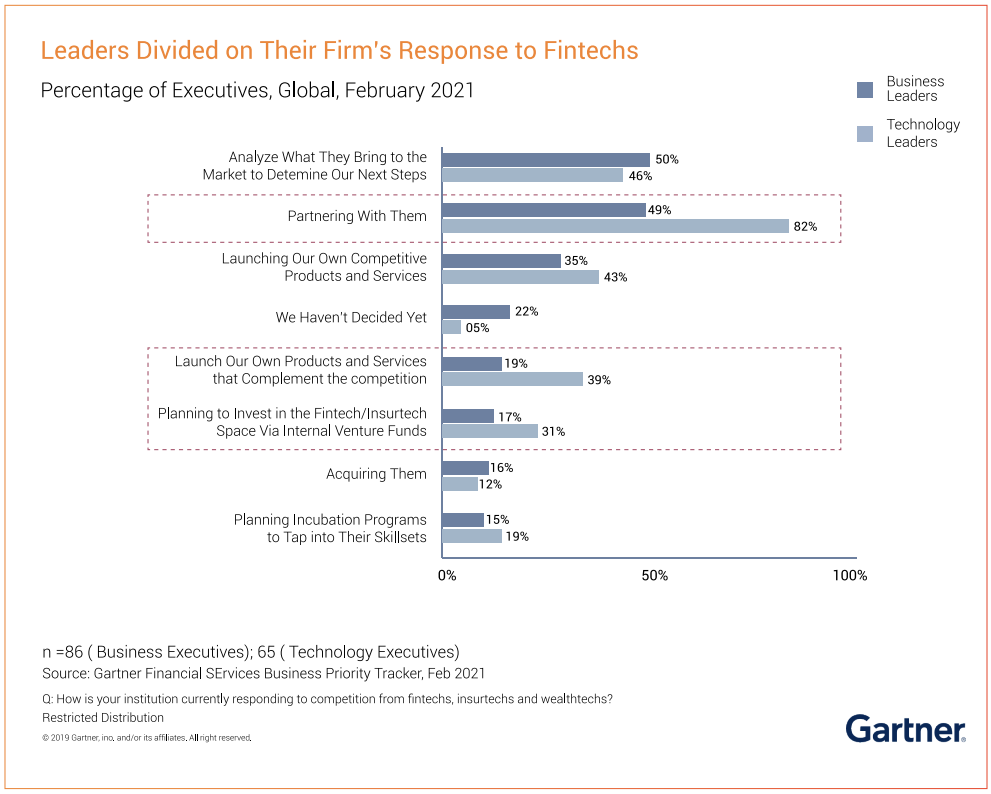
At Indium, we see five key trends that we believe will shape the future of FSI in 2022 and identified the enabling transformative technologies on which players in this sector should consider capitalizing.

Trend 1: FinTech versus Traditional Banking: Partnering Will Move Front and Center

FinTechs, digital lenders and payment platforms, crypto assets, and neobanks. All these asset-light disruptors continue to make inroads into the world of financial services, leaving many traditional banks contemplating their next move. Last year, FinTechs brought in over $90 billion in funding, more than double what they brought in collectively in 2020.

To further illustrate just what a force to be reckoned with FinTechs are, consider these figures:

- Since the outbreak of the pandemic, 42% of Americans have used at least one FinTech platform.
- People are downloading financial software 26% more often.
- It's predicted that the global Fintech market will grow to $31.5 billion by 2026 – almost four times the size it was six years earlier.



Naturally, incumbent FSI players are taking notice. According to Gartner, some 77% of FSI leaders expect "significant or substantial industry transformation over the next five years." In 2022, we can expect to see established FSI firms continuing to evolve their approaches to keep pace, retain their market share, and remain relevant.

For traditional banks, the emergence and proliferation of FinTechs and other digital FSI disruptors is seen by some as a threat but by others as a major opportunity.

Let's consider two strategies we predict moving to the fore in the year ahead.

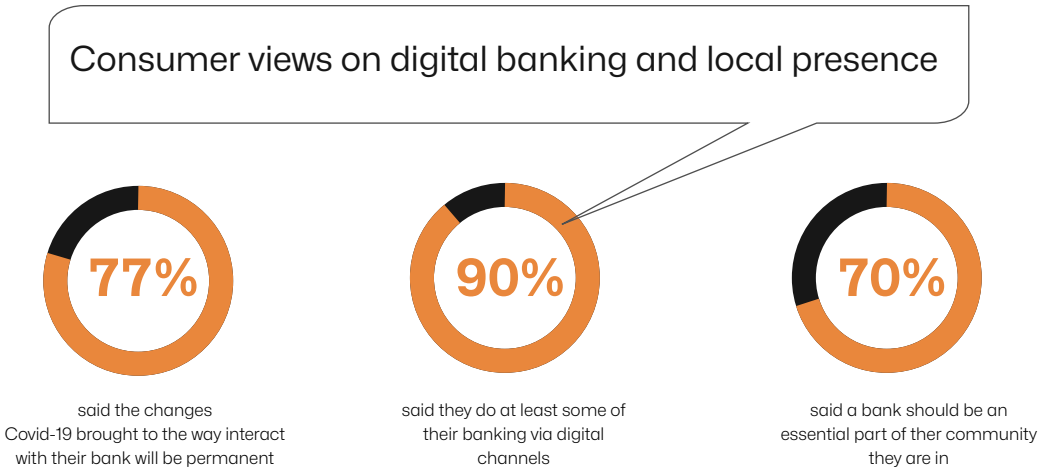
The Resurrection of the Physical Branch

In 2022, one of the ways we can expect to see traditional banks responding is by refocusing and reinvesting in their traditional bricks and mortar branches. This strategy is being driven in recognition of the fact that many people (about one in three, according to recent research) still like to conduct some business at a physical branch due to factors including trust and lack of personalized experiences.

Traditional banking players will use this to their advantage, positioning their physical bank branches to complement rather than duplicate services that are available through digital channels. Specifically, they'll gear their branches to support customers with more complex financial services and as a mechanism to deepen and enrich customer relationships.

The findings of recent research bear this out: "While it's still essential to invest in digital banking capabilities, focusing on experiential components and putting humans at the center of customer experience (CX) is a priority. Even with the current tech revolution, digital technology won't replace the need for human expertise.

Nor will it diminish the important role banks play in the communities they serve."



We'll also see them leveraging digital solutions to support these efforts. **New technologies** such as virtual queuing systems and appointment scheduling software can create better in-branch experiences for customers.

Win-Win-Win Partnering Strategies

The second area where we can expect to see activity is around partnering.

When we examine the rationale behind the latest partnering strategies, things get quite interesting. Now, FSIs of all sizes are increasingly looking at partnerships and/or acquisitions as a means to replicate the digital capabilities of FinTechs.

This strategy is aimed at augmenting the incumbent player's offerings, for example, by extending the firm's existing digital banking capabilities to third-party services such as financial wellness and credit monitoring.

These promise to be compelling and complementary partnerships that benefit all the stakeholders involved. The traditional bank secures more customers; the FinTechs and their network of technology partners can leverage the traditional bank's extensive customer base to sign up new end users; and customers have more options to diversify their financial experience – all from a single provider.

For established banks, partnering with FinTechs will be critical when it comes to winning the innovation race and remaining commercially viable over the longer

Trend 2: Machine Learning Will Make More Waves

Machine learning is being employed in the finance industry in many useful ways – largely due to the high volume of historical and real-time financial data generated in the industry. Some of the applications of machine learning in finance to watch in 2022 include:

Algorithmic Trading

Algorithmic trading – also referred to as "algo trade" – involves the use of algorithms to conduct trades autonomously. With this approach, traders can "automate away" the time and effort involved in certain processes, thereby securing a competitive advantage for their firm.

Computers execute programs with a predetermined set of instructions (the algorithm) for placing a trade on behalf of a trader. These instructions usually involve parameters like timing, price, or quantity. Algorithmic trading allows large orders to be executed by sending small increments of the order, called "child orders," to the market at regular intervals.

In addition to making it possible to operate in multiple markets – which increases a firm's trading opportunities – this approach eliminates the emotional element involved in trading. The algorithms can learn and adapt to real-time changes without the human factor influencing decisions. Ultimately, it's more efficient and promises to deliver more value to investors.

The global algorithmic trading market reached a value of $12 billion in 2020 and is expected to grow at a CAGR of around 10% during 2021–2026.

Risk Management

Insurers and financial institutions depend on accurate market forecasts. Increasingly, financial markets are harnessing the power of machine learning to use current data to identify trends, better predict risks on the horizon, take pre-emptive action, and/or advise clients of these potential risks well before such events hit the news or social media.

Some approaches involve using natural language processing (NLP) to identify and track relevant information, building on past successes and mistakes with every new search.

Trade Settlements

Trade settlement is the practice of transferring securities into the account of a buyer and cash into the seller's account following stock trades. Due to the high volume of such trades every day, a large proportion aren't settled automatically and have to be manually processed. Machine learning can simplify and expedite this process.

Machine learning can also auto-identify the reason for failed trades, analyze why they were rejected, offer up a solution, and predict which types of trades could fail in the future.

Robo-advisors

Robo-advisors are online applications that provide automated financial guidance and service. They automatically establish and manage a client's investment portfolio. This simplifies the investment process, which can be confusing for some. Since robo-advisors began appearing around 2008, they've continued to grow in popularity and acceptance and may soon manage more than $1 trillion of Americans' wealth. The global robo-advisory market share is expected to grow from $18.71 billion in 2021 to $28.10 billion in 2022 at a compound annual growth rate (CAGR) of 50.20%.

Robo-advisors can allocate assets across a range of investment options (e.g., stocks, bonds, real estate) based on a client's specific goals and risk tolerance profile and monitor and periodically rebalance their portfolios. For investors, this approach is generally much more affordable than consulting a human financial advisor, and many robo-advisors don't require account minimums or have very low ones.

Trend 3: Banking Will Enter the Subscription-based Economy

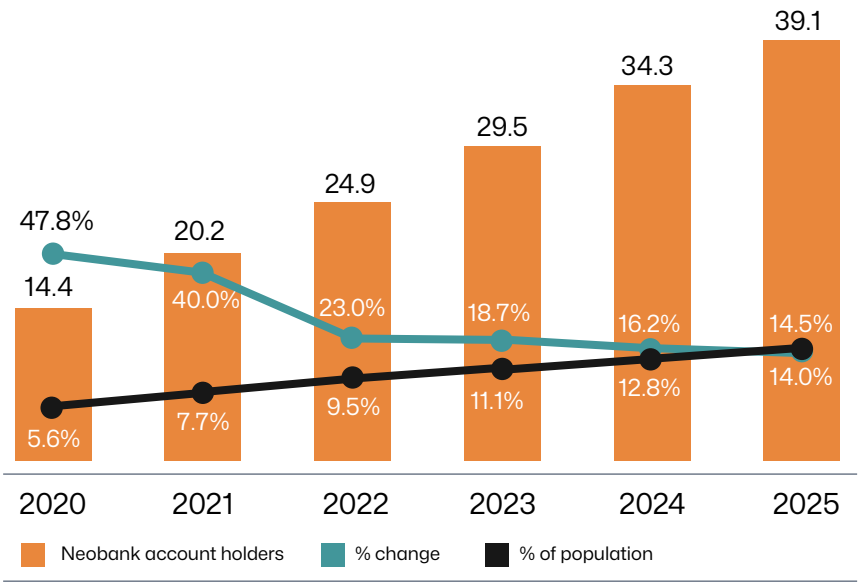
In our first trend, we explored some of the strategies that traditional banks are adopting to defend against the threat posed by FinTechs. Another interesting and related trend we see coming to the fore in the year ahead is the move to subscription-based banking services.

Fees Give Way to Subscriptions

We expect more traditional banks to start capitalizing on the **subscription economy,** following in the footsteps of **"neobanks"** that are seizing market share by adopting this innovative operating model.

US Neobank Account Holders, 2020 - 2025

millions, % change, and



Note: individuals who hold at least one account at an independent, digitally native digital-only bank that either has a banking license or operations on a licensed bank's platform (such as Chime or Varo in the Us, Monzo in the UK and Koho in Canada)
Source: Insider Intellihence, May 2021

Neobanks offer their customers subscriptions or membership plans in return for certain services and participation in reward programs.

These banks are reinventing the concept of bank fees –presenting them as subscriptions that give consumers the convenience and security of predictable costs and protection from unexpected charges that can sometimes interfere with their financial plans.

We believe that traditional banks would do well to make inroads into this area. It's well-accepted that most people see their regular monthly account maintenance or overdraft fees as a "necessarily evil" associated with holding bank accounts. A subscription-based model represents an opportunity to foster goodwill among a bank's customer base, thereby increasing the chances of longer-term loyalty.

The Rise of "Buy Now Pay Later"

A related trend that's set to see increasing interest in 2022 is the "Buy Now, Pay Later" (BNPL) model. Over the last two years, the BNPL payment market has grown exponentially, and adoption is expected to continue to grow steadily. The BNPL market value is expected to increase from $49296.0 million in 2021 to $443781.4 million by 2028.

There are compelling reasons for the rapid recent growth in popularity of this model. The global pandemic resulted in many consumers being hard hit financially, and many households are still recovering. The option of splitting the cost of purchases over a period of time is attractive to those who might be struggling to manage their cash flow.

BNPL solutions offer customers financial transparency, no added fees, installment plans, and a welcome alternative to traditional crediting. Clearly, it represents a great opportunity for traditional banks to introduce new sources of value to their customers.

Client Success Story

Predictive Data Analytics and Data Visualization Delivers Diverse, Comprehensive, and 98% Accurate Company Stock Data for FinTech Leader

Our client, a FinTech company, needed an analytics development partner to create a solution that would take publicly available information about companies, analyze their past performance, and project the future growth potential.

The Challenge

They needed a better way to constantly value and comprehensively track the array of stocks on their watchlist on an immediate basis – an impossibility without the proper crawling, automation, and analytics infrastructure.

The Solution

Indium's solution gathered every piece of available public information (ranging from stock exchange releases, press releases, third-party investment sources, domain-specific sources, news sources, etc.). It analyzed companies' past performance and growth potential using highly sophisticated algorithms and advanced predictive analytics.

The Outcomes

The tools and techniques implemented by Indium helped the client in building an automated, robust data collection routine. Despite scraping from multiple data sources, the data was standardized. Unstructured data was cleaned for removing inconsistencies, and unwanted noise resulting in organized SQL table storage was eliminated. Using statistical techniques such as Power Law and Levenshtein Distance, data was crunched in such a way that more than 98% accuracy in prediction was achieved during the analysis.

Read the full case study here.

Trend 4: Biometrics will Bolster Cyber-resilience

The world of banking, insurance, and financial services is built on risk management and is subject to extensive and often complex state and federal legislation. As the pandemic took hold, opportunistic cybercriminals were quick to exploit the crisis for their own nefarious purposes. During 2020, cyberattacks and identity fraud losses increased dramatically asremote work became the norm.

One study found that banks worldwide saw a 238% jump in cyberattacks between February and April 2020. Another revealed that identity fraud losses rose to a staggering $56 billion that same year as cybercriminals used stolen personal information to harvest synthetic identities. While taking steps to minimize the possibility of fraud is a welcome move, FSI organizations must also try to avoid making life more difficult for their customers.

In response to the increasing levels of acts of cybercrime against their industry, forward-looking FSI businesses upped their investment and deployment of biometrics to bolster their level of protection without unduly impacting their customers' experience – a trend we see continuing in 2022.

How Biometrics Builds Cyber-resilience

Biometrics technology lays the foundation for a more secure banking environment by reducing the potential for identity fraud, establishing audit trails for transactions, and better shielding sensitive financial data from compromise or unauthorized access.

The rise in the popularity of biometrics is also being driven by the weakness of traditional security measures such as PINs, passwords, and tokens to protect users and institutions against the growing sophistication of intruder attacks. What's more, biometrics technologies can be deployed remotely and quickly to authenticate people's identities so they can carry out their banking and insurance activities without visiting a branch, if they so wish.

Security experts view facial recognition techniques that leverage tested AI-trained algorithms as among the most secure and efficient means of authentication available today. Facial recognition is deemed as being even more secure and effective than fingerprints, which can be replicated by devious threat actors.

And now, the biometrics market is booming: The market in the financial services and banking sector is estimated at $999.3 million in just the US alone.

The Future of Frictionless Fraud Protection

In the year ahead, advances in behavioral biometrics promise to make this technology an even more compelling anti-fraud mechanism. Behavioral biometrics helps organizations rely less heavily on time-consuming authentication processes because it validates users according to how they behave.

By recognizing each individual user's behavior without looking at their personal information, By recognizing each individual user's behavior without looking at their personal information, FSI companies can automatically remove friction to create a more seamless process for the customer. The most advanced behavioral biometrics technology builds user profiles based on hundreds of inherent behaviors.

Given that some identity-based security attacks are successful because they mimic human behavior and are able to bypass bot-detection tools, the best behavioral biometrics technologies include "passive" parameters such as an individual's typing cadence or even the way they hold their phone.

Trend 5: Tech-enabled FSI Employee Learning and Development Will Be an Imperative

Investing in technological innovation and tools alone won't be good enough in the year ahead. FSI firms also need to invest in the people to make it happen. Now, more than ever, they need employees who can innovate, collaborate, adapt, and persevere.

Don't Neglect the "People" Aspects of Digital Transformation

Building resilient digital banking operations requires a significant level of input from people, especially technology specialists such as software engineers and data scientists, but also customer-facing personnel.

In a labor market that's tighter than ever, adaptiveness will be key. Many FSI companies will have to upskill or even retrain existing employees if they hope to achieve their digital transformation objectives.

A Forrester case study on Standard Chartered Bank highlights how the bank placed emphasis on reskilling both its business and technology teams as part of its digital transformation journey. Innovation is now being delivered much faster within the bank because cross-functional teams with shared accountability are in place.

To accelerate the speed of learning and optimize knowledge retention, FSI firms should invest in digital platforms that make learning available to employees on-demand and deliver timely, relevant, and data-driven coaching and training. Ideally, these initiatives should include advancements like Augmented Reality (AR), Virtual Reality (VR), and Artificial Intelligence (AI) so that employees provide customers with the engaging, differentiated experiences they've come to expect.

This training might take the form of interactive lessons that include embedded roleplay sessions or playbooks based on real-world customer interaction scenarios. Analytics embedded in training modules can provide learners with instant recommendations on what to do or say at different stages of the engagement.

Building a Digitally-driven Cultureof Continuous Learning

The highly competitive world of financial services means firms must invest in their teams so they can stand out and make a difference. The best way to do this is to foster a culture of continuous learning underpinned by an easy-to-use digital training and coaching system.

This way, firms will ensure that every employee is armed with the knowledge they need to excel and build more effective customer relationships today, but also hone their skills throughout their careers.

Closing Thoughts

As we move through 2022, FSI companies looking to execute a holistic digital transformation strategy need to focus on operational excellence, digitally-driven innovation, holistic risk management, the customer experience, and a culture of continuous learning.

Their desired business outcomes will remain out of reach if digital transformation is approached in an unstructured and uncoordinated manner. Only once there's clarity and alignment among all involved stakeholders will it be possible to navigate the transformation roadmap through the thoughtful, creative, and iterative use of technology.

Get this right, and you'll earn the right not just to play, but to win.

How Can We Help?

Indium is a leading provider of digital engineering solutions with deep expertise in application engineering, cloud engineering, data and analytics, DevOps, Digital Assurance, and Gaming.

Increasingly, our clients in the banking, finance, and insurance sectors are engaging us for services and support in the following areas:

API/Microservices-based Development

The constant evolution of digital technology requires financial services organizations to launch web applications with a consistent user experience. It's important that these businesses support mobility and seamless access to data by regularly upgrading their technology.

Indium's rapid application development strategies involve regular reviews and mid-way course corrections wherever required. This flexibility allows us to provide quality products on time and at competitive costs.

Financial services organizations of all sizes use our API and microservices capability to maximize their growth through rapid application development. With Indium at your side, you can integrate cloud-native attributes and microservices/APIs to make your applications agile and accessible.

Analyzing and Modernizing Data Stacks

The probability of your financial services organization storing outdated or irrelevant "dark data" is pretty high. Dark data is data that is not used and can be from multiple sources such as connected devices and data from transactions, social media, and more. It is likely that you are creating a "data exhaust" if you're already using AI technologies and automation.

Are you waiting to uncover the hidden opportunities? Imagine intelligent technologies being fuelled by a continual stream of insights. Quicker, smarter decisions to accelerate innovation or 360-degree customer views to boost relevance and revenue.

Indium's Data Analytics service can empower you to do that. Indium offers a comprehensive suite of data analytics solutions and insights-related services to enterprises seeking to maximize the value of their data. We analyze data and generate valuable insights from data using advanced analytics techniques and our expertise in cutting-edge technology.

ML and ML Ops

Incorporating MLOps for ML projects helps financial services organizations speed up development and time-to-market thanks to:

Improved Productivity: Data engineers and data scientists get access to curated data sets in self-service environments that speed up the development process.

Repeatability: Automating the MLDC process such as training, evaluation, versioning, and deployment of the model increases repeatability and accelerates ML development.

Reliability: The speed of deployment, quality, and consistency increase by incorporating CI/CD practices.

Auditability: Tracking and auditing models and how they were built and deployed becomes easy due to the versioning of all inputs and outputs, be it data science experiments, source data, or trained models.

Data Governance: Data governance and implementing policies to prevent model bias becomes easier with MLOps as it allows tracking changes to data statistical properties and model quality over time.

Low Code

Uncertainty is a fact in business. As we've explored in this paper, today, many financial services organizations encounter situations where they need to experiment and validate ideas, often without a clear understanding of the end results. Such low complex experiments are clearly necessary before embarking on full-blown projects.

Low code-based applications that can be built economically and in very short duration is the choice of financial services firms under these circumstances – whether the need is to build mobile apps, workflows, and validating hypothesis from organizational data, to name a few.

Indium, with its 150+ experienced low code developers with experience across a wide spectrum of vertical and functional needs, can help you further reduce time and cost, making this powerful low-code technology work for your financial services business so that you can keep experimenting and innovating.

End-to-End Digital Transformation Testing and QA

Cloud and digital technologies have introduced immense complexity in the SDLC, such as continuous integration and development, agility, operations, and more. With this, the scope of Quality Assurance has increased significantly to deliver not just functionality but also a consistent user experience across digital devices, channels, and geographies for your customers.

The only way to embark on digital transformation then is to build these testing and assurance capabilities, either in-house or through a reliable partner with advanced practices and techniques that can optimize all aspects of the testing cycle – from discovery to maintenance.

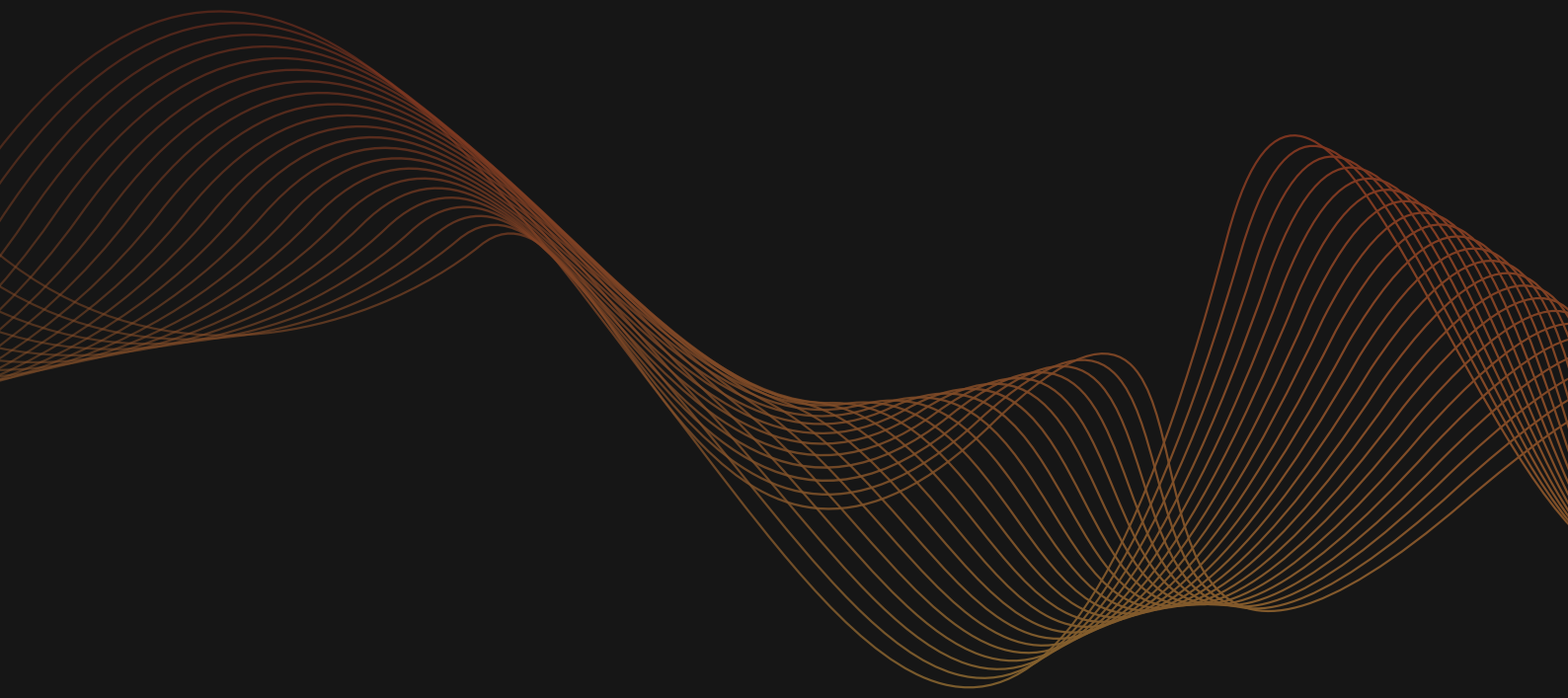
With 20+ years of QA and testing experience, Indium has been helping clients in the financial services sector make technology work by providing end-to-end assurance services, now evolved for the digital business so that you can confidently deliver those rich digital moments to your customers.

Our Differentiators

Indium's key differentiators are its specialization in low code development, AI-driven text analytics, and partnerships with tech companies such as Mendix, AWS, Denodo, and Striim. Indium has a global presence with key focus in the US, UK, APAC, and India, with around 2,000 associates and clients ranging from leading ISVs to large enterprises.

Industry advocates, namely Forbes, Dun & Bradstreet, and Clutch, have recognized us as trusted digital engineering partners for innovative startups and visionary enterprises.

Get in touch to learn how more about how our suite of technology solutions can benefit your business.



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About Indium

Indium is an AI-driven digital engineering company that helps enterprises build, scale, and innovate with cutting-edge technology. We specialize in custom solutions, ensuring every engagement is tailored to business needs with a relentless customer-first approach. Our expertise spans Generative AI, Product Engineering, Intelligent Automation, Data & AI, Quality Engineering, and Gaming, delivering high-impact solutions that drive real business impact.

With 5,000+ associates globally, we partner with Fortune 500, Global 2000, and leading technology firms across Financial Services, Healthcare, Manufacturing, Retail, and Technology–driving impact in North America, India, the UK, Singapore, Australia, and Japan to keep businesses ahead in an AI-first world.

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