

# DEVOPS

## IN SWITZERLAND



REPORT  
2021

A report about the state  
of DevOps in Switzerland



# DevOps in Switzerland 2021

## Report

Version 1.0, 2021-04-09

# 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 .....                     | 30 |

# Colophon

This report is provided by the copyright holders and contributors "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. Information and views expressed in this document, including URLs and other Internet Web site references, may change without notice. In no event shall VSHN or contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this information, even if advised of the possibility of such damage. You may copy and use this document for your internal, reference purposes.

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

All other trademarks are property of their respective owners.

Copyright © 2014-2021 VSHN AG. All Rights Reserved.

Published in Zürich, Switzerland on 2021-04-09 12:07:59 UTC.

Created with AsciiDoctor.

# Chapter 1. Introduction

Dear readers,

The COVID-19 pandemic has tested, in the toughest of times, our endurance and resistance; those of our families and friends, but also those of workers, businesses, and governments. For pretty much every single person on Earth has been affected in one way or another.

In the software industry, this pandemic has exacerbated an already growing pressure on providers of all sizes. The unprecedented increase in the demand for online services and applications has put teams and systems to the test. IT professionals have had to change their work habits almost overnight, adapting to a "new normal" of work from home, Zoom fatigue, and a radically different definition of the word "collaboration."

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

Teams all over the world have had to learn, in the space of a few weeks or even days, how to collaborate in the most disconnected way possible, keeping systems alive, fighting networking congestions, fixing impossible bugs, and adapting to this, our brave new world.

The story told by the numbers in this report tell a tale of resilience and strength. The Swiss IT industry is emerging victorious and stronger from this battle. DevOps professionals in this country have learnt how to adapt and evolve, using this crisis as an opportunity to grow, and to become more efficient.

Last year, in the closing words of our first DevOps in Switzerland Report, we said:

*DevOps is mainstream in Switzerland, and is here to stay.*

This year we can say that DevOps became the basic ingredient with which businesses survived, thrived, and evolved.

We're thrilled to present the results of the DevOps in Switzerland Report 2021. We look forward to hearing your comments, and to learn more about your experience in this, the strangest of times.

Enjoy reading the report, and we wish health and prosperity to you, your colleagues, your families, and friends.

Best regards,

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

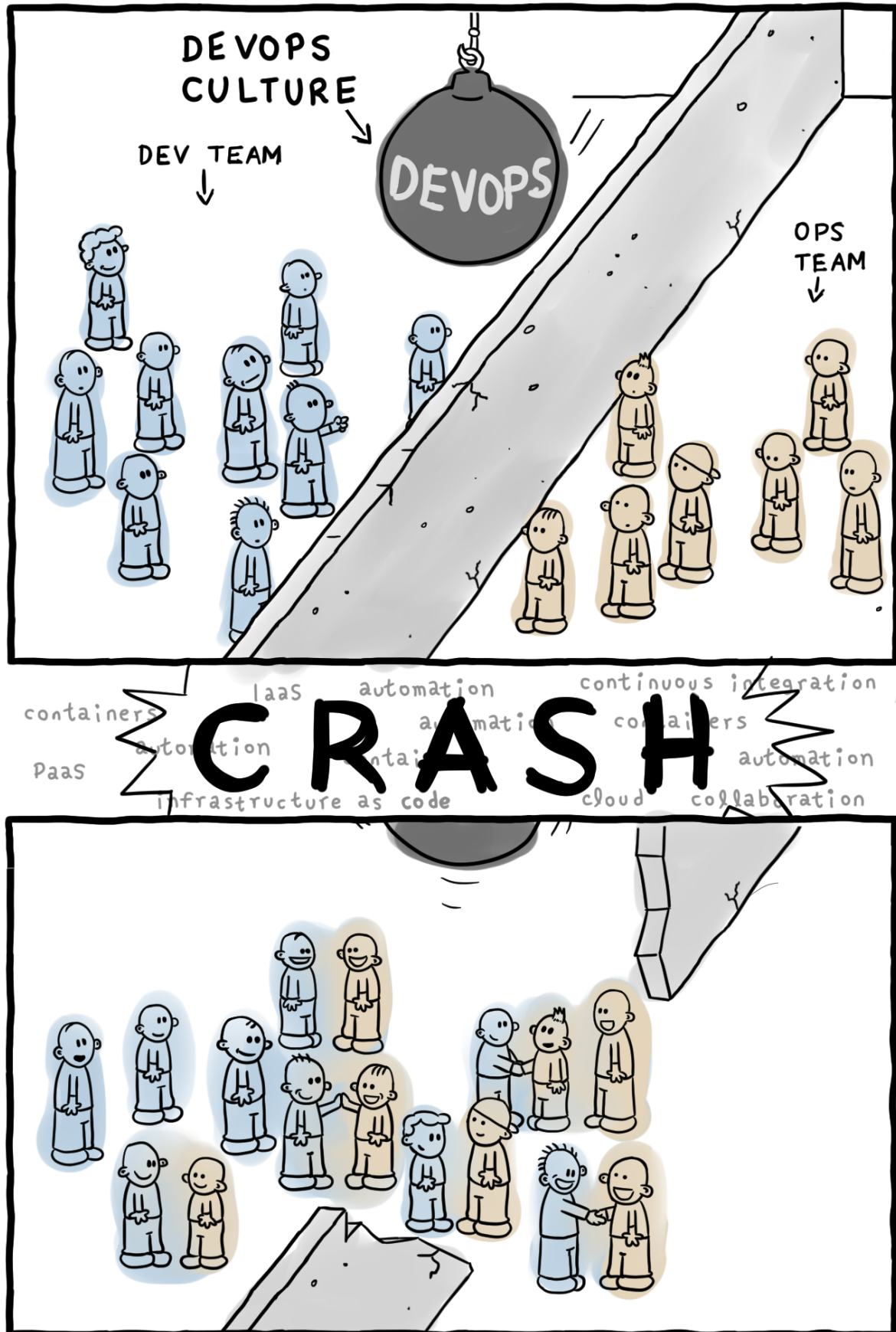
# Chapter 2. What's DevOps?

DevOps is a dazzling term, but often just as vague as "cloud" or "container." Everybody understands something different, and in some cases, DevOps is used as a buzzword for marketing purposes.

The truth is that DevOps has arrived in the mainstream.

Fundamentally, DevOps is an artificial word made out of "development," or software development, and "operations," or IT operations and system administration. DevOps stands as a symbol for a new culture of collaboration between departments that have 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. In contrast, IT operations is geared towards stability, security and reliability. DevOps now tries to unite exactly this apparent contradiction between agility and stability.

As a logical extension of agile software development, DevOps aims to include the entire value chain in an interdisciplinary way. 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, whereby it primarily depends on people. A DevOps culture must be lived. DevOps can't be "bought" with tools, introducing new processes, or hiring a "DevOps engineer."

DevOps is an interdisciplinary cooperation, not only of Dev and Ops, but of all parties involved in the product lifecycle such as Product Owners, Scrum masters, testers, and security experts. The entire organization must contribute to this effort.

It's not possible to establish a DevOps culture in a company without committed people who break out of the "sysadmin vs. coder" thinking pattern. This requires leaders who promote cooperation and collaboration between teams. Management must share the ideas and set examples. DevOps is a philosophy or holistic approach—not a methodology nor a management framework that can simply be put over 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 individual 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, 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

These are the most important conclusions of the DevOps in Switzerland 2021 Report:

- DevOps is no longer a new trend, but a strongly established standard approach for the delivery of IT services in Switzerland.
- IT budgets have increased in 2020.
- Two thirds of businesses declare having been impacted by the COVID-19 pandemic in one way or another.
- DevOps tooling choices (programming languages, CI/CD, etc.) have remained unchanged since last year.
- Adoption of public and hybrid cloud strategies increased substantially, while private cloud strategies are in the decline.
- Microsoft Azure has become the most favorite provider of cloud services in Switzerland, with almost one third of all respondents using it.

## 3.1. Methodology

This report is based on primary quantitative research conducted through surveys between December 2020 and March 2021.

This report is a mostly descriptive, but also clustering and exploratory analysis of the data collected in both surveys, based on a total population size of 54 responses. We believe the sample size, albeit smaller than last year, is representative of the local Swiss IT market, estimated at a total population of around 16000 companies.<sup>[1]</sup>

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  $\sigma$  is the standard deviation), is estimated at 13%.

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

# Chapter 4. Demographics

*The DevOps mantra of continuous improvement is both exciting and real, pushing companies to be their best, and leaving behind those who don't improve.*

— Nicole Forsgren PhD, Jez Humble and Gene Kim, *Accelerate: Building and Scaling High Performing Technology Organizations*

The first questions in our survey centers around the characteristics of the participants in the DevOps market.

Who are they? How big are their IT teams? This chapter will provide some information about the respondents of the survey.



## 4.1. Departments

The proportions of departments in which the respondents work shows no change from 2019 to 2020.

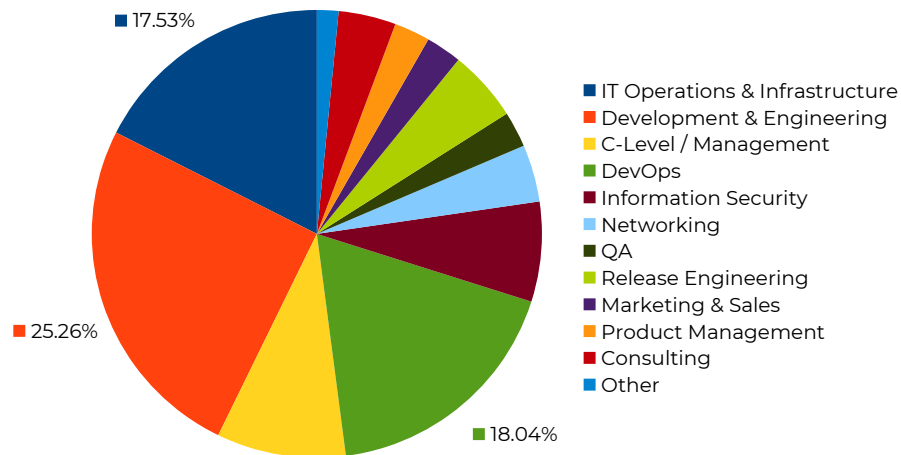


Figure 2. Departments of respondents in 2019

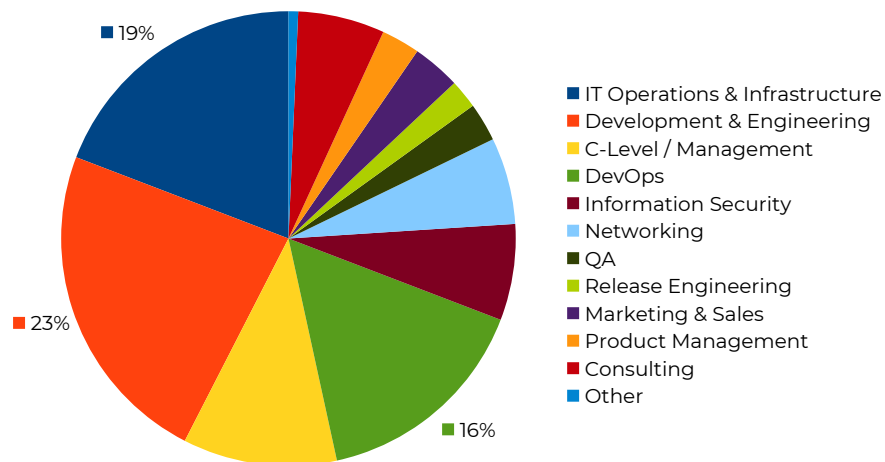


Figure 3. Departments of respondents in 2020



This fact is most probably due to many of the same people responding to the survey in both years.

## 4.2. Separation of Software Development & IT Operations

In 2019 we observed a sustained (and quite puzzling) tendency to separate development from operations than the previous year. This tendency is confirmed in 2020.

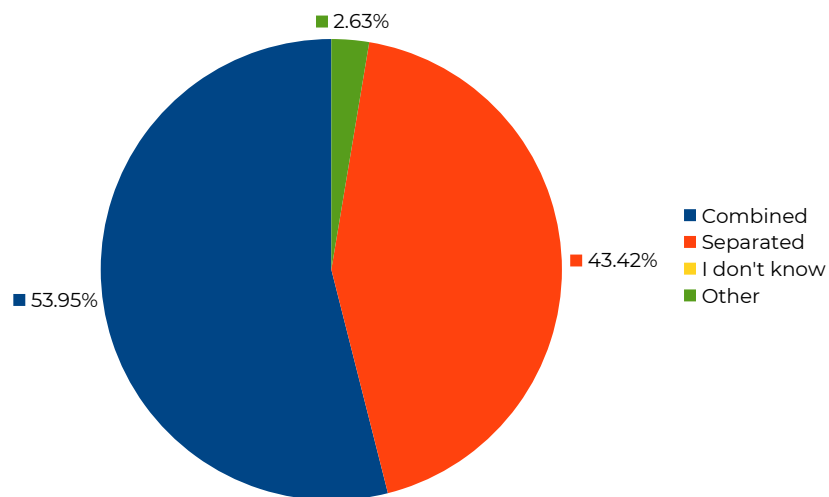


Figure 4. Separation between software development & IT operations in 2019

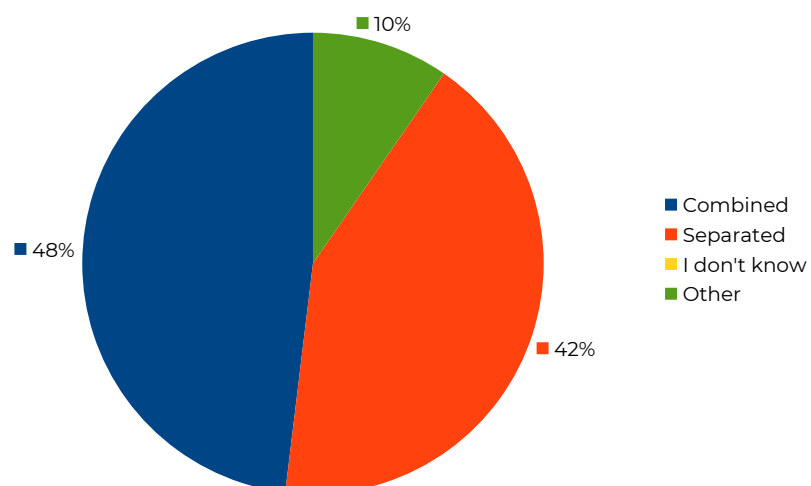


Figure 5. Separation between software development & IT operations in 2020



Are silos such a strong feature of our industry?

## 4.3. IT Budgets

IT budgets have grown in 2020. Clearly, the COVID-19 pandemic, with its mandatory work from home policies, have forced companies to increase their spending and capabilities in the IT spectrum.

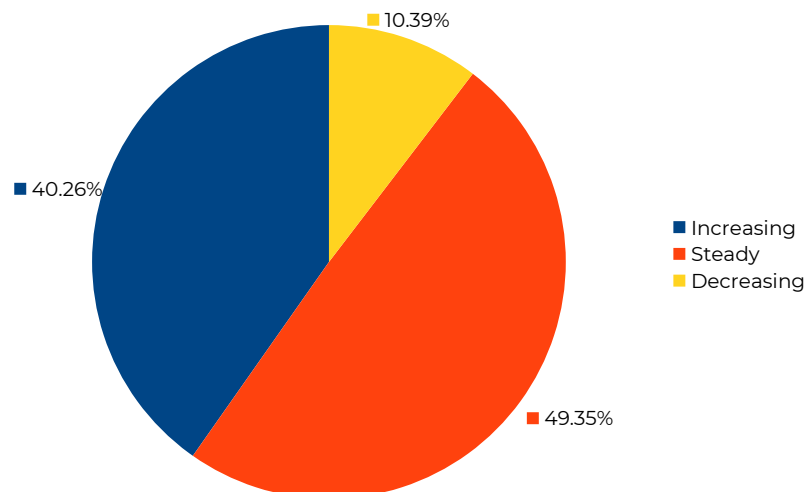


Figure 6. IT Budgets in 2019

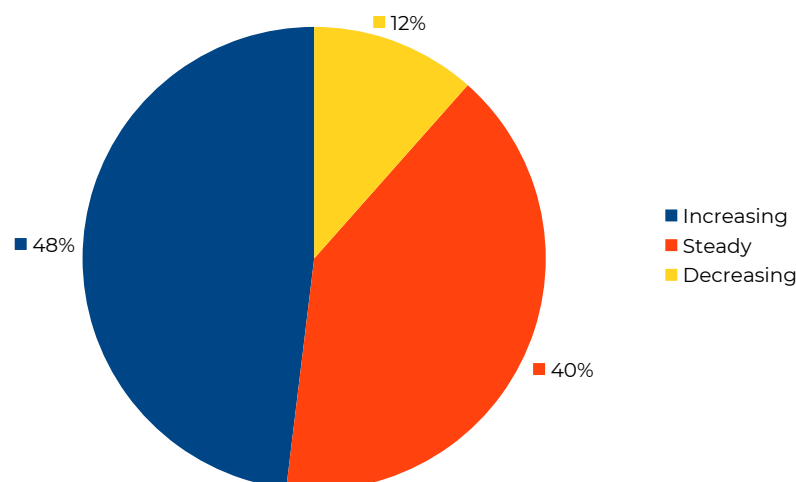


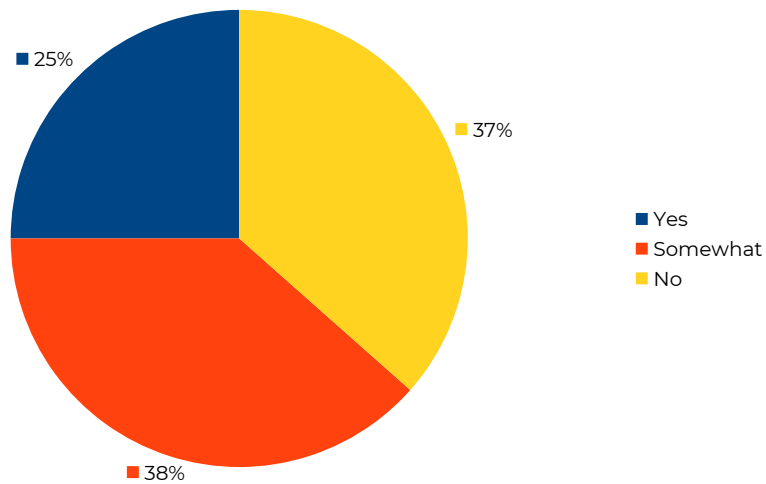
Figure 7. IT Budgets in 2020



The mandatory work from home policy, established at federal level, added to the increase in demand for online services, can easily explain this tendency.

## 4.4. COVID-19

Unsurprisingly, the pandemic has affected in one way or another at least two thirds of all respondents to this survey.



We hope that in 2021, thanks to the vaccination campaigns, we will be able to restore a certain sense of "normality" in our jobs.



# Chapter 5. Tools & Technology

*The big question of our time isn't "Can it be built?" but "Should it be built?" This places us in an unusual historical moment: our future prosperity depends on the quality of our collective imaginations.*

— Eric Ries, *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*

The implementation of DevOps initiatives invariably brings a long series of new technology acronyms and buzzwords. How many of these are actually used by DevOps practitioners?

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



## 5.1. Programming Languages

There were no big changes in the relative popularity of programming languages between 2019 and 2020. JavaScript, SQL, Java, Python, and Go remain the most popular from 2019 to 2020.

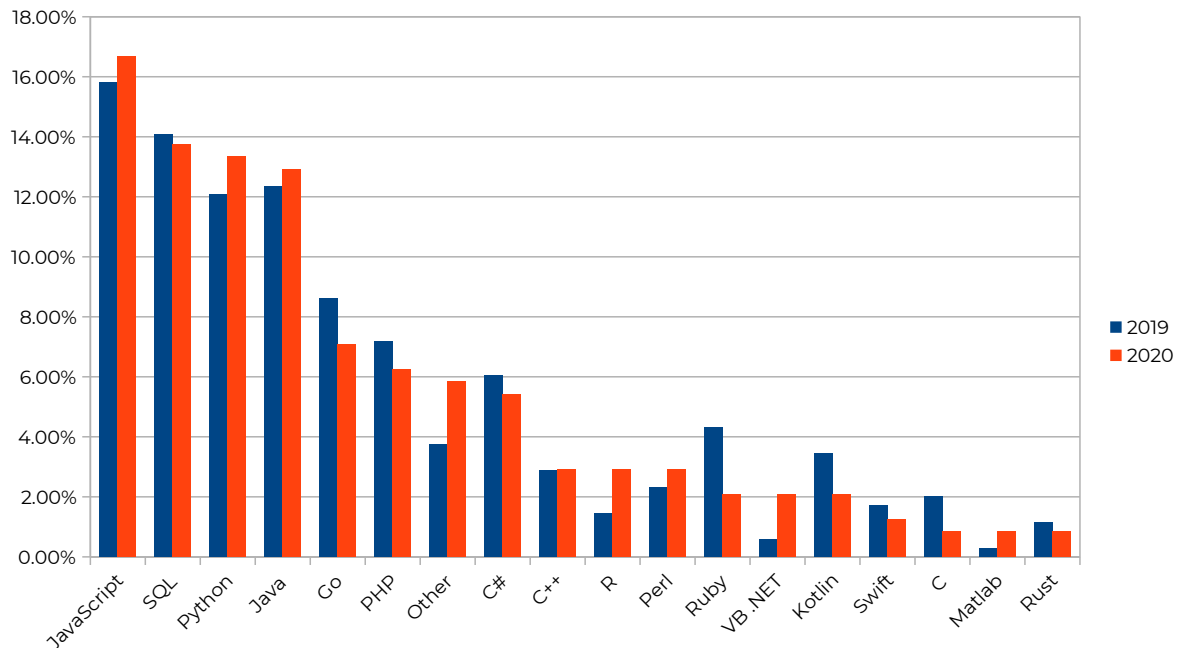


Figure 8. Programming Languages 2019–2020



Just as previously, this can be explained by having similar respondents in both 2019 and 2020. We can also sense a certain degree of standardization of cloud native tooling, which indicates a maturity level in the industry.

## 5.2. Cloud Strategies

Swiss businesses are less prone to adopt private cloud strategies in 2020. A certain level of trust in public cloud services, and also cost considerations, makes it attractive to businesses to move their applications to public or hybrid cloud strategies.

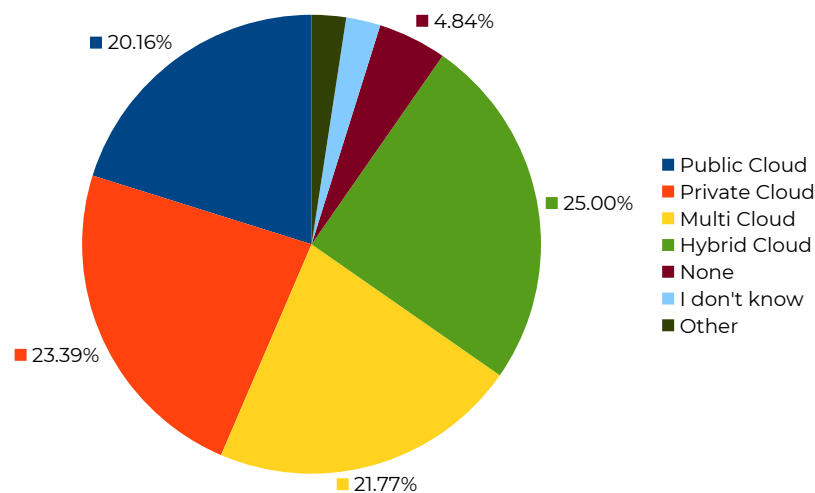


Figure 9. Cloud Strategies in 2019

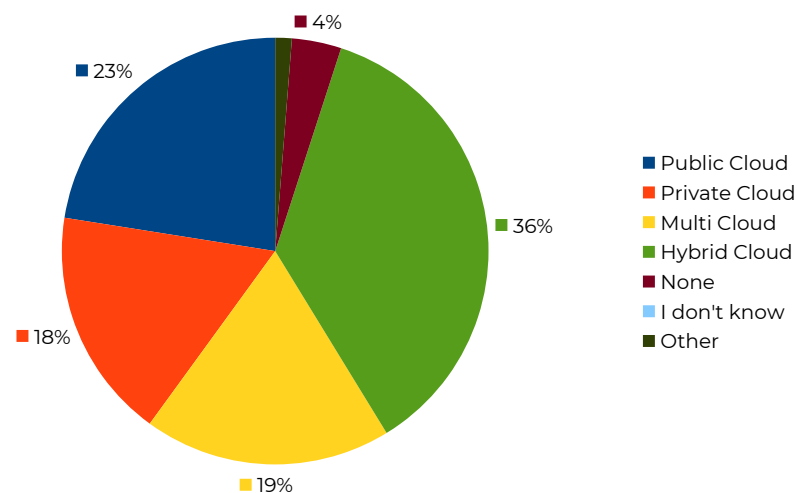


Figure 10. Cloud Strategies in 2020



The recent announcement of an AWS region in Switzerland will certainly move many more players to adopt public cloud strategies in the future, increasing competition and maybe even pushing prices down.

## 5.3. Cloud Providers

Azure has gained a strong foothold in Switzerland in 2020, at the expense of AWS and Google Cloud. Microsoft continues to deliver a strong cloud offering, much appreciated by companies who have long been their customers in the operating system and productivity tools market.

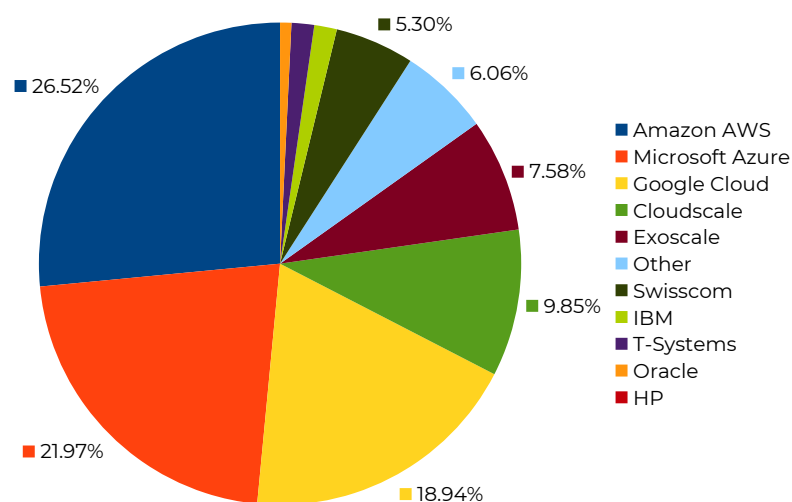


Figure 11. Cloud Providers in 2019

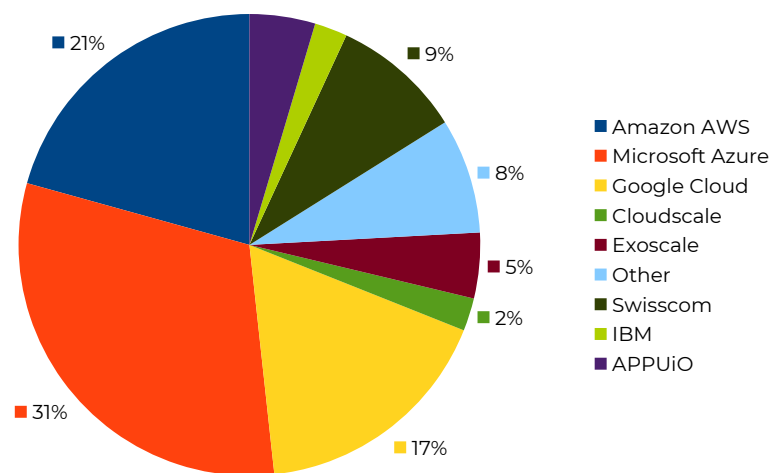


Figure 12. Cloud Providers in 2020



The recent announcement of an AWS region in Switzerland will certainly increase the competition among the three big providers in the local market.

## 5.4. Container Technology

Container technology has become the standard building block for DevOps engineers. The number of companies having adopted it or doing it has increased since our last review.

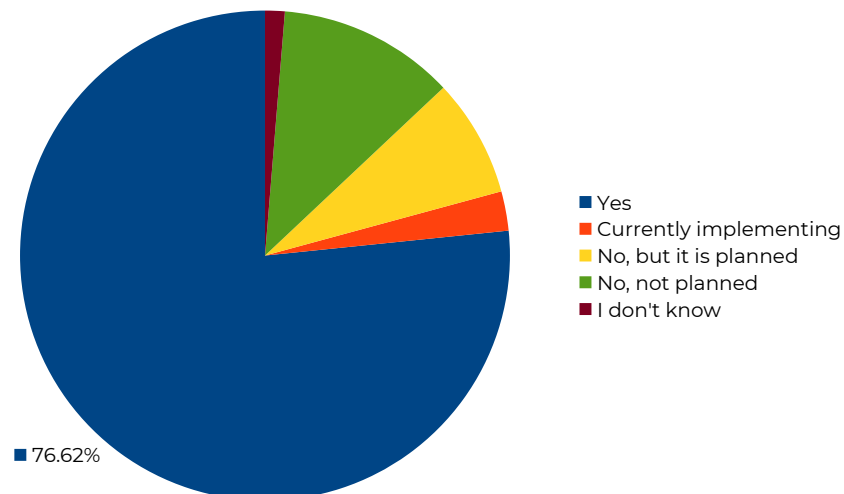


Figure 13. Container Technology in 2019

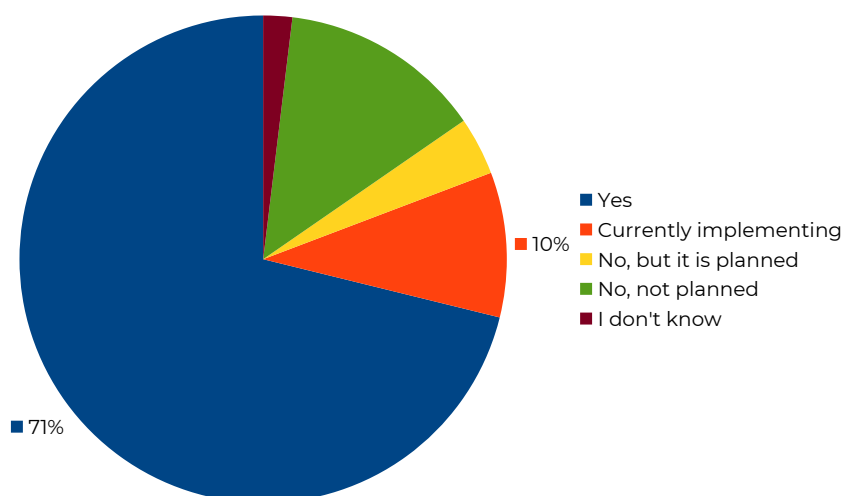


Figure 14. Container Technology in 2020



The adoption of containers is mostly driven by the adoption of Kubernetes, whose popularity in Switzerland keeps growing. Businesses appreciate the portability it brings to teams, as well as the strong ecosystem of tooling and support in the market.

## 5.5. Kubernetes

Speaking about Kubernetes, 75% of respondents use at least one flavor of Kubernetes. Of those, 12% use "stock Kubernetes," Red Hat OpenShift powers 20% of the market, Rancher 10%, and 25% use managed Kubernetes services in AWS, Azure or Google Cloud.

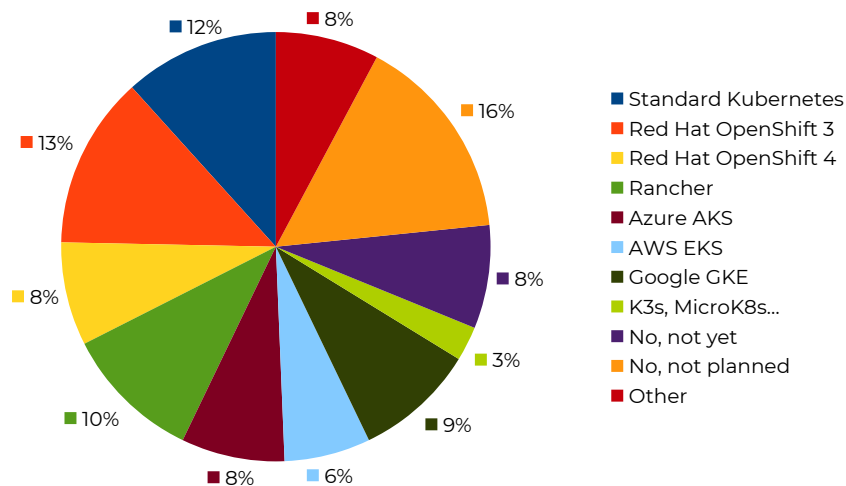


Figure 15. Kubernetes Distributions 2020

## 5.6. CI/CD Tools

The most popular Continuous Integration and Continuous Deployment tools used in 2020 are the following:

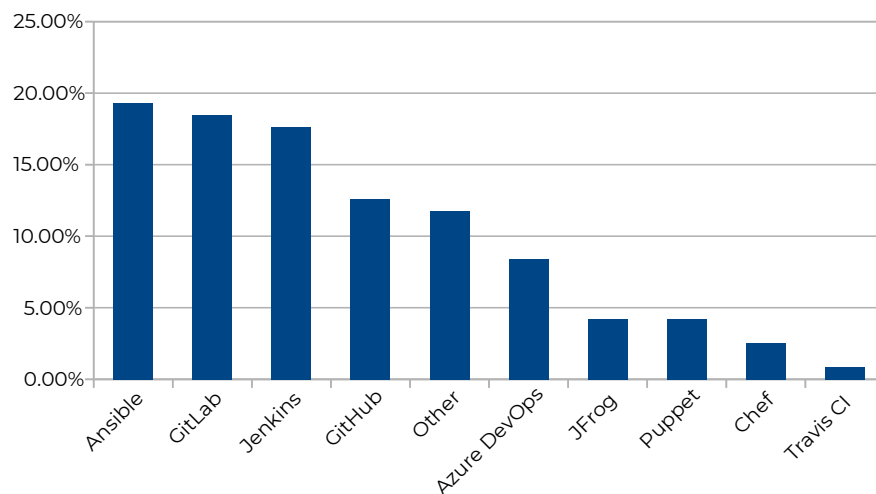


Figure 16. CI/CD Tooling 2020

# Chapter 6. Processes & Culture

*We need to create a culture that reinforces the value of taking risks and learning from failure and the need for repetition and practice to create mastery.*

— Gene Kim, *The Phoenix Project: A Novel About IT*

It's certainly hard to gauge the culture changes required for DevOps initiatives to grow. We've tried, however, to provide questions that would prompt the participants with the opportunity to tell us a bit more about themselves and their culture.

This chapter contains important data about the current state of the DevOps corporate culture in Switzerland, and its evolution during 2020. The results are curious, surprising, but above all, hopeful and encouraging.



## 6.1. Perception

We asked the participants their general opinion about DevOps, and we see no evolution, albeit a small increment in the positive side.

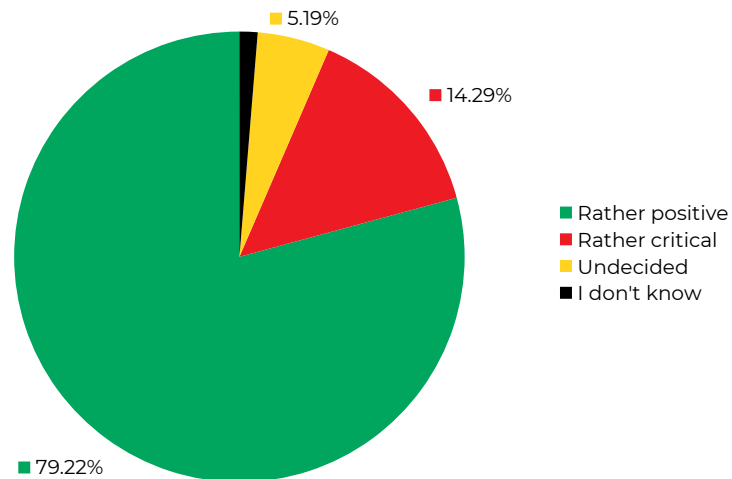


Figure 17. DevOps Perception in 2019

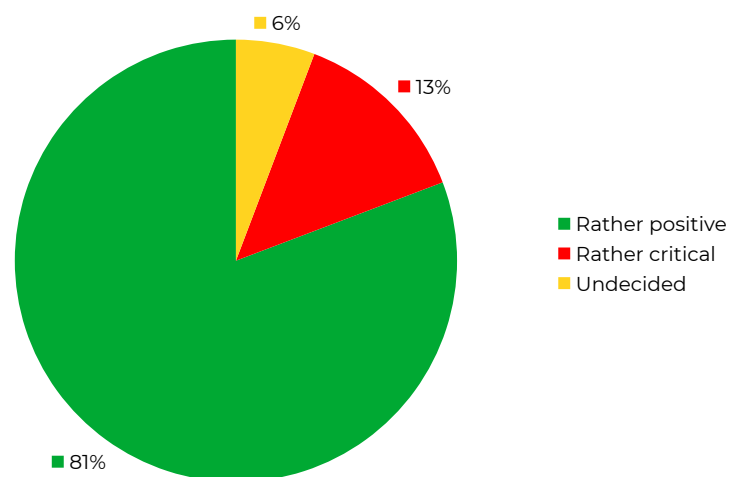


Figure 18. DevOps Perception in 2020



All things considered, this is rather good news! DevOps is still perceived as a positive trend by teams of all sizes.



## 6.2. Expectations

The survey asked respondents to provide a simple answer to the question: "What do you expect from DevOps?" Some of those expectations included the following:

- "More standardisation and more time for the funny stuff."
- "An automated pipeline isn't yet DevOps. Before I pull up another silo, I should create awareness for the topic throughout the company."
- "Velocity, lower complexity, more robust solutions."
- "More agility, faster response times to requirements changes."
- "Faster project fulfillment."
- "Not playing the blame game but fixing the issue where it needs to be fixed."
- "More resilient software because release engineering is embedded in product engineering right away."
- "Faster release cycle, better integration of teams, etc."
- "Build a true cultural mindset around collaboration with other teams."
- "Understanding needs of each other."
- "Quicker app deployment."
- "Flexibility / Proactivity / Facilitation / Change-Readiness / Cultural Maturity"
- "No misuse of this term in recruitment."
- "Lead the way towards NoOps."
- "Ownership, end-to-end delivery."
- "Automation, efficiency, transparency."



Our preferred this year is "It should just work :)"

## 6.3. Usage

The use of DevOps practices is no longer a novelty, but an actual day-to-day fact in Switzerland. However, the number of companies not planning to implement it has grown in 2020.

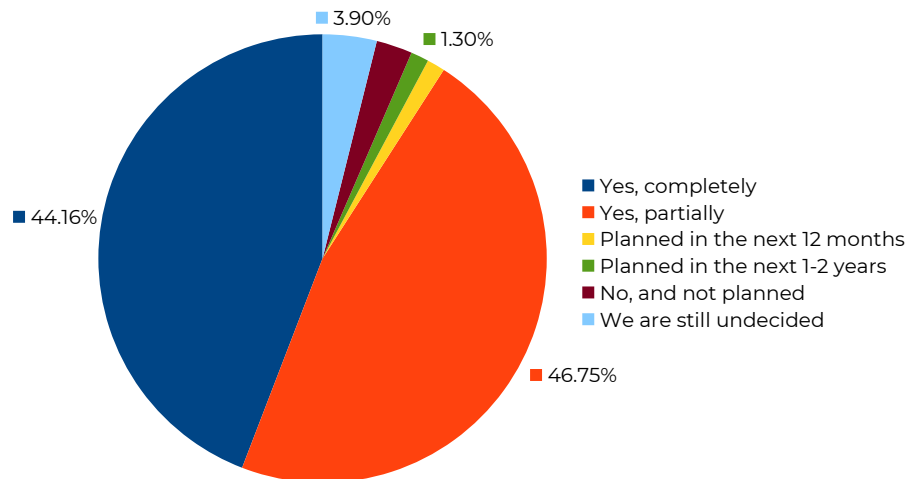


Figure 19. Usage of DevOps in 2019

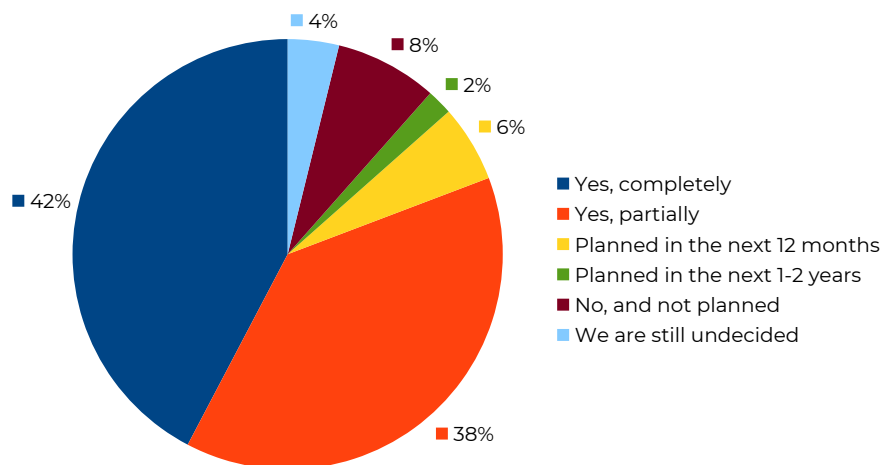


Figure 20. Usage of DevOps in 2020



After the hype of the DevOps buzzword has vanished, companies are taking active decisions and adapt to changing times.

## 6.4. Results

Are companies seeing a return in investment of their investment in DevOps? We've asked our participants the question "If you are already working the DevOps way, how would you agree with the following statements?" Here are the results.

- 70% of respondents agree that cooperation has improved thanks to DevOps.
- 72% think that it has a positive influence on the working environment.
- 74% think that DevOps has had brought quality improvements.
- 52% have seen an increase in the quantitative output of teams, while 22% haven't experienced such increase, and 8% have seen a net decrease in total output.
- 52% haven't seen an increase in the level of bureaucracy of their teams, while 16% have seen that happen.
- 56% have required a long adaptation phase to DevOps methodologies; 20% haven't needed such a long time.
- 76% of respondents have seen actual change happen thanks to DevOps; only 4% haven't seen any.
- In general, 66% of respondents think that the adoption of DevOps was totally worth it; only 8% would say the exact opposite.



DevOps works.

## 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.

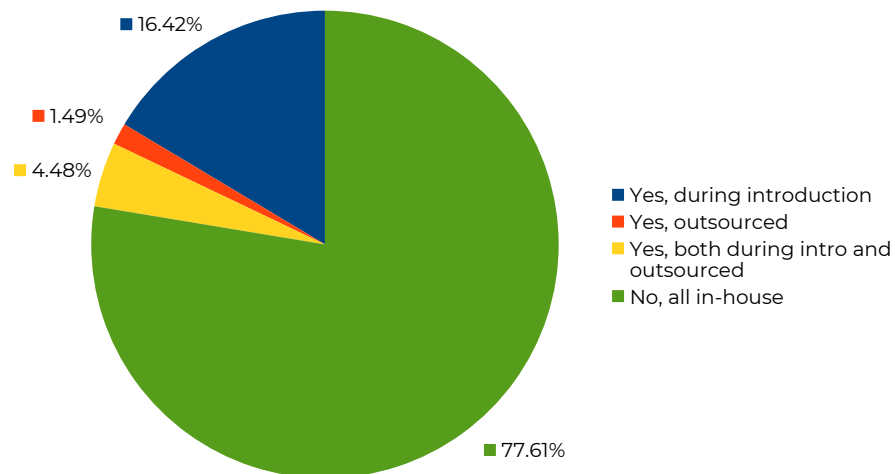


Figure 21. Outsourcing DevOps in 2019

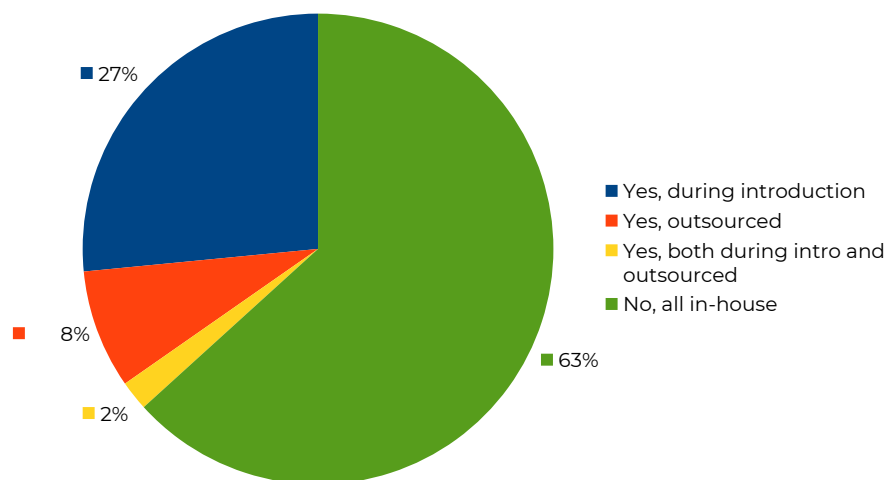


Figure 22. Outsourcing DevOps in 2020



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 procedures.

# Chapter 7. Conclusion

DevOps is no longer a hype or a buzzword; it's the strongest force in the IT market right now, and is still getting stronger every year.

But even more important, DevOps is delivering. With better perceived quality and a tighter collaboration, agile teams achieve a much needed maturity through the application of DevOps techniques, procedures, and best practices. These outcomes have helped IT firms to navigate the troubled waters of the times we're living in.

Thank you for reading our DevOps in Switzerland Report 2021. We hope it will be useful to you, and we would be happy to hear your comments.

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: public, dedicated, private and on-premises.

## **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](https://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. The company VSHN**

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 in the Top 10 of the fastest growing ICT companies in Switzerland for the second 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 and follow us on Twitter (@vshn\_ch and @APPUiO), LinkedIn, and Facebook, to keep up with the latest news.



# Index

## A

AWS, 16, 17, 17, 19

Azure, 17, 19

## C

cloud strategies, 16

collaboration, 4

conclusions, 8

Container technology, 18

culture, 20

## D

departments, 10

digitization, 6

## E

expectations, 22

## G

Go, 15

Google Cloud, 17, 19

## I

IT budgets, 12

## J

Java, 15

JavaScript, 15

## K

Kubernetes, 18, 19

## M

market, 9

## O

opinion about DevOps, 21

outsourcing, 25

## P

pandemic, 13

programming languages, 15

Python, 15

## R

Rancher, 19

Red Hat OpenShift, 19

return in investment, 24

## S

separate development from  
operations, 11

silos, 11

SQL, 15

## T

technologies, 14

tools, 14

## U

use of DevOps, 23

## V

VSHN, 27