

Flanders' 4 building blocks for cybersecurity success

Towards a digital society at its safest



Front-running education institutions in Flanders prepare students for careers in cybersecurity, while professionals in the field share knowledge at key industry events. Efforts like these keep the market focused.

– Bart De Win, director cybersecurity & privacy at PwC

01

A COLLABORATIVE AND TALENTED CYBERSECURITY ECOSYSTEM

Today's increasingly digital society comes with new security risks: every 40 seconds, a company comes under cyberattack. It's no wonder that businesses, governments, financial institutions and international organizations rely on ICT players to develop sophisticated software to protect their data.

Flanders – Belgium's northern region – knows how to meet this demand. Despite its relatively small surface area of 13,522 km², it is home to a dense ecosystem that unites the private, public and academic sectors in long-term collaborations that safeguard our digital society.

FLANDERS' CYBERSECURITY ECOSYSTEM AT A GLANCE

13,522 km² / 5,221 sq mi
surface area of Flanders

€ 794 million
domestic cybersecurity market size in Belgium by 2022

5 universities

300 million
potential customers within 600 miles or 965 km around Flanders

Top 10
cybersecurity purchaser in Europe

- / IT and data security incubators
- / Cluster organizations
- / Universities with cybersecurity-relevant programs
- / Dedicated security research groups
- / Strategic research center for digital innovation
- / Federal and international organizations



Flanders' 4 building blocks for cybersecurity success

CYBERSECURITY POWERHOUSE

Thanks to its co-innovative ecosystem, Flanders has become a strategic powerhouse for new developments in encryption and cybersecurity. To highlight just two references:

- Scientists from Leuven University collaborated with the European Commission to develop a new authentication method based on TESLA electronic signatures to keep the European satellite navigation system Galileo safe from digital interference.
- International organizations such as NATO and the EU have their HQs in Flanders' capital, Brussels – where they rely on local cybersecurity services. The same goes for financial institutions such as SWIFT, Euroclear and Europay International.

DEVELOPING TALENT NON-STOP

The war for talent rages at its peak in digital industries. By 2022, the number of unfilled jobs in cybersecurity and fintech is expected to hit a staggering 3.5 million worldwide. Flanders has prepared for this challenge by investing heavily in education relevant to data security, encryption and the like. New experts are being developed non-stop at the region's 5 universities: KU Leuven, UGent, UAntwerpen, UHasselt and VUB.

Did you know?

Flanders' most famous cybersecurity reference is Rijndael, the Advanced Encryption Standard (AES). Bart Preneel, professor of information security at Leuven University (KU Leuven): "This algorithm for scrambling data across computer networks was first adopted by the US government before being used to secure internet traffic worldwide. It was developed at KU Leuven, where 15 professors and 150+ researchers specialize in cybersecurity."

PARTNERING UP MADE EASY

One of the main drivers of cybersecurity co-innovation in Flanders is imec – the region's strategic research center for nano- and digital technology. Its research is easily accessible for private-public collaborations, and covers relevant domains such as IoT, big data, wireless communication, CMOS development and scaling, data processing and encryption.

Various international cluster organizations in Flanders can easily connect your cybersecurity business with research centers, industry peers and more. Think of LSEC, for example – an information security cluster founded by Leuven University (KU Leuven).

02

RECOGNIZED SCIENTIFIC EXPERTISE

Flanders' academic sector excels in various scientific niches relevant to cybersecurity. To showcase this expertise, we'll let some examples of projects and initiatives speak for themselves:

Secure software

Facebook Internet Defense Prize for uncovering limitations in privacy and cookie policies

Who? Research group DistriNet (KU Leuven)
When? 2018
What? New software revealed that security and privacy policies in 7 browsers and 46 extensions could be bypassed.

Systems and infrastructure security

Tesla Model S key fob hacking

Who? Research group COSIC (KU Leuven)
When? 2018
What? The project involved an ethical hack of the Passive Keyless Entry and Start system (PKES) of Tesla's Model S electric cars. PKES allows the vehicle to be remotely locked and unlocked. The hack proved that PKES can be cloned in under 2 seconds.

Assessment of the WPA2 protocol

Who? Research group DistriNet (KU Leuven)
When? 2017
What? The project revealed a major vulnerability in the WPA2 protocol used to secure all protected Wi-Fi networks. This vulnerability could be exploited by attackers to steal sensitive user information.

Security services and middleware

Advanced research in multi-party computation (MPC)

Who? Research group COSIC (KU Leuven)
When? Ongoing
What? The aim is to turn MPC, which enables organizations to handle data in an encrypted form, into a general secure computation tool.

Security services and middleware

Advanced research in multi-party computation (MPC)

Who? Research group DistriNet (KU Leuven) in collaboration with the Israel Institute of Technology, Michigan University and Adelaide University
When? 2018
What? An ethical attack on Intel SGX proved that the software's enclaves for secure data and program use aren't watertight.

AES (Rijndael algorithm)

Who? Research group COSIC (KU Leuven)
When? 1997
What? Development of an encryption algorithm approved by the NSA for classified, secret and top-secret information. Today, AES is used to encrypt Wi-Fi, web communications and hard disks and protects banking transactions worldwide.

03

A SUPPORTIVE GOVERNMENT

Recognizing the importance of a secure digital society, the government of Flanders backs the cybersecurity sector with various tax measures that help innovative organizations lower the high price tag that comes with R&D.



Innovative income deduction

of a firm's net earnings from innovative software are exempt from taxes (no patents required)

Investment deduction



of the acquisition value deducted



of the annual depreciation deducted

Payroll tax incentive



of the withholding tax on professional income recovered

Open for business: ICT Welcome Team

Flanders has an expert welcome team for ICT investors. "The team consists of Flanders-based and international specialists who know the ins and outs of the ICT market and map out the possibilities for foreign investors," says member Michel Hofman from Flanders Investment & Trade, which founded the ICT Welcome Team. "We are currently focusing on cybersecurity, smart city technology, medical tech and ICT in healthcare, and fintech. As such, we assist players in these niches by providing tailored advice."

Get in touch with the ICT Welcome Team via: invest@fitagency.be.

04 INDUSTRY LEADERS PAVING THE WAY FORWARD

Pioneers from Flanders such as Robert Cailliau – one of the co-inventors of the internet – and Dries Buytaert – founder of Drupal – have gained celebrity status in ICT entourages around the world. But they aren't the only innovation flagships contributing to Flanders' solid reputation in advanced digital niches. In setting up cybersecurity activities in Flanders, you're in good company:

Ubizen

Pioneer in managed security, currently part of Verizon Enterprise Solutions

“Flanders is home to all staff needed to design and implement security systems. Besides, its excellent location in the heart of Europe offers easy access to a large ICT market. These assets have catapulted Ubizen onto the international managed security scene. We became a recognized leader in no time.”

– Christophe Huygens, founder and group CTO

TrustBuilder Corporation

Identity and access management (IAM) solutions

“The 5 universities in Flanders were there in a flash to organize courses on cybersecurity, enabling start-ups to hire skilled talent and, as such, to grow into successful companies. What's more, these businesses have always benefited from the advanced e-banking and payment environment in the region.”

– Marc Vanmaele, CEO

Intigriti

A platform for companies and institutions to connect with ethical hackers

“Every company in the world is prone to data security risks. This is no different in Flanders, yet an unseen number of businesses in the region engage with ethical hackers to prevent issues of this kind. They definitely rank among the most progressive companies in the world.”

– Stijn Jans, founder

PwC

Offers audit, tax and consulting services

“Frontrunning education institutions such as KU Leuven and Howest in Flanders prepare students for careers in cybersecurity, while professionals in the field share knowledge at key industry events like BRUCON and Devovx. Efforts like these keep the market challenged and focused.”

– Bart De Win, director cybersecurity & privacy

Deloitte

Provides solutions that ensure organizations are secure, vigilant and resilient

“Flanders is home to highly ranked universities, international organizations and decision-making institutions, all of which are digital-minded. No wonder cybersecurity has become a top priority for the entire industry.”

– Chris Verdonck, cyber risk services partner

Sweepatic

Develops a platform to monitor external attack surfaces and risk exposure

“As a young cybersecurity company in Flanders, we have easy access to highly skilled IT profiles at relatively affordable wage costs. On top of this, the region's open economy serves as a test market for multinationals that have a strong local presence here.”

– Stijn Vande Castele, co-founder & CEO

Belgian Mobile ID

The company behind the application: itsme

“Flanders has always been home to top experts in the domains of cryptography and cybersecurity. In 2003, for example, researchers developed the electronic ID card. This invention set the tone for many more to come, all requiring diverse expertise in secure solutions design.”

– Remy Knecht, COO

Toreon

Offers information security consultancy to digitalized companies

“Consulting companies are only as good as the people they employ. And as we're located in Flanders, we benefit from a well-spoken, multilingual workforce. In offering cybersecurity subsidies, Flanders also lowers the barriers for SMEs to take control of their data flows.”

– Wouter Avondstondt, managing partner.

Did you know?

Flanders' ethical hacker Inti De Ceukelaire was crowned The Most Valuable Hacker – the equivalent of a world championship title – in Las Vegas in 2018. Inti is known, among other things, for hacking Donald Trump's Twitter account.



LSEC

LSEC is an international IT and information security cluster. Want to launch and grow your business on European soil? LSEC guarantees your safe landing. Located in Flanders and founded by KU Leuven. Join the hub!

LSEC Main Office

Kasteelpark 10
BE-3001 Heverlee | Belgium

T. +32 1 632 85 41
E. info@lsec.be
www.leadersinsecurity.org

Flanders Investment & Trade

The government of Flanders is eager to support initiatives and companies that contribute to a strong cybersecurity ecosystem. Looking for expert advice or more information on Flanders' assets in data protection? Contact Flanders Investment & Trade, the go-to organization for international businesses in the region.

Flanders Investment & Trade HQ

Koning Albert II-laan 37
BE-1030 Brussels | Belgium

T. +32 2 504 87 11
E. info@fitagency.be
www.InvestInFlanders.com

