

# CYBERSECURITY COMPETENCY FRAMEWORK

WORKING GROUP : TRAINING



**According to ANSSI studies, there is a real lack of cybersecurity skills and resources for both providers and users. Since 2019 there are more than 15,000 open positions in the cyber job market in France. In reaction to that, the industry anticipates the creation of 35,000 positions by 2030.**

Despite the growth of the cyber job market and the career opportunities offered, it seems to not attract the desired workforce: training courses are struggling to recruit talents, and the lack of women is shocking. Indeed, according to ISC2 studies, women represent only 11% of the workforce worldwide.

This lack of attractiveness is due, among other things, to the stereotypes associated with the cybersecurity professions: specialized jobs and IT skills, etc.

Building on the initial work carried out within their "Diversity and Inclusion" working group, Clusif has chosen to join the working group dedicated to Training created in 2021 within the Cyber Campus and co-led by CapGemini. The twenty experts in training and cybersecurity who meet every two weeks have decided to continue along the path already opened up, with the support of ANSSI (which has made it possible, for example, to include the new PRIS-type reference systems in the professions).

The first objective of this Training Working Group was the creation of a Competency Reference Framework for Cybersecurity professions. This repository will help demystify and publicize the cybersecurity professions and the skills required to occupy the various positions. In the long term, it will also be able to direct the various publics towards the appropriate training courses. This work was designed as a bridge between HR, professions and students to serve as a common reference for the French cybersecurity ecosystem.

This work was based on the ANSSI's "Panorama des Métiers de la Cybersécurité" and the CyberEdu skills framework, but also took into account international standards (ENISA's European Cybersecurity Skills Framework, NIST's National Initiative for Cybersecurity Education) and the Security Skills Matrix produced by AXA. Moreover, it is important to keep in mind that the level of the users of the matrix may be slightly lower than the one displayed. Moreover, the reference framework is meant to be adjustable, depending on the organizational context of the companies (maturity, stakes...). Indeed, cybersecurity is a constantly evolving field, which requires regular adjustments according to the evolution needs of the sector.

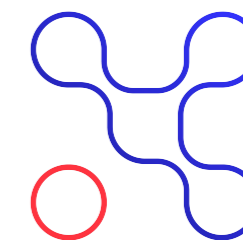
The Cybersecurity Competency Framework is intended for a wide audience. It is both a tool to help orientation, integration of young graduates and retraining to and within the cybersecurity professions. The repository could also be useful to the competent departments within human resources, recruitment agencies, training organizations, private or public companies, as well as to individuals.

This reference tool is the first deliverable of the Training Working Group. This first part deals with jobs directly related to cybersecurity. In a second phase, the working group will deal with the related jobs that are linked to cybersecurity, to enrich this work.

If you wish to have additional information, do not hesitate to contact the Commons Studio of the Cyber Campus.

The Training Working Group of the Cyber Campus Commons Studio

Contact : [communautes@campuscyber.fr](mailto:communautes@campuscyber.fr)



Type of skill	Area of responsibility	Skill	Note	Safety management & security project management					Conception et maintien d'un SI sécurisé									Incident and crisis management				Consultancy, services et research						
				Group Chief Security Officer	Information System Security Manager (ISSM)	Security Officer	IT program manager	Security project Manager	Security Architect	Security Specialist (in a technical field)	Security Operation Center manager	Security operations center analyst	Cyber Threat Analyst	Cyber security administrator	Organizational security auditor	Technical security auditor	Computer Emergency Response Team Manager, Computer Security Incident Response Team Manager	Tech lead	Forensic analyst	Reverse engineer	Cyber security crisis manager	Cybersecurity consultant	Cyber security trainer	IT Security Evaluation Facility (IT-SEF) Specialist	Security product developer	Security product integrator	Cyber security researcher	
Business skill	Operational INFOSEC	Define the architecture of the information system	read, analyze and design systems' architecture	2	3	2	1	1	4	2	2	1	1	2	2	3	1	3	3	1	2	1	1	2	2	2	1	
Business skill	Operational INFOSEC	Choose and implement secure protocols	encryption algorithms, signature	1	2	2	1	2	2	x	1	1	1	3	1	1	1	2	2	3	1	1	1	2	2	1	2 to 4	
Business skill	Operational INFOSEC	Secure the networks	Architecture, protocoles	2	3	3	1	2	3	x	1	2	1	4	1	2	0	3	2	1	1	1	1	2	2	2	2 to 4	
Business skill	Operational INFOSEC	Secure software applications	Development, code reviews	1	2	2	1	2	1	x	0	0	1	1	1	2	0	2	1	3	1	1	1	3	2	2	2 to 4	
Business skill	Operational INFOSEC	Secure the operating systems	Hardening	1	2	2	1	2	2	x	1	2	1	4	1	2	0	3	2	1	1	1	1	2	2	2	2 to 4	
Business skill	Operational INFOSEC	Undertake technical security audits	Ex : penetration testing, knowledge of the security assessment processes (common criteria, first level security certification (CSPN), etc.)	2	3	3	1	2	1	2	1	3	1	1	1	3	0	1	1	1	1	1	1	2	1	1	2	
Business skill	Process-management	Monitor cyber risks	Depending on the size/sector of the facility : from simple diagnosis to methodes like EBIOIS	4	4	4	4	3	2	2	2	1	3	1	4	3	1	4	0	0	4	2	1	2	2	1	1	
Business skill	Process-management	Set up a cybersecurity policy	Information Systems Security Policy (ISSP)	3	4	4	2	1	2	1	2	1	1	1	3	3	2	2	0	0	2	2	1	2	1	1	0	
Business skill	Process-management	Integrate legal aspects of cybersecurity	Cyber law (ISS, data protection)	2	3	2	2	1	1	1	1	1	1	1	2	1	3	1	0	0	2	1	1	2	1	1	1	
Business skill	Process-management	Ensure adherence to/Applying norms and standards on ISS	ISO standards (2700X), ANSSI guides, industry standards guides (PCI-DSS)	3	4	3	2	2	2	x	1	1	1	3	3	2	1	2	0	0	2	3	1	3	2	1	1	
Business skill	Process-management	Undertake/Contain/Manage/Respond to security threats and vulnerabilities	Networks, software, hardware, handling Open Source Intelligence (OSINT)	3	4	3	2	2	2	3	4	4	4	2	2	3	1	4	3	3	2	2	1	2	1	1	2	
Business skill	Process-management	Supervise the security of information systems	Depending on the size of the facility	3	4	3	1	2	2	1	4	4	1	3	1	2	1	3	1	0	1	1	1	2	1	1	0	
Business skill	Process-management	Develop a cyber security strategy	Business continuity plan, recovery plan, crisis management plan, security plan, communication plan	4	3	2	3	1	2	1	3	2	1	1	2	1	2	2	2	0	0	3	2	1	2	0	1	0
Business skill	Supervision	Network flow analysis	Flow matrices, analysis tools	1	2	2	1	2	2	x	3	4	1	3	1	2	1	4	4	3	2	1	1	1	1	1 ou 2	2 & 4	
Business skill	Supervision	Set up, analyze and correlate logs	Including system or application log security	1	2	2	1	2	1	x	3	4	1	3	1	1	1	4	4	2	2	1	1	1	1	1	0	
Business skill	Incident response	Engage a reverse engineering approach		1	2	2	1	1	0	x	1	3	1	0	0	1	1	2	3	4	1	1	1	1	0	2 & 4		
Business skill	Incident response	IS analysis after an incident	« Forensic »	2	3	3	1	1	0	x	1	3	1	1	0	1	2	3	4	2	2	1	1	1	0	0	1	

Type of skill	Area of responsibility	Skill	Note	Safety management & security project management					Conception et maintien d'un SI sécurisé							Incident and crisis management				Consultancy, services et research							
				Group Chief Security Officer	Information System Security Manager (ISSM)	Security Officer	IT program manager	Security project Manager	Security Architect	Security Specialist (in a technical field)	Security Operation Center manager	Security operations center analyst	Cyber Threat Analyst	Cyber security administrator	Organizationna l security auditor	Technical security auditor	Computer Emergency Response Team Manager, Computer Security Incident Response Team Manager	Tech lead	Forensic analyst	Reverse engineer	Cyber security crisis manager	Cybersecurity consultant	Cyber security trainer	IT Security Evaluation Facility (IT-SEF) Specialist	Security product developer	Security product integrator	Cyber security researcher
Transversal skill	Personal position	Integrate business challenges	Suggest appropriate solutions (availability, confidentiality, integrity, traces)	4	4	3	3	3	4	2	3	1	1	2	4	3	2	3	2	0	4	1	3	2	3	3	0
Transversal skill	Personal position	Carry out/Organize an active and regular watch over cybersecurity	knowledge of the market solutions	2	3	2	2	2	3	4	3	2	3	2	3	3	2	3	4	4	1	3	1	2	2	4	4
Transversal skill	Personal position	Automate the tools	Scripting	1	2	2	1	1	1	2	2	4	1	4	0	2	1	3	3	4	2	1	1	2	2	1	2
Transversal skill	Personal position	Analyse and summarize	Verbal and written	4	3	3	4	3	2	2	3	2	3	1	4	3	3	3	2	1	4	3	3	3	2	3	4
Transversal skill	Personal position	Be able to communicate effectively (orally and in writing) with both internal and external audiences in French or in foreign languages		4	4	3	4	3	2	3	2	1	3	1	3	3	4	3	2	1	4	3	x	3	2	3	4
Transversal skill	Personal position	Be ethical and act rigorously		4	4	3	4	3	3	3	3	3	2	4	4	4	2	4	4	4	4	3	2	4	3	3	4
Transversal skill	Personal position	Manage stressful situations		4	4	3	4	2	1	1	3	3	2	2	3	3	4	4	2	2	4	3	0	2	1	1	0
Transversal skill	Personal position	Provide/take an innovative approach		3	3	2	2	2	1	2	1	1	2	0	0	0	3	4	3	3	2	2	0	0	2	2	4
Transversal skill	Teamwork	Work together as a team / Work with and learn from a team		3	3	3	3	3	2	2	3	3	3	2	3	3	1	4	3	3	4	3	0	3	3	3	3
Transversal skill	Teamwork	Manage a team	Organize, assign, manage the skills	4	4	3	3	3	1	1	4	1	1	0	3	3	4	3	0	0	4	1	3	2	1	1	2
Transversal skill	Teamwork	Gain a general consensus around a same goal	Adopt a proactive approach, prove your leadership abilities, generate synergies within the same institution or outside.	4	4	3	4	3	2	1	3	1	1	1	3	3	3	4	1	1	4	3	3	1	2	2	1
Transversal skill	Teamwork	Adapt your communication to different target audiences	GD, manager, technical staff, awareness, training activities (teaching)	4	4	3	4	3	2	1	3	1	2	1	4	3	3	3	1	1	4	3	0	2	2	3	2
Transversal skill	Teamwork	Draft internal and external documents	Procedures, processes, documentation, project charter, project plans, reports, training material	2	3	2	2	2	2	2	3	3	3	2	3	3	2	3	1	2	4	3	3	3	2	3	1
Transversal skill	Teamwork	Outline/Present projet findings	Use of suitable tools, indicators, scoreboard, synthesis, action plan	4	3	3	4	3	2	1	3	2	2	1	3	3	1	4	1	3	4	3	0	1	2	3	2
Transversal skill	Teamwork	Integrate professional networks	From bald observation to active involvement	3	3	3	2	1	1	1	2	1	2	1	1	1	4	1	0	1	1	3	0	2	1	1	3
Transversal skill	Teamwork	Establish priorities according to constraints	Pressing/Substantial	3	3	3	3	3	1	1	4	2	3	3	3	3	4	4	3	3	4	3	0	3	2	3	2

Legend : appropriate levels (knowledge/skills)
x = from 0 to 4 depending on the area of expertise
Level 4 : Expert
Level 3 : Proven capability
Level 2 : Performing basic actions related to the skill
Level 1 : Identifying/Understanding major issues/challenges related to the skill
Level 0 : No knowledge on the issue

## CAMPUS CYBER

5-7 rue Bellini

92800 La Défense

Campuscyber.fr

[Contact@campuscyber.fr](mailto:Contact@campuscyber.fr)

Our productions :  
[wiki.campuscyber.fr](http://wiki.campuscyber.fr)