

SECURITY FIRST

WELCOME TO CYBERSPACE

Leading a team specialised in cryptography and eTravel documents, Benoit Poletti, INCERT's general director, tells us that cyber security knows no end; the only limit is the imagination.

PRESENTED BY INCERT



For Benoit Poletti, INCERT's general director, impossible has no meaning.

Why was INCERT created?

INCERT is a public agency that has been created with two missions in mind. The first is to manage critical IT infrastructures used for issuing Luxembourg eTravel documents, including ePassports, eID cards, and eResidence permits, and for their verification at the border control level.

The second mission is to represent Luxembourg at international organisations like ICAO (International Civil Aviation Organization) and ISO (International Organization for Standardization), where we are currently working on the future specifications for ePassports and VISAs, as well as on new cryptographic algorithms.

Based on these missions, we are then naturally confronting risks linked to cyberspace.

Why is it important to represent Luxembourg on an international level?

Firstly, by being present, we can foresee any future technical or organisational change to be implemented, which allows us then to optimise internal resources.

Secondly, we can also make valuable contributions and voice objections against the evolution of certain technical specifications.

As a result, our intervention has already saved Luxembourg substantial costs with, for example, the use of the same infrastructure for different

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General director
INCERT

eTravel documents, increasing our management capacity, flexibility, and security level. This "mutualisation" aspect was not initially accepted in some technical specifications, mostly due to the industry lobby.

INCERT is fully affiliated with the State of Luxembourg. Can you talk about this relationship?

The initial objective of our public agency has been to merge infrastructures relating to eTravel documents and digital signatures, and to have a unique centre of expertise. Our business activities locally serve the Ministry of Foreign Affairs, the Ministry of the Civil Service and Administrative Reform, the Ministry of the Interior, and the Ministry of the Economy.

How can the public take advantage of your products and services?

This year, we are launching an Android app called VISOGO, allowing you to check the authenticity of five eTravel documents for free. It can be applied in a number of ways, for example if you have a bed & breakfast, or an Airbnb and you want to check the authenticity of ID documents, or when selling your car or house. This app can also be used by organisations in relation to AML/KYC or other regulations.

When working on developing products geared to fighting cyber fraud, you want to work with the most highly-skilled team.

Correct. We are really proud of our team's skills and commitment. As an example, the Director of Operations has a PhD and was one of the inventors of the nano chip used nowadays in smart phones. We also have people with a military background. We aim to combine academic and military expertise.

INCERT has an international vision and reach. What sets you apart?

If we are talking about VISOGO, we have competitors and competition is good because it pushes us to continually improve.

Concerning the other services we provide, we are unique. After travelling the world, I can say that it seems that there is no other entity like ours.

Who are your main clients?

Our main clients are the Luxembourg Ministries. For VISOGO, financial institutions, notary services, law firms, IT companies, PSF organisations, hotels, and even sports agents who want to sign players of the right age. Anyone interested in fighting identity theft and age fabrication.

Our other products and services, such as our

crypto tool, could simply interest any organisation, regardless of their activity, size or nature.

What other threats do you see looming on the horizon that cryptography can "save" us from?

Nothing is impossible in the cyber realm. There are organisations on the dark web that sell their service to develop a biological virus for targeting a specific person. Another example is in the automotive sector. Using a GPS system, hackers can make a car believe that its four wheels are flat, so it automatically stops as a security measure. If you are on the motorway, stopping abruptly from a speed of 130 km/h poses a real threat.

What other things does INCERT work on?

We work on new cryptographic algorithms and secure Internet of Things (IoT) projects. We are currently working on creating "passports" (using RFID chips) for goods requiring a high level of traceability. Many companies address the functional aspects of IoT projects, our job is to secure these aspects as well as the data workflows.

We are also working on a project that involves secure communication channels for EU institutions, as well as on projects linked to quantum and post-quantum technologies. We are only limited by resources.

How does INCERT keep up-to-date with new threats?

We represent Luxembourg at ISO standardisation committees, so we are always dealing with new trends and technologies, thus improving our knowledge. These meetings involve over 400 highly-skilled experts from all over the world and include pro-



VISOGO application Verify eTravel documents

Our app can be used whenever you need to ensure a person's identity for either personal or business use. The app allows you to verify the authenticity of up to five eTravel documents. For an additional five checks, it costs 3.50€.

When you purchase a professional licence of VISOGO (offering more functionalities than the public version available on Google Play Store), we also provide two days of audits of our source code for free to demonstrate our full transparency, and that the development has been done following our "privacy-by-design" principle.

Our philosophy is not to make financial benefits, since we are state-owned, but about providing a public service and contributing to the overall security of the Digital Society.

files like the Chief Information Security Officer of the US Department of Defense.

Amongst other systems, we also have a business intelligence platform crawling the dark web on a daily basis and indexing a hundred thousand documents per day. This enables us to foresee if there is a specific team that is being built to launch cyber attacks. We can also see if there are any attempts to break cryptographic algorithms.