Since 2020, the annual ISSA “DLT in the Real World” industry survey has been providing unique, market-wide clarity on the DLT and digital asset realisation journey.

With the support of Accenture, Broadridge, Fnality and Metaco, the “ISSA DLT in the Real World” survey offers statistical clarity on how and where DLT and digital assets are taking hold in the capital markets today – what the business cases are built on, what challenges practitioners face and where the technology is being used to deliver benefits.

This document summarises the key statistical findings of our campaign so far. We would love to hear your reactions to these findings and so please reach out if you have any comments or questions (to info@thevalueexchange.co).

359 Teams and departments participated in this 2023 industry survey.
## Key Findings overview

### DLT in the Real World in 2023: Key headlines

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+7%</td>
<td>39% of the industry is now live with DLT, a 7% increase on last year. Meanwhile, project ‘building’ activity has declined by 7% YoY.</td>
</tr>
<tr>
<td>75%</td>
<td>We are getting better at managing our DLT projects, with 75% now delivering against expected returns (up from 49% in 2022).</td>
</tr>
<tr>
<td>28%</td>
<td>Cost efficiencies are now the key driver of DLT projects (core to 28% of respondents). But liquidity benefits are only driving 9% of projects. Are we missing an opportunity?</td>
</tr>
<tr>
<td>5</td>
<td>Five key asset classes are ready to scale - consistently meeting and exceeding expectations. Leading the list are OTC derivatives, structured products and securities finance.</td>
</tr>
<tr>
<td>-50%</td>
<td>DLT is more important than ever to the buy side in 2023, but asset owners are disengaging with DLT – seeing it as 50% less relevant to their businesses than last year.</td>
</tr>
<tr>
<td>-8%</td>
<td>We are taking a longer-term view of DLT, with an 8% less shift in the time-horizon that respondents expect DLT to deliver in: From this year to over 3-5 years.</td>
</tr>
<tr>
<td>59%</td>
<td>The business case is (increasingly) the biggest challenge in realizing DLT projects – with 59% of respondents struggling (up 10% from 2022).</td>
</tr>
</tbody>
</table>
DLT in the Real World 2023

Overview
# DLT in the Real World 2023

39% of us are live with DLT and digital assets in 2023— but we passed the peak of the hype-cycle in 2021

### Reality 1: DLT live usage continues to increase

<table>
<thead>
<tr>
<th>Year</th>
<th>Researching</th>
<th>Pilots</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>10%</td>
<td>14%</td>
<td>28%</td>
</tr>
<tr>
<td>2021</td>
<td>39%</td>
<td>9%</td>
<td>30%</td>
</tr>
<tr>
<td>2022</td>
<td>23%</td>
<td>13%</td>
<td>28%</td>
</tr>
<tr>
<td>2023</td>
<td>26%</td>
<td>9%</td>
<td>21%</td>
</tr>
</tbody>
</table>

### Reality 2: Preparation activity on DLT has been declining since 2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Researching</th>
<th>Pilots</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>4%</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>2021</td>
<td>8%</td>
<td>32%</td>
<td>60%</td>
</tr>
<tr>
<td>2022</td>
<td>32%</td>
<td>39%</td>
<td>29%</td>
</tr>
<tr>
<td>2023</td>
<td>39%</td>
<td>28%</td>
<td>23%</td>
</tr>
</tbody>
</table>

### Questions:

- What stage are you at in your DLT / digital asset development across your organization? (Percentage of respondents per category, excludes those with no DLT activity)

- **+7%** More live projects
- **+3%** More scoping
- **-4%** Fewer Pilots
- **-7%** Fewer ‘builds’
DLT in the Real World 2023

DLT is more important than ever to the buy-side, but asset owners are disengaging quickly

Importance of DLT to firms (score out of 10 and % change YoY)

<table>
<thead>
<tr>
<th>Role</th>
<th>Score 2023</th>
<th>YoY % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange / CSD</td>
<td>6.8</td>
<td>+10%</td>
</tr>
<tr>
<td>Investment bank / broker</td>
<td>6.4</td>
<td>+12%</td>
</tr>
<tr>
<td>Custodian / Bank</td>
<td>6.7</td>
<td>+8%</td>
</tr>
<tr>
<td>Fund manager (mutual funds)</td>
<td>6.7</td>
<td>+45%</td>
</tr>
<tr>
<td>Private Bank / Wealth mgmt</td>
<td>6.0</td>
<td>+40%</td>
</tr>
<tr>
<td>Insurance company</td>
<td>-50%</td>
<td></td>
</tr>
<tr>
<td>Pension fund / Public auth</td>
<td>-55%</td>
<td></td>
</tr>
</tbody>
</table>

Question: How would you describe the role of DLT and digital assets to your firm? (Score out of 10)
DLT in the Real World 2023
Our DLT maturity is increasing: 75% of our projects are now delivering as expected

Increasing maturity: we're getting better at planning and realizing returns from our DLT projects
(Performance of projects vs expectations, % of respondents)

Question: How have your DLT / digital asset projects performed versus expectations?

<table>
<thead>
<tr>
<th>Performance</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>At or above expectations</td>
<td>49%</td>
<td>75%</td>
</tr>
<tr>
<td>Met expectations</td>
<td>31%</td>
<td>5%</td>
</tr>
<tr>
<td>Below expectations</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>Significantly below expectations</td>
<td>4%</td>
<td>12%</td>
</tr>
<tr>
<td>Significantly above expectations</td>
<td>7%</td>
<td>7%</td>
</tr>
</tbody>
</table>
DLT in the Real World 2023

Our perspective is shifting: -8% YoY are expecting DLT to deliver in a year

Question: How do you see the role of DLT and digital assets in your industry - and over which time horizon? (Aggregate of all responses; % of respondents citing DLT’s role over each time frame)

-8% YoY

DLT's role is moving away from immediate returns to longer term benefits over 3+ years

<table>
<thead>
<tr>
<th>Time Horizon</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>This year</td>
<td>19%</td>
<td>11%</td>
</tr>
<tr>
<td>1-2 years</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>3-5 years</td>
<td>35%</td>
<td>39%</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>22%</td>
<td>22%</td>
</tr>
</tbody>
</table>
DLT in the Real World 2023

28% of DLT projects are now focused on cost savings – but what about the liquidity benefits?

The cost efficiencies of DLT are increasingly clear

Question: For your DLT / Digital asset projects, what benefits was your business case based on? (Percentage of respondents citing each driver)

- Cost savings from operational efficiencies: 17%
- Cost savings from external efficiencies: 11%
- Learning and knowledge development: 23%
- New product revenues: 23%
- Liquidity benefits from increased mobility and transparency: 9%
- Regulatory compliance: 7%
- Replacement of legacy platforms: 7%
- Increased security: -5%
- Customer retention: -10%
- Increased automation: -12%
- Reduced operational risk: -12%

New to 2023 survey: 22%
DLT in the Real World 2023
The business case is the biggest challenge for 59% of the industry, up 10% from 2022, but the same level as 2021

Balance of challenges between business case and execution issues
(by % of total respondents seeing each as blocking issues, each year)

Question: In deploying DLT technology (across all projects), what are/were your key challenges? (Percentage of respondents)
DLT in the Real World 2023
Top 5 asset classes are delivering and ready to scale

Top 5 asset classes are consistently meeting or exceeding expectations

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Significantly Above Expectations</th>
<th>Above Expectations</th>
<th>Met Expectations</th>
<th>Below Expectations</th>
<th>Significantly Below Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTC Derivatives</td>
<td>50%</td>
<td>50%</td>
<td>14%</td>
<td>14%</td>
<td>9%</td>
</tr>
<tr>
<td>Structured products</td>
<td>86%</td>
<td>83%</td>
<td>17%</td>
<td>17%</td>
<td>20%</td>
</tr>
<tr>
<td>Securities financing / collateral</td>
<td>86%</td>
<td>86%</td>
<td>14%</td>
<td>14%</td>
<td>23%</td>
</tr>
<tr>
<td>Securitised assets</td>
<td>80%</td>
<td>75%</td>
<td>25%</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>50%</td>
<td>25%</td>
<td>50%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Payments / FX (including CBDC)</td>
<td>-9%</td>
<td>82%</td>
<td>7%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Equities / ETFs</td>
<td>-13%</td>
<td>75%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Stablecoins / digital cash</td>
<td>-13%</td>
<td>80%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Crypto currencies</td>
<td>-14%</td>
<td>14%</td>
<td>14%</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Private Debt (including loans)</td>
<td>-17%</td>
<td>67%</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>Physical assets (including Real Estate, Gold, etc.)</td>
<td>-17%</td>
<td>67%</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>Carbon credits</td>
<td>-23%</td>
<td>65%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Bonds (Green Finance)</td>
<td>-25%</td>
<td>75%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Mutual funds</td>
<td>-25%</td>
<td>50%</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Commodities</td>
<td>-11%</td>
<td>77%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Bonds (Vanilla)</td>
<td>-5%</td>
<td>95%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Question: For these projects, how have they performed versus expectations? (Percentage of respondents citing each level of delivery)
DLT in the Real World 2023

How are we running projects?
How are we running projects?

67% of DLT project activity centres on the top 8 asset classes

Q9: For your DLT and Digital asset projects, what is the objective for these in 2023?
How are we running projects?
26% of projects now have over 7 participants – including almost as many paying customers

Our DLT ecosystems are growing...

Largest ecosystems today:
- Stablecoins
- Securities
- Finance / Collateral
- Bonds (Vanilla)
- Futures and Options

...to include more paying customers

Question: For these DLT / digital projects, how many organizations participated? (Percentage of respondents citing each tier)
How are we running projects?
Tokenisation prevails for 60% of asset classes

<table>
<thead>
<tr>
<th>Exchanges / CSDs</th>
<th>47%</th>
<th>53%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custodians</td>
<td>53%</td>
<td>47%</td>
</tr>
<tr>
<td>Brokers / Investment Banks</td>
<td>57%</td>
<td>43%</td>
</tr>
</tbody>
</table>

52% of our projects today are based on tokenisation

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Native digital issuance</th>
<th>Tokenisation (of existing securities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Equity</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Structured products</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>Bonds (Green Finance)</td>
<td>56%</td>
<td>44%</td>
</tr>
<tr>
<td>Bonds (Vanilla)</td>
<td>53%</td>
<td>47%</td>
</tr>
<tr>
<td>Carbon credits</td>
<td>52%</td>
<td>48%</td>
</tr>
<tr>
<td>Private Debt (including loans)</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Futures and Options</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Stablecoins / digital cash</td>
<td>49%</td>
<td>51%</td>
</tr>
<tr>
<td>Equities / ETFs</td>
<td>47%</td>
<td>53%</td>
</tr>
<tr>
<td>Payments / FX (including CBDC)</td>
<td>45%</td>
<td>55%</td>
</tr>
<tr>
<td>Mutual funds</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Securitised assets</td>
<td>39%</td>
<td>61%</td>
</tr>
<tr>
<td>OTC Derivatives</td>
<td>38%</td>
<td>62%</td>
</tr>
<tr>
<td>Securities financing / collateral</td>
<td>36%</td>
<td>64%</td>
</tr>
<tr>
<td>Physical assets (including Real Estate, Gold...)</td>
<td>35%</td>
<td>65%</td>
</tr>
<tr>
<td>Commodities</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>GDR / ADRs</td>
<td>20%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Question: What asset classes are you currently focused on (in terms of DLT or digital asset development? (Percentage of respondents)
How are we running our projects?
82% of asset classes are looking to move across to public blockchains

A 5% increase in public blockchain usage YoY

- Public blockchain with application permissioning
- Public Blockchain
- Private Blockchain

More public
More private

Stablecoins / digital cash
Futures and Options
Commodities
Mutual funds
Private Equity
Bonds (Vanilla)
Bonds (Green Finance)
Equities / ETFs
Structured products
Physical assets (including Real Estate, Gold, etc.)
Payments / FX (including CBDC)
OTC Derivatives
Securitised assets
Carbon credits
Securities financing / collateral
GDR / ADRs
Crypto currencies
Stablecoins / digital cash
Private Debt (including loans)

Question: For these DLT and digital asset projects, what platform elements are you using for your deployment? (Percentage of respondents)
How are we running our projects?

We want to move to public blockchains, yet the majority of blockchains are still run privately.

Question: For these DLT and digital asset projects, what platform elements are you using for your deployment? (Percentage of respondents using private blockchains)
How are we running our projects?

Digital currencies are expected to be operational across major currencies within 3 years.

49% of respondents believe CBDCs will be live in major currencies by 2026.

Question: Based on current progress, when do you expect to be able to use the following currencies in digital form your blockchain projects? (Percentage of respondents)

- 2023: 10%
- 2024: 11%
- 2025: 18%
- 2026: 10%
- 2027 or after: 51%

Soonest
- EUR: 42%
- USD: 38%
- GBP: 31%
- CHF: 28%
- HKD: 22%
- SGD: 21%
- CAD: 19%
- CNY: 17%

Latest
- EUR: 55%
- USD: 57%
- GBP: 52%
- CHF: 55%
- HKD: 50%
- SGD: 41%
- CAD: 38%
- CNY: 35%

EUR and USD are expected to be early movers.

...EUR and USD are expected to be early movers.

Soonest
- EUR: 42%
- USD: 38%
- GBP: 31%
- CHF: 28%
- HKD: 22%
- SGD: 21%
- CAD: 19%
- CNY: 17%

Latest
- EUR: 55%
- USD: 57%
- GBP: 52%
- CHF: 55%
- HKD: 50%
- SGD: 41%
- CAD: 38%
- CNY: 35%
How are we running our projects?

Whilst we continue to back CBDC development, our approach to the funding leg is increasingly pragmatic amongst major currencies.

Almost half of respondents expect CBDCs to prevail in the next five years.

...but we are increasingly willing to leverage other technologies in the meantime for USD, GBP and EUR especially:

<table>
<thead>
<tr>
<th>Currency</th>
<th>CBDC</th>
<th>Tokenised payment system</th>
<th>Bank-issued stablecoin</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>31%</td>
<td>38%</td>
<td>31%</td>
</tr>
<tr>
<td>GBP</td>
<td>45%</td>
<td>45%</td>
<td>10%</td>
</tr>
<tr>
<td>EUR</td>
<td>46%</td>
<td>42%</td>
<td>13%</td>
</tr>
<tr>
<td>SCD</td>
<td>50%</td>
<td>31%</td>
<td>19%</td>
</tr>
<tr>
<td>HKD</td>
<td>52%</td>
<td>30%</td>
<td>18%</td>
</tr>
<tr>
<td>CAD</td>
<td>52%</td>
<td>35%</td>
<td>13%</td>
</tr>
<tr>
<td>CHF</td>
<td>54%</td>
<td>35%</td>
<td>11%</td>
</tr>
<tr>
<td>CNY</td>
<td>70%</td>
<td>27%</td>
<td>3%</td>
</tr>
</tbody>
</table>

**Question:** Based on current progress, when do you expect to be able to use the following currencies in digital form your blockchain projects (in the next 5 years)? (Percentage of respondents)
DLT in the Real World 2023

Opportunities and Challenges
Opportunities for DLT

Crypto hasn’t killed DLT interest - DLT momentum is robust in the institutional markets

Live deployments of DLT outnumber crypto – especially in the institutional markets
(% of each segment live with digital assets and DLT)

Globally (all segments) 37% 41%

Private Bank / Wealth management 67% 33%
Investment bank / broker 50% 83%
Exchange / CSD 36% 38%
Custodian / Bank 36% 54%

...but crypto continues to have a lasting role in many regions
(Importance of Digital assets / DLT, score out of 10)

Digital asset-focused
Africa & Middle East 6.3
Latin America 5.8
Europe 6.6
APAC 7.1
North America 7.9

Digital assets (including crypto)
DLT (including tokenisation)

Question: What stage are you at in your DLT / digital asset development across your organization? (Percentage live with DLT and Digital Assets per segment or region)

the case for transformation
thevalueexchange.co
Opportunities for DLT
OTC and Securities Finance are ready to deliver results today

Why are we running projects today?

OTC Derivatives
Securities financing / collateral
Structured products
Physical assets (including Real Estate, Gold, etc.)
Private Debt (including loans)
Equities / ETFs
Crypto currencies
Carbon credits
Mutual funds
Private Equity
Bonds (Vanilla)
GDR / ADRs
Securitized assets
Stablecoins / digital cash
Payments / FX (including CBDC)
Bonds (Green Finance)
Futures and Options

Learning & Development

Operational Benefits

Most ready to deliver

Operational Benefits

Learning & Development

Most experimental

Learning & Development

Question: For your DLT / Digital asset projects, what benefits was your business case based on? (Percentage of respondents)
Opportunities for DLT

More DLT projects are in revenue-generating mode than any other stage today – especially bonds.

...with crypto-currencies still leading the commercialization agenda
(breakdown of revenue generating projects, by % of respondents focusing in new product revenues by asset class)

- Crypto currencies: 52%
- Structured products: 34%
- Private Equity: 33%
- Stablecoins / digital cash: 31%
- Physical assets (including Real Estate, Gold, etc.): 28%
- Private Debt (including loans): 24%
- Bonds (Green Finance): 23%
- Carbon credits: 23%
- Securitised assets: 21%
- Bonds (Vanilla): 21%

Question: For your DLT and Digital asset projects, what is the objective for these in 2023?
Challenges for DLT
Is finance the last to know?

Question: How would you describe the resourcing of your DLT / digital asset projects across your different departments (contributing at an operating level)? (Average percentage allocation)

Control functions make up 21% of project resourcing today. Is that enough?

Finance and Treasury make up 4%

IT / Technology; 30%

Sales / Relationship management; 11%

Product management; 21%

Strategy / Innovation; 17%

Risk / Compliance; 9%

Legal; 8%

Operations; 11%

C-level management; 9%
Challenges for DLT
Is it all operational? Are we under-stating the potential liquidity benefits?

Only 13% of investment banks' DLT initiatives are focused on liquidity benefits – falling to 0% amongst the buy-side

Yet the potential value of DLT in driving liquidity for key asset classes is meaningful

- Carbon credits: 16%
- Payments / FX (including CBDC): 15%
- Mutual funds: 13%
- Securities financing / collateral: 13%
- GDR / ADRs: 13%
- OTC Derivatives: 13%
- Futures and Options: 10%
- Private Equity: 10%
- Private Debt (including loans): 9%
- Stablecoins / digital cash: 9%
- Bonds (Vanilla): 9%
- Physical assets (including Real...): 6%
- Equities / ETFs: 6%
- Bonds (Green Finance): 6%
- Crypto currencies: 4%
- Securitised assets: 4%
- Structured products: 4%

Question: What benefits was your business case based on? (Percentage of respondents citing liquidity as a core driver)
Challenges for DLT
DLT and digital assets are delivering for the sell-side but disappointing the buy-side

Question: How have your DLT / digital asset projects performed versus expectations? (Percentage of respondents)
**Challenges for DLT**

The case for DLT (with other technologies) is a pressing issue in a resource-constrained environment.

### Making the case for DLT: half of us still struggle in 2023

(Percentage of respondents facing each challenge)

<table>
<thead>
<tr>
<th>Challenge</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of compelling business case / ROI</td>
<td>21%</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Internal prioritisation of resources (vs other projects)</td>
<td>19%</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Limited liquidity of tokenised securities (including secondary market, financing, etc.)</td>
<td>14%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Limited cost efficiencies vs other technologies</td>
<td>10%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Legal certainty around recognition and status of digital assets</td>
<td>10%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Privacy / Security concerns</td>
<td>8%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Integration into Legacy IT Systems</td>
<td>8%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Building an ecosystem around our solution</td>
<td>5%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>3rd party provider dependencies (including scalability issues and vendor-risk)</td>
<td>3%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Integration of tokens across multiple chains</td>
<td>3%</td>
<td>10%</td>
<td></td>
</tr>
</tbody>
</table>

### …and the business case is getting harder each year

(Percentage of respondents citing each issue as blocking DLT progress)

- Legal certainty around recognition and status of digital assets
  - 2021: 22%, 2022: 20%, 2023: 21%
- Internal prioritisation of resources (vs other projects)
  - 2021: 26%, 2022: 24%, 2023: 25%
- Building an ecosystem around our solution
  - 2021: 16%, 2022: 19%, 2023: 15%
- Limited cost efficiencies vs other technologies
  - 2021: 9%, 2022: 8%, 2023: 7%
- Lack of compelling business case / ROI
  - 2021: 5%, 2022: 10%, 2023: 17%
- Privacy / Security concerns
  - 2021: 8%, 2022: 6%, 2023: 6%
- Integration into Legacy IT Systems
  - 2021: 3%, 2022: 12%, 2023: 12%
Challenges for DLT

Whilst challenges diminish in impact after the business case, legacy and connectivity remain a challenge throughout.

1. The business case is a core obstacle to getting started
   - Lack of compelling business case / ROI: 21% / 9%
   - Legal certainty around recognition and status of digital assets: 10% / 12%

2. ...as is keeping the project funded through the build phase
   - Internal prioritisation of resources (vs other projects): 19% / 9%
   - Integration into Legacy IT Systems: 8% / 12%

3. Building connectivity is the central problem for each live project
   - Integration of tokens across multiple chains: 3% / 10%

4. Scaling the ecosystem is the single challenge that drives project closures
   - Building an ecosystem around our solution: 5% / 10%

Question: In deploying DLT technology (across all projects), what are/were your key challenges? (Top challenges by DLT development stage, percentage of respondents)
Challenges for DLT
60% of wealth and investment managers are choosing other technologies instead of DLT

When is DLT not being chosen?
(%) of projects per segment, where centralised databases and APIs are chosen in place of DLT)

<table>
<thead>
<tr>
<th>Segment</th>
<th>DLT as optimal technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds (Vanilla)</td>
<td>11%</td>
</tr>
<tr>
<td>Stablecoins / digital cash</td>
<td>12%</td>
</tr>
<tr>
<td>Bonds (Green Finance)</td>
<td>12%</td>
</tr>
<tr>
<td>Payments / FX (including CBDC)</td>
<td>17%</td>
</tr>
<tr>
<td>Private Debt (including loans)</td>
<td>17%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>17%</td>
</tr>
<tr>
<td>Physical assets (including Real)</td>
<td>17%</td>
</tr>
<tr>
<td>Securities financing / collateral</td>
<td>18%</td>
</tr>
<tr>
<td>Securitised assets</td>
<td>18%</td>
</tr>
<tr>
<td>Mutual funds</td>
<td>18%</td>
</tr>
<tr>
<td>Structured products</td>
<td>19%</td>
</tr>
<tr>
<td>Commodities</td>
<td>20%</td>
</tr>
<tr>
<td>Equities / ETFs</td>
<td>22%</td>
</tr>
<tr>
<td>Carbon credits</td>
<td>23%</td>
</tr>
<tr>
<td>OTC Derivatives</td>
<td>24%</td>
</tr>
<tr>
<td>GDR / ADRs</td>
<td>33%</td>
</tr>
<tr>
<td>Futures and Options</td>
<td>38%</td>
</tr>
</tbody>
</table>

DLT as less preferred technology

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Question: What asset classes are you currently focused on in terms of DLT or digital asset development and what technologies are you using?

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the case for transformation
thevalueexchange.co
Challenges for DLT
Obstacles in engagement and ecosystem build are slowing expectations of DLT

The majority of every segment now expect DLT's role to materialise over more than three years

<table>
<thead>
<tr>
<th>Segment</th>
<th>1 year</th>
<th>2 years</th>
<th>3-5 years</th>
<th>5+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange / CSD</td>
<td>7%</td>
<td>30%</td>
<td>39%</td>
<td>22%</td>
</tr>
<tr>
<td>Custodian</td>
<td>9%</td>
<td>26%</td>
<td>44%</td>
<td>19%</td>
</tr>
<tr>
<td>Investment Bank</td>
<td>18%</td>
<td>29%</td>
<td>29%</td>
<td>21%</td>
</tr>
<tr>
<td>Investor</td>
<td>17%</td>
<td>7%</td>
<td>40%</td>
<td>36%</td>
</tr>
</tbody>
</table>

...as perspectives and expectations shift across all segments
(YoY change in DLT expectations vs 2022)

Question: How do you see the role of DLT and digital assets in your industry - and over which time horizon? (Percentage of respondents)
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