



IMMUPASS

COVID-19 Immunity Certificate

Brief overview

An initiative of:

PwC
SWITZERLAND

careum

 trustwise

HORIZON
VENTURES

GROUP

 **BLOCKCHAIN**
TRUST SOLUTIONS AG

Why IMMUPASS?

- Increasing personal security in social and economic interaction
- Ensuring basic healthcare provision
- Speed up the economic recovery
- Forgery-proof certificate
- Safeguarding the operation of critical infrastructure

Is it feasible?

- Covid19 antibody tests enter the market and are widely available
- Recording of tests, testers and test results via PC or App
- The certificates are identified by digital ID

What are the advantage of the solution?

- Same level of confidentiality as a vaccination certificate
- No tracing - No compromises on privacy
- No smart-phone necessary - all the immune person needs is a personal IMMUPASS QR Code and an official identification document (passport, ID)
- Designed for international adoption
- Use of a Swiss high-security blockchain infrastructure
- Enables anonymous statistical analysis by health authorities
- The certificate is tamper-proof and uniquely linked to the identity of a person
- Future certificates such as COVID-19 vaccination certificate can be issued

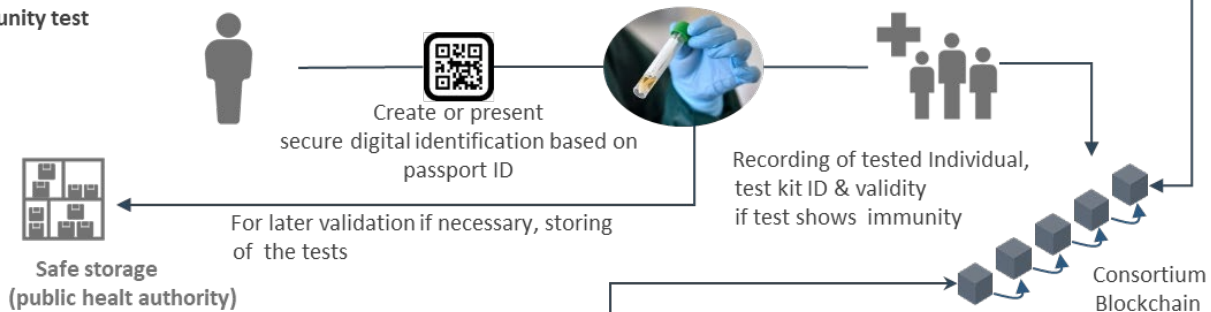
How does it work?

1. Registration of authorised testers on the blockchain

(doctors and other medically trained personnel according to national guidelines)

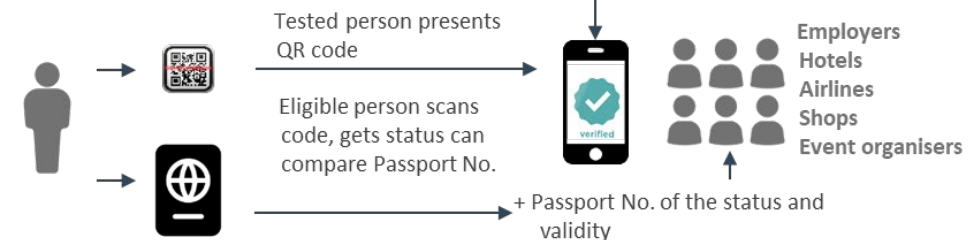


2. Immunity test



3. Check Immunity Certificate

(at the discretion of the tested person)



Necessary conditions

- 1 Immunity tests are available in sufficient numbers
- 2 Immunity of a person implies that he/she is most likely not to be infected for a longer period of time
- 3 Immunity tests have a high reliability
- 4 There is a high probability that immune persons will no longer be infected after a certain period
- 5 A significant proportion of the population is already immune
- 6 Immune persons have only in exceptional cases knowledge of their immunity

Sufficient conditions

- 1 There is a fundamental interest of the population in tests and the possibility to know and prove their immunity
- 2 Health authorities or state institutions have an interest in immunity certificates
- 3 Benefits of certificates are high for government organizations
- 4 State institutions make regulations on testing and certification
- 5 In the international movement of persons and business the proof of immunity is important

Support options



Registration on our homepage and naming as private person



Registration as a company and use of the logo as a sign of support for the initiative



Member of the interest group and active contribution to the further development



Participation in the operating company/ start-up financing



Lead Customer: Use of the certificates in your own company or customers

Use Cases ImmuPass

There is a wide range of applications for an immunity certificate



IMMUPASS



Start of the pandemic

A) Basic medical care

FOPH
Hospitals
Medical practices
Social-medical institutions

Objective A:
Securing sufficient resources

B) Critical infrastructure

Police
Fire department
Food distribution
Logistics
Power supply
Water supply
and so on

Objective B:
Securing the infrastructure

C) Commercial applications

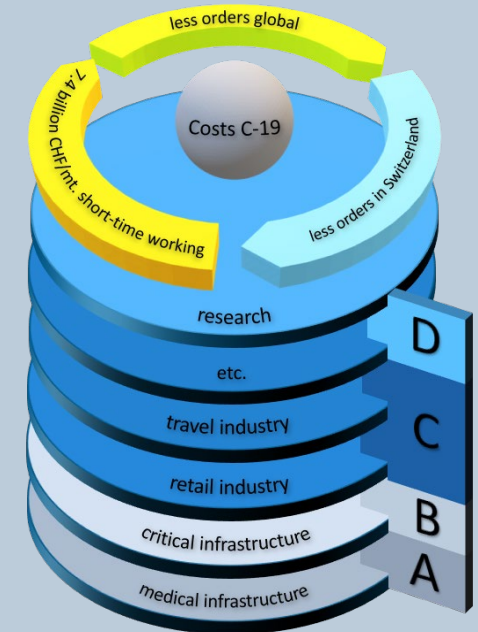
Retail trade
Companies which have direct contact with persons
Extended primary health care
Travel industry
Hospitality industry
and so on

Objective C:
Start up retail economy

D) Research

Research
Public interventions
Vaccination certificate

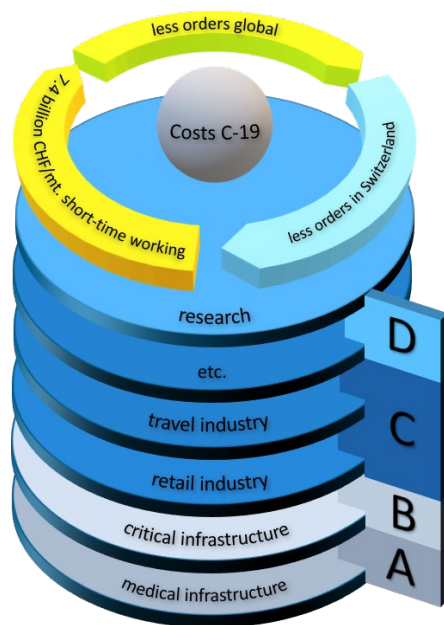
Objective D:
Pandemic prevention



Protecting risk groups

Medical care by doctors and nurses

Use Case A1



A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

A Objective

Description

Based on the certificate, doctors and nurses are granted access to risk patients and Covid19-patients. They can be assigned to risk patients and have an interdepartmental operationability.

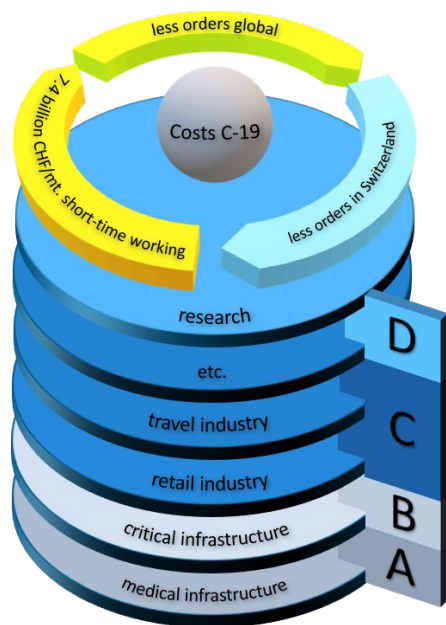
Benefit

- Reduced risk for doctors and nursing staff
- Further treatments can be provided without risk
- Hospitals and medical practices can start "normal operation"

Health treatments / care	General treatments		Figures
<p>Immune doctors and nursing staff</p> <p>Safe treatment</p> <p>COVID19-patients</p>	<p>Immune doctors and nursing staff</p> <p>Safe treatment</p> <p>Patients & Risk Patients</p>	<p>Doctors and nursing staff</p> <p>Safe treatment</p> <p>Immune patients</p>	<ul style="list-style-type: none"> - About 38'000 doctors - About 200'000 nursing staff - About 1,578 old people's homes and nursing homes

Physical contact with risk groups

Use Case A2



A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record


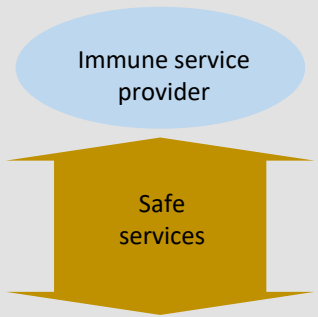

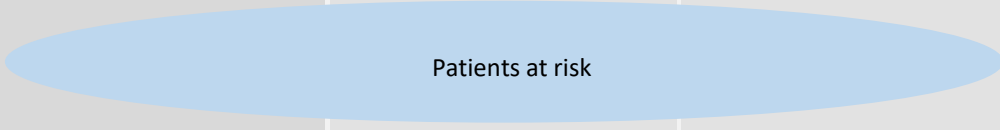
A Objective

Description

By means of a certificate, immune doctors and nursing staff can be granted and carried out access to safe treatment and care in old people's homes or in elderly care organizations. Certified immune visitors may visit relatives and friends in old people's homes. Grandparents can also physically meet their families and grandchildren again.

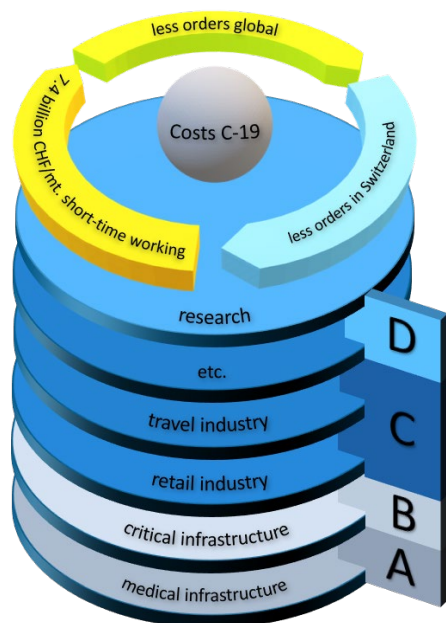
Benefit

- Risk persons in old people's homes and their staff, such as nursing staff, are protected
- People at risk in old people's homes can improve their quality of life through visits
- Risk persons at home can improve their quality of life through visits

Health treatments / care	Service provider	Visitors	Figures
 <p>Immune doctors and nursing staff</p> <p>Safe treatment</p>	 <p>Immune service provider</p> <p>Safe services</p>	 <p>Immune visitors</p> <p>Safe visits</p>	<ul style="list-style-type: none"> • Population over 65 years: 1'608'200 persons • Multimorbid persons as measured by the population aged 12 and over is 11.6 % = 997,600 • Total number of persons at risk approx. 1.9 million • Around 1,578 Old people's homes and nursing homes
 <p>Patients at risk</p>			

Shopping and daily errands

Use Case C1



- A) Objective: Securing sufficient medical resources
- B) Objective: Securing the infrastructure
- C) Objective: To put the economy into operation
- D) Objective: Research / Vaccination record

C Objective

Description

In specially defined periods of time, served by certified immune personnel, risk patients can shop more safely.

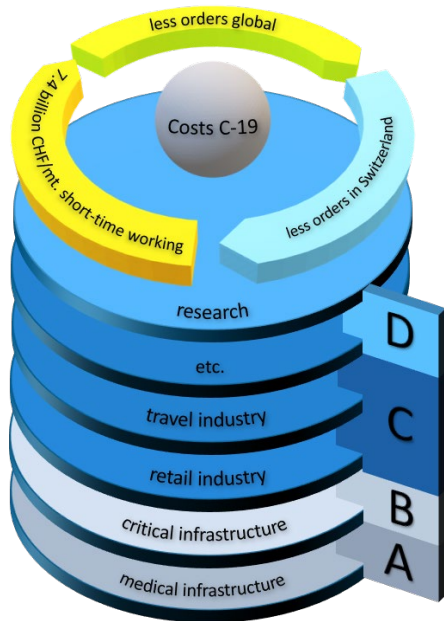
Benefit

- Independence in shopping for risk patients
- Normal business operation possible (in compliance with BAG rules)

Opening hours for immune persons	Opening hours for all	Figures
<p>Immune personnel</p> <p>Safe shopping</p> <p>Immune customer Incl. risk persons</p>	<p>Normal personnel without risk persons</p> <p>Normal shopping under BAG rules</p> <p>All customers without risk persons</p>	<ul style="list-style-type: none"> - Monthly gross value added of CHF 2,042 million in retail trade - Assumption 15% in the retail trade is still open during the lockdown, this results in a loss of CHF 1,740 million/month

Provision of services with direct customer contact (e.g. hairdresser, restaurant, bars, leisure)

Use Case C2



- A) Objective: Securing sufficient medical resources
- B) Objective: Securing the infrastructure
- C) Objective: To put the economy into operation
- D) Objective: Research / Vaccination record

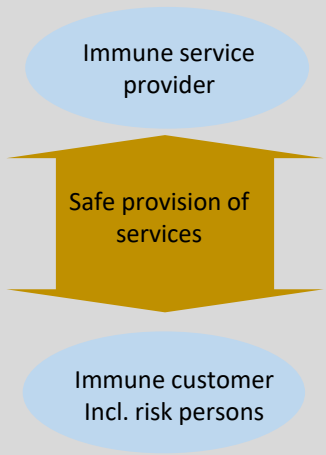
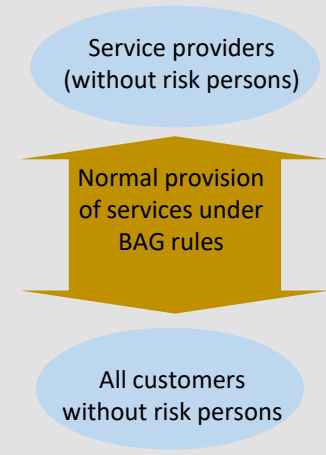
C Objective

Description

The service provider (e.g. hairdresser) has an immunity certificate and can serve high-risk patients. Service providers also have the security of not being infected due to the proven immunity.

Benefit

- Independence in using services for risk patients
- Provision of services by immune personnel can be provided even if the necessary physical distance with the customers cannot be maintained
- Normal business operations possible (in compliance with BAG rules)

For high risk persons	For public	Figures
		- 26'000 hairdressers (as of 2013)

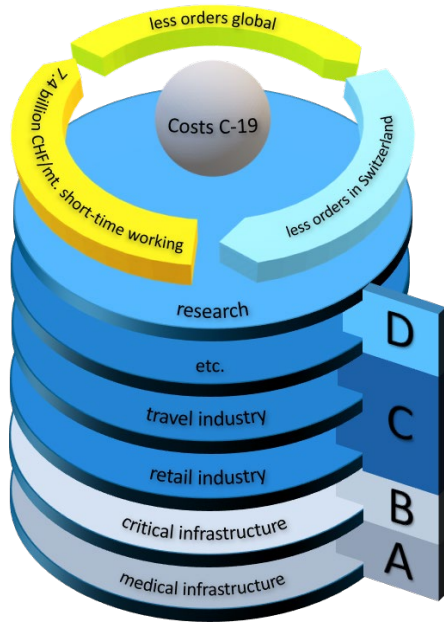
Safe interaction with work colleagues

(e.g. construction, production)



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Use Case C3:



C Objective

Description

Certified immune persons could be used for activities where physical distancing is not possible.

Benefit

- Extended deployment opportunities for employees
- Restrictive compliance with BAG rules only where necessary
- Extended possibility for companies to work full time again

		Figures
Immune employees	Non-immune employees / risk persons	
Safe provision of activities where physical distancing is not possible	Regular performance of activities under BAG rules	
		<ul style="list-style-type: none">- Gross value added construction industry per month: CHF 2,950 million CHF- Gross value added of manufacturing industry/production of various goods per month: CHF 100,050 million CHF

A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

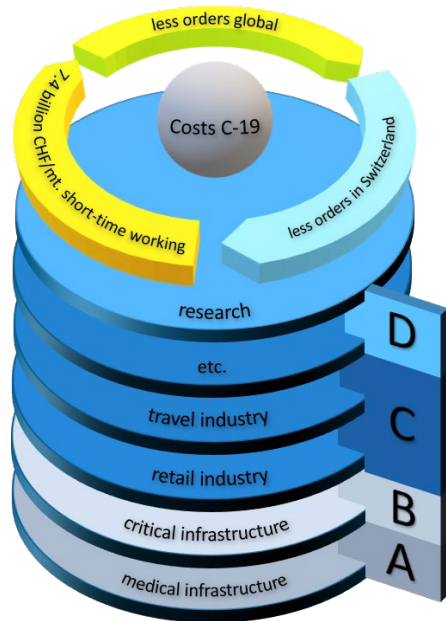
Ensuring international mobility

(cross-border commuters and tourism)



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Use Case A3/B1/C4:



A/B/C Objectives

Beschreibung

Certified persons from abroad will be registered and/or checked at the border:

- Internationally recognized certificate from the respective country of departure
- Recognised certificate from the country of entry

Benefit

- Allow easy control of immunity on entry
- Re-entry of persons with a branch in Switzerland is simplified
- Tourism offers for immune tourists from abroad are possible

Cross-border commuters and tourists	Cross-border commuters and tourists	Tourism	Figures
<p>Immune cross-border commuters with foreign certificate</p> <p>Transfer of certification</p>	<p>Immune cross-border commuters without certificate</p> <p>Test at the border</p>	<p>Immune tourists</p> <p>Danger-free experience</p> <p>Immune staff of restaurant</p>	<ul style="list-style-type: none"> • Over 300,000 cross-border commuters in the 4th quarter of 2019 • From March to May 2020 up to 1.9 billion CHF losses only in the hotel industry

A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

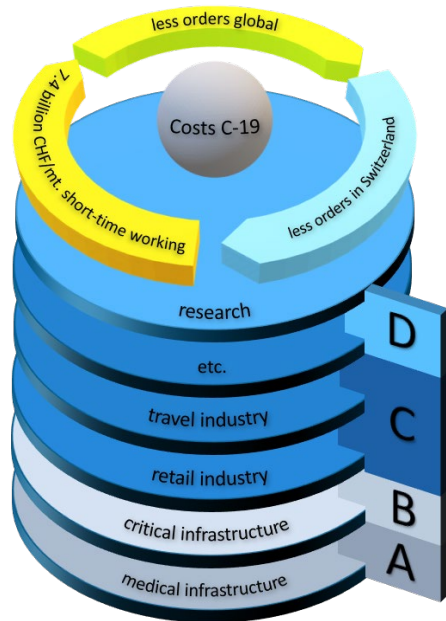
Attendance of events

(theatre, concerts, sports events, open-air etc.)



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Use Case C5:



A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

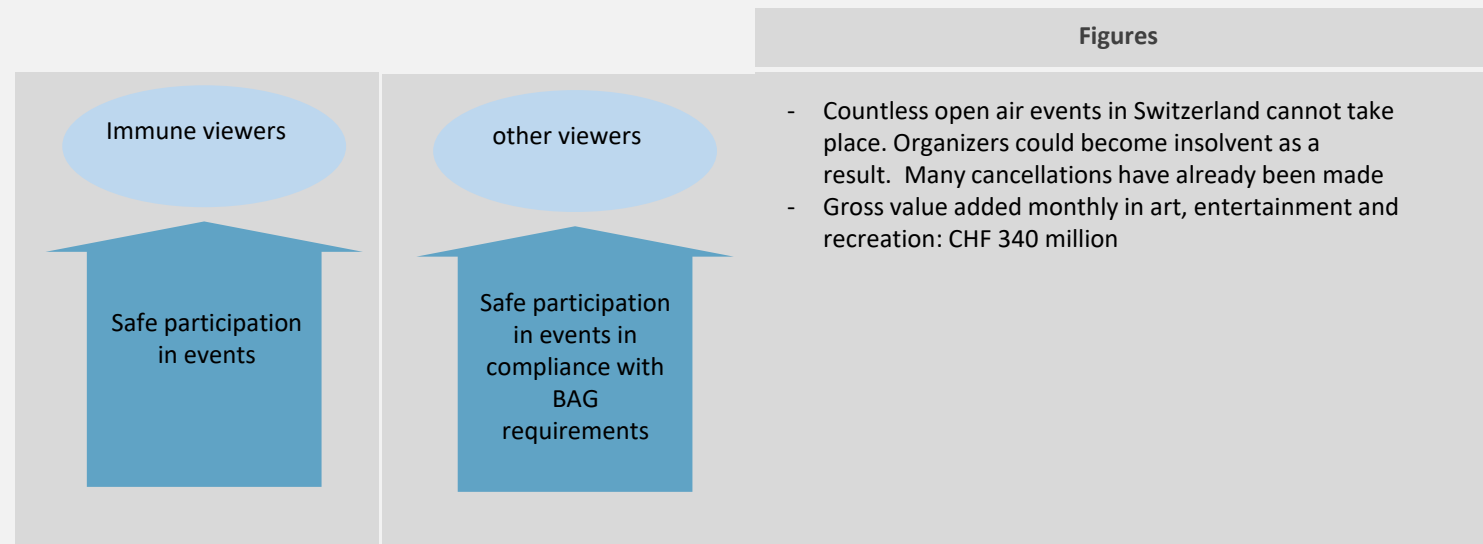
C Objective

Description

Organizers may grant admission to Certified Immune persons. In football stadiums, for example, sectors for non-certified persons may also be offered, provided that the regulations of the BAG are complied with.

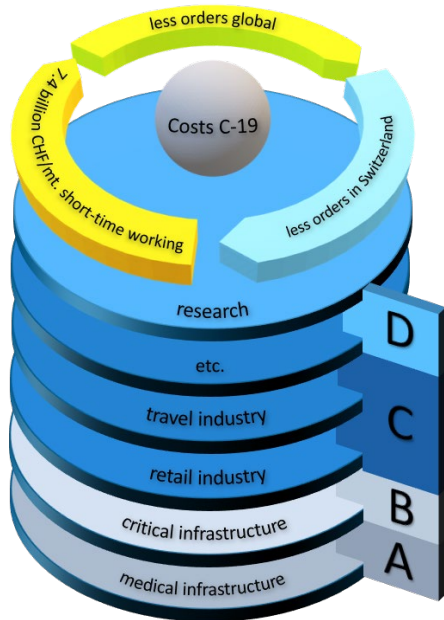
Benefit

- Public events could still take place in 2020 (open airs, theatre, concerts, sports, etc.)
- Event operators can start offering their services earlier
- Sports events can be carried out more quickly with spectators



Commuting and using public transport

Use Case C6:



- A) Objective: Securing sufficient medical resources
- B) Objective: Securing the infrastructure
- C) Objective: To put the economy into operation
- D) Objective: Research / Vaccination record

C Objective

Description

Commuting and the use of public transport will increase again due to the relaxation of the COVID measure. Certified immune persons and persons at risk could use specially reserved cars or rides and thus ensure that there is "non-certified" enough space to meet the requirements of the BAG.

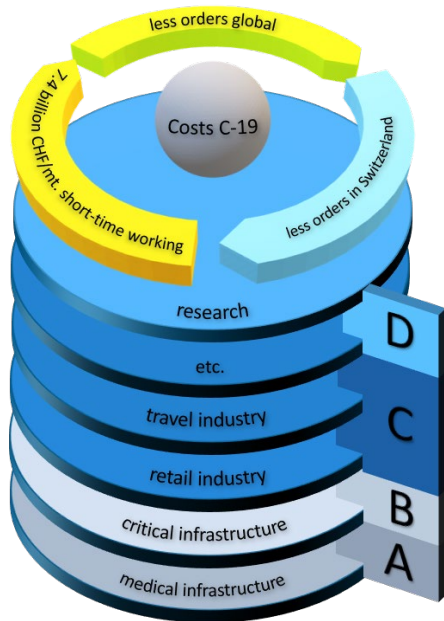
Benefit

- The use of public transport can be normalized
- Risk persons are controlled by certified train attendants

Transport of immune persons	Transport of nonimmune persons	Figures
<p>Immune persons Persons at risk</p> <p>Safe transport of passengers</p>	<p>Non-immune persons</p> <p>Safe passenger transport in compliance with BAG requirements</p>	<ul style="list-style-type: none"> - With normal flows of commuters, public transport will no longer be able to meet the federal distance requirements - 4 million commuters

Receiving and hosting guests

Use Case C7:



A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

C Objective

Description

It is difficult to manage customers in restaurants and hotels while maintaining physical distance, and thus generates large sales losses. Immune certified personnel can be used and immune certified guests can be admitted.

Benefit

- The gastronomy can start to open earlier
- The density per person using immune certified guests can be increased in the restaurant
- The immune-certified staff of the restaurant feels safer and it simplifies the work
- Profitability can be increased
- Tourism can be promoted

Classification for Immune persons of the opening hours or the premises	Other classification	Figures
<p>Immune personnel</p> <p>Safe restaurant</p> <p>Immune customer Including persons at risk</p>	<p>Normal personnel without persons at risk</p> <p>Restaurants under BAG rules</p> <p>All customers without risk persons</p>	<ul style="list-style-type: none"> - 300'000 employees in the catering sector - Estimated losses of up to 1.9 billion for the months March to May in the hotel industry - Monthly gross value added of the accommodation and catering sector: CHF 920 million

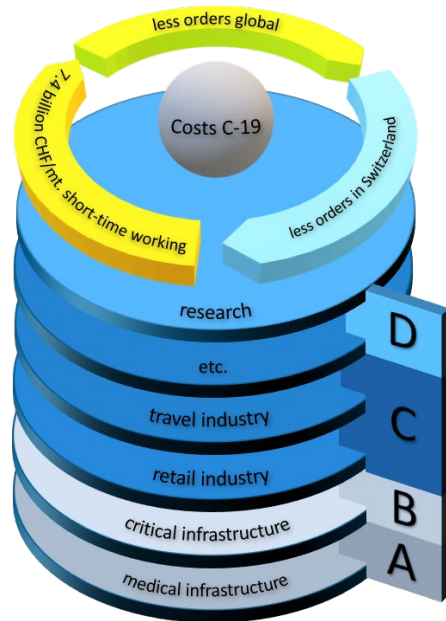
Certificates instead of one-time tests

(e.g. at events, football players & support)



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Use Case C8:



- A) Objective: Securing sufficient medical resources
- B) Objective: Securing the infrastructure
- C) Objective: To put the economy into operation
- D) Objective: Research / Vaccination record

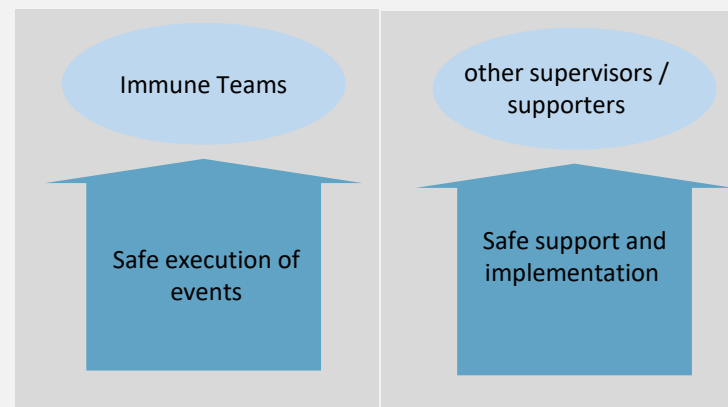
C Objective

Description

Wherever the persons in question must be tested for an appointment today, because social distancing is not possible, costs can be saved through proof of immunity. If, for example, ghost games were to be played, the footballers and support staff could be tested once for immunity)

Benefit

- Implementation of various events without clear opening on the part of users can be financially guaranteed (e.g. ghost games football)
- Cost savings due to long-term validity Immunity verification

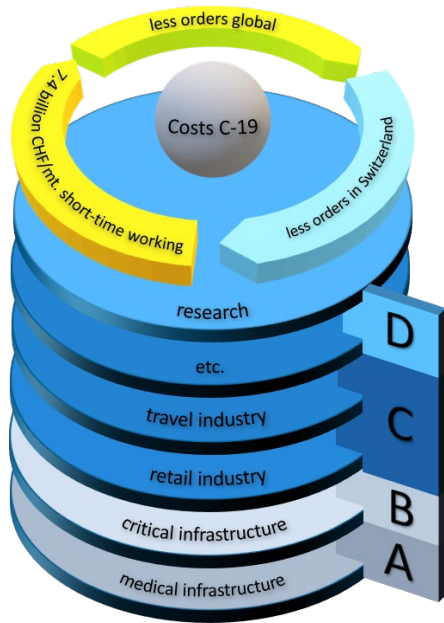


Figures

- Various events and dates cannot cover the financial expenses for one test
- Earlier economic recovery and realistic financial burden
- e.g. soccer round - several million test costs per game

Research, Monitoring and Tracing APP

Use Case D1:



A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

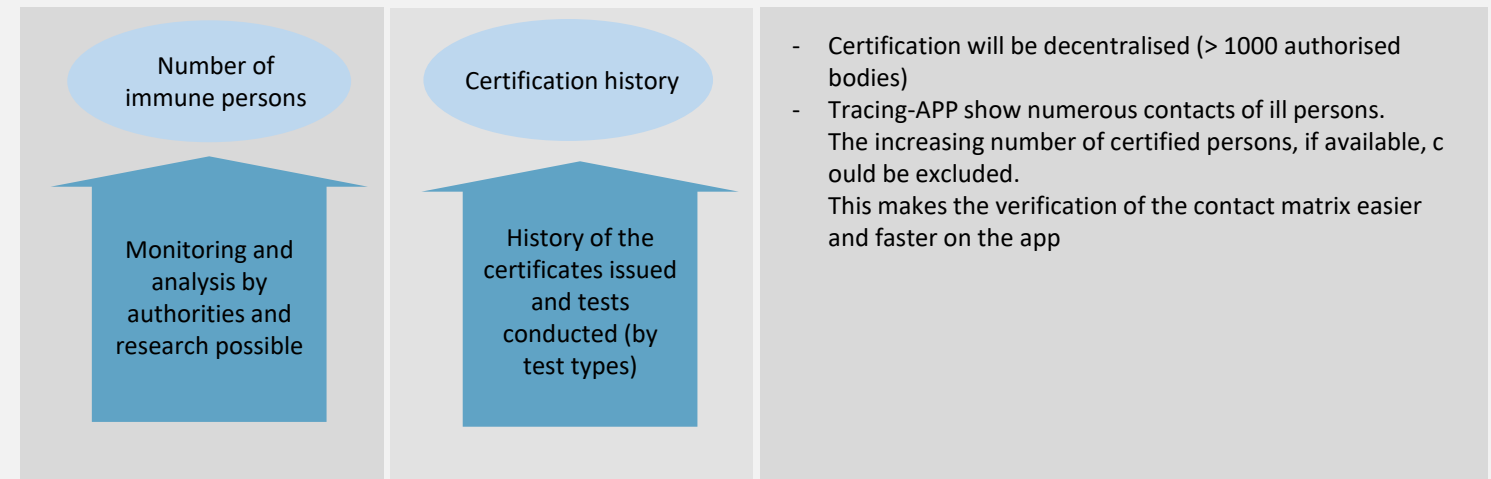
D Objective

Description

Information on the certifications combined with geodata from the certification bodies is available to the authorities. Further more what kind of immunity tests were conducted by whom. The analysis and research on Covid disease is supported by the monitoring of immune individuals and their certification.

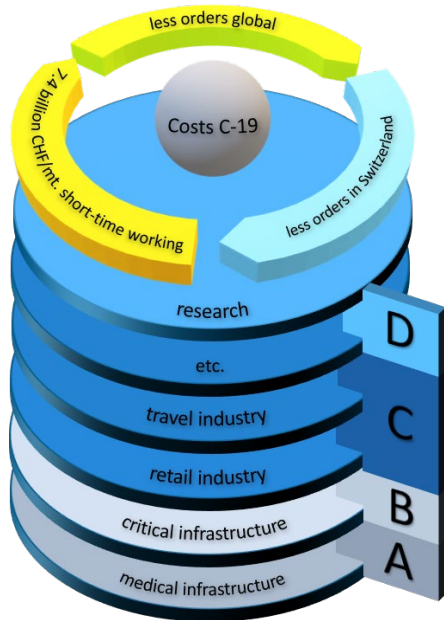
Benefit

- Authorities and research institutes are easily accessible and always have the latest data available
- The application of respective tracing apps is supported by the certification data (fewer contacts/persons to be checked)



Integration in tracing app

Use Case D2:



A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

D Objective

Description

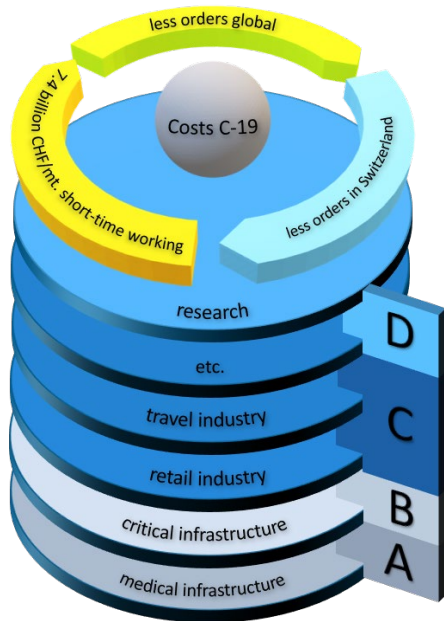
Certification will be decentralized (> 1000 authorized bodies). Tracing-APP shows numerous contacts of ill people. Integration of immunity certificates in tracing apps could make the verification of the contact matrix easier and faster as the increasing number of certified persons could be excluded.

If despite confirmed immunity an infection occurs, this can be traced. People who were in contact with such a person can be warned.

Benefit

- Valuable acceptance of Tracing Apps is increased
- Better traceability of contacts
- Verification of the quality of the tests

Use Case D3:



A) Objective: Securing sufficient medical resources

B) Objective: Securing the infrastructure

C) Objective: To put the economy into operation

D) Objective: Research / Vaccination record

D Objective

Description

As soon as a vaccination (against Covid but also against all other contagious diseases) is carried out, a certificate is issued. This is done without registration on a portal and in compliance with the protection of privacy. By showing the IMMUPASS, the vaccination status can be checked quickly and easily.

Benefit

- Very low hurdle to record the vaccination
- Anyone who is shown the IMMUPASS can see the vaccination history and who has carried out the vaccination or tests
- Easy integration into already existing solutions