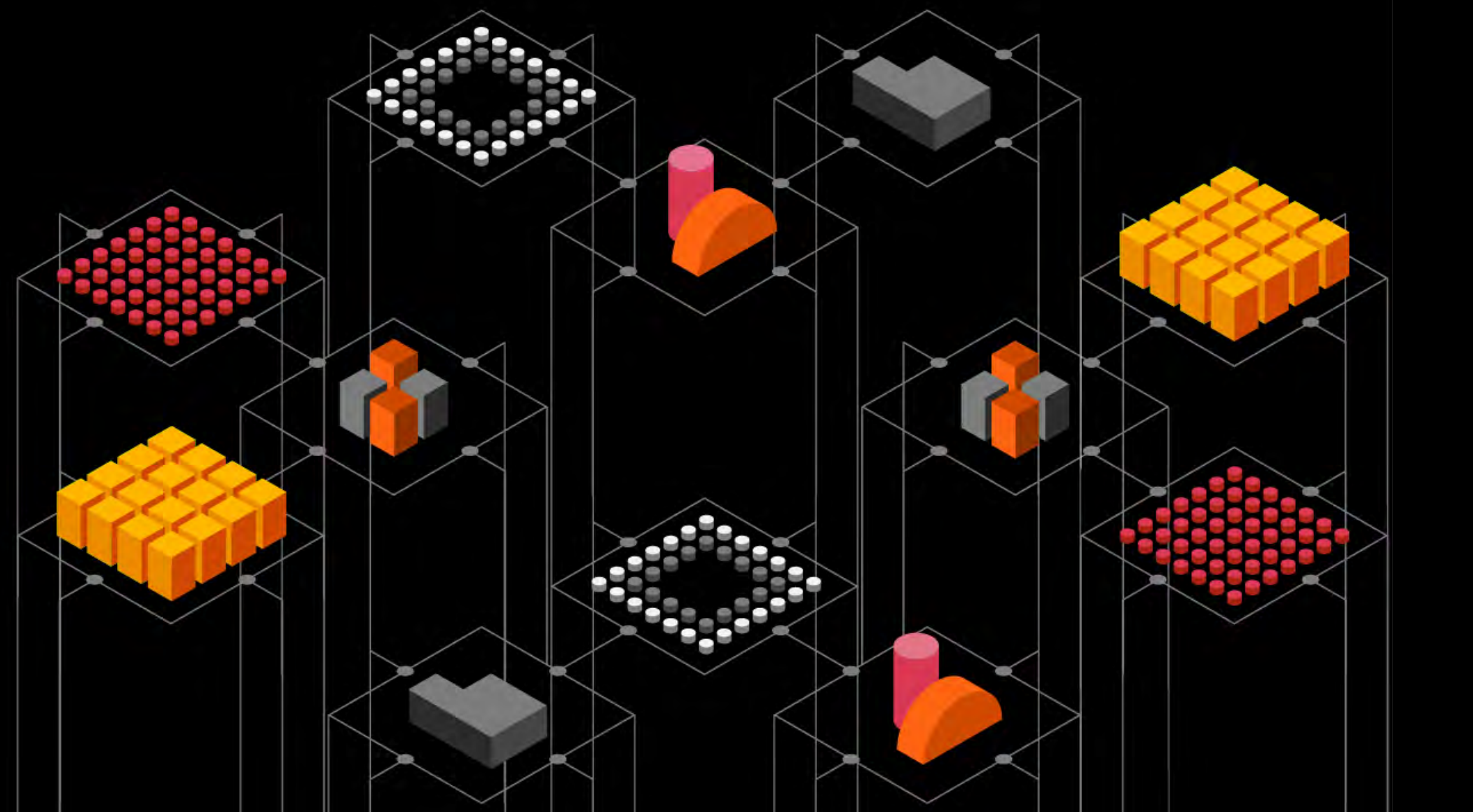


Crypto-assets Management Survey

2nd edition

Persistence amidst headwinds

May 2023



A study
commissioned by



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active support of



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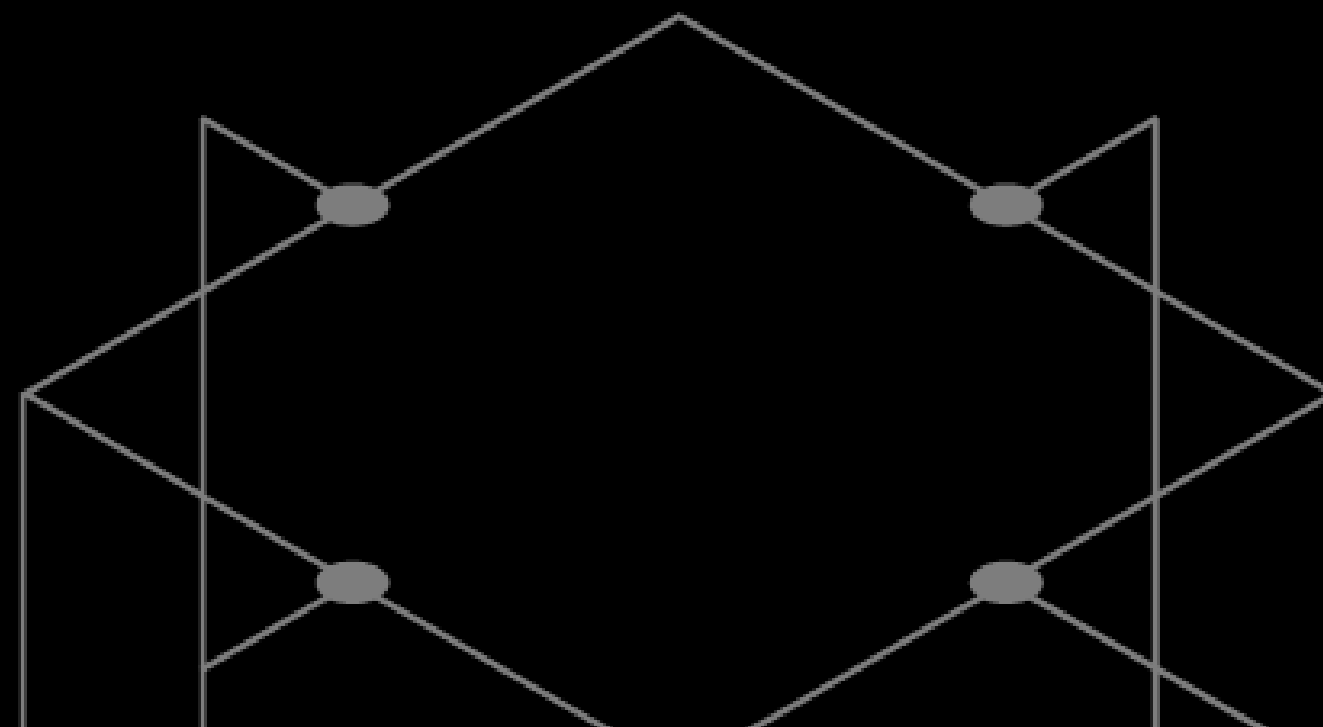
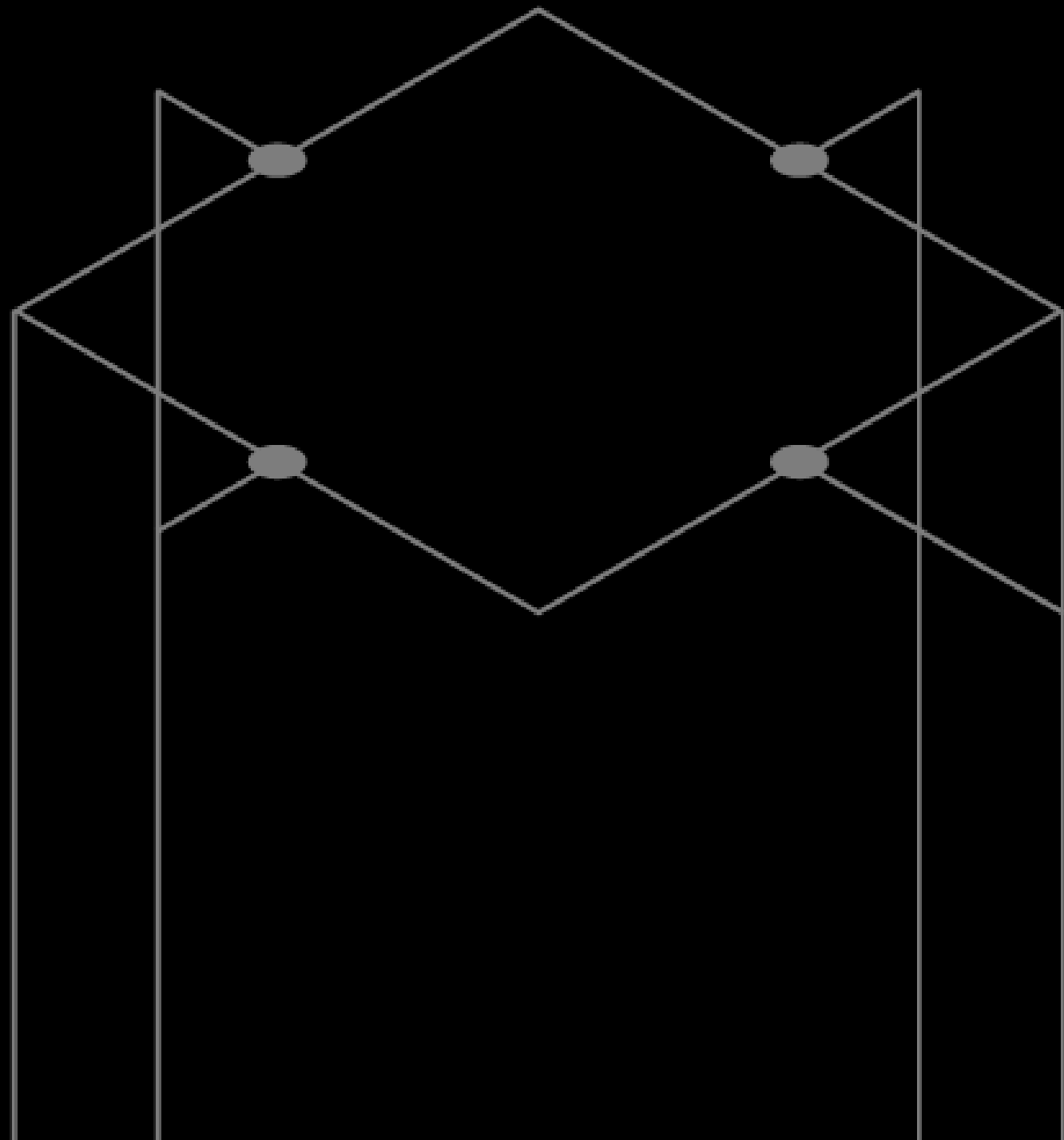
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Foreword

If 2021 was a year of strong post-pandemic recovery and overall global optimism, 2022 was anything but. War returned to Europe's doorsteps, with dramatic global macroeconomic shocks ensuing. The world economy is now increasingly fraught by geopolitical tensions and dislocations which seem poised to endure, while technological developments at breakneck speed in areas such as AI (large language models) are poised to lead to further transformation and, potentially, disruption of trading algorithms, risk management, and automated compliance.

The crypto-assets landscape, which showed much growth and promise in 2021 – surpassing the “historic USD 1 trillion market capitalisation threshold for the first time,” as we highlighted at the time – has not been spared. A series of governance failures across some of the industry's major players did much to harm crypto-assets' reputation and promise.

While the Grand Duchy has managed to weather the storms of 2022 well, questions remain over its crypto-assets landscape and how it has fared.

How have professionals in Luxembourg's financial centre reacted to the recent crypto-related debacles? What are their views on the future of the crypto-assets sphere in Luxembourg? Will regulations – such as the EU's long-awaited Markets in Crypto-Assets Regulation (MiCA) – serve as a springboard for further crypto-related growth and development?

To answer these questions – and more – the Luxembourg House of Financial Technology (LHoFT) is proud to partner once more with PwC Luxembourg and the Association of the Luxembourg Fund Industry (ALFI) to present the second edition of our Crypto-assets Management Survey report.

This report could not have come at a more opportune moment. We would like to extend our deepest gratitude to the 127 industry professionals who took the time to respond to our survey, to the public and private stakeholders whom we interviewed for their thoughts and opinions, and to ALFI in particular for their invaluable support in reaching their membership.

Nasir Zubairi
CEO @ the LHoFT
Foundation

Steven Libby
PwC EMEA Asset &
Wealth Management
Leader

Thomas Campione, CFA
PwC Blockchain & Crypto-assets
Leader

Introduction

In October 2008, at a time when the global financial crisis was reaching a climax and trust in financial institutions and regulatory authorities had reached a nadir, a white paper by Satoshi Nakamoto titled ‘Bitcoin: A Peer-to-Peer Electronic Cash System’¹, was published. The thesis was simple: Financial institutions, in parts of their intermediary functions, would be replaced with the blockchain, a digital ledger distributed among nodes in a peer-to-peer network. In January 2009, Nakamoto – the puzzling programmer or programmer group – formally launched Bitcoin. Crypto-assets markets were born.

13 years onward, crypto-currencies and crypto-assets more broadly have garnered significant attention, undergone hype-cycles and downturns all the while continuing to polarise financial industry participants.

One of the primary purposes of our Crypto-assets Management Survey, now in its 2nd edition, is to gauge the interest and inherent potential in growing crypto-assets adoption & servicing in Luxembourg’s traditional asset management industry and what this could entail for the country and its large ecosystem of asset managers and asset service providers. Our goal also involves evaluating a crucial aspect of crypto-readiness – the realm of education and skills enhancement. This consideration is pivotal, given that both

professionals in the field and potential investors require an in-depth and educated comprehension of the complex details and potential risks inherent in this unique market.

After a decidedly pessimistic, if not catastrophic, year for crypto-assets, we decided to launch the 2nd edition of this exercise as a sentiment check. The events of 2022 highlighted, among many other things, that fraud, embezzlement, and shoddy corporate governance are facilitated by a lack of coherent, global oversight. To gauge the extent to which a more appropriate framework is being implemented post-2022, we are complementing this year’s survey results with a dedicated regulatory update and a deep dive into the maturity and “crypto-readiness” of select jurisdictions. As of the writing of this report, the European Union is in the final stages of agreeing upon its first steps towards a comprehensive legal and regulatory framework for crypto-assets. The Markets in Crypto-Assets (MiCA) regulation aims to establish a uniform regulatory framework in the EU, notably by providing a categorisation of crypto-assets, an authorisation regime for crypto-assets issuers (CAIs) and service providers (CASPs) and disclosure requirements with a view on financial stability and consumer protection.

As a corollary, the authorisation and supervision of CASPs entails the implementation of Anti-Money Laundering (AML)

and Counter-Terrorist Financing (CTF) measures, notably via customer due diligence and transaction monitoring.

As MiCA illustrates, lawmakers and regulators are now working towards comprehensive frameworks to bring crypto-assets service providers in line with traditional financial institutions, all the while accounting for the specificities of the asset class. While regulatory timelines may not be set in stone, the direction of travel is clear.

We are glad that the 2nd edition of the survey, conducted in March 2023 by PwC Luxembourg and the Luxembourg House of Financial Technology (LHoFT) in collaboration with the Association of the Luxembourg Fund Industry (ALFI), collected over 127 responses from stakeholders across the financial sector and the legal profession. This level of steady engagement is in and of itself an indicator of ongoing interest in the topic. The fruits of the 2nd edition of this exercise are a rich dataset and the resulting set of insights, now on a comparative basis with our previous results, which this report aims to present in a summary fashion.

This year’s edition of the survey is complemented by a set of interviews conducted with key stakeholders in Luxembourg’s growing crypto-assets ecosystem. We thank all survey participants and interviewees for their time and dedication.

¹ Nakamoto, S. (2008). ‘Bitcoin: A Peer-to-Peer Electronic Cash System’

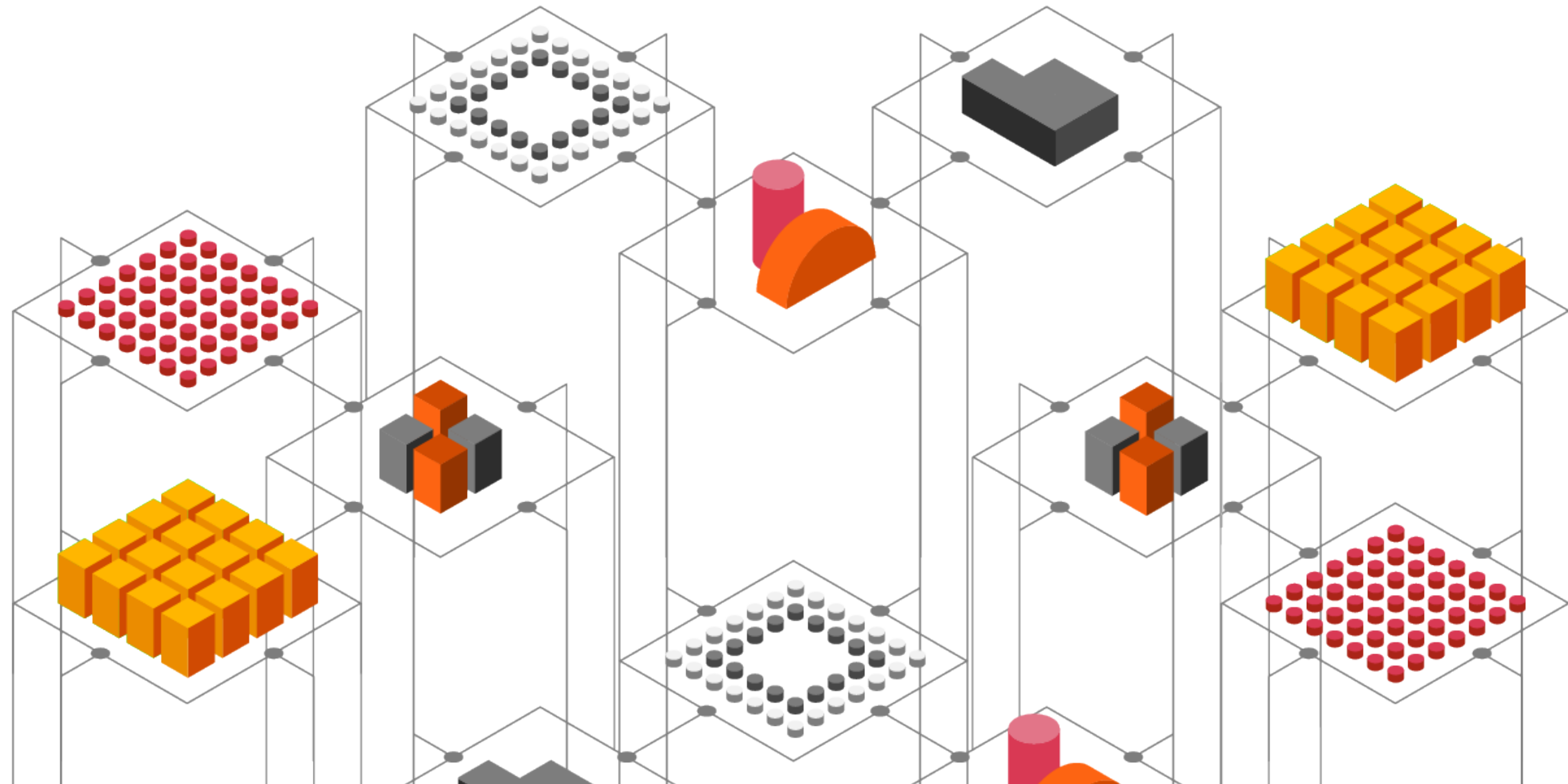
Methodology and sample

Our survey was conducted in Q1 2023 and includes responses from 127 stakeholders in Luxembourg's asset and wealth management industry, a slight increase from the 123 responses in the previous edition of our survey. A little over half (51%) of our respondents had 50 full-time employees or more, while a quarter had over EUR 200bn in assets under management.

Our respondents are mainly focused on Luxembourg (80%) and other European markets (74%), and primarily work in the following business segments:

- 39% Asset and Wealth Management (AWM)
- 17% Depository Services
- 16% Fund Administration
- 9% Legal Services
- 9% Other Asset Servicing Activities (e.g., AIFMs; Collateral Services; Corporate Services; Crypto-assets AML Solutions Providers etc.)
- 11% Other

A little over half (51%) of our respondents are the local branch or a subsidiary with decision-making powers over local activities, while 37% have full decision-making powers and serve as the firm's headquarters.



Notable developments since Q1 2022

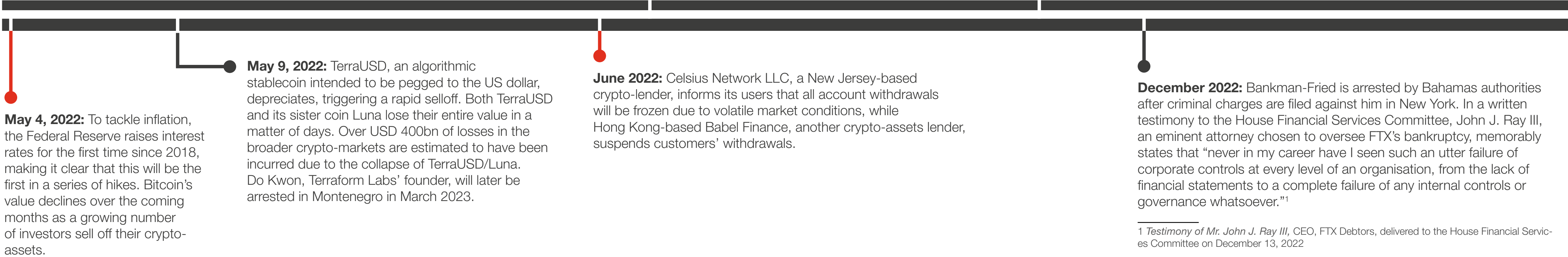
Every survey is to some extent a snapshot of the sentiment expressed by its respondents as a function of recent experience and current circumstances. Our inaugural Crypto-assets management survey took place at the close of 2021, and it is essential that we take into account significant developments that have transpired since that time.

The year 2022 and the first quarter of 2023 have been laden with difficulties and challenges for the crypto-assets industry. The following timeline aims to provide an overview of the key challenging events the industry encountered¹:

¹ Timeline loosely adapted from Choi, C. (2023). 'Crypto Crisis: A Timeline of Key Events,' Wall Street Journal, April 10, 2023



These actions point towards an increasingly vigilant stance taken by regulatory authorities towards the industry.



January 2023: After a significant plummet following FTX's collapse, Bitcoin's value begins to recover, experiencing a 70% price increase by March since the beginning of 2023.¹

¹ Chinchalkar, A. (2023). 'Bitcoin Is Set to Extend its 70% Surge This Year if Key Charts Are Right', Bloomberg, March 22, 2023

March 8, 2023: Silvergate Capital Corporation, a holding company that owns prominent 'crypto-assets bank' Silvergate Bank¹, announces that it will cease operations and voluntarily liquidate its bank. To maintain liquidity, the bank was compelled to sell USD 5.2bn in debt securities in Q4 2022 at a significant loss, prompting its total deposits to decline from USD 11.9bn to USD 3.8bn.²

¹ Sigalos, M. (2023). 'Crypto-focused bank Silvergate is shutting operations and liquidating after market meltdown,' CNBC, April 11, 2023
² Saini, M., Nishant, N. & Lang, H. (2023). 'Silvergate Capital shares sink as crypto-related deposits plunge by \$8 bln,' Reuters, January 5, 2023

March 13, 2023: USDC drops below 87 cents, but recoups almost all this loss after Circle assures investors that it had the capability to cover any cash reserves that were stuck at SVB by using company resources.¹

¹ Wilson, T. & Kalia, S. (2023). 'Major crypto coins stabilise after U.S. intervenes on SVB collapse,' Reuters, March 13, 2023

March 22, 2023: The Securities and Exchange Commission (SEC) issues a Wells notice to crypto-assets trading platform Coinbase, warning that potential legal violations were identified.¹

¹ Sigalos, M. (2023). 'Coinbase warned by SEC of potential securities charges,' March 22, 2023

December 2022: Bankman-Fried is arrested by Bahamas authorities after criminal charges are filed against him in New York. In a written testimony to the House Financial Services Committee, John J. Ray III, an eminent attorney chosen to oversee FTX's bankruptcy, memorably states that "never in my career have I seen such an utter failure of corporate controls at every level of an organisation, from the lack of financial statements to a complete failure of any internal controls or governance whatsoever."¹

¹ Testimony of Mr. John J. Ray III, CEO, FTX Debtors, delivered to the House Financial Services Committee on December 13, 2022

March 12, 2023: New York state regulators shut down Signature Bank, a major lender in the crypto-assets industry, in order to prevent a run on the bank and quell the risk of further contagion within the banking industry. Fintech firm Circle Internet Financial announces that it had USD 3.3bn in reserves at the failing Silicon Valley Bank (SVB), prompting nervous investors to sell over USD 2bn's worth of Circle's stablecoin USD Coin (USDC).

March 27, 2023: The Commodity Futures Trading Commission (CFTC) files a civil enforcement action against the three entities that operate Binance, alleging that the crypto-assets exchange had enabled users to access derivatives that are required to be traded on regulated exchanges, and did so without registering with regulators in the US.¹

¹ CFTC (2023), 'CFTC Charges Binance and Its Founder, Changpeng Zhao, with Willful Evasion of Federal Law and Operating an Illegal Digital Asset Derivatives Exchange,' March 27, 2023

"The biggest challenge [faced by the crypto-assets industry] is trust and confidence post the events of 2022. All companies in the industry need to hold themselves to a high standard and be transparent with investors to show that they operate in a secure and compliant manner."
Jean-Baptiste Graftieaux, Group CEO, Bitstamp

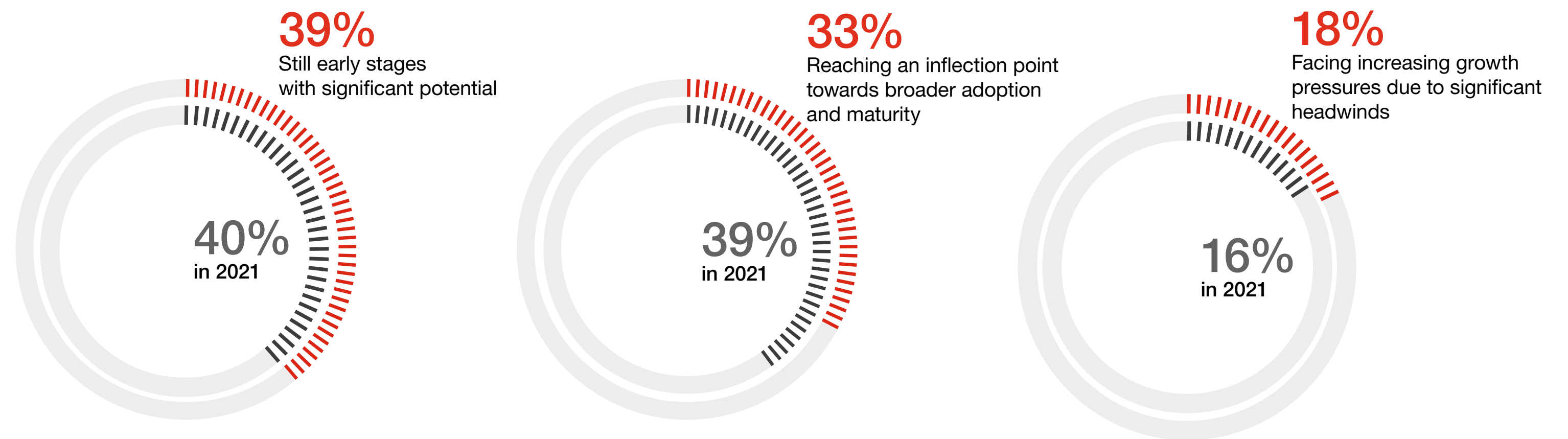
The view from Luxembourg

Despite the tumultuous events in global crypto-assets markets since 2022, industry players in Luxembourg have not disengaged dramatically from the space but rather appear to take a cautious stance on the state of the market.

As a matter of fact, 39% of our respondents believe that the market is still in its early stages and has significant potential – a finding that remains virtually unchanged compared to the first edition of our survey. In addition, around one-third of our respondents anticipate an inflection point that will lead to wider adoption and maturity of crypto-assets across global markets, a slight decrease from the figure in the previous edition (39%) (cf. Exhibit 1).

Exhibit 1.

Assessment of the current global crypto-assets market



Source: PwC Global AWM & ESG Market Research Centre



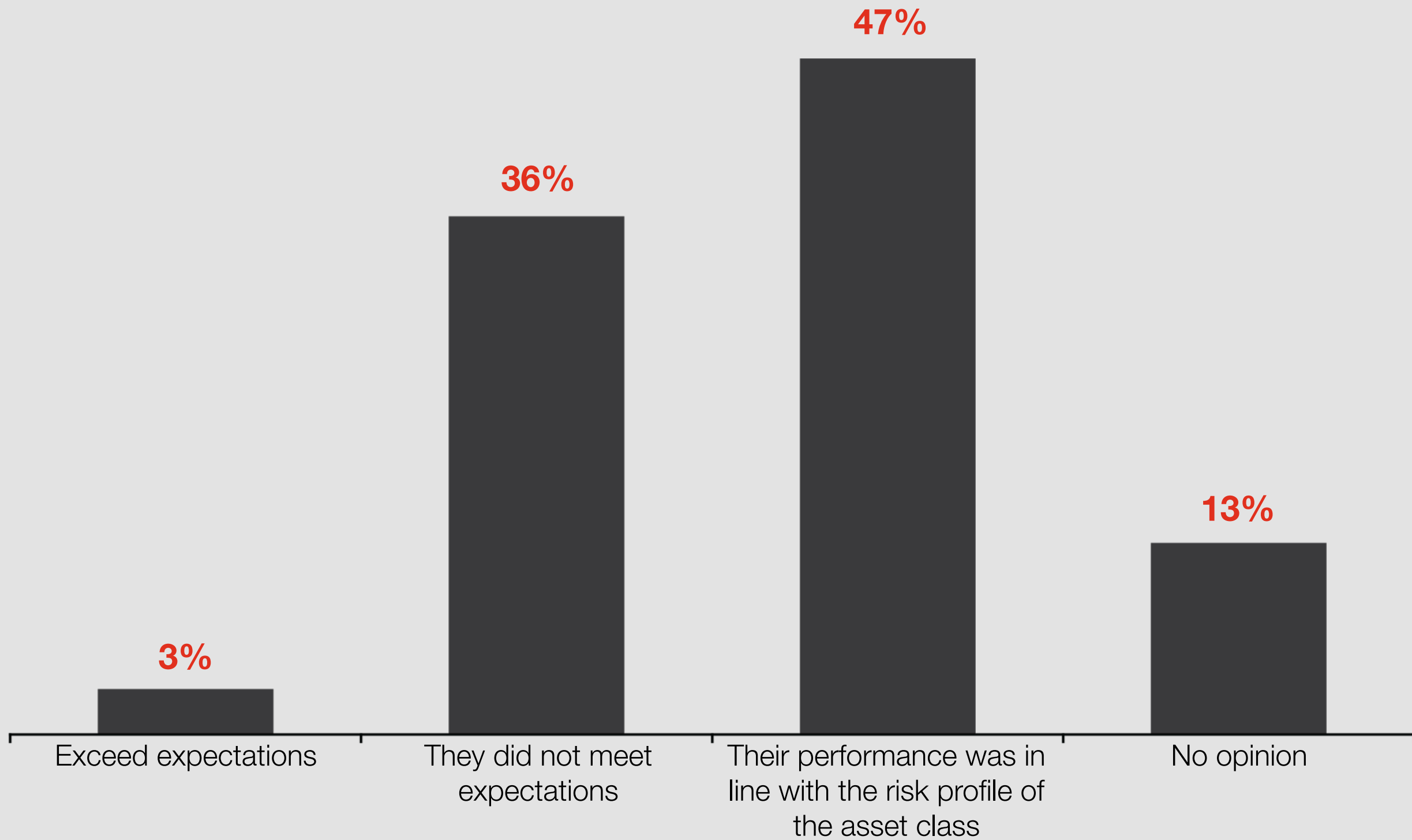
When disaggregated by respondent categories, respondents from the AWM sub-sample largely believe that the global crypto-assets market is still in its early stages and has significant potential (35%), or that it is reaching an inflection point towards broader adoption and maturity (29%). Their peers working in fund administration services were the most bullish, with 40% expressing their belief that the market is approaching a critical turning point towards wider adoption and maturity. On the other hand, 18% of respondents feel that the market is facing increasing headwinds. Although this figure is only a slight increase from the first edition (16%), this does point to a growing sentiment among industry players that crypto-assets will be encountering significant obstacles in the coming years which will impede growth.

A little over a third (36%) of respondents believe that crypto-assets' performance did not meet expectations, with members from the AWM sub-sample (41%) and fund administrators (45%) the most likely to state so. Almost half (47%) believe that performance of crypto-assets was in-line with the asset class' risk profile (cf. Exhibit 2)¹.

¹ This is a new question we asked in this year's edition of the questionnaire.

Exhibit 2. Respondents' assessment of crypto-assets' performance, taking into account the macroeconomic and geopolitical context of 2022

New question
2023



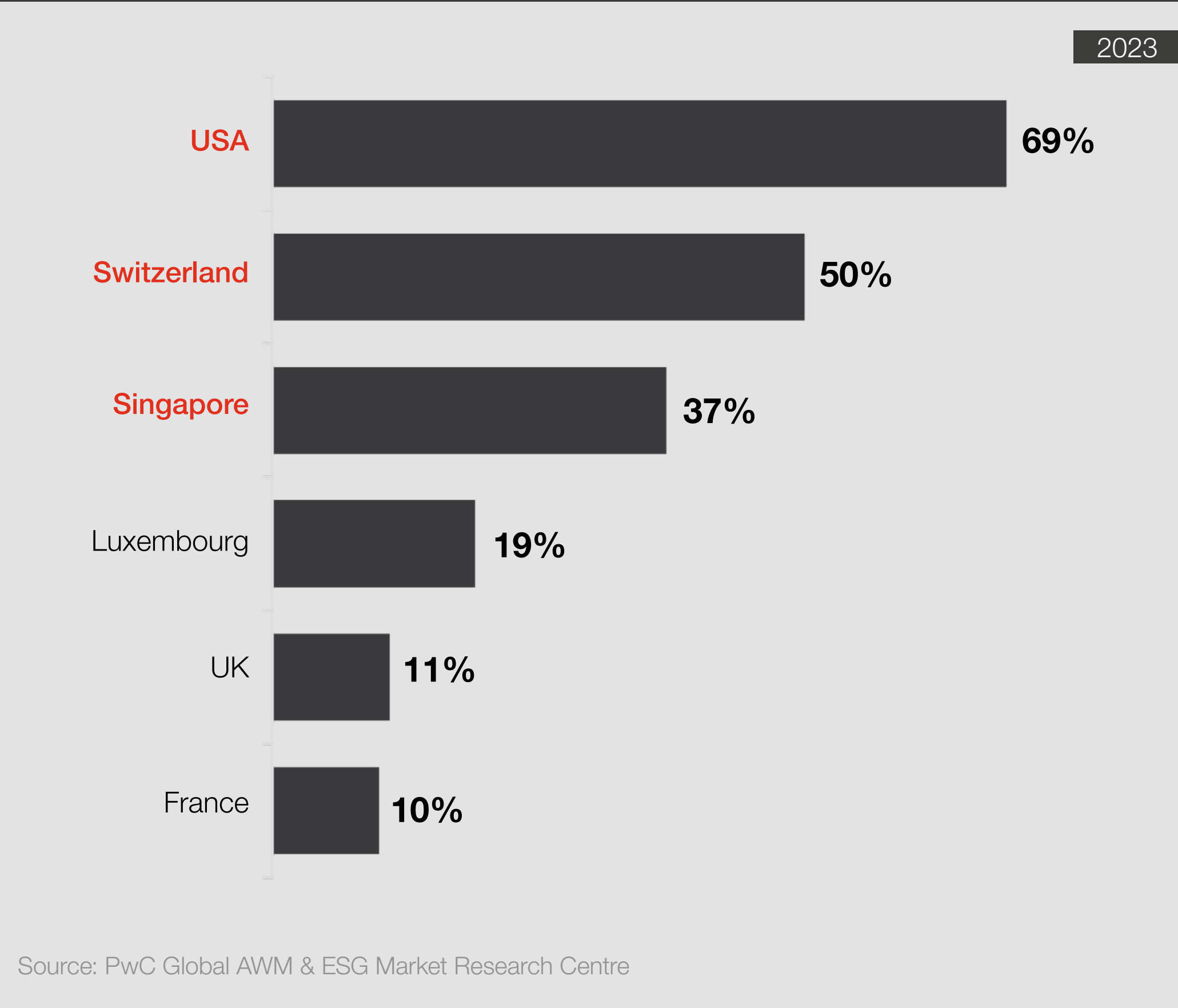
Source: PwC Global AWM & ESG Market Research Centre



Only 19% of respondents consider Luxembourg to be a leading crypto-assets space, and the country falls well below other non-EU competitors. Indeed, a whopping 69% of respondents consider the United States as the leading jurisdiction for crypto-assets, followed by Switzerland (50%) and Singapore (37%). Nonetheless, our respondents do consider Luxembourg to be ahead of both France and the UK in this regard (cf. Exhibit 3).¹

¹ Luxembourg was not included as an option in the 2021 version of the questionnaire.

Exhibit 3. Countries considered as leading in the crypto-assets space

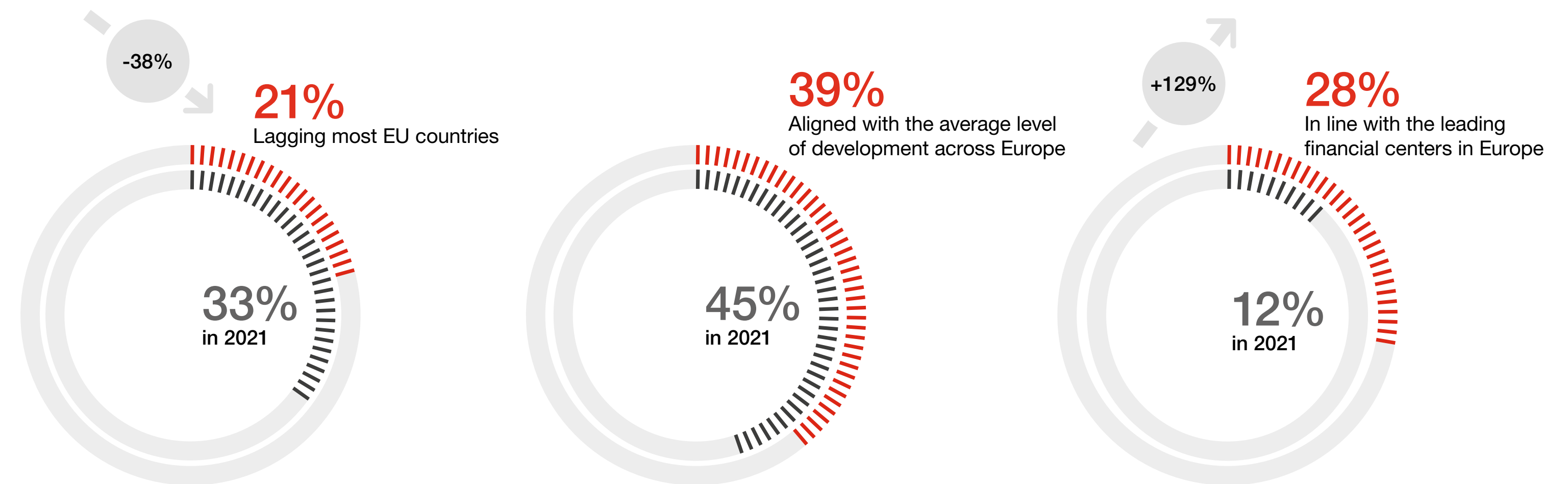




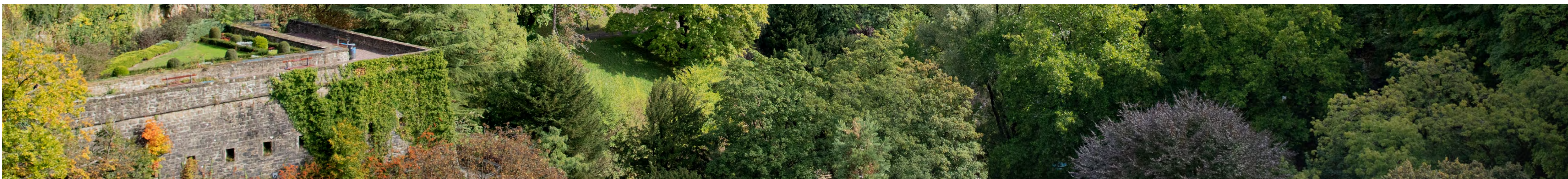
There are, however, compelling indicators suggesting that Luxembourg's position will improve in the coming years. Respondents in this year's iteration of the survey appear to increasingly believe that the Grand Duchy is maturing as a jurisdiction for crypto-assets.

For instance, whereas one-third of respondents in 2021 considered Luxembourg to be lagging behind most EU countries in this regard, the figure goes down to 21% in this edition of the survey. In addition, while only 12% of respondents in 2021 believed Luxembourg to be in-line with the leading financial centres in Europe with regards to maturity in crypto-assets, the figure has increased to 28% (cf. Exhibit 4).

Exhibit 4. Comparative maturity of Luxembourg as a jurisdiction for crypto-assets



Source: PwC Global AWM & ESG Market Research Centre



Outlook on the Luxembourg crypto-assets market

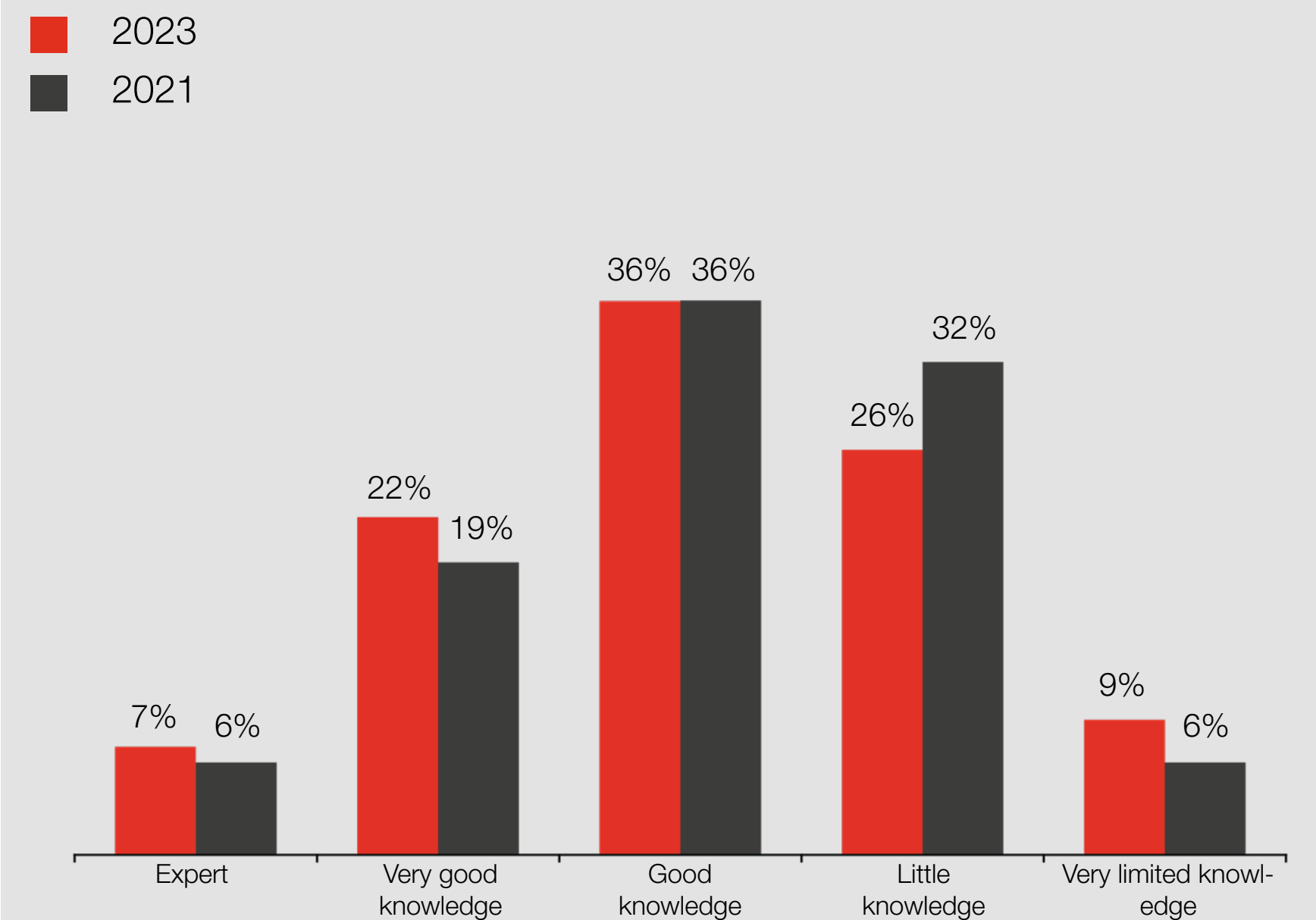
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Within Luxembourg, industry players seem to have made modest strides in their understanding of crypto-assets since late 2021. At the time, 38% of respondents had little or very limited knowledge of crypto-assets – in 2023, this figure has decreased slightly to 35%. In parallel, the percentage of respondents who consider themselves as having good-to-expert level knowledge has risen from 62% in 2021 to 65% in 2023 (cf. Exhibit 5).

This trend supports the notion that a meaningful percentage of professionals in this space have sufficient understanding to evaluate the various aspects contained in this survey, and by corollary, to be active participants in the development of a crypto-assets ecosystem in the Grand Duchy. At the same time, there remains significant room for improvement, which suggests that additional educational and upskilling efforts would be pertinent.

Exhibit 5.

What would you say is your level of knowledge of crypto-assets?

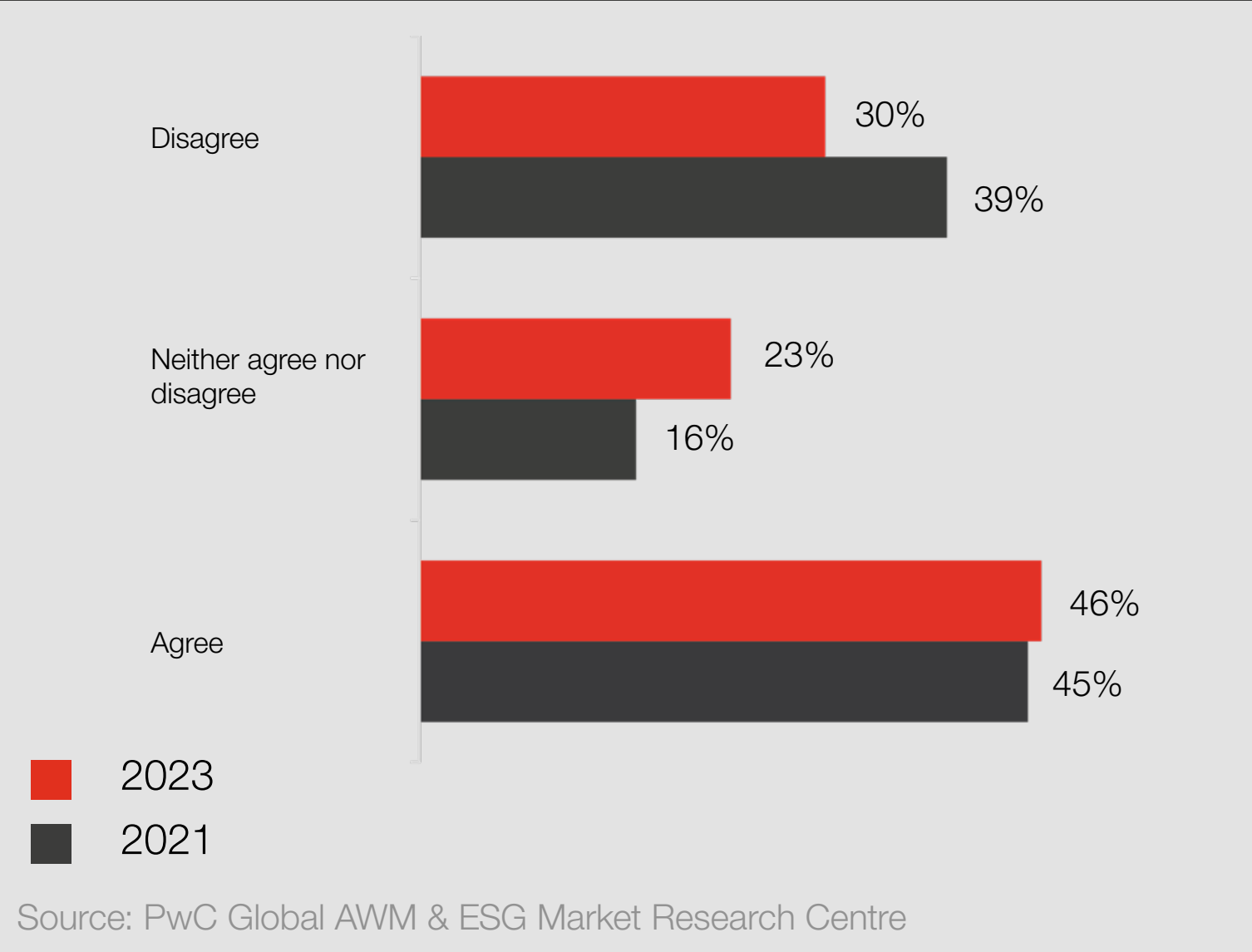


Source: PwC Global AWM & ESG Market Research Centre

As for the regulatory side of crypto-assets markets, almost half (46%) of our survey respondents feel that they have a clear understanding of the current legal and regulatory framework related to crypto-assets in Luxembourg. This is a minor improvement from the previous survey, where 45% had such an understanding. However, 30% of respondents still feel otherwise – down from 39% – while around 23% are not sure (cf. Exhibit 6).

Exhibit 6.

To what extent would you agree with the following statement: “I have a clear understanding of the existing legal and regulatory framework around crypto-assets in Luxembourg”



“Regulation brings clarity and protection. [MiCA and other regulations] will allow new investors into the asset class that currently cannot invest due to mandate restrictions.”

Jean-Baptiste Graftieaux, Group CEO, Bitstamp

Although there is no formal regulatory stance on crypto-assets yet in Luxembourg – pending the implementation of MiCA across the EU – the previous edition of our survey highlighted the issuance of two “Virtual Assets – FAQs” by the CSSF in November 2021 and January 2022 respectively, as positive developments. It is likely that these two FAQs, together with an ongoing, constructive dialogue between the regulator and the industry, led to additional clarity as reflected in this year’s survey results.

“Our experience of setting up in Luxembourg was exceptionally positive. We found the CSSF excellent to deal with. They were professional and business-like, as well courteous, helpful and timely in their responses.”

John Cronin, CEO, Zodia Custody Ireland

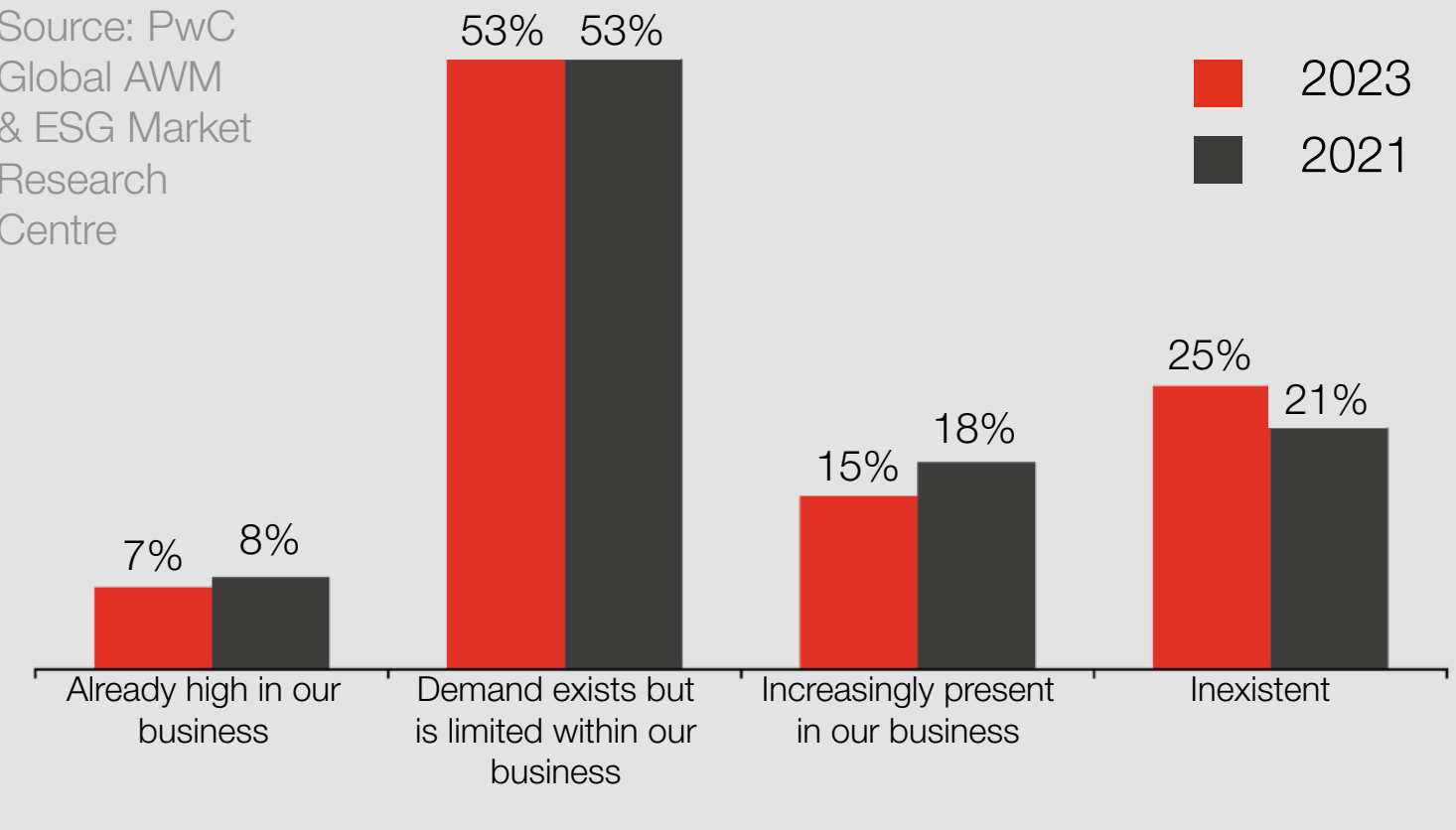
While understanding of the legal and regulatory framework has improved, market demand has not.

A quarter of respondents stated that demand for crypto-assets products and services is non-existent (up from 21% in 2021), with AWM professionals being the most likely respondents to see no demand (37%), followed by fund administrators (25%). In addition, the number of respondents who believe demand related to crypto-assets products to be increasingly present has dropped from 18% in 2021 to 15% in 2023, while only 7% stated that demand is high (down from 8% in 2021).

Nonetheless, this does not mean that crypto-assets-related products and services encounter an inexistent market in Luxembourg. 53% of respondents continue to encounter limited demand for such products and services (cf. Exhibit 7).

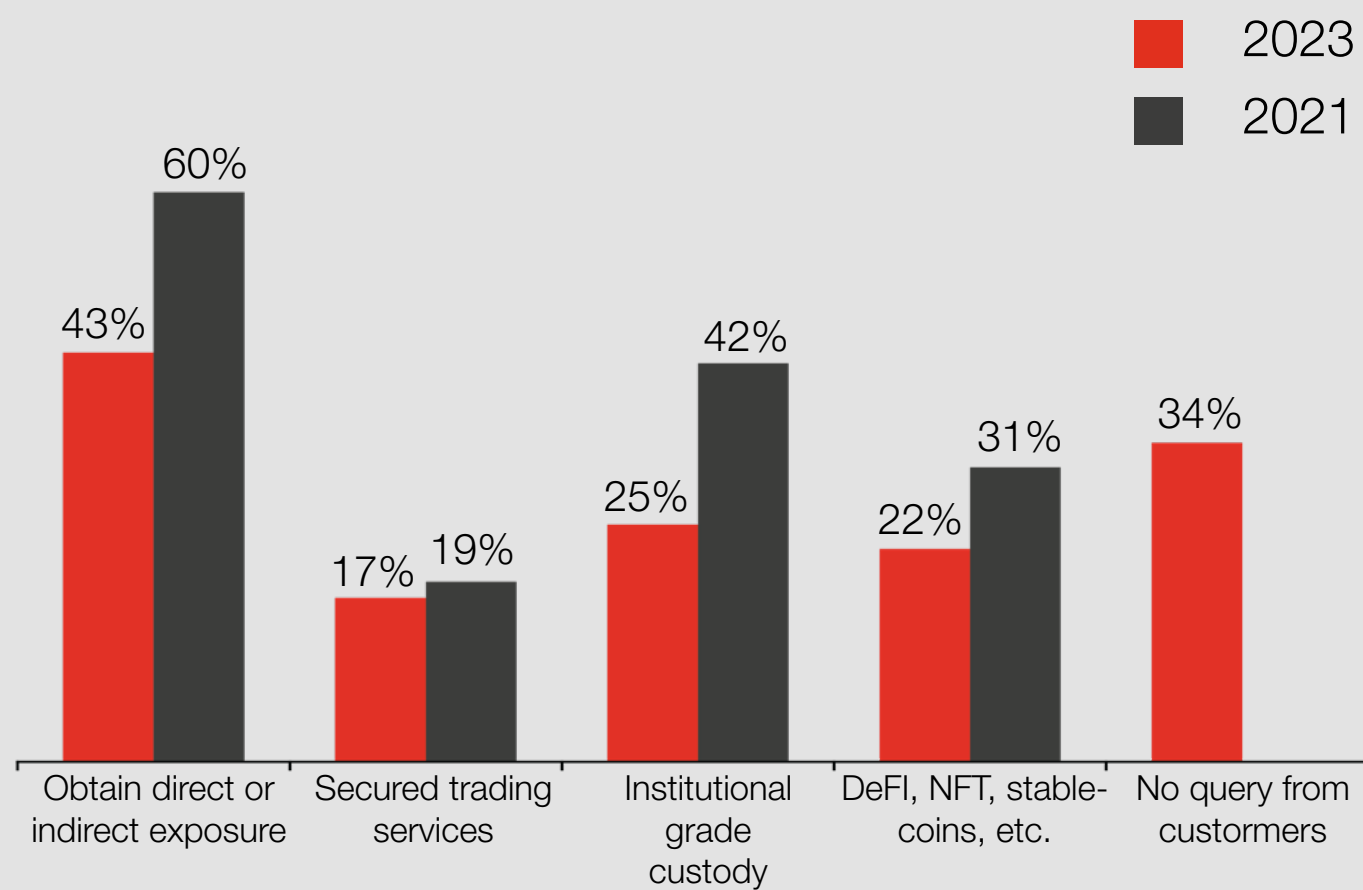
Exhibit 7.

Current customer demand for crypto-assets products and services



The most requested query from customers was to obtain direct or indirect exposure to crypto-assets, followed by demands to obtain institutional-grade custody and access more advanced crypto-assets products and services such as decentralised finance, stablecoins, and NFTs (cf. Exhibit 8). However, we observe a drop across categories, and roughly 1/3 of our respondents state that there are no queries from their customers. Taken as a whole, these changes highlight that there is a sentiment shift driven by industry headwinds, as mentioned earlier.

Exhibit 8.
Main crypto-assets related queries received from customers

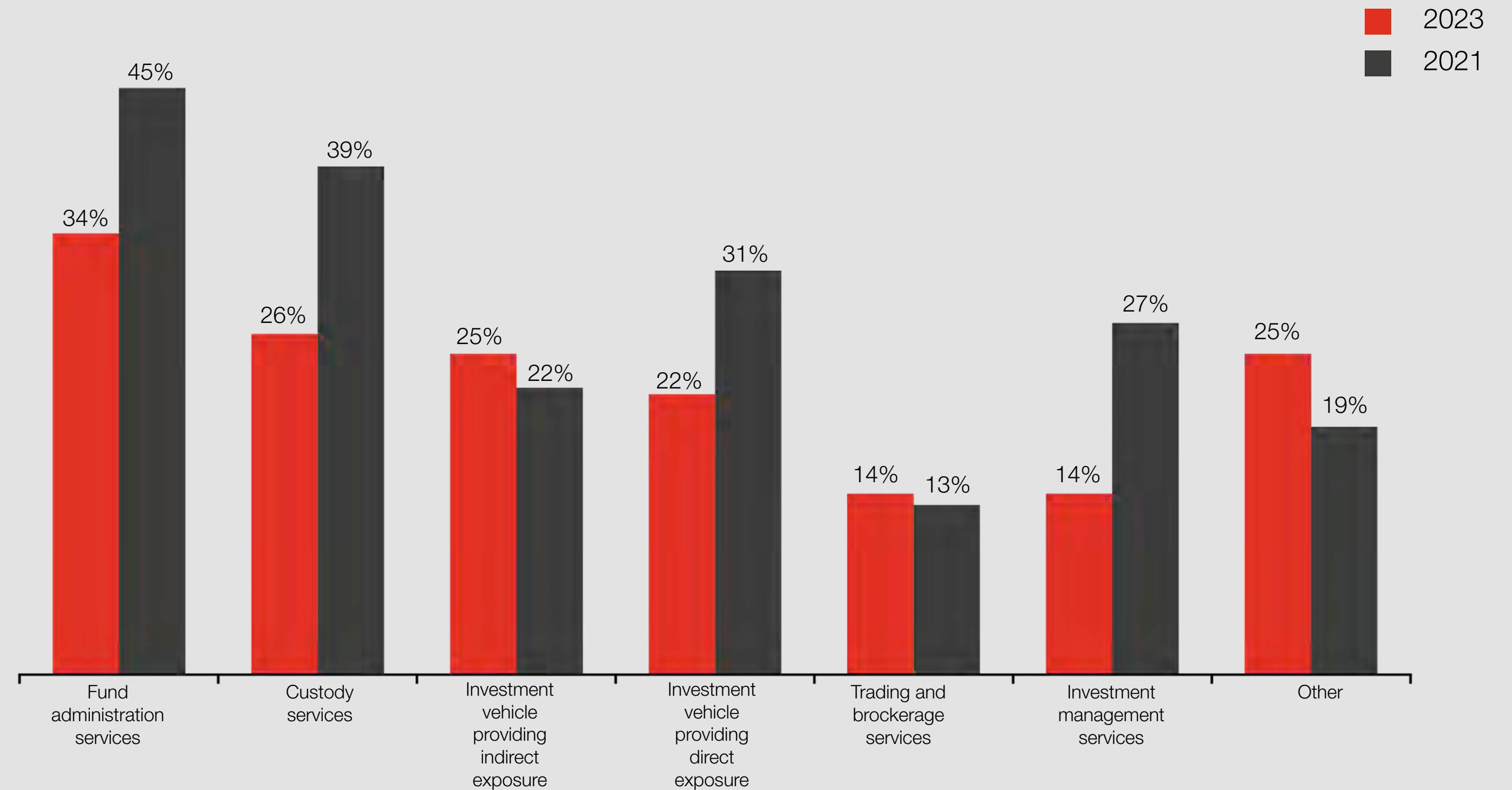


Note: The 'No query from customers' option was not present in the 2021 edition of the survey.

Source: PwC Global AWM & ESG Market Research Centre

As for the crypto-assets products and services currently delivered by industry players, fund administration was the most offered service, with 34% of respondents stating that they currently offer this service or are planning on doing so. This is followed by custody services (26%), investment vehicles offering indirect (25%) and direct (22%) exposure, as well as trading/brokerage services and investment management services (both 14%) (cf. Exhibit 9).

Exhibit 9.
What kind of crypto-assets products and services are you delivering or planning to deliver?



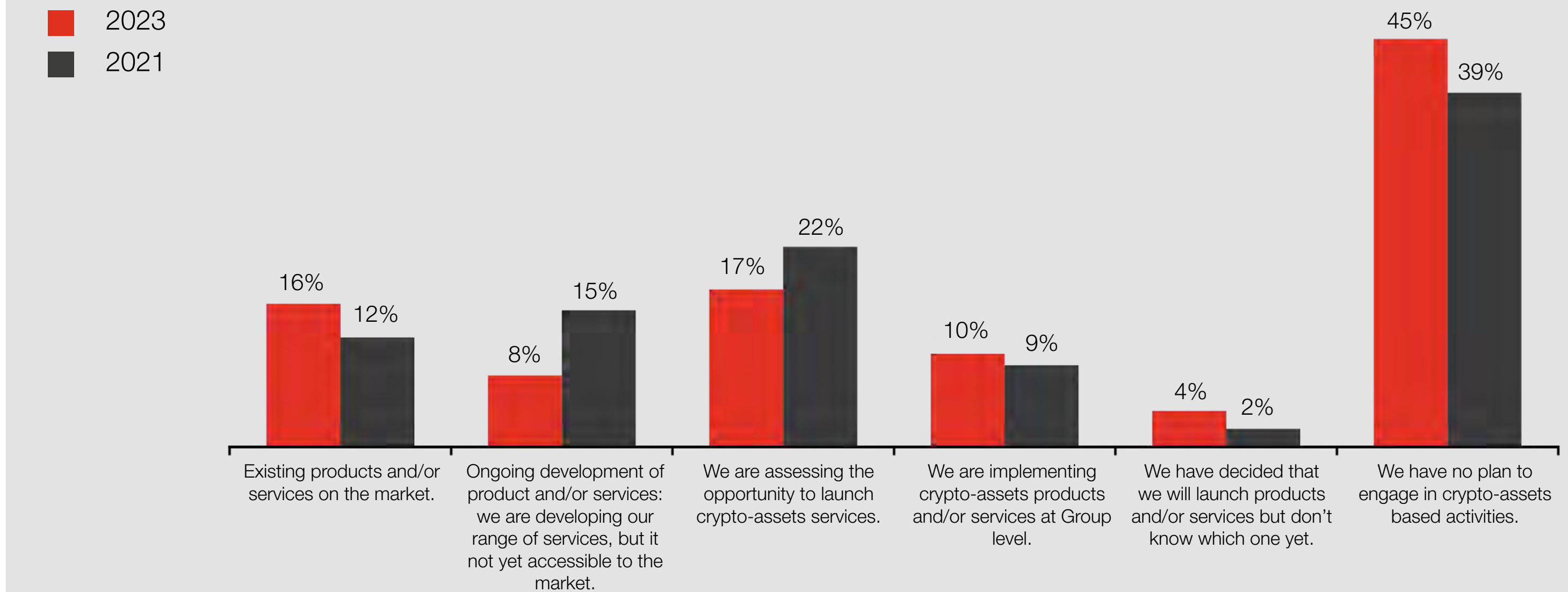
Source: PwC Global AWM & ESG Market Research Centre

Dampened demand has also led to partial disengagement by industry professionals, as almost half (45%) of our respondents have no plans to engage in crypto-assets-based activities – an increase from the first edition of the survey, wherein 39% answered similarly. Amongst our AWM sub-sample, over half (57%) have no such plans – the highest figure among all respondent categories (cf. Exhibit 10).

The events of 2022 and Q1 2023, most notably the collapse of Silvergate Bank and Signature Bank – widely regarded as the “two most bitcoin-friendly banks”¹ – seem to have significantly damaged confidence in the crypto-assets market, particularly in a macroeconomic context characterised by monetary tightening and vigilance towards systemic risks.

¹ Ghosh, S., Shukla, S. & Zheng, S. (2023). ‘Crypto Scours the Globe for Banks to Replace Collapsed US Lenders,’ Bloomberg, March 13, 2023

Exhibit 10.
Where respondents stand on their crypto-assets journey



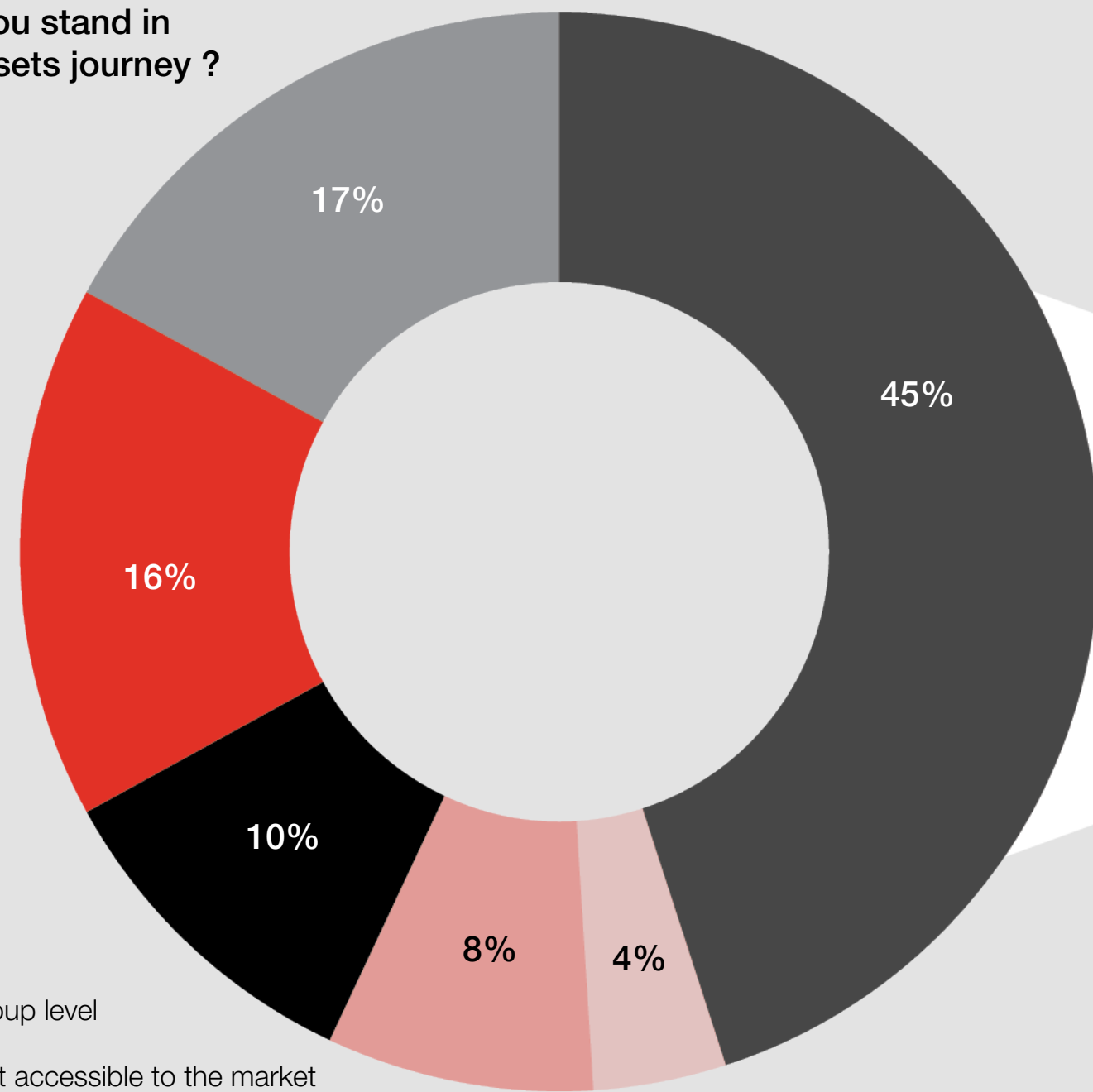
Source: PwC Global AWM & ESG Market Research Centre

Unsurprisingly, industry players in Luxembourg are acutely aware of the high risks associated with crypto-assets, and the principal reason behind the reluctance to engage with crypto-assets has to do with the asset class risk profile. Among respondents who do not have any crypto-related plans, 58% cite the excessive risks entailed as the main deterrent, while 54% state that crypto-assets are not aligned with their mandate (cf. Exhibit 11). It is also worth noting that 35% of the above now cite lack of internal resources and expertise as a leading cause for lack of engagement, up from 19% in our 2021 survey.

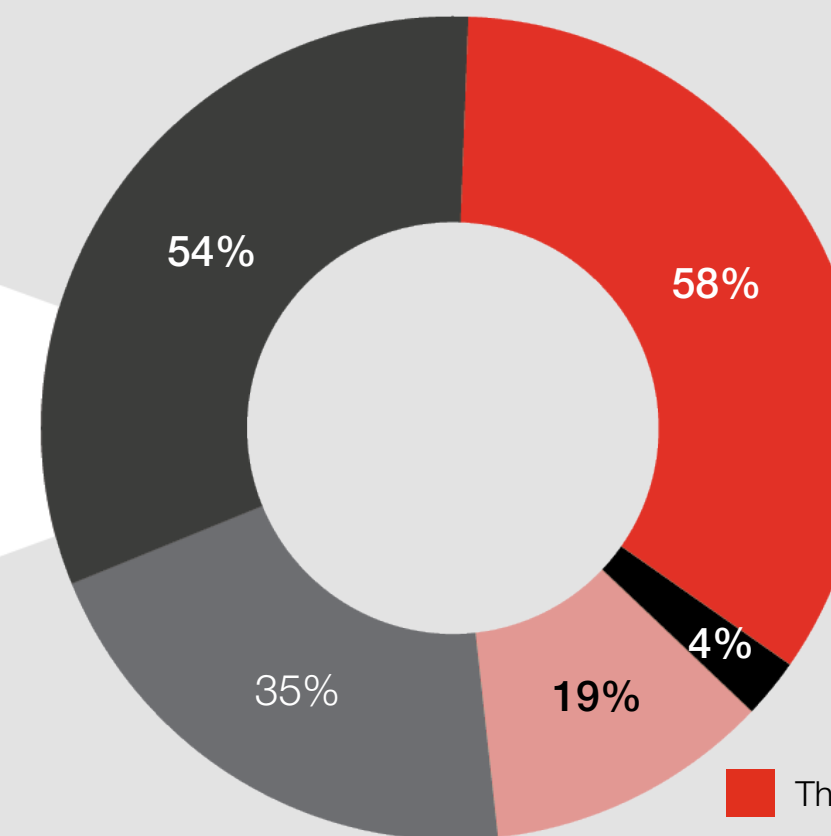
Exhibit 11.
Where respondents stand on their crypto-assets journey

2023

Where do you stand in your crypto-assets journey ?



If no plan to engage, why?

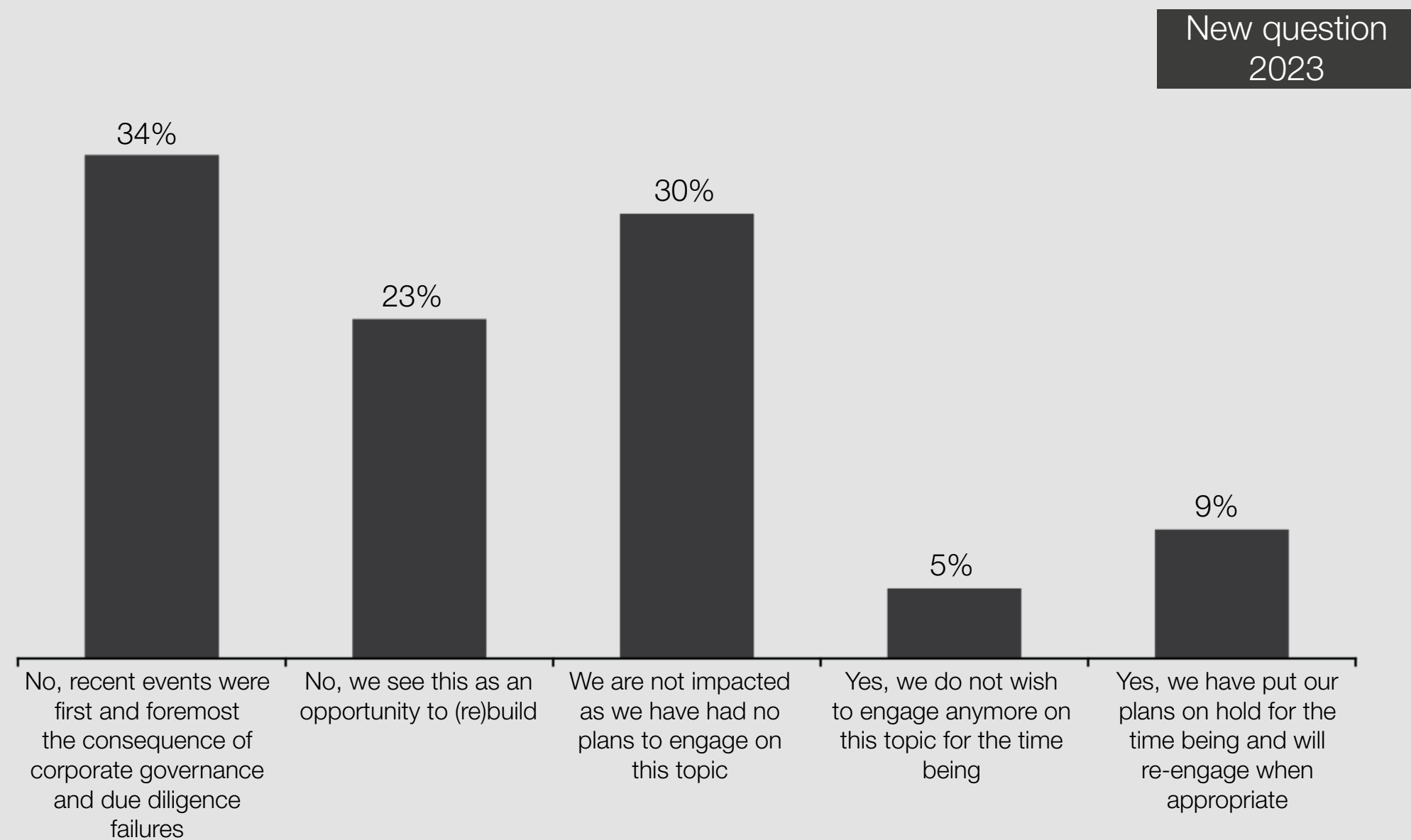


- No plan to engage in crypto-assets based activities
- Assessing the opportunity to launch crypto-assets services
- Existing products and/or services on the market
- Implementing crypto-assets products and/or services at a group level
- Ongoing development of product and/or service, but it not yet accessible to the market
- Launch products and/or services but don't know which one yet

- They entail excessive risks, including but not limited to regulatory and legal risks
- They are not aligned with our mandate or mission
- Lack of internal resources and expertise
- There is insufficient commercial opportunity
- Other

Source: PwC Global AWM & ESG Market Research Centre

Exhibit 12.
Have recent market events lowered your engagement plans/ambitions in the crypto-assets industry?



Source: PwC Global AWM & ESG Market Research Centre

Focusing on risks, 51% of respondents agree or completely agree that AML risks inherent to crypto-assets are too high, while only 9% believe that this claim is totally unfounded. Meanwhile, respondents seem to be slightly less concerned about potential cyber risks in crypto-assets, as 35% believe cyber risks implied by crypto-assets create unmanageable operational risks.

The turbulence experienced in the global crypto-assets market in recent times has not entirely dampened the expectations and ambitions of Luxembourg's industry players, as reflected in the responses to a new question aimed at gauging the impact of recent market events on respondents' crypto-related plans/strategies.

Almost one quarter (23%) of respondents believe that recent events are an opportunity to rebuild the crypto-assets industry on stronger foundations, while 34% consider these events as the consequence of corporate governance and due diligence failures. As a whole, only 5% of respondents do not wish to engage with crypto-assets as a result of these events, while 9% have put their plans on hold and will re-engage when appropriate (cf. Exhibit 12).

Constraints to growth and uptake of crypto-assets in Luxembourg



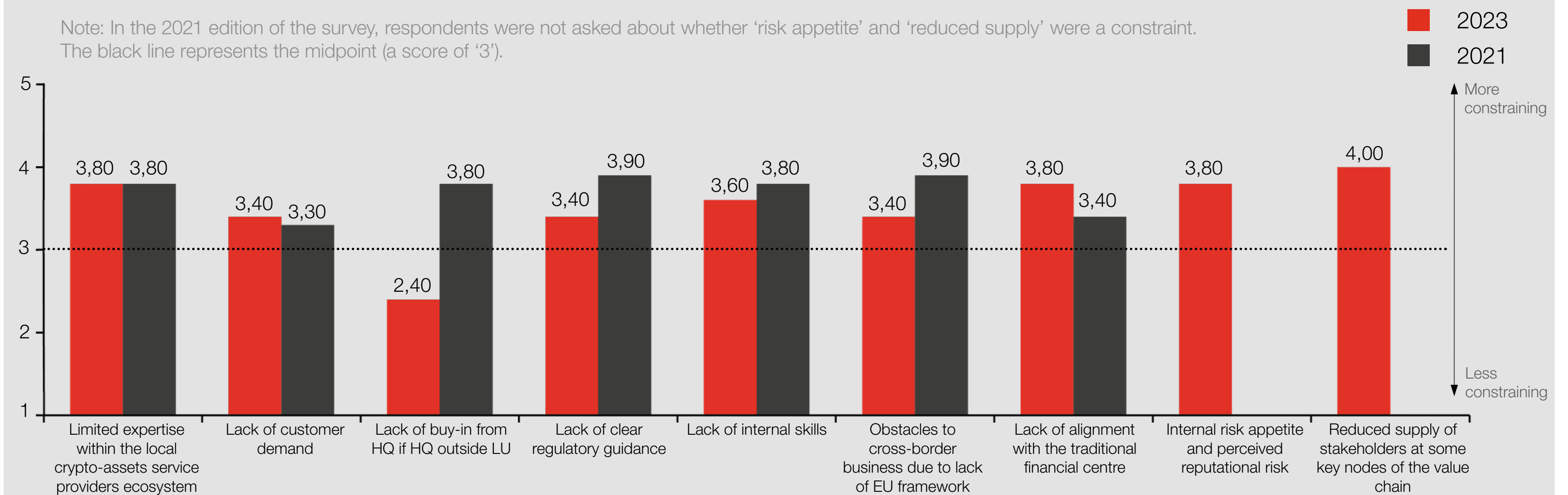
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As with the previous edition of our survey, we asked our respondents to rate on a scale of 1 to 5 – with ‘1’ being ‘not significant’ and ‘5’ being ‘highly significant’ – a range of factors which they believe are constraining the development and growth of the crypto-assets market in Luxembourg.

Exhibit 13.

On a scale of 1 to 5, how would you describe the following factors as constraints to the crypto-assets market in Luxembourg?

Note: In the 2021 edition of the survey, respondents were not asked about whether ‘risk appetite’ and ‘reduced supply’ were a constraint. The black line represents the midpoint (a score of ‘3’).



Source: PwC Global AWM & ESG Market Research Centre

There are a range of constraints identified by our respondents:

- Although a sizeable number of respondents stated that they have good knowledge of crypto-assets, **limited expertise** within the local crypto-assets service providers system is one of the most significant barriers to the growth and uptake of crypto-assets in Luxembourg, as 70% of survey respondents ranked it as being a 'significant' ('4') or 'highly significant' ('5') constraint. In addition, the **lack of internal skills** was cited as a constraint by 61% of respondents. These numbers are virtually unchanged from the previous edition of the survey, pointing to a persistent challenge.
- **Internal risk appetite and perceived reputation risk** is another major barrier, with 62% ranking it as a 'significant' or 'highly significant' constraint.
- **Lack of alignment with the traditional financial centre** was considered to be a 'significant' or 'highly significant' constraint by 60% of respondents, which indicates that many industry players in Luxembourg may not have fully grasped the potential of crypto-assets or are wary of entering into the crypto-assets space.

- The **lack of customer demand** and the **lack of clear regulatory guidance** are equally seen as barriers, with 54% of survey respondents ranking each as a significant or highly significant constraint. Regarding the former, there is a minor increase in this figure from the previous edition of the survey, which indicates a drop in customer demand in Luxembourg.

Interestingly, respondents are now much less likely than in the previous edition of the survey to consider the lack of buy-in from HQ outside Luxembourg as a 'significant' or 'highly significant' constraint (32%). This signals one of three possibilities: (1) more buy-in at group level; (2) more autonomy at Luxembourg level; (3) sample variation (i.e., more Luxembourgish entities in the current interim analysis). Regarding the latter, 37% of respondents to this year's edition of the survey, vs 30% of respondents previously, indicate having full decision-making power as their headquarters are located in Luxembourg.

But these are not the only constraints.



73% of respondents believe that crypto-assets market infrastructures are still lacking in maturity in Luxembourg. This is a major concern for industry players. In addition, over half of the respondents believe that crypto-assets' price volatility makes them unsuitable for most investors (53%) and that the AML risk inherent to crypto-assets is too high (51%) (cf. Exhibit 14).

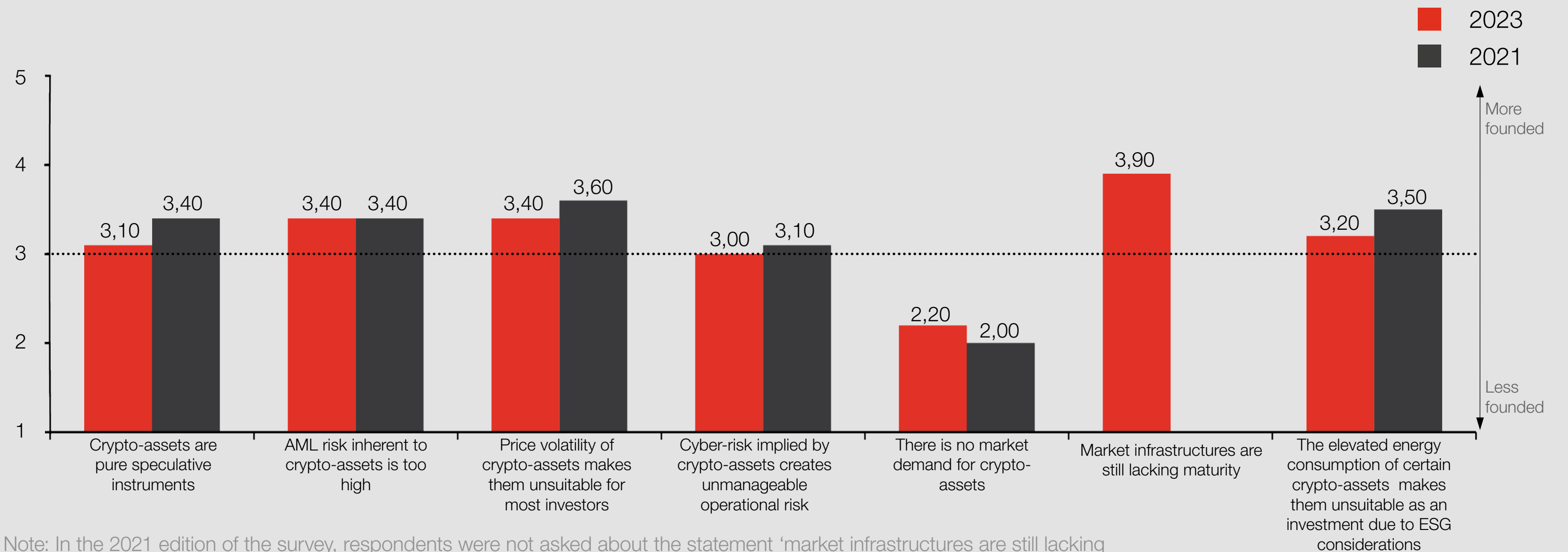
Note: the percentages in this graph show the combined percentage of the scores '4' and '5,' with 5 = totally founded.

However, the lack of market demand for crypto-assets appears to be a low-priority concern for industry players, as only 14% of our respondents considered it to be an issue they face.

The fact that some crypto-assets consume high amounts of energy might make them unattractive prospects for investment. Respondents from our AWM sub-sample were slightly more likely than the average to consider crypto-assets unsuitable due to ESG considerations.

The fact that ESG concerns are no longer a top concern relative to the 2021 survey, might be due to an ongoing shift away from proof-of-work (PoW) and towards significantly less energy-intensive proof-of-stake (PoS) mechanisms. This shift in perception is all the more important as sustainability considerations continue to reshape the asset management industry.

Exhibit 14. On a scale from 1 to 5 (with '1' being 'totally unfounded' and '5' being 'totally founded'), how would you rate the following statements about crypto-assets?



Note: In the 2021 edition of the survey, respondents were not asked about the statement 'market infrastructures are still lacking maturity.' The black line represents the midpoint (a score of '3').
Source: PwC Global AWM & ESG Market Research Centre

Storage options for crypto-assets

Our survey results highlight that infrastructure maturity is a major roadblock to the integration of crypto-assets into the traditional asset management industry. An important part of the infrastructure puzzle is institutional-grade crypto-custody options. Below we shed some light on this topic.

Users and organisations can store their crypto-assets in one of the following ways, depending on their needs, preferences and the amount of crypto-assets they need to store:

- **Custodial wallet:** Custodial wallets are offered by 3rd party companies that store the user's private keys and in fine control user's assets. These companies manage the security and storage of the crypto-assets on behalf of users who typically access their funds through an online platform or a mobile app. Such solutions usually provide institutional grade security measures (encryption, multi-factor authentication etc.) and insurance protection against assets lost. While more convenient than non-custodial wallets, custodial wallets inherently create a counterparty risk that needs to be mitigated through extensive due diligence and monitoring processes.

- **Non-custodial wallet:** Non-custodial wallets are offered by 3rd party providers and place the custody responsibility on the individuals hereby removing the counterparty risk implied by custodial wallets. While oftentimes considered as the most secured option, it requires individuals to take more responsibilities and exposes them to total loss of assets with no recourse should they lose access to their non-custodial wallets.

Irrespective of their nature (custodial or non-custodial), wallets can take different forms and shapes and are referred to as hot or cold with respect to their connection to a network.

- **Cold wallets** are offline (not connected to the internet) - examples include paper wallets, crypto-specific hardware (USB stick) or hard drives and offline computers / server bunkers - and are the preferred option when working with large amounts of crypto-assets and/or for long-term storage. Examples of providers include Swiss Crypto Vault¹ and the custody services provided by Xapo, whose institutional offering was absorbed by Coinbase.²

- **Hot wallets** are web-based, mobile or desktop wallets, which are applications or programs installed on the user's computer or mobile device and allow for a quick and easy access to crypto-assets.

1/4 of this year's survey respondents have received institutional grade custody-related queries from their customers, with depositary service providers (35%) and fund administrators (30%) seeing meaningful demand. In addition, 73% of depositary service providers also plan to or are already delivering crypto-related custody services.

“Custody, internal controls, regulatory oversight, and governance seem to be the key areas in which the industry is likely to evolve in the next 18 months.”

John Caslin, Director of Investment Management and Innovation, Carne Group

¹ <https://www.blockdata.tech/products/swiss-crypto-vault>

² <https://www.coinbase.com/blog/coinbase-custody-acquires-xapos-institutional-business-becoming-the-worlds>

Looking forward

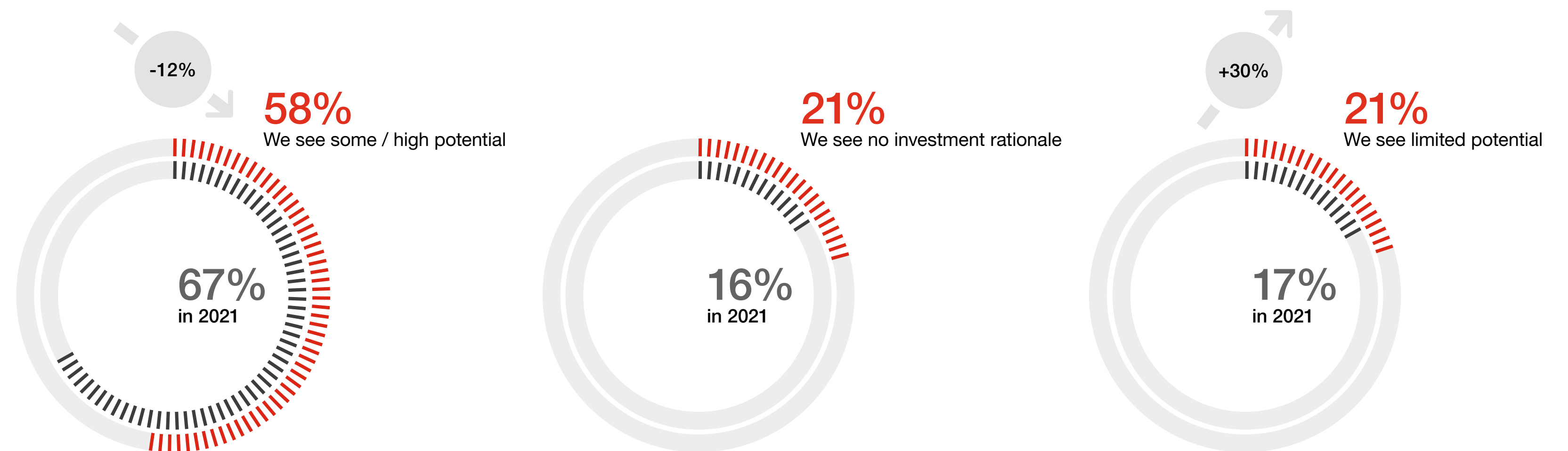


03

A large number of industry players believe that there is potential for crypto-assets from an investment strategy standpoint. For instance, almost a quarter (24%) of respondents see high potential, while 34% see some potential (cf. Exhibit 15).

Exhibit 15.

What is your view on crypto-assets potential from an investment strategy standpoint?



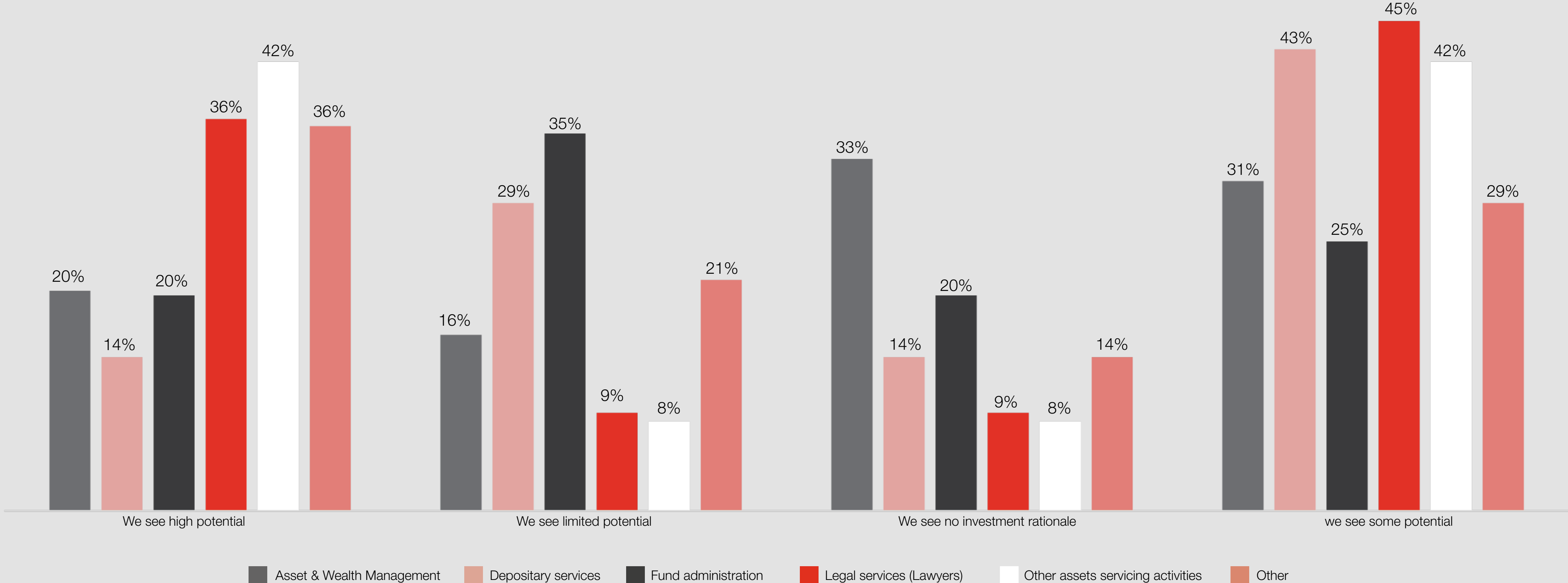
Source: PwC Global AWM & ESG Market Research Centre

However, this does not mean that there hasn't been a substantial shift in crypto-assets' investment appeal since 2021. As a matter of fact, the number of respondents who see high potential or even some potential has gone down since 2021, while a larger number of respondents see either limited potential or no rationale to invest in crypto-assets. Our AWM respondents are less likely than the average to see high potential (20%) and some potential (16%) in crypto-assets (cf. Exhibit 16).

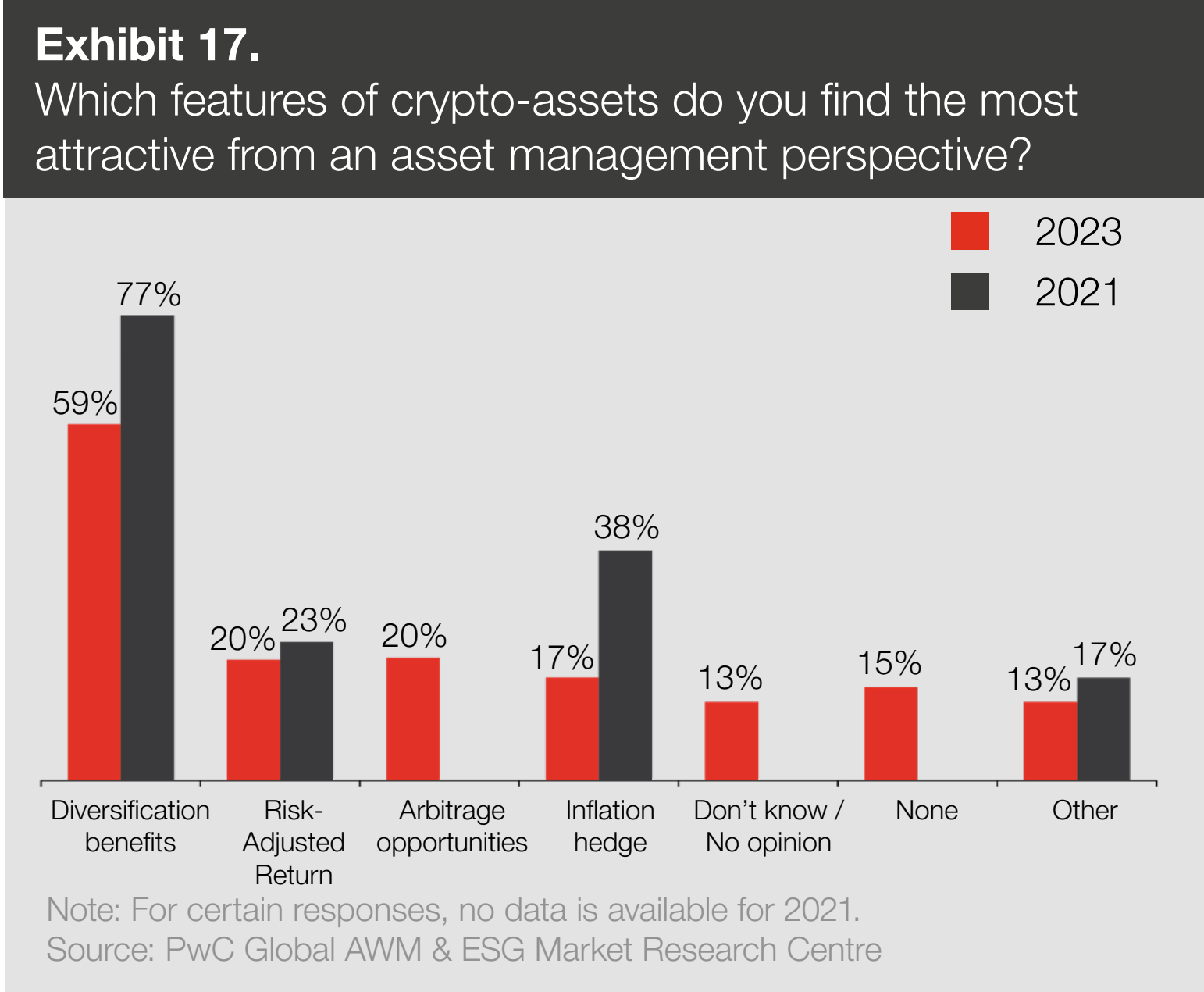
Exhibit 16.
 What is your view on crypto-assets potential from an investment strategy standpoint? (Disaggregated by respondent category)

Source: PwC Global AWM & ESG Market Research Centre

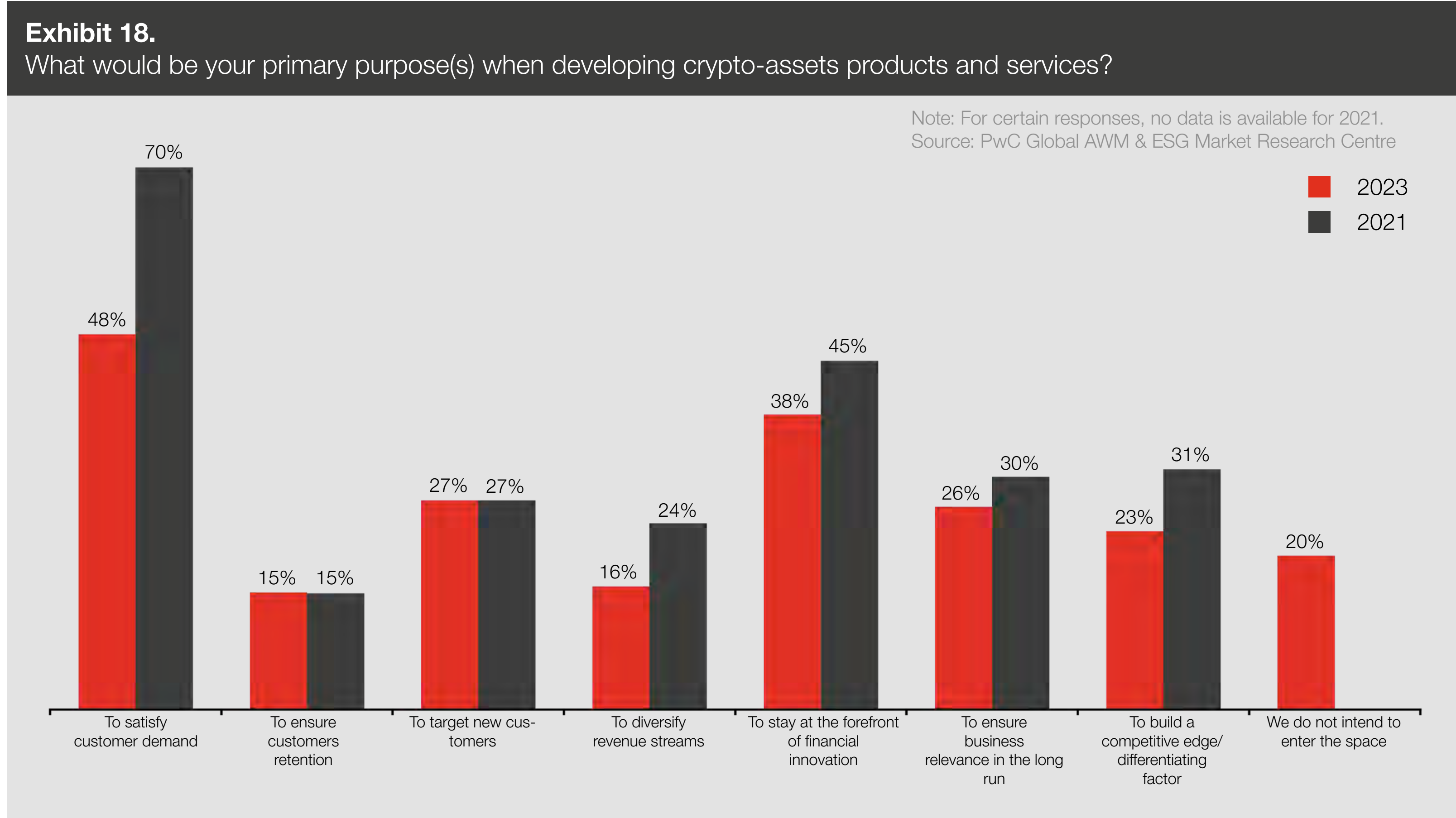
2023



Over half of the respondents (59%) consider the diversification benefits that crypto-assets bring as the most attractive feature from an asset management perspective. This feature significantly overshadowed all other potential benefits. Even if this share has gone down since the 2021 survey (77%), diversification benefits remain the key investment rationale. Inflation hedge, on the other hand, has suffered from the recent experience of crypto-assets corrections in a high-inflation environment and is now seen as the fourth most attractive feature of crypto-assets (17%) behind risk-adjusted returns and arbitrage opportunities (both at 20%) (cf. Exhibit 17).



Customer demand remains the main driver of products and services based on crypto-assets, with 48% of respondents seeing it as the primary purpose behind the development of such products and services. However, when compared with the findings of the previous edition of the survey, we see decreases across most indicators – including satisfying customer demand, whereby close to three-quarters (70%) of respondents viewed it as the primary purpose in 2021 (cf. Exhibit 18).

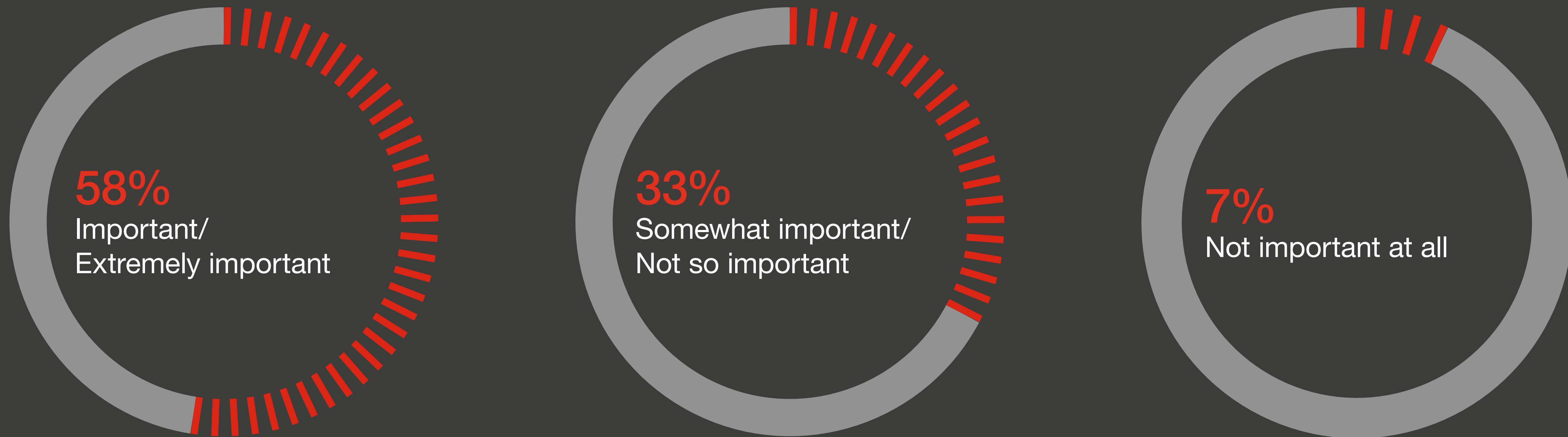


A whopping 82% of respondents consider it from somewhat to extremely important for Luxembourg to take a more active stance in the broader crypto-assets space, which suggests that industry players expect public authorities to remain engaged on the topic (cf. Exhibit 19).

Exhibit 19.

How would you assess the need for Luxembourg to take a more active stance in the broad crypto-assets space?

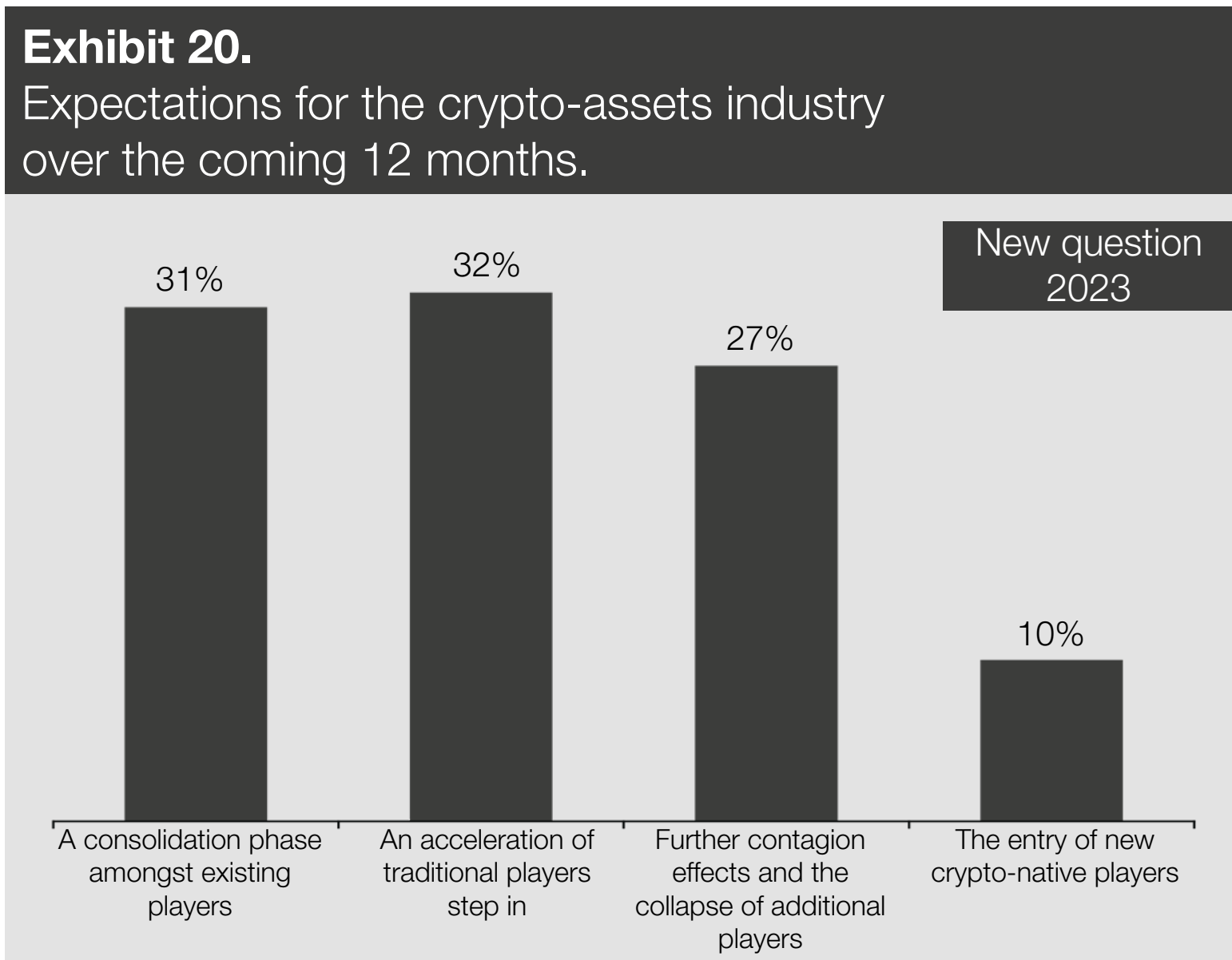
2023



Source: PwC Global AWM & ESG Market Research Centre

When it comes to how the crypto-assets industry will evolve in the coming year, the views are mixed.

Industry players seem to largely expect that a consolidation phase amongst existing players will materialise (31%) and that traditional players will increasingly step into crypto-assets markets (32%). However, over a quarter (27%) of respondents also expect the collapse of additional crypto-assets players due to contagion effects, while only 10% expect to see new crypto-native players enter the market (cf. Exhibit 20).



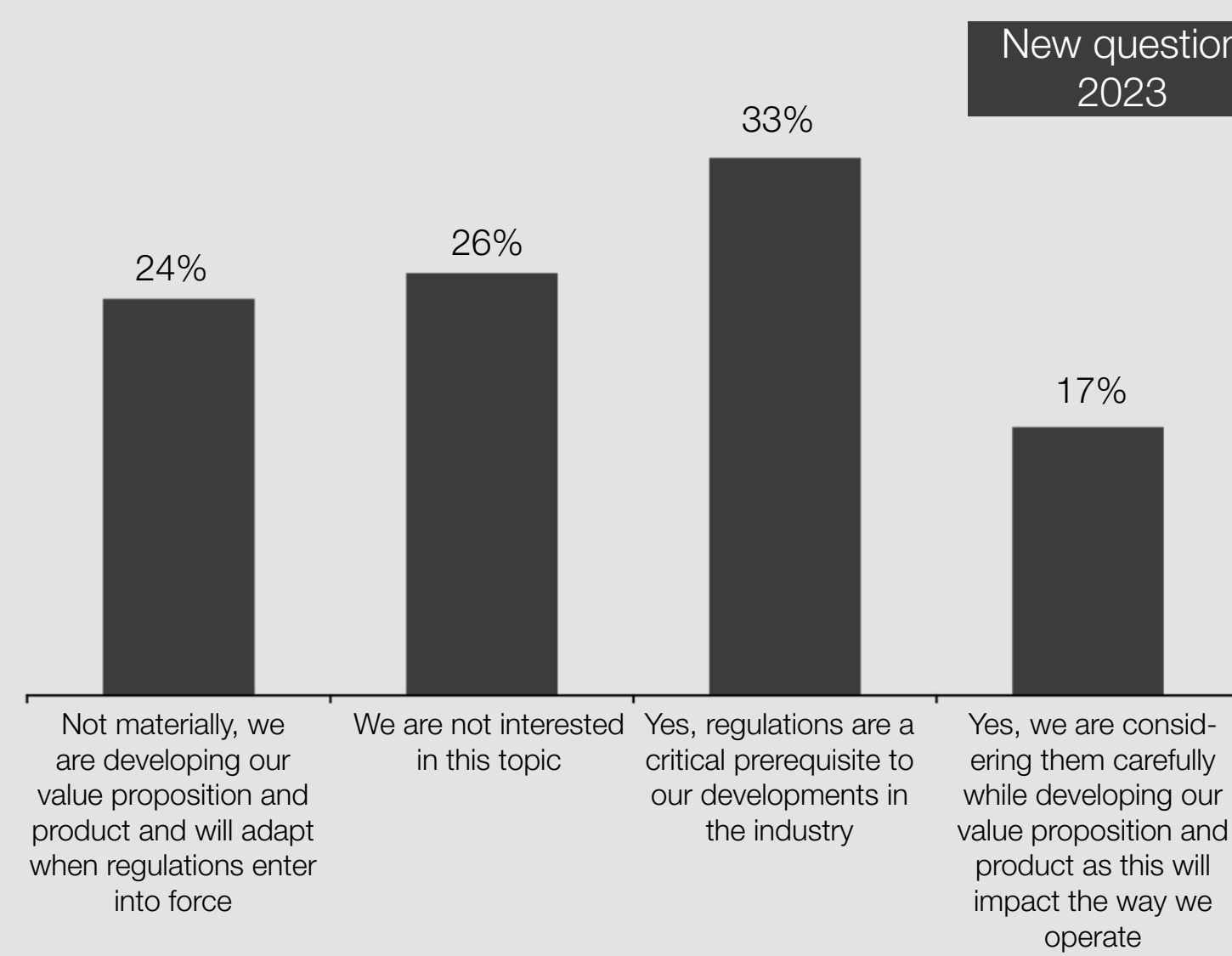
“Regulation such as MiCA will bring about the foundation to support highly compliant market participants grow the industry and bring further investment and adoption of crypto-assets.”

Jean-Baptiste Graftieaux, Group CEO, Bitstamp

It appears that respondents also have mixed views regarding the criticality of regulations such as MiCA to drive involvement in the sector. One-third of our respondents believe that regulations are a critical prerequisite for further developments in the industry, while 17% are considering such regulatory developments carefully when developing their value proposition.

However, over a quarter (26%) of respondents are not interested in the topic, while the rest (24%) are not materially affected by regulatory developments (cf. Exhibit 21).

Exhibit 21.
Are regulations such as MiCA driving your involvement in this industry?



“Regulations such as MiCAR are providing the foundations of stability for crypto, helping them work with trusted, regulated parties. The days of the crypto wild west are numbered and we welcome moving towards higher industry standards.”

John Cronin, CEO, Zodia Custody Ireland

MiCA: A game changer?

The Markets in Crypto-Assets (MiCA) regulation is a key pillar of the European Union (EU)'s Digital finance package, a set of measures which includes the EU's "digital finance strategy" and legislative proposals on crypto-assets and digital resilience. In its entirety, the digital finance package supports "a competitive EU financial sector that gives consumers access to innovative financial products, while ensuring consumer protection and financial stability."¹

By establishing a comprehensive set of rules for the issuance and offering to the public of crypto-assets, and for a broad set of related services including trading and custody, MiCA sets out to provide legal certainty and to protect investors all the while supporting financial innovation within the common market.

In terms of scope, MiCA covers a wide range of crypto-assets, including (1) asset referenced tokens (ARTs) and e-money tokens (EMTs) - better known as stablecoins - and (2) assets other than ARTs and EMTs including utility token – but excludes those crypto-assets that qualify as financial instruments (subject to MiFID).

Under the regulation, crypto-assets issuers (CAIs) are subject to strict disclosure requirements, notably via a white paper outlining the crypto-assets' key features, rights attached, associated risk and energy footprint amongst other key elements. Furthermore, issuers of ARTs and EMTs will be subject to an authorisation process and will have to meet capital requirements and ensure a strict segregation of reserves assets. Additional requirements will apply to ARTs or EMTs when deemed significant (based on quantitative and qualitative criteria), in which case the issuers would fall under EBA supervision

On their side, crypto-assets service providers (CASP) – such as trading platform and custodians – will need to seek authorisation from their relevant national competent authorities and comply with strict organisational and prudential requirements. Specific additional provisions will apply according to the service rendered including assets listing due diligence, best execution, a prohibition on own account dealing or a segregation of crypto-assets holdings on behalf of clients.

MiCA aims to establish a level playing field for crypto-assets providers by setting uniform standards for crypto-assets activities across the EU. This includes rules on advertising, marketing, and selling crypto-assets, as well as standards for trading venues and custodians. At the time of writing, the regulation is expected to be published in the Official Journal of the EU in June 2023 and to come into force 20 days after publication at which time the transitional provisions will formally start. These provisions will extend for 12 months for ARTs/EMTs issuers and 18 months for CASP and the remaining parts of the regulation.

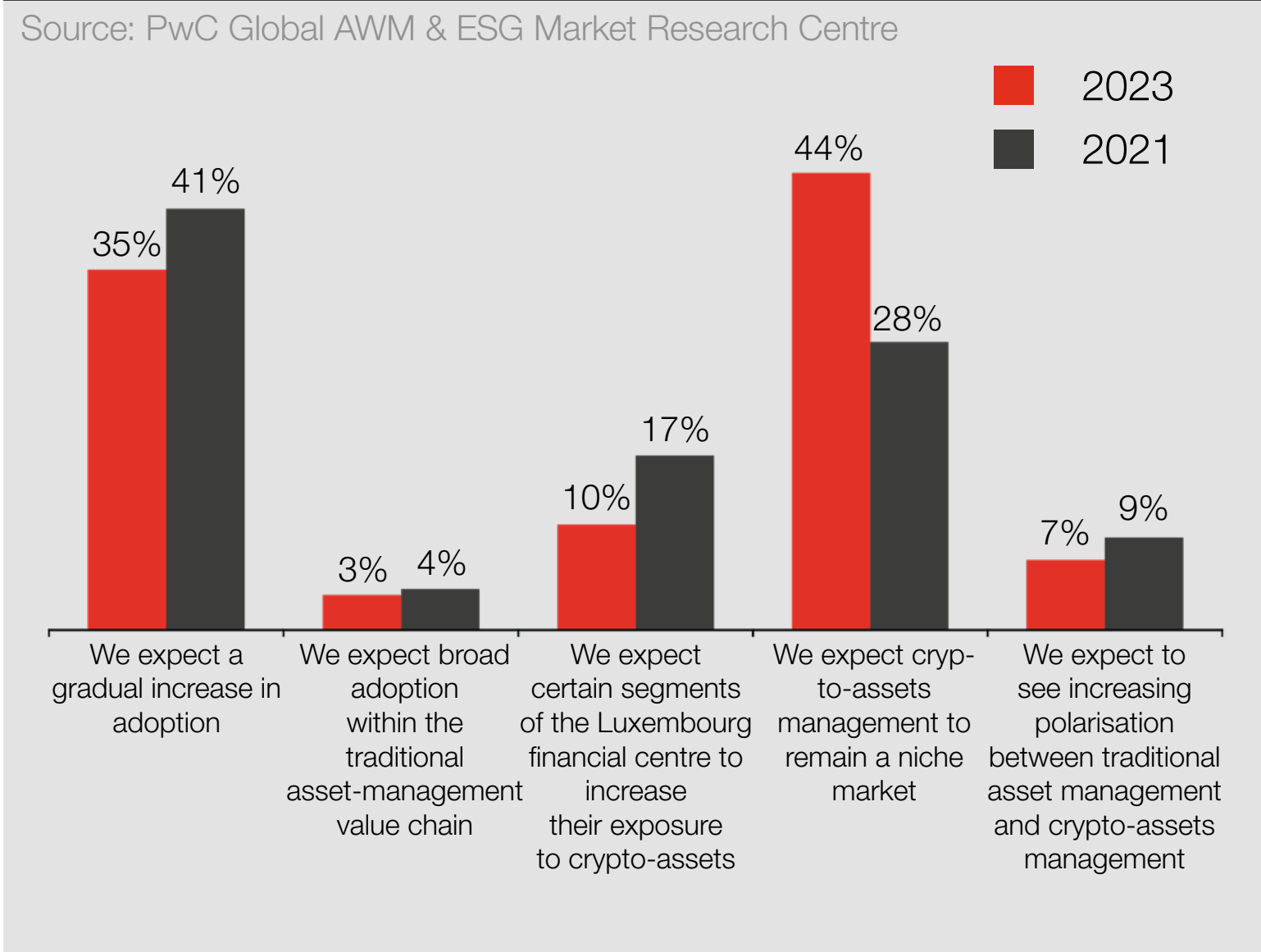
"In the case of funds investing in crypto-assets, we are convinced that regulatory certainty is a fertile ground for product innovation [...] We received positively the provided regulatory clarity at both EU and national level."

Gildas Blanchard, Head of Industry Affairs, ALFI

¹ European Commission (2020), 'Digital finance package'

When asked about Luxembourg’s crypto-assets industry evolution over the coming two years, we once again see that industry players’ expectations and ambitions for crypto-assets appear to have dampened. For instance, 35% expect to see a gradual increase in crypto-assets adoption in the coming two years (down from 41% in 2021), while 44% expect crypto-assets management to remain a niche market, up from 28% in 2021 (cf. Exhibit 22).

Exhibit 22. Respondents’ view over the crypto-assets management industry’s evolution over the next 1 to 2 years in Luxembourg

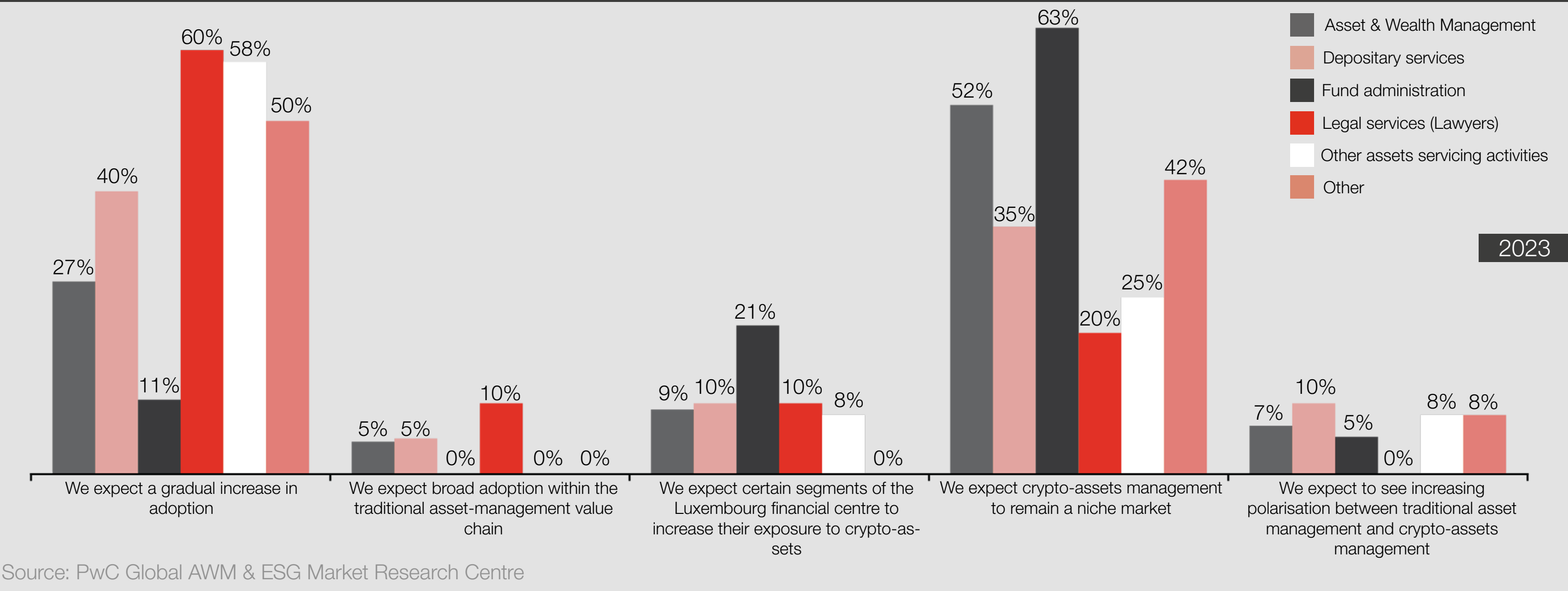


When disaggregated by respondent categories, we notice that asset and wealth management professionals (27%) and fund administrators (11%) are less likely than their peers in depositary services (40%) and legal services (60%) to expect a gradual increase in adoption. As a matter of fact, fund administrators are the most likely to expect crypto-assets management to remain a niche market in the coming two years (63%), followed by their peers in asset and wealth management (52%) (cf. Exhibit 23).

“Evidenced by the virtual asset crypto exchange experience and concrete interests from institutional investors, there is investor demand for crypto exposure [...] Accordingly, the capability [of Luxembourg] to be a hub for investment funds catering for a wide range of demands while ensuring high levels of investor protection is a clear competitive advantage.”

Gildas Blanchard, Head of Industry Affairs, ALFI

Exhibit 23. Respondents’ view over the crypto-assets management industry’s evolution over the next 1 to 2 years in Luxembourg, disaggregated by respondent categories



In the near term, these figures indicate that crypto-assets management will likely remain a niche market in Luxembourg. This is unsurprising as only 1% of respondents consider the global crypto-assets market to have achieved mainstream adoption.

However, in the medium term, the picture changes. For instance, whereas only 3% of respondents expect to see broad adoption of crypto-assets within Luxembourg's traditional asset management value chain in the coming two years, the figure rises to 22% when it comes to thinking about the coming five years. In addition, 22% of respondents expect to see certain segments of Luxembourg's financial centre increase their exposure to crypto-assets over the coming five years, compared to only 10% of respondents expecting this to be the case in the coming two years.

It is worth noting that among the 10% who expect certain segments of the local financial centre to increase their exposure to crypto-assets in the short term, 3/4 expect to see this the case for private banking, whereas for the 22% who view this being the case over the medium term, custodianship and fund domiciliation are seen to be the most likely sub-segment.

Exhibit 24.

Respondents' view over the crypto-assets management industry's evolution over the next 5 years in Luxembourg



Source: PwC Global AWM & ESG Market Research Centre

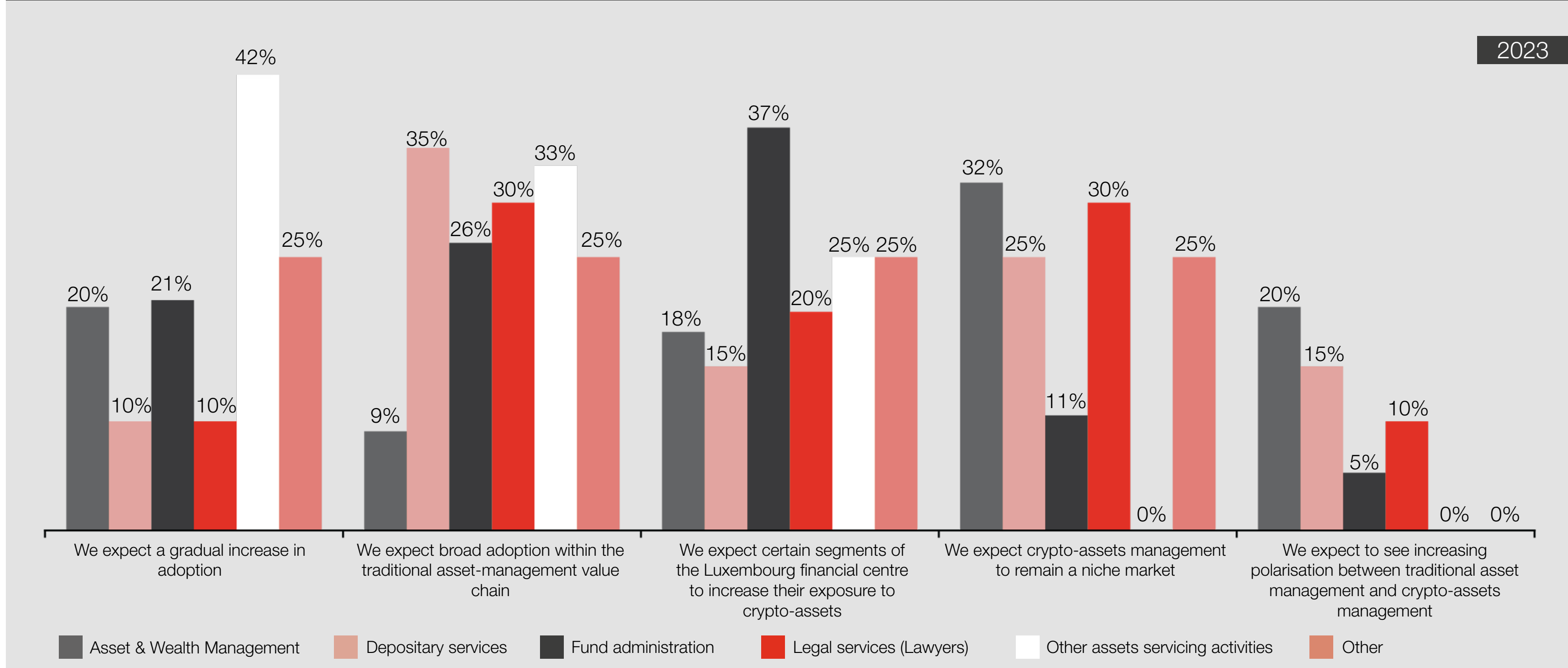


“One of the most attractive things about Luxembourg is the presence of such value chain partners [e.g., depositary banks and administrators] and the sheer size and maturity of the ecosystem. The industry is maturing too and Luxembourg appears to be ripe to take advantage of this.”
 John Cronin, CEO, Zodia Custody Ireland



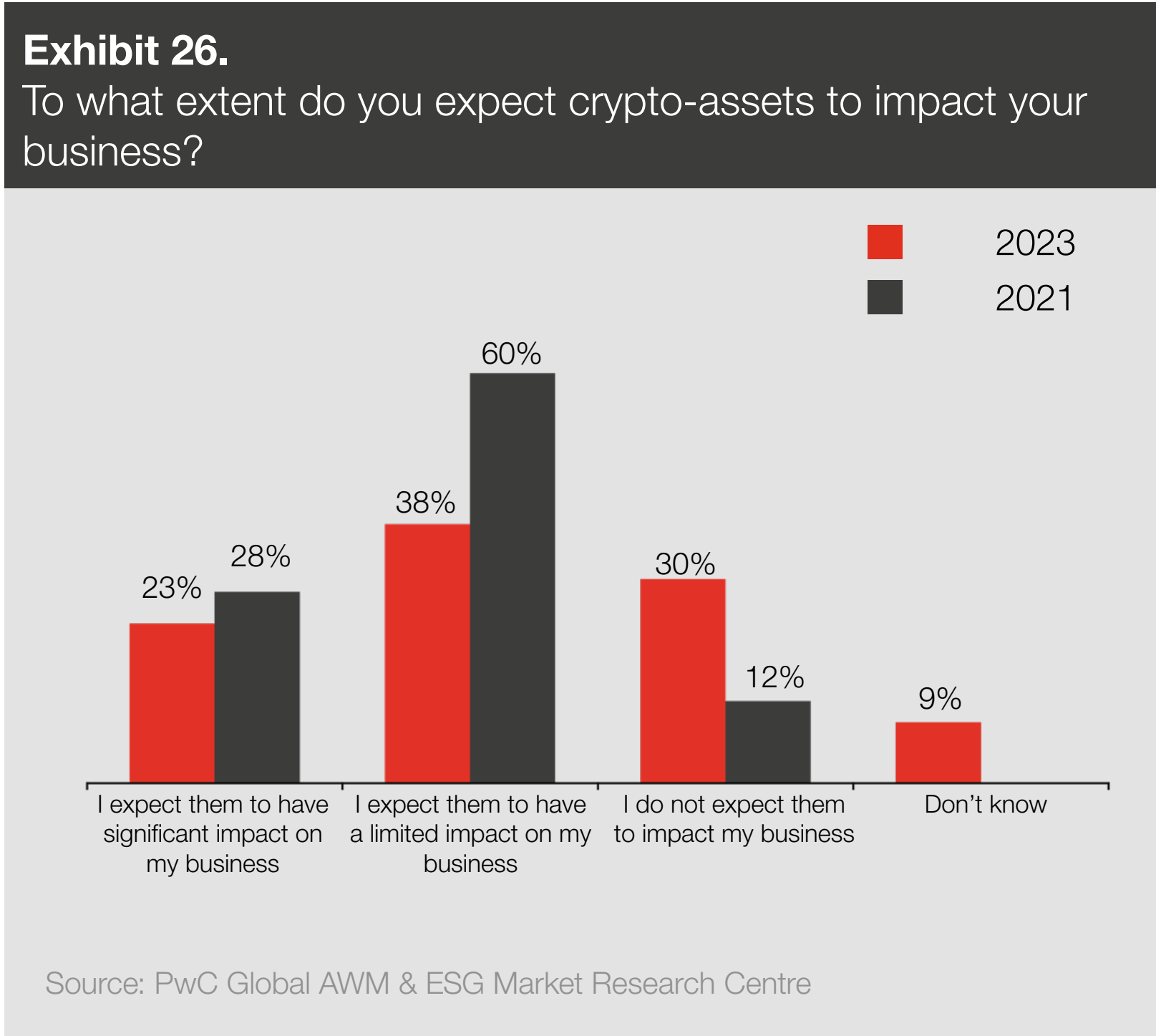
When disaggregated by respondent categories, we notice that one-fifth of AWM respondents and fund administrators expect a gradual increase in adoption of crypto-assets in the coming 5 years. However, AWM respondents are also the most likely among their peers to expect crypto-assets management to remain a niche market in Luxembourg (32%), closely followed by respondents from the legal services (30%) (cf. Exhibit 25).

Exhibit 25. Respondents' view over the crypto-assets management industry's evolution over the next 5 years in Luxembourg, disaggregated by respondent categories



Source: PwC Global AWM & ESG Market Research Centre

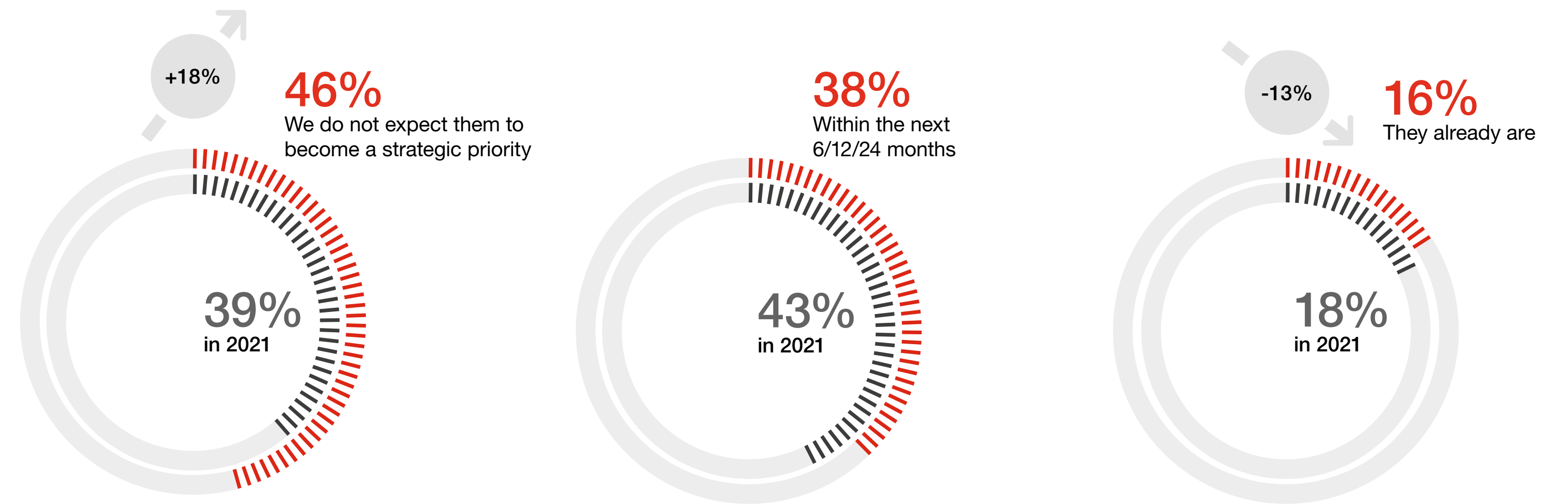
When it comes to the impact crypto-assets will have on respondents' businesses, 38% of respondents expect the impact to be limited on their business – a significant drop from the 2021 survey whereby 60% expected a limited impact. In addition, 30% expect crypto-assets to not have any impact on their business, up from 12% in 2021. Less than a quarter (23%) are anticipating a significant impact, down from 28% in 2021 (cf. Exhibit 26).



Almost half of respondents (46%) do not expect crypto-assets to become a strategic priority in the coming years (up from 39% in 2021), while only 16% already see them as such a priority (down from 18% in 2021). Although these figures further point to a quelling enthusiasm towards crypto-assets among industry players in Luxembourg, these figures might change in the near future, as 7% expect crypto-assets to become a strategic priority in the coming year, while 31% have such expectations within the next two years (cf. Exhibit 27).

Exhibit 27.

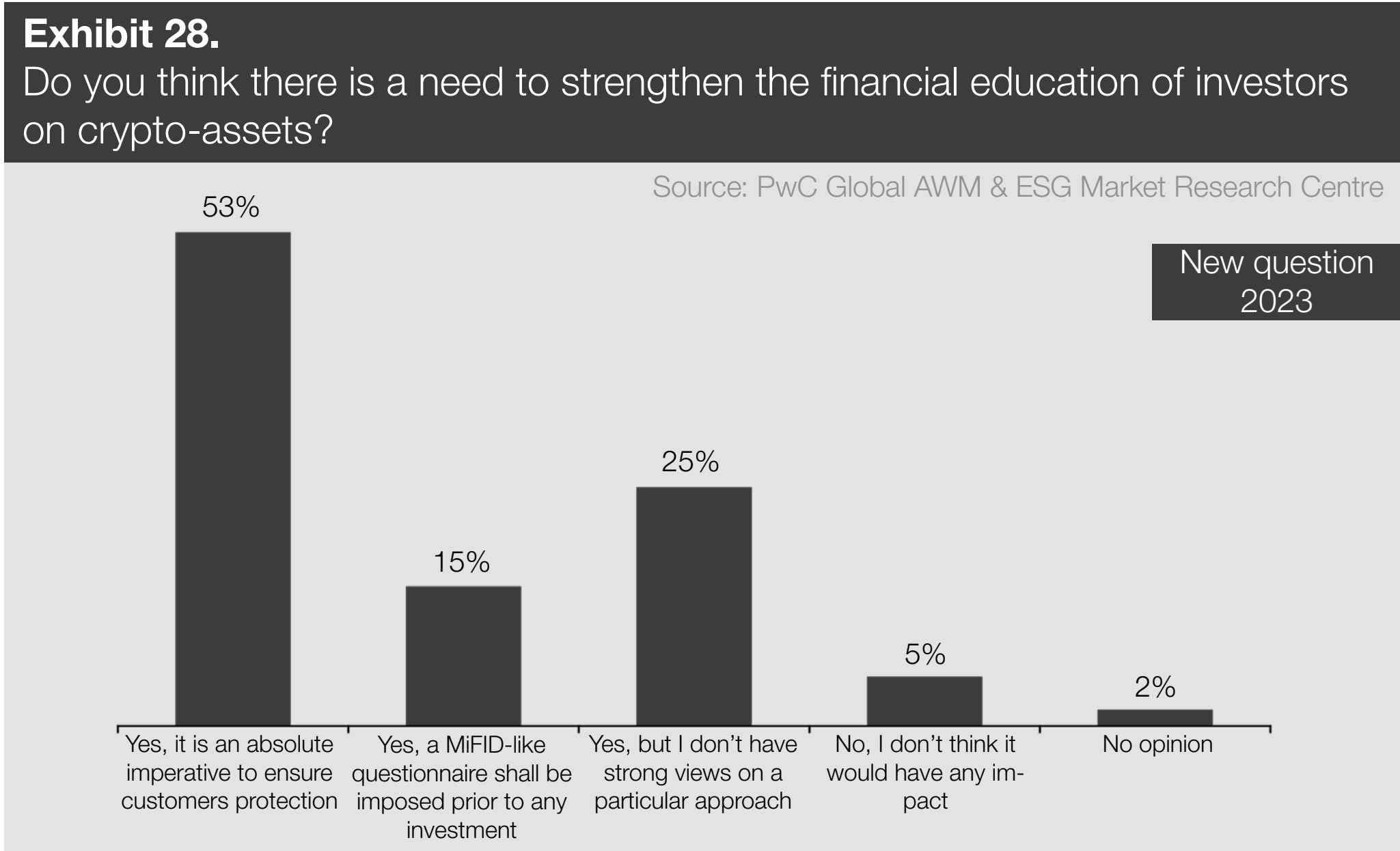
When do you expect crypto-assets to become a strategic priority for your business?



Source: PwC Global AWM & ESG Market Research Centre

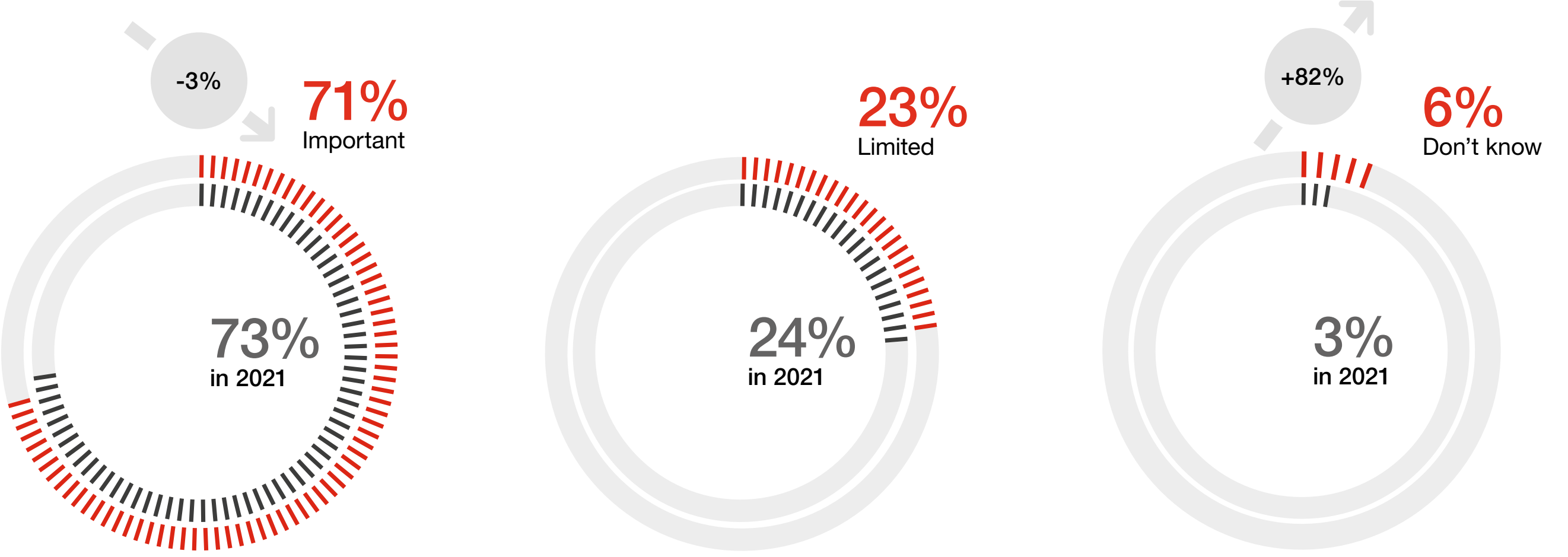
One way to increase the uptake and strategic importance of crypto-assets among industry players in Luxembourg is by strengthening the financial education of investors on crypto-assets. One of the primary risks investors face is the lack of protection and knowledge over crypto-assets – given that crypto-assets markets are largely unregulated, investors may not have access to the same levels of protection as in traditional financial markets.

Our survey indicates that there is a broad consensus, among industry players, for the need to strengthen crypto-related educational efforts. The majority of respondents (53%) believe that strengthening the financial education of investors is an absolute imperative to ensure customer protection, while 15% believe that a MiFID-like questionnaire should be imposed prior to any investment (cf. Exhibit 28).



All in all, it appears that the events that marked the global crypto-assets landscape since 2022 have diminished industry players' interest in the asset class. While 71% of respondents believe crypto-assets are from somewhat to extremely important for the future of the asset and wealth management industry in Luxembourg, the data tells a different picture when compared with the results from the previous edition of the survey. Indeed, only 15% believe that crypto-assets are extremely important for the future of the asset and wealth management industry in Luxembourg (down from 20% in 2021), while less than a quarter (24%) believe that they are very important – down from 27% in 2021 (cf. Exhibit 29).

Exhibit 29.
How would you assess the importance of crypto-assets for the future of asset management in Luxembourg?



Note: 'Important' groups the 'Extremely,' 'Very' and 'Somewhat Important' responses. 'Limited' groups the 'Somewhat' and 'Very Limited' responses.
Source: PwC Global AWM & ESG Market Research Centre

Nonetheless, these results are far from being the death knell of the crypto-assets market in Luxembourg. Despite the setbacks in global crypto-assets markets, we continue to see high and sustained participation in the survey. From a sample of 123 respondents in 2021, we had 127 respondents this year, including representatives from the biggest industry players in the Grand Duchy.

Industry players are focusing on crypto-assets' long-term potential and are anticipating regulatory developments that will refine the industry and bring a modicum of stability. They are not letting short-term noise distract them.





Next steps

04

As this 2nd edition of the crypto-assets management survey highlights, Luxembourg stakeholders need to contend with changing market dynamics while being presented with distinct opportunities to capitalise on coming-of-age crypto-markets. The following points are meant to highlight our recommendations for the broad readership of this report, but especially for Luxembourg decision-makers in the public and private sectors.

1 Maintain ongoing dialogue with market Participants

It is worth reiterating this evergreen point – Luxembourg has traditionally benefited from a close dialogue between private and public sector decision-makers which has served as a positive differentiator and as a “unique selling point” (USP) vis-à-vis other financial centers.

This dialogue is all the more urgent in relation to fast-paced, technology-driven areas such as crypto-assets or artificial intelligence.

Our survey shows that while respondents are now less sanguine on the broad adoption and integration of crypto-assets within the asset management industry, demand for related services persists and R&D initiated years ago is slowly but surely bearing fruit. Even if the servicing of crypto-assets were to be confined to limited number of specialised “niche” players, attracting, and retaining said players in Luxembourg could foster a positive feedback loop. In combination with the industry consensus that the Wild-West period of unsupervised crypto-assets developments is over – which is further supported in our local context by the pending implementation of MiCA in the EU – an open, constructive dialogue will become more, not less, important if the Grand Duchy is to build on its strengths while seizing emerging opportunities.

2 Address skill and expertise gaps

The above goes hand-in-hand with the development of relevant skills and expertise. A striking finding of this 2nd edition of the survey is that such skill & expertise gaps have not abated, and by one particular measure, are increasingly responsible for private sector stakeholders refraining from engaging in crypto-related activities.

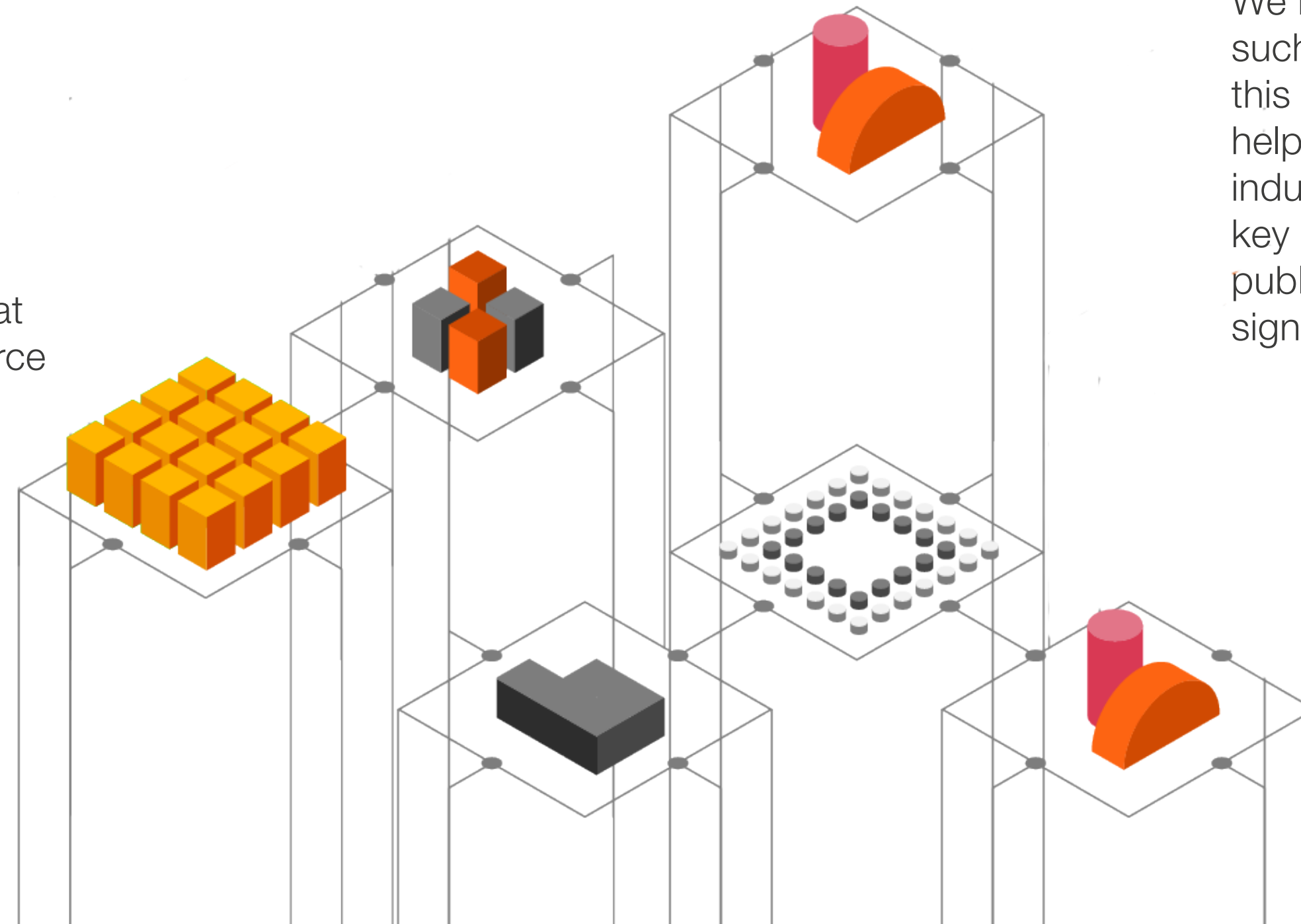
With the crypto-assets sector beginning to come of age, the initial euphoria gives way to sobering assessments around the need for additional “puzzle pieces” in terms of market infrastructure, in-house capabilities to vet and complement 3rd party solutions and new approaches to risk management.

Industry participants are carefully assessing risk/reward ratios for any potential investment into new solutions. These trade-offs are meaningfully influenced by the availability of relevant skills and expertise in a country that is already straining to upskill, attract and retain a workforce capable of supporting high-value-added economic development.

We make no particular recommendation as to the form which these efforts should take – initiatives aiming to train and upskill the existing workforce are numerous and the question around talent attraction and retention is intimately connected with broader industry challenges the country faces – yet we believe that as with our prior point, the industry should be in the driving seat in order to ensure that the current and expected future needs of this sub-sector of AWM are catered to adequately.

3 Maintain positive momentum

A noteworthy finding from this year’s survey is that the perception of Luxembourg as a hub for crypto-assets management has shifted sensibly from “laggard” to “leader”. There is doubtless opportunity for further growth and improvement both in terms of substance and perception, but the progress made to date should be preserved and built upon. Last year we highlighted the two FAQs issued by the CSSF in November and December 2021 respectively – shortly following the conclusion of our survey campaign – which have likely contributed to the positive shift in perception. We believe that the involvement of industry associations such as ALFI – who actively partnered on and contributed to this year’s edition of the survey just as it did to the first – will help immensely in fostering a constructive dialogue between industry stakeholders. Likewise, the proactive engagement of key stakeholders in the financial services ecosystem including public sector decision-makers will ensure continued and significant, positive impact.

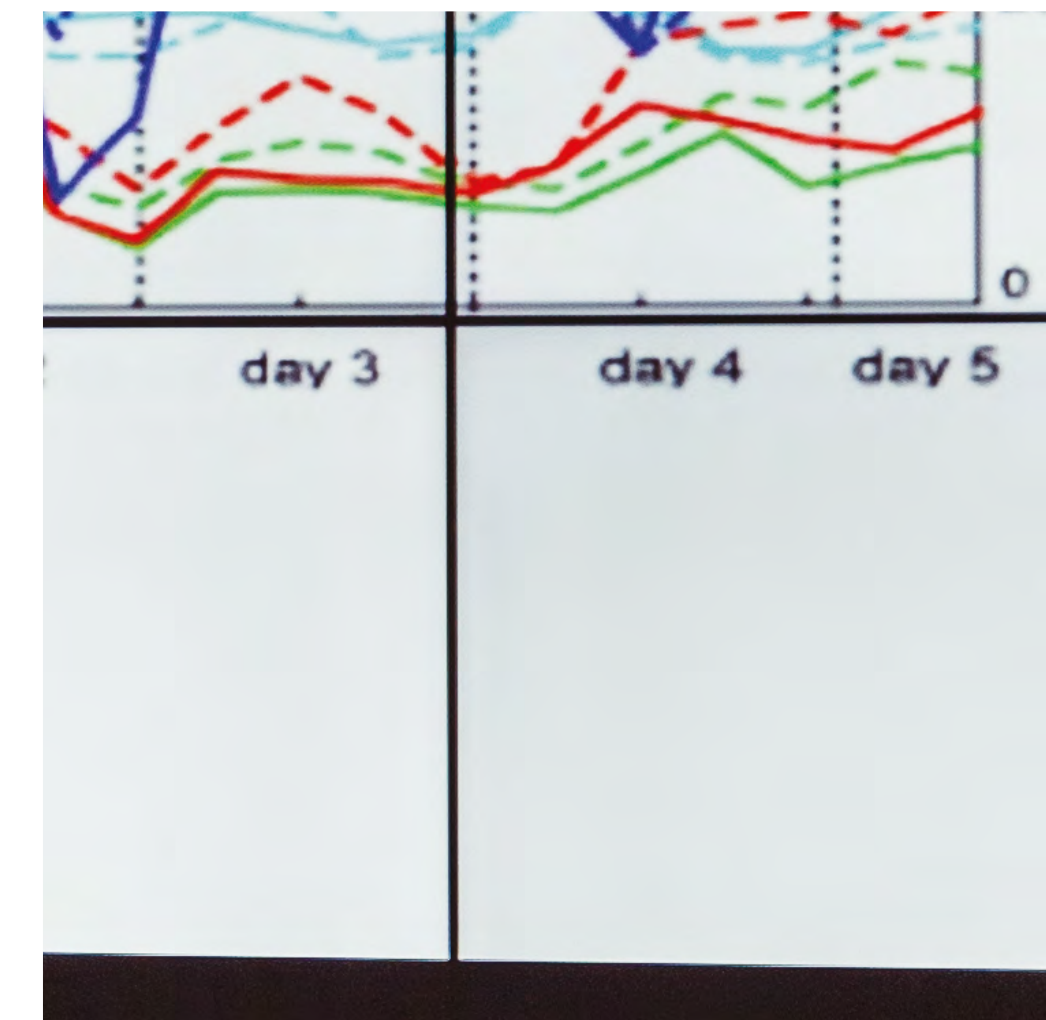
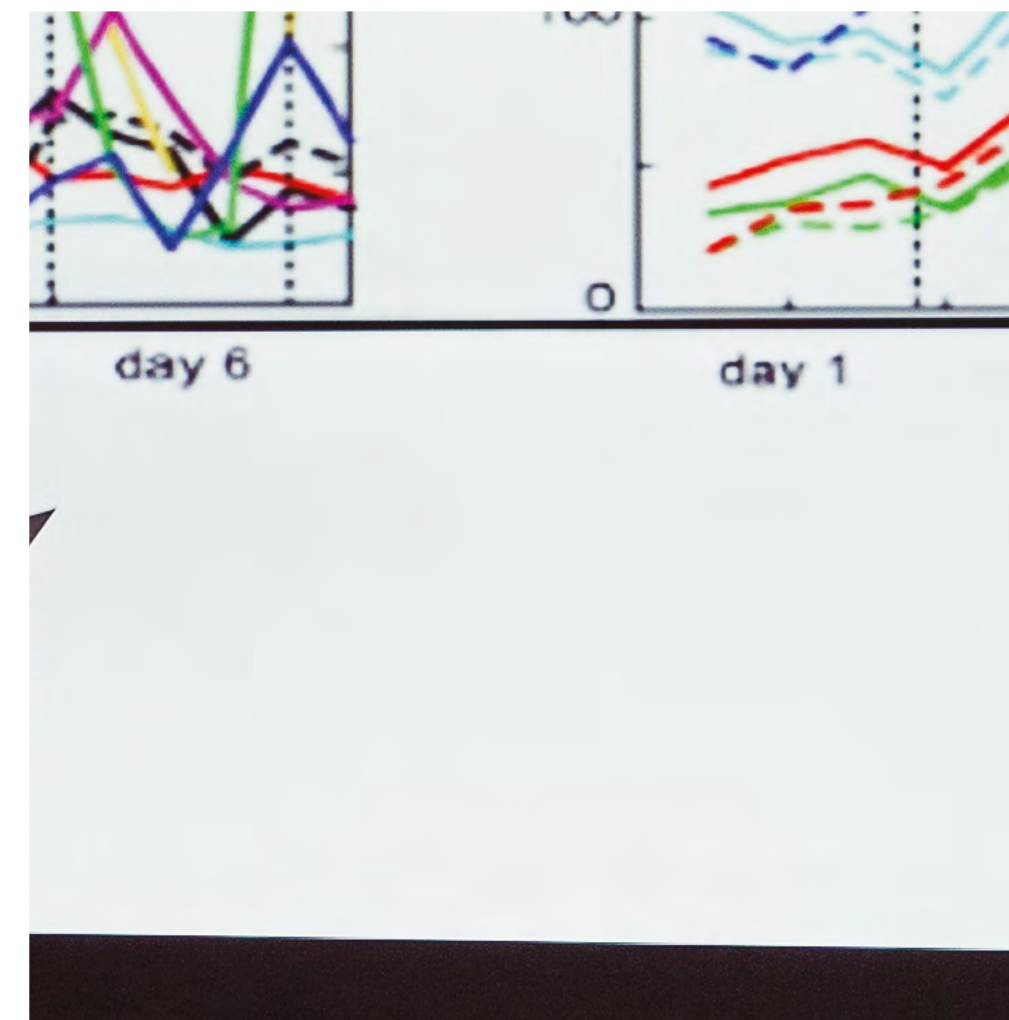
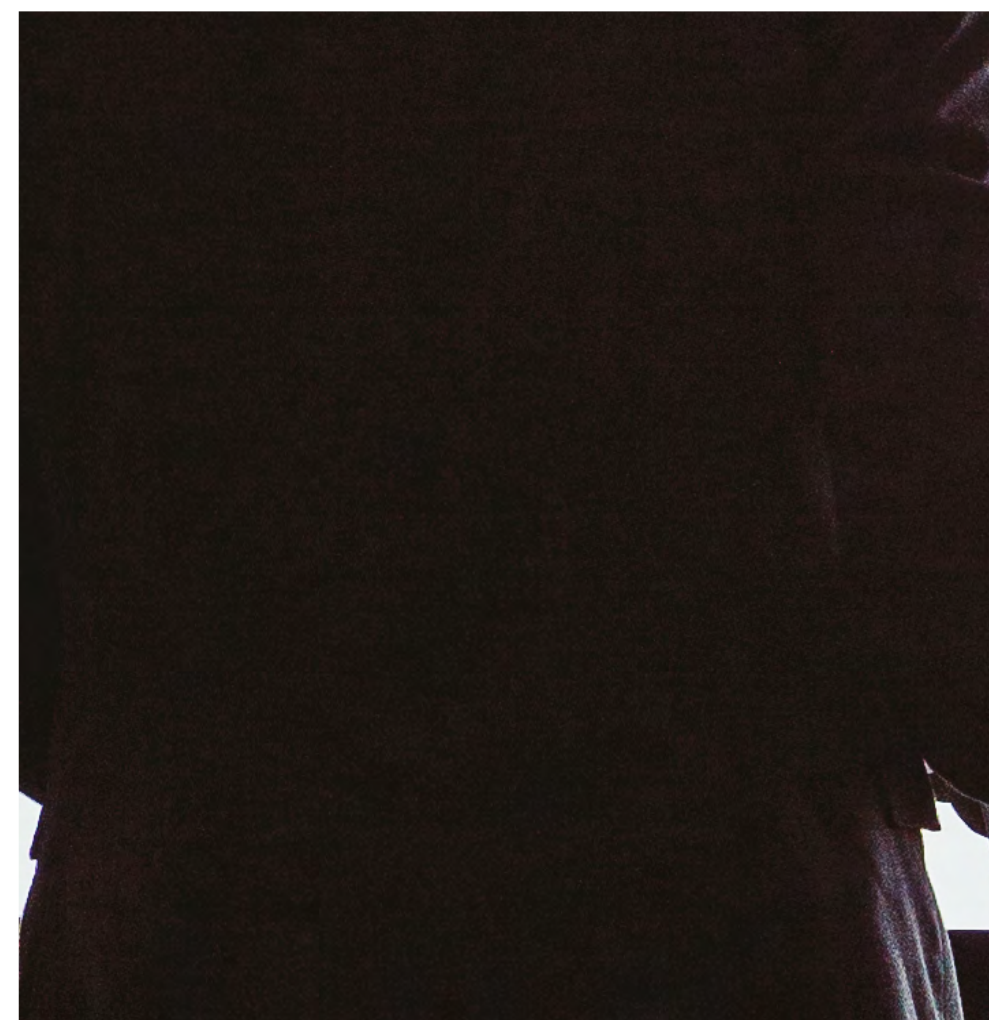
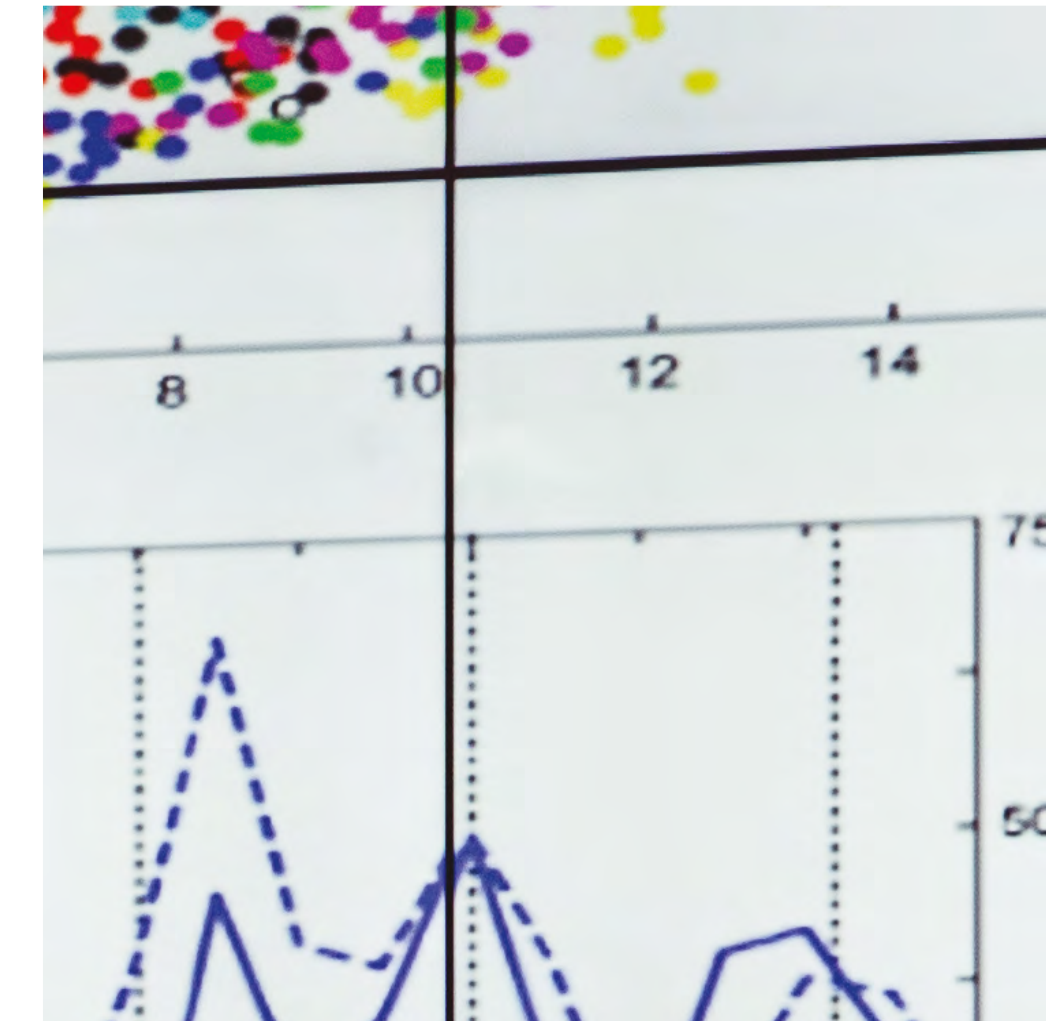
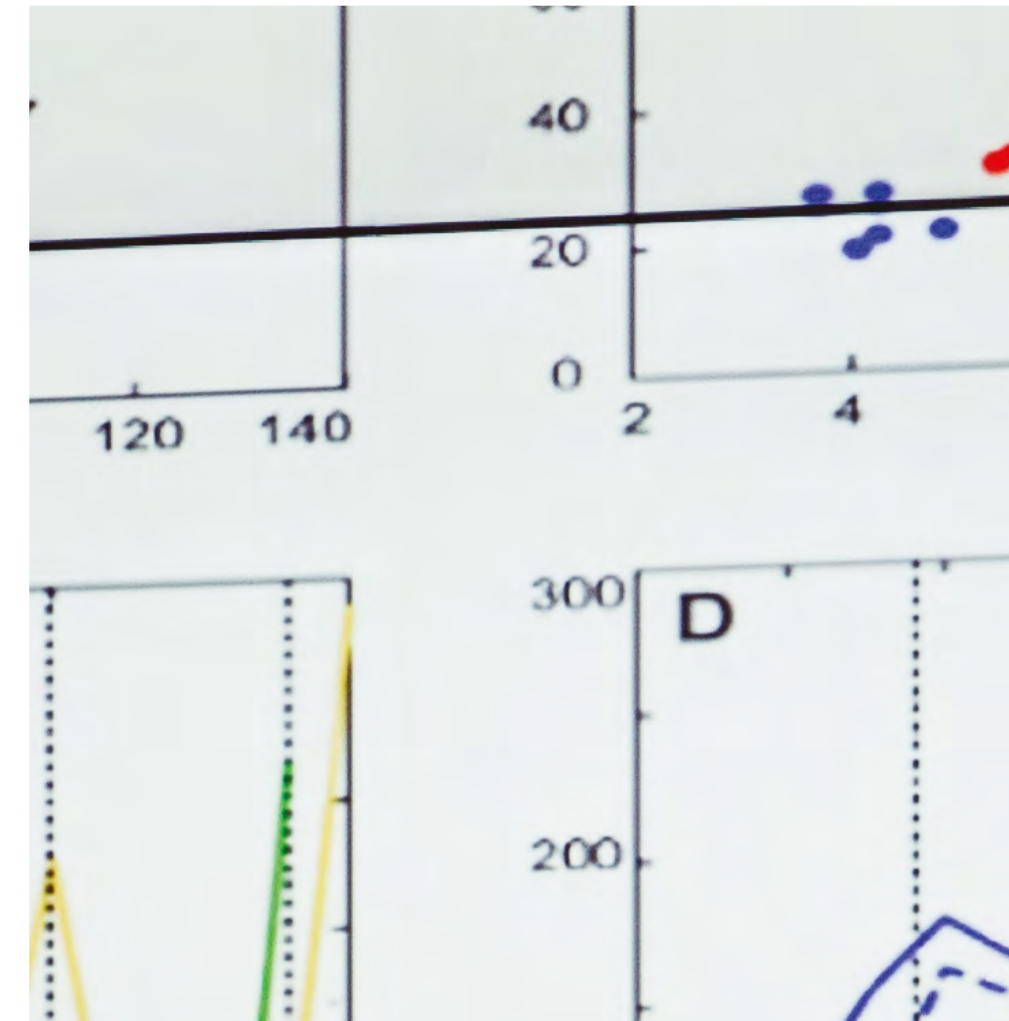


4 Excel with pragmatism

“Crypto” is a term tinged with various connotations, not all of which are positive.

Our survey is but one venue through which the highly polarised views of market participants manifest themselves regarding this topic. It seems unlikely that crypto-assets will become uncontroversial in the near term and it stands to reason that legal and regulatory developments will not provide the industry with a “big bang” moment, but rather with a starting point towards an intensive phase of adjustments, (re)negotiations and further experimentation.

Simply by being pragmatic – rather than dogmatic one way or another – Luxembourg is presented with an opportunity to become a place toward which institutional investors and other sophisticated market participants turn when they are in need of asset servicing that is both at the cutting edge of technology as well as fully integrated into sound governance practices and nestled within a well-established financial and legal ecosystem with a track record for excellence.



Jurisdictions comparison

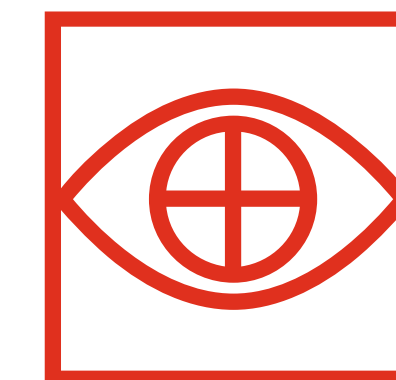


Preliminary considerations

Through this jurisdictions comparison, our objective is to provide an overview of the current landscape and readiness of a selected number of jurisdictions in the crypto-assets management area. Our analysis focuses on two dimensions, namely an asset management products perspective and a market perspective, respectively assessed through a number of criteria detailed below. These practical considerations shed some light on the **current** possibilities offered by each jurisdiction in terms of crypto-assets management products, clarity of the applicable framework, and provide a view of their potentially already existing footprint.



Asset
management
products
perspective




Market
perspective

05




Asset management product perspective

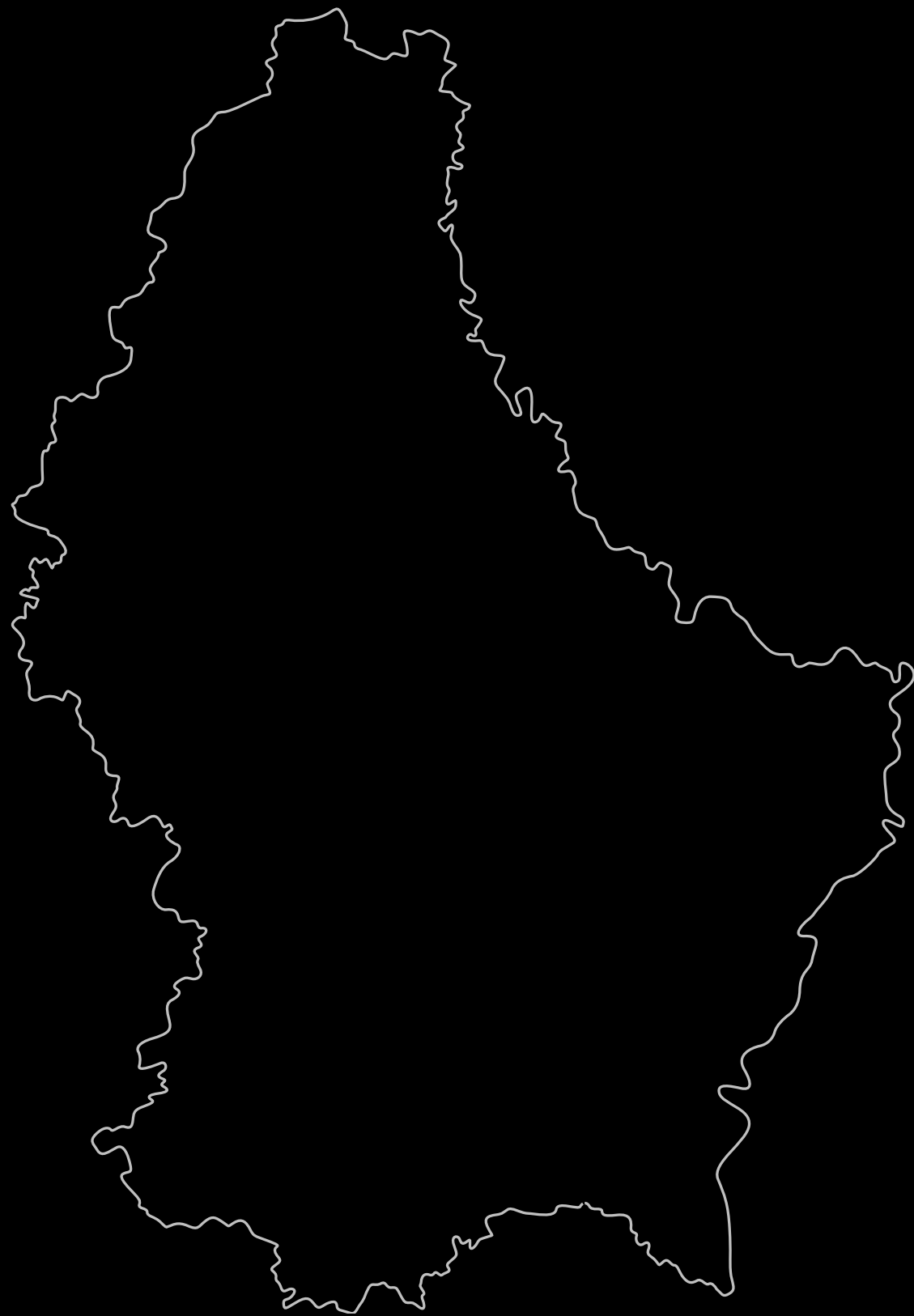
- 
- **Eligible vehicles:** while a broad list of vehicles might be allowed to invest in crypto-assets, our focus has been on the most mainstream ones, directly and/or indirectly regulated;
 - **Type of exposures allowed:** assess the potential for direct as opposed to indirect exposure, the meaning of the later being understood in the broad sense (i.e derivatives, target funds,...);
 - **Maximum exposure:** aims to give a sense of the extent to which an investment vehicle is allowed to invest in crypto-assets (in % of total AuMs);
 - **Eligible investors:** considers the type of investors authorised to invest in crypto-assets investment vehicles;
 - **Management company specific requirements:** aims to capture the potential additional regulatory prerequisites imposed to the management company of crypto-assets funds in order to be authorised to manage such vehicles;
 - **Custody specific requirements:** aims to capture the potential regulatory prerequisites imposed to crypto-asset custodian activities.

It shall be noted that the above considerations are a moving target in many jurisdictions given the active regulatory developments and existing grey zones. Our analysis shall therefore by no means be considered as exhaustive or viewed as any regulatory and legal advice.

Market perspective

- 
- **Number of VASP or equivalent entities:** captures the landscape of existing crypto-assets service providers as proxy of the current level of development of local crypto-assets servicing;
 - **% of population owning crypto-assets:** indicates the extent to which individuals already own crypto-assets as proxy of the current level of local crypto-assets adoption;
 - **Current positioning as crypto-funds hub:** provides a view based on effective location of crypto-assets managers and crypto-assets funds domicile.

Luxembourg



Asset management products perspective*

Eligible vehicles	SIFs, RAIFs (**)
Type of exposures allowed	Direct and indirect
Maximum exposure	Up to 100%
Eligible investors	Professional
Management company specific requirements	Authorised AIFM - Licence extension required
Custody specific requirements	Local depositary bank required with 3rd party crypto-assets custodian allowed

* PwC analysis

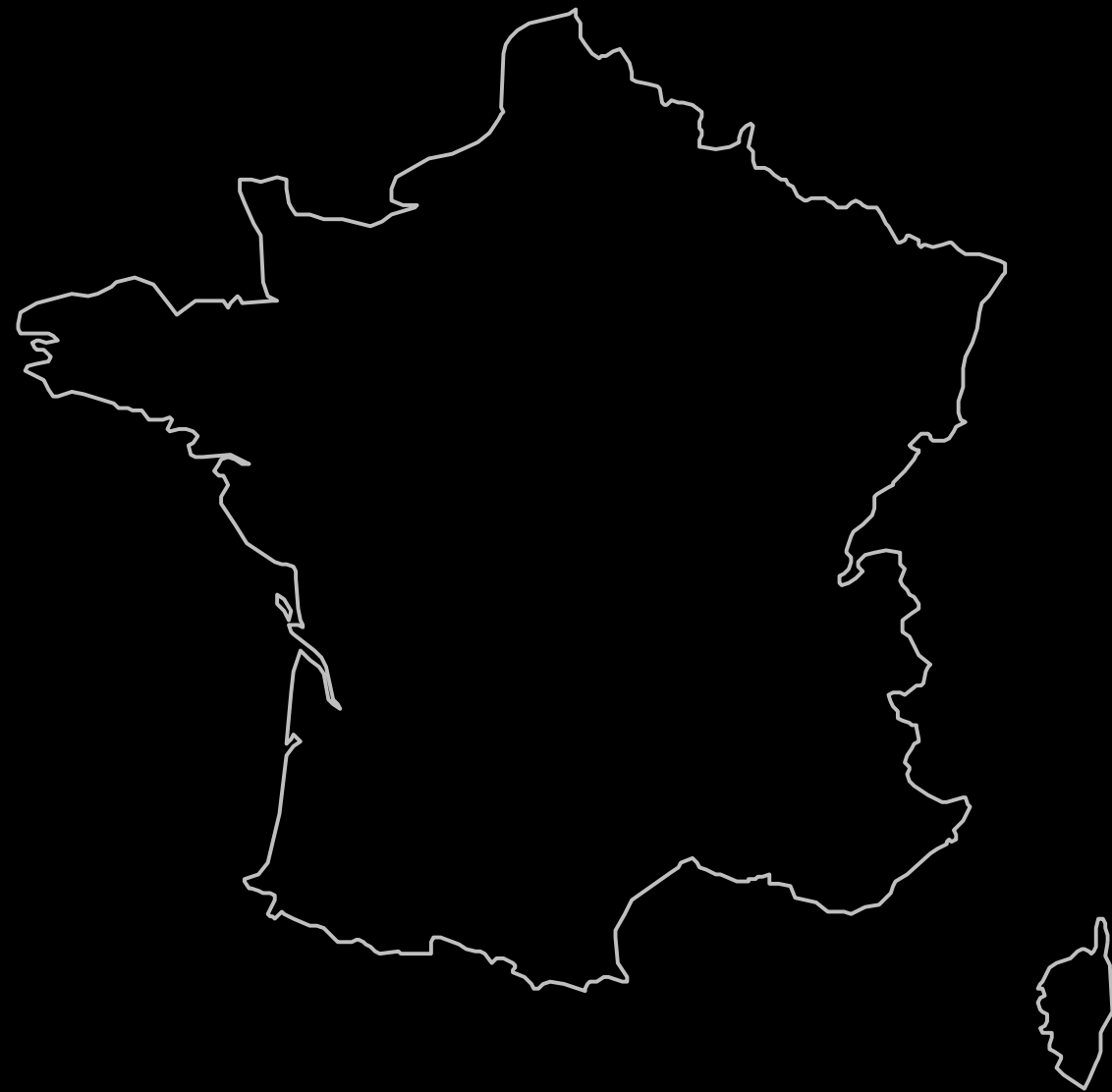
** Specialised Investment Fund, Reserved Alternative Investment Fund

Market perspective

Number of VASPs or equivalent entities	10 (May-23) ¹
% of population owning crypto-assets	8% (Dec-22) ²
Current positioning as crypto-funds hub	Less than 1% of crypto-funds asset managers are located in Luxembourg ³

Sources: ¹ CSSF eDesk (Consulted on May 4th) / ² ECB - Study on the payment attitudes of consumers in the euro area (Dec-2022) / ³ Crypto Fund List Database of Crypto Fund Research

France



Asset management products perspective*

Eligible vehicles	FPS, FPCI (**)
Type of exposures allowed	Direct (only for professional funds) and indirect
Maximum exposure	FPS: up to 100% FPCI: up to 20%
Eligible investors	Professionals (direct exposure) Retailers (indirect exposure)
Management company specific requirements	Existing license and regulatory business plan extension
Custody specific requirements	Crypto-custody are subject to DASP registration. This can be sought either by third-party service providers or by the depositary itself.

* PwC analysis

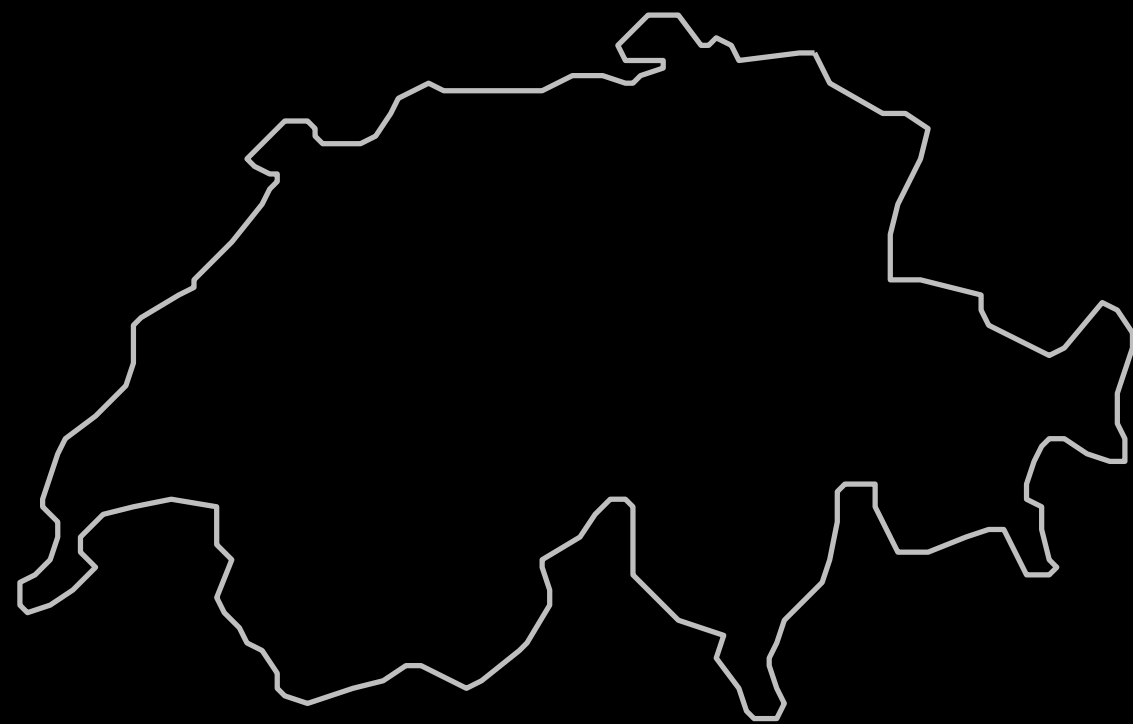
** Specialised professional funds, Private equity professional funds

Market perspective

Number of VASPs or equivalent entities	71 (Apr-23) ¹
% of population owning crypto-assets	3 - 9.4% ²
Current positioning as crypto-funds hub	1.5% of crypto-funds asset managers are located in France ³

Sources: ¹ AMF - "Obtenir un enregistrement / un agrément PSAN" (Apr-23) / ² ADAN - Crypto and web3 in France and in Europe (Apr-23) and ECB - Study on the payment attitudes of consumers in the euro area (Dec-2022) / ³ Crypto Fund List Database of Crypto Fund Research

Switzerland



Asset management products perspective*

Eligible vehicles	ETPs, OFAIs and L-QIF (**)
Type of exposures allowed	Direct and indirect
Maximum exposure	Up to 600% (via leverage)
Eligible investors	Private (ETPs) & qualified (others)
Management company specific requirements	Licence or FINMA authorization required
Custody specific requirements	Local depository bank required

* PwC analysis

** Exchange Traded Products, Other Funds of Alternative investments and Limited Qualified Investor Funds (Expected Q1 2024)

Market perspective

Number of VASPs or equivalent entities	23 (Apr-22) ¹
% of population owning crypto-assets	11% (Jun-22) ²
Current positioning as crypto-funds hub	7% of the crypto-funds are domiciled in Switzerland ³ and 3.5% of crypto-funds asset managers are located in Switzerland ⁴

Sources: ¹ PwC and CV VC Global report (Apr-22) / ² PwC Strategy & - "Strategy and European crypto survey 22" (Jun-22) / ³ Crypto Fund Research (CFR) Q4 22 quarterly report / ⁴ Crypto Fund List Database of CFR

Singapore



Asset management products perspective*

Eligible vehicles	Hedge funds
Type of exposures allowed	Direct and indirect
Maximum exposure	Up to 50%
Eligible investors	Accredited investors
Management company specific requirements	Must hold valid capital markets services license or be exempted
Custody specific requirements	Must use a licensed custodian, insurance coverage for assets under custody

* PwC analysis

Market perspective

Number of VASPs or equivalent entities	Between 11 and 14 (April-23) ¹
% of population owning crypto-assets	19% (Nov-22) ²
Current positioning as crypto-funds hub	5% of crypto-funds asset managers are located in Singapore ³

Sources: ¹ MAS directory (consulted in April-23) and in principle approval (IPA) list. (There is a difference between in principle approval (IPA) and presence in the MAS directory as some companies have received IPA but have not completed the required conditions. Upon completion of the conditions, they will then listed in the official directory. At the time of writing they are 11 companies in the MAS directory and 3 companies within IPA. / ² Finder cryptocurrency adoption index / ³ Crypto Fund List Database of Crypto Fund Research

United Kingdom



Asset management products perspective*

Eligible vehicles	NURS, QIS, FAIFs (**)
Type of exposures allowed	Indirect
Maximum exposure	Up to 100%
Eligible investors	Professional
Management company specific requirements	Registration with the FCA under the money laundering regulations (MLRs)
Custody specific requirements	No additional requirements

* PwC analysis

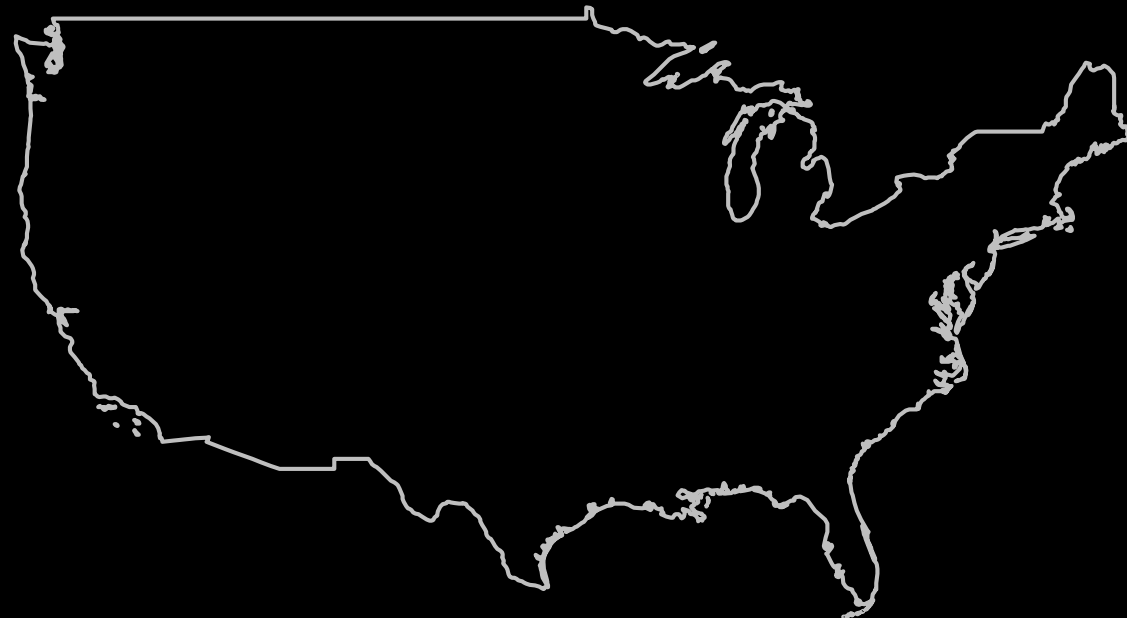
** Non-UCITS retail scheme, Qualified investor scheme, Fund of alternative investment funds

Market perspective

Number of VASPs or equivalent entities	41 (Apr-23) ¹
% of population owning crypto-assets	5-10% (2022) ²
Current positioning as crypto-funds hub	5.9% of crypto-funds asset managers are located in UK ³

Sources: ¹ FCA Business plan 23/24 (Apr-23) / ² HM Treasury - Future financial services regulatory regime for crypto-assets / ³ Crypto Fund List Database of Crypto Fund Research

United States



Asset management products perspective*

Eligible vehicles	Trusts, Mutual funds, ETFs
Type of exposures allowed	Direct (Trusts), Indirect (Mutual funds, ETFs)
Maximum exposure	Up to 100%
Eligible investors	Accredited (Trusts) and individual investors (Mutual funds, ETFs)
Management company specific requirements	Existing license and regulatory business plan extension expected according to effective product
Custody specific requirements	Qualified custodian

* PwC analysis

Market perspective

Number of VASPs or equivalent entities	> 100 (Apr-23) ¹
% of population owning crypto-assets	10% - 17% (2022) ²
Current positioning as crypto-funds hub	17% of the crypto-funds are domiciled in the US ³ and 49% of crypto-fund asset managers are located in the US ⁴

Sources: ¹ PwC own calculation leveraging a sample of the States Virtual currency businesses registries (Apr-23) / ² Insider intelligence (2022) and Pew research (Apr-23) / ³ Crypto Fund Research (CFR) Q4 22 quarterly report / ⁴ Crypto Fund List Database of CFR

Noticeable regulatory developments

Luxembourg

- Entry into force of the Blockchain III Law, this law implements the EU DLT Pilot Regime and recognises the use of DLT for financial collateral arrangements. (Mar-23)
- Update of the “FAQ Virtual assets - Undertakings for collective investment” to include AIFs investing in target funds with underlying virtual assets. (Apr-23)

France

- The AMF and the French Professional Advertising Regulatory Authority (ARPP) have signed an amendment to their partnership agreement on communication in the financial services sector, extending to crypto-assets. (Jul-22) The two authorities are also working together on the practices of influencers in finance at the date of the publication of the report.
- The French Parliament passed new legislation that modifies the regulatory framework applicable to DASPs based in France, or that provide services in France with a new registration regime the “Reinforce registration” and will become effective as of July 1, 2023. (Feb-23)
- Public consultation on DeFI from the French banking regulator (ACPR). (Apr-23)

Switzerland

- Swiss National Bank sets criteria for admitting DLT trading facilities to Swiss Interbank Clearing payment system. (Mar-22)
- Revision of the Swiss Anti-Money Laundering Act (AMLA) in March-21 and entered into effect on January 1, 2023, entails the requirement to regularly review all client relationships. This new provision targets mainly crypto-ATM-providers as well as virtual asset service providers (VASPs) providing (money) exchange services. (Jan-23)
- Development of a new flexible collective investment scheme in Q3 23, the Limited-Qualified Investor Funds (L-QIFs), which is not subject to FINMA approval and only open to qualified investors. Such fund must be managed by an institution approved and supervised by FINMA.

Singapore

- MAS issues guidelines to discourage cryptocurrency trading by general public. (Jan-22)
- Consultation Paper on Proposed Regulatory Measures for Digital Payment Token Services and for Stablecoin-Related Activities. Entities that carry on a business of providing a digital payment token service are not licensed under the PS Act but are allowed to continue to provide DPT services while their licence applications are being reviewed by MAS. (Oct-22)
- MAS to publish crypto regulation plans by mid-2023.

United Kingdom

- Joint sandbox with the Bank of England, HM Treasury and the FCA on firms exploring how to use technologies such as DLT to improve financial market infrastructure announced in April 2021 and will launch later in 2023.
- The Financial Conduct Authority issued a discussion paper on updating and improving the UK regime for asset management. (Feb-May-23)
- A consultation paper was published on February 1st and ran until April 30th 2023. It sets out an approach to regulating crypto-assets, and builds on previous HM Treasury proposals, which focussed on stablecoins and the financial promotion of crypto-assets. (Feb-23)

United States

- Executive order to analyze the development of CBDC; measures to protect consumers, investors and businesses; a framework for international standards on how digital assets are transacted. (Mar-22)
- The Board of Governors of the Federal Reserve, Federal Deposit Insurance Corporation (FDIC), and Office of the Comptroller of the Currency (OCC), issue statement on risks crypto-asset-related (CAR) funding sources pose to banking organizations and provide mitigation practices. (Feb-23)
- Wells notice sent to several crypto companies such as Coinbase, Bittrex, Paxos, since beginning of 2023. (Q1-23)
- Stablecoin bill in discussion since April 19th, 2023, which would give federal banking regulators and the NIST the ability to set standards for stablecoins. (Apr-23)

Interviews



06

The interviewees



Gildas Blanchard
Head of industry affairs
Association of the Luxembourg Fund Industry



Jean-Baptiste Graftieaux
Group CEO
Bitstamp



John Caslin
Director of Investment Management and Innovation
Carne Group



Nestor Verrier
General Manager
Swissquote Bank Europe SA



John Cronin
CEO
Zodia Custody Ireland



Common questions

1 What is your view on the events faced by the crypto-assets industry across 2022 and how do you see the industry evolving in the next 12/18 months?

2022 was the year of regulation. Financial innovation is a chicken and egg situation. What should come first: regulatory framework or innovation? In the case of funds investing in crypto-assets, we are convinced that regulatory certainty is a fertile ground for product innovation. We positively view the provided regulatory clarity at both EU and national levels. In 2023, we expect concrete industry projects to materialise.

2 In your opinion, what are the biggest challenges and opportunities faced by the crypto-assets industry, and how do you see these being addressed and seized in the future?

The rich discussions, exchange of ideas, fora and brainstorming sessions taking place in the market have been very useful in raising awareness and emulating interest and knowledge on the topic. Challenges were encountered when translating ideas into operational set-up for concrete projects. With more regulatory certainty on the horizon, the pioneers' achievements and opportunity seized by them will likely serve as a trigger for the sector.

3 Do you expect a change in crypto-assets market dynamics driven by MiCA and other regulations and in what way?

Again, in this chicken and egg situation, regulation coming first has clear benefits. The regulatory framework can always be improved and this is at the heart of our advocacy mission and dialogue with regulatory bodies. Due to uncertainty, undertaking a crypto-assets project involves a leap of faith. By reducing interpretation uncertainty and providing clarity on organisational and operational requirements, MiCA and other references reduce the size of the leap needed.

1 Luxembourg is home to a fast-growing alternative assets industry, do you consider crypto-assets as an opportunity to further strengthen that positioning?

Funds are products designed to meet the needs of different investor types with a different risk appetite. Accordingly, it is key to offer funds with exposure to various asset classes, from traditional to alternative. Evidenced by the crypto-assets exchange experience and concrete interest from institutional investors, there is investor demand for crypto-assets exposure, full or to some extent, via funds. Accordingly, the capability to be a hub for investment funds catering for a wide range of demands while ensuring high levels of investor protection is a clear competitive advantage.

2 As a leading investment funds center, what are the most important challenges faced by the industry when it comes to the integration of crypto-assets and what would be some key actions to take in the short to medium-term to overcome them?

Regulatory clarity and a level playing field remain key objectives and are an essential condition for the development of the industry. Furthermore, all fund industry stakeholders need to adapt their processes to the specificities of the asset class. This concerns crypto-assets specialised institutions (e.g. VASP) as well as traditional depositaries, transfer agents, AIFMs, legal and consulting firms, regulators, etc. Regulatory advocacy and facilitating technical interactions between specialised and traditional players are powerful tools of leverage.

3 If you had three pieces of advice to give to a crypto-assets fund project owner looking to set-up their business in Luxembourg, what would they be?

First, clearly identify your needs (asset, target investors, distribution strategy, etc.) in order to tailor the fund and operational framework to these specificities. Second, talk as early as possible with stakeholders to exchange ideas and do not hesitate to engage with the regulator. Third, pick the right partners (depository, service providers, consultants, advisors etc.) that fits your project and needs.

Jean-Baptiste Graftieaux



Group CEO
Bitstamp

Common questions

1 What is your view on the events faced by the crypto-assets industry across 2022 and how do you see the industry evolving in the next 12/18 months?

2022 saw a lot of challenges in the industry that tested markets' resilience and demonstrated the need for regulation and organisations that have governance, controls and risk management deeply rooted within their culture. Regulations such as MiCA will bring about the foundation to support highly compliant market participants and help grow the industry and bring further investment and adoption of crypto-assets. As a highly regulated exchange with over 50 licenses, we look forward to the next wave of adoption and bringing secure and safe access to new investors.

2 In your opinion, what are the biggest challenges and opportunities faced by the crypto-assets industry, and how do you see these being addressed and seized in the future?

The biggest challenge is trust and confidence following the events of 2022. All companies in the industry need to hold themselves to a high standard and be transparent with investors to show that they operate in a secure and compliant manner. Regulation will provide clarity and protection as it evolves but prior to this, each organisation needs to demonstrate in transparent ways the security of client assets. As an exchange we look to provide this certainty by:

- Using a qualified custodian to protect customer assets;
- Being audited by one of the Big Four since 2016;
- Being regulated in multiple jurisdictions with over 50 licenses.

3 Do you expect a change in crypto-assets market dynamics driven by MiCA and other regulations and in what way?

Absolutely. Regulation brings clarity and protection. This will allow new investors into the asset class that currently cannot invest due to mandate restrictions. We speak with many institutions that are already researching and building out their strategy and are waiting for the regulatory piece of the puzzle to be put in place. It will also allow for a more orderly and mature marketplace where only those organisations that have highly transparent operations will be able to operate.

1 Given the events of 2022, how will the industry move forward, what actions would you like to see occur?

We are already seeing more careful and considerate decision-making when reviewing counterparties that clients want to work with. For a long time, we at Bitstamp have carefully reviewed our counterparties and partners to ensure that our clients are provided with the highest standard of operations in a compliant manner.

2 MiCA will be the first comprehensive piece of regulation applicable to CASP, how do you feel about it?

MiCA will provide a great path for compliant organisations such as Bitstamp. Like with many new regulations there will likely be some teething issues and amendments required over time, but we believe regulation will be positive for the industry, and have thought this way for many years. Our strategy to be a highly regulated exchange will continue as part of our values to deliver a safe, secure and regulated environment for our clients.

3 What are the main challenges that you face in your business and the development of your activities?

Industry perception has been damaged across the board. It's up to the entire market to rebuild confidence and trust in the asset class, and we are already seeing this occur. We need all investors to hold their counterparties accountable and ask the right questions by completing the correct DD before making decisions. Not all service providers are equal, nor do they all provide the same level of client asset protection. We are proud of our client protection and continue to listen to clients' needs, such as integrating with off exchange settlement networks (OESN). I think a market challenge is the ability to move assets between different OESNs swiftly and securely. This will increase usage and also provide more comfort to clients who want this protection when trading with exchanges.



Common questions

1 What is your view on the events faced by the crypto-assets industry across 2022 and how do you see the industry evolving in the next 12/18 months?

The Chapter 11 bankruptcy filings of FTX, Voyager Digital, and Celsius in the US illustrate the need for the segregation of customers' crypto-assets and those of the exchange. In securities trading, customers use a custodian to hold their assets and exchanges for dealing. The collapse of FTX illustrated an absence of trustworthy financial information, compromised systems integrity, faulty regulatory oversight, and concentration of control in the hands of a very small group of inexperienced, unsophisticated, and potentially compromised individuals (Source: Opening remarks of John J. Ray III's declaration to the court in support of Chapter 11 petitions highlighted). Custody, internal controls, regulatory oversight, and governance seem to be the key areas in which the industry is likely to evolve in the next 18 months.

2 In your opinion, what are the biggest challenges and opportunities faced by the crypto-assets industry, and how do you see these being addressed and seized in the future?

The main challenges are as follows:

- Availability of competitive custody services for direct investment in crypto-assets. It appears that custody costs will have to rise to cover the cost of due diligence on the blockchain technology and smart contracts used by crypto-assets service providers ('CASPs'), or CASPs will have to get their internal controls and governance certified.
- Regulatory restrictions on direct investments in crypto-assets and limitations on indirect investments in crypto-assets. This can be overcome using the solutions highlighted above. Further, in the EU, the Markets in Crypto-Assets Regulation ("MiCAR") is likely to greatly assist in overcoming a significant number of challenges for institutional investors.
- Finding high-quality CASPs with good internal controls and governance structures.
- Initial and ongoing due diligence on the internal controls of CASPs.
- Certification of the internal controls and governance and transparency of operations of CASPs.
- Blockchain technology skillsets within the AIFM ecosystem, and training of AIFM staff.

3 Do you expect a change in crypto-assets market dynamics driven by MiCA and other regulations and in what way?

Yes. MiCAR will regulate the issuing and offering of most tokens to the public in the EU. Stablecoin issuance will require authorisation. Stablecoin issuers will be supervised by the European Banking Authority and holders of stablecoins will be entitled to exchange their stablecoins for euros at any time, free of charge. ESMA will supervise and regulate crypto-assets trading and introduce investor protection, market integrity, and improve financial stability. However, NFTs and DeFi seem to be outside the scope of MiCAR.

1 What are the main challenges that you perceive as an AIFM when it comes to managing AIFs investing into crypto-assets?

The main challenges are:

- Availability of competitive custody services for direct investment in crypto-assets.
- Regulatory restrictions on direct investment in crypto-assets and limitations on indirect investment in crypto-assets.
- Finding high-quality crypto-assets service providers with good governance structures.
- Initial and ongoing due diligence on the internal controls of crypto-assets service providers.
- Blockchain technology skillsets within the AIFM ecosystem.

2 Do you consider crypto-assets as an opportunity or a threat for your business? Please elaborate.

Opportunities

The coming into force of the Markets in Crypto-Assets Regulation (“MiCAR”), the EU funds transfer rules, and the DLT Pilot Regime which the EU commenced in March 2023, will provide significant opportunities for the UCITS and AIF management company sector (“ManCos”). In the first place, MiCAR will provide better investor protection which will bring in a new swath of investors in the crypto-assets sector. To operate in the EU, CASPs will need authorisation which should improve the level and transparency of their internal controls and governance. This is a positive development in terms of the costs of doing due diligence on CASPs. Further, the authorisation and regulation of CASPs will likely loosen the current regulatory ‘restrictions’ on direct investments in crypto-assets in the EU. MiCAR also provides for stablecoins to be subject to liquidity requirements and to be supervised by the European Banking Authority, which is another welcome development in terms of increasing investor confidence, presenting further opportunities for ManCos. Smart contracts provide an exciting opportunity for new product development and greater efficiency in the subscription, redemption, and oversight of funds including crypto-assets funds.

Threats

The main threat remaining is cybersecurity. However, there is some room for optimism with the growing development of multi-signature authorisation to move crypto-assets and multi-modal biometrics, combining different biometric credentials for authentication, which is more tamper-proof due to its reliance on elements within us. A combination of multiple biometric credentials makes hacking more difficult. The power consumption of the Bitcoin network, estimated at 135 trillion Watt-hours (compared with 2,000 trillion Watt-hours annual alternating current consumption globally) is a sustainability risk challenge. However, the move by Ethereum to the proof of stake consensus mechanism is a helpful step in addressing sustainability risk issues. While EU regulatory uncertainty has diminished with MiCAR, legal uncertainty in many jurisdictions remains a challenge. Standards for the interoperability of multiple blockchains need to be developed to ensure that investors can move seamlessly from assets on one blockchain to assets on another in the same way that they can move from one fund to another under a UCITS umbrella with multiple sub-funds.

2 Do you consider crypto-assets as an opportunity or a threat for your business? Please elaborate. (Continued)

The service of custody of crypto-assets will now require an authorisation which together with the custodian's cost of due diligence on the blockchain technology and smart contracts will put upward pressure on the custody costs for crypto-assets. Valuation of crypto-assets will remain a challenge as, aside from stablecoins like USDT and USDC, only four crypto-assets have a market capitalisation in excess of USD15.0bn. For context, the average market capitalisation of stocks in the S&P500 index is over USD60.0bn. The financial market infrastructure covering reconciliation and settlement needs to move from its current legacy systems to tilt towards a blockchain-based market infrastructure.

3 How comfortable do you feel to enter into business relationships with crypto-assets service providers, what are your main concern(s) and how do you mitigate them?

The fact that Big 4 auditors will not accept engagements to audit crypto-assets exchanges and certain other types of crypto-assets service providers unless they can get comfortable with the internal controls of these organisations remains a concern.

Further, the custodian market has high barriers to entry and low margins; the costs for a new entrant are enormous in terms of the expense of the technology and governance due diligence on the crypto-assets service providers. The availability of competitively priced crypto-assets service providers is likely to be a barrier to direct investment by AIFs in crypto-assets.

For the moment, only indirect exposure via, for example, the CME Group futures contracts on Bitcoin and Ether, seems to be within the risk appetite of regulators and fund boards.

Common questions

1 What is your view on the events faced by the crypto-assets industry across 2022 and how do you see the industry evolving in the next 12/18 months?

The institutionalisation and the implementation of regulations were expected in early 2022. These hopes quickly vanished after a string of bankruptcies underpinned by fraud and high-risk-taking business models. More critically, some long-standing fundamental beliefs in the crypto-assets industry were also severely challenged in recent months.

The first was crypto-currencies' unique capacity to act as a better hedge against inflation than traditional assets (i.e. reference is made to the subset of crypto-currencies having limited supply). After a decade of low interest rates, this was proven wrong when central banks tightened liquidity (increasing interest rates) during the second half of 2022 while no efficient hedge was provided by crypto-assets - not even by Bitcoin. A second is the shake-out in stablecoins with several failures and an end to their perceived safety, ultimately resulting in multi-billion outflows from the ecosystem.

A third was the expectation of progress in regulations from the US side to support the normalisation and institutionalisation of the crypto-assets industry. Recent actions by US regulators might have dampened such expectations for longer than we would like.

An element of hope remains in the progress of the underlying technology, which continues to demonstrate the decentralised model's resilience to unexpected events. Some blockchains, such as Ethereum or Polkadot, have now established unprecedented ability to upgrade blockchain seamlessly. This represents significant progress for a society that now considers resilience as a critical preoccupation. The (traditional) financial industry in the US also showed continued interest in using and acquiring such technologies to improve their own efficiency and to replace their legacy systems used to operate their payments and markets infrastructure. In this context, the legal certainty and regulatory clarity gained in Europe for the development of the industry represents a key opportunity.

2 In your opinion, what are the biggest challenges and opportunities faced by the crypto-assets industry, and how do you see these being addressed and seized in the future?

Regulatory developments will be shaping the crypto-assets industry in the coming months. This will be a challenge for many and an opportunity for the few able to adapt and cope promptly with the new requirements. The first-mover advantage may finally pay off significantly.



General Manager

Swissquote Bank Europe SA

3 Do you expect a change in crypto-assets market dynamics driven by MiCA and other regulations and in what way?

With crypto-asset service providers operating from offshore jurisdictions while providing services globally and knowingly putting retail investors at risk, MiCA's adoption will finally bring much-needed certainty in order to protect investors and support the creation of a competitive market based on higher standards. The lack of common regulations applicable to crypto-assets prevented a level playing field market from being able to develop and flourish. With a common and global approach through MiCA, the EU is setting the ground for longer term investments and favouring the emergence of a competitive environment for the entire industry.

1 You are currently the only depositary bank in Luxembourg providing crypto-assets custody services, how do you explain this absence of competition?

The lack of crypto-assets depositary and custody services certainly pertains to the same fundamental challenges: technology, expertise and economic rationale.

The custody of crypto-assets could be compared to the safekeeping of physical Gold requiring significant investment into security arrangements, while cryptocurrency custody requires focusing investments on cybersecurity solutions and the related expertise to ensure strong knowledge enabling ongoing capacity to understand, implement and monitor these risks.

The traditional depositary and custody services were built on the economics of assets volume, enabling the scaling of operations to achieve reasonable margins, whilst the crypto-assets industry never charged for custody fees (but was instead built on economics entirely focused on transactional revenues - trading and lending).

Besides, the traditional actors cannot leverage their existing setups to deliver depositary safekeeping and oversight duties, record-keeping and ownership verification or third parties' due diligence considering all these core services and duties must be redesigned and rethought under a different paradigm, requiring new systems, organisation and skillsets to capture and process the newly required data and information.

For these reasons, launching crypto-assets depositary and custody services rather represents an investment than an immediate business opportunity as of today.

2 How do you expect the crypto-assets custody landscape to evolve in the EU with the additional requirements imposed by MiCA?

The new regulatory framework and licensing requirements will provide a level playing field and enable the passporting of these services across the EU. To benefit from this major development, custody service providers must meet new requirements to protect clients' assets, avoid (or at least disclose) conflicts of interest and introduce liability along with more robust governance practices.

For the unregulated entities, who typically have a different level of maturity with regards to these MiFID-inspired topics, this will represent a critical challenge to be addressed promptly to ensure compliance whenever MiCA enters into force. For some of these entities, MiCA might even impact their business models as they may need to price more granularly a set of independent services delivered so far with packaged offerings.

By applying consistent and proportionate rules to existing financial entities, non-bank crypto-assets issuers, and crypto-assets service providers, the industry will benefit from an increase in investor confidence in crypto-assets and the emergence of a larger, regulated market.

3 What are the pros and cons to a depositary bank of internalising custody solutions for crypto-assets relative to using a 3rd party crypto-custody solution?

From a depositary perspective, internalising the custody solutions relative to using a 3rd party crypto-custody solution remains a strategic decision.

The industry has only a limited number of strong custodians, many actors have delegated their custody, and others have built rather simple custody solutions tailored to their sole internal needs. Therefore, beyond the illusion of choice and taking into account the depositary duty of oversight on the entire custody chain, the actual offering of 3rd party crypto-custody may be limited to some prominent actors.

To ensure and meet all the depositary duties, a specific setup for the collection of information and regular documentation of the operational and organisational setup will become critical given the rapid pace of changes characterising the crypto-assets industry.

When we decided to internalise the custody solutions for our crypto assets offering, the key drivers were to reduce the counterparty risks of the overall setup for our clients, offer a full set of services (including order execution) based on a stable and robust banking infrastructure, ensure and ease the fulfilment of our depositary duties (by constantly ensuring full look-through). Ultimately, containing the number of service providers reduces the complexity of the overall setup of the funds and its total expenses.



Common questions

1 What is your view on the events faced by the crypto-assets industry across 2022 and how do you see the industry evolving in the next 12/18 months?

FTX was a huge fraud but we've seen it before. It was Tyco, Worldcom, Madoff, MF Global, Barings, Lincoln Savings & Loan, etc. bundled into one entity. Our clients missed out on FTX simply because we couldn't onboard them as they couldn't pass our due diligence. It may be a new industry, but old standards are still applicable.

Crypto-assets moves quickly and is learning the lessons that traditional finance has learned over 200 years. This speed applies to how the industry is maturing by building the right frameworks and regulations with responsible actors. This will happen quicker than many people think.

2 In your opinion, what are the biggest challenges and opportunities faced by the crypto-assets industry, and how do you see these being addressed and seized in the future?

Crypto's biggest challenge and its biggest opportunity are one and the same. It's the lack of infrastructure. Institutions want to enter the digital assets space but for them to do so at scale and for the industry to benefit from their participation, the right market structure is non-negotiable.

3 Do you expect a change in crypto-assets market dynamics driven by MiCA and other regulations and in what way?

Regulations such as MiCAR are providing the foundations of stability for crypto, helping them work with trusted, regulated parties. The days of the crypto-assets wild west are numbered and we welcome moving towards higher industry standards.

1 Crypto-assets custody is certainly a critical element in the crypto-assets management value chain, can you explain why to our readers in plain language?

Crypto-assets custodians do not 'physically' store assets themselves, as all transaction data already exists publicly on the blockchain. Rather, they keep private keys, which are used to access funds inside a wallet, safe. Custodians hold the access to your funds, not the funds.

2 "Not your keys, not your crypto" has become a famous crypto-assets idiom, raising a lot of concerns amongst market participants and investors. Can you elaborate on it and explain what are the main risks and operational implications of crypto-assets custody?

While snappy and applicable at a retail level, the idiom does not reflect the reality of institutional crypto-assets trading. At an institutional scale, holding keys to large volumes of assets opens participants up to significant operational risk of loss or theft and it's much more prudent to store them with a regulated custodian. It's still your keys, it's still your crypto, but the keys, and therefore assets, are custodied by specialists. No different than traditional finance.

3 How easy or difficult is it for you to find value chain partners such as a depository bank and administrator in Luxembourg? How does this compare to other jurisdictions you operate in such as Ireland and the UK?

One of the most attractive things about Luxembourg is the presence of such value chain partners and the sheer size and maturity of the ecosystem. The industry is maturing too, and Luxembourg appears ripe to take advantage of this.

We have a number of managers looking to set up products here, such as a RAIF or a SIF. These managers have a strong track record over four, five and six years now and this is of increasing interest to institutional investors. Those investors are comfortable with the investment risk and the manager track record but operational risk is a concern. They want to invest in a structure that is familiar to them and structured around serious actors.

We have obviously received our registration and feel that, given our whole DNA and being a bank-backed custodian, we are that serious actor and give that assurance around custody. We are working with various AIFMs, depositories and administrators who are looking to provide services to that type of product. I think it's quite close.

4 How was your experience of setting up your entity in Luxembourg?

Our experience of setting up in Luxembourg was exceptionally positive.

We found the CSSF excellent to deal with. They were professional and business-like, as well courteous, helpful and timely in their responses.

In general, we found the whole ecosystem to be very welcoming – from state agencies to lawyers to accountants to service providers. There’s an enthusiasm and willingness to do business, whilst also a maturity and seriousness. We love this.



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