Swiss E-Government

State-of-Progress Report

Computer Science Seminar - Semester 5

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Abstract

This text is a report on the progress of e-government in Switzerland, so we are going to analyze the three key topics for this report, which are the past, the present and the future of e-government in Switzerland. We will see how it has evolved over time, the problems it has had and above all what it focuses on for the future. To all this we will add the pandemic that hit us in 2020, and we will see if and how COVID19 has influenced the present of egov, pushing public services to digital by necessity.

Contents

1   Introduction

"The beauty of e-governance is that a few keystrokes can bring smiles on a million faces."

Narendra Modi

The following work attempts to accomplish tasks that have been assigned to me:

Produce a comprehensive state-of-progress (past, present, future) report on Swiss e-government. COVID has shown that the digital transformation of public services is a pressing need.

So I'm going to try to get to the bottom of the eGovernment topic. First, the reasons why I chose this task. As a foreigner I want to understand how the country I live in works. It is for me a fundamental part of integration, unfortunately the country where I come from is famous for its low-level governments. Based on this precondition my interest is to see if technology can actually help a country to improve itself, and if something has actually changed since e-gov was implemented.

When we talk about government, we often do it in a negative way. We always feel the need for something to improve, what if this something is digitization?

Today's world is becoming more and more virtual, you can do just all sorts of things from the internet, so why not also make the government new, that is the brain that makes a country move?

In this report we will see how the Swiss government has moved more and more to digitization and see the benefits it has provided.

We are in 2020 and this year the most commented theme is definitely the pandemic.

The COVID-19 has expanded all over the world arriving also in Switzerland, with serious consequences including a lockdown.

In the lock-down time, we could all experience distance and isolation; at this point the digital world came to help us.

Indeed, if before the pandemic topics such as e-school, e-government or e-voting were seen as something distant in time, now it is an increasingly possible and necessary reality.

1.1 Country Profile

Country Profile	
Population (1 000):	8 606 inhabitants (2019)
GDP at market prices:	703.08 million Euros (2019)
GDP growth rate:	-7.3% *(Jul 2020)
Inflation rate:	-06% *(Oct 2020)
Unemployment rate:	3.2% *(Oct 2020)
Area:	41,285 km2
Capital city:	Bern
Official language:	German, French, Italian, Romansh
Currency:	Swiss franc (CHF)
Head of State:	Federal Council[1]
Head of Government:	President Simonetta Sommaruga[2]

Table 1: Country Profile

Information Society Indicators		
Percentage of households with	Internet access in Switzerland:	96% (2019)
	broadband connection in Switzerland:	99.9% (2016)
Percentage of individuals using the internet for	interacting with public authorities in Switzerland:	75% (2019)
	downloading official forms from public authorities in Switzerland:	58% (2019)
	sending filled forms from public authorities in Switzerland:	45% (2019)
	obtaining information from public authorities in Switzerland:	68% (2019)

Table 2: Information Society Indicators

source:Eurostat (last update: 20 May 2020), Tading Economics*

2 Swiss E-Government (CH e-Gov)

This report is focused on eGovernment, but what is e-government?
E-government (short for electronic government) is the use of technologies (computers, internet, databases, etc.) for public administration in order to unite the highest parts of government with local authorities. In this way the government and everything around it can provide itself as a service to the citizen. The citizen will then be able to use this service in a simpler, faster way without having to go to the authorities in person.

Before analyzing how an eGovernment is structured we have to ask ourselves if it makes sense to have an eGovernment, analyzing the pros and cons.

Pros and Cons eGovernment	
Pros	**Cons**
Data accuracy	Expensive IT system
Access to data	All IT-related problems
Ease of Data Verification	Security and terrorist attacks
Ease of Data Updates	Dependence on electricity
Ease of Data Archiving	Network issues

Table 3: Pros and Cons eGovernment

From the table it can be understood that in the face of the obvious pros, there are also some very important cons. For this reason, governments around the world, as they move to digital, create strategies to improve themselves over time, thereby reducing the list of cons.

2.1 Project architecture (statics)

To better understand the government we must first know the story.
The Swiss Confederation was re-established as a result of the Act of Mediation issued by Napoleon Bonaparte on 19 February 1803.
In the opening letter of the first meeting Napoleon wrote to the Swiss delegates:

> "*Switzerland does not resemble any other country in terms of the events that have taken place there over the centuries, its geographical and topographical situation, its different languages and religious denominations, and the extreme difference in customs that exists between its different parts. Nature has made your country a federal state: it is not wise to want to win it.*"

Switzerland is a federal state, which means that state power is divided between the Confederation, the 26 cantons and about 2300 municipalities.
Federalism allows the 3 levels of the state to have their own political competences, and

that local authorities have the highest possible autonomy.

Figure 1: The 3 level

The Confederation therefore only assumes tasks which are beyond the capabilities of the cantons, as well as the cantons to the municipalities. However, citizens have the last word at all 3 state levels, thanks to direct democracy.

2.1.1 Confederation

The Confederation is competent in the areas in which the Federal Constitution authorizes it to be. In particular in the following areas:

- foreign policy and security;

- border and monetary policy;

- legislation valid at national level;

- protection.

The confederation has over time created several digital portals, in order to group all the data concerning the government. In doing so it has become easier for citizens and other authorities to consult information, but also to receive notices, announcements from the confederation. The main portals are:

- `https://www.admin.ch/`[3]

- `https://www.ch.ch/`[4]

- `https://www.egovernment.ch/`[5]

Other smaller portals are also available, but most of them always have a link to "www.admin.ch".
The *www.admin.ch* is the main site, with all the information about Switzerland at a macroscopic level, in particular for the digital administration for general public, and also everything that concerns the constitution and bureaucracy. At *admin.ch* the Federal Chancellery

publishes information on the activities and decisions of the Federal Council as well as on federal law.

If we want to get information or details about individual cantonal or communal information, the site bounces us to specific sites in the cantons or municipalities.

As *"admin.ch"* also *"ch.ch"* has a fundamental role in the world of digital governance. *"ch.ch"* is a user friendly portal (much more than admin), where often the information is reported to the citizen in the form of images, videos, or diagrams easier to understand. *"ch.ch"* defines itself as *"a rather different Swiss portal for citizens"*. Founded in 2003, it is a collaboration between the three levels of the Swiss government, headed by the Federal Chancellery. It records almost 18 million visits every year, and in addition to social media channels it is translated into 5 languages.

"egovenrment.ch" compared to the first two portals, is a portal containing information on the state of e-government.

2.1.2 Cantons

Each canton has its own constitution, laws, parliament, government and courts. Every canton deals mainly with:

- budget

- the political system

- taxation

The partition that we have in the real world is also found in the digital world, in fact under the level "government" with the sites admin and ch etc., we find the cantonal sites such as `https://www.be.ch/`.

All the information about a single canton can be found, making the information more fragmentary, but also more detailed. In fact, if a resident is in Canton Bern, he or she will never go looking for information on the Canton Ticino website, making his or her search easier.

On the website of the canton of Bern we can find information about referendums (direct democracy) or information about the city of Bern, the institutions or what the canton itself offers the citizen.

A service of the Canton Bern is the BE-login. With this service you can, for example, fill out fee forms, analyze your data, apply for scholarships or search for information about driving licenses and the similar in a digital way.

2.1.3 Comunes

The smallest political unit in Switzerland is the municipality. Municipalities are mainly concerned with:

- school and sociality

- energy supply

- road construction

- local planning

- taxes

Most municipalities in Switzerland are small to medium sized, so even the digital part of the individual municipalities is not very advanced.
In most cases, the sites are points where you can get information about the territory, opening hours of offices or notices.

2.1.4 One for All

The Swiss IT Conference founded eOperations Switzerland AG on 20 June 2018.
This company simplifies cooperation between the federal government, cantons and municipalities in the field of electronic services for the population and the economy.
In this way the procedures for e-government, for the public and businesses, are speeded up and costs reduced, because all solutions come from a single entity.
The expansion of eOperations Switzerland is part of the Swiss eGovernment Guidelines for the Confederation and the Cantons.

eOperations Switzerland can be consulted at: `https://www.eoperations.ch/`

The eOperation company plays a key role in the development of eGov in Switzerland, indeed it develops, proposes to expand and manage shared IT solutions for the authorities. In this regard, the company has drawn up a list of its services, with the various projects in progress, under discussion and those concluded.

Projects in progress	
Project	**Description**
eMovingCH	Electronic notification of change of residence. In January 2018 the management of the service was assigned to eOperations Switzerland in order to make it available to the other cantons that had expressed interest.
Digital document signature validation system	The signature validation system can be used to verify if the electronic documents are validly signed. In the future, the solution will be available not only to the Confederation, but also to the cantons and municipalities interested. The productive use of this project will be for mid 2021.
Acquisition of "standard telecommunications serivices"	The Swiss Conference on Information Technology charges eOperations Switzerland to manage the project to reduce the costs of standard telecommunications services for Swiss administrations.

Table 4 continued from previous page

Project	Description
Long life time digital archiving	This project is still under discussion between people specialized in archives of various municipalities and eOperations Switzerland.
Identity Network Switzerland	INS simplifies access to electronic services for citizens, businesses and even government employees. It allows digital collaboration between all authorities that are involved.
1st level helpdesk organization for municipalities	Outsource the support of the municipalities, such as the eMovingCH service.

Table 4: eOperations project in progress

Projects under discussion	
Project	**Description**
Publibrain	TheThe goal is to make knowledge at the administrative level available to those who need it. For this purpose, the project connects people from various administrative organizations and their know-how. Machine learning and user friendly graphics make it easy to use

Table 5: eOperations under discussion projects

Concluded projects	
Project	**Description**
Development and management of eCH standards	eOperations Switzerland acquires, through a public tender, services for the development of XML standards for the building registration and notification procedure.

Table 6: eOperations concluded projects

Source listed projects: [6]

2.2 Project evolution (dynamics)

In this section we can see how e-gov has evolved dynamically by analyzing the three phases: past, present and future.

2.2.1 eGovernment History

Since 2008, the Confederation, cantons and municipalities have been working together to create the eGovernment. For this reason, they have defined various strategies together, and a *Swiss e-government organization* has been created to implement these strategies. Besides this organization, there are other organizations that promote the use of information technology and the use of digital administration, such as *the Swiss IT conference "SIK/CSI"* and also *the Swiss standardization association "eCH"*.

Youth problems in fact it is only 2007 when:

Switzerland was ranked 26th out of 31 European countries for the sophistication and availability of its online public services.

The report found that only 21% of the monitored public services were fully available online in Switzerland – up 10% on 2006 - compared with the European average of 58%. [7]

The situation starts to move only in 2018, in fact it is established:

- egovernment.ch

- eoperations.ch

- e-voting has been introduced

- e-ID

which is not enough, in fact, Switzerland is still among the last of the 34 European countries.

Was conducted by a German research group, an e-gov survey to find out how many Swiss are using electronic services unfortunately what was found was:

"the proportion of the Swiss population using e-government services had fallen from 58% in 2012 to 55% in 2018."[8]

Figure 2, just below, describes the use of eGovernment from 2012 to 2020 by citizens ranges from 58% to 60%.
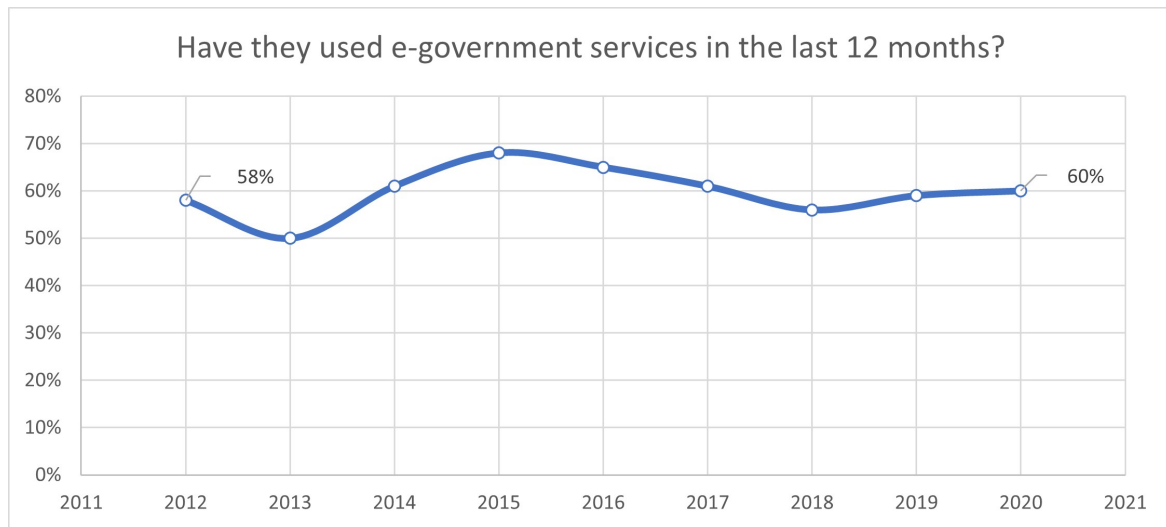

Figure 2: Survey eGov in CH [9]

To understand how a country is positioned in this ranking, a benchmark is created every year, which monitors the development of eGovernment in Europe, based on specific indicators.
These indicators are divided by:

- User Centricity - indicates to what extent (information about) a service is provided online and how this is perceived.

- Transparency - indicates the transparency of the government for its responsibility, services and data in use.

- Cross-Border Mobility - indicates to what extent EU citizens and businesses can use online services in another country.

- Key Enablers - indicates the extent to which five technical pre-conditions are available online. These are eDocuments, eID, and Digital Post.

Figure 3 describes the permformance of eGovernment in Switzerland in 2012 based on the indicators just described.
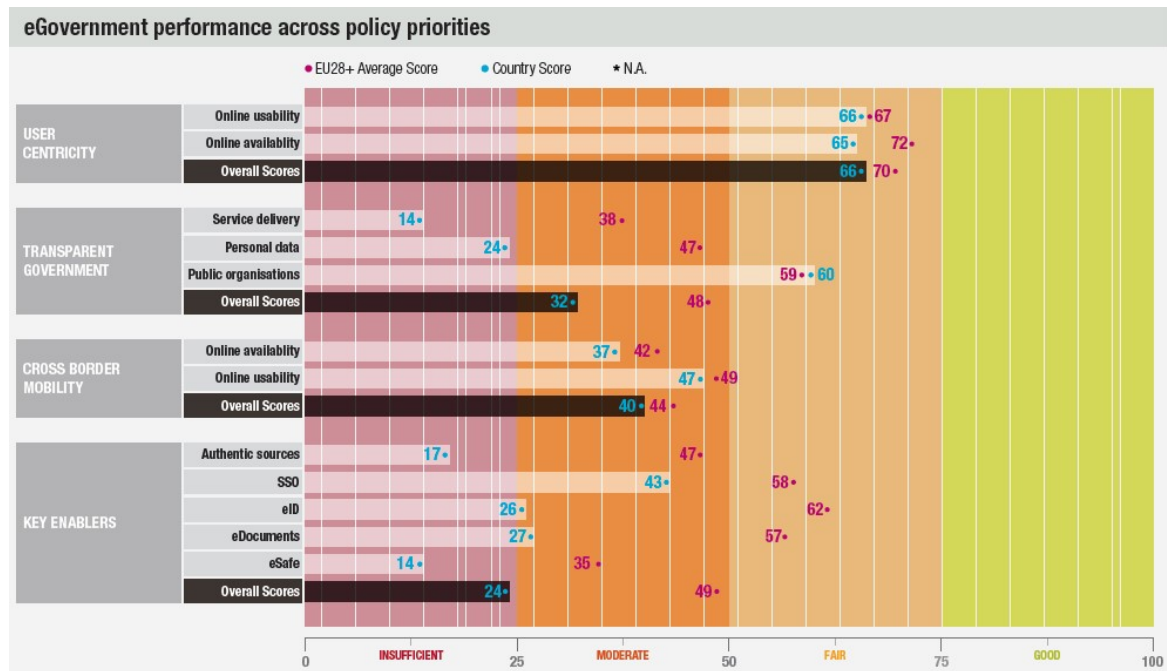

Figure 3: eGovernment Performance 2012 [10]

https://joinup.ec.europa.eu/sites/default/files/inline-files/eGovernment

What can be seen from Figure 3, is that Switzerland compared to the European average of 28 countries, on many indicators it is far behind. With the results in hand, it was therefore decided to change the strategy so that the situation could be improved for the coming years. This is why the eGovernment.ch team comes into play, which is fundamental for the improvement of the situation.

2.2.2 eGovernment.ch Who's Who

Actual egovernment.ch actors
The committee for the organization "e-government Switzerland" is as we said responsible for the strategies for everything related to the digitization of government in Switzerland and everything the federal government can offer the citizen.
Everything is available thanks to the site `https://www.egovernment.ch/`

eGovernment Members	
Name	**Title and Function**
Ueli Maurer	Federal Councillor, Federal Department of Finance (FDF), chairman
Walter Thurnherr	Federal Chancellor,Federal Chancellery (FCh))
Marie-Gabrielle Ineichen-Fleisch	State Secretariat for Economic Affairs (SECO)

Table 7 continued from previous page

Name	Title and Function
Maya Büchi-Kaiser	Cantonal Councillor of canton of Obwalden
Jean-Pierre Siggen	Cantonal Councillor of canton of Fribourg
Daniel Spadin	Cantonal Chancellor of canton of Grisons
Michael Künzle	Mayor of the city of Winterthur, canton of Zurich
Beat Tinner	Mayor of the commune of Wartau, canton of St. Gallen
Peter Bernasconi	representative of the Association of Swiss Communes

Table 7: eGovernment Members

2.2.3 Previous eGovernment Strategies

In 2007, the Federal Council adopted the first national eGovernment strategy. With this strategy Switzerland tries to give a first touch to the general picture of eGovernment. Up to the end of 2015, this strategy was the basis for eGovernment cooperation between the Confederation, the cantons and the communes.

The table "eGovernment strategies 2008-2015" lists the objectives that the federal government has set itself for the years 2008-2015.

eGovernment Strategies 2008-2015	
Organization responsible for the implementation	**Description**
FITSU	E-Government Architecture in Switzerland
EGovernment Switzerland	eCH platform for cantons and municipalities: process exchange
FITSU	National eGovernment Map in Switzerland
SIK	eOperations Switzerland. Organization and financing of eGovernment solutions used in common
FITSU	E-Government knowledge management in the legal field
Swissdec	Transmission of wage data from the accounting of companies to the authorities and insurance companies
simap.ch	Processing of public notices of competition

Table 8 continued from previous page

Organization responsible for the implementation	Description
DCPA	Building permit applications
FOJ	Ordering and receiving certified extracts from registers, civil status certificates, copies of important acts and administrative decisions
VSED	Notification of changes of address, arrivals, departures
Federal Chancellery	Electronic Vote
e-geo.ch	Easy and nationwide networked access to basic geodata
eGRIS	Computerized funds information system
HPI	Suisse ePolice
FOPH	Consumer protection parameters portal
Federal Chancellery	Electronic consultation procedure
Federal Tax administration	Electronic VAT Report
SECO	Authorizations in the field of work
Swiss Federal Archives	Open Government Data
FITSU	Implementation of the cloud computing strategy of the Swiss authorities
Fedpol	Electronic identity recognized at national level and in the European area

Table 8: eGovernment Strategies 2008-2015 [11]

The table "Achievement of eGovernment strategies 2008-2015" lists the successes and milestones of this strategy.

Achievement of eGovernment strategies 2008-2015	
Date	**Description**
03.11.2009	Consolidation of the organization for the eGovernment implementation project
03.11.2009	Forwarding of data to statistical offices
04.11.2010	Business between the compensation offices and their affiliates
20.06.2011	Standardization of personal data
20.06.2011	Swiss-wide standard for the exchange of electronic files and documents
20.06.2011	Electronic forms service
20.06.2011	SuisseID
20.06.2011	Founding of companies, communication of the changes
20.06.2011	Agricultural sector management
24.10.2011	Access to legal data
24.10.2011	Uniform inventory and reference database of public services
24.10.2011	Access to public electronic services (portals)
24.10.2011	Directory and competence service of the Swiss authorities
05.04.2012	Customs clearance of goods (import, export, transit)
24.10.2012	Legal basis for eGovernment
24.10.2012	Shared network infrastructure for all administrative levels
10.06.2013	Access to data from the Swiss Environment Observation Network
10.06.2013	Search and announcement of lost and found
10.06.2013	Electronic Archiving Service
26.06.2014	Data sharing regarding the reduction of insurance premiums
20.02.2015	Certifications of changes of civil status
11.12.2015	Services for the use of reference data in public administrations

Table 9: Achievement of eGovernment strategies 2008-2015 [11]

Unfortunately as we have seen all these improvements were not enough, in fact in 2015 Switzerland was still at the bottom of the list of countries in Europe. In 2015, the Steering Committee proposed a concrete new strategic direction so that the current strategy can

be improved with a better performance. Not only has it been decided to focus on a limited number of projects and tasks. To do this, the planning committee has increased the collaboration between the state levels. A soft start for a Switzerland that faces the digital world.

2.2.4 Just completed eGovernment Strategies

The old strategy was in 2015 rivisited and replaced by the eGovernment Strategy Switzerland (2016-2019). The new strategy entered into effect immediately and developed in dialogue with representatives from business, science, research, and civil society. The key focus of the Strategy is on the development of a basic infrastructure to accelerate the development of eGovernment in Switzerland.

In the list are described the objectives that the federal government has set itself for the years 2016-2019:

eGovernment Strategies 2016-2019	
Organization responsible for the implementation	**Description**
eOperations Switzerland AG	make the electronic notification service for change of address available throughout Switzerland
Cantons Grisons, Schwyz and Zug	online portal for the publication of election and voting results
Federal Chancellery	extend the electronic voting offer to two thirds of the cantons
FCh	improve access to online information of the authorities
BFH, Swiss Federal Roads Office	Digital Vehicle Licence
City of Bern	Ki-Tax: portal to submit online requests for complementary childcare to the family
City of St. Gallen	Chatbot for public administration
Municipality of Moosseedorf (BE)	Module allows municipalities to dialogue with citizens and discuss proposals with them.
University of Applied Sciences of St. Gallen	Use of digital voice assistants for eGovernment services
Canton of Fribourg	Progressive web applications for the population
Canton of Geneva	Electronic identity and signature based on blockchain technologies

Table 10 continued from previous page

Organization responsible for the implementation	Description
CCGEO	Up-to-date geodata that can be used extensively, durably, quickly and easily and in the quality required
SECO	Allow companies to process the practices of the Confederation and the cantons electronically in a single place
ESTV SuisseTax	To make the VAT report without discontinuity of the transmission systems
Swissdec	Simplify the electronic exchange of financial data between companies and insurers and the authorities that are members of Swissdec
Eidgenössische Finanzverwaltung (EFV)	Promote the use of e-invoices to the Confederation, cantons and municipalities
Schweizerisches Bundesarchiv (BAR)	Implementation of the Open Government Data Strategy Switzerland 2014-2018
SECO	Simplify the registration procedure for eGovernment platforms with a prototype of the Swiss Federation of Identity (SFI).
FOJ for legislation, Fedpol for the concept and implementation	Create a state-recognized electronic identity that allows the Swiss population to handle administrative tasks online.
Federal IT control body (FSUIT), eOperations Switzerland	Easy verification of the authenticity and integrity of a document with digital signature
SIK	Development of eOperations Switzerland
FOJ	Establish a common address service for the authorities
FOJ	Property search with the AHV number
Association eCH	Promote the development and use of e-government standards
SIK	Making it possible to carry out pilot projects and studies to consolidate eGovernment
eJustice.CH association	Promote the exchange of knowledge and experience on legal issues concerning eGovernment
Federal Archives	Modeling and implementation of a data inventory

Table 10 continued from previous page

Organization responsible for the implementation	Description
Canton of Jura and Fribourg	The two cantons founded the igovportal.ch association, which is responsible for managing and developing the iGovPortal virtual counter solution.
Canton of Fribourg	The canton has developed a signature system that allows you to log in with the digital identities of different providers to perform an online service and to sign in electronically.
AHV/IV	Introducing digitization in the first pillar sector through automated specialist processes and electronic data exchange
Federal Office for Statistics (BFS)	Professional and technical harmonization and standardization of the exchange of register data
Association eGov-Switzerland, Association eCH	Provide support to authorities in the development of process management and inter-federal collaboration

Table 10: eGovernment Strategies 2016-2019 [12]

So many projects are on the list but the focal points of the 2016-2019 strategy of "eGovernment.ch" are eMovingCH, EasyGov, eOperations,eVote, e-ID.

eMovingCH   is the solution for electronic move notification eMovingCH is now reachable for more than half the population.

EasyGov   is the online portal for companies to centralize, facilitate and optimize the administrative procedures that are mandatory for Swiss companies.

eVote   is the possibility to vote online. The cantons are gradually introducing this service at the moment are less than half because still in the experimental phase.

e-ID   on March 20, 2018 the national council introduced the digital identity (e-ID). The population will be able to use online services provided by authorities and companies. The federal government is responsible for the identification of persons.

The table "Achievement of eGovernment strategies 2016-2019" lists the successes and milestones of this strategy in detail.
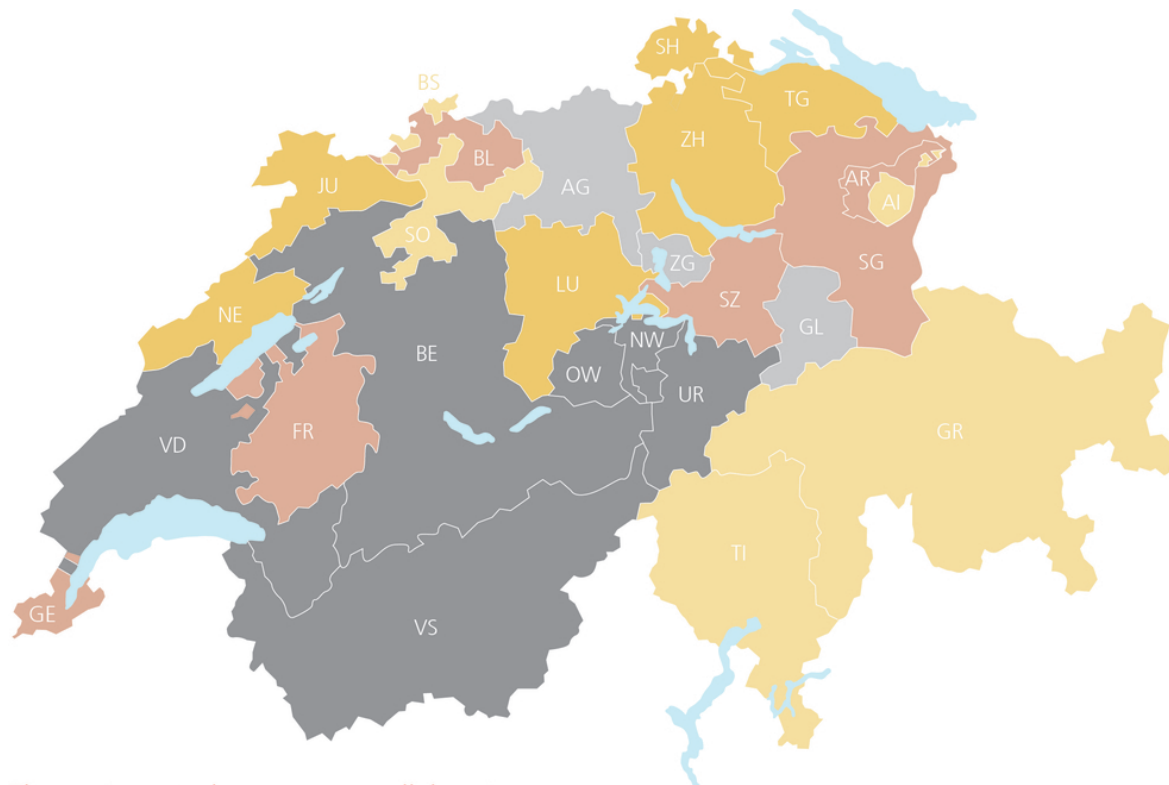
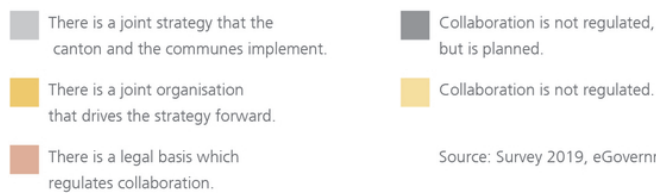| Achievement of eGovernment strategies 2016-2019	
Date	**Description**
2016	The Canton of Zurich is the first canton to have introduced eMovingCH. In August, the City of St. Gallen did the same and at the end of 2016 the solution was adopted by most of the municipalities in the Canton of Zurich.
2016	Common infrastructure for cantonal e-government portals. The Canton of Jura, in cooperation with the Canton of Fribourg, has created the conditions for several authorities to share the same infrastructure, i.e. a portal for eGovernment. Since 2019 this solution has been used by the cantons of Jura, Freiburg, Solothurn and St. Gallen.
Jan 2017	Since the beginning of 2017, the section www.egovernment.ch/recht (in German and French) presents comprehensive documentation on legal issues related to eGovernment.
Jan 2017	Since January the electronic signature validation system is also used by the authorities of the Canton of Zug. Individuals and businesses can thus verify the authenticity and integrity of PDF documents digitally signed by the Canton of Zug.
Oct 2017	Federal Councillor Ueli Maurer signed the European Declaration on eGovernment ("Tallinn Declaration on eGovernment"). Switzerland is committed to the implementation of six principles, including data retention, transparency and interoperability in the digitization of the administration.
Nov 2017	With the launch of the EasyGov portal, State Secretariat for Economic Affairs (SECO) has realized a key point on the portal dedicated to companies. The portal enables companies to process online their files with federal, cantonal and municipal authorities using a single platform.
Apr 2018	Since the beginning of April, the value added tax report can be submitted in XML format on the portal of the Federal Tax Administration SuisseTax. This makes it possible to report VAT electronically without interruptions in the transmission systems.
Jun 2018	eOperations Switzerland is born. eOperations Switzerland was one of the priorities expressed upstream of the development of the eGovernment Strategy Switzerland 2016-2019.
Oct 2018	Thanks to new electronic participatory solutions, citizens can interact in an innovative way in social and political processes. The municipalities of Moosseedorf (BE), Sargans (SG) and Untereggen (SG) have developed, in collaboration with the Association of Swiss Municipalities (ACS) and the ch.ch platform, a participation module that makes dialogue between public authorities and citizens possible.

Table 11 continued from previous page

Date	Description
Jun 2019	The Steering Committee of "eGovernment Switzerland" submitted the draft of the eGovernment Strategy 2020-2023 for consultation to the Confederation, the cantons and the municipalities. Based on the "digital first" principle, the strategy aims to make the electronic channel the first choice for administrative processes.
Sep 2019	On the occasion of Digital Day 2019, the organization "e-government Switzerland", together with several partner organizations, explained how easy it is to do administrative work online.
Sep 2019	On September 27, the Parliament approved the e-ID law. Thanks to a state-recognized electronic identity, the Swiss population will be able to use the online services provided by the authorities and companies, thus avoiding the need to re-register each time.
Oct 2019	The eMovingCH solution was adopted by 13 cantons (as of October 2019). This means that more than half of the inhabitants of Switzerland can fulfill their personal notification obligations in connection with the move directly on the eMovingCH portal.

Table 11: Achievement of eGovernment strategies 2016-2019 [12]

This strategy has increased collaboration between the three levels of government and shown that this collaboration is paying back. This collaboration has also made it possible for cantons, municipalities and the confederation to expand eGov on the territory, so that there are some cantons where eGov is already working, others where it is planned and only a couple where it hasn't started yet. In figure 4 it is possible to see a map of the extension of the eGov on the territory.

The cantons and communes collaborate
to a large extent in eGovernment

There is a joint strategy that the
canton and the communes implement.

There is a joint organisation
that drives the strategy forward.

There is a legal basis which
regulates collaboration.

Collaboration is not regulated,
but is planned.

Collaboration is not regulated.

Source: Survey 2019, eGovernment Switzerland Programme Office

Figure 4: Swiss expansion map e-gov 2019 [13]

These results have taken Swiss eGovernment to the next step: after the 2008-2015 strategy, eGovernment was still immature, but now we have much more to offer.

Swiss in 2018

At the end of this eGov strategy (2018) we can see a clear increase in Switzerland's indicators compared to the old ranking. Not only that it also improved in comparison to many European countries.

In figure 5 we can see the Swiss perfomance in 2018:

Figure 5: eGovernment Performance 2018 [14]

Lesson learned?

At the end of 2019 and so at the conclusion of the strategy, the commitee can be more than satisfied. The electronic channel is now the first choice for contacting authorities, although electronic services are not yet fully available, so many people still have to go in person or use letters. The population in general is satisfied with eGov, in fact once a person has used an e-service for administrative tasks he often continues to use this e-service, preferring it to the traditional method. Nearly more than 70% of the population prefers to fill out their tax forms online.

Thanks to EasyGove.swiss Swiss companies have been able to save almost 47 million CHF, almost 9000 users are registered on the portal.*

Although more than 47% of the population prefers electronic voting, unfortunately it is not yet widely available, this point will be continued in the next strategy, as well as improving e-ID.

Source: eGovernment Monitor 2018 [15], SECO*

2.2.5 eGovernment Present/Future Strategy

The 2016-2019 strategy has come to an end, leaving many more goals for the future. The lesson from the first strategy to this one, which is the third, has been learned. In fact, the eGovernment.ch Committee comes back stronger than before wanting to modify, improve and expand the points that in the just concluded strategy were critical to the completeness of eGovernment.

In the table eGovernment Strategies 2020-2023 are listed the next steps that have emerged and not concluded from the previous strategy.

eGovernment Strategies 2020-2023	
Topic	**Implementation objective**
eService	• Expand EasyGov.swiss • Extend eMovingCH to the whole of Switzerland • Reorient eVoting and ensure stable trial operation • Establish signature validator throughout Switzerland
Participation	• Promoting eParticipation projects at communal and cantonal levels
Access	• Establish cross-authority eInformation and operation of the new ch.ch website • Improve user-friendliness of eGovernment services
IAM	• Implement e-ID
Data	• Establish a cross-authority master data management system • Establish a national address service • Make anonymous and non-confidential data from the Confederation, cantons and communes freely accessible
Standards	• Promote standardisation
Architecture	• Develop and manage eGovernment architecture for the strategic implementation plan • Develop a concept for the traceability of the use of personal data
Organisation	• Support innovative projects • Promote the administration's data platforms • Support public projects in the areas of information technology and eGovernment

Table 12 continued from previous page

Topic	Implementation objective
Legal	• Offer advice and coordination in legal matters
Trust	• Strengthen the public and businesses' trust in eGovernment services
Knowledge	• Promote knowledge of the potential benefits of digital processes in public administration

Table 12: eGovernment Strategies 2020-2023 [16]

2.3 Present situation

The current strategy includes many innovative projects using new technologies and more cooperation among all three federal levels. In the last 5 years, Switzerland has become more digital, with 93% of households using the Internet, an improvement of 10%[13]. In the 15-55 age group, internet usage is as high as 100%. This increase in daily internet usage has caused many users to become more skilled in the use of digital technologies and tools. In fact, nearly 70% of the population in the past year has searched for information on administrative e-portals, 60% has downloaded forms, and about half has filled out forms online.

A survey shows that the majority of the Swiss population does not use online services because they are not informed about them or because they are afraid of the security of their personal data; this is an auspicious sign for the future. The population is also asking the authorities for more transparency in the procedures and use of personal data.
Source: eGovernment Monitor 2019[17]

All of these improvements have moved Switzerland up in the European picture, Figure 6 shows that Switzerland's Achilles heel is electronic identity and transparency, while all other factors are in the average or above.
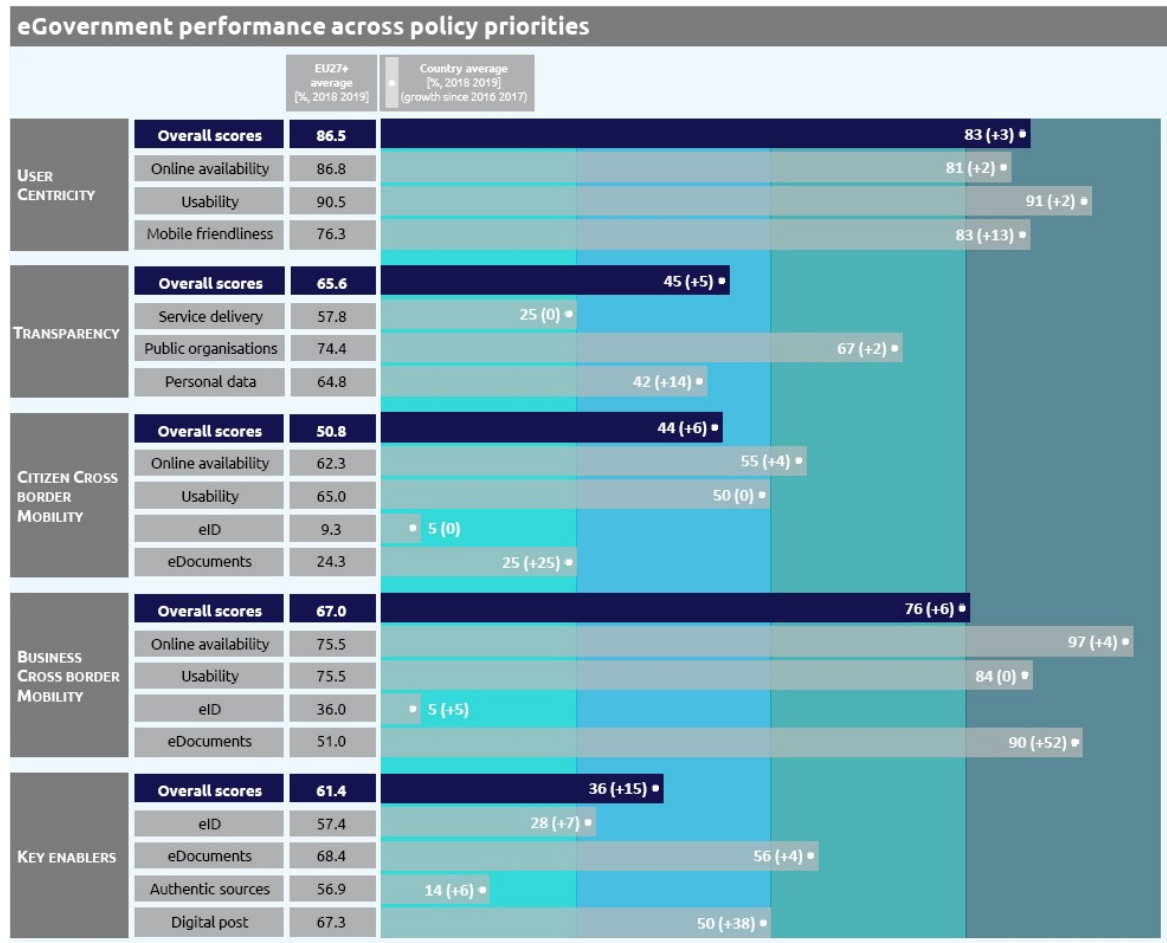
Swiss perfomance in 2020

		EU27+ average [%, 2018 2019]	Country average [%, 2018 2019] (growth since 2016 2017)
USER CENTRICITY	**Overall scores**	**86.5**	83 (+3)
	Online availability	86.8	81 (+2)
	Usability	90.5	91 (+2)
	Mobile friendliness	76.3	83 (+13)
TRANSPARENCY	**Overall scores**	**65.6**	45 (+5)
	Service delivery	57.8	25 (0)
	Public organisations	74.4	67 (+2)
	Personal data	64.8	42 (+14)
CITIZEN CROSS BORDER MOBILITY	**Overall scores**	**50.8**	44 (+6)
	Online availability	62.3	55 (+4)
	Usability	65.0	50 (0)
	eID	9.3	5 (0)
	eDocuments	24.3	25 (+25)
BUSINESS CROSS BORDER MOBILITY	**Overall scores**	**67.0**	76 (+6)
	Online availability	75.5	97 (+4)
	Usability	75.5	84 (0)
	eID	36.0	5 (+5)
	eDocuments	51.0	90 (+52)
KEY ENABLERS	**Overall scores**	**61.4**	36 (+15)
	eID	57.4	28 (+7)
	eDocuments	68.4	56 (+4)
	Authentic sources	56.9	14 (+6)
	Digital post	67.3	50 (+38)

Figure 6: eGovernment Performance 2020 [18]

Comparison

When the topic is electronic government, the nation that needs to be mentioned is Estonia. I take this country as an example because it is the most advanced in the world in terms of electronic government, in fact 99% of the population has an e-ID of which 70% use it regularly, in addition to the fact that 99% of government services are online. However, it must be said that Estonia started in 1994 the implementation of its government much earlier than Switzerland. Not to forget the size, Estonia's population is only 1.3 million compared to Switzerland's 8.6 million. The smaller the country the easier the management, for this reason it is difficult to make a comparison, rather you can use Estonia's e-government as an example.

Source: Estonia website [19]

2.4 Covid

Around the end of 2019, the world was hit by a pandemic, which turned our ways upside down.

What has changed with covid?

Rules for social distancing and working from home were introduced at the end of March, the government urged the population to stay at home as much as possible, schools meanwhile closed their on-site classes, effectively moving the population online.

Government and covid

The government through the BAG has used its telematic channels to inform the population, then with press conferences on live TV, on all portals belonging to the confederation (admin and ch). In order to track the disease, the SwissCovid app has been released although the effectiveness is unknown since it is used well by few.

Thanks to the coordination of Daniel Koch, "Mr Coronavirus", head of the BAG during the first pandemic wave, the government has spent more than 15 million francs in information for covid, but after his retirement the government has lost its figurehead, de facto going into chaos.

BAG can be reached through: *www.bag.admin.ch*

Pandemic and vote

The disease raises the issue of digital democracy, because of covid the work of the government, and not only, has slowed down a lot and in some cases had to stop; meetings canceled or postponed, signatures suspended and other inconveniences. However, thanks to the situation it was a test for democracy, in fact to avoid cancelling other appointments we had to adapt by introducing an electronic voting system, at least for parliamentarians. It is not an isolated case only in Switzerland, other parliamentarians around the world have had to test similar tools in this period, demonstrating that the digital way is possible and safer in cases of emergency, although always with the problem of secrecy of the vote and avoid any risk of falsification of it. The crisis will certainly encourage the development of these digital tools, certainly pushing much more on electronic voting. Not only that, it has certainly opened the eyes of technology skeptics, making them realize that in this case it is more than necessary for the survival of the government and its institutions.

In the months between June and December there were several online votes throughout Switzerland and in November the first election of a chairman of a party in Canton Ticino, a ballot that lasted several hours due to technical difficulties.

What people think and how they use eGov

A survey was done during the coronavirus crisis, and in Switzerland, 12% of respondents said they had processed administrative paperwork electronically more often during the pandemic. During this period, 3% used an online service for the first time. The main reason, circa 30%, was to avoid going to an office in person. Approximately 60% of users who handled administrative paperwork electronically during the COVID-19 crisis said they were satisfied with the service and the response time of the authorities. The crisis has changed people's mindset about online services. 70% of all interviewees intend to use online services more frequently even after the pandemic crisis.[20]

2.5 eGovernment Services for Citizens

The European Commission and the Member States thanks to *Your Europe initiative* have drawn up a series of basic public services for the population, and is categorized as follows:

1. Travel
2. Work and retirement
3. Vehicles
4. Residence formalities
5. Education and youth
6. Health and Family
7. Consumers.

List of all the websites:	
Travel	`http://www.schweizerpass.admin.ch`
	`https://www.ch.ch/en/passport-id-card/`
	`https://www.sem.admin.ch/sem/de/home.html`
Work and Money	`https://www.arbeit.swiss/`
	`https://www.ch.ch/en/employment/`
	`https://www.ch.ch/en/reference/`
	`https://www.belogin.directories.be.ch/`
Vehicles	`https://www.uvek.admin.ch/`
	`https://www.ch.ch/en/driving-licence/`
Residence formalities	`https://www.eumzug.swiss/`
	`https://www.fedpol.admin.ch/`
	`https://www.swissid.ch/`
Education	`https://www.sbfi.admin.ch/`
	`https://www.swissuniversities.ch/`
	`https://www.nb.admin.ch/`
Health and Family	`https://www.ch.ch/en/insurance-social-security/`
	`https://www.ch.ch/en/marriage/`
	`https://www.ch.ch/en/divorce/`
	`https://www.ch.ch/en/registered-partnership/`
Consumers	`https://www.kmu.admin.ch/kmu/en/home/concrete-know-how/sme-management/e-commerce.html`

Table 13: List of all the websites

2.5.1 Travel

Passport	
Responsibility:	'Passeport Suisse', Federal Office of Police, individual cantons and communes
Website:	*http://www.schweizerpass.admin.ch,https://www.ch.ch/en/passport-id-card/*
Description:	Switzerland issues biometric passports with electronic chips that contain all the necessary data. You can get all the information about them online, then you will have to contact the municipality or canton of residence for the application.

Permanent residence permit	
Responsibility:	State Secretariat for Migration (SEM), Cantons
Website:	*https://www.sem.admin.ch/sem/de/home.html*
Description:	Information about all the residence permits present, and how to apply to the cantons.

2.5.2 Work and retirement

Job search services	
Responsibility:	SECO
Website:	*https://www.arbeit.swiss/*
Description:	Online database that connects job seekers, job providers, federal and cantonal institutions.
Responsibility:	Federal Chancellery, Cantons
Website:	*https://www.ch.ch/en/employment/,https://www.ch.ch/en/reference/*
Description:	Detailed information at the service of the citizen who connects him/her to everything related to work.

Tax	
Responsibility:	Severals cantons
Website:	*https://www.be.ch/belogin/*
Description:	service to pay taxes in the canton Bern.

2.5.3 Vehicles

Transport and Communication	
Responsibility:	Federal Department of the Environment, Transport, Energy and Communications (DETEC)
Website:	*https://www.uvek.admin.ch/*
Description:	Detailed information about energy, transport , environment and comunication.

Driving licence	
Responsibility:	Cantons and communes
Website:	*https://www.ch.ch/en/driving-licence/*
Description:	Detailed information about driving licence and in which canton it is appropriate to apply.

2.5.4 Residence formalities

Moving home	
Responsibility:	Confederation, Cantons and communes
Website:	*https://www.eumzug.swiss/*, *https://www.ch.ch/en/moving/*
Description:	Everything you need to know to move from one municipality to another, simplifying bureaucracy.

Police	
Responsibility:	Federal Office of Police (Fedpol)
Website:	*https://www.fedpol.admin.ch/*
Description:	Fedpol coordinates, analyses and investigates complex cases involving serious crime

e-ID	
Responsibility:	SECO, SwissSign Group
Website:	*https://www.swissid.ch/*
Description:	Free service provided by SwissSign Group, a joint venture of state-affiliated businesses, financial institutions, insurance and health insurance companies.

2.5.5 Education and youth

School	
Responsibility:	State Secretariat for Education, Research and Innovation (SERI)
Website:	*https://www.sbfi.admin.ch/*
Description:	is a service that covers everything related to education, research and innovation.

University	
Responsibility:	Confederation, University Rectors Committee
Website:	*https://www.swissuniversities.ch/*
Description:	The common voice of the Swiss universities and promotes cooperation and coordination between the universities and the various types of universities.

Swiss National Library	
Responsibility:	Swiss National Library Commission (FDHA)
Website:	*https://www.nb.admin.ch/*
Description:	collects, catalogues and stores information about Switzerland and makes it accessible to all.

2.5.6 Health and Family

Health insurance	
Responsibility:	Federal Chancellery, Cantons
Website:	*https://www.ch.ch/en/insurance-social-security/*
Description:	Detailed information for everything related to mandatory insurances.

Marriage	
Responsibility:	Federal Chancellery, Municipalities
Website:	*https://www.ch.ch/en/marriage/*
Description:	Detailed bureaucratic information for everything related to marriage.

Divorce	
Responsibility:	Federal Chancellery, Municipalities
Website:	*https://www.ch.ch/en/divorce/*
Description:	Detailed bureaucratic information for everything related to divorce.

Same-sex partnership	
Responsibility:	Federal Chancellery, Municipalities
Website:	*https://www.ch.ch/en/registered-partnership/*
Description:	Detailed bureaucratic information for same-sex relationships.

2.5.7 Consumers

e-Commerce	
Responsibility:	Federal Chancellery, Municipalities
Website:	*https://www.kmu.admin.ch/kmu/it/home/consigli-pratici/gestire-una-pmi/e-commerce.html*
Description:	Detailed information about e-commerce.

3   Conclusion

At the beginning of this work, I asked myself several questions so that I could focus my work in a specific way. The questions I asked myself are:

- Does it make sense in 2021 to move to digital or is the government as we know it now okay as it is?

- Has the mandatory distancing helped authorities to digitalize?

- Is it clear now to the authorities and the population the value of electronic government?

- Might this actually be a path to a possible future?

I tried to answer these questions as best I could, trying to understand how the government is structured, and seeing where we started with e-government, what steps were taken, where we are now, and what we are focusing on; this topic was quite complicated to research because it's a gigantic topic, and by searching on official channels the information spreads out tremendously like in anything government related. And I feel like I've scratched the tip of this huge iceberg. My results show that Switzerland started relatively late compared to other EU countries, this delay has penalized the country that in a hurry is trying to get back on track in recent years. In order to catch up with other nations, innovative reforms with young political and technical groups were needed to modernize the idea of old government with old rules. Technology has made great strides over the past decade, this improvement has benefited the various strategies, three at the present time, actually making it easier to implement and work on those technologies. Unfortunately, there have been a number of problems, the most serious of which is electronic voting, which at the time of writing is still not working. The electronic vote has been slowed down or even stopped, and this is very serious in a country where voting and direct democracy are the basis of everything. In this last year then there has been one more difficulty, the covid-19 hit the whole world certainly not helping the situation of electronic government, actually slowing down everything. I think that man is able to adapt very quickly, always or almost always finding a solution to the problem that bothers him, or at least to limit the biggest problems. The pandemic caused general lockdowns and freezes to everyday life, but it was also an all-around test when it comes to the IT world. At the beginning of the pandemic, there were several problems, but it was also possible to understand the strengths and limitations that e-government has. Most of the people in government are part of the generation before mine, with covid many were not prepared for this digital boom and remote working, certainly adapting has been more difficult for them than for younger people who are used to technology. The crisis will certainly encourage the development of these digital tools, and I hope that there is a change of mentality to technology and what it can do, we need a push in electronic voting by bringing this mode first in government and then to all the people, with the ability to be identified and vote directly remotely. In conclusion, Switzerland was not ready for the covid, in fact at the time when the digital government could give its best it could not do much better, because it did not come prepared with several weaknesses in digital government, the covid opened the Pandora's box on eGov highlighting with insistence all the weaknesses and in fact showing the momentary inability for Switzerland to have a digital government. Just look at countries like Estonia,

where the government is 99% digital, it is also true that it is 1/8th of Switzerland in terms of population and this certainly makes it easier to manage. More than comparison we should take it as an example. My hope is that we can learn from the mistakes made and quickly improve the situation at least on the fundamental points because this present, in my opinion, could actually be our future, it can and must be improved.

Declaration of primary authorship

I hereby confirm that I have written this report independently and without using other sources and resources than those specified in the bibliography. All text passages which were not written by me are marked as quotations and provided with the exact indication of its origin.

Place, Date: Kehrsatz, January 7, 2021

Last Name, First Name: Bakhiet Derias Giorgio

Signature:

Acronyms

CHF Swiss franc. 6

DCPA Swiss Conference of Directors of Public Construction, Spatial Planning and the Environment. 16

DETEC Federal Department of the Environment, Transport, Energy and Communications. 31

e-ID electronic identity. 20, 22, 25, 26, 32

eGRIS Fonds in Ch. 16

eVote Electronic Voting. 20

FCh Federal Chancellery. 14

FDF Federal Department of Finance. 14

FDHA Swiss National Library Commission. 32

Fedpol Federal Office of Police. 16, 31

FITSU Federal IT Steering Unit. 15, 16

FOJ Federal Office of Justice. 16

FOPH Federal Office of Public Health. 16

GDP Gross Domestic Product. 6

HPI Harmonisierung der Schweizer Polizeiinformatik. 16

INS Identity Network Switzerland. 11

SECO State Secretariat for Economic Affairs. 14, 16, 21, 25, 30, 32

SEM State Secretariat for Migration. 30

SERI State Secretariat for Education, Research and Innovation. 32

SIK Schweizerische Informatikkonferenz. 12, 15

Swissdec electronic data exchange between companies, insurers and authorities. 15

VAT Value Added Tax. 16, 21

VSED Verband Schweizerischer Einwohnerdienste. 16

XML Extensible Markup Language. 11, 21

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