

DEVOPS

IN SWITZERLAND

2022



A REPORT ABOUT THE
STATE OF DEVOPS IN
SWITZERLAND

DevOps in Switzerland 2022

Report

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Table of Contents

Colophon.....	1
1. Introduction	2
2. What's DevOps?.....	4
3. Executive Summary	8
4. Demographics	9
5. Tools & Technology	14
6. Processes & Culture.....	20
7. Conclusion	26
A. VSHN–The DevOps Company.....	27
Index.....	31

Colophon

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Chapter 1. Introduction

Dear readers,

In the opening words of last year's DevOps in Switzerland Report we mentioned the ongoing pandemic, and we stated that:

Without exaggerating, we can say that the year 2020 marked DevOps' "baptism by fire" moment.

Little did we know what 2021 had in store for us. During the second year of the worldwide COVID-19 pandemic, as vaccines rolled out all over the planet, the IT industry faced an evergreen field of security threats. Teams working from home had to learn to work differently, remotely, and asynchronously. Almost overnight, rigid hierarchical structures had to give way to more dynamic, flatter organizations based on trust, while those who didn't faced unprecedented challenges.

The work from home policies in place during the pandemic collided with the desire of many businesses to a "return to normal" by the end of 2021, triggering what is now known as the worldwide "Big Resignation" with consequences yet to be measured by economists.

Even worse, as we start 2022, the somber spectre of war, insecurity, and economic recession casts its shade over the whole planet once again.

VSHN is The DevOps Company, and in spite of the current global context we allow ourselves to be optimists. We believe in the power of agile teams to adapt to these new conditions. We believe in their resilience in the face of unprecedented security threats. We believe in their capacity for positive creativity and change.

It is our duty, and our utmost privilege, to be at the forefront of the DevOps movement, helping teams sustain, prevail, and achieve more with less.

We're impatient to show you the results of the DevOps in Switzerland Report 2022, based on a record number of 89 responses to our survey. We

would like to extend our sincere thanks to all of you who took 5 minutes off your schedule, to tell us the story of your work, your teams, and your organizations. The numbers in this report tell a story of innovation, audacity, and strength.

We look forward to hearing your comments about this report, and we wish you, your teams, and your families peace, prosperity, and health.

Best regards,

Markus Speth, Co-CEO & CMO
Adrian Kosmaczewski, Developer Relations
VSHN - The DevOps Company

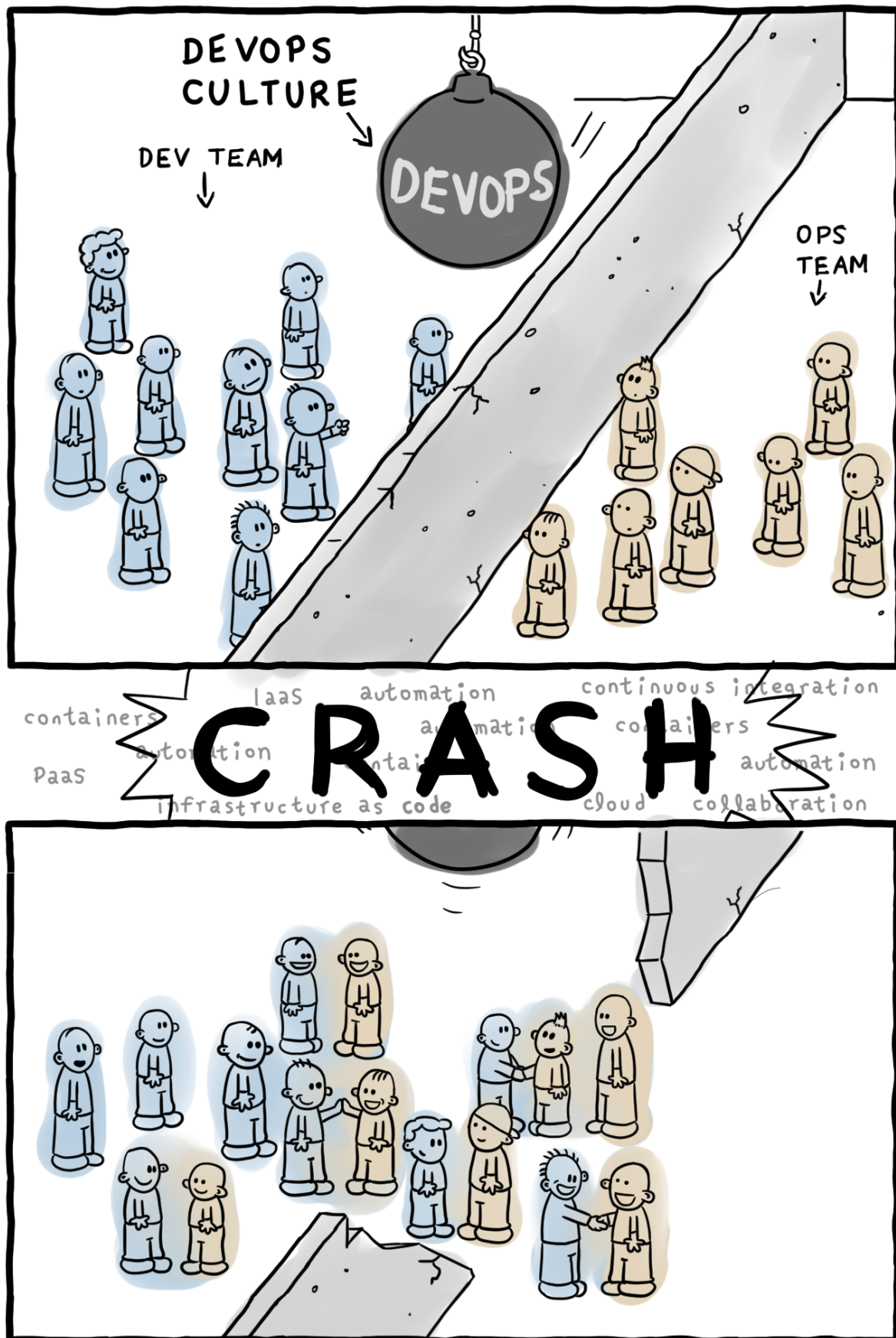
Chapter 2. What's DevOps?

DevOps is a dazzling term, but often just as vague as "cloud" or "container." Everybody understands it differently, and in many cases, "DevOps" is just used as a buzzword with shallow marketing purposes.

The truth is that DevOps has arrived in the mainstream.

At its core, DevOps is an artificial word encapsulating the notions of software development, and IT operations and system administration. DevOps stands as a symbol for a new culture of collaboration between departments having historically pursued rather different goals. Software development must be agile, creative and at the cutting edge of technological development in order to be able to constantly deliver new features. On the other hand, IT operations is geared towards stability, security and reliability. The concept of DevOps merges the apparently contradicting ideas of agility and stability.

As a logical extension of agile software development, DevOps aims to include the entire value chain in an interdisciplinary way. Most importantly, DevOps aims to break up silo thinking.



DANIEL STORI {TURNOFF.US}

Figure 1. DevOps explained © Daniel Stori. Used with permission.

DevOps consists of processes, tools and cultural components, thereby primarily depending on people. A DevOps culture must be lived. DevOps can't be "bought" with tools, introducing new processes, or just through the hiring of a "DevOps engineer."

DevOps is an interdisciplinary cooperation, not only of Dev and Ops, but of all parties involved in the product lifecycle; this includes Product Owners, Scrum masters, testers, security experts, and more. Under the DevOps mantra, the entire organization contributes to this effort in unison.

It's not possible to establish a DevOps culture in a company without committed teams breaking out of the "sysadmin vs. coder" dichotomy. It requires leaders who promote cooperation and collaboration between teams. It calls for a management eager to share ideas and set examples. DevOps is a philosophy, a holistic approach, and not a mere methodology nor a management framework that can simply be introduced in an existing organization.

2.1. Who Benefits from DevOps?

DevOps affects all sectors; in the age of digitization, it isn't limited to software development anymore. Many "traditional" industries today support their core business with software: no matter if they're banks, insurance companies, retail or industrial firms. Digitization doesn't stop at any industry. If the customer is happy, so is the team, the contributor, and ultimately the company.

In the end, everyone benefits from DevOps.

A DevOps culture that focuses on collaboration and automation not only ensures consistency, predictability, faster code delivery, and code quality. Problem solving also benefits from DevOps. Bugs and failures aren't prevented by DevOps *per se*; but with a collaborative and solution-oriented DevOps team and a mature level of automation, troubleshooting and problem solving becomes many times more efficient and faster, reducing the cost of a failure.

DevOps stands for the lean concept of Continuous Improvement and a conscious and active feedback culture. Mistakes may be made in order to continuously improve cooperation and processes. The software development and IT operations departments are jointly responsible for the final product or service.



Chapter 3. Executive Summary

For those of you in a rush, here are the most important conclusions of the DevOps in Switzerland 2022 Report:

- DevOps has become an established standard approach for the delivery of IT services and products in Switzerland.
- IT budgets kept increasing during 2021, albeit at a slower rate.
- Linux, JavaScript, PostgreSQL, and GitLab are the most popular technologies used by DevOps teams in Switzerland.
- Microsoft Azure has consolidated its position as the leading hyperscaler in Switzerland, and local providers like cloudscale.ch and Exoscale have increased their market share.
- There is a strong trend towards managed Kubernetes services such as EKS, AKS, GKE, or Exoscale SKS.
- SUSE Rancher and Red Hat OpenShift 4 are the most popular Kubernetes distributions used in Switzerland.

3.1. Methodology

This report is primarily based on quantitative research conducted through a survey between January and March 2022.

This report is a mostly descriptive but also clustering and exploratory analysis of the data collected in said survey, based on a total population size of 89 responses. The sample size, almost double the size of the previous years' report, is representative of the local Swiss IT market, estimated at a total population of around 16000 companies.^[1]

The error margin, calculated using the $z \frac{\sigma}{\sqrt{N}}$ formula (where N is the sample size, z is a standard score of 1.96 corresponding to a confidence level of 95%, and σ is the standard deviation), is estimated at 10%.

[1] Netzwoche, "So viele Unternehmen und Beschäftigte zählt die Schweizer IT," August 27th, 2018, www.netzwoche.ch

Chapter 4. Demographics

Teamwork on a guiding change coalition can be created in many different ways. But regardless of the process used, one component is necessary: trust. When trust is present, you will usually be able to create teamwork. When it is missing, you won't.

— John P. Kotter, *Leading Change* (1996)

We always ask our respondents a few questions about their teams at the beginning of the survey. This gives us an idea of the current organization models at work in Switzerland, and how they evolve over time. This chapter provides a short summary of this information.



4.1. Organization Industry and Size

The first question we asked this year was about the industry our respondents were active in, and how big their organizations were. Most of them work in the software or banking industry, in small to medium organizations ranging from 1 to 250 collaborators.

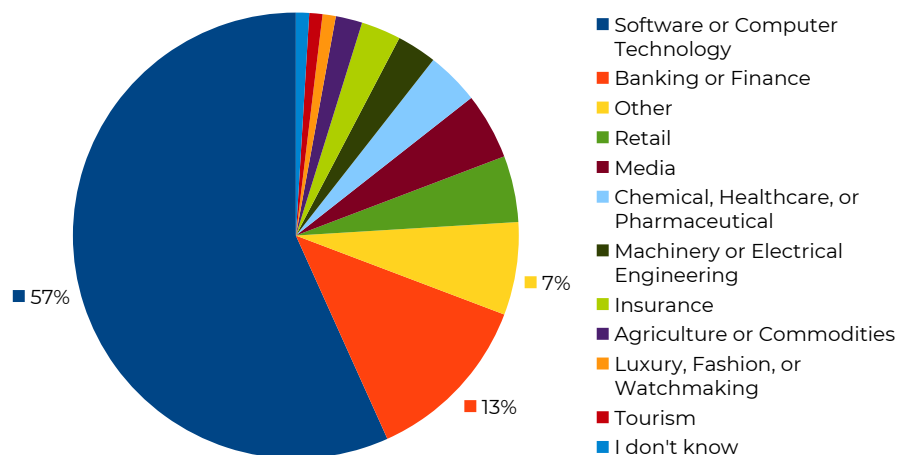


Figure 2. Industries of respondents in 2021

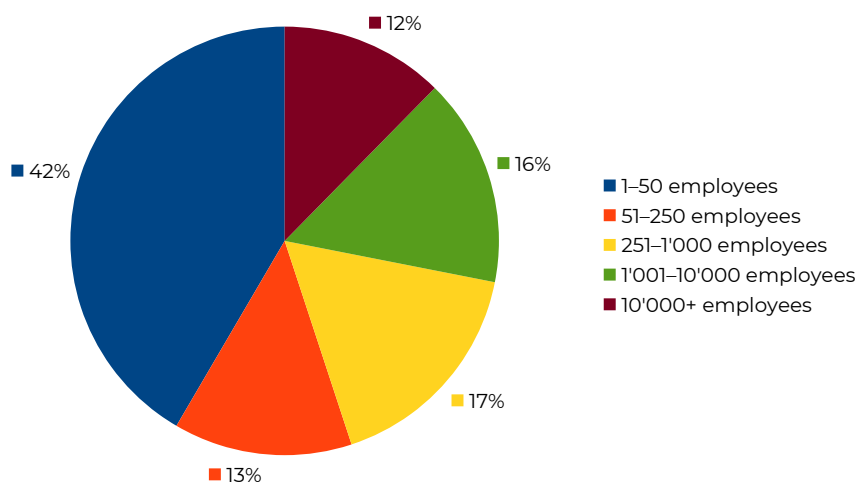


Figure 3. Organization size of respondents in 2021

4.2. Domains

These are the domains in which the respondents of the survey have responsibilities. Since last year, the proportion of respondents identifying themselves simply as "DevOps" has substantially increased.

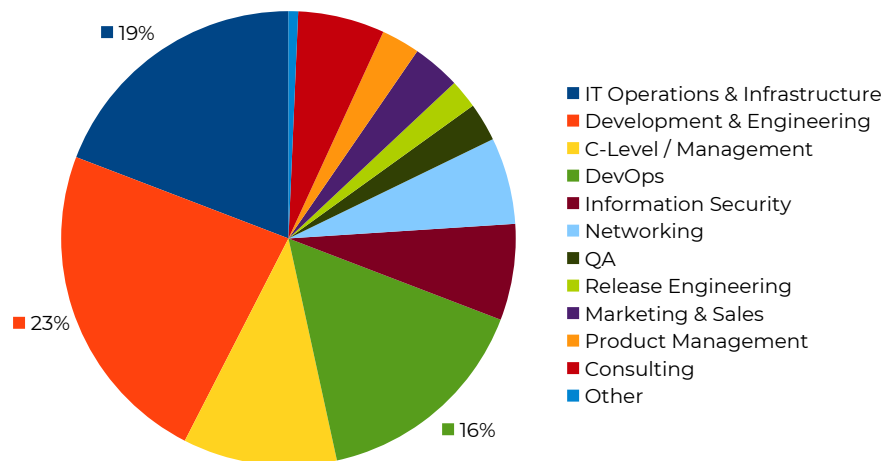


Figure 4. Domains of respondents in 2020

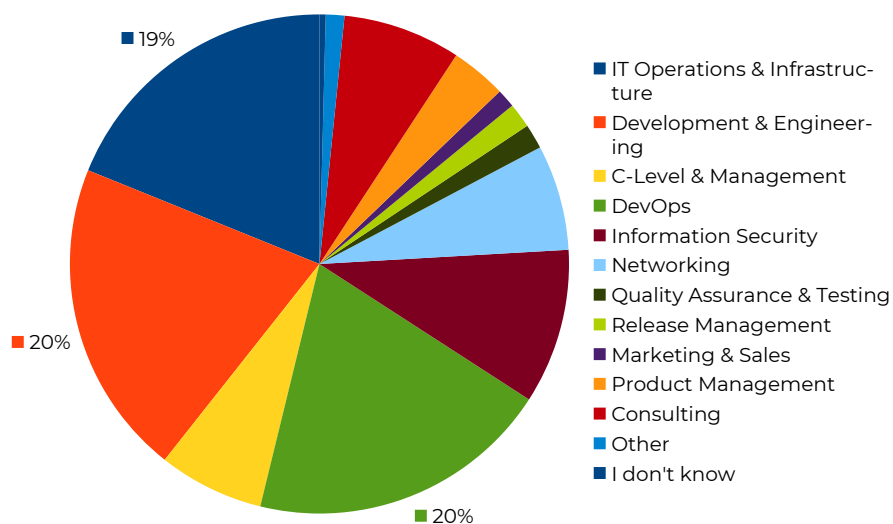


Figure 5. Domains of respondents in 2021

4.3. Separation of Development & Operations

Since 2019 we have observed a sustained (and from our perspective, quite puzzling) tendency to separate development from operations. In line with this trend, the numbers reported for 2021 tell the same story, once again.

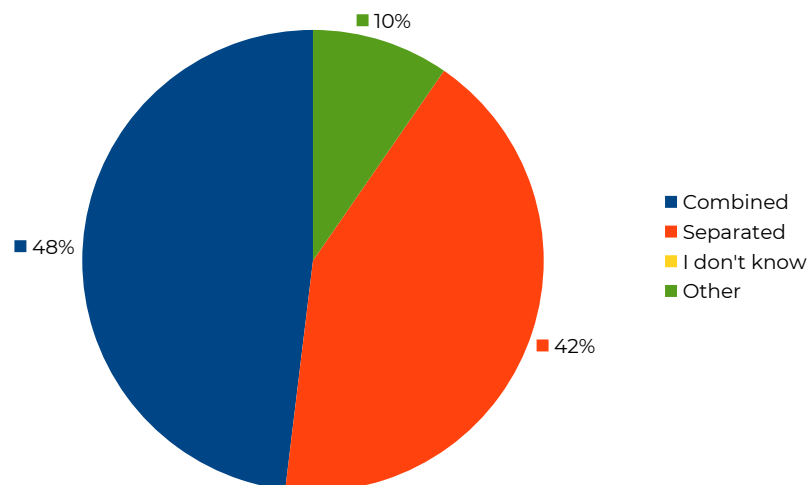


Figure 6. Separation of development & IT operations in 2020

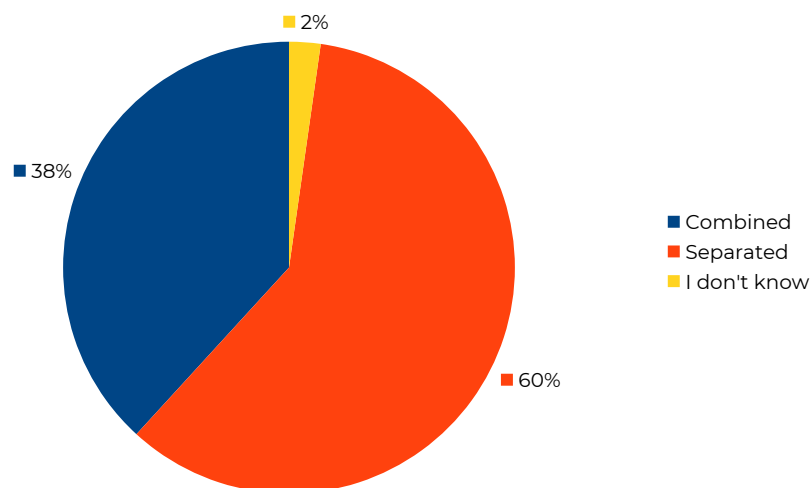


Figure 7. Separation of development & IT operations in 2021

4.4. IT Budgets

IT budgets have grown in 2021, but not as strongly as in 2020. We believe that the uncertainty in the world economy after the pandemic, and the current political and economic situation will bring businesses to become more attentive to spending budgets in 2022.

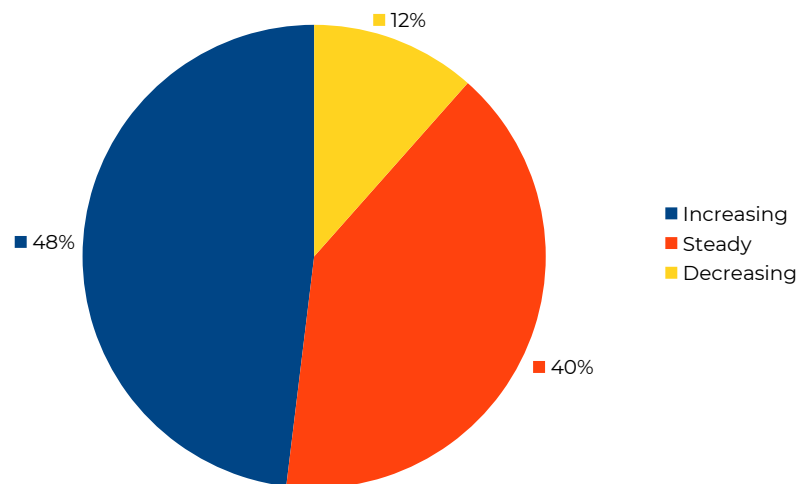


Figure 8. IT Budgets in 2020

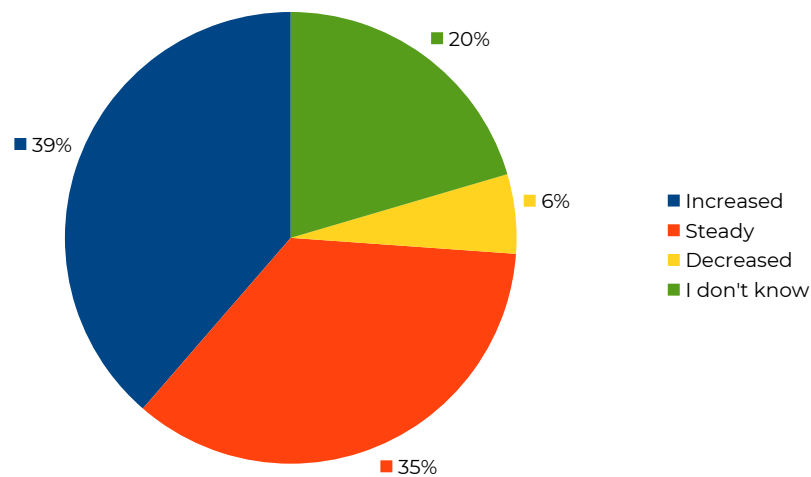


Figure 9. IT Budgets in 2021

Chapter 5. Tools & Technology

"No one ever got fired for hiring IBM," goes the old adage, describing a behavior completely borne out of fear. An employee in a procurement department, tasked with finding the best suppliers for company, turns down a better product at a better price simply because it is from a smaller company or lesser-known brand.

— Simon Sinek, *Start With Why: How Great Leaders Inspire Everyone To Take Action* (2009)

DevOps has a strong technology focus; sometimes, a bit too much. Whatever your opinion on the subject, the large array of DevOps technologies at our disposal makes it sometimes difficult, if not impossible, to choose the right tool for the job.

This chapter will provide an overview of the tools and technologies used by respondents to the survey in their DevOps implementations.



5.1. Operating Systems

We're delighted to learn that Linux is by far the most popular operating system in use; followed of course by Microsoft Windows, always present in Swiss corporate environments.

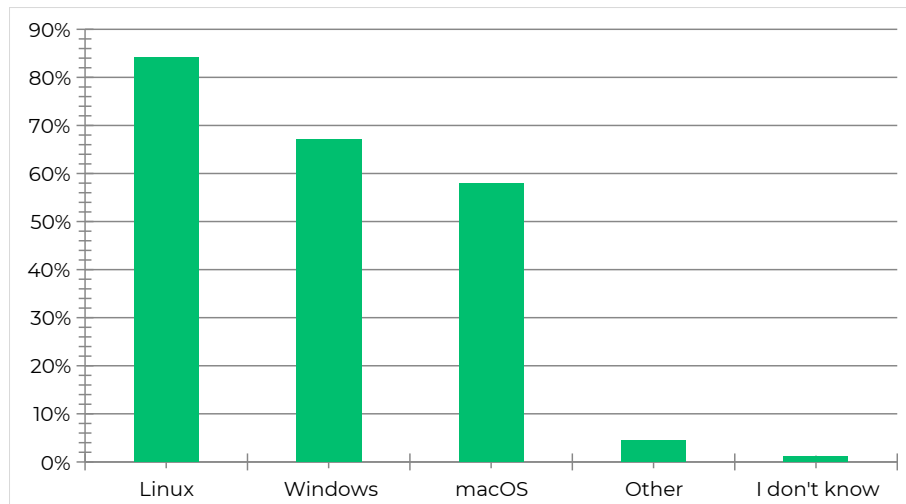


Figure 10. Operating Systems in Production in 2021

5.2. Programming Languages

There were no major changes in the relative popularity of programming languages between 2020 and 2021. JavaScript, Java, Python, and Go remain at the top of the list. TypeScript makes a strong debut in this ranking.

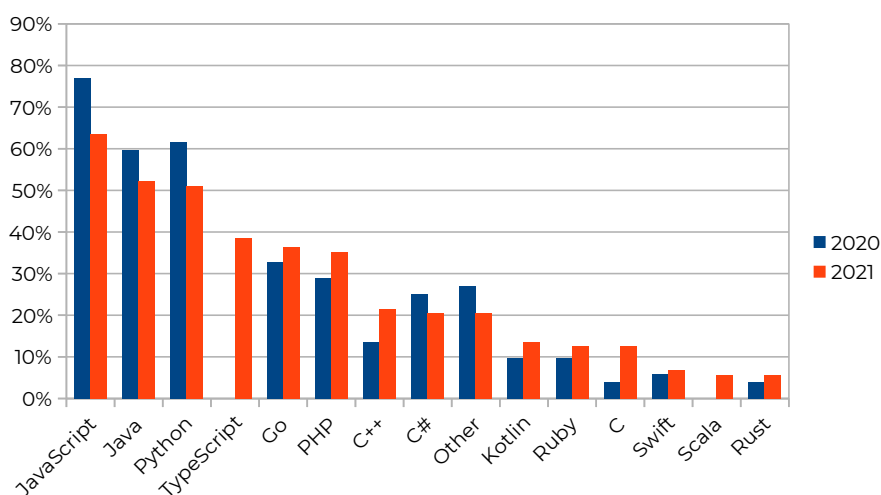


Figure 11. Programming Languages in 2021

5.3. Auxiliary Back-end Services

Without much surprise we learn that PostgreSQL, NGINX, Elasticsearch, and S3-compatible storage (in its various forms) are the most used technologies by DevOps teams.

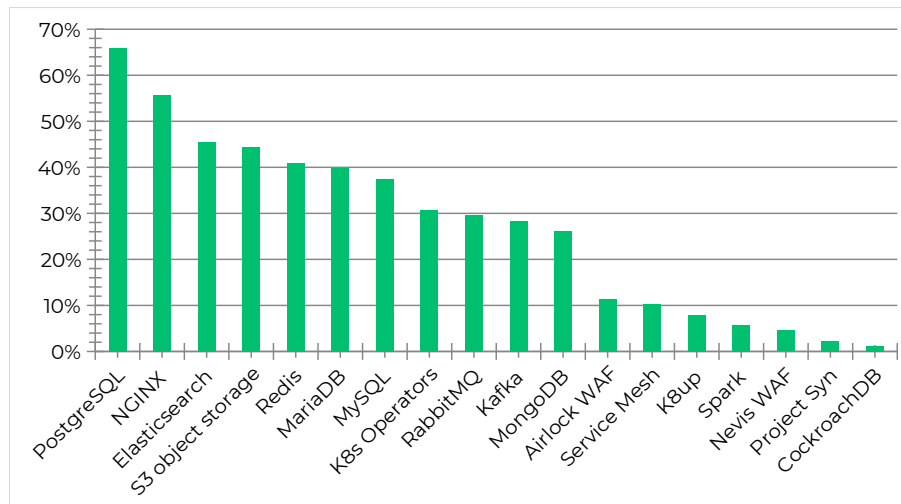


Figure 12. Auxiliary Back-end Services in 2021

5.4. Infrastructure

Azure is the leader in Switzerland in 2021, at the expense of Google Cloud. AWS, fueled by the upcoming opening of a Swiss-based region, has increased its market share by a small margin. Local providers such as Exoscale and cloudscale.ch have seen their market share grow in 2021.

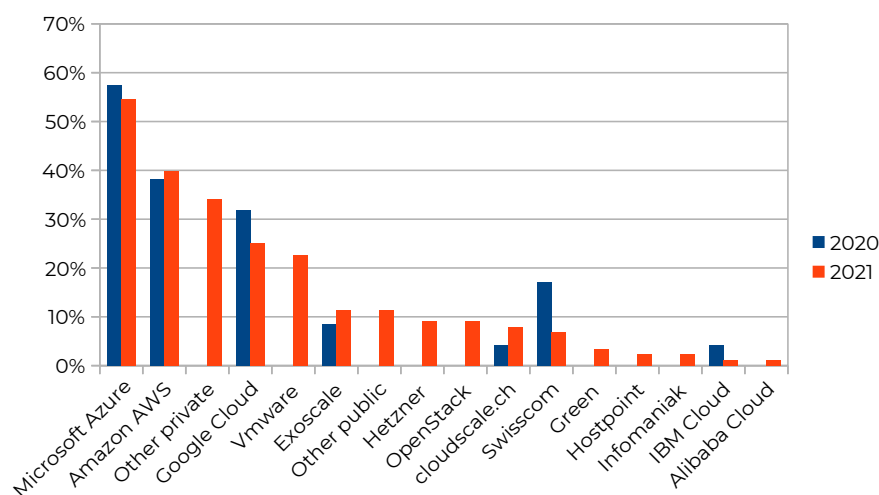


Figure 13. Infrastructure Providers in 2021

5.5. Cloud Strategies

Cloud strategies have remained virtually unchanged since last year. It is possible that the market shares of on-premise and cloud choices will remain steady in the foreseeable future, fulfilling the old mantra of "never change a team that works."

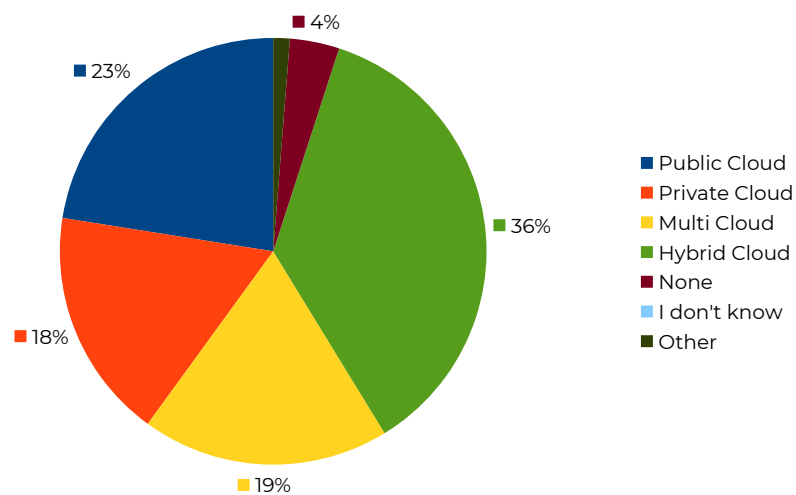


Figure 14. Cloud Strategies in 2020

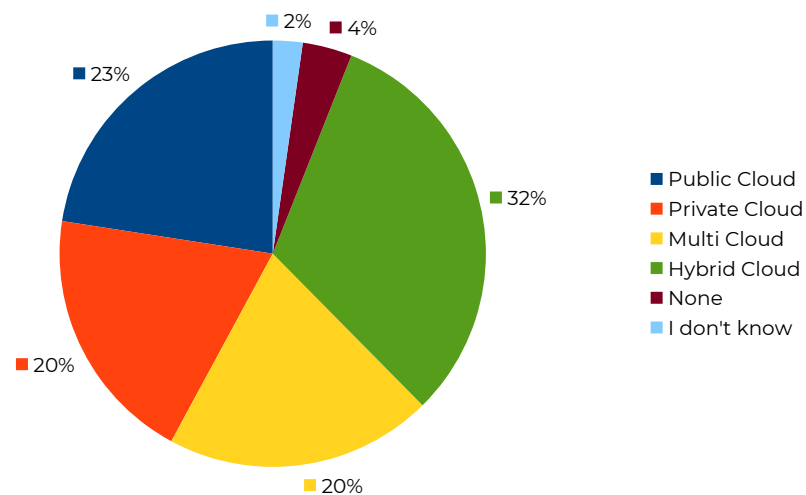


Figure 15. Cloud Strategies in 2021

5.6. Container Technology

Container technology has become the standard building block for DevOps engineers. The number of companies having adopted it has increased since our last review. The adoption of containers is mostly driven by the adoption of Kubernetes, whose popularity in Switzerland keeps growing. Businesses appreciate its portability and its strong ecosystem of tooling and support.

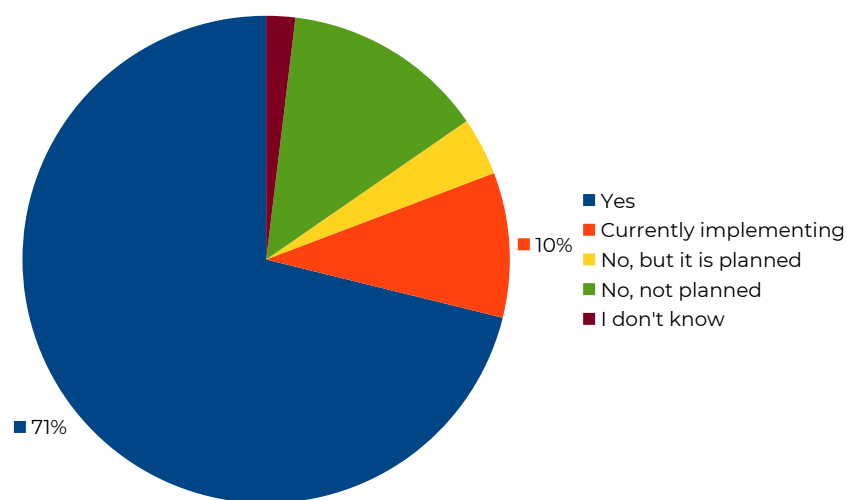


Figure 16. Container Technology in 2020

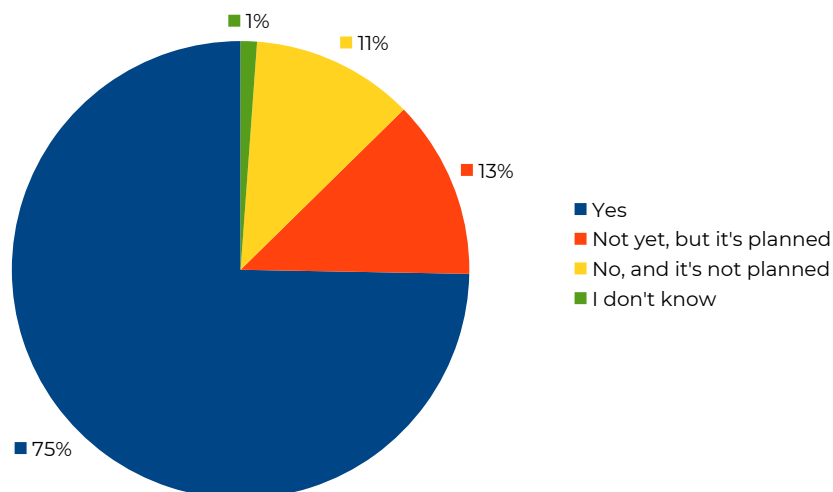


Figure 17. Container Technology in 2021

5.7. CI/CD Tools

The most popular Continuous Integration and Continuous Deployment tools used in 2021 are GitLab, Ansible, Terraform, and Jenkins.

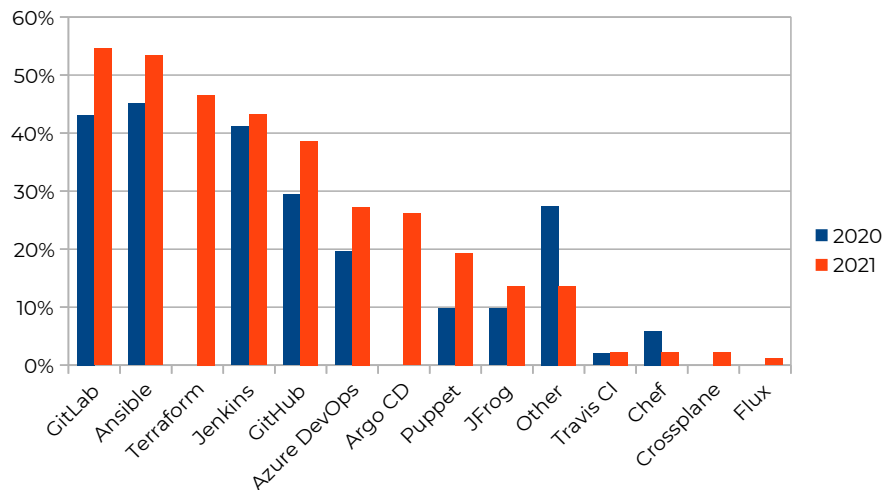


Figure 18. CI/CD Tooling 2020

5.8. Kubernetes

2021 was the year of the Managed Kubernetes Service. Teams are quickly adopting offerings such as EKS, AKS, GKE, Exoscale SKS, ROSA, and other similar managed services. We are not surprised; they offer a perfect quality/price balance, enabling teams to be more agile and reactive, and outsourcing the complexity of Kubernetes to the provider.

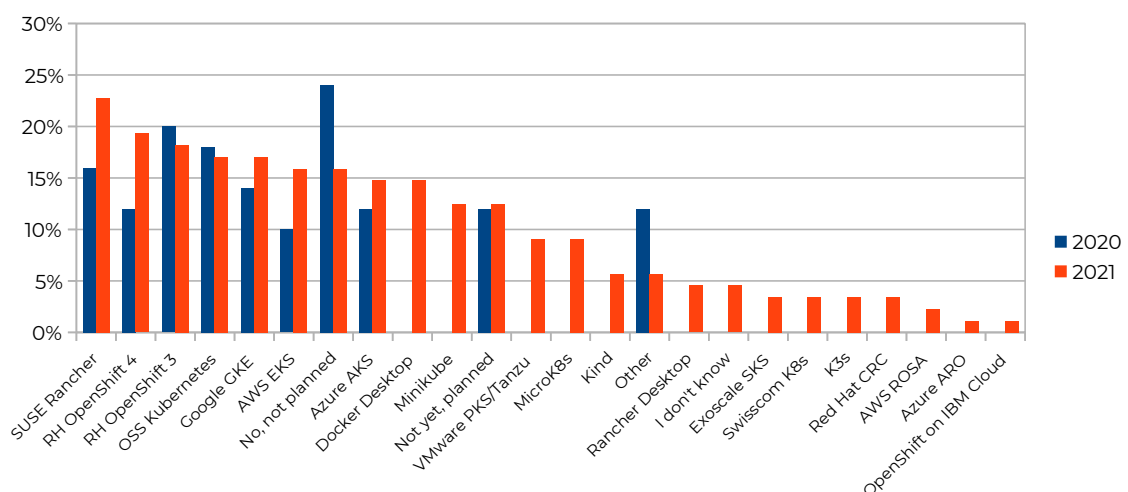


Figure 19. Kubernetes Distributions 2020

Chapter 6. Processes & Culture

A great organization has both great people and a great culture. Companies that get progressively better over time have both. Nothing is more important or more difficult than to get the culture and people right.

— Ray Dalio, Principles (2017)

How can you measure culture? There is no clear answer for this question, and there'll never be one.

We have tried through our questions to peek into the current state of DevOps teams in Switzerland, a country that has undergone a serious transition, from the strong hierarchical structures of its quintessential Swiss Army, to being one of the most innovative countries in the planet.



6.1. Perception

The perception of DevOps by teams has evolved tremendously during 2021; maybe the pandemic and the work from home policies have had something to do with this change?

In any case, not one respondent to the survey provided a negative answer to this question! This marks a strong turning point to the story of DevOps in Switzerland.

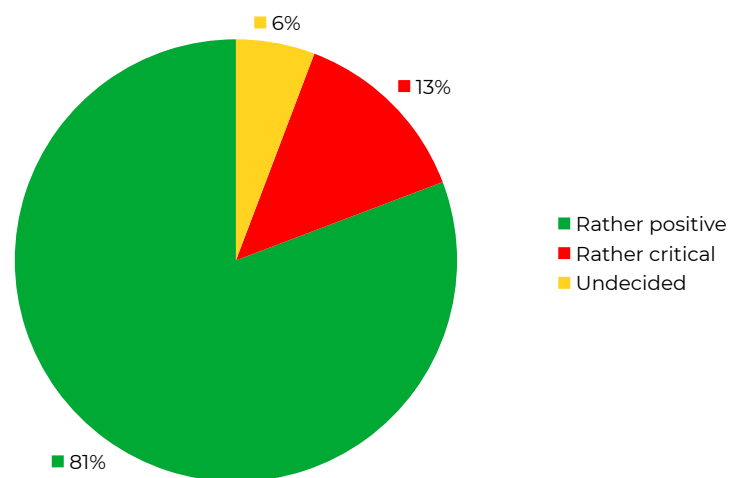


Figure 20. DevOps Perception in 2020

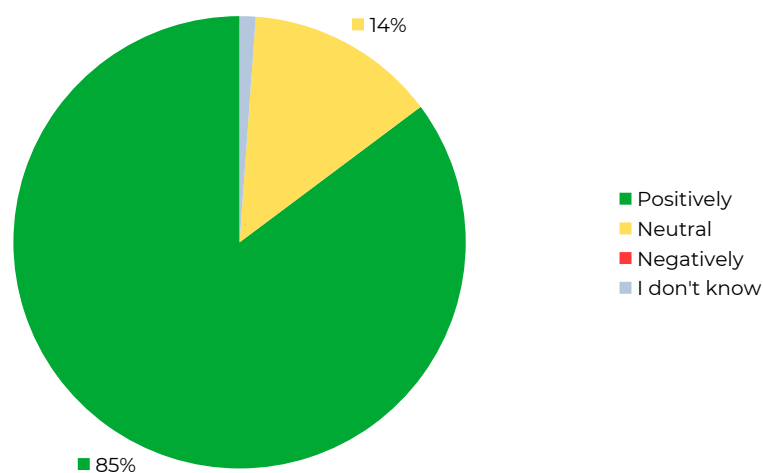


Figure 21. DevOps Perception in 2021

6.2. Adoption

The adoption of DevOps keeps advancing. More and more teams in Switzerland are following its ideas and concepts, so that DevOps is no longer a hype buzzword; but rather, the actual standard with which new online products and services are built.

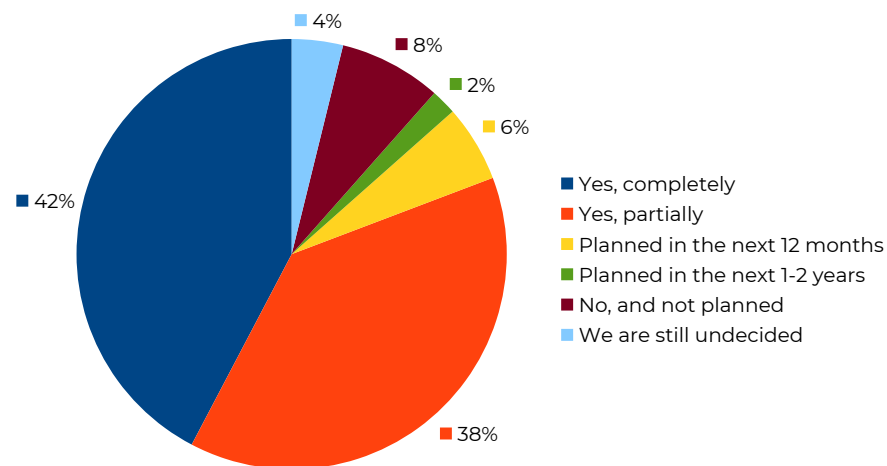


Figure 22. Adoption of DevOps in 2020

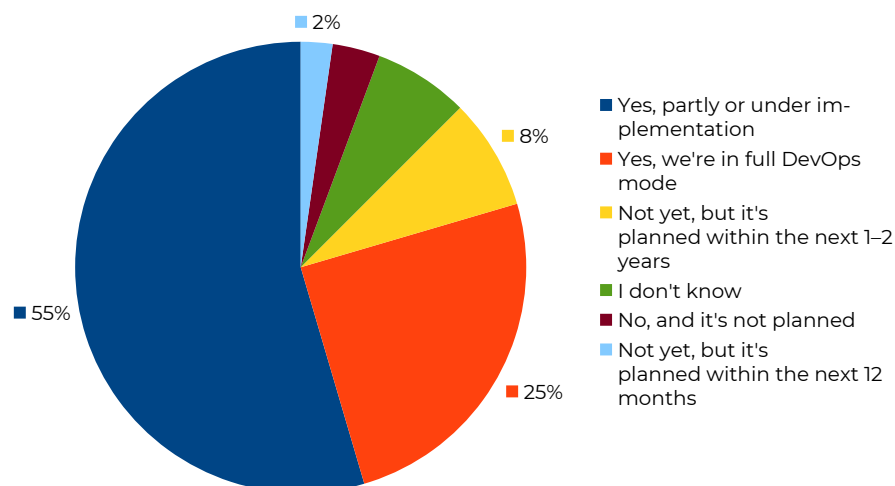


Figure 23. Adoption of DevOps in 2021

6.3. Overall Results

What is the return in investment after adopting DevOps? The results are in, and they are overwhelmingly positive:

- 86% of respondents have witnessed changes, positive or negative, after the adoption of DevOps.
- 85% state that implementing DevOps **was worth the effort**.
- 85% of respondents believe that DevOps had a positive (or neutral) influence in the working environment.
- 83% report an improvement (or a neutral impact) in the final product quality, 82% in team cooperation, and 75% in the final production output.
- Only 38.5% report a long adaptation phase, while 74% signal a reduction of bureaucracy in place.

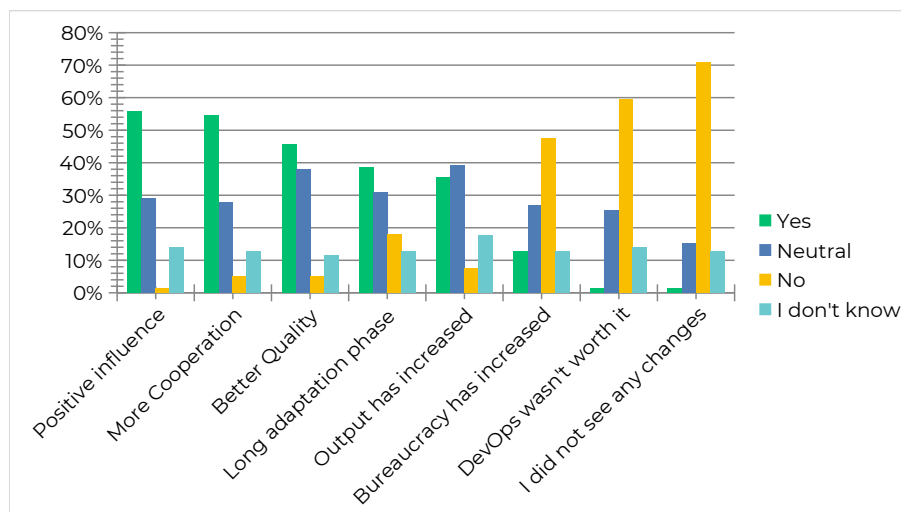


Figure 24. Return on Investment

6.4. Team Autonomy

How autonomous are Swiss teams? We got an idea of the answer to this question by asking a different one: can your teams provision new services (databases, message queues, virtual machines, etc...) all by themselves? And in which environments (production, development, testing...)?

As it turns out, 57% of respondents have told us that their developers can provision some or all production services themselves; 19% told us that their developers can provision some or all non-production services; and only 16% acknowledged that their developers can't provision any service in their own.

We think that this indicator is a simple but interesting gauge of the overall health of the DevOps adoption in the country.

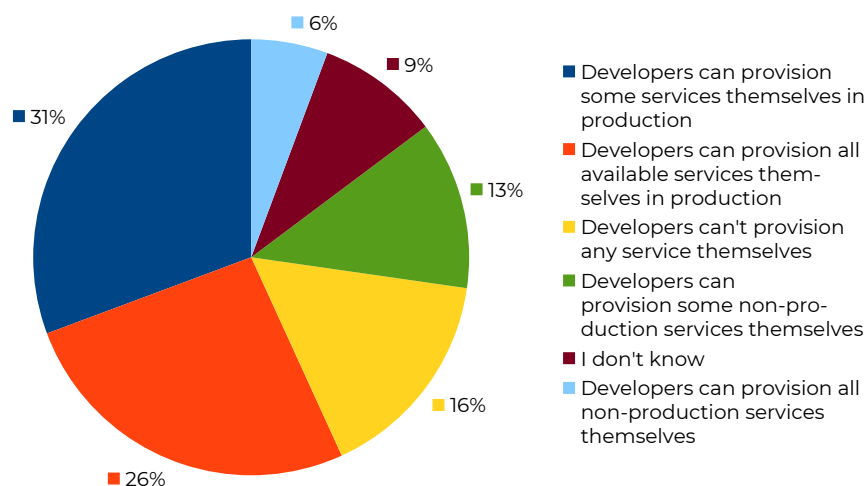


Figure 25. Provisioning of Services

6.5. Outsourcing

We asked the participants if they had any external help at launch or if they outsourced DevOps services to external service providers.

DevOps practices and infrastructures are a visible competitive edge for businesses. It's no surprise to see that after outsourcing parts of the implementation, teams prefer to take full control of their DevOps destiny.

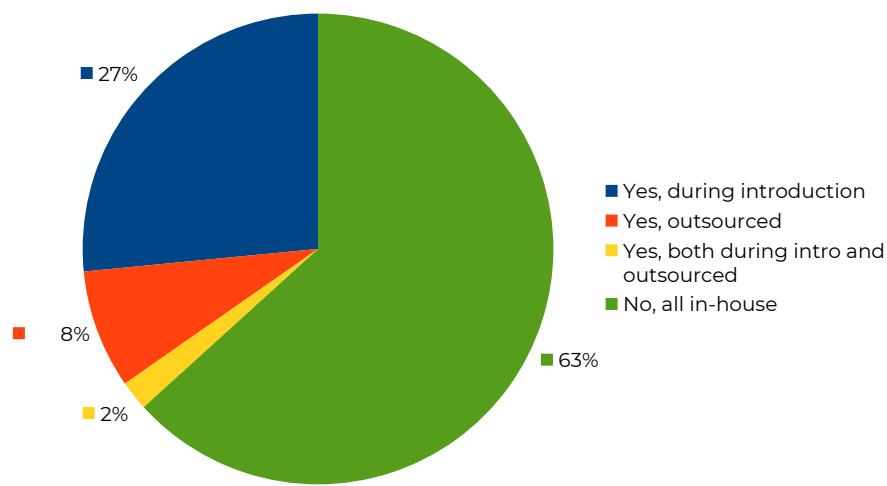


Figure 26. Outsourcing DevOps in 2020

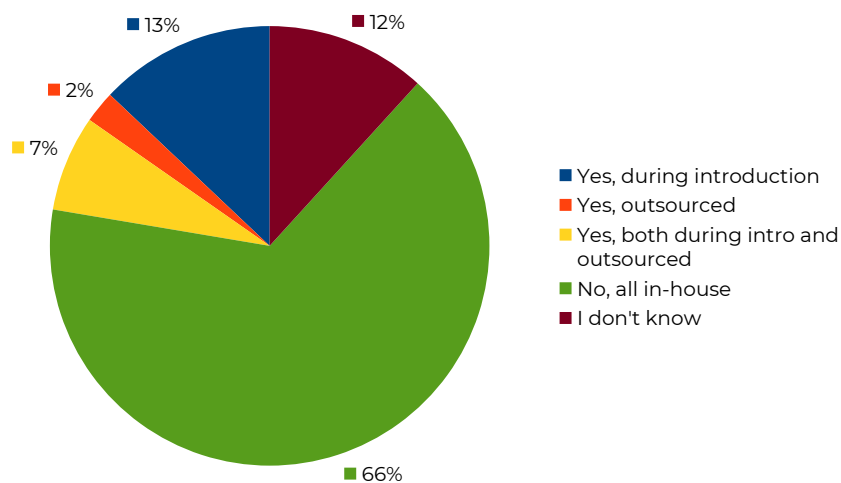


Figure 27. Outsourcing DevOps in 2021

Chapter 7. Conclusion

DevOps is the new standard. Companies of all sizes, offering online services and products, trust and empower their teams more and more to be as agile as they need, in order to fight for market share, to increase user fidelity, and to compete in a hot hiring market.

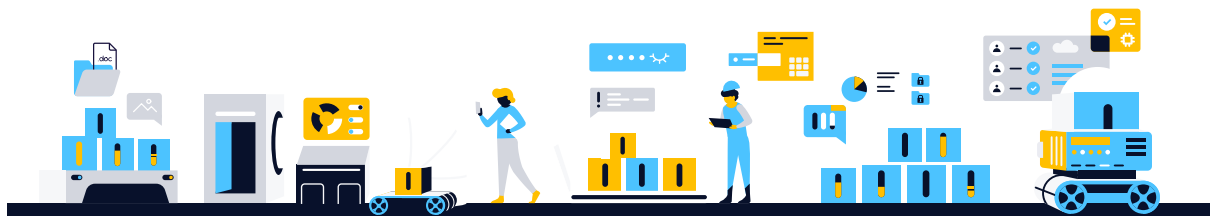
The trends we saw in place in the previous two reports have consolidated. DevOps helps teams deliver more with less, increasing the perceived quality and quantity of the overall software production cycle, helping them navigate one of the most complex and uncertain times in our recent history.

We hope that the information in this report will be useful to you, and we would love to hear your comments about it.

Thank you for reading our DevOps in Switzerland Report 2022!

Markus (@mspeth82) & Adrian (@akosma)

VSHN - The DevOps Company



A. VSHN–The DevOps Company

VSHN (pronounced 'vizn like "vision") is Switzerland's leading DevOps, Docker, Kubernetes, OpenShift and 24/7 cloud operations partner.



VSHN was founded with the intention to fundamentally shake up the hosting market. As a lean startup, we've focused on operating IT platforms through automation, agility and a continuous improvement process. Completely location-independent and without our own hardware, we operate extensive applications according to the DevOps principle agilely and 24/7 on every infrastructure, so that software developers can concentrate on their business and IT operations are relieved.

A.1. VSHN is the link between business, software development and IT operations.

VSHN supports software developers in making applications automatically testable, deployable and scalable and operating them on any infrastructure. In addition to close and agile cooperation and consulting, we also take over responsibility for the stability of our services, including 24/7 support.

With APPUiO.ch we've created a Swiss container platform based on Red Hat OpenShift on which we can offer Managed Services as a PaaS solution (Platform-as-a-Service) on any infrastructure: cloud, dedicated, private and on-premises. Our latest offering, APPUiO Cloud provides "OpenShift Projects as a Service" to our customers.

A.2. The Team

Our employees (“VSHNeers”) at Zurich Central Station are the most experienced specialists in development and operations and experts in innovative container technology.

A.3. Open Source and giving back

We believe in openness and sharing know-how, experience and code (Open Source). We use open source software wherever possible, but also give our own developments back to the community. Have a look at our Github profile: github.com/vshn or K8up, our Kubernetes Backup Operator.

We also recently released Project Syn, the next generation Open Source managed services framework for DevOps and application operations on any infrastructure based on Kubernetes.

A.4. Engagement and memberships

We support organizations such as the Linux Foundation and Cloud Native Computing Foundation.

A.5. About the Company

VSHN was founded in 2014 as an AG and as an owner-managed company we’re exclusively committed to our customers. The shares are 100% owned by the VSHNeers.

A.6. Awards & Recognition

VSHN won Gold at the Digital Economy Award 2019. We’re one of the Fastest growing ICT companies in Switzerland for the third time in a row. We’re the first Kubernetes Certified Service Provider (KCSP) in Switzerland and we’re Red Hat Advanced CCSP Partner. We were awarded as Rising Star Switzerland 2019 in the ISG Provider Lens. We’re ISO 27001 certified,

work according to the strict FINMA guidelines and are ISAE 3402 Report Type 2 audited.



A.7. Jobs

Do you also want to become a VSHNeer and be at the forefront of IT? Then have a look at our job site, we're always looking for good people.

A.8. What can we do for you?

Take a look at our services and learn more about how we can support you.

A.9. Stay up to date

Subscribe to our YouTube channel, follow us on Twitter (@vshn_ch and @APPUiO), LinkedIn, and Facebook, to keep up with our latest news.



Index

A

AKS, 19, 8
Ansible, 19
AWS, 16
Azure, 16

C

cloudscale.ch, 16, 8
collaboration, 4
conclusions, 8
Container technology, 18
culture, 20

D

digitization, 6
domains, 11

E

EKS, 19, 8
Elasticsearch, 16
Exoscale, 16, 8
Exoscale SKS, 19, 8

G

GitLab, 19, 8
GKE, 19, 8
Go, 15
Google Cloud, 16

I

industry, 10
IT budgets, 13

J

Java, 15
JavaScript, 15, 8
Jenkins, 19

K

Kubernetes, 18

L

Linux, 15, 8

M

Microsoft Windows, 15

N

NGINX, 16

O

outsourcing, 25

P

perception of DevOps, 21
PostgreSQL, 16, 8
programming languages, 15
Python, 15

R

Red Hat OpenShift 4, 8
return in investment, 23
ROSA, 19

S

S3-compatible storage, 16
separate development from

operations, 12
SUSE Rancher, 8

T

technologies, 14
Terraform, 19
tools, 14
TypeScript, 15

V

VSHN, 27