

SwissCyber Initiative

Mapping Switzerland's Cybersecurity Research and Innovation Ecosystem



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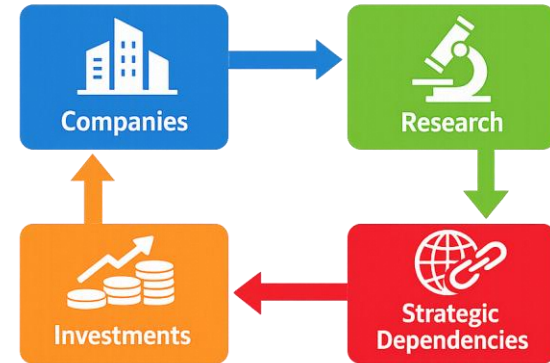
Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**



Why do we need this project?

- Cybersecurity has become a strategic and sovereignty issue
- Switzerland lacks a consolidated view of its cyber ecosystem
- Ecosystem views imply aggregating fragmented sources: organizations, investments, R&D, technology, workforce, geography, foreign ownership, or stakeholder perceptions
- Policymakers, researchers, industry, and investors need evidence-based visibility



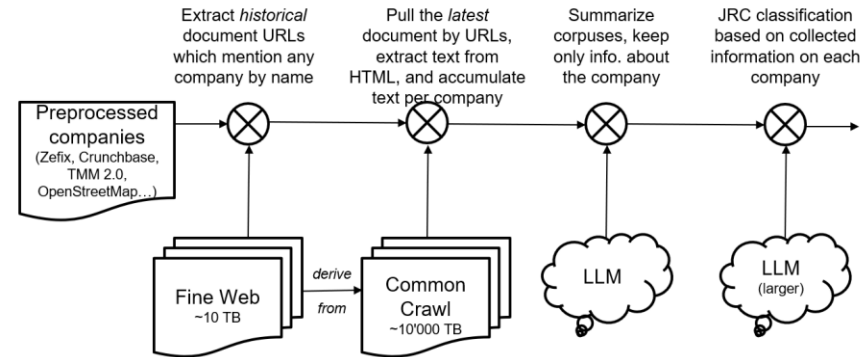
What was the project supposed to deliver?

- Data collection and analysis
- Target-state analysis
- Platform development
- Delta analysis and recommendations
- Dissemination and networking

What changed: Richer data, platform development, and stakeholder engagement allowed us to go beyond the initial scope

What we built

- TMM 2.0*/Common Crawl/OpenStreetMap/GeoNames/Zefix/Wikidata
- ↓
- Data integration/entity resolution/classification/enrichment
- ↓
- Integrated ecosystem database
- ↓
- Analytics + survey
- ↓
- Interactive platform + report + indicators

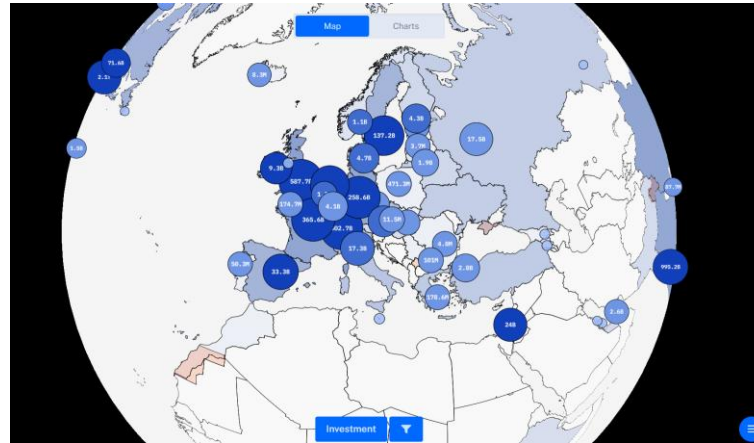


*TMM 2.0 is the main technology-monitoring input, integrating Crunchbase, patents, job offers, OpenAlex publications, and other sources.

The ecosystem we can now observe

The platform allows you to explore, in particular:

- Swiss-connected cybersecurity companies
- Investments and acquisitions
- Workforce indicators
- Technological categories
- Survey insights



Filters, “smart filters”, and optimally selected graphs are there to help you navigate this ecosystem.



What does the data/platform tell us?

1. Concentration

Cybersecurity activity concentrated geographically and organizationally

2. International connectivity

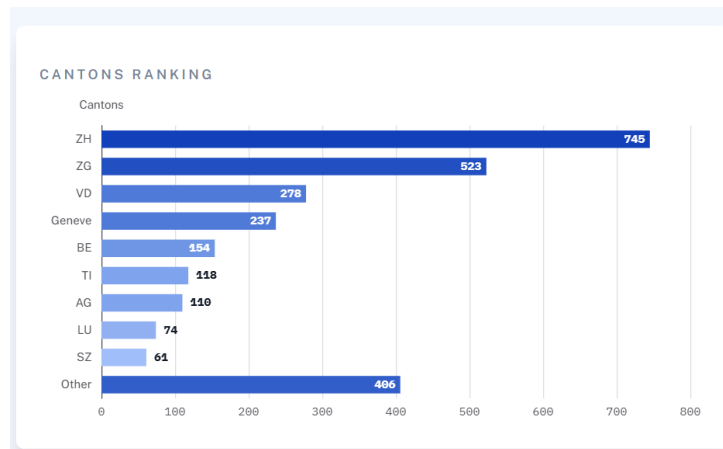
Ecosystem strongly connected to international capital and organizations

3. Heterogeneity

Broad industry classifications do not adequately capture cybersecurity activity

4. Investment structure

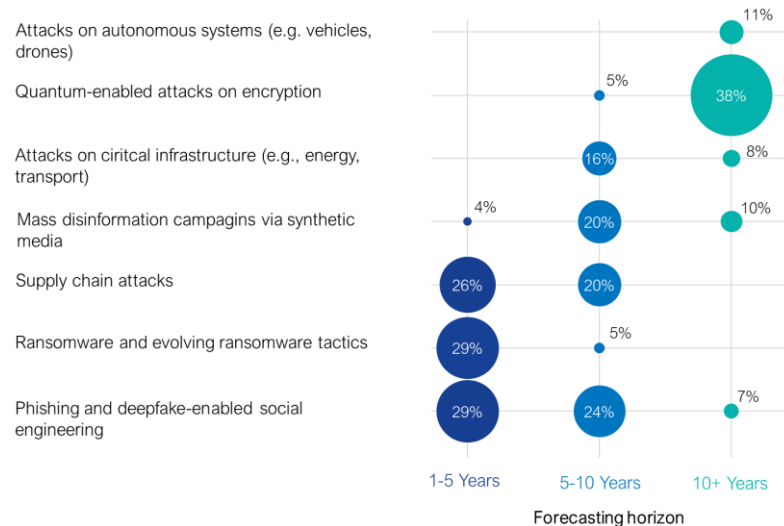
Investments concentrated and require more nuanced interpretation than aggregate funding alone



What do stakeholders tell us?

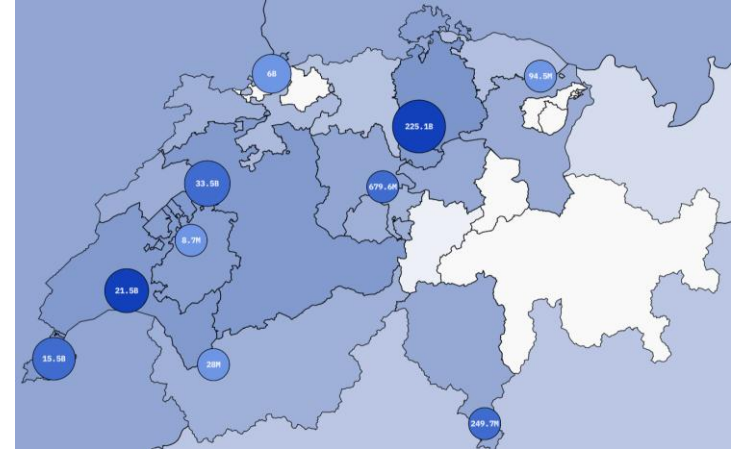
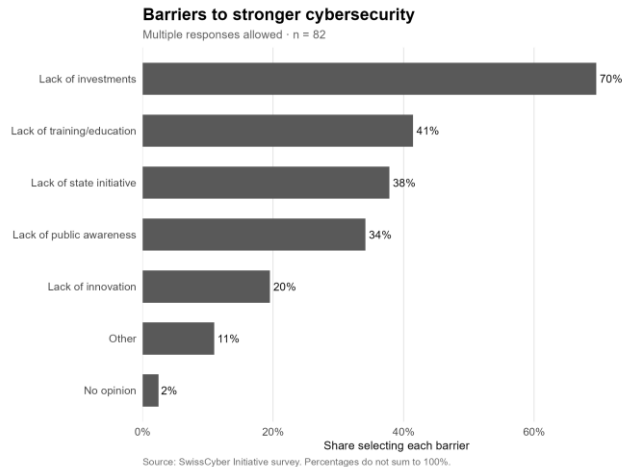
The ecosystem data only tell us what is observable. We also wanted to know how actors perceive it (and compare it to) what existing data tell us

- Strong concentration of expertise in a limited number of regions
- Significant uncertainty regarding future cyber threats
- Weak awareness of major cybersecurity frameworks
- Perceived gaps between strategic priorities and operational capabilities



Combining both

Investment	Tension: investment is concentrated, while 70% still perceive lack of investment as a barrier
Geography	Convergence: observed concentration of activity matches perceived concentration of expertise
Protection	Complement: mapped capabilities do not necessarily translate into perceived organizational readiness
R&D	Tension: R&D activity exists, but 47% perceive it as mainly not aligned with ecosystem needs



From mapping to indicators

Exploratory Cybersecurity Innovation Index

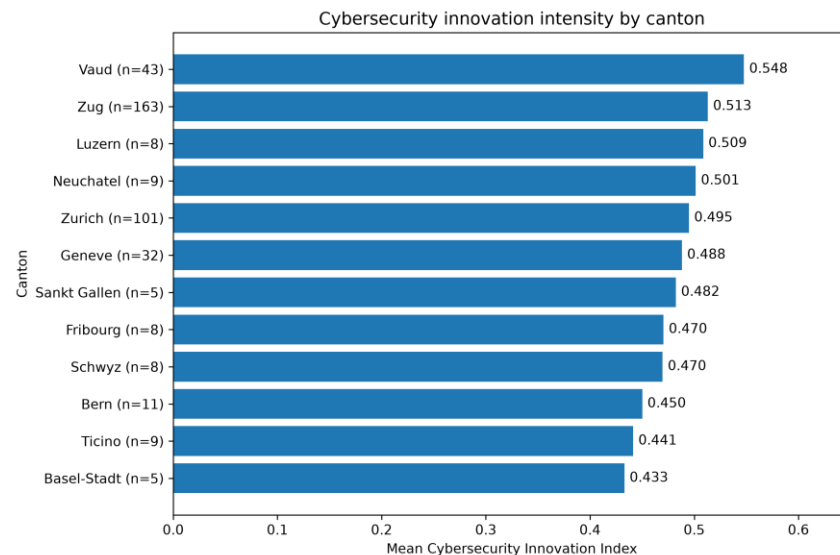
Funding + cybersecurity exposure + organizational characteristics

$$CII_i = \frac{1}{4}(P(TF_i) + P(CES_i) + P(-FR_i) + P(-Age_i))$$

Not a validated measure of innovation.

Next steps:

- JRC taxonomy, better technological classification, stronger indicator(s)
- Integrate other ratios, e.g. patents/TF or papers/TF
- **Swissness score**



Project dissemination and ecosystem

Four objectives:

- Getting experts to answer our survey
- Gathering stakeholders' needs
- Getting feedback
- Advertising our work

Table 6.1: Project-level dissemination and stakeholder engagement activities.

Date	Activity	Status
21.03.2025	CYD Kickoff Meeting	Completed
06.04.2025	Trust Finance Forum	Completed
04.06.2025	Advisory Board meeting	Completed
05.06.2025	Tech4Trust Awards	Completed
20.06.2025	Cyber Alp Retreat, Davos	Completed
28.10.2025	Swiss AI Village/Swiss Cyber Storm, Bern	Completed
29.10.2025	CYD Campus Conference, Bern	Completed
02.12.2025	Trust Valley Day, Geneva	Completed
11.12.2025	SwissCyber Initiative Community Event, Sion	Completed
17-18.02.2026	Swiss Cyber Security Days, Bern	Completed
27.02.2026	Advisory Board meeting	Completed
19-20.03.2026	Insomni'Hack	Completed
16.06.2026	IGF Geneva	Completed
25.06.2026	Advisory Board meeting	Completed
03.09.2026	Cyber Alp Retreat, Davos	Planned
29-30.09.2026	ISF DACH Chapter Autumn Meeting, Zurich	Planned

What remains difficult?

Data completeness

No single source captures the entire ecosystem

Classification

Cybersecurity cuts across conventional industry classifications. JRC integration is the next major improvement

Financial interpretation

Funding $\neq$ cybersecurity R&D expenditure. Investment data require careful interpretation and deduplication

Sustainability

The platform's value depends on continued data updates, maintenance, and governance (planned and designed)

Indicators

CII promising but exploratory. Validation and benchmarking still needed

Final steps

Now - Finalize:

Report/review/platform/dissemination

Next - Improve:

JRC classification/data coverage/recurring survey/indicators

Longer term - Maintain:

Continuous ecosystem monitoring/innovation index (five-year maintenance)

Next project:

Swissness score/Digital Sovereignty Index

The Swissness Score

How Swiss is a company registered in Switzerland?

What is it?

A firm-level composite indicator. Its goal is to evaluate how strongly a company registered in Switzerland is anchored here in practice. At the moment, it is based on four dimensions (legal, ownership and financial control, research, and numeric infrastructure).

Why is it needed?

Incorporation alone is legally certain but says nothing about who really has the control in the firm, where its R&D and inventions are developed, or whose hosting providers and network-protection intermediaries (CDN/DDoS layers) carry, shield, and store its traffic and data and under which jurisdiction.

What does it support?

A comparable, reproducible measure across the Swiss cyber ecosystem, built only from open and verifiable sources, as an evidence base for digital sovereignty assessments of the sector.

D1 Legal anchoring 4 variables

D2 Ownership and financial control 4 variables

D3 R&D and IP anchoring 2 variables

D4 Infrastructure anchoring 2 variables



12 variables · one score per company

Variables and sources

Twelve variables across four dimensions, most of its anchored in the reference literature.

D1 Legal Anchoring

Zefix/cantonal commercial register · Literature [1, 2, 4]

- 1 Commercial register entry
- 2 Entity type (statutory purpose)
- 3 Age since registration
- 4 Domicile and nationality of governing officers

D2 Ownership and Financial Control

Crunchbase + commercial register · [1, 3-5]

- 5 Declared headquarters
- 6 Control and acquisition history
- 7 Origin of the founders
- 8 Foreign investment

D3 R&D, IP and academic literature

PATSTAT + OpenAlex · [6, 7]

- 9 Country of the applicant / authors
- 10 Residence of the inventors / authors

D4 Numerical infrastructure anchoring

Censys + RDAP + Shodan.io

- 11 Autonomous system operator
- 12 TLS termination

[1] PwC, ATAD 3 — the EU “Unshell” Directive. [2] Milhaupt, Pargendler & Puchniak, Corporate National Identity. [3] UNCTAD, World Investment Report 2025. [4] OECD, Benchmark Definition of Foreign Direct Investment, 5th ed., 2025. [5] European Commission & ICF, Letterbox Companies, 2021. [6] OECD, Patent Statistics Manual, 2009. [7] Diodato, Tacchella, Napolitano & Pugliese, Handbook of Economic Complexity for Policy, JRC, 2024.

SwissCyber Initiative



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