Voister. CIO ANALYTICS 2023

Daring to make decisions and listening to the needs of the organisation are important qualities for an IT executive.

Organisations that act proactively

within the public sector
29%

within the private sector
35%

79%
of the public sector works to reduce climate emissions from IT products

55%
need security experts

77%
of the private sector works to reduce climate emissions from their activities

20%
don't have a set plan for unforeseen security incidents

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Contents

!

About Voister CIO Analytics
Voister CIO Analytics, formerly Voister Trend, is a recurring annual survey conducted by the IT news site Voister.

The respondents are CIOs, IT managers and other IT executives in the public and private sectors in Sweden.

The anonymous quotes and questions in the report come from the survey. In addition to the survey responses and selected interviews, the report is based on news from Voister.

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The IT manager as a hero in crises

We live in a world of crisis, and every crisis needs a hero. IT emerged as a hero during the pandemic, driving digitalisation, and we can see in this year's Voister CIO Analytics that more and more people see IT as critical to efficiency and digitalisation. Since the pandemic, IT has also played an important role in driving the issues of security, optimisation, and efficiency, and as an incredible enabler in sustainability issues, primarily with the help of IoT.

Daring to challenge change and understanding the needs of the business still characterise a good IT executive. But awareness of the outside world has also emerged as an important characteristic in these times of crisis. The increased threat profile means that security is the primary focus and the biggest challenge again this year, closely followed by cost efficiency and the supply of resources and skills. We see that recruiting individuals instead of skills and experience is increasingly important, and qualities such as emotional intelligence are highly valued.

The cloud issue is still a matter of debate, as the law is difficult to interpret and we can see significant fragmentation in attitudes to the cloud, primarily in the public sector. One thing is certain: Cloud and security are considered to be management issues. IT strategies are moving more and more out of the IT department and becoming part of digitalisation, business, and management strategies, as IT is seen as an enabler for business development.

All major crises throughout history have led to major change, and the heroes of tomorrow will be the IT executives who succeed in removing the influence of external factors through automation and digitalisation.

Welcome to this report.

Maria Ehrin,
Innovation Manager, Atea Sweden

ANNUAL REPORT

In this year's annual report you will find:
- Statistics from this year's survey.
- Correlations and trends identified with business intelligence and data-driven analysis.
- In-depth interviews on various topics.
- Intelligence from the Advisory Board.
- The thoughts of the Editorial Board.

BEAR IN MIND!

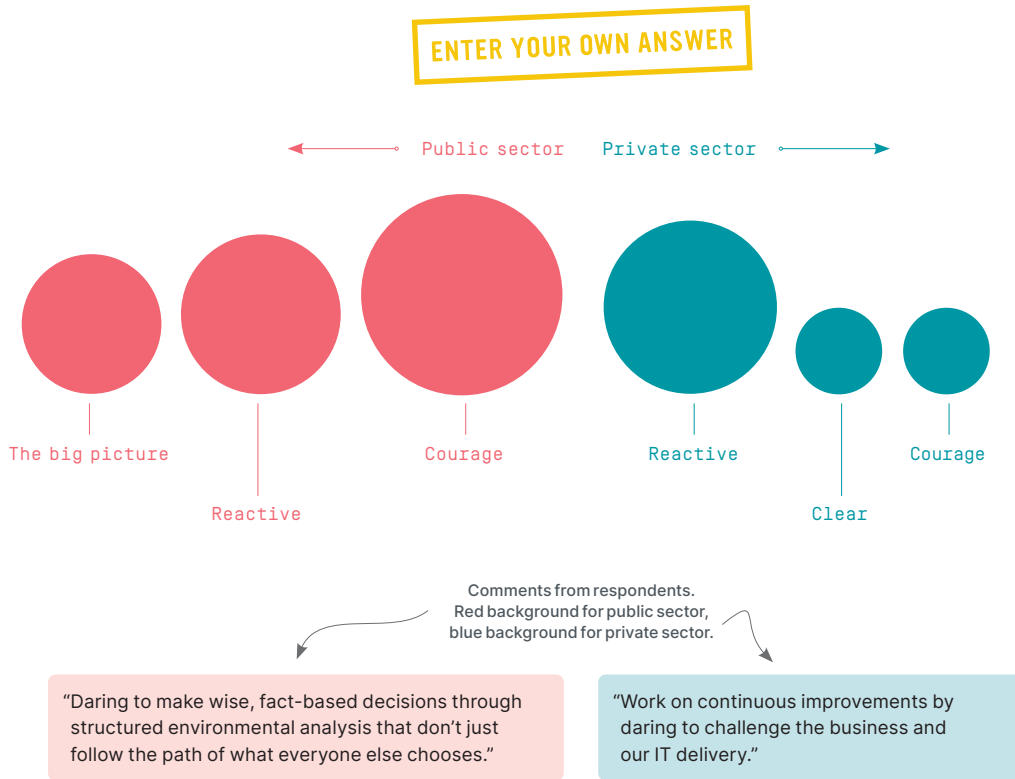What will you gain from the report? Don't forget to reflect and draw your own conclusions about the content. How can you use the analysis for future decisions at work? Bear in mind!

As a member of the CIO[2] network, you can access an extended version of the report and interactive dashboards for the response results at www.voister.se/cio. There are also more in-depth interviews and reflections.

01

WHAT KIND OF IT DECISION MAKER ARE YOU?

What are the characteristics of a good IT executive?

ENTER YOUR OWN ANSWER

← Public sector   Private sector →

The big picture

Reactive

Courage

Reactive

Clear

Courage

Comments from respondents.
Red background for public sector,
blue background for private sector.

"Daring to make wise, fact-based decisions through structured environmental analysis that don't just follow the path of what everyone else chooses."

"Work on continuous improvements by daring to challenge the business and our IT delivery."

Once again this year, IT executives point to courage, responsiveness and business understanding as particularly important characteristics. Perhaps the answers can be seen from a partially different perspective after a year characterised largely by the war in Ukraine and the deficiencies it has revealed in society.

Courage is emphasised in the public sector. In an ever-changing world, it is necessary to dare to make decisions and drive change. The fear of possible failure must not stand in the way of the need and willingness to try new paths.

BUSINESS UNDERSTANDING LEADS TO SUCCESS

Listening to and understanding the business is seen by many IT executives as the key to success. New solutions must go together with real needs and challenges. Good relationships and closeness to the rest of the organisation lay the foundation for good decisions.

In the survey, characteristics such as curiosity, humility and empathy are highlighted as being as important as technical skills and analytical ability. The ability to create trust is essential to get others to join a journey of change.

In a world where IT and cyber security are becoming increasingly important, higher demands are also placed on IT executives. A decision should not only follow what everyone else is doing, but should be based on information from many different sources, where different perspectives are considered.
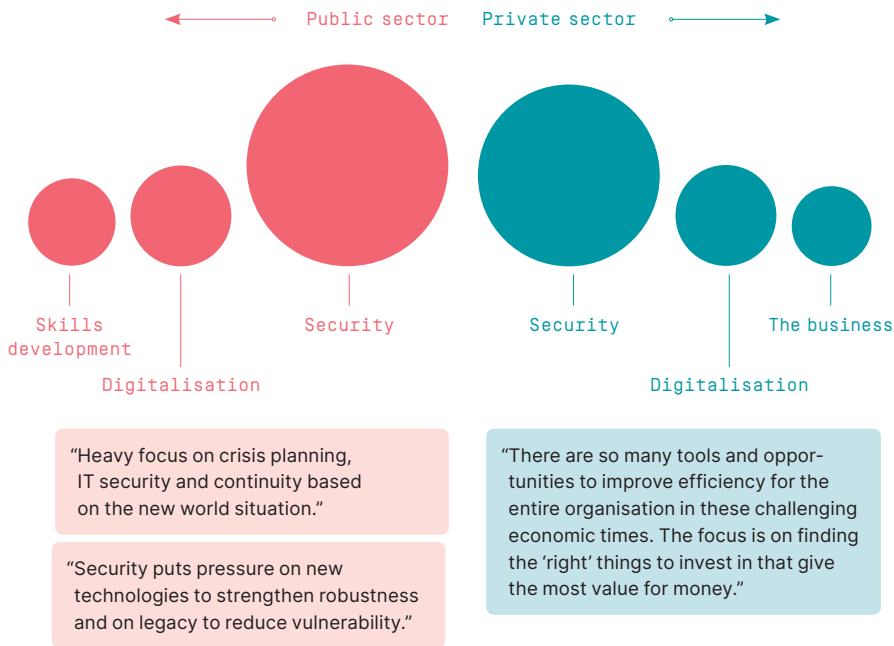
IT already has a strong role, but it will be strengthened even more. Many respondents emphasised the importance of balancing today's needs with a constant eye on the future. This is where courage comes into play again, daring to drive forward questions that are at the forefront.

02

WHAT KIND OF IT DECISION MAKER ARE YOU?

What is your primary focus in the role of an IT executive?

ENTER YOUR OWN ANSWER

Public sector ← → Private sector

Skills development

Digitalisation

Security

Security

Digitalisation

The business

"Heavy focus on crisis planning, IT security and continuity based on the new world situation."

"Security puts pressure on new technologies to strengthen robustness and on legacy to reduce vulnerability."

"There are so many tools and opportunities to improve efficiency for the entire organisation in these challenging economic times. The focus is on finding the 'right' things to invest in that give the most value for money."

As early as last year, IT executives in both the private and public sectors highlighted security as their top priority. Since then, the threat profile has deteriorated even more, which many respondents mention as a reason why the issue continues to come first.

Security permeates all organisational levels and includes both management of existing platforms and the development of new ones. On pages 14-15 of the Advisory Board, Uppsala Municipality highlights safety as an absolute prerequisite for continued successful operations.

When a single issue becomes dominant, it's easy to overlook other things, but the survey shows that IT executives also focus on other areas. Important tasks are to support IT issues linked to the needs of the business and to create procedures, processes and working methods that contribute to increased productivity, along with strengthening security.

THE STATE OF THE WORLD IS DRIVING CHANGE

The war in Ukraine is not the only thing that characterises the world around us. Unexpectedly high inflation makes cost efficiencies an urgent necessity. The external situation also contributes to the fact that many businesses are changing. Organisation, strategy, and govern-ance are therefore important issues.

Requirements for increased security create a demand for modern IT solutions able to reduce vulnerability. As questions 19 and 20 (pages 25 and 26) show, many respondents are currently investing heavily in security and increased preparedness. Obsolete technologies need to be phased out and new ones introduced, question 14, page 19. Balancing day-to-day operations and management with development will be an important focus for IT executives, question 9, page 12.
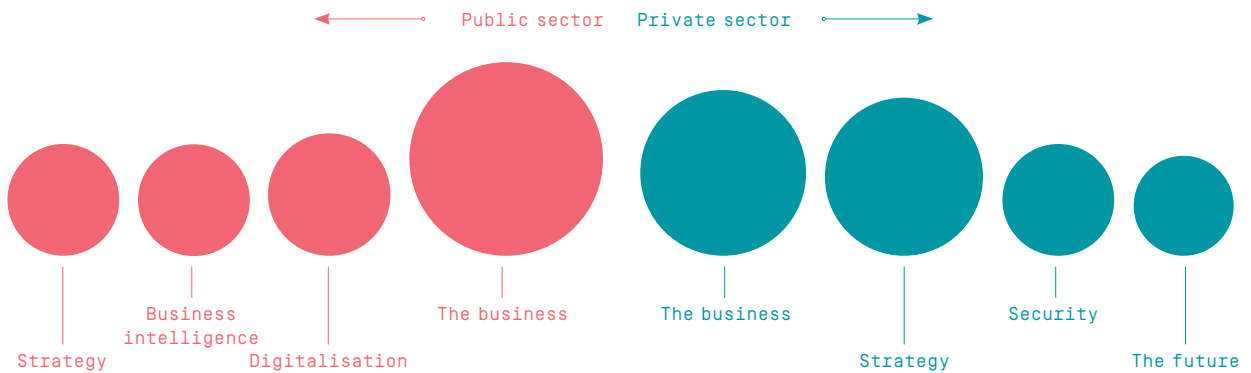
Issues such as IT maturity and skills also take up a lot of time. Read more about which skills are required in question 17 on page 23.

03

What would you like to focus more on in your role of IT executive?

ENTER YOUR OWN ANSWER

Public sector · · · Private sector

Strategy

Business intelligence

Digitalisation

The business

The business

Strategy

Security

The future

"We run as fast as we can, but never stop to think things through. What is our strategy? Are all our teams heading in the right direction? Stop, breathe and reflect."

"Our entire organisation needs to focus on business development supported by modern technology. Unfortunately, the organisation has very low digital maturity. That makes it difficult for us to take advantage of what digitalisation can contribute."

"To be prepared for new opportunities for the business when they need it. But also, be able to support the business in defining its needs instead of looking too much at the solutions that already exist."

Security is a top priority for Sweden's IT executives, question 2, page 5, but they also want to spend more time on other things. In common with last year's survey, the private sector is focusing primarily on implementing strategy while the public sector focuses on running its business.

Several respondents also expressed a strong desire to focus more on actual solutions than on dealing with obstacles and wasting time on bureaucracy. In short, a desire for more decisiveness.

INCREASE DIGITAL MATURITY

Many respondents see a need for increased digital maturity and skills development within their organisations. Modern technology is often in place, but far from everyone benefits from it. Increased focus on inspiration and training could make more people see the opportunities digitalisation has to offer. Change management able to help the business discover the benefits of IT are in demand, question 17, page 23.

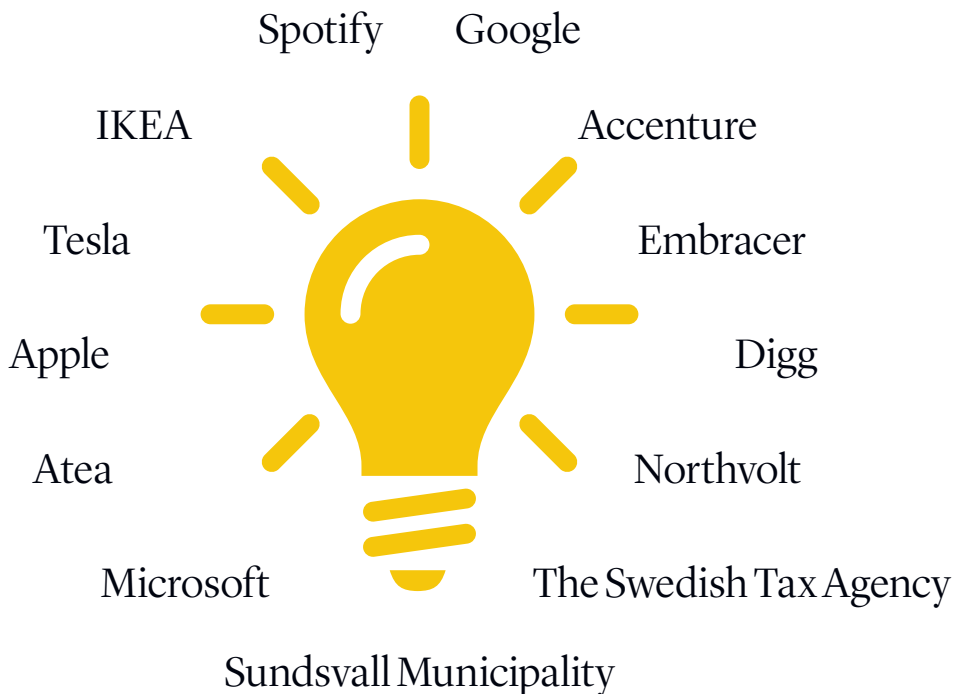In order to streamline their own operations, and offer digital services and functions that customers or clients demand, IT executives want to devote more time to working methods and processes. Rapid digitalisation means constant adjustment, which places demands on employees and suppliers. Many IT executives therefore say they want to focus more on technology development and work more proactively, question 10, page 16.

04

Name a company or an organisation that inspires you

ENTER YOUR OWN ANSWER

Spotify   Google

IKEA   Accenture

Tesla   Embracer

Apple   Digg

Atea   Northvolt

Microsoft   The Swedish Tax Agency

Sundsvall Municipality

The survey clearly shows that IT executives are often inspired by businesses similar to their own. Authorities seek inspiration from other authorities, municipalities find role models in other municipalities and companies look up to other companies.

In the latter case, tech giants Tesla and Northvolt stand out as inspiring in particular. As leading companies in the development of electric cars, they have taken a firm grip on the future.

But many municipalities are keeping an eye on Sundsvall, which has impressed by being named Digitalisation Municipality of the Year 2022. The award is presented to the municipality that has best exploited the opportunities of digitalisation to develop the operations, democracy, and the municipality as a whole.

"
Our biggest challenge when we make so many changes in our entire digital setup quickly is that change management becomes key.

Emil Dahlin,
CIO, Bravida.

IN FOCUS

Everyone must be onboard Bravida's digital transformation

Bravida's business traditionally derives from electricity, water and ventilation, but today also includes many more areas related to properties and property owners' needs. The company's Business Technology department has a combined IT and business responsibility and puts a lot of effort into getting every employee involved in the change journey.

"**We are a** bit more than a traditional IT department, with a clear goal of managing projects that both embody the business plan and contribute to developing our business proposals" says Emil Dahlin.

A little more than a hundred of Bravida's 14,500 employees work in IT, along with 35 to 45 consultants, depending on the size of the projects. In 2022, the Bravida Group had a turnover of SEK 26 billion, with high growth targets reflected in the IT organisation.

"We have led an aggressive, digital transformation journey based on how we can get closer to our customers. Among other things, we are implementing a new project planning system and follow-up support that will streamline our thousands of projects. We also have a new purchasing platform, so that its 7,500 users can make more sustainable and efficient purchases. To receive real-time updates, we integrate our suppliers into the platform. On top of that, we've modernised the entire infrastructure to be able to work on new business areas that require greater customer interaction."

In addition to moving their entire infrastructure to Microsoft Azure and modernising their smartphone assets, a framework for collaboration based on processes instead of systems has been developed.

"We call it our process forum, with superusers in areas such as installation, service, HR, and finance. That way we can be more precise in the projects we take on."

To measure ROI, the number of proposals received is divided by the number of proposals validated and transferred to implementation. If too few proposals come in, expectations and conditions are not aligned. The second thing we look at is lead time. To be proactive, it can not take too long before an idea is implemented, because then it may already be time to upgrade to something newer. Time with suppliers and satisfaction factor within operations are also followed up on.

"We have developed a 'satisfied employee index' in which we relate to the same questions over at least three years, in order to estimate the value on a broad front among all employees instead of just looking at specific areas and projects."

LOTS OF POSSIBILITIES – BUT EVERYONE MUST BE INCLUDED

Emil Dahlin views the development of generative AI as interesting.

Investments have been limited so far, but that can change if real business value and usability can be demonstrated. Regardless of technological advances, employees must evolve with them.

"Our biggest challenge when we make so many changes to our digital setup in such a short amount of time is that change management becomes key. The ones furthest ahead are always quick to catch on, but we have to work more with those who struggled already before, because they are just as important."

Three change managers work full-time at Bravida. In addition, feedback is collected after each change, and lessons learned are brought into the next phase. Employees with interest and digital skills become bridges.

"We've appointed a number of employees from the business as advocates and educators of digital production support. They become a link between us and operations, since they speak the same language. The ones we have today can of course not cover all of Bravida, and the organisation will need to grow over time. Our mission will be to successfully translate from them."

05

Which sector and industry do you work in?

Public sector
56%

Private sector
44%

Public sector

Municipality	
Public authority	
Public sector companies	
Region	

0%   20%   40%

Private sector

Tech	
Trade	
Industry	
Building & property	
Finance	
Agriculture & food	
Energy	
Other	

0%   10%   20%
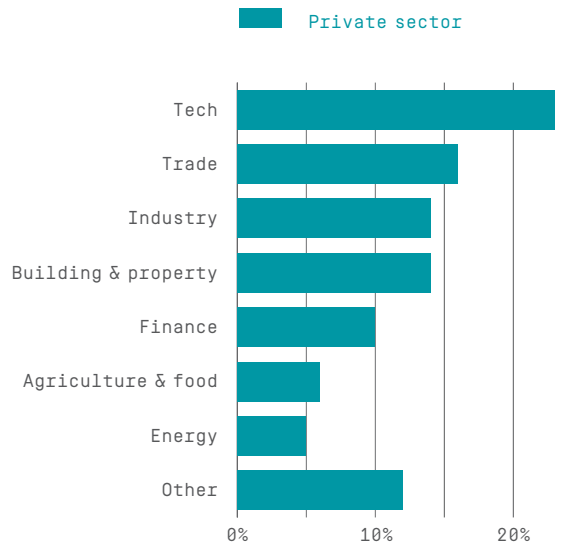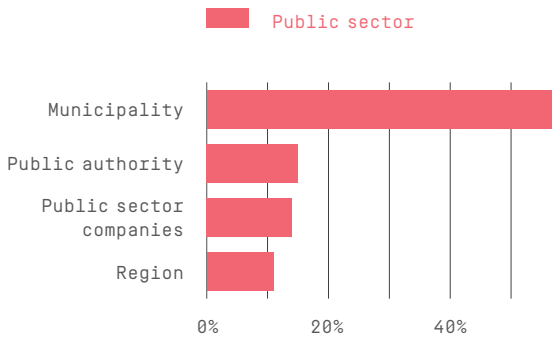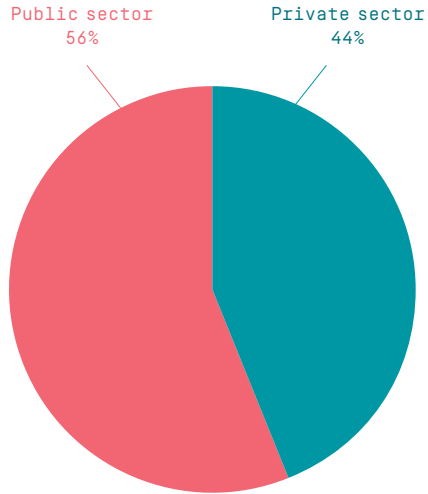
06

YOUR IT ORGANISATION IN NUMBERS

How many employees do you have?

How many employees do you have in your entire organisation?

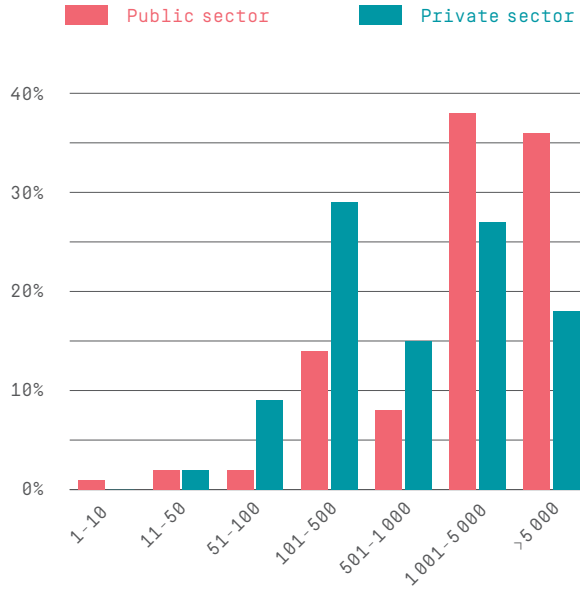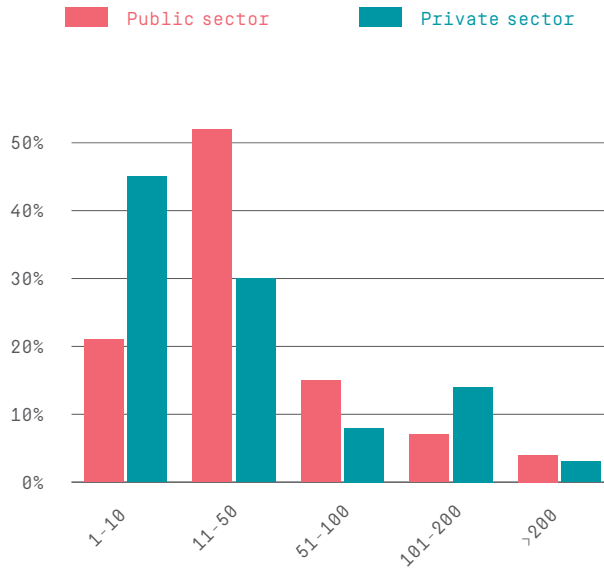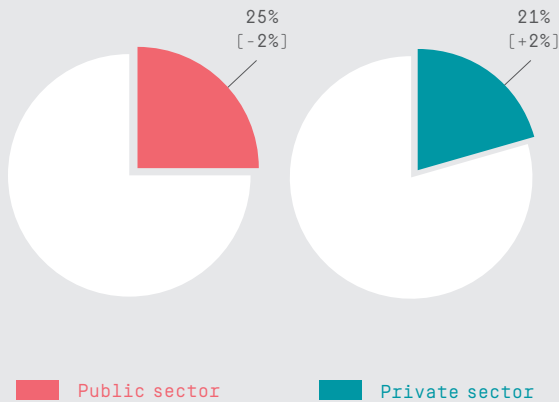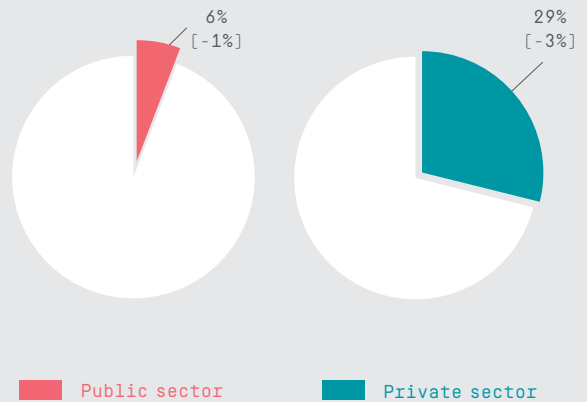## How many employees do you have in your IT department?

07

YOUR IT ORGANISATION IN NUMBERS

How many women work in your IT department?

Proportion of women in the IT department [average]

25%
[-2%]

21%
[+2%]

■ Public sector   ■ Private sector

Do not have any women in the IT department

6%
[-1%]

29%
[-3%]

■ Public sector   ■ Private sector

On average, 25 percent of IT employees in the public sector are women. The corresponding figure in the private sector is 21 percent.

All in all, this indicates a slight downward trend, which was already confirmed in last year's survey. However, the drop should be viewed with caution, as the result may be due to different respondents from year to year.

MORE FEMALE ROLE MODELS ARE NEEDED

This year's survey shows a trend towards more business-related IT, question 3, page 6 and question 16, page 22, which address understanding the needs and opportunities that IT can contribute. In other parts of

the organisation, there are usually significantly more women.

As IT and operations blend closer together, it can become a natural way to attract more women to gain further education in IT.

According to a recent report from Insight Intelligence, *Young Women and Tech 2023,* two out of three women are demanding a more inclusive and equal working environment before applying to the tech industry. But generally speaking, many women have a positive attitude towards working with IT. Yet they still avoid it as they perceive the industry as exclusionary.

In many ways, that's an outdated perception. A large proportion of the country's IT and tech companies

already offer the working environment that women demand. The industry, on the other hand, can become better at highlighting female role models and explaining what the IT profession actually means, says Lukas Berg, CEO of Insight Intelligence, in an interview with Voister: *These are the mistakes the IT industry makes in gender equality, 2023.*

The focus should not only be on the technology itself, but on what it provides in terms of community services, healthcare, and innovation. Equally important is to show that the IT profession is not just about programming, but includes other tasks such as marketing, design, and user experiences.

08

How much of the organisation's budget does IT account for?

09
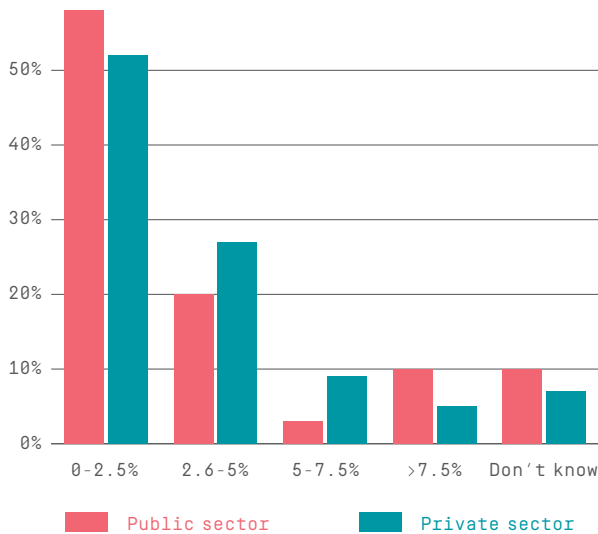
How much of your IT budget consists of operations and support?

Breakdown between operations/support and business development
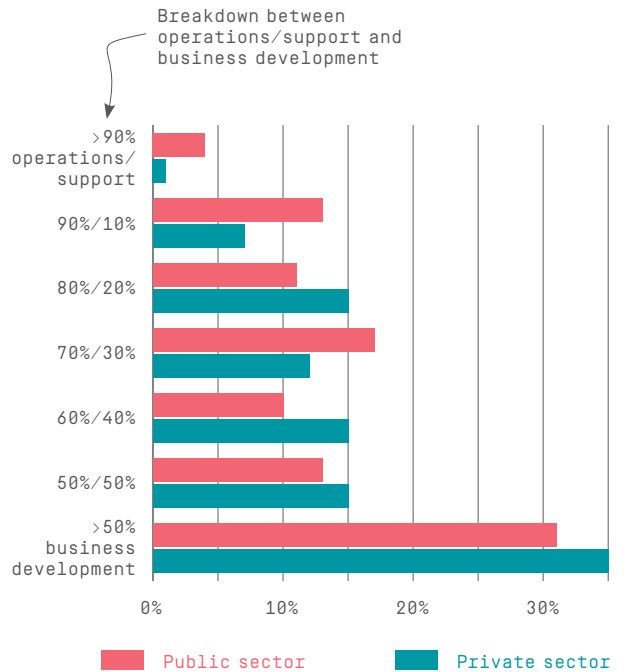
"Development projects are largely our own. Projects paid for by the business come out of our operating budget."

"Digitalisation activities comes second, as we need to prioritise."

"Not all IT costs are within the IT department's budget but can be borne by other organisational parts."

The majority of IT decision makers state that IT costs are partially affected by projects initiated in business groups (54 percent in the private sector and 68 percent in the public sector).

In the private sector, 23 percent say that IT costs are directly affected by projects initiated by the business, while 20 percent say that they are not.

The corresponding figures in the public sector are 13 and 14 percent, respectively.

BUSINESS-RELATED IT REDISTRIBUTES COSTS

In many organisations, IT and business are coming together more. This is very much a desirable trend. In many cases, modern technology is in place without its potential being fully taken advantage of and therefore the goal is to make more people discover the opportunities of digitalisation, question 3, page 6.

IT in closer support of the business also means that a large part of the IT costs is absorbed by the business, even if the IT department manages operations and support.

> **In Sweden, we are quite good at adopting new technology, but maybe a little too naive sometimes.**
>
> Per Stoltz,
> Head of internal IT, Nexus.

IN FOCUS

Nexus saves time with automation and the cloud

Nexus delivers secure identities to companies in the Swedish, German, and Asian markets. Internal IT's mission is to ensure that employees globally have the right technical facilities to do their jobs. To deliver maximum value, the key is more automated processes and a larger amount of infrastructure as a service.

The fact that Nexus offers tools for managing digital identities means that they must maintain a very high level of security. In addition to an ISO27001 certification, Nexus have a Tisax certification aligned with the extreme security requirements of the German automotive industry. Despite such a well-established focus on compliance, it is evident that the security situation has changed.

"The threat profile is different to that of a few years ago, which has led to higher demands from customers, but also other security concerns such as attacks in the supply chain. This means we must ensure that our suppliers of software and microservices are as secure as we are," says Per Stoltz, Head of Internal IT at Nexus.

To succeed, Nexus has well-defined roles for information and cyber security, and works a lot with internal policies and increased awareness. In September each year, the event "Sectember" is organised with lecturers, micro-exercises, and other initiatives to raise employee awareness of security threats.

AUTOMATION TAKES OFF THE STRAIN
As a small IT department, it is important to save time. By purchasing infrastructure as a service, Nexus can spend less time upgrading systems and on hardcore technology. Another strategy is to automate processes as far as possible, for example when on and offboarding employees.

"When employees start their lifecycle in our HR system, they are automatically added to our directory. We then work as far as possible with role-based access and dynamic groups to assign rights in the systems. We use scripting and work with single-sign-on to avoid multiple different identities and logins. When we offboard employees, they are automatically excluded from all connected systems. This is both a matter of safety and something that makes the workload lighter."

INCREASED BUSINESS VALUE
In the move towards IT as a service, the cloud has been an important component. In a company with international owners, the view on cloud vs. on-premise may differ. Because of

this, Per Stoltz works closely with his management team to inspire European colleagues.

"In Sweden, we're quite good at adopting new technology, but maybe we're a little too naive sometimes. Countries such as France and Germany have a more conservative approach. So, we need to be good at showing the benefits of buying things as a service and show what we will then be able to do with the resources that already exist. Numbers and statistics become important tools."

Coming up, internal IT will be moving the last parts from its data centers and add more to the cloud. The aim is to put more effort into creating value for the business.

"When we reach our vision, we will be able to focus on being proactive, and still know that the technical infrastructure assets are taken care of. We spend far too much time turning the lights on, but it's hard to get everything done at the pace we want. However, our resources will be fully sufficient once we're finished."

Advisory Board

Our nationwide CIO network consists of 350 members, and when they meet nationally, the gathering is called CIO². Representatives from this joint network take part in the Advisory Board, whose mission is to act as a sounding board in the further development of the CIO networks. The Advisory Board also supports the Editorial Board in compiling Voister CIO Analytics, to ensure that the report and the analysis tools are beneficial to Swedish IT decision makers.

Thomas Ekvall
Uppsala Municipality

GENDER EQUALITY

What's your perspective on gender equality/diversity?

Those organisations that succeed with a mixed composition of staff (women/men/undefined) and age, generally have better conditions for positive development. The development of the product or organisation is then characterised by a wider holistic perspective.

SECURITY

How has the political situation affected your security work over the past year?

Security in our environments is an absolute prerequisite for long-term success, regardless of whether it concerns public or commercial operations. The state of the world means that freedom in the use of IT products must be limited and controlled to maintain security.

SKILLS AND TECHNOLOGY

How do you view the development of AI and the skills needs linked to the technology?

AI gives us fantastic opportunities and is a prerequisite for us to succeed in welfare provision. There will not be enough manpower if we carry on working as we do today.

SUSTAINABILITY AND TECHNOLOGY

How do you view the role of technology in reducing the climate footprint of the business/customers/citizens?

Sustainability needs to be expanded to include wider perspectives and not by counting on the recycling of IT products as we do now. We need to develop methods for calculating the effects of digitalisation in a holistic perspective.

Annika Hansson
Cary Group

Mats Rehnqvist
Rejlers

GENDER EQUALITY	GENDER EQUALITY
What's your perspective on gender equality/diversity?	**What's your perspective on gender equality/diversity?**
I believe that the organisations that succeed with diversity will benefit greatly. I think that mixed groups become more creative and innovative, as people with different experiences and backgrounds contribute different perspectives.	My experience is that differences in groups work far better than the opposite. It is important to always work for increased equality and diversity in order to develop individuals, groups and companies.

SECURITY	SECURITY
How has the political situation affected your security work over the past year?	**How has the political situation affected your security work over the past year?**
Increased threat and digitalization have impacted how we work with cyber security. We are making larger investments now than before and have security programs that include raising awareness throughout the organisation.	No company or organisation is unaffected by what's happening in Europe and in the world around us. Our risk analyses tell us that the probability of specific risks occurring has increased. We are continuously reviewing and implementing different types of security of processes to deal with the new situation.

SKILLS AND TECHNOLOGY	SKILLS AND TECHNOLOGY
How do you view the development of AI and the skills needs linked to the technology?	**How do you view the development of AI and the skills needs linked to the technology?**
We are working with AI and other technology to automate various processes and are developing it into a larger concept at our company. We are building a Centre of Excellence for intelligent automation and to succeed, skills development is an important element.	In our company, we have already worked with AI to a lesser extent. We naturally follow developments and see that there are opportunities within the consulting area, both in terms of system development and different technology areas, with AI as a support.

SUSTAINABILITY AND TECHNOLOGY	SUSTAINABILITY AND TECHNOLOGY
How do you view the role of technology in reducing the climate footprint of the business/customers/citizens?	**How do you view the role of technology in reducing the climate footprint of the business/customers/citizens?**
We are a climate-neutral company and sustainability is a key element of our identity and strategy. Among other things, we work with AI technology in solutions aimed at our customers. In addition, we have various initiatives underway to deliver sustainable IT services.	This is an important area, where we work internally to reduce our climate footprint in terms of what we can influence, from travel to handling equipment and so on. In our dialogue with our customers, we help them in various ways to contribute to the energy transition.

10

Do you consider your IT organisation to be proactive in terms of business needs?

This year's survey shows a weak trend towards more proactive IT departments. More IT executives than before indicate that they are moving towards a more proactive way of working, 50 percent compared to 40 last year. The number who already consider themselves to be proactive has dropped a little.

This is linked to the fact that more and more IT executives are also saying they want to work closer to the business, question 3, page 6. Understanding the business also makes it easier to anticipate future needs.

ACTION DRIVES CLOUD VISION
There is some correlation between being proactive and using cloud

solutions, especially in the private sector, question 18, page 24.
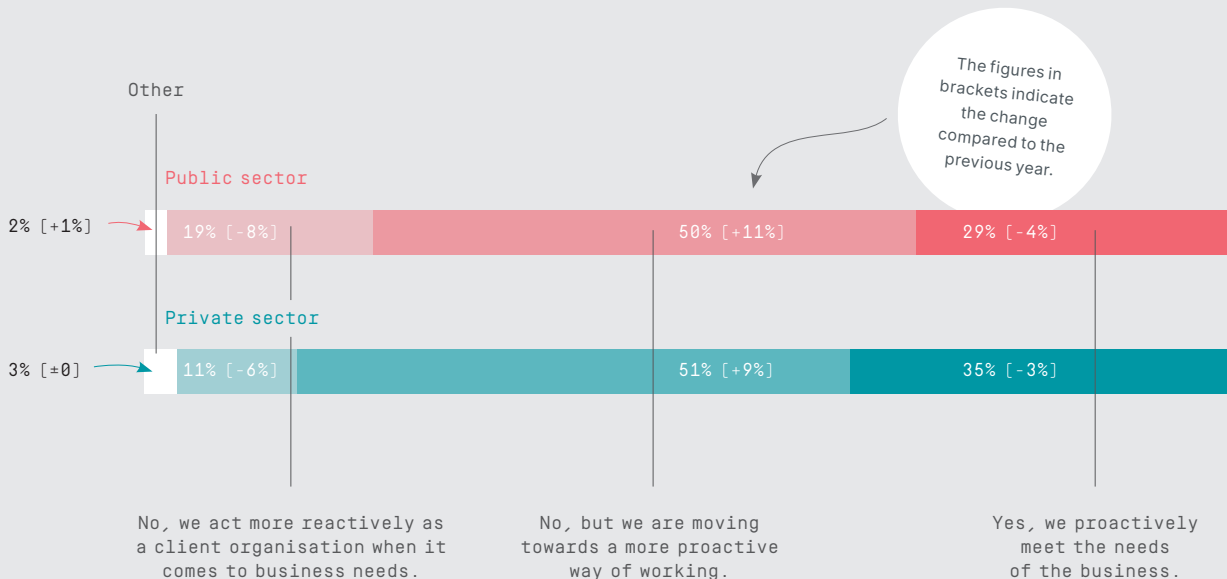
Among IT executives who consider themselves proactive, a whopping 91 percent are also positive about the cloud. The corresponding figure in the public sector is 55 percent.

PROACTIVE EXECUTIVES HAVE GREATER SKILLS NEEDS
Technologies such as data-driven decisions, AI and chatbots, question 14, page 19, are generally used significantly more in proactive organisations, which also have a greater need than the average for skills such as change managers and data scientists, question 17, page 23.

Those on the way to a proactive way of working generally have a greater need for almost all competencies. Reactive organisations primarily demand architect roles, change management, system developers and business developers.

The view of IT also seems to differ between proactive and reactive organisations. Within the former, the IT department is seen to a greater extent as important for streamlining or as a business-driving partner, while reactive organisations see IT more as a necessary cost.

The figures in brackets indicate the change compared to the previous year.

Other

Public sector
2% [+1%] | 19% [-8%] | 50% [+11%] | 29% [-4%]

Private sector
3% [±0] | 11% [-6%] | 51% [+9%] | 35% [-3%]

No, we act more reactively as a client organisation when it comes to business needs.

No, but we are moving towards a more proactive way of working.

Yes, we proactively meet the needs of the business.

11

The rest of the business sees the IT department as a ...
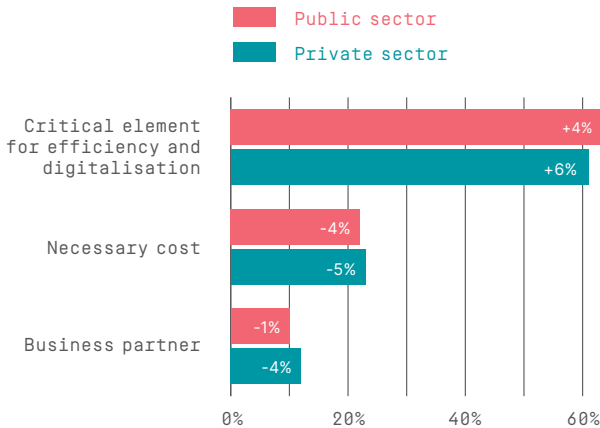
More and more people see IT as a critical element of efficiency and digitalisation. In the private sector, 61 percent state that the rest of the business views IT in this way, compared with 55 percent in last year's survey.

A similar trend can be seen in the public sector. Above all, there has been a major change in the municipal sector, with an increase from 46 to 60 percent. It may be related to the insight of IT executives that proximity to the business is a success factor, question 16, page 22.

Organisations without an IT or digitalisation strategy see IT as a less critical element for efficiency and digitalisation, 44 and 48 percent respectively, compared to the average for all organisations of 62 percent.

The numbers in the bars indicate the change compared to the previous year.

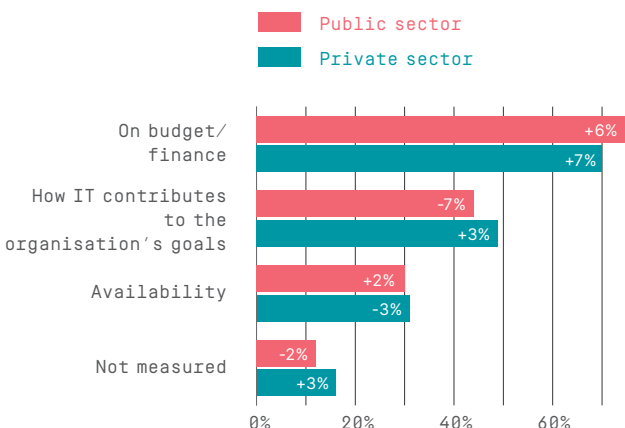> "Basically, there's a very traditional way of looking at IT. But it's starting to change."

> "Necessary and important support function, taken for granted that it solves the company's problems."

12

MULTIPLE CHOICE QUESTION

How is the IT organisation measured and evaluated?

In this year's survey, more of the country's IT departments state that they are measured on budget, 73 percent compared to 66 last year. This is probably related to the recession and the uncertain economic situation.

There are also other ways to evaluate, but 14 percent are not measured at all, and of those 26 percent have no IT and/or digitalisation strategy.

TARGET FOLLOW-UP IN PROACTIVE ORGANISATIONS
46 percent of all IT departments state that they are measured against the organisation's goals. But among those who act proactively to meet the needs of the business, question 10 on page 16, no less than 63 percent state that this is the case, a connection that was already visible last year.

The numbers in the bars indicate the change compared to the previous year.

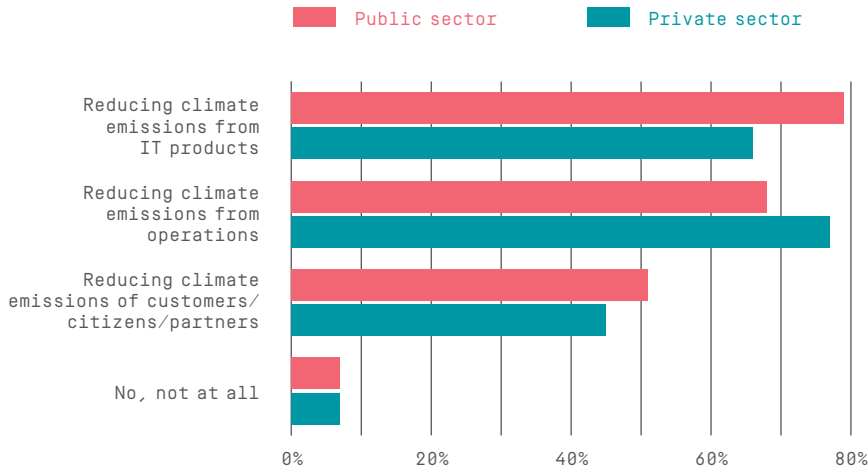> "How important is IT governance for your business? Do you measure/manage correctly?"

> "What measurable figures do you have in IT security?"

13

LIFE IN THE IT ORGANISATION

How do you work with IT/digitalisation to reduce climate emissions?

■ Public sector   ■ Private sector

Reducing climate emissions from IT products

Reducing climate emissions from operations

Reducing climate emissions of customers/ citizens/partners

No, not at all

0%   20%   40%   60%   80%

"As a contracting authority, climate emissions are one of the criteria in procurement."

"We have also recently switched to trying to streamline our processes in a way that leads to less/fewer material purchases."

Lifecycle management of digital equipment and climate-smart data centres leads to more efficient use of resources, but the technology itself also has enormous potential to contribute to a smaller climate footprint and drive sustainable development.

In this year's survey, we therefore asked the country's IT executives how they are using digitalisation's opportunities to reduce their climate emissions.

It is particularly pleasing that many are working not only to reduce the climate footprint of their own operations, but also that of their customers. Rejlers (Advisory Board on pages 14–15) is one of the companies that also supports customers in energy transition.

IOT IMPORTANT PART OF SUSTAINABILITY SOLUTIONS

65 percent of those respondents working to reduce the climate footprint of customers and the public state that they benefit from the Internet of Things (IoT), which is the most widely used technology, see question 14, page 19.

Energy efficiencies and transport optimisation are two examples of how IoT, combined with Artificial Intelligence (AI), can contribute to greater sustainability.

DIGITALISATION IN LINE WITH AGENDA 2030

In recent years, IT has emerged as a lifeboat through multiple crises. A more digital everyday life and remote working during the pandemic also had

positive side effects from a sustainability perspective as travel decreased.

This is one of several examples of how increased digitalisation contributes to Agenda 2030 and the UN's 17 Sustainable Development Goals, Goal 13 on reducing greenhouse gas emissions for the above.

Digitalisation can also tackle the ongoing energy crisis, as IT can be used to control and optimise electricity consumption. This year's survey also shows that the country's IT executives spend more and more time on process optimisation, which contributes to reduced material consumption and fewer purchases. In such cases, digitalisation is in line with Goals 11 and 12 on sustainable energy consumption and sustainable consumption and production respectively.

14

LIFE IN THE IT ORGANISATION

We use the following technologies ...

MULTIPLE CHOICE QUESTION

■ Public sector   ■ Private sector

Technology	Public	Private
IoT	+14%	+8%
RPA	-5%	-10%
Tools for working remotely [e.g. from home]	+3%	+3%
Data-driven decisions	+10%	+11%
AI/ML	+7%	+11%
Chatbot/Digital Assistant	-9%	+5%
5G	+13%	+7%
VR/AR/MR	+7%	+3%
Digital twins	+4%	+11%
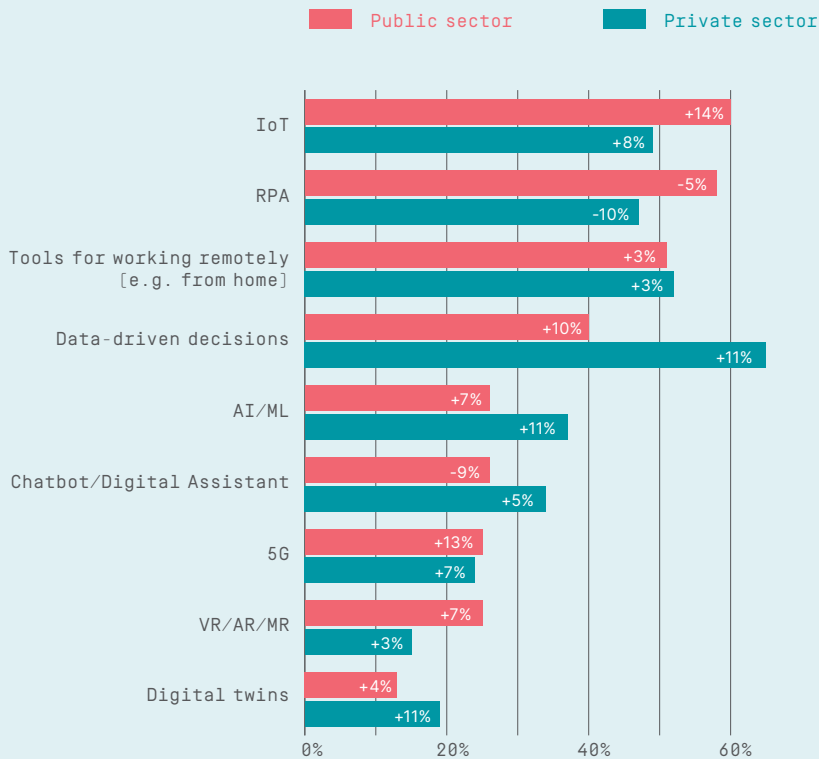
The numbers in the bars indicate change compared to the previous year.

"Directly procured services in specific individual functions use RPA, AI image analysis and IoT, but without their own organisation, infrastructure or expertise."

"The choice of IT solutions, platforms, systems, procedures, etc. must be carefully considered. They must be sustainable in the long run, be able to grow in and must integrate well into the other processes and procedures of the business. It is important to agree with management, users and IT administrators."

In this year's survey, we can see some changes in the technologies used by Sweden's IT executives. IoT, data-driven decisions, 5G and AI/ML are growing the fastest. Especially in the public sector, IoT stands out with an increase of 14 percentage points.

RPA and chatbot/digital assistant lost out the most, with -7 and -3 percentage points, respectively. RPA is declining in both the public and private sectors, while chatbots/digital assistants are increasing on the private side.

DATA-DRIVEN DECISIONS AND IOT HIGH ON THE LIST

The most widely used technology in the private sector is data-driven decisions, a valuable technology for making more informed decisions. In the public sector, IoT is the most widely used technology. IoT can form the basis for many solutions that contribute to a reduced carbon footprint, question 13, page 18.

When investing in new technology, business benefits, business requirements and cost/ROI are prioritised the highest, while exit strategy, suppliers and partnerships are considered least important. Many respondents state that they do not always have their own functions or their own infrastructure and expertise in the technology areas they use, but buy-in such services.

As this report shows in other contexts, question 10, page 16, there is a link between working proactively and adopting new technologies. Reactive organisations generally use all technologies less than average and, in some cases not at all.

> **We have chosen to separate operational activities from business development, so that the operations can focus on what they are supposed to do in peace and quiet.**
>
> Henrik Boström,
> Development Manager, Mellanskog.

IN FOCUS

IT solutions build a sustainable future for Mellanskog

Mellanskog's centralised development department receives hundreds of ideas every year from the businesses. To make the right choice, Development Manager Henrik Boström and his team look at several different aspects, one of which is sustainability. Going forward, new technologies, such as AI, will both optimise internal processes and increase the benefits for forest owners.

Swedish IT departments have a strong desire to work closer to the business side of things and to be more proactive. Mellanskog has solved the equation of letting the business work on its own but at the same time be included, through a centralised development department that continuously adopts ideas.

"We have chosen to separate operational activities from driving development, so that the operations can focus on what they are supposed to do in peace and quiet. My role is to make sure that we choose the right initiatives, prioritise the ones with the highest value and implement them properly," says Henrik Boström.

He describes how they have been successful in establishing a bridge between IT and the operations in their daily tasks.

"One can view the tree's journey from forest to industry as a flow, so we have process owners in each different step ensuring that we always stay close to the business. We receive around 300 ideas about what we should develop each year,

so it's important that we choose the right things to develop."

Assessments are not only made based on budget, but also aspects such as sustainability. Something that currently is not as easy to evaluate.

"As an organisation, we are not as mature at assessing the effects in that area. But IT will definitely contribute to a more sustainable organisation going forward. IT solutions can reduce our footprint through improved logistics flows and reduce costs to increase profitability. Good technical solutions can also create togetherness and be of social value to our forest owners."

THE FUTURE IS SPELLED AI AND REMOTE DATA

Swedish IT decision-makers have increased their use of AI and automation over the past year. Mellanskog uses drones and laser data frequently but sees even greater opportunities in AI.

"We've collected a lot of data about the forest for a long time, so combining it with AI, and allowing forest owners to truly benefit from it

instead of just applying it internally, will make the biggest difference. AI is simply unbeatable at making calculations that we ourselves cannot do at the same pace."

Henrik Boström believes that there are many ways to optimise flows and business forecasts using new technology.

"If we think of the forest as our warehouse, we've previously only been able to find out what's there by going out there and having a look. In the future, it will be possible to keep track of the forest using remote data of various kinds, such as laser scans and satellite images. For example, if we can make better forecasts of when we will be sending trees to industry, we can find out where you need to go and which truck you need, sparing both the environment and money."

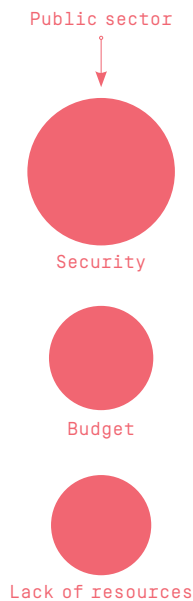Henrik Boström's biggest challenge? To keep up with everything that is going on.

"There's so much going on today that it requires a much greater awareness of the world around us. Sometimes it feels like what was true a month ago hardly is true today."

15

The biggest challenges for the IT organisation

ENTER YOUR OWN ANSWER

Public sector

Security

Budget

Lack of resources

"Security versus usability, understanding of decisions made in operations in owner-ship and management."

Recent years have been dominated by major crises, first the pandemic and then the conse-quences of the war in Ukraine. Every organisation must deal with high energy prices, inflation and a deteriorating security situation in the world.

The crises have highlighted deficiencies in society and the importance of IT and digitalisation as a successful way to deal with such challenges.

As early as last year, the country's IT executives identified security as their biggest challenge, and the issue has not become less urgent since then. Security is a top priority in both the private and public sectors, question 2, page 5, and security experts are also the most sought-after skill area, question 17, page 23.

SECURITY MUST BE BALANCED WITH OTHER NEEDS

This year's survey shows a continued increase in readiness, question 20, page 26. But security is not the only area IT executives need to focus on. Resource security, skills development and budget are other challenges that are highlighted. The skills issue is considered particularly impor-tant in the public sector.

Increased costs for IT security must be balanced with other needs to drive business development forward, which is a tough challenge in the current strained economic situation.

Many respondents also point out that the most difficult challenge is rarely to implement new digital solutions and tools, but rather to ensure that they are used optimally within the busi-nesses, question 3, page 6. Only then does IT really make a difference. Change managers are therefore resource that many IT executives are asking for right now, question 17, page 23.

Private sector

Security

Lack of resources

Business development
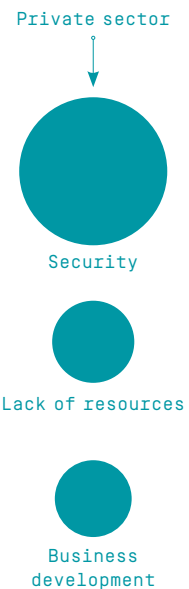
"Getting resources (time) from the business for projects."

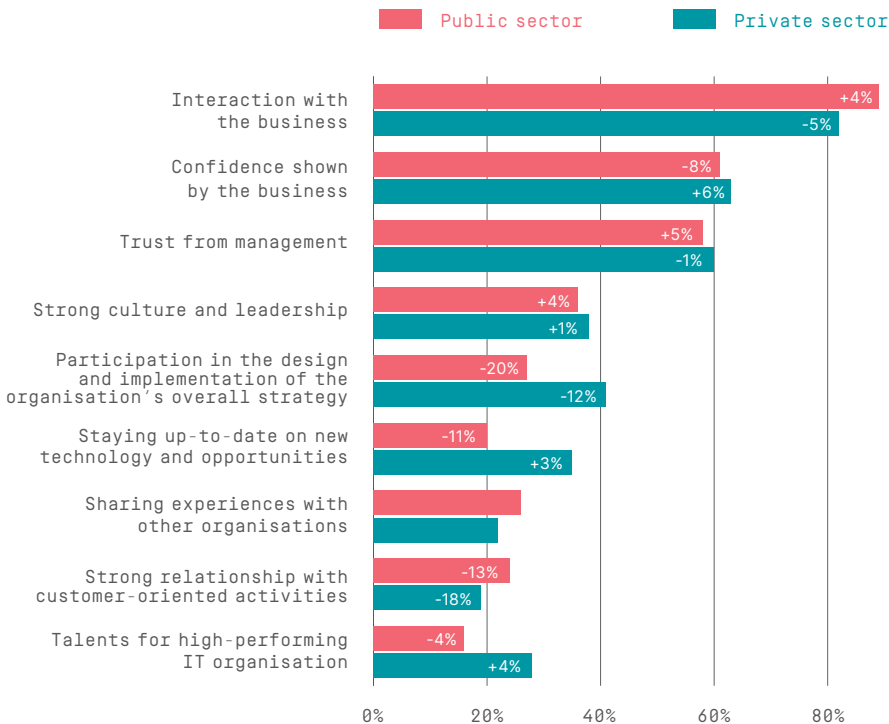"To maintain the pace of development in a more difficult economy."

16

PLANNING FOR THE FUTURE

What do you see as possible success factors for the IT organisation to succeed with its priorities of supporting the goals of the business?

Public sector **Private sector**

Factor	Public sector	Private sector
Interaction with the business	+4%	-5%
Confidence shown by the business	-8%	+6%
Trust from management	+5%	-1%
Strong culture and leadership	+4%	+1%
Participation in the design and implementation of the organisation's overall strategy	-20%	-12%
Staying up-to-date on new technology and opportunities	-11%	+3%
Sharing experiences with other organisations		
Strong relationship with customer-oriented activities	-13%	-18%
Talents for high-performing IT organisation	-4%	+4%

"The key to success is to balance procedures/structure/management with keeping up with new technologies/services and being attractive to employees."

"The importance of being responsive to the business. It's in the business that digitalisation takes place. In order to succeed, you need to be responsive to the needs of the business and then translate needs into business development."

Interaction with the business is still seen as the single biggest success factor. This is clearly linked to the expressed willingness of IT executives to focus more on the business and inspire more people to discover the opportunities with IT, question 3, page 6.

Continuous dialogue lays the foundation for better results. Digitalisation must solve real needs and contribute to the development of the organisation. In a stressful situation, it can be easy to lose this ambition, not least when security work takes up a lot of time, but it is important to continue close contact.

RESPONSIVENESS CREATES TRUST
The trust of the business and its management is crucial to successfully driving digital development forward. Trust doesn't come by itself – it has to be earned. Characteristics such as responsiveness and the ability to listen to different perspectives play a major role here, question 1, page 4.
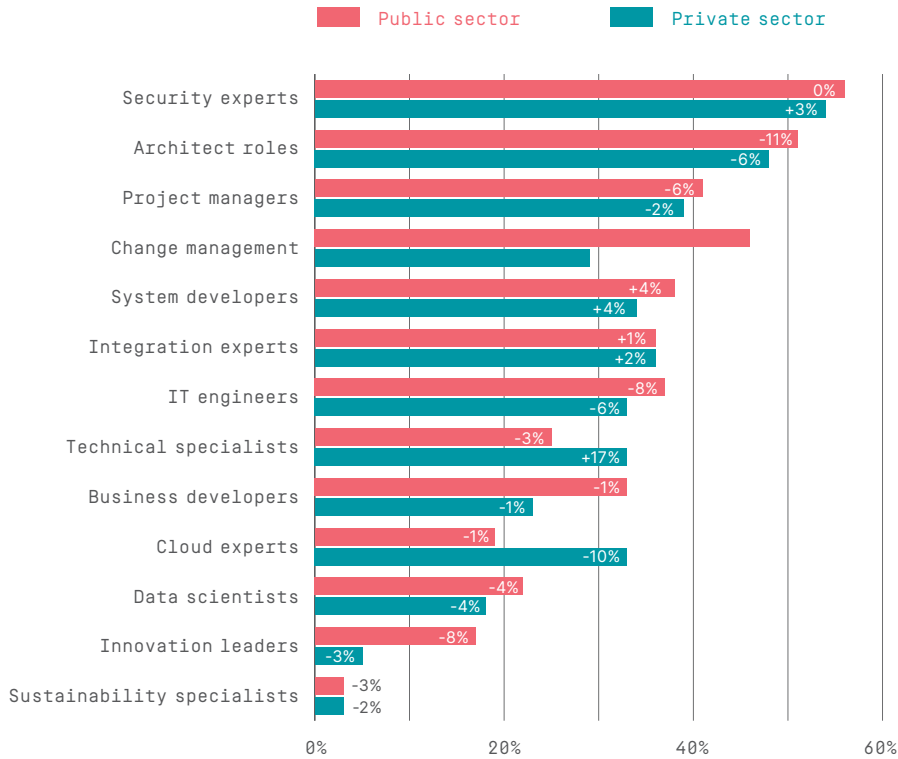
Many respondents also emphasise the importance of engaging in digital leadership and developing management skills, not least in the field of security, in order to increase understanding of digitalisation. The aim is to make IT an essential part of management's strategy.

17

MULTIPLE CHOICE QUESTION

What skills will your IT organisation need within the next 12 months?

Public sector **Private sector**

Skill	Public sector	Private sector
Security experts	0%	+3%
Architect roles	-11%	-6%
Project managers	-6%	-2%
Change management		
System developers	+4%	+4%
Integration experts	+1%	+2%
IT engineers	-8%	-6%
Technical specialists	-3%	+17%
Business developers	-1%	-1%
Cloud experts	-1%	-10%
Data scientists	-4%	-4%
Innovation leaders	-8%	-3%
Sustainability specialists	-3%	-2%

(x-axis: 0%, 20%, 40%, 60%)

"Skills supply is so important for success, and the supply is limited. Developing, retaining and attracting competence is largely a cultural issue."

"It's broader and more in-house than ever. That makes it incredibly difficult to maintain the right level and focus on the skills of a limited IT workforce."

The skills that have increased the most in demand in this year's survey are system developers (public sector) and technology specialists (private sector). But the most sought-after skills are generally security experts, who this year have taken over architectural roles at the top. This is not entirely unexpected given the continued increased focus on safety issues, question 20, page 26.

Many also see a need for change management, especially in the public sector (46%). This may be linked to the ambition to get more people to take advantage of the full potential of digitalisation, question 3, page 6.

SMART USE OF TECHNOLOGY CAN SOLVE SKILLS NEEDS

To ensure competence, the country's IT executives primarily work with values and culture. When recruiting, they focus more on the individual than on skills and experience.

But skills shortages can be solved in other ways than through employment. Smart use of technology is one of the nine strategies listed by Sweden's Municipalities and County Councils. Good examples are AI and RPA, which can reduce the need for manual labour. Both technologies are common in the public and private sectors, question 14, page 19.

FURTHER EDUCATION A WAY FORWARD

Another strategy is to support the development of employees. Perhaps here is the answer to where to find all the skills needed.

Many employees want a new role themselves or have a current role linked to an older system that is to be phased out. Through education and training, many existing employees can find new functions within the organisation.

18

What is your organisation's current attitude to using public cloud services?

Public sector

| 17% | 17% | 20% | 28% | 18% |

Private sector

| 3% | 6% | 16% | 35% | 40% |

← [1] Restrictive attitude   Positive attitude [5] →

Cloud services continue to be debated, not least in the public sector, and attitudes are quite fragmented. There are a lot of question marks and clearer national guidelines are in demand.

Positive attitudes to cloud services highlight availability (public sector) and scalability (private sector) as the main benefits. Security, primarily in the form of back-up, is also high on the list.

But it's also security, seen from other aspects, that the holders of restrictive attitudes in the private sector see as the main obstacle. Among other things, there is the fear of being hacked. Legal uncertainty is also highlighted as a concern, especially in the public sector.
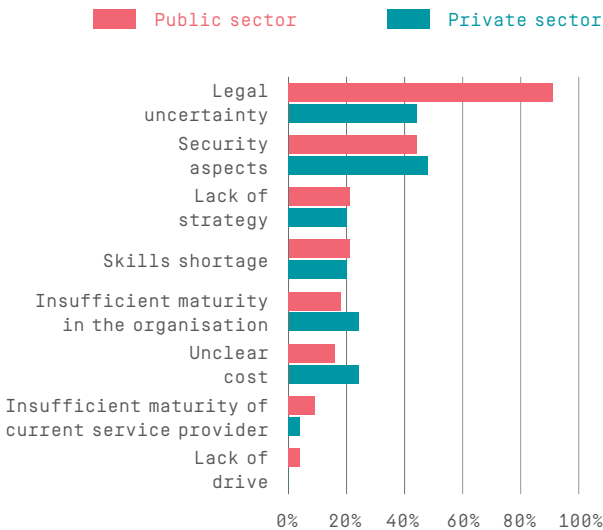
POSITIVE INCREASES IN THE PUBLIC SECTOR

The proportion of positive attitudes is lower in the private sector this year, 75 percent compared with 85 percent last year. More respondents are within the neutral range. In the public sector, the trend is reversed, going from 40 to 46 percent.
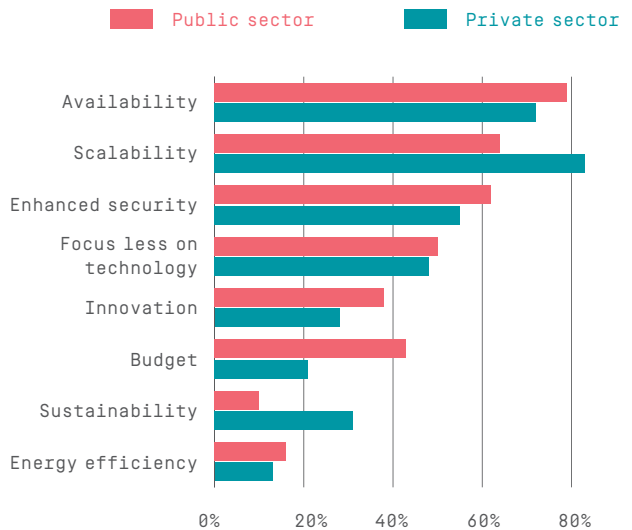
There is also a correlation between a positive attitude towards cloud solutions and higher-than-average investments in processes and governance, question 19, page 25.

The respondents who have a positive attitude to public cloud services (scale 4 – 5) indicate in this slide what their main driver is for using them. The respondents who are more cautious (scale 1 – 3) indicate what they see as the main obstacles.

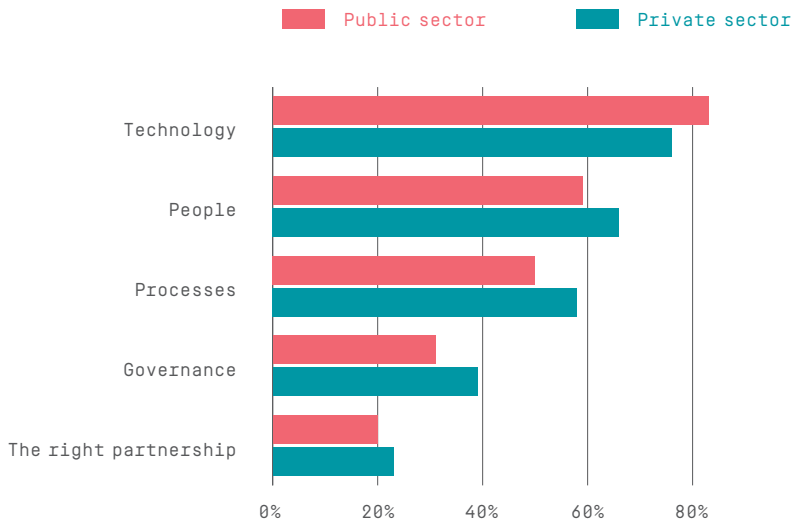**What are your biggest barriers to using cloud services?**

● Public sector   ● Private sector

- Legal uncertainty
- Security aspects
- Lack of strategy
- Skills shortage
- Insufficient maturity in the organisation
- Unclear cost
- Insufficient maturity of current service provider
- Lack of drive

0%   20%   40%   60%   80%   100%

What are your main drivers for using cloud services?

● Public sector   ● Private sector

- Availability
- Scalability
- Enhanced security
- Focus less on technology
- Innovation
- Budget
- Sustainability
- Energy efficiency

0%   20%   40%   60%   80%

19

PLANNING FOR THE FUTURE

Investments in security are mainly made in ...

Public sector   **Private sector**

"What do you do to mitigate the cost of IT security?"

"How do you push through increased investments in security solutions when they don't give a clear ROI?"

In the report *When war came close, Annual Report on IT Incident Reporting 2022*, MSB states that Sweden needs a higher minimum level for cyberattack prevention.

The fact that security is by far the most important issue right now is clearly evident in this year's survey, see question 2, page 5 and question 15, page 21 for example. Modern technical solutions provide the baseline, but security is managed at all levels and from many different perspectives.

The highest priority in security is laws and regulations, closely followed by external monitoring of risks and threats. Organisations that are lagging with security must primarily focus on technology, while the more advanced can focus on investing more in people and processes.

CYBERCRIME A GROWING THREAT
Investing in security is expensive and determining its value is difficult. But refraining from investing can be more expensive, as an attack can cost a lot of money.

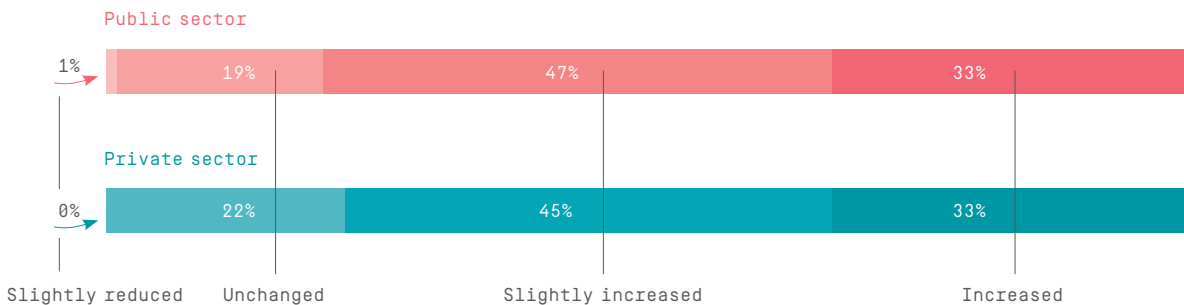If we measure the monetary value of cybercrime and compared it to a country's GDP, we see that the value would correspond to the world's third largest economy after the US and China. Cybersecurity Ventures confirmed this back in 2020. And since then it has only continued to increase.

Once an attack occurs, transparency has proven to be a successful way to restore trust among customers and the general public. The municipalities of Borgholm and Kalix, for example, have received a lot of praise for their open handling of the cyberattacks that hit them. Kalix also received Publikom's Megaphone Communications Award and was praised by the jury for using new communication channels when the others were out.

20

Do you have or plan to change your preparedness for cyberattacks?

Public sector

| 1% | 19% | 47% | 33% |

Private sector

| 0% | 22% | 45% | 33% |

Slightly reduced   Unchanged   Slightly increased   Increased

"Unfortunately, the threats to organisations in Sweden have escalated to such an extent that we need to review everything in our environment and take action where it makes the most sense whilst remaining within budget."

"How do you get senior personnel in your organisation to understand IT security?"

Last year, 91 percent of IT executives said they had increased their preparedness in some form. This year's survey shows that trend is continuing.

33 percent state that they have increased preparedness and 46 percent that they have slightly increased preparedness. 20 percent remain on the same budget for security as last year. Most respondents agree that responsibility for security is primarily a management issue.

MORE CYBERATTACK MANAGEMENT PLANS

42% of the country's IT organisations state that they know what is expected of them in the event of an unforeseen event, such as a cyberattack.

In addition, 35 percent have a plan for how to act, while 19 percent state that they have a plan in progress but that it is not complete.

A certain link can be seen between a proactive way of working (question 10, page 16) and the existence of a plan. Organisations with a plan are also investing more in processes, governance and people when it comes to security.

MANY RESPONDENTS WANT TO BE INSPIRED BY OTHERS

69 percent of those who do not have a ready-made plan say they need

security experts, which is more than the average for all organisations (55 percent). Many respondents need support for their security work and want to draw inspiration from other organisations on how threats should be handled and how contingency plans can be drawn up.

As can be seen in several places in this year's survey, for example questions 2 and 3 (pages 5 and 6), IT executives want a more business-focused approach. But security work consumes a lot of time, which requires compromises. Enhanced security can also bring business benefits. Smarter login is one of several good examples.

Intelligence from Sweden's IT executives

The trend is growing fast in all areas, but threats from the outside world are driving the biggest and fastest changes in the area of security. Operations must also continue and evolve. Let's take a look at this year's research from IT executives who responded to the survey.

IT TAKES ORDER, STRUCTURE AND SUPPORT TO MANAGE CONSTANT CHANGE.

"The business needs to identify and develop its processes and working methods in order to achieve the goals of better municipal service and accessibility, while at the same time the business streamlines its work with the help of digital services, functions and systems in a coherent whole. To achieve this, the business needs help to see the benefits and support in change management for its development."

"We are facing a real skills shortage. We need to work differently, find time."

"Digitalisation is moving faster and faster, which will mean that the IT environment will need to be changed and adapted on an ongoing basis with different functions or solutions. Creating a clear and effective management of different suppliers will be a challenge, in order to be as open to change as possible."

"In our business, procedures, order and structure need to be improved. The IT platform we operate is adequate in terms of security and functionality, but there is no collaboration with management and there are no requirements. Likewise, there is no clear structure that blends into the company's other processes and procedures."

IT'S DIFFICULT TO BALANCE BETWEEN IMPORTANT INITIATIVES, BUT WHEN WE DARE TO TRY, WE SEE NEW OPPORTUNITIES.

"We work with circular economy in terms of telephones, IT workplaces, optimisation of energy use in data centres together with suppliers of cooling and electricity, control of room computers and exam computers to optimise electricity consumption."

"Making the right decisions that will drive our business in the right direction when it comes to sustainability and the challenges that come from that buzz word. It's easy to talk about sustainability without an economic perspective, but it's also too easy to just focus on sustainability when it doesn't affect costs. Balance is needed and how we weigh these factors against each other is a big challenge in many organisations."

WE LOOK TO THE FUTURE AND WORK TOGETHER.

"IT executives need the ability to look ahead and see what's coming, while being able to translate it into a concrete action plan. That's nothing new, but IT is moving in a direction where it will become an increasingly important part of the business, perhaps even the core of the business of the future. So we really need to drive issues forward."

"Historically, IT has been too far from the business. This gap creates bad IT solutions. By building relationships and working together with the business, I can make much better decisions."
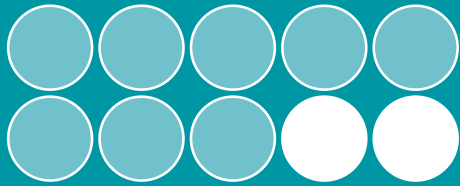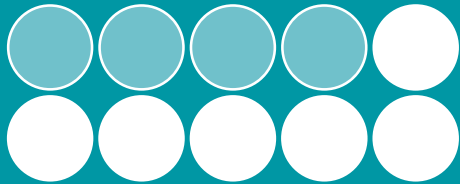
8 out of 10

name interaction with
operations as
a success factor

4 out of 10

require change
management

More users of these technologies

+14%
IoT
[public sector]

+11%
Technology for
data-driven
decisions
[private sector]

increase for
municipalities

14%
More and more people see IT
as a critical part of efficiency
and digitalisation

www.voister.se/cio

**Women in the
IT department**

within the
public sector
25%

within the
private sector
21%

Any questions about the report?
Contact nyheter@voister.se

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2023