BDO GLOBAL SURVEY

BLOCKCHAIN IN THE PUBLIC SECTOR

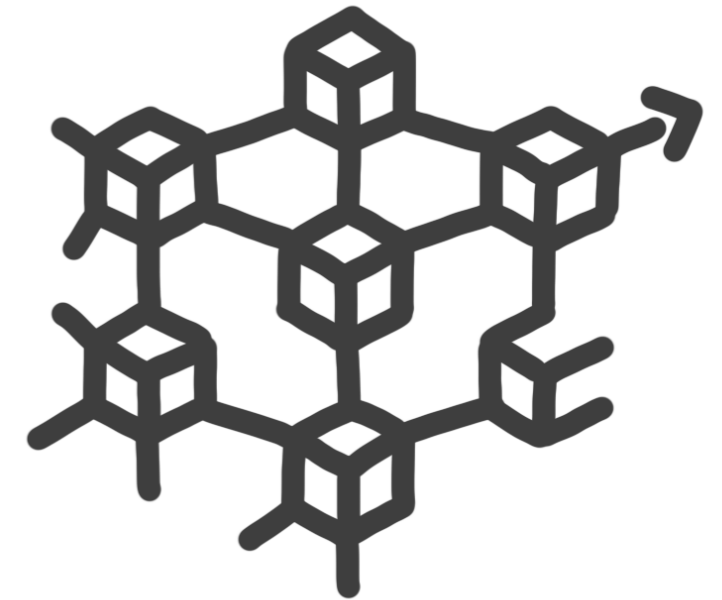PUBLICUM

BDO

REPORT CONTENTS

BLOCKCHAIN IN THE PUBLIC SECTOR

▶ FOREWORD

The world-renowned professional consulting firm BDO and the civil association PUBLICUM, o.z., the official organizer of BLOCKWALKS conference, focused on the utilization of blockchain technology within the public sector have conducted an important global survey.

We have entered a new industrial revolution through advanced digitization in recent years. The rapid growth of blockchain technology is set to play a vital role in advancing the public sector in coming years, due to such technology's inherent attributes and ability to improve the functioning of various aspects of the public sector. Related new challenges arise on every scale, both for organizations working at the national level as well as smaller units such as municipalities. We have accordingly opted to collect more detailed information with regards to the potential issues and circumstances faced by organizations which are considering the implementation of blockchain within their current infrastructures.
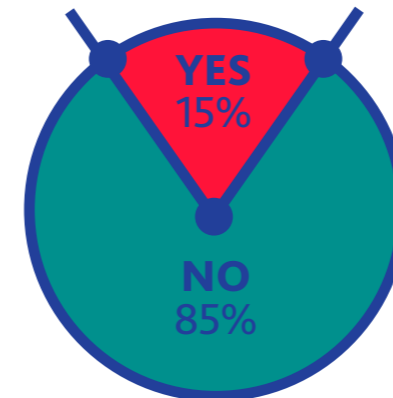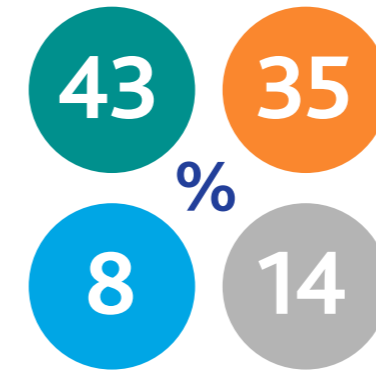
The rapid growth of blockchain technology is set to play a vital role in advancing the public sector.

KEY TAKEAWAYS

▶ CURRENT LEVEL OF ADAPTION

43 **35**

%

8 **14**

YES
15%

NO
85%

While there are some large-scale use cases of blockchain, the public sector can represent the ideal opportunity for the adoption of this technology. Given the broad spectrum of blockchain applications for the public sector, there is clearly relatively high openness to innovation and blockchain technology within the public sector.

The present graph shows a rather critical implementation rate of 15%, which is rather positive taking into account all the barriers and early adoption phase of this technology. Blockchain is clearly at a turning point, developing from exploration phases into building practical use cases. Most respondents are already investigating possible use cases (43%), or experimenting/pilot (35%) and launch (8%) possible solutions within their organizations. The collected data shows that respondents had at least a broad understanding of blockchain, and were familiar with this emergent topic and had opinions about the issue.

● Investigating use cases
● Experimenting/pilot
● Launch   ● Other stage

Focusing on actual implementation, we can conclude that there is a strong preference to cooperate with other public authorities (41%) to obtain the support to develop and implement a blockchain projects. Twenty-nine percent of organizations perform in-house development, while 18% of respondents cited a preference for cooperating with advisory companies. In this regard, the question arises, as to whether the in-house implementation is feasible enough for organizations, ultimately not costing them much more than having to pay for such a service to an outside consultants. A key factor holding blockchain back is the very technology.

Considering how governments operate nowadays, the considerable volume of the legislative framework in relation to this technology is hardly surprising. Noticeably enough, there is still a waiting line for this technology to gain significant traction.

We see blockchain as an enabler of an entirely new level of information exchange, both within and across industries. As there are connections between cloud and artificial intelligence, we see potential for blockchain in helping organizations create and realize new value for solutions beyond anything we can imagine with existing technologies.

▶ STAGE OF IMPLEMENTATION

4%	5%	5%	8%	35%	43%
None	Development	Testing	Launch	Pilot	Investigating
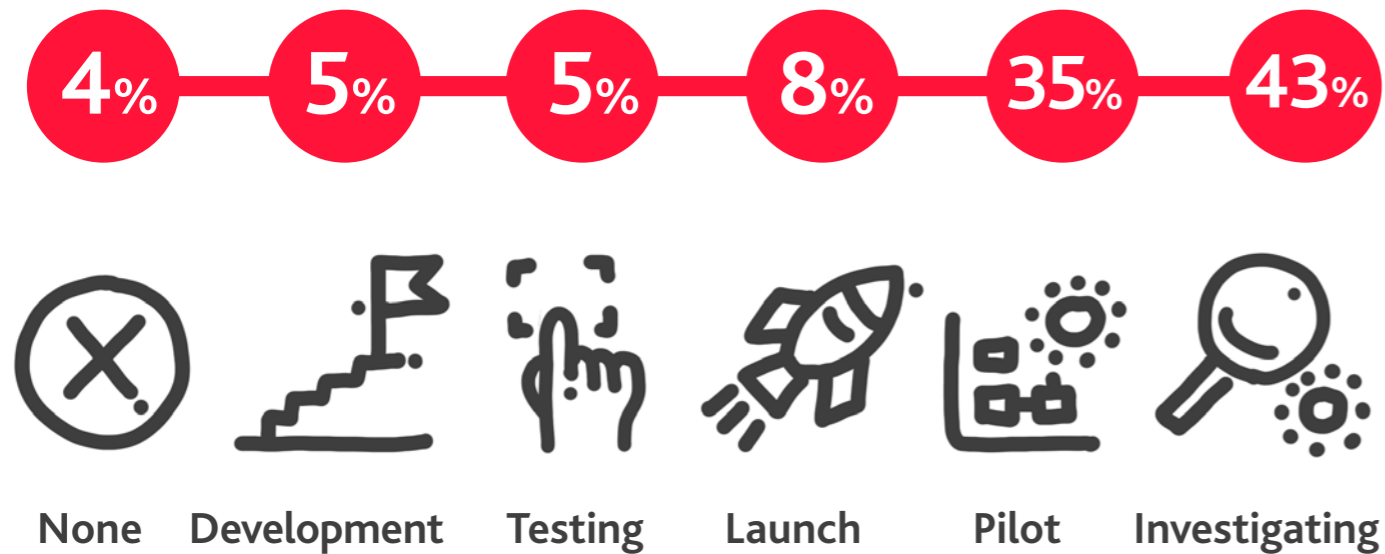
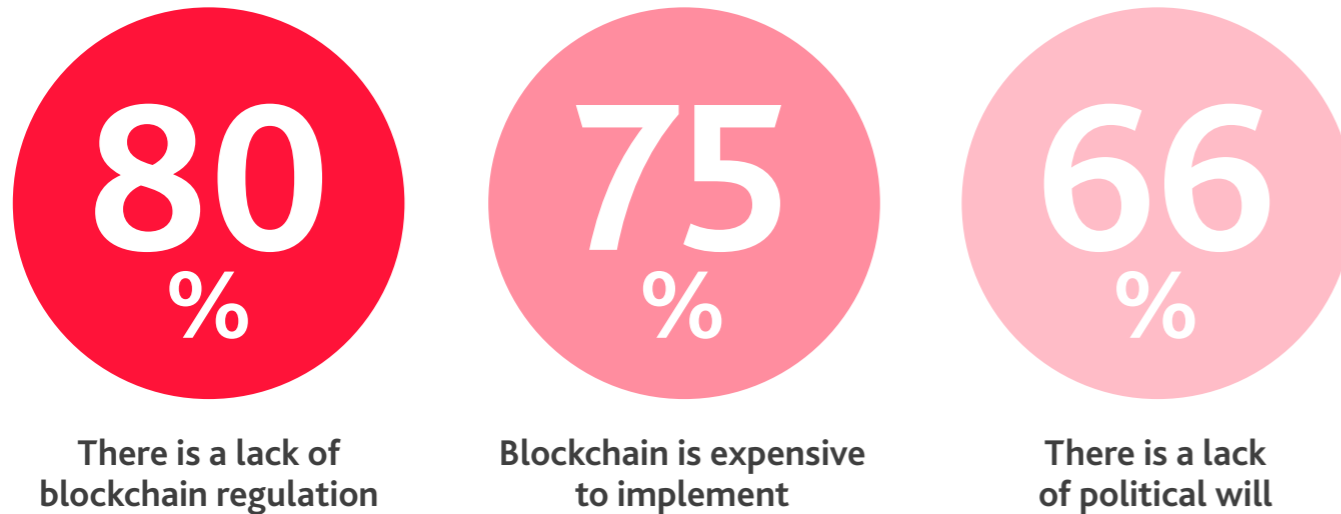**41%** Cooperate with other public authorities

18% Cooperate with advisory companies

29% Develop solutions in-house

12% Cooperate with start-ups

▶ THREATS - BARRIERS (%)

80%

There is a lack of blockchain regulation

75%

Blockchain is expensive to implement

66%

There is a lack of political will

Most of the respondents work at

MID-SIZED ORGANIZATION

56%
HAVE FUNCTIONAL UNDERSTANDING OF BLOCKCHAIN

INNOVATION INTEREST	**64%**
EXPERIENCE WITH BLOCKCHAIN	**30%**
PLANNING TO/CURRENTLY IMPLEMENTING	**15%**
DEVELOP BUDGET	**6%**

▶ DEVELOPED USE CASES

Estonia e-tax system[1]

Estonia uses blockchain technology to enforce the integrity of government data and systems. Estonian Information Systems Authority (RIA) is an integral service provider for the Government, guaranteeing the access to the blockchain network for the State Agencies via the X-road infrastructure. Blockchain has also major role in terms of security and safety of the data within Estonia e-tax system.

Estonian Tax and Customs Board implemented E-Tax, which is the electronic tax filing system ensuring that each year around 98 per cent of all tax declarations in Estonia is filed electronically. Using a secure ID, a taxpayer logs onto the system, reviews their data in pre-filled forms, makes any necessary changes, and approves the declaration form. The process typically takes three to five minutes.

The Swedish land registry[2]

Sweden in collaboration with the blockchain company ChromaWay is leading a project to designate each property with a unique fingerprint so that only the first sale needs to be registered on paper.

ChromaWay was founded in 2014 and is an early pioneer of what is now nicknamed as "blockchain 2.0" technology. They piloted the first project in Sweden in June to model a property purchase using blockchain and smart contract technology. The goal of the pilot was to evaluate the technology from a legal, business and IT perspective. The third phase is about making an actual transfer of a land title possible.

Estonia's healthcare system[3]

Estonia is home to one of the world's most e-savvy government and has become the first country to experiment with using blockchain for healthcare on a national scale.

In 2016, the Estonian E-Health Foundation launched a development project aimed at safeguarding patient health records using blockchain technology in archiving related activity logs. Identified by the electronic ID-card, the health information is kept completely secure and at the same time accessible to authorized individuals. KSI Blockchain technology is being used for the system to ensure data integrity and mitigate internal threats to the data.

1 https://e-estonia.com/how-do-e-residents-pay-taxes/
2 Blockwalks 2018 report, page 19
3 https://e-estonia.com/solutions/healthcare/e-health-record/

METHODOLOGY AND OVERVIEW

This survey was conducted through an online self-administered survey, i.e. no interviewer administered the survey, asked questions, or recorded responses. An online survey is the systematic gathering of data from a target audience characterized by respondents being invited and questionnaire completion online over the Internet, as such it's one of the most widely utilized survey methods.

This survey uses mixed data collection methods, combining both qualitative and quantitative research data, techniques and methods within a single research framework. Mixed methods encompass multifaceted approaches that combine to capitalize on strengths and reduce weaknesses that stem from using a single research data. Using this approach to gather and evaluate data increased the research's validity and reliability.

NPS® (Net Promoter Score®) was used to evaluate most survey questions because it's a proven and intuitive method of constructing a questionnaire that is both understandable and also gives direct knowledge about individuals' insights on a particular topic. A NPS® questionnaire categorizes respondents into three categories: Promoter, Detractor, and Passive.

For each group, we used a given scale:

▶ Promoter 9-10 (enthusiastic and positive individuals who fuel growth)
▶ Passive 6-8 (positive yet unenthusiastic individuals who tend to look for alternative technologies)
▶ Detractor 1-5 (individuals who lack faith in a blockchain future and inhibit growth).

The respondent structure comprises unique answers from the following public sector areas:

▶ Government (direct government, government-owned corporations),
▶ Public education (public universities, public schools),
▶ Health care (public hospitals, R&D centres),
▶ Local organizations (municipal or county),
▶ Indigenous government and institutions,
▶ Elected officials (politicians – central and local governments),
▶ Blockchain non-profit associations/organizations,
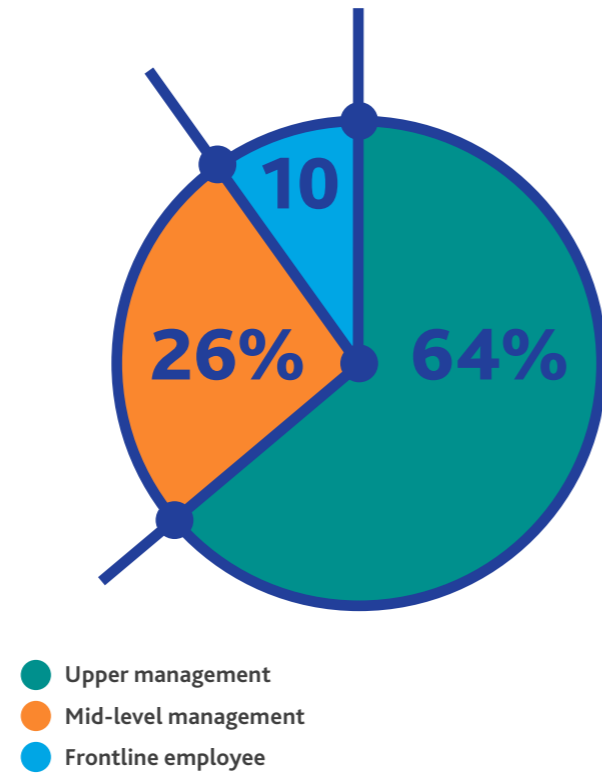▶ Energy and utilities (water, post, infrastructure),
▶ Military, police.
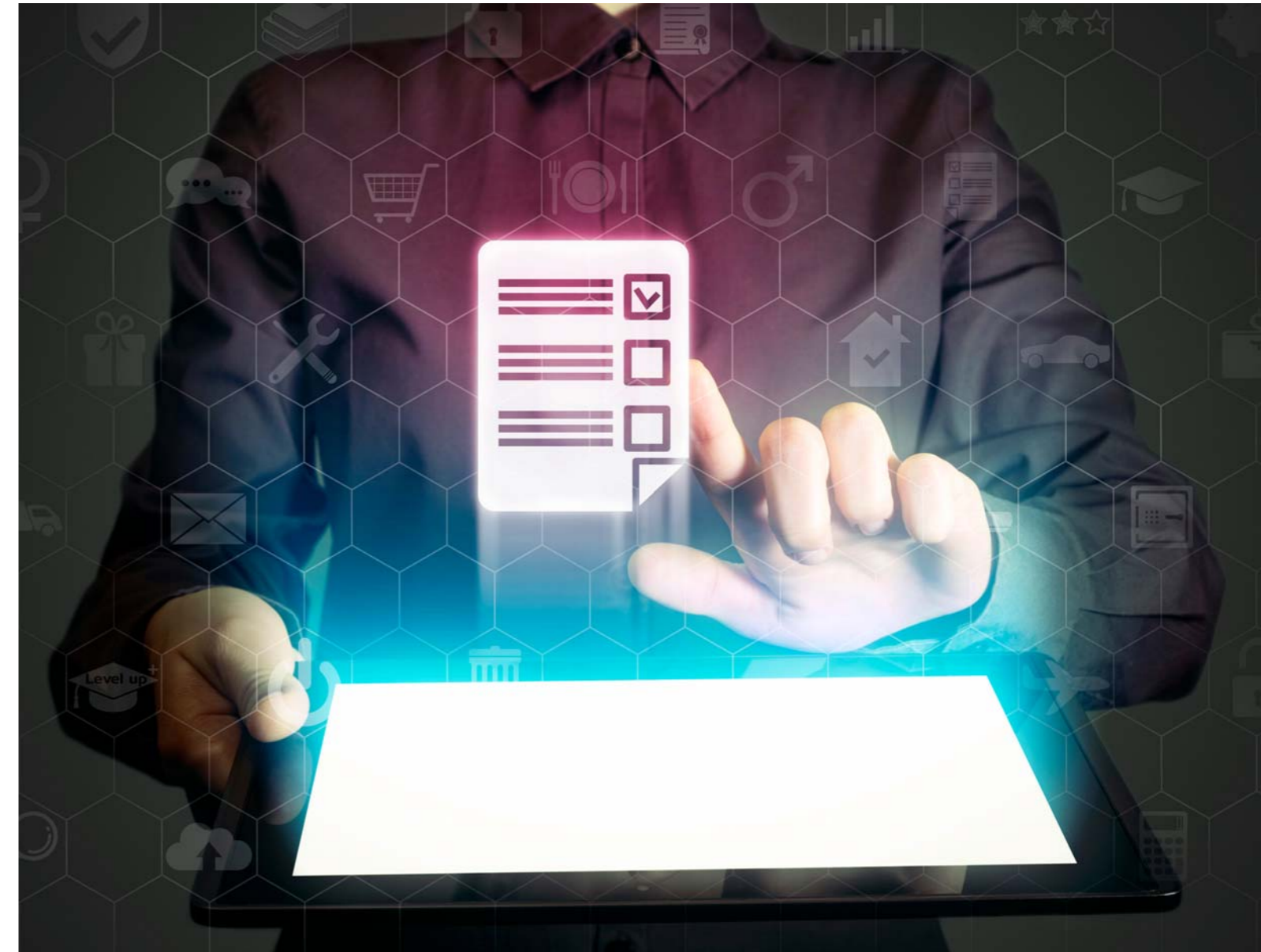
PROFILE OF RESPONDENTS

▶ GLOBAL OVERVIEW

89% EMEA

9% AMERICA

2% ASIA-PACIFIC
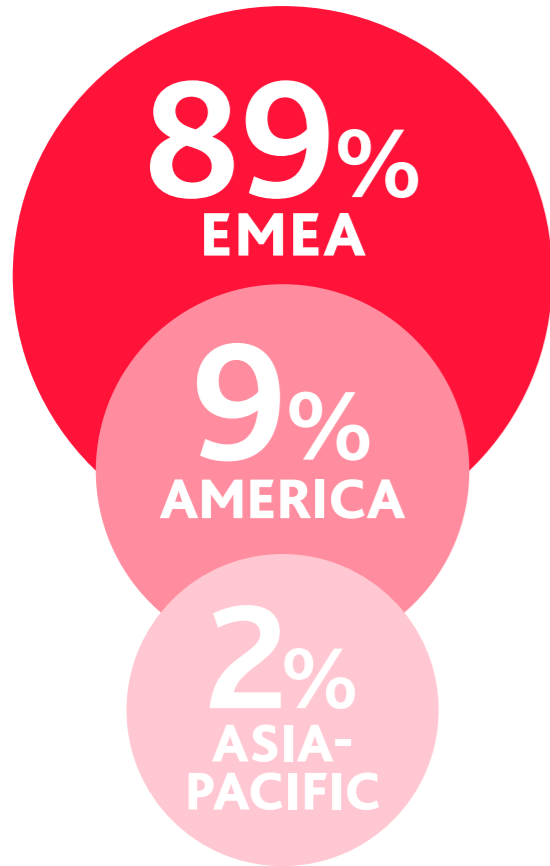
▶ JOB LEVEL AND SECTOR

The majority of collated answers were from senior-level respondents directly involved in management.

- ● Upper management
- ● Mid-level management
- ● Frontline employee

▶ RESPONDENTS BY SECTOR

6% General public

14% Private institutions
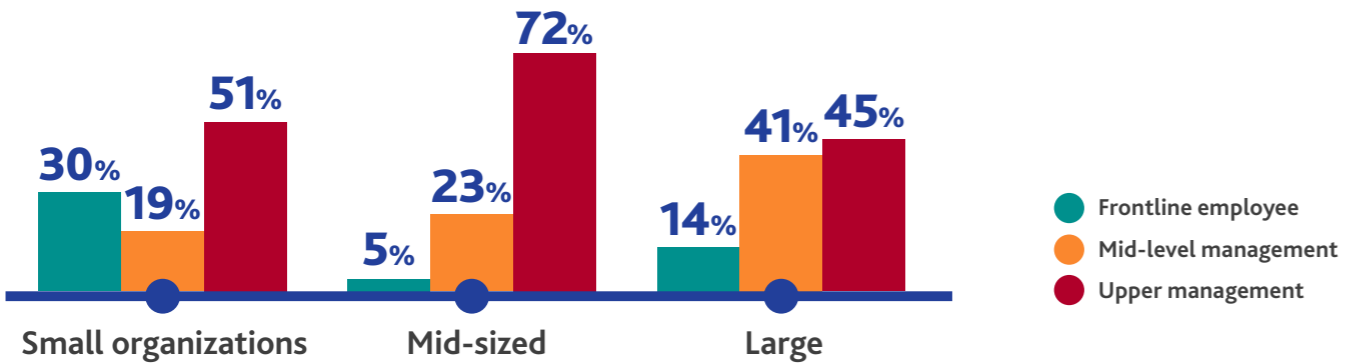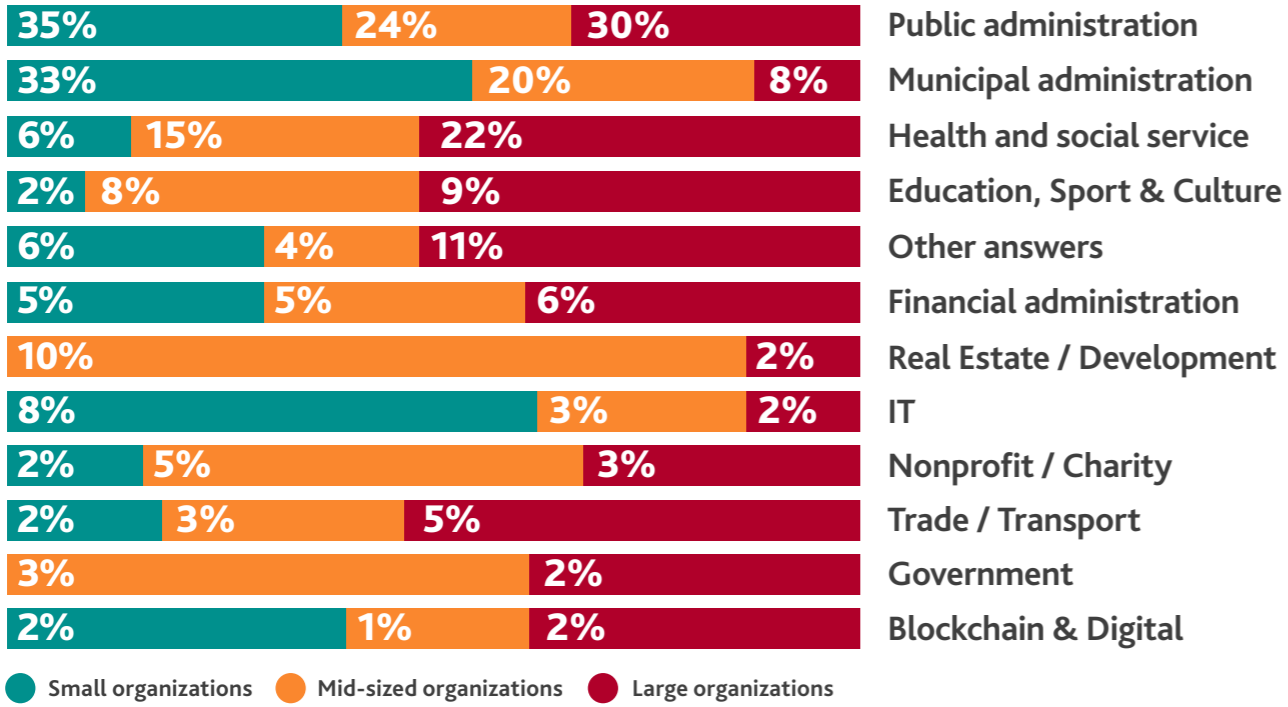
81% Public institutions

▶ SECTOR

While public administration, as well as the health and social service sectors, are leading the way in blockchain use in re-examining processes and functions, other sectors remain more conservative as they work to develop appropriate use cases for blockchain.

Most respondents were identified within the public administration sector (28%), which predominantly includes direct government, federal states, and government-owned corporations. The second-most dominant sector is municipal administration (20%) including local organizations, civil government and county community. Health and social services come third (15%). The category 'other answers' (9%) comprises various yet important sectors such as blockchain non-profit associations, and institutions including for example consulting, public library and postal service representatives.
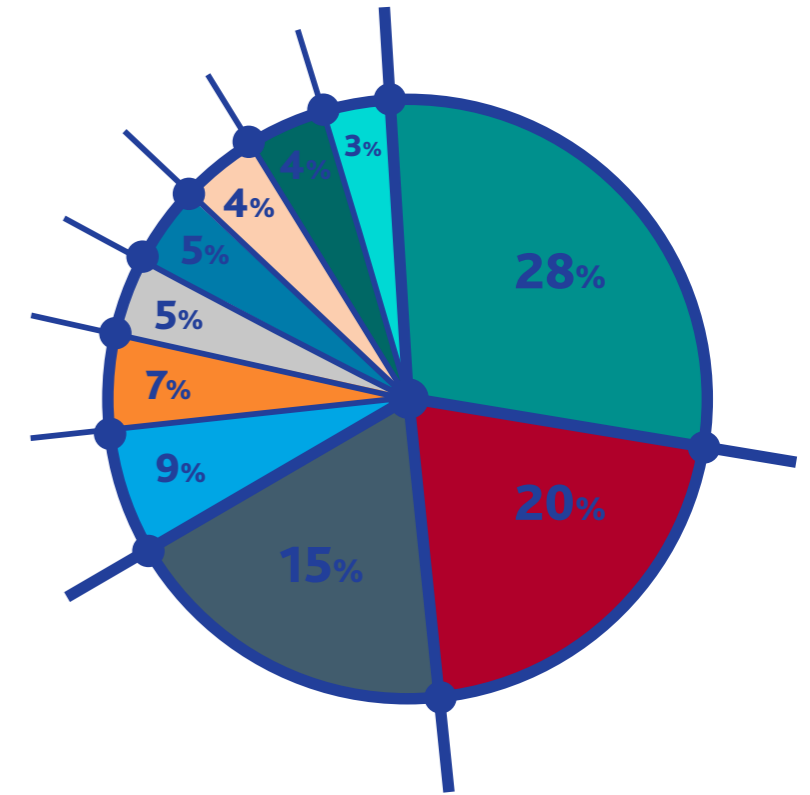
- 🟢 Public administration
- 🔴 Municipal administration
- ⚫ Health and social service
- 🟠 Education, Sport & Culture
- 🟢 Non-profit/Charity
- 🔵 Other answers
- ⚪ Financial administration
- 🔵 Real Estate / Development
- 🟠 IT
- 🔵 Trade/Transport

▶ INDUSTRY AND ORGANIZATION SIZE

35%	24%	30%	Public administration
33%	20%	8%	Municipal administration
6%	15%	22%	Health and social service
2%	8%	9%	Education, Sport & Culture
6%	4%	11%	Other answers
5%	5%	6%	Financial administration
10%		2%	Real Estate / Development
8%	3%	2%	IT
2%	5%	3%	Nonprofit / Charity
2%	3%	5%	Trade / Transport
3%		2%	Government
2%	1%	2%	Blockchain & Digital

● Small organizations   ● Mid-sized organizations   ● Large organizations

Small organizations: Frontline employee 30%, Mid-level management 19%, Upper management 51%

Mid-sized: Frontline employee 5%, Mid-level management 23%, Upper management 72%

Large: Frontline employee 14%, Mid-level management 41%, Upper management 45%

● Frontline employee
● Mid-level management
● Upper management

APPROACH
TO BLOCKCHAIN

APPROACH TO BLOCKCHAIN
▶ SURVEY QUESTIONS

1. I have a functional understanding of blockchain
2. I have personal/professional experience using blockchain
3. I have personally received Bitcoin or other cryptocurrency amounts
4. I have personally paid out Bitcoin or other cryptocurrency amounts
5. My organization accepts Bitcoin or other cryptocurrency as payment
6. My organization has used Bitcoin or other cryptocurrency for payment to suppliers
7. My organization is interested in new technology implementation (such as digitalization, cloud infrastructure, blockchain, etc.)
8. My organization regularly communicates its vision for digital innovations
9. My organization regularly invests in supporting programs that develop employees' tech knowledge base
10. My organization regularly attends technology events and initiatives
11. The public sector will utilize the potential of blockchain technology
12. If yes, in which public sector areas do you see its first implementation (real use cases)?
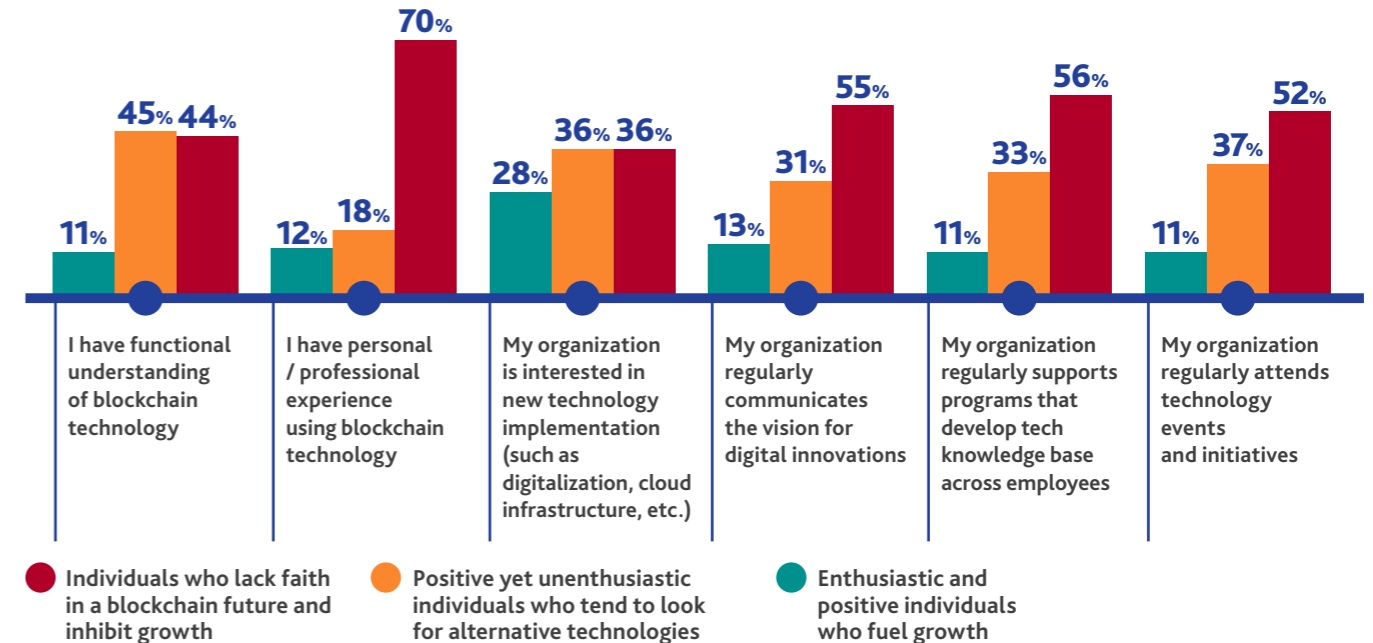13. If not, which technology do you consider the technology of the future?

▶ KNOWLEDGE OF BLOCKCHAIN IN THE PUBLIC SECTOR

From the analysis, we can conclude that the public sector lacks blockchain technology experience. Yet the fact that up to 30% of respondents have some practical experience shows a growing awareness of this technology within the public sector. We also examined that 56% of respondents indicated functional knowledge of blockchain technology.

The current trend is that public sector organizations are interested in new technologies such as cloud infrastructure, blockchain, digitalization, etc. In today's competitive global environment technologies are under pressure to leverage traction - with reduced costs as the key factor. Interestingly, however, 45% of organizations regularly communicate a vision for digital innovation. Moreover, due to the current situation around the coronavirus crisis, we might be facing an acceleration of digitalization within the public sector.

That 44% of organizations regularly invest in supporting programs which develop employees' tech knowledge base is a positive. This information clearly shows an interest in participating at technology events and various initiatives, and this fact is considerably high within the public sector.

Chart data by category:

Category	Enthusiastic and positive individuals who fuel growth	Positive yet unenthusiastic individuals who tend to look for alternative technologies	Individuals who lack faith in a blockchain future and inhibit growth
I have functional understanding of blockchain technology	11%	45%	44%
I have personal / professional experience using blockchain technology	12%	18%	70%
My organization is interested in new technology implementation (such as digitalization, cloud infrastructure, etc.)	28%	36%	36%
My organization regularly communicates the vision for digital innovations	13%	31%	55%
My organization regularly supports programs that develop tech knowledge base across employees	11%	33%	56%
My organization regularly attends technology events and initiatives	11%	37%	52%

● Individuals who lack faith in a blockchain future and inhibit growth
● Positive yet unenthusiastic individuals who tend to look for alternative technologies
● Enthusiastic and positive individuals who fuel growth

APPROACH TO BLOCKCHAIN

▶ UTILIZATION OF BLOCKCHAIN IN THE PUBLIC SECTOR

Up to 57% of respondents are confident that blockchain is the right technology to be implemented within the public sector. The respondents mostly draw attention on services, that contain problems which could be solved by the implementation of blockchain technology. First examples showing the positive impact of blockchain are for instance electronic payments which reduce costs and central registration which facilitate public access and reduce the risk of corruption.

NO 43%

YES 57%
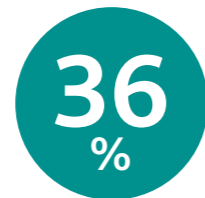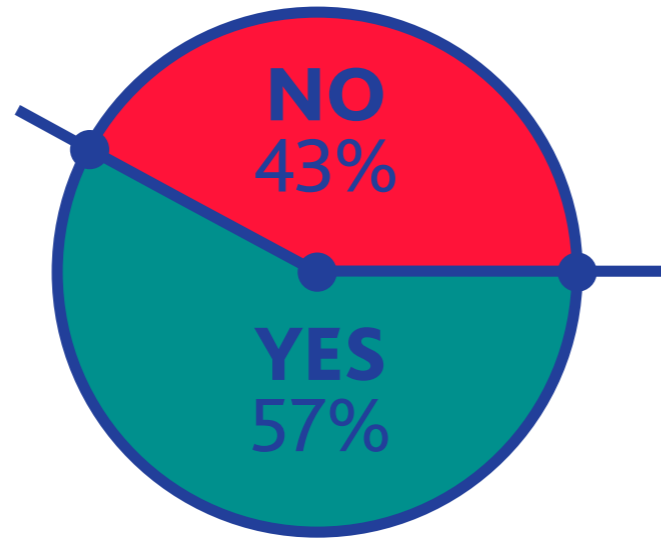
36 % — Transaction / Information exchange

25 % — Citizenship services

11 % — Commercial registry
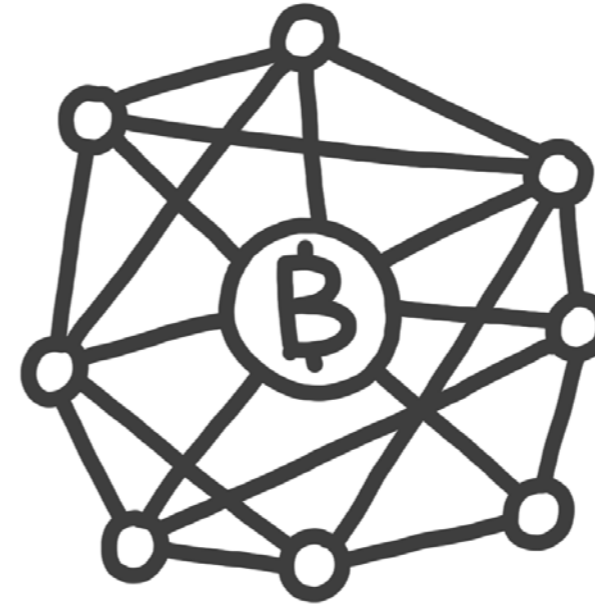
▶ STATE OF CRYPTOCURRENCIES WITHIN ORGANIZATIONS

Up to 16% of respondents have received bitcoin or other cryptocurrency amounts, yet only 2% of respondents actively use bitcoin as a payment method. Bitcoin's very high exchange rate volatility often discourages organisations from using this payment method. While bitcoin is the first relatively widespread and successful use case of blockchain technology, it nevertheless continues to pose several risks, the most critical of which according to respondents is the lack of regulation which creates an unsafe environment.

16% Have personally received Bitcoin or other cryptocurrency amounts

8% Have personally paid out Bitcoin or other cryptocurrency amounts

2% Accept Bitcoin or other cryptocurrency as payment

2% Have used Bitcoin or other cryptocurrency for payment to suppliers

APPROACH TO BLOCKCHAIN

▶ **FIRST IMPLEMENTATIONS WITHIN THE PUBLIC SECTOR – USECASES**

36% OF RESPONDENTS
consider blockchain as mainly affecting transaction/information exchange, i.e. electronic payments, monetary transactions and international purchasing. Blockchain technology can speed up payments at lower rates than those charged by banks. Financial institutions are already implementing blockchain for the communication of transactions and tracking.

25% OF RESPONDENTS
believe that blockchain will mainly affect citizenship services, i.e. identity management, public registry, and data retrieval for personal data. Distributed ledger technologies could be used to consolidate the disparate data that currently exists across layers of government.

11% OF RESPONDENTS
believe that blockchain will mainly affect land and commercial registries. As the most natural government service application of blockchain is the notary service, a registry for any real-world assets is also being built using a blockchain. Several countries have begun to use blockchains to manage land registries.

THE SURVEY SHOWS
that blockchain technology has boundless potential to influence the public sector. 64% of respondents show an openness to innovative solutions, while 57% believe that the public sector will utilize blockchain technology's potential. A noticeable positive trend in the public sector is evidenced by the percentage of use cases and general attitude towards this technology.

STUDIES SHOW
that emerging technology's development is becoming accepted in various governmental sectors, use-cases for example include: Estonia where blockchain provides the backbone of the renowned e-Estonia program, which connects government services in a single digital platform[1]. Georgia's government has experimented with blockchain in a land registry project developed with the Bitfury group[2].

1 https://e-estonia.com/
2 http://www.oecd.org/corruption/integrity-forum/academic-papers/Georg%20Eder-%20Blockchain%20-%20Ghana_verified.pdf

APPROACH TO BLOCKCHAIN

► **OTHER TECHNOLOGIES CONSIDERED WITHIN THE PUBLIC SECTOR**

ARTIFICIAL INTELLIGENCE
Computer systems able to perform tasks that normally require human intelligence.

CLOUD COMPUTING
Using a network of Internet-hosted remote servers.

ROBOTICS PROCESS AUTOMATION
Business process automation technology based on metaphorical software robots or artificial intelligence workers.

DISTRIBUTED LEDGER
A database consensually shared and synchronized across multiple sites, institutions or geographies.

DIGITALIZATION
Conversion of text, pictures, or sound into a digital form that can be computer processed.

DRONES
Formally known as unmanned aerial vehicles or unmanned aircraft systems.

INTERNET OF THINGS
Network of interconnected devices.

SOFTWARE AS A SERVICE
Software delivery and licensing by which software is accessed online via a subscription.

DIGITAL
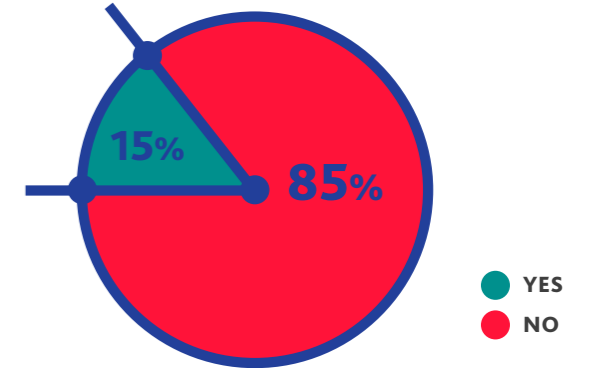ADAPTATION

DIGITAL ADAPTATION

► SURVEY QUESTIONS

1. My organization is planning to implement/currently implementing blockchain technology

2. If yes, what is your current stage of implementation?

3. My organization has established a dedicated group to support a blockchain initiative

4. What approaches does your organization plan to adopt for blockchain technology implementation?

5. My organization has developed a budget for blockchain activities

6. If not, what is/will be the source of funding for your organization's current/future blockchain initiatives (e.g. own sources, external sources, funds)?

► IMPLEMENTATION OF BLOCKCHAIN

Own financing

Other financing

Governmental funds

Implementation rate

15%

85%

● YES
● NO

Stage of implementation

43%	Investigating use cases
35%	Experimenting the possible implementation
8%	Launch
5%	Testing
5%	Developing the solution
4%	None
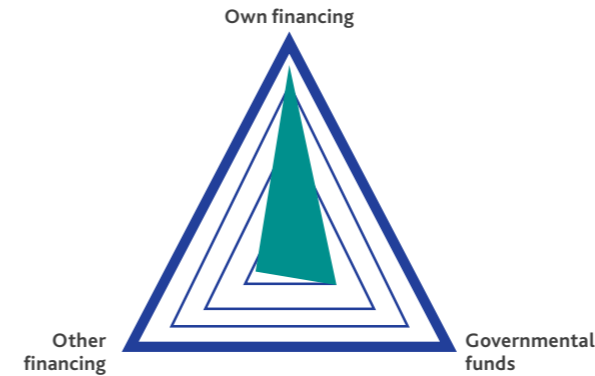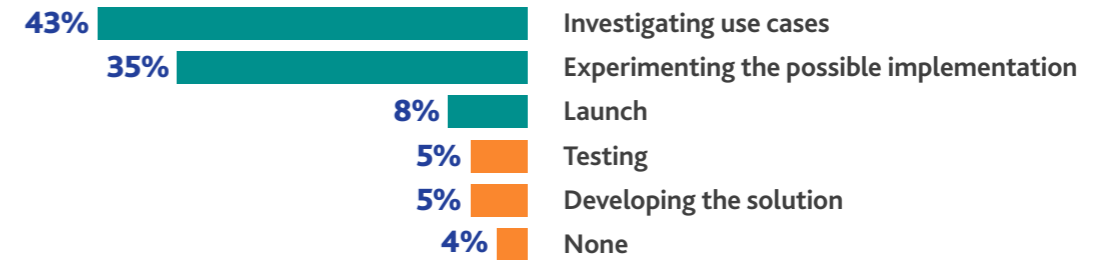
This survey aimed to identify blockchain's current implementation stage in the public sector. The results show both a will and a way - with teams already assigned budgets to test blockchain use. This group currently consists of 43% of respondents examining use cases, 35% experimenting with possible implementation, and 8% preparing to launch upcoming projects. This trend continues to support the creation of groups in the surveyed organizations. Almost 10% of organizations have created groups for digital initiatives projects, which is high for the public sector. Six percent developed budgets to finance such activities. Data evaluation shows that most such activities are financed by own resources, innovation grants, or parliamentary approved budgets.
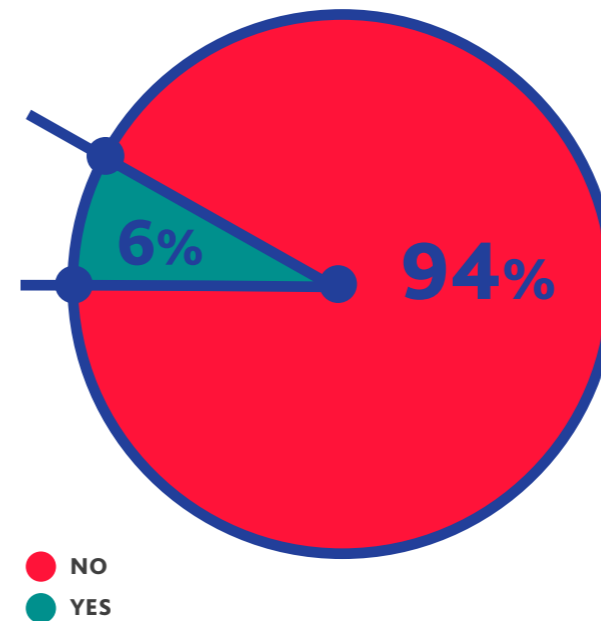
DIGITAL ADAPTATION
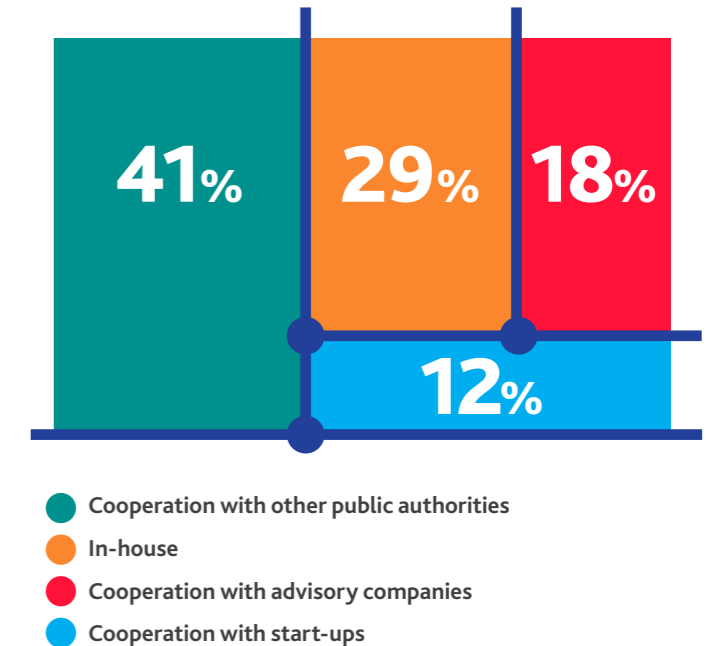## ▶ FINANCING OF BLOCKCHAIN INNOVATIONS

Six percent of organizations have already created budgets to finance blockchain innovations, of which most utilize their sources for funding these activities. Focusing on the adaptation approach, we have identified that public sector organizations prefer to cooperate with public authorities (41%), some do in-house development (29%), yet 18% of respondents prefer to cooperate with advisory companies. The question therefore arises as to whether in-house implementation is sufficiently feasible for organizations, i.e. given the minor cost differential of instead outsourcing to an experienced contractor, such as a consulting company.

Developed a budget

6%
94%

● NO
● YES

Source of funding

41% 29% 18%
12%

● Cooperation with other public authorities
● In-house
● Cooperation with advisory companies
● Cooperation with start-ups

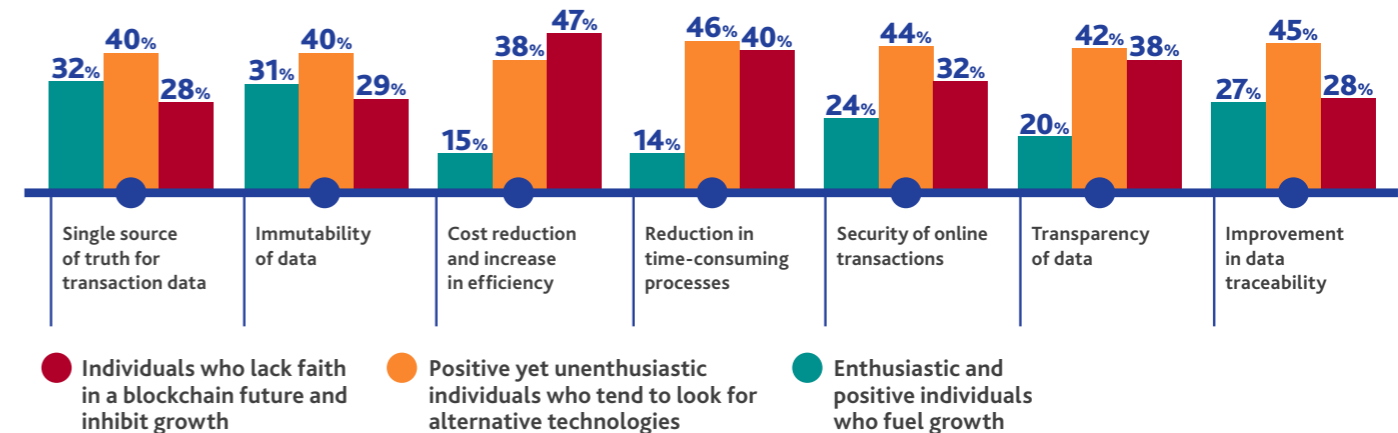# BENEFITS OF IMPLEMENTATION

► SURVEY QUESTIONS

1. Blockchain will allow multiple parties to access a single source of truth for transaction data

2. Blockchain will ensure immutability of data

3. Blockchain will reduce your costs and increase efficiency by removing intermediaries in multiple party processes

4. Blockchain will increase efficiency and reduce time-consuming processes

5. Blockchain will secure online transactions

6. Blockchain will provide transparency of data

7. Blockchain will improve traceability of data
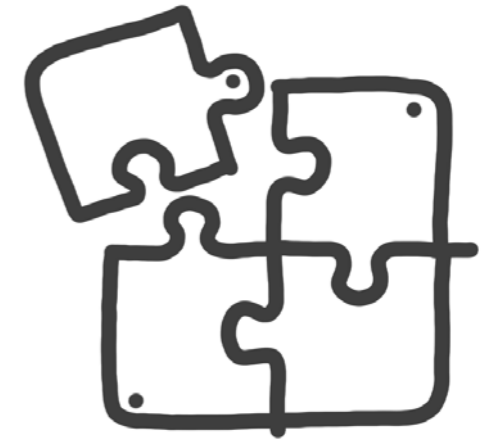
Each technology, whether market leader or newcomer, has benefits and threats. Nonetheless, there is undeniably strong belief in data traceability's improvement with blockchain (72%). Seventy-one percent of survey respondents confirmed that blockchain could ensure data immutability of data, while 72% consider that blockchain allows multiple parties to access a single data source for transactions.

Another considered benefit is the security of online transactions – a necessity in terms of globalization. Cost reduction and increased efficiency are currently considered the least representative benefit of blockchain technology, probably because the technology is not yet fully implemented and distributed within society.

Respondents are also confident that blockchain serves as a driver for data transparency (62%), another conditional advantage of blockchain technology is the speed of payment processing in the future. With a majority of respondents (60%), this benefit can be considered as expected, because, at the current stage, this technology does not represent a sufficient processing speed.

Single source of truth for transaction data	Immutability of data	Cost reduction and increase in efficiency	Reduction in time-consuming processes	Security of online transactions	Transparency of data	Improvement in data traceability
32% 40% 28%	31% 40% 29%	15% 38% 47%	14% 46% 40%	24% 44% 32%	20% 42% 38%	27% 45% 28%

● Individuals who lack faith in a blockchain future and inhibit growth

● Positive yet unenthusiastic individuals who tend to look for alternative technologies

● Enthusiastic and positive individuals who fuel growth

BLOCKCHAIN
THREATS

BLOCKCHAIN THREATS

▶ **SURVEY QUESTIONS**

From the collected data, we have identified the three highest-profile hurdles that need to be overcome to increase the blockchain technology adoption rate. The first most significant and clearest obstacle is the lack of blockchain regulation (80%), which directly accords with global reports on the state of blockchain regulation in individual countries worldwide. The second most crucial observation is that blockchain is expensive to implement - 75% of respondents considered this option as a high probability of the current state of blockchain technology.

The most crucial barrier (66%) is the perceived lack of political will that underlines the previous hurdle. Governments have little motivation to suggest such a transparent, immutable and secure technology as blockchain; hence it's also crucial to appreciate that the fundamentals of this technology are based on the principles of decentralization. If decentralization and openness is not the preferred manner of governance, then this is nowhere near the solution for the bright technological future. Sixty-one percent of respondents agree that blockchain falls short on motivating factors, which is little surprise given that most new technologies have a start-up phase. Yet nevertheless, blockchain clearly has the potential for widespread use, although there is still a lack of use-cases as identified by 53% of respondents. Closely related to this threat is security and privacy, which 59% of respondents consider a significant barrier due to the lack of benchmark use-cases.

1. Blockchain is expensive to implement
2. Blockchain's scalability is a barrier to implementation
3. Lack of blockchain regulation
4. Blockchain is immature technology with few suitable use cases
5. Security and privacy are potential threats in blockchain
6. Blockchain has difficulty with building participants
7. Lack of political will

	Blockchain is expensive to implement	Blockchain's scalability is a barrier in implementation	There is a lack of blockchain regulation	Blockchain is immature technology with lack of suitable use cases	Security and privacy are potential threats in blockchain	Blockchain struggles with extension of its participants base	There is a lack of political will
Enthusiastic and positive individuals who fuel growth	25%	40%	20%	47%	41%	39%	34%
Positive yet unenthusiastic individuals who tend to look for alternative technologies	49%	39%	44%	33%	32%	45%	39%
Individuals who lack faith in a blockchain future and inhibit growth	26%	21%	36%	20%	27%	16%	27%

● **Individuals who lack faith in a blockchain future and inhibit growth**   ● **Positive yet unenthusiastic individuals who tend to look for alternative technologies**   ● **Enthusiastic and positive individuals who fuel growth**

BLOCKCHAIN OVERVIEW

▶ **SURVEY SECTION QUESTIONS**

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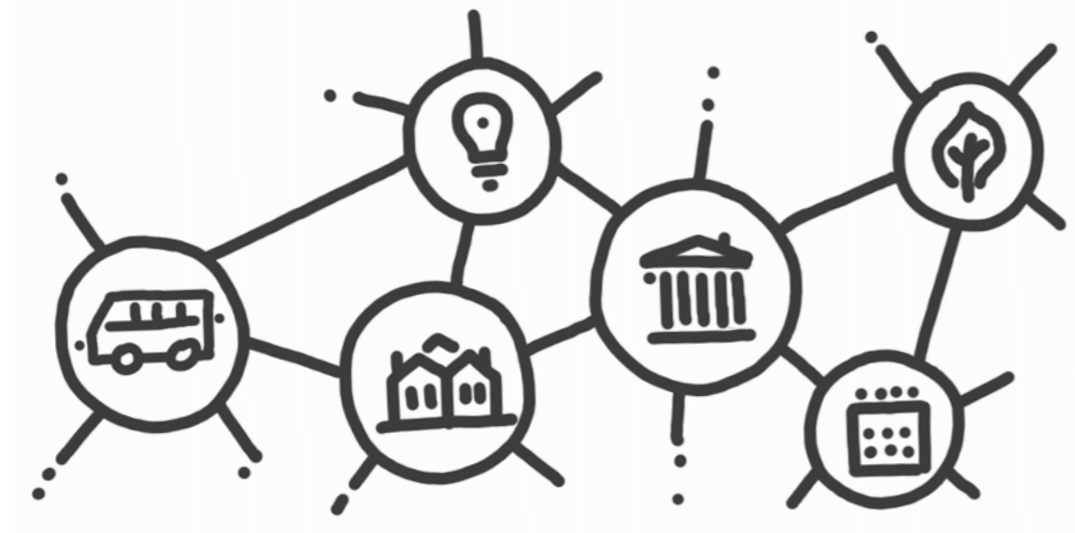
1. I consider blockchain as a future technology within the public sector

2. What do you think would need to happen for the widespread public sector adoption of blockchain?

▶ **THE FUTURE OF BLOCKCHAIN TECHNOLOGY WITHIN THE PUBLIC SECTOR**

QUESTION:
Do you consider blockchain as a future technology within the public sector?

Although there is a positive attitude towards blockchain technology, 44% of surveyed respondents stated that there is currently vast uncertainty within the technology and a great need for education about and regulation of blockchain. Many respondents consider blockchain the right choice for the public sector because of its transparency, i.e. its guarantee of data authenticity. Some respondents expressed uncertainty whether blockchain would prevail in the public sector. There are currently no "killer applications of this technology, yet".
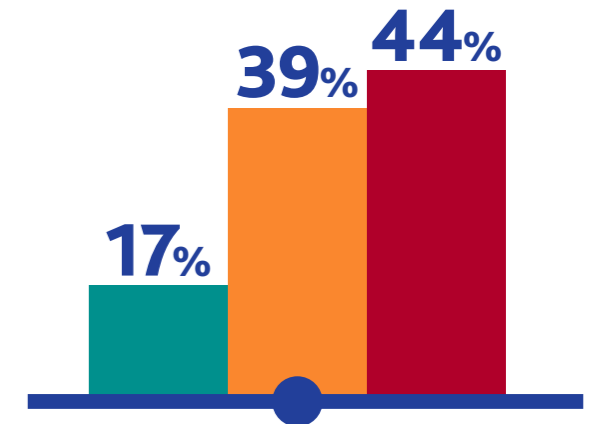
- **Individuals who lack faith in a blockchain future and inhibit growth**
- **Positive yet unenthusiastic individuals who tend to look for alternative technologies**
- **Enthusiastic and positive individuals who fuel growth**

BLOCKCHAIN OVERVIEW

▶ **RESPONDENTS VIEW ON BLOCKCHAIN**

„Blockchain has great development and application on anything that needs traceability. Shortly, this technology will have a great potential combining with other emerging technologies such as IoT or AI."

- Montana Merchán | Technical advisory, Coordinador de emerging technologies | Secretariat for Digital Administration Ministry for Territorial Policy and Public Function | Spain

„Will also find its way into the public sector, but will be greatly delayed by the economy. Joint development at different levels of government is imperative, development time is relatively long, data protection and data security are key elements for implementation in the public domain."

- Ruedi Würgler | Mayor | Municipality of Dintikon | Switzerland

„In (direct) democratic systems, new ways will be created in future to involve people more in the democratic decision-making process (eCollect, eGovernment, eParticipation, e-voting, for example). Blockchain applications can also be found in the area of SmartCity (sensors). The possibilities are limitless."

- Manuel Bruder | Community clerk ad interim | Municipality of Boniswil | Switzerland

„Blockchain (or DLT in general) will be used in all areas of life and industry, but truly useful use cases must first emerge/establish."

- anonymous

„I consider blockchain to be one of the ways to guarantee the authenticity of data. The technology in itself offers the possibility to be able to meet all the benefits (listed in the survey). Yet this in itself is not saving. Good agreements and trust between partners is key to success before setting up a blockchain relationship. I believe more in applications that will use blockchain. Many UCs also focus on a "pure" use of a blockchain. What can work (for governments) is to offer a service in which blockchain is the underlying technology to be able to meet the conditions (authenticity, traceability, etc.). Plus very clearly charting the preconditions: what is expected, what is not expected."

- Jef Bauwens | Project manager | De Vlaamse Waterweg | Belgium

BLOCKCHAIN OVERVIEW

▶ **THOUGHTS ON FUTURE OF BLOCKCHAIN TECHNOLOGY**

QUESTION:

What do you think would need to happen in order for widespread adoption of blockchain in public sector to occur?

„New young leaders, who see the value and are willing to change."

- Thorild L. Osdalen | Project manager | Municipal Government Of the City of Telemark | Norway

„No political will to regulate."

- anonymous

„Political will, secured finances, engagements of relevant partners, awareness-raising."

- Michal Číž | Head of Digital innovation Unit| Office of Deputy Prime Minister of the Slovak Republic for Investments and Informatization | Slovakia

„We need to see examples of applications that add value beyond traditional technology."

- Trond Guneriussen | Specialist information security adviser | Norwegian Post Office | Norway

„Solving scalability, security and trust. Lowering the technological entry barrier for normal (not tech-savvy) citizens. Political will and intense discourse with technology experts. Adjusting the regulatory framework to enable DLT and benefit from them."

- Laszlo Papp | Project manager | Federal notarial Chamber | Germany

„Better education of what Blockchain is."

- anonymous

„We need to know more about the opportunities and the threats."

- anonymous

„Development of a small, simple and affordable application."

- anonymous

„Resolving legal questions (e.g. admission to the amounts in case of death of the owner)."

- anonymous

CONCLUSION

▶ WHERE WE ARE

Whilst blockchain has clear advantages, current data nevertheless shows that few public sector organizations have practical experience with this technology. This is mainly because most respondents believe that blockchain has high implementation costs and lacks sufficient regulations. Organizations are instead implementing other digital technologies that are more accessible in terms of financial and implementation timeframe.

However, as the public sector is facing a transformation change, we believe that interest in blockchain technology will increase as demand on security and operational transparency grows. We view blockchain as an technology enabler of an entirely new level of peer-to-peer information exchange, both within and across sectors, bearing in mind its potential as a new disruptor for trusted records and transactions. For blockchain technology to become a key component for any organization a change of mentality is still required, and the potential disruption of such adoption would be extensive. However the benefits in terms of radical changes of the business model are well worth of it.
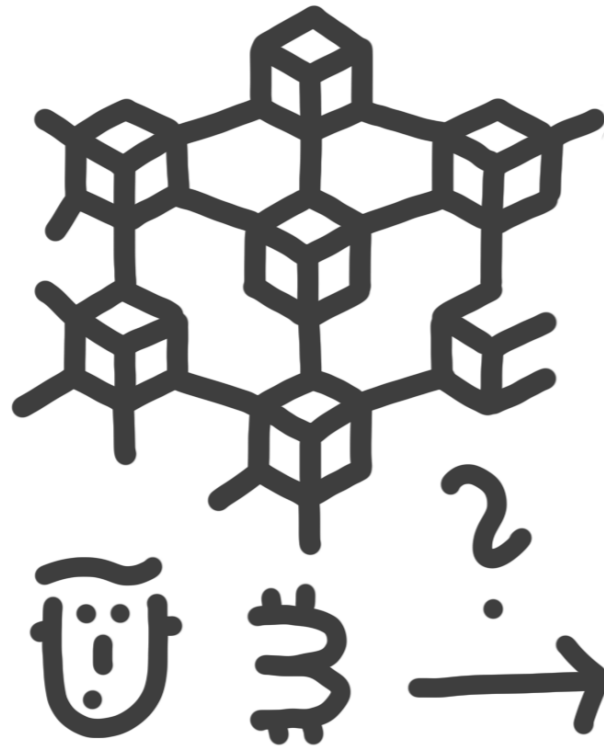
We've seen that blockchain is clearly at a turning point: developing from exploration phases into building practical use cases both in the private and public sectors. Focusing on actual implementation, we can conclude that there is a strong preference to cooperate with public authorities, perform in-house development, and cooperate with advisory companies. In this regard, the question arises as to whether in-house development is sufficiently feasible for organizations, since outsourcing such service to an outside professional consultant could be a more efficient option.

▶ ACKNOWLEDGMENT TO OUR PARTNERS
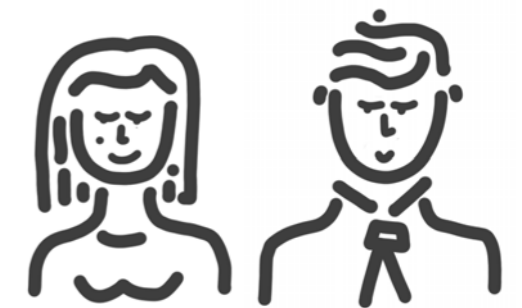
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