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# Elevating the Exchange

Your guide to bringing digital  
infrastructure to the next level



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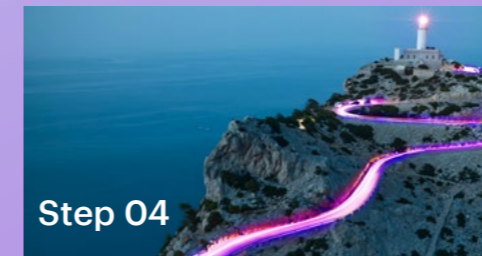
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## Executive summary

The last industry-wide technology revolution for securities exchanges occurred in the early 2000s, when exchanges moved to reduce execution latency to milliseconds by implementing electronic trading systems. Today, exchanges are entering a second industry-wide technology revolution, driven by the pressure to modernize their business across both primary and secondary markets.

To see why, start by looking at profit margins on exchanges' traditional fee-based income, which have steadily declined over the past decade, as operating expenses have risen, and competition has intensified. Many established exchanges are also dealing with operational efficiency challenges stemming from outdated infrastructures. In addition, the rapid increase of private capital poses a threat to exchanges of all stripes, as companies enjoy more alternatives to meet their fundraising needs.

To navigate these major changes to their industry, exchanges will need to embrace reinvention—a deliberate strategy of ongoing transformation, one that takes a proactive approach to setting new performance frontiers and to unlocking new value. This report, drawing on our industry insights, client work and primary research, identifies four crucial steps of successful reinvention for exchanges:

Step 1:

**Design a simpler, fully integrated and modernized technology architecture.**

Step 2:

**Turn this new architecture into reality with cloud.**

Step 3:

**Harness the power of generative AI and distributed ledger technology to bolster client experiences and operational efficiency.**

Step 4:

**Tap new sources of revenue through product innovation and non-traditional services.**

Successful reinvention will, of course, require not only technological advance, but also dedicated management buy-in, talent development and an agile organizational culture. Exchanges that start their transformation now would be best positioned to thrive in the digital capital markets of tomorrow.



# Big challenges— and opportunities

**Exchanges worldwide are under pressure to reinvent their business across both the primary and secondary markets.**

This pressure is coming from different directions. For example, the number of total listed equities per exchange has only seen limited growth in recent years, while fee-based income margins are being squeezed by intensifying competition.

As Figure 1 shows, the average number of total equities listings on stock exchanges around the world remained stagnant between 2019 and 2023 and dropped by roughly 3% in 2023.

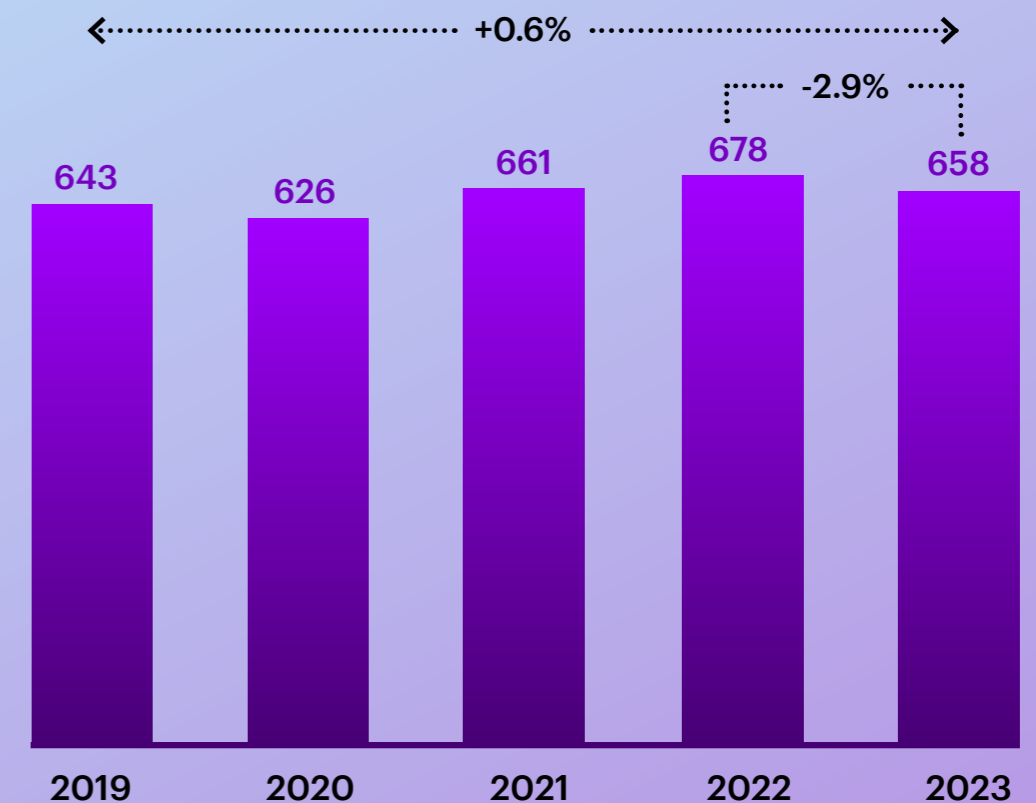
Over the past decade, exchanges have seen their revenues rise from traditional fee-based lines like trading and issuance, but operating expenses have grown even faster.

Figure 2—which incorporates data from 17 leading exchanges—shows how the traditional business of exchanges (notably listings and trading services) saw profit margins collapse by almost 80% over the past 10 years (down 31 percentage points from the high).

Yet during the same period, exchanges' overall margins contracted by a smaller amount (down 11 percentage points from the high), thanks to other revenue generated by non-traditional business, such as data monetization, technology provisioning, and analytics services.

**Figure 1** Struggling for growth

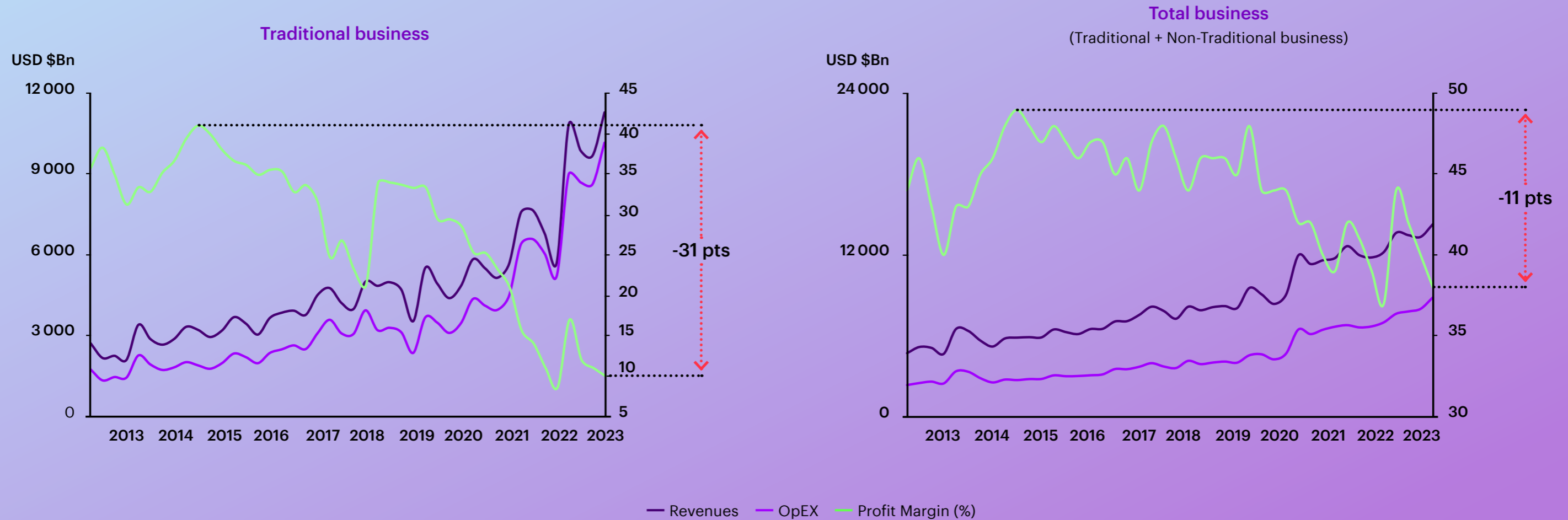
Average number of total equity listings per exchange worldwide



Source: Accenture Research analysis of data from the World Federation of Exchanges.

**Figure 2** Hurting at the margin

Profit margins for exchanges' traditional business



Source: Accenture Research analysis of data from S&P Capital IQ of 17 leading global exchanges.

A competitive threat to many exchanges' primary business comes today also from private equity, which according to PitchBook, has seen a quadrupling of assets under management globally since 2010<sup>1</sup>. Such private capital offers companies the possibility of staying private longer and raising funds with—usually—more flexible terms than those available in the public markets.

It is however notable that in the exchange business, size is not necessarily a prerequisite for a high profit margin. Our research shows that there are also smaller exchanges, especially in emerging markets, which are achieving high net margins (Figure 3).

But faced with the challenges outlined above, exchanges will need to improve their operational efficiency and find additional sources of revenue. The good news is that even as margins are squeezed, new offerings—such as digital assets and environmental, social and governance (ESG) data services—are opening up growth opportunities.

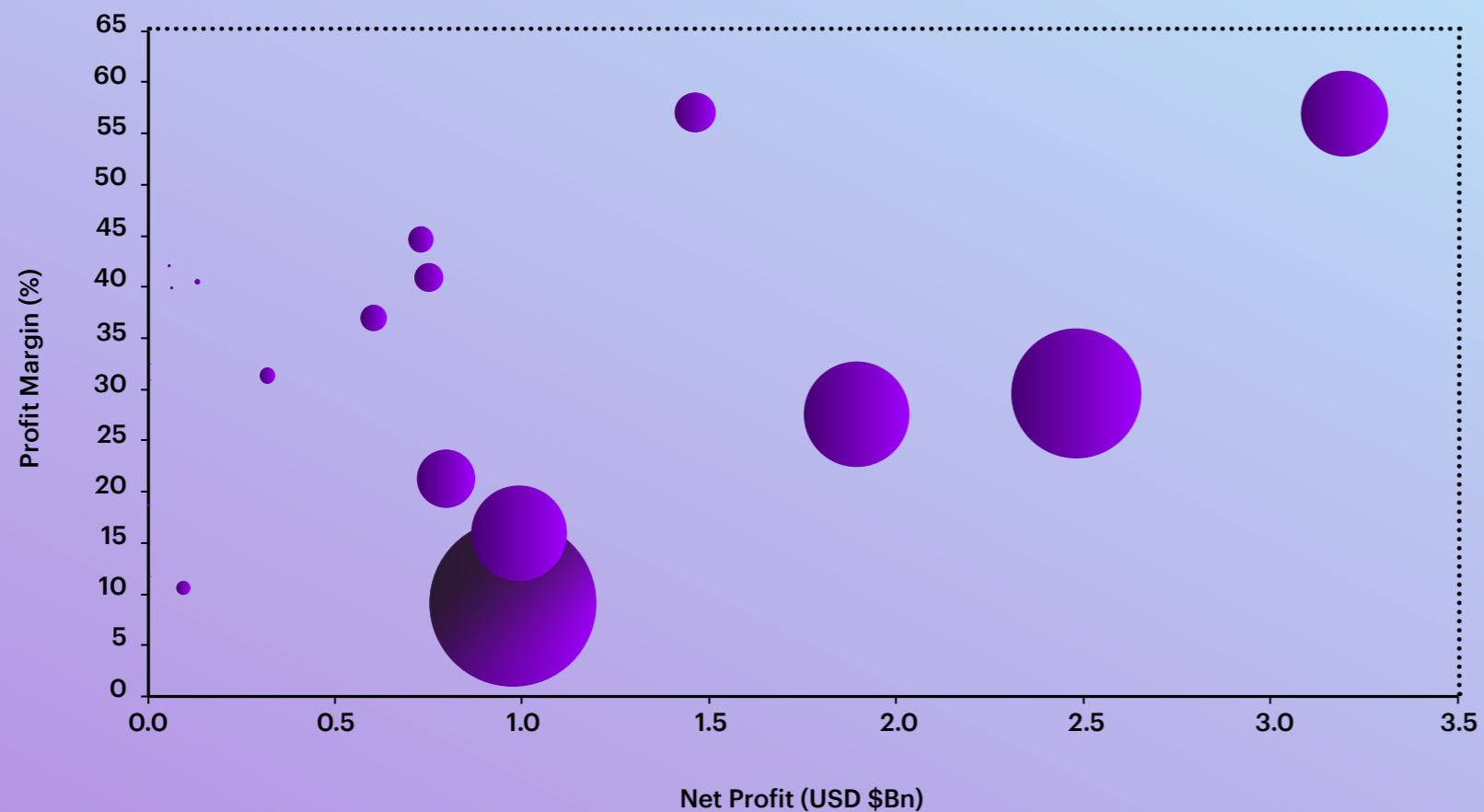
At the same time, realizing these new offerings is not a given. Exchanges are exposed to competition in parts of their businesses from nimble upstarts; the latter's agile operating models and cloud-native, application programming interface (API)-driven architectures often enable them to turn a product or service from idea into reality faster than do most incumbents.





**Figure 3** Bigger isn't always more profitable

Profit margin versus net profit of 17 leading exchanges, 2023



Source: Accenture Research analysis of data from S&P Capital IQ. The bigger the bubble, the greater the exchange's revenue.

Mostly, those upstarts have also built their business on top of a modern “digital core”—the critical technology capability that can create and empower an organization’s unique reinvention ambitions.

In the light of a changing industry context and landscape, exchanges large and small will need to embrace what Accenture calls “reinvention”—a deliberate strategy of ongoing transformation, one that takes a proactive approach to setting new performance frontiers, navigating industry shifts of all kinds and unlocking new value.

In the rest of this report, we describe four key steps that exchanges could prioritize in order to thrive in the digital capital markets of tomorrow and beyond.



Step 1:  
**Simplifying and  
modernizing tech**

**To thrive amid increased competition and capture the value of emerging technologies like generative AI, exchanges need a digital core that is reinvention ready.**

Such a fit-for-purpose digital core allows an organization to achieve its ambitions in the most efficient fashion, using the right mix of cloud practices for agility and innovation; data and AI for differentiation; and applications and platforms to accelerate growth, next-generation experiences and optimized operations—with security by design at every level.

For an exchange, building a digital core involves integrating advanced digital platforms such as pre-trade, trading and post-trade systems, as well as creating a secure digital foundation with a seamless data and AI backbone (Figure 4). While we recognize that a holistic integration

strategy and enhanced visibility are also key foundations of a digital core and are applicable to exchanges, we don't focus on them here (for a detailed discussion of these topics, see Accenture's [“Reinventing with a Digital Core: How to accelerate growth through change”](#)).

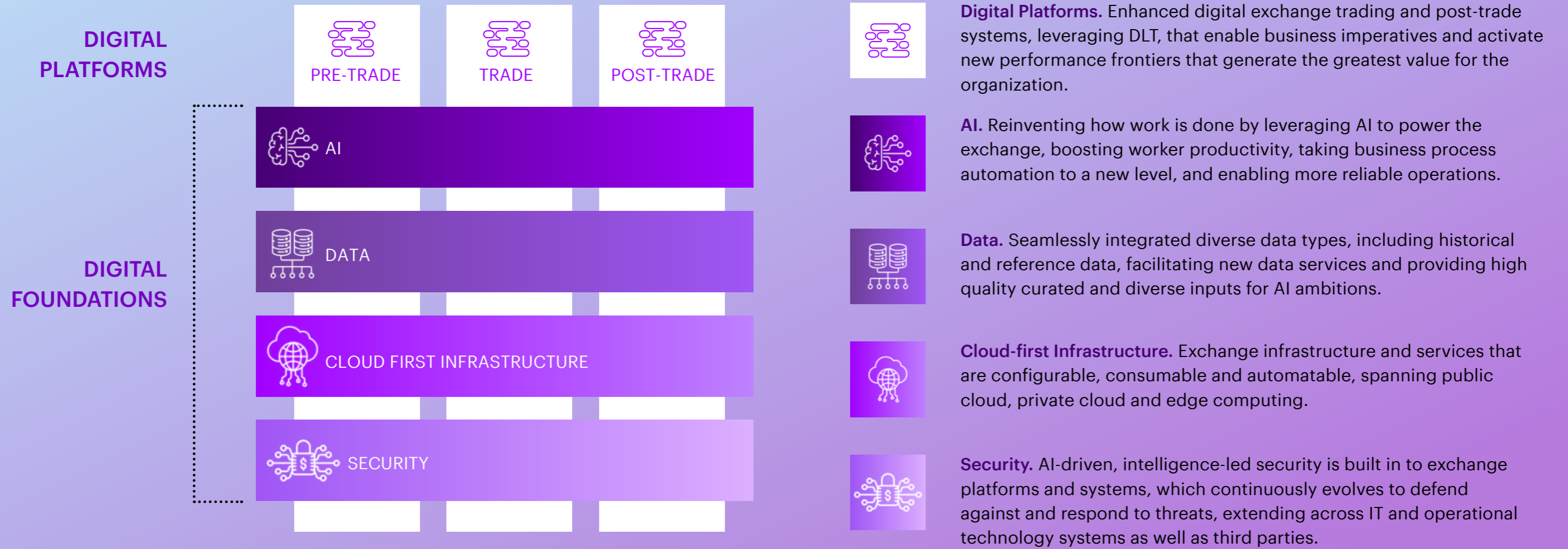
### **Exchanges require a strong digital core for numerous reasons.**

Many exchanges, for instance, operate and offer today multiple digital platforms and systems in silos, resulting in a range of issues, including high total cost of ownership; operational complexity; increased risk and security vulnerabilities; slow innovation and response to market changes; difficulty in leveraging data for insights and missed opportunities for cross-selling or product bundling.



**Figure 4** The fabulous core

Key components of a digital core for exchanges



Source: Adapted from "Reinventing with a Digital Core: How to accelerate growth through change", Accenture 2024.



Centralizing these systems around a robust digital core could significantly boost efficiency and streamline operations. Additionally, exchanges can strengthen their data and AI capabilities by developing platforms that seamlessly integrate diverse data types, including historical and reference data, as well as by leveraging digital foundation technologies such as cloud.

**The close relationship between the digital foundation and platforms is underlined by the way some exchanges are becoming technology providers through licensing their trading systems.**

For instance, some exchanges have progressed toward offering software-as-a-service solutions, potentially followed by platform-as-a-service and API-driven market infrastructure and data services. Such as-a-service models provide their users with predictable costs and limit the need for upfront investment, while providing exchanges with more predictable revenue streams.

To learn more about how stock exchanges are using modern technology (and how they are adapting to industry change overall), we conducted a series of in-depth interviews with executives at major exchanges around the world. All of our interviewees confirmed that their respective exchanges' strategic objectives (including expanding into non-traditional services) require them to

modernize their technology—a process that some of these exchanges have already begun.

Indeed, in our recent work with clients, we have seen some of these tech-modernization efforts. For example, a global exchange embarked on a multi-year strategy to integrate public cloud into its infrastructure, with the goal of running 70% of all workloads on the cloud. To achieve this, the exchange needed to design functional and technical processes and ensure high security across its cloud platform. Progress was swift:

**Within the first year, the exchange successfully migrated 30% of its workloads to the cloud.**

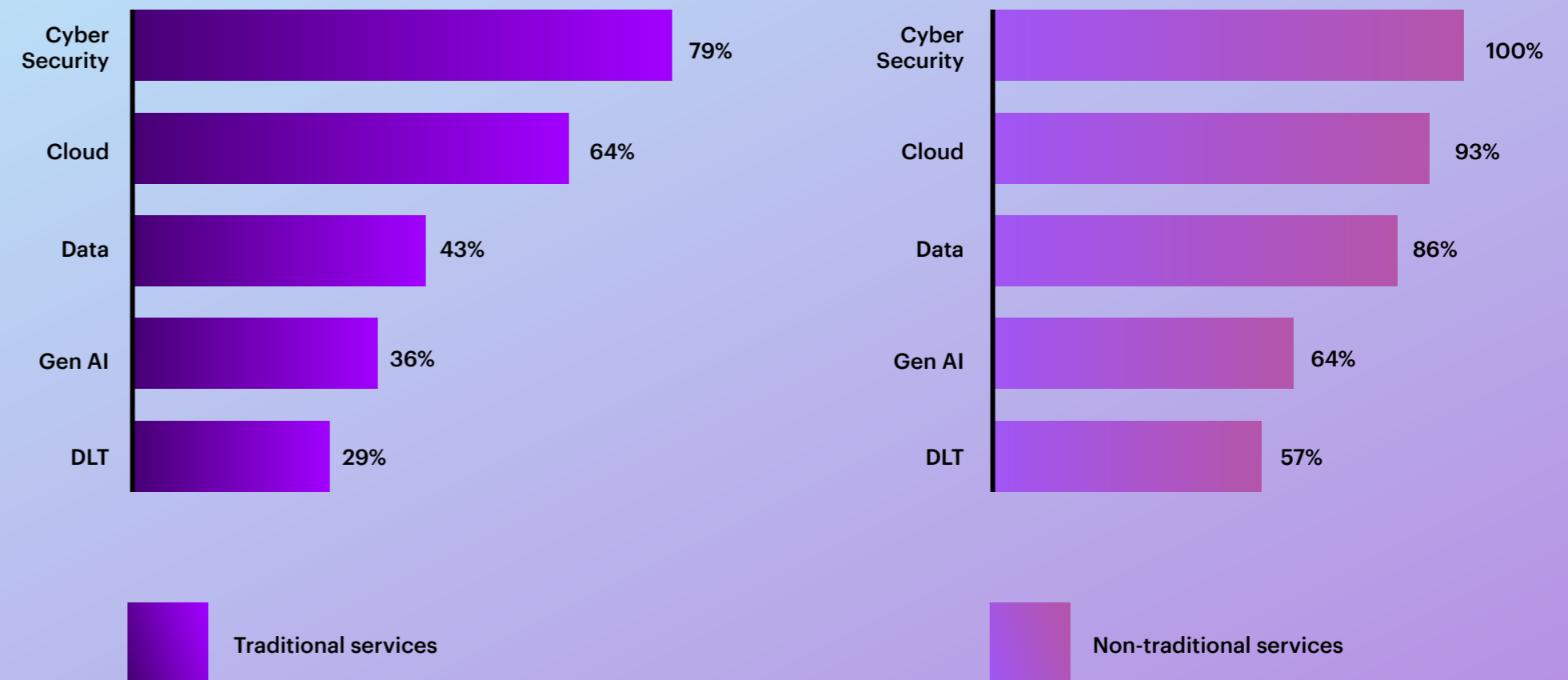
Our executive interviewees also offered insight into their investment priorities as they seek to develop their digital cores (Figure 5). When it came to supporting exchanges' traditional services, investing in cybersecurity was a priority for 79% of executives, followed by cloud (64% of respondents), data (43%), generative AI (36%) and distributed ledger technology (DLT) (29%).

Meanwhile, to support the development of non-traditional services, investing in cybersecurity was a priority for all executives, followed by data (93%), cloud (86%), gen AI (64%) and DLT (57%).

The greater urgency to invest for non-traditional services likely reflects the fact that many exchanges might need a bigger upgrade in their tech capabilities to make such (non-traditional) offerings possible—and then maximize their value.

**Figure 5** Top of mind

### Technology investment priorities for exchange executives



Source: Accenture Research. N = 14.



Step 2:

**Making it real  
in the cloud**

**Today, exchanges' infrastructures are being strained by rising volumes, expanding product portfolios and compression of trade sizes.**

Issues like physical limitations, maintenance overheads and inflexibility make it challenging to scale on-premises infrastructure to meet these demands. In addition, exchanges' future efforts to e.g., monetize data will require them to handle much larger volumes of data in real-time.

Add the need for massive computing power during a small daily window for batch processing, and the elasticity of cloud computing becomes hard to resist. Indeed, the benefits of migrating applications and data to the public cloud in terms of revenue, cost, agility, and customer and employee experience are well documented.

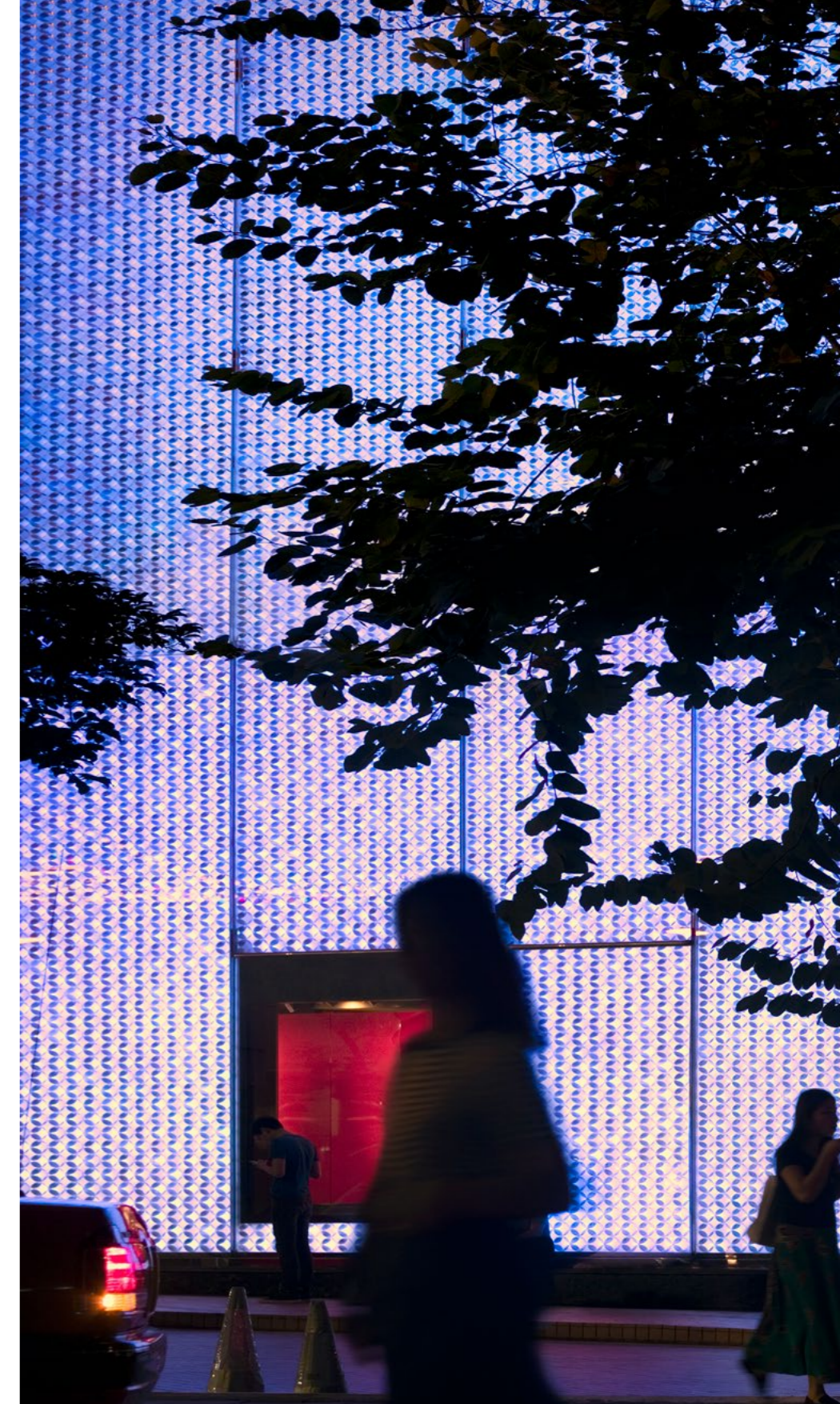
The executives we interviewed noted that many exchanges are moving primarily latency-insensitive activities to the cloud at present for various reasons—including improved operations, enhanced data processing and advanced AI capabilities for better analytics and reporting.

To fully leverage cloud benefits, systems such as matching engines need however to be re-engineered: simply “lifting and shifting” is usually inefficient; re-engineering is essential for cost-effectiveness and flexibility.

**Exchanges around the world are forging partnerships with public cloud providers to fast-track migration.**

Examples include Nasdaq partnering with AWS to build the next generation of cloud-enabled capital markets infrastructure<sup>2</sup> and LSEG working with Microsoft to build innovative productivity, data and analytics, and modelling solutions<sup>3</sup>. Other examples include Deutsche Börse partnering with Google to accelerate innovation<sup>4</sup> and CME Group accelerating its move to the cloud with Google Cloud<sup>5</sup>. We expect more exchanges to make such moves in the years ahead.

For other exchanges, due to the highly regulated nature of the traditional exchange business, using national cloud services might be an option to tackle infrastructure hurdles in line with the respective regulatory requirements.







## Security

Over the past decade, cybercriminals have become more sophisticated. Increasingly, exchanges must be able to secure devices and data inside and outside the firewall that protects their on-premises systems. The emergence of AI and quantum computing has further amplified cybersecurity challenges. Technologies like deep fakes and gen AI allow hackers to scale up their social engineering attacks—such as via phishing calls or emails that can be tailored with human-like text and audio—making them harder to distinguish from the real thing.

The executives we interviewed (and as highlighted in Figure 5) emphasized that cybersecurity is a top priority for exchanges. Tackling such threats starts with understanding and mapping the data landscape: where the data is, what the level of confidentiality of the data is and which people have access to it. The goal is to ensure that the most sensitive data is separated and protected with the best available technology.

While end-user awareness is important, it isn't enough to safeguard against attacks. Exchanges also need to ensure that their systems and applications are secure by design, providing employees with tools and authentication methods that shift gatekeeping responsibilities from people to technology.

The executives we interviewed indicated that exchanges are increasingly opting to use external vendors for their cybersecurity needs, rather than developing these capabilities in-house. Our interviewees pointed out that exchanges typically might not have neither all the required skills nor all the resources to ensure leading-edge cybersecurity in-house.

Nevertheless, security is an enabler of growth and business resilience and as such is a board-level priority that should be aligned with the corporate strategy.

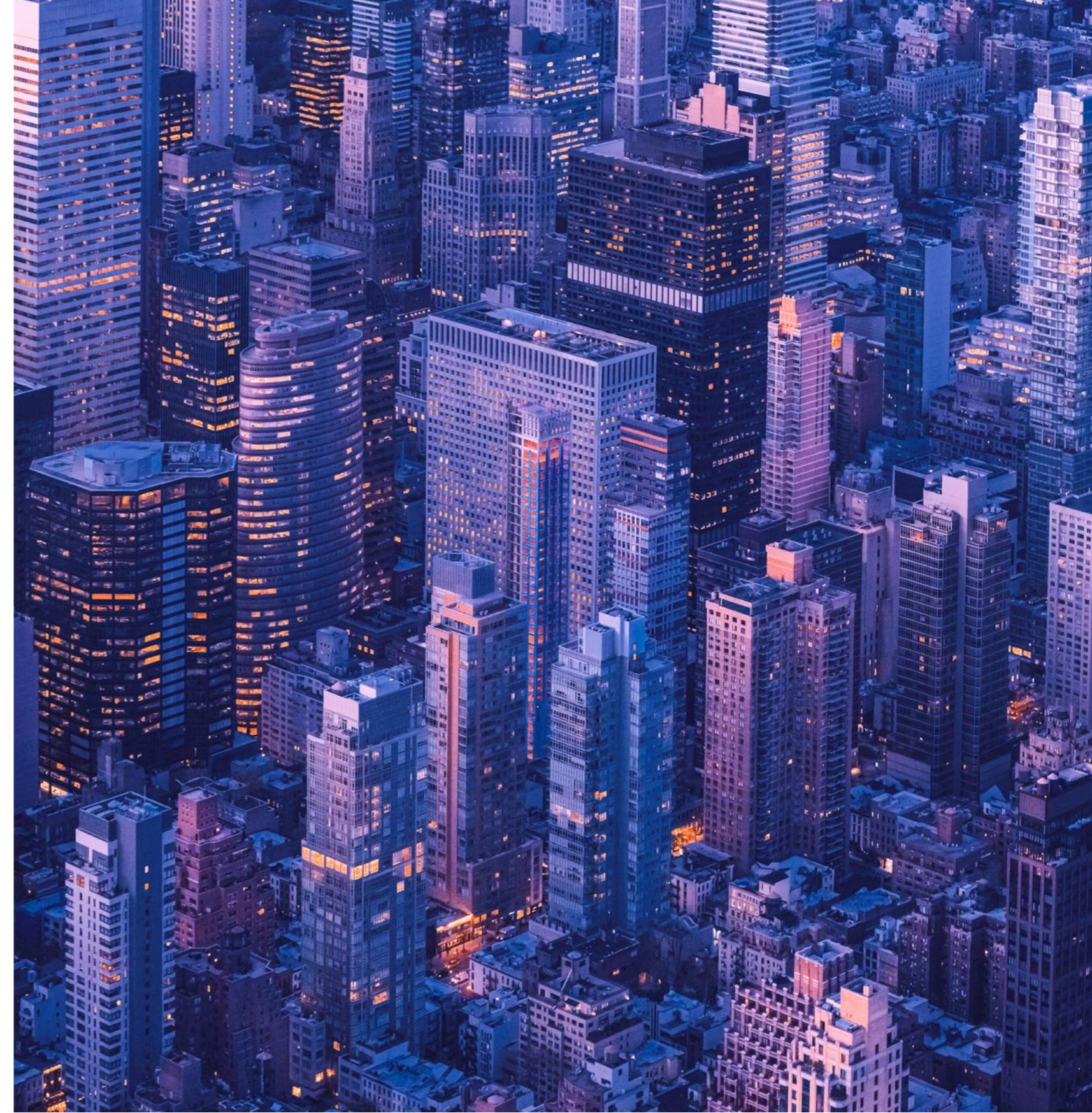
## Data

Many exchanges today obtain vast amounts of data. Yet few are building comprehensive, unified platforms that effectively combine diverse data sets —such as historical, real-time and reference data. This lack of integration can lead to data silos, limiting the generation of high-quality inputs and slowing down the progress of end-user initiatives.

*This gap between data availability and platform capability could prevent exchanges from fully realizing their modernization ambitions.*

For example, despite rapid advancements in AI, the ability to leverage the technology is often limited by poor data quality. Many exchange teams still need to spend a lot of time on pre-processing and reconciliation activities to make their data useable for AI-driven projects. Clear, consistent and contextualized data, on the other hand, is the foundation for successful AI initiatives.

However, in some cases data must be transformed into unstructured text format to provide the context for even the most advanced gen AI models to process it effectively. This requirement adds an additional layer of complexity, highlighting the importance of investing in data preparation and management.



Step 3:

# Enhancing experiences and operational efficiency with AI and DLT

**AI technologies aren't new. Nasdaq, for instance, introduced an "agent-based" AI model in 1997<sup>6</sup>.**

But recent advances, especially in generative AI's capabilities, have the potential to transform both how exchanges work and where they can make money. Today, exchanges can build or use commercially available gen AI tools and open-source, large language models with internal and public data to create powerful new applications, such as interactive chatbots for internal and external use.

Exchanges can also access state-of-the-art AI models and expertise through partnerships with public cloud providers and fintechs. For instance, when a large exchange we worked with wanted to empower its employees to resolve customer queries more efficiently and accurately, it decided to harness a cloud partner's capabilities to develop a gen AI-powered chatbot to support the customer support team.

**With the help of the bot, the exchange's employees were able to reduce lead times by over 90%—with a 95% response accuracy rate.**

As gen AI helps exchange workers become more creative and efficient, such outcomes will become increasingly common. Take developers: Gen AI could enable them to speed up coding and testing, improve code quality, convert code into other languages and prevent, predict and fix bugs.

Gen AI can also take business-process automation to a new level. Complex activities like synthesizing back-testing data, time series, data extraction and corporate action sets consume analysts' time. Gen AI can address this by efficiently creating and organizing data in the right context with "best next actions"—enabling workers to transition from searching for information to simply requesting it.

Consider the experience of a market infrastructure company that we also worked with. The company sought to explore whether a gen AI-powered programming tool could enhance the productivity of its developers by 10%, but without undermining the quality of their coding. The answer: Developers in a pilot initiative saw their throughput increase by 40%, on average, with no adverse effects on code quality. The tool has since been rolled out across the company to similarly impressive results.

Gen AI can, likewise, also help detect money laundering and other financial crimes by supplementing exchanges' traditional AI models to provide more context and insight around suspicious transactions. Additionally, gen AI can provide the means to conduct real-time analysis of large volumes of trading data to help detect potential anomalies, market manipulations and insider trading.

In the front office, gen AI will increasingly allow exchanges to use their data to personalize services for customers in real-time, thereby prioritizing new products, services and cross-selling opportunities. Gen AI "co-pilots" could power new revenue-generating advisory services, too. And, in the middle office, gen AI can help do things like analyze system performance data to build models that predict latency slowdowns or disruptions before they occur—ensuring smoother, more reliable market operations.



## Distributed Ledger Technology

When building the technology foundation with cloud, cybersecurity and data, a key consideration is how that foundation layer and its further development can enable enhanced digital platforms. Distributed ledger technology (DLT), a decentralized system that records and manages data across multiple nodes simultaneously, is one high-potential example.

Using DLT and “smart” contracts, exchanges could streamline processes throughout the trade cycle, thereby managing operational and regulatory challenges more effectively, while providing greater transparency through immutable, auditable transaction records. For their part, the executives we interviewed foresee DLT being used mainly to enhance the trade lifecycle services of traditional exchanges.

Post-trade services are another promising area for DLT. To date, clearing and settlement services have been the focus area for exchanges’ DLT and tokenization initiatives according to our experts. These technologies aid automated real-time clearing and settlement by enforcing the smart contracts embedded in digital assets, thereby reducing settlement times and counterparty risk. Collateral management can also benefit from real-time positions tracking and instant transfer of ownership, lowering the risk of disputes and settlement failures.

For custody and asset servicing, DLT has yet to achieve broader adoption—testing is still under way to bolster the speed, accuracy and efficiency of asset-servicing event rules, while reducing costs and the risk of errors and delays.





Given these and other benefits, it's no surprise that some exchanges are already beginning to harness DLT. In 2021, for example, the SIX Digital Exchange (SDX) received regulatory approval from FINMA to operate a stock exchange and a central securities depository for digital assets in Switzerland. This authorization enables SDX to go live with a fully regulated, integrated trading, settlement, and custody infrastructure based on distributed ledger technology for digital securities<sup>7</sup>.

The Depository Trust & Clearing Corporation (DTCC) went live in 2022 with its "Project Ion" platform which leveraged DLT to settle equity trades. The platform was parallel processing equity transactions while the classic settlement

remained the authoritative record<sup>8</sup>. That same year, Nasdaq announced it would offer a digital assets custody solution with liquidity and execution services for financial institutions and expand its anti-financial crime technology across digital assets<sup>9</sup>.

But there are also use cases in other parts of the value chain of exchanges for DLT. Take primary issuance. When admitted to trade on a regulated exchange, a company must meet the specific regulatory, financial and operational requirements set by the exchange—and pass a third-party audit if challenged. To ensure this is the case, listing teams undertake substantial due diligence on new issues, such as initial public offerings (IPOs). By embedding listing criteria into

tradeable instruments as digital assets, DLT and "tokenization" could improve the speed and efficiency of the IPO's distribution.

Further, incorporating compliance attributes into smart contracts (which embed agreements and terms directly into code) during distribution could create trusted tradeable assets with verified integrity.

Step 4:  
**Realizing  
new revenue**



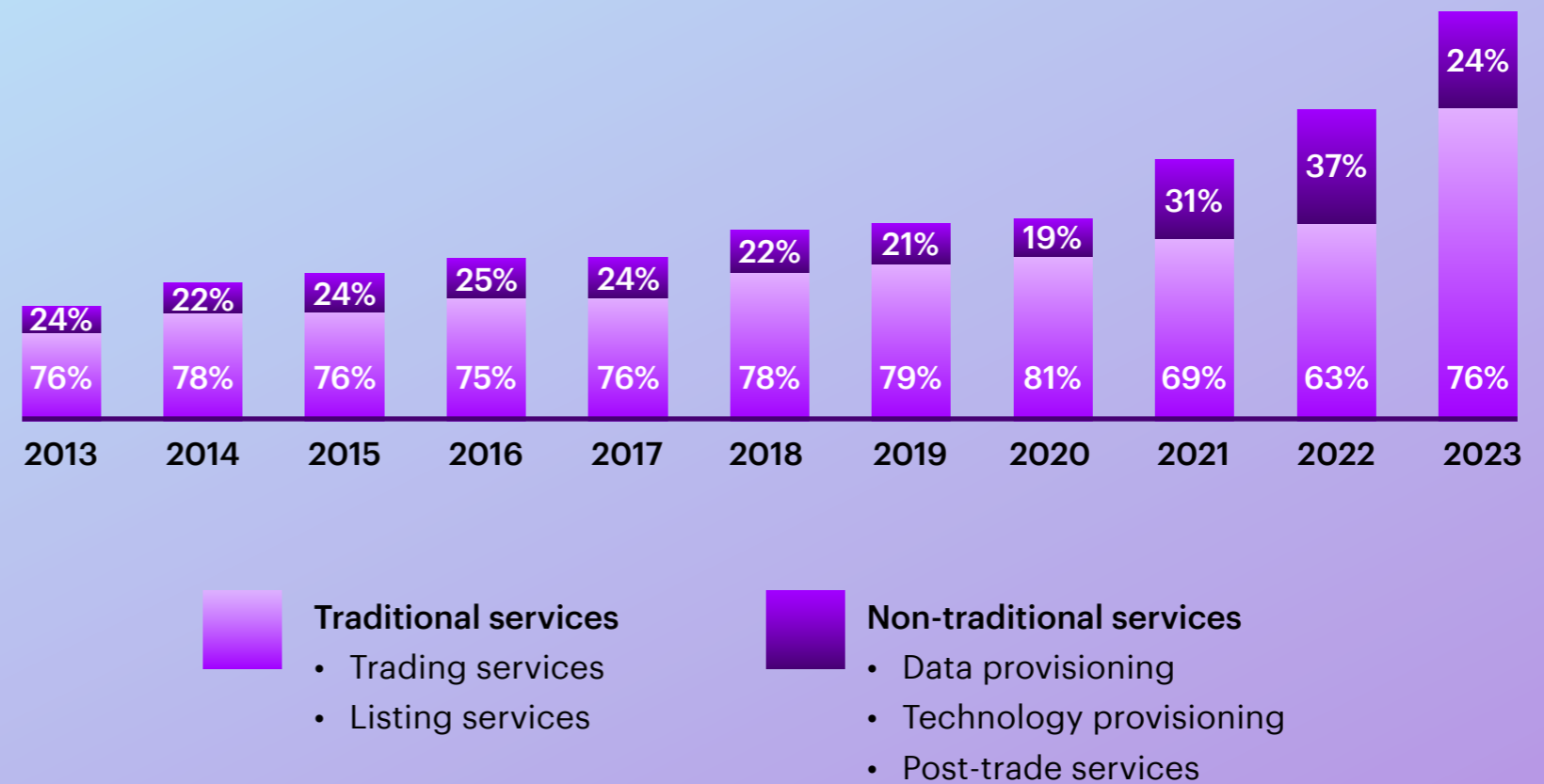
With their traditional, fee-based, income margins squeezed by intensifying competition, exchanges will need to respond by finding new revenue sources that build on strong digital cores.

Finding such revenue streams is nothing entirely new for exchanges. Today, most already offer some mix of non-traditional services such as data and analytics, technology-solution provisioning (e.g., risk, surveillance and clearing solutions) and post-trade services (e.g., reporting and corporate-actions information).

Some exchanges have even ventured into banking services, such as fund distribution and mortgage-workflow solutions<sup>10</sup>. Our research shows, however, that over the past 10 years, the non-traditional segment has been growing in proportion (Figure 6).

**Figure 6** Show me the money

### Exchanges' revenue mix from traditional and non-traditional services

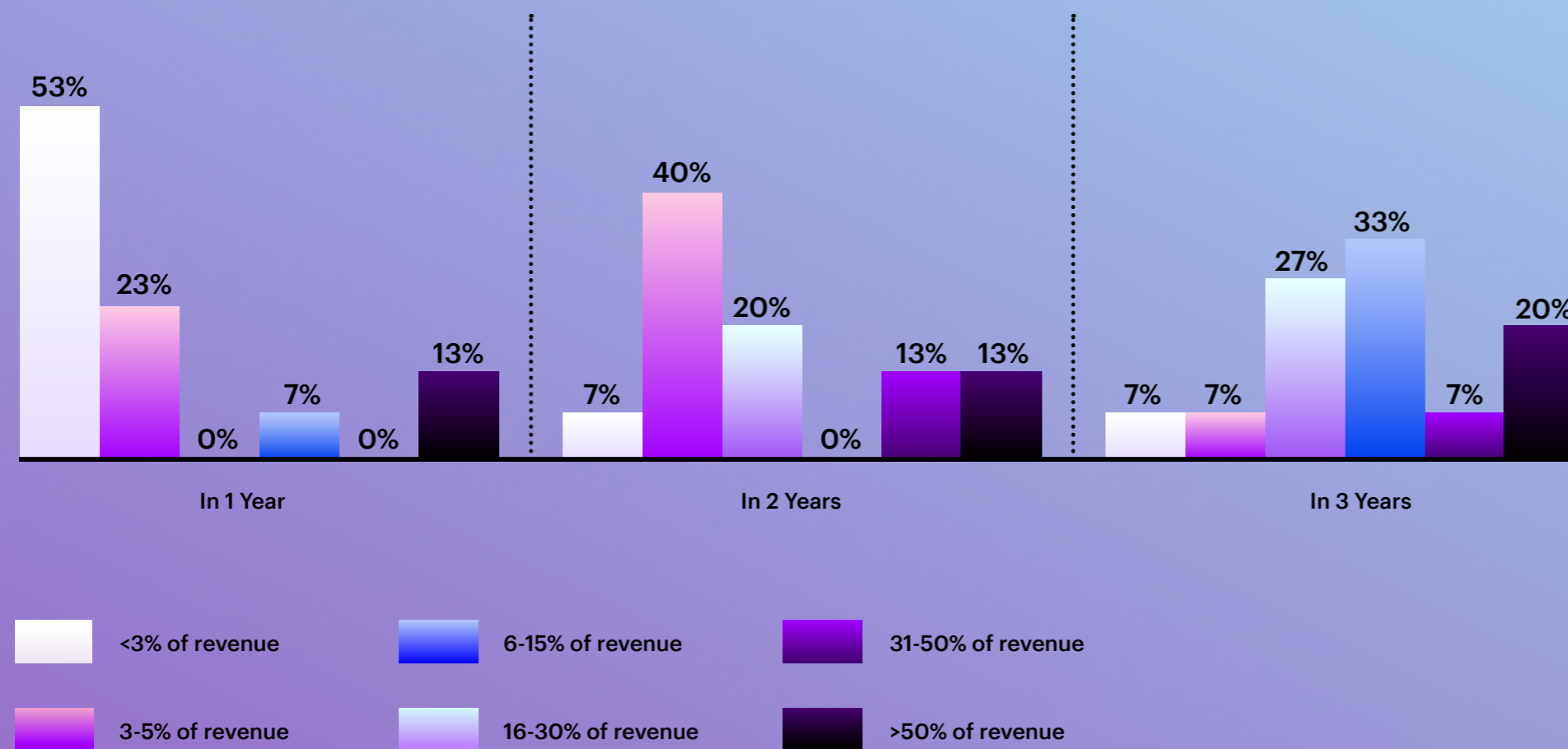


Source: Accenture Research analysis of data from S&P Capital IQ on 17 leading global exchanges.



**Figure 7** In with the new

Expected share of total revenue from non-traditional services



Going forward, this distribution is set to change: the executives we interviewed expect to see significant revenue increases for their exchanges from non-traditional services and product innovation (trading new products and emerging asset classes, such as digital and/or sustainable finance instruments) in the coming years (Figure 7).

Source: Accenture Research. N = 15.



## Non-traditional services

Exchanges worldwide have already, as said before, expanded beyond traditional services like listing and trading, by e.g., starting to compete with data providers and other market infrastructure players across the capital markets value chain.

Recently, we have also seen examples of vertical integration driven through acquisitions. Examples include LSEG's acquisition of Refinitiv<sup>11</sup>, Nasdaq's acquisition of Adenza<sup>12</sup> and Deutsche Börse's acquisition of SimCorp<sup>13</sup>.

### Data provisioning

Many leading stock exchanges already generate a share of their revenues from monetizing data assets (Figure 8). The opportunity to generate value by monetizing data varies widely between exchanges—depending mainly on size and geographic scope. While some larger international exchanges have been able to boost their data revenues significantly by acquiring specialist data businesses, smaller, more domestically-focused exchanges will likely struggle to generate meaningful revenue streams from their data inventory.

According to the executives we interviewed, exchanges mainly seek to sell raw data or data-related products, such as desktop products, data feeds, quant reporting, ESG products and trading products.

These offerings, the executives noted, could also include risk analysis (consolidating risk data and combining it with trade and settlement data); compliance tools (using robotics and AI to ingest documentation and auto-populate know-your-customer and anti-money laundering reports); and centralized sustainability-intelligence platforms (e.g., calculating the carbon credits required to meet net-zero targets).

**Understanding their customers' data needs better, exchanges could meet their demands and expectations far more effectively.**

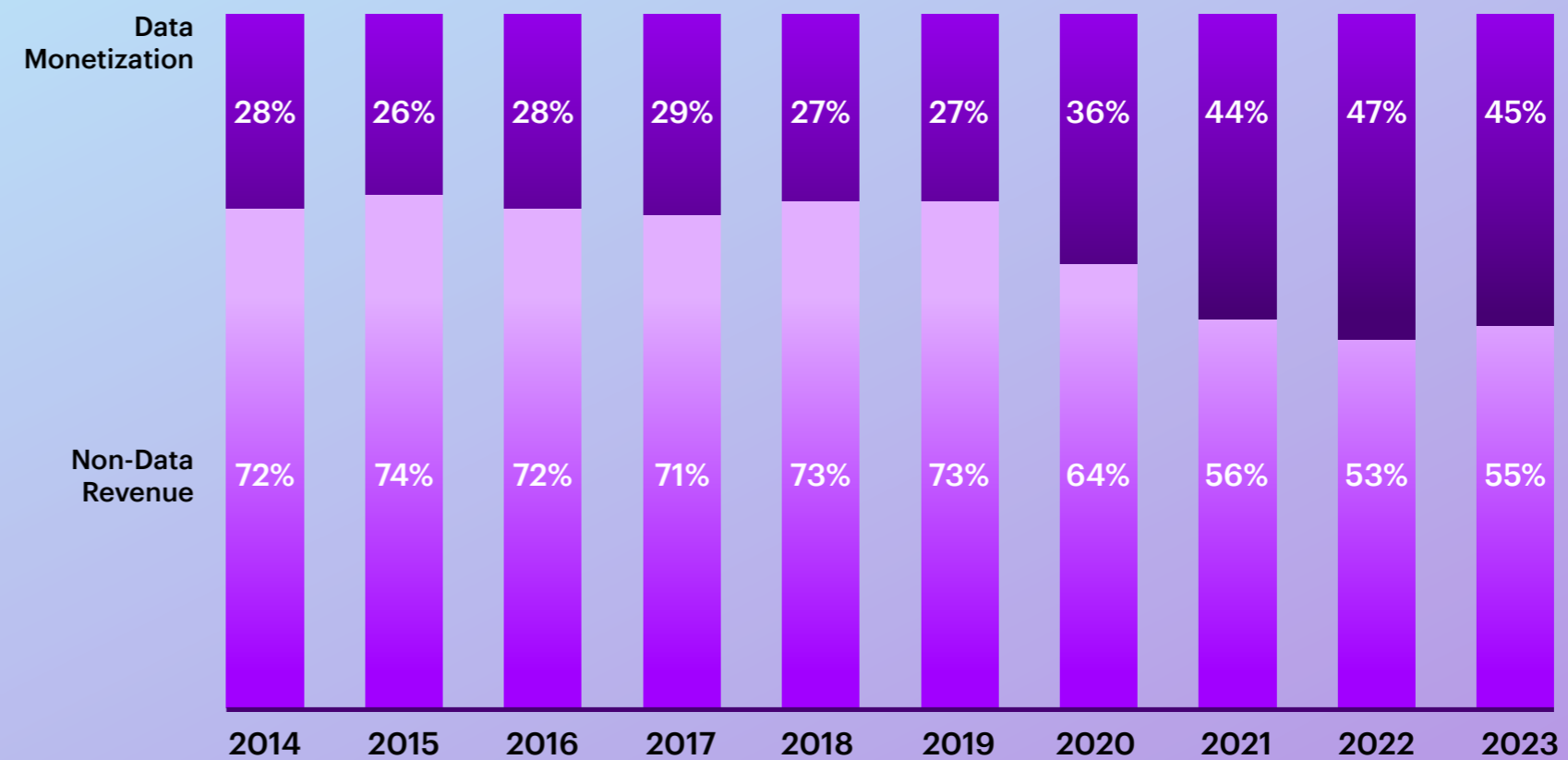
For example, Accenture research found that:

- Customers want specialized toolsets tailored to their precise needs, valuing quality over quantity.
- Market-data platforms are essential to the job.
- Users now expect higher data quality, while decision-makers demand it at a lower price due to budget constraints and advances in technology, particularly AI.
- Users want change that is incremental and offers clear value in return.

Understanding customers' needs is, of course, only one requirement for building a data-provisioning business. Our interviewees also highlighted the need to develop the right talent and organizational culture when building a data business.

**Figure 8** Show me the data

### Data-monetization business as a % of total revenue for exchanges with data services



Source: Accenture Research analysis of data from S&P Capital IQ on leading global exchanges.



## ESG data to support net-zero transitions

Investors and regulators rely on trustworthy ESG data to understand organizations' progress in reducing carbon emissions. Companies need accurate data to benchmark performance and demonstrate it to regulators, investors, customers and other stakeholders.

But today, market participants of all kinds face challenges around accessing trusted data: a lack of standardization around disclosures and metrics makes it difficult to compare ESG-related performance across organizations; there are also gaps in the data for measuring sustainability.

Exchanges' experience in handling and monetizing data means that they're well placed to help address these challenges through differentiated data services.

By offering tools and frameworks that standardize the collection, harmonization and reporting of ESG data—backed by reliable certification—exchanges could help companies comply with emerging regulations, such as the Task Force on Climate-related Financial Disclosures and the Sustainable Finance Disclosure Regulation.

Additionally, these services could simplify complex reporting requirements, particularly around Scope 3 emissions, thereby reducing compliance costs for smaller businesses and making an exchange a more attractive listing venue.

## Product Innovation

**Digital assets (such as security tokens) and sustainable finance instruments (such as green bonds) are moving rapidly into the investing mainstream.**

This shift creates openings for both exchanges and market-infrastructure players to offer solutions for issuing, trading, settling and safekeeping these next-generation assets.

### Digital assets

Though the term "digital assets" is often used synonymously with cryptocurrencies, the term encompasses both tokenized assets and deposits (see sidebar, "What are digital assets?").

From a broader market perspective, these digital assets could offer several potential benefits, including instant settlement, secure transactions to reduce counterparty risk and automatic asset servicing. According to our executive interviewees, exchanges currently focus more on indirect exposure to digital assets and have not yet ramped up direct trading and listing. In time, however, all large exchanges and market infrastructure players will likely offer digital assets alongside traditional products. These would create additional revenue streams through trading and advisory fees, as well as from related value-added services, such as data monetization.

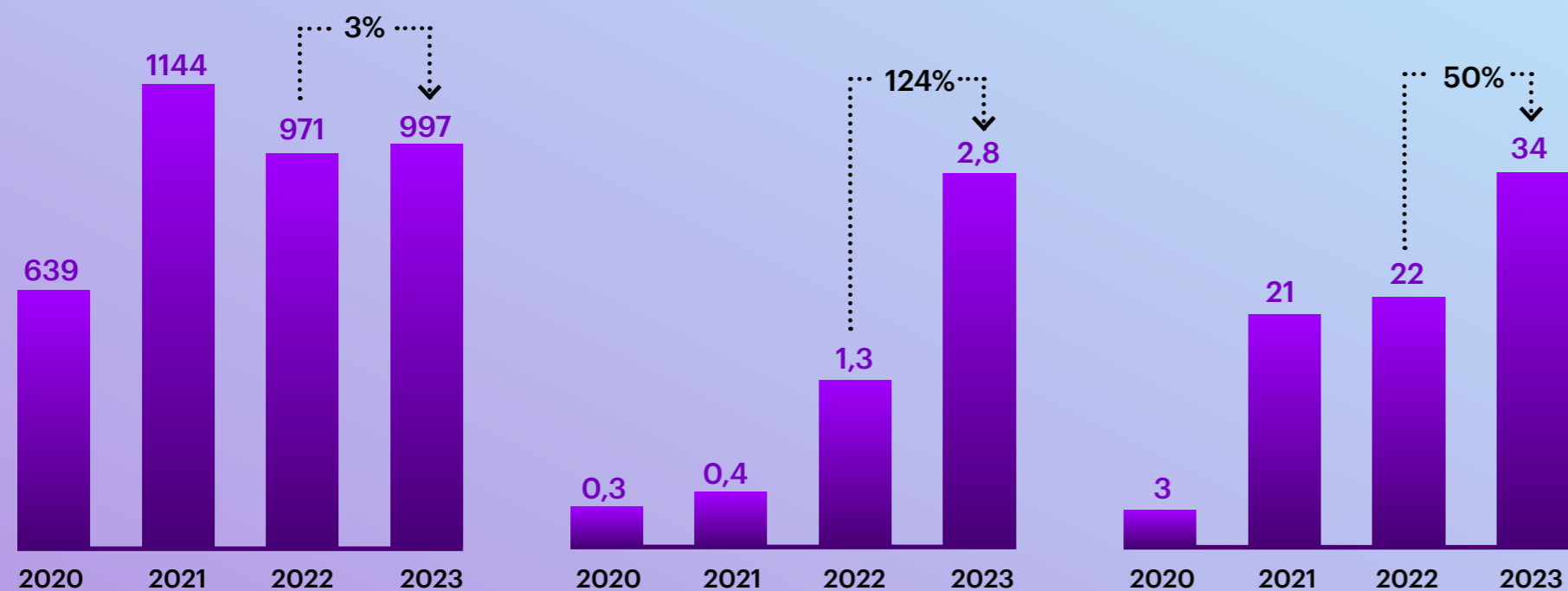
## What are digital assets?

Tokenized securities—digital versions of traditional assets like stocks, bonds or private equity—are overseen by securities or capital-markets regulators across jurisdictions, but also come with built-in features which make them immutable and traceable. Asset-backed tokens, on the other hand, represent ownership in something physical (like real estate or collectibles) or digital (like non-fungible tokens). These tokens allow for fractional ownership of both physical and digital assets, opening new possibilities for investment. The executives we interviewed anticipate that within the next two to five years, the tokenization of traditional assets like real estate and art will increase significantly.

Tokenized deposits are a form of money, issued by a commercial bank, represented on a distributed ledger and, as such, a liability on the bank's balance sheet. Central bank digital currencies (CBDC) are issued by central banks as electronic and programmable versions of money. They would be part of the monetary system and treated the same as physical notes from a fiscal and monetary policy perspective. In return, stablecoins represent a privately issued digital currency, designed to maintain a stable value relative to a fiat currency through 1:1 collateralization. Examples include Tether or Circle. Cryptocurrencies operate instead on decentralized networks and aren't tied to any national currency, and as such rather viewed as an alternative asset class. Popular examples include Bitcoin, Ethereum, and Solana.

**Figure 9** Going green

Issuance value of green bonds on primary market; trading volume and value on the secondary market



**Figure 9a**  
Green bond issuance value (USD Billions between 2020-2023)

**Figure 9b**  
Trading volume (USD Millions between 2020-2023)

**Figure 9c**  
Traded value (USD Billions between 2020-2023)

Source: Accenture Research analysis of data from World Federation of Exchanges.

**Sustainable finance instruments**

As organizations race to meet their net-zero commitments, they will increasingly seek sustainable finance instruments, too. Exchanges thus could play a major role in issuing and trading these products. Consider a few important examples.

Green bonds finance projects or organizations that reduce the effects of climate change or otherwise protect the environment. Most exchanges already have green bond “lists”, such as details of green or sustainable bond listings by issuer that are traded on the exchange.

As shown in Figure 9, trading volume and value have surged in recent years, reflecting strong investor interest in sustainable finance. While issuance has stabilized, the continued growth of the secondary market highlights the increasing appeal of green investments globally.

Voluntary carbon credits enable project developers to offset greenhouse gas emissions through activities that reduce or remove CO<sub>2</sub> or its equivalent. Each credit represents the reduction, avoidance or removal of one metric ton of emissions. Once certified to a recognized standard, these credits can be issued and traded on the secondary market.

Voluntary carbon credits bring exciting opportunities, along with significant challenges—such as the need to achieve price transparency, enhance market efficiency and reduce fragmentation. Despite their potential to drive positive environmental impact, these credits are also hindered by limited availability and a complex acquisition process.

Currently, only a handful of exchanges or platforms offer straightforward trading mechanisms; there's also a pressing need for standardized regulatory and verification procedures to ensure the credits' environmental integrity. This gap presents a clear opportunity for

exchanges to innovate and streamline carbon-asset trading.

Here, too, DLT could help improve transparency, efficiency and trust. To see how, imagine the launch of a green bond to fund a facility for carbon-capture utilization and storage. Before listing the bond, the exchange undertakes due diligence to validate that the money will be spent on the stated purpose and that the use of the funds will be traceable and verifiable going forward. Once these elements have been confirmed, DLT could enable the validation data and continuous disclosure to be embedded and programmed immutably into a tokenized form of the asset.

When the asset is later traded in the secondary market, those attributes come with it; investors know the data is reliable. As for cost, research by HSBC and the Sustainable Digital Finance Alliance found that DLT automation could cut the costs of green bond issuance by almost 10 times<sup>14</sup>.



# Toward the exchange of the future



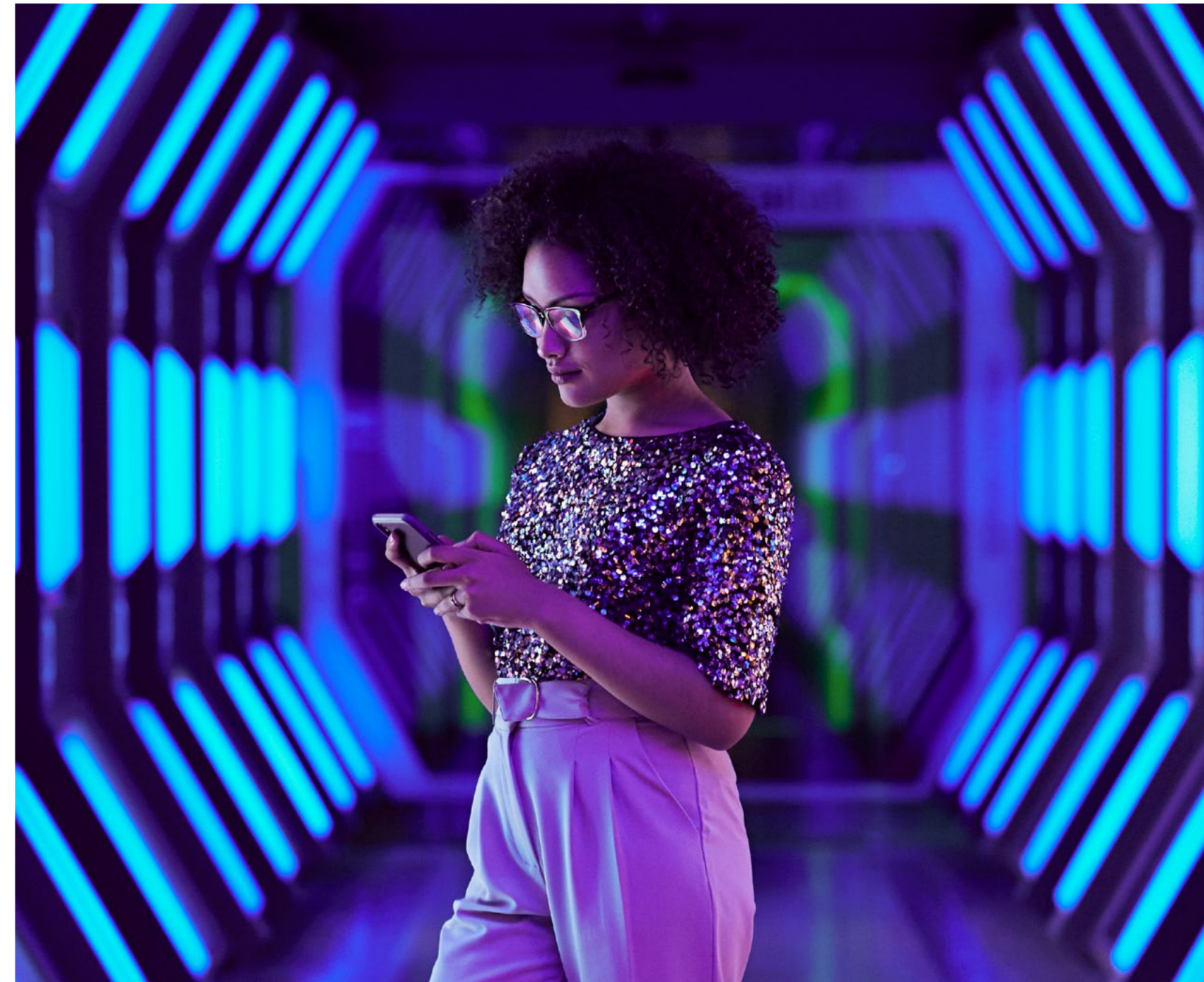


**The path to success in the digital capital markets of tomorrow lies in reshaping exchanges into fully digitized businesses built around integrated digital cores.**

To get a head start on their reinvention journeys, exchanges could begin by prioritizing the four steps described in this report.

But those tech-focused steps alone will not be enough; dedicated change-management will be crucial as well. The latter includes educating the enterprise on new capabilities, designing new operating models and redefining employees' roles. To succeed at reinvention, it's thus essential for exchanges to focus on the human aspect too—developing, upskilling and retaining the right talent, while fostering a diverse and agile culture.

*As a period of widespread industry consolidation looms—especially for smaller and regional exchanges—and other pressures build, exchanges that begin their reinvention journey now would be best positioned to maintain and expand margins, while capturing new opportunities in the coming years.*



## Contributors

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## About the Research

To understand the perspectives of senior executives on current industry trends, we conducted a series of in-depth interviews with 15 executives from leading exchanges around the world, providing us with a well-rounded view from influential leaders within the industry.

Through these interviews, we aimed to capture first-hand insights on the strategic priorities and challenges these organizations are facing, along with their outlook on emerging trends impacting the exchange landscape.

In addition to the primary interviews, we undertook extensive secondary research to deepen our understanding of trends in exchange revenues, listings, and trading volumes. Our secondary analysis centered on a comprehensive benchmark

of the top 17 global exchanges ranked by total revenues, which allowed us to assess the financial performance and market positioning of the industry's most prominent players.

To broaden our perspective on listings and the evolution of trading instruments further, we leveraged data from the World Federation of Exchanges, expanding our benchmark to include over 40 exchanges worldwide. This additional dataset provided a broader, global perspective beyond our initial sample, capturing significant trends in listings and sustainability-focused trading activities.

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