











DESIGNING A CYBER-SECURE INFRASTRUCTURE FOR BELGIAN SMES

A MODULAR APPROACH ALIGNED WITH THE CYFUN FRAMEWORK, WITH FOCUS ON THE ACCOUNTING SECTOR

OVERVIEW

01 Introduction

02 Problem Statement

03 Research Methods

04 Implementation

05 Result & Discussion

06 Conclusion

INTRODUCTION

- Context: Belgian SMEs, especially accounting firms, face increasing cybersecurity challenges.
- **Sector Motivation**: Accounting firms often lack time, staff, and resources to manage secure IT infrastructures and rely on digital workflows.
- Framework Alignment: The Belgian Cybersecurity Centre (CCB) introduced CyFun, a national framework with a Basic level designed to be accessible to all organizations.
- Research Question: Can we create a plug-and-play infrastructure that enables SMEs to meet baseline cybersecurity requirements with limited ressources?

PROBLEM STATEMENT

Limited financial and human resources

SMEs often lack the budget and internal staff to manage IT infrastructure.





Complexity of Security Frameworks

Frameworks like ISO 27001 or NIST CSF are too complex and rigid for SMEs to adopt without expert support.

Low Regulatory Awareness

Many small firms are not even aware of what regulations apply to them or how to become compliant





Lack of simple and automated solutions

Existing tools are rarely tailored to SME needs, they are often too technical, expensive.

Research Gap Identified

- Lack of ready-to-use, compliance-ready, and modular infrastructure solutions specifically designed for SMEs.
- No existing work applies the CyFun framework in a technical implementation for Belgian SMEs.

METHODOLOGY & RESEARCH DESIGN

Approach: Identify real-world needs of small accounting firms to build a secure and compliant infrastructure aligned with CyFun via automation, reproducibility, and compliance artifacts.

• 1. Qualitative Needs Assessment:

- Interviews with 5 accounting SMEs
- Identify gaps in compliance, awareness, and documentation
- Define a Generic Profile

• 2. Technical Implementation:

- Adaptation of the JANUS infrastructure
- Implementation of all sub-functions of CyFun Identify level Basic
- Generation of compliance-ready artifacts and checklists

Goal : Deliver a modular, easy-to-use infrastructure that enables SMEs to reach CyFun compliance without requiring technical expertise.

QUALITATIVE NEEDS ASSESSMENT

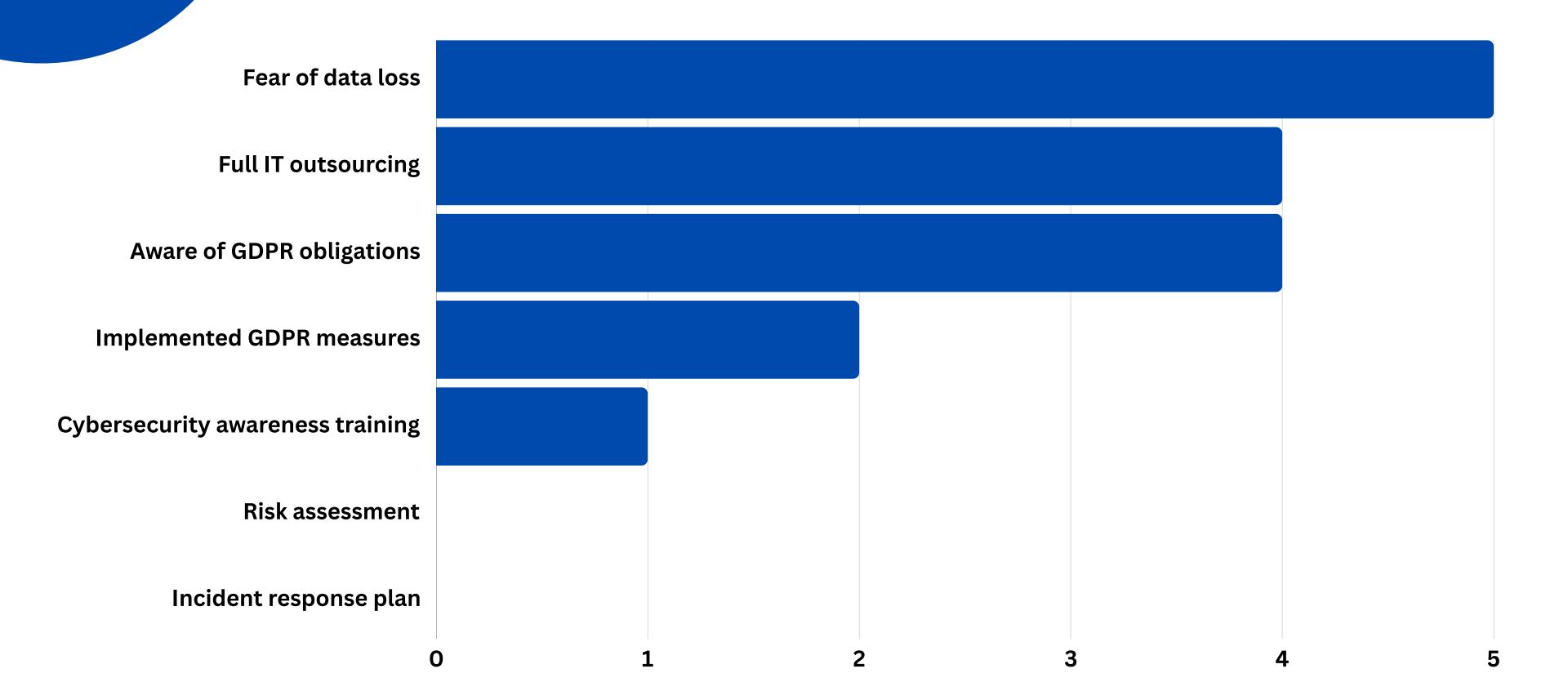
Objective

Validate the real needs of Belgian accounting firms and define a representative SME profile to guide infrastructure design.

Method

- 5 accounting firms interviewed
- 9 open-ended questions
- Data collected via phone and email (March 2025)
- Analysis: thematic matrix to extract common challenges

QUALITATIVE ANALYSIS



QUALITATIVE ANALYSIS

Key Findings

- 4 out of 5 firms fully outsource their IT.
- Most firms are aware of GDPR but have not implemented any concrete measures.
- Risk awareness is low: no company has conducted a security audit or implemented an incident response plan
- The top fear mentioned by all firms is data loss, mostly due to ransomware, human error, or technical failure.

Conclusion

- SMEs are aware of the risks and regulations, but they do not act on them.
- A clear gap exists between awareness and action.
- This shows a need for a simple solution to drive action.

ARCHITECTURE JANUS

Deployment:

• 1. Virtual Machine Provisioning

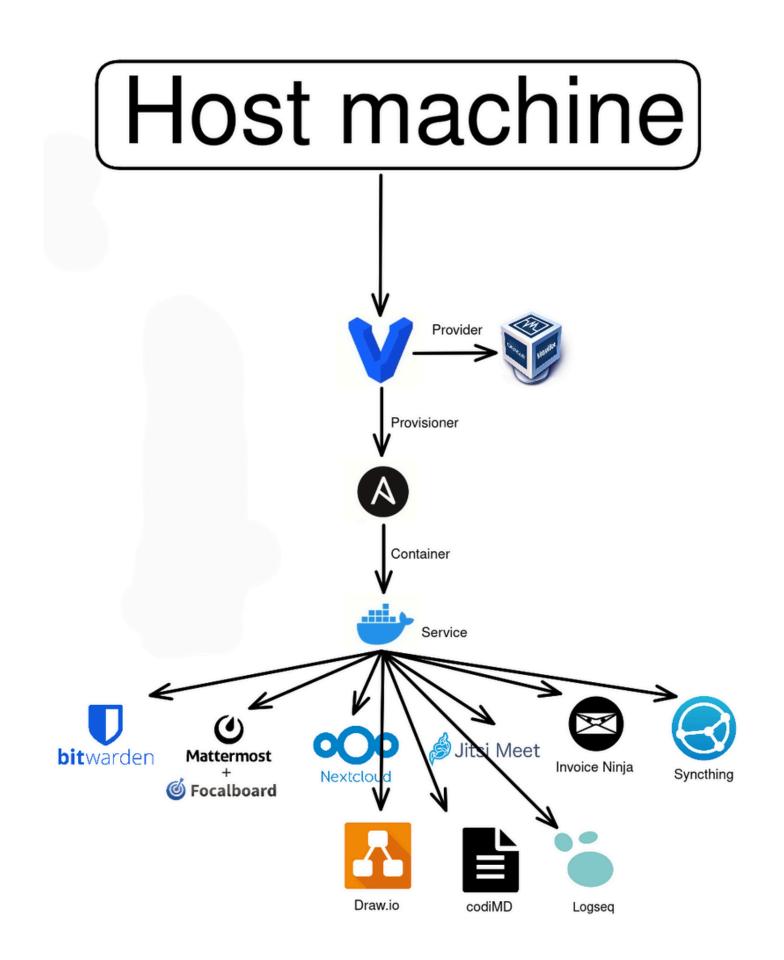
VMs are instantiated using Vagrant

• 2. Configuration & Automation

Machines are configured using Ansible playbooks

• 3. Service Deployment (Apps & Tools)

Web services and tools are deployed using Docker containers



TECHNICAL IMPLEMENTATION

- Infrastructure Adaptation
 - Customized the existing JANUS platform for SMEs real-world needs
 - Implemented the CyFun Identify function (Basic level)
- Automation using IaC and CaC
 - Developed Ansible Playbooks:
 - Asset inventory (physical/software)
 - Risk assessment & vulnerability scanning (Trivy)
 - Governance and compliance documentation
 - YAML-based automated documentation and inventory generation

TECHNICAL IMPLEMENTATION

OUTPUT PHYSICAL ASSETS (ID.AM-1)

```
domain > cyfun > identify > assets > output > assets.yml

1    asset_type: infrastructure
2    assets:
3    - cpu: 4 cores
4    id: vagrant
5    ip: 10.0.2.15
6    name: vagrant
7    os: Debian 12.6
8    ram: 3914 MB
9    type: vm
10    collected_on: '2025-06-14'
11    description: Auto-collected infrastructure asset for CyFun ID.AM-1 compliance
```

EXAMPLE OF AUTOMATIC GENERATED INVENTORY OF INFRASTRUCTURE ASSETS

TECHNICAL IMPLEMENTATION

MANUAL ASSETS (ID.AM-1)

```
domain > cyfun > identify > assets > manuals > 🖹 manual-assets.yml
      asset type: human-assets
      description: >
        This file is intended to document all organizational assets that cannot be
        automatically collected via the system (e.g. user laptops, mobile phones, printers,
  4
        routers, or any other physical or offline assets).
  5
  6
        Fields marked as REQUIRED must be filled to ensure CyFun ID.AM-1 compliance.
  7
        Fields marked as OPTIONAL can be left blank or marked as TO DO if unknown.
  8
      last review: TO BE FILLED # REQUIRED - Last time this file was reviewed (format: YYYY-MM-DD)
 10
 11
 12
      assets:
        - id: TO BE FILLED
                                      # REQUIRED - Unique asset ID (e.g. Laptop-jdoe-001)
          name: TO BE FILLED
                                      # REQUIRED - Human-readable name (e.g. John's Laptop)
 14
          type: TO BE FILLED
                                      # REQUIRED - Device type (e.g. laptop, printer, router, phone, etc.)
 15
          owner: TO BE FILLED
                                      # REQUIRED - Assigned user or department (e.g. Alice, Accounting)
          location: TO BE FILLED
                                      # REQUIRED - Physical location or office (e.g. Floor 2, Room 210)
                                      # OPTIONAL - Operating system (e.g. Windows 11, iOS 16.1)
          os: TO DO
          ip: TO DO
                                      # OPTIONAL - IP address (can be null if offline or unmanaged)
 19
          network: TO DO
                                      # OPTIONAL - "connected", "not connected", "unknown"
 20
          serial number: TO DO
                                      # OPTIONAL - Device serial number or inventory label
          manufacturer: TO DO
                                      # OPTIONAL - Manufacturer or brand (e.g. Dell, HP)
          purchase date: TO DO
                                      # OPTIONAL - Date of purchase (format: YYYY-MM-DD)
          last review: TO BE FILLED
                                      # REQUIRED - Date this asset entry was last checked or updated
 24
 25
```

TECHNICAL IMPLEMENTATION

SOFTWARE ASSETS (ID.AM-2)

```
domain > cyfun > identify > software > output > 🖹 assets_software.yml
        - collected on: '2025-06-14'
          host: vagrant
          inventory type: software
          os: Debian 12.6
          software:
           docker_services:
           - name: logseq
            versions:

    ghcr.io/logseq/logseq-webapp:latest

            - name: drawio
             versions:
            - jgraph/drawio
            - name: codimd-codimd
             versions:
            - hackmdio/hackmd:2.4.2
            - name: codimd
             versions:
            - postgres:11.6-alpine
           name: syncthing
             versions:
             - syncthing/syncthing
            - name: nextcloud
              versions:
  23
              - nextcloud
```

TECHNICAL IMPLEMENTATION

PRIORITIZED INVENTORY (ID.AM-5)

```
domain > cyfun > identify > inventory > output > 🖹 prioritized_inventory.yml
       - classification: critical
        criticality: critical
        name: Credentials and Access Information
        value: very high

    classification: internal

         criticality: high
        name: nextcloud
        value: high
       - classification: confidential
        criticality: high
 10
        name: bitwarden
 11
 12
        value: very high
       - classification: confidential
        criticality: high
 14
        name: Client Data
 15
       value: very_high
 16
       - classification: confidential
        criticality: high
 18
```

TECHNICAL IMPLEMENTATION

LEGAL DOCUMENTATION (ID.GV-3)

```
domain > cyfun > identify > policies > output > ** legal_compliance.md > ** Legal and Regulatory Compliance > ** ## 2. Our Actions
      # Legal and Regulatory Compliance
      This document explains the main legal and cybersecurity rules for our accounting firm in Belgium.
     It helps meet **CyFun ID.GV-3** (governance) and refers to **NIS2**, active since October 2024.
      All team members (managers, accountants, secretary) must know these rules.
      The **Directive Manager** ensures they are followed.
      ## 1. Main Legal Rules
     ### 1.1 General Data Protection Regulation (GDPR)
     We handle clients personal and financial data.
     Data must be safe (strong passwords, encryption, secure backups).
     Clients can ask to see, change, or delete their data.
     If there's a data breach, we must tell the Belgian Data Protection Authority (APD) within 72 hours.
17
     ### 1.2 Belgian Accounting Law
     Accounting documents must be kept for at least 7 years.
     Documents must be ready for tax authorities if requested.
     Digital storage is allowed but must be secure and organized.
24
     ### 1.3 Confidentiality Rules
     As accountants, we must keep client data private.
     Only authorized staff can access sensitive files.
     Personal USB drives or private email accounts are not allowed.
```

TECHNICAL IMPLEMENTATION

VULNERABILITY SCANNING WITH TRIVY (ID.RA-1)

```
domain > cyfun > identify > risk > output > 🔁 vulnerabilities.yml
       collected on: '2025-06-14'
       scanner: trivy container
       unique_cve_count: 346
       vulnerabilities:
       - VulnerabilityID: CVE-2025-4802
         severity: HIGH
         title: 'glibc: static setuid binary dlopen may incorrectly search LD LIBRARY PATH'
   8
   9
         - CWE-426
         images:
  10
         - ghcr.io/bitwarden/admin:2025.6.1
  11
  12
         - ghcr.io/bitwarden/attachments:2025.6.1
  13
          - ghcr.io/bitwarden/events:2025.6.1
         hackmdio/hackmd:2.4.2
  14
         - ghcr.io/bitwarden/icons:2025.6.1
  15
         - ghcr.io/bitwarden/identity:2025.6.1
  16
         - invoiceninja/invoiceninja-debian:latest
  17
         - jitsi/jicofo:stable-9220-1
  18
         - jitsi/jvb:stable-9220-1
  19

    nextcloud:latest

  20
         - ghcr.io/bitwarden/nginx:2025.6.1
  21
         - jitsi/prosody:stable-9220-1
  22
         - ghcr.io/bitwarden/setup:2025.6.1
  23
         - ghcr.io/bitwarden/sso:2025.6.1
  24
         - ghcr.io/bitwarden/web:2025.6.0
  25
         - jitsi/web:stable-9220-1
        - VulnerabilityID: CVE-2025-5222
  27
  28
         severity: HIGH
         title: 'icu: Stack buffer overflow in the SRBRoot::addTag function'
  29
  30
         cwe:
  31
         - CWE-120
```

CYFUN COMPLIANCE MAPPING

How it aligns with the Framework?

• ID.AM-1 to ID.AM-5 – Asset Management

- Inventories auto-generated (physical, software, dependencies and Inventory)
- Manual templates for what cannot be detected

• ID.GV-1 to ID.GV-4 – Governance

- Policies, legal compliance, risk strategy -> produced as Markdown
- Written for non-technical users

• ID.RA-1 & ID.RA-5 – Risk Assessment

- Trivy scans vulnerabilities (ID.RA-1)
- Manual templates of threats and risks + mitigation (ID.RA-5)

Additional Compliance Tools

Ready-to-use checklists provided for easy compliance tracking

LIMITATIONS & FUTURE WORK

Limitations

- Scope limitation: Focus only on the Identify function (not full CyFun)
- No field testing: The solution was not evaluated in real accounting firms
- Target-specific: Solution tailored to Belgian accounting firms only

Future Work

- Extend to other CyFun functions (Protect, Detect...)
- Deploy and validate in real accounting firms
- Improve asset detection (e.g., passive scanning)
- Add a simple GUI for non-technical users

CONCLUSION

- Objective achieved: A modular and automated infrastructure was successfully built, aligned with Cyfun Identify function (Basic level)
- **Using Automation :** Tools like Ansible and Trivy reduce manual effort and technical dependency.
- Reusable & extensible: JANUS-based setup can be adapted to other SME sectors or extended to other CyFun functions.
- **Research question answered :** Yes, a plug-and-play infrastructure is achievable for the Identify function, proving that SMEs can meet baseline requirements with minimal resources.

REFERENCE

Key References

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- CCB Centre pour la Cybersécurité Belgique (2024). Cadre des CyberFundamentals (CyFun).
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- Rombaldo Junior, C., Becker, I., & Johnson, S. (2024). Unaware, Unfunded and Uneducated: A Systematic Review of SME Cybersecurity. arXiv:2309.17186.











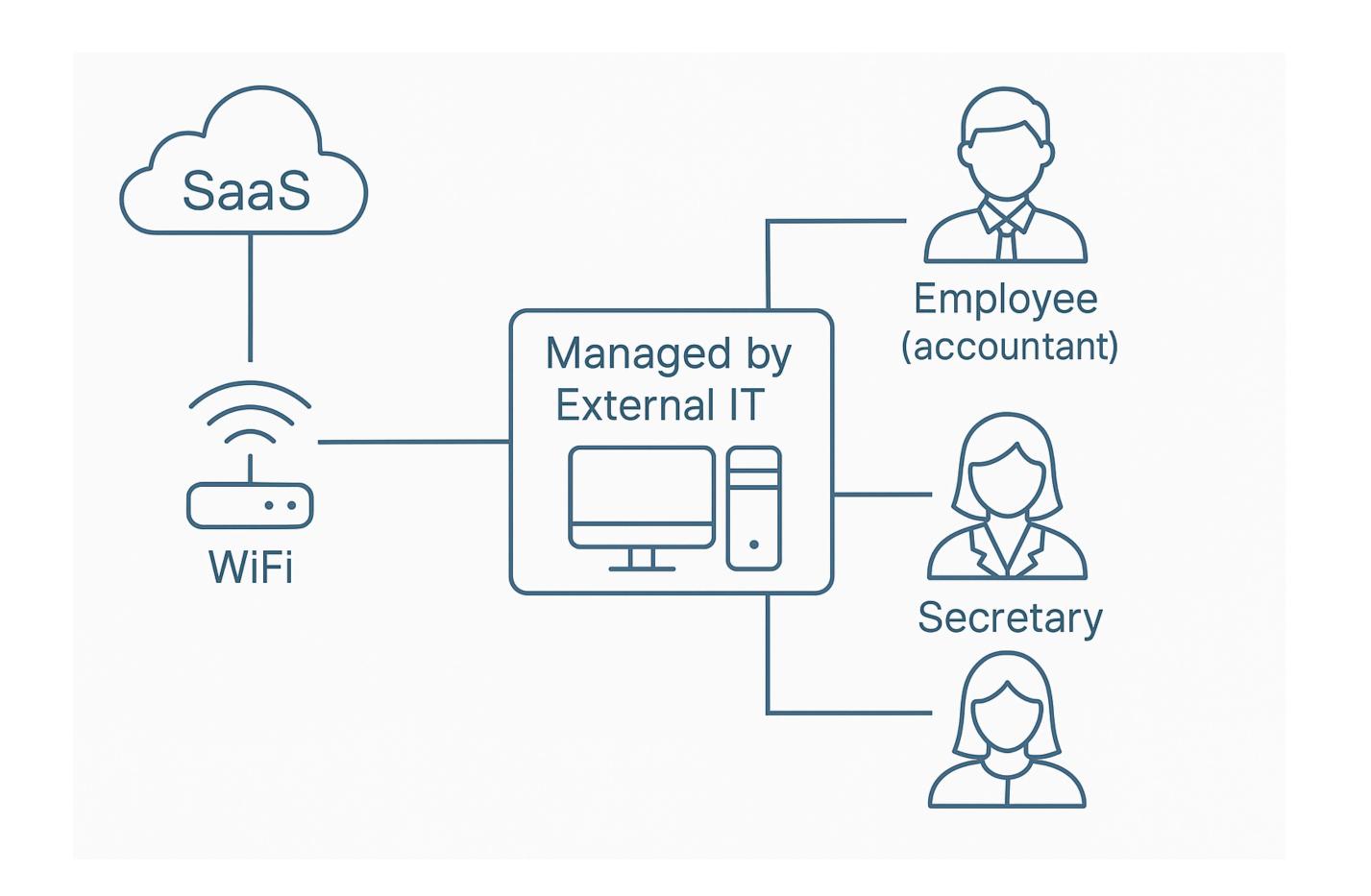


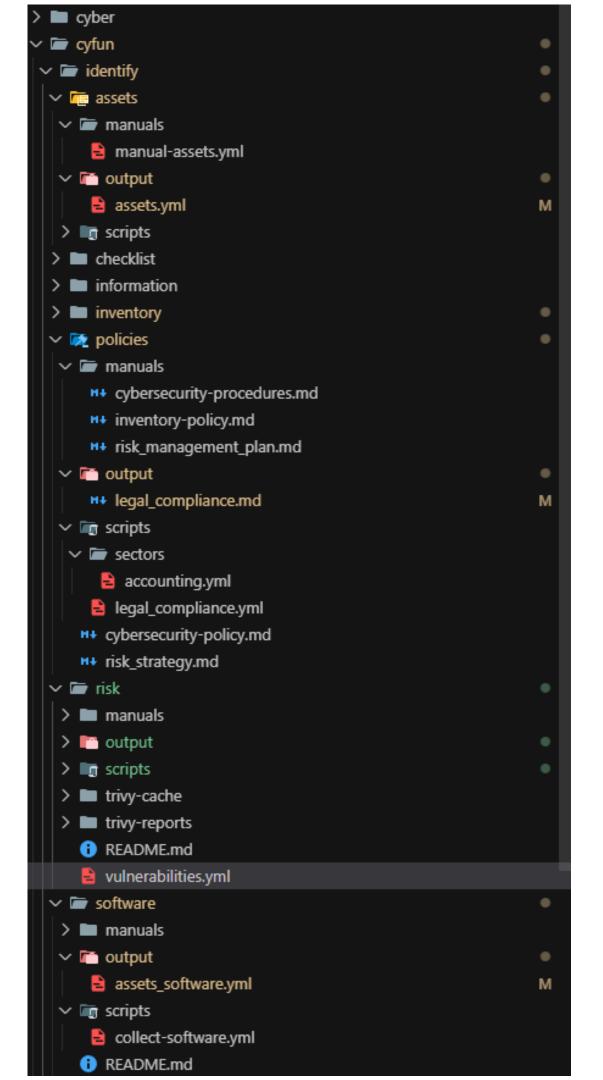
THANK YOU! ANY QUESTIONS?

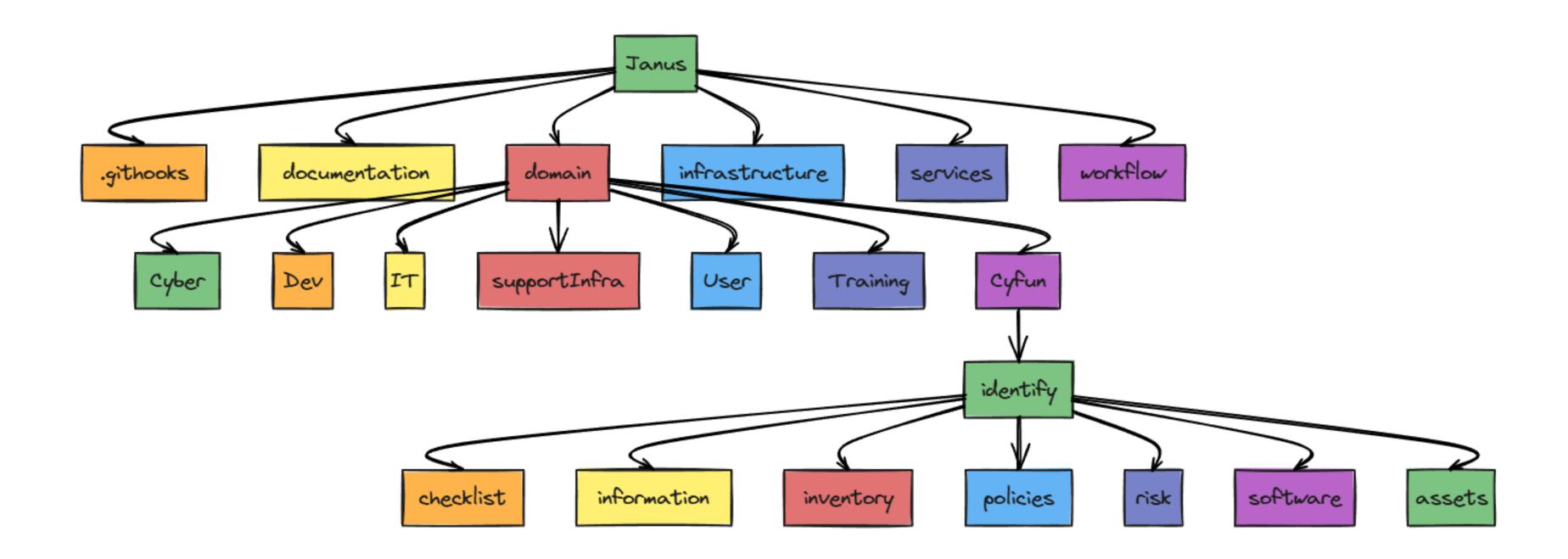
Question	Company 1	Company 2	Company 3	Company 4	Company 5		
IT / cybersecurity team	Externalized +	Internal accoun-	External provider	Freelance external	Dedicated IT		
	internal contact	tant manages			company		
		IT					
Accounting software	BOB 50, Sage	Sage BOB 50,	Bob, Horus	Sage BOB	Sage BOB 50		
used	Cloud Demat	HORUS, SaaS for					
		tax returns					
Software for compli-	Client portfolio	Sage BOB and	Bob and Horus	Microsoft 365,	Email, BOB 50		
ance/continuity	management,	Horus		BOB			
	administrative						
	tools						
Regulations to follow	GDPR	GDPR	No idea	GDPR	GDPR		
Information security	GDPR imple-	GDPR yes, Cy-	Basic knowledge	GDPR	Basic knowledge		
(GDPR, NIS2, CyFun)	mented, client	Fun unknown	of GDPR		of GDPR		
	protocol						
Cybersecurity audit /	Never done	No	No	No	No		
risk assessment							
Main risks and threats	Attacks prevent-	Malware, phish-	Data loss	Ransomware,	Data loss		
	ing access to data	ing		data loss			
Sensitive data protec-	None	Dropbox backup	2FA + daily back-	Restricted access	Weekly backup		
tion		+ strong pass-	ups on two sites				
		words					
Incident response plan /	None	Informal aware-	None	No formal plan	No plan, no train-		
employee awareness		ness, no plan			ing		

```
domain > cyfun > identify > risk > 🖹 vulnerabilities.yml
      collected_on: "2025-05-22"
      scanner: trivy_container
      images_scanned: 4
      unique_cve_count: 88
     vulnerabilities:
      - VulnerabilityID: CVE-2022-3715
        cwe:
        - CWE-119
        - CWE-787
        images:
 10
        - jitsi/jicofo:stable-9220-1
 11
        - jitsi/jvb:stable-9220-1
 12
        - jitsi/prosody:stable-9220-1
 13
        - jitsi/web:stable-9220-1
 14
        severity: HIGH
 15
        title: 'bash: a heap-buffer-overflow in valid_parameter_transform'
 16
       - VulnerabilityID: CVE-2022-1304
 17
 18
         cwe:
        - CWE-125
 19
        - CWE-787
 20
        images:
 21
        - jitsi/jicofo:stable-9220-1
 22
        - jitsi/jvb:stable-9220-1
 23
        - jitsi/prosody:stable-9220-1
        - jitsi/web:stable-9220-1
 25
        severity: HIGH
 2.6
         title: 'e2fsprogs: out-of-bounds read/write via crafted filesystem'
       - VulnerabilityID: CVE-2024-2961
        cwe:
 29
 30
        - CWE-787
        images:
 31
        - jitsi/jicofo:stable-9220-1
 32
```

```
Invite de commandes
10.10.10.12
                      : ok=12 changed=5
                                         unreachable=0
                                                       failed=0
                                                                 skipped=0
                                                                           rescued=0
                                                                                      ignored=0
==> user_domain: Machine 'user_domain' has a post `vagrant up` message. This is a message
==> user_domain: from the creator of the Vagrantfile, and not from Vagrant itself:
==> user_domain:
==> user_domain: 🚀 Janus Services Deployment Report 🚀
==> user_domain:
==> user_domain: • Access Services via Web (local machine):
==> user_domain:
==> user_domain: Mattermost + Focalboard: http://localhost:8081
==> user_domain: G SyncThing:
                                      http://localhost:8082
==> user_domain: 📞 Jitsi Meet:
                                      https://localhost:8443
http://localhost:8084
==> user_domain: 💼 Bitwarden:
                                      https://localhost:8444
==> user_domain: 📝 Drawio:
                                      https://localhost:8446
==> user_domain: 📃 codiMD:
                                      http://localhost:8086
==> user_domain: 🍈 Invoice Ninja:
                                      http://localhost:8087
==> user_domain: \(\bigcup \) logseq:
                                      http://localhost:8088
==> user_domain:
==> user_domain: 🎉 Explore and Enjoy! 🎉
==> user_domain:
==> user_domain: 🤚 Greetings from your friendly cyber-intern! 🡾
==> user_domain:
C:\Users\arnau\OneDrive\Bureau\ULB\MA2INFO\MEMOIRE\janus\domain\user>
```







A B C D E F G H I J K L M N O P Q



Version: 2024-01-08

Financial market infrastructures Banking			Commo	on skills	Commo	on skills	Commo	on skills	Extende	ed Skills	Extend	ed Skills		
Organization Size (L/M/S = 3/2/1)	1	Threat Actor Type	Comp	etitors		ogues ivists	Terr	orist	_	ber inals		n State tor		
Cyber Attack Category	Global or Targetted	Impact	Prob	Risk Score	Prob	Risk Score	Prob	Risk Score	Prob	Risk Score	Prob	Risk Score		
Sabotage/ Disruption (DDOS,)	2	High	Low	0	Med	10	Med	10	Low	0	Med	10		
Information Theft (espionage,)	2	High	Low	0	Low	0	Med	10	High	20	Med	10		
Crime (Ransom attacks)	1	High	Low	0	Low	0	Low	0	High	10	Low	0		
Hactivism (Subversion, defacement)	1	Med	Low	0	Med	2,5	Low	0	Low	0	Med	2,5		
Disinformation (political influencing)	1	Low	Low	0	Med	0	Low	0	Low	0	Low	0	Score	CyFun Level
	Total	Total		0		12,5		20		30		22,5	85	BASIC

```
assets.yml M X
domain > cyfun > identify > assets > output > 🖹 assets.yml
       asset_type: infrastructure
       assets:
       - cpu: 4 cores
         id: vagrant
         ip: 10.0.2.15
        name: vagrant
   6
         os: Debian 12.6
   8
         ram: 3914 MB
   9
         type: vm
  10
       collected_on: '2025-06-14'
       description: Auto-collected infrastructure asset for CyFun ID.AM-1 compliance
  11
  12
```

```
assets_software.yml M X
domain > cyfun > identify > software > output > 🖹 assets_software.yml
        - collected_on: '2025-06-14'
          host: vagrant
         inventory_type: software
         os: Debian 12.6
          software:
            docker services:
            - name: logseq
              versions:
              - ghcr.io/logseq/logseq-webapp:latest
  10
            - name: drawio
  11
              versions:
  12
              - jgraph/drawio
  13
            - name: codimd-codimd
  14
              versions:
  15
              - hackmdio/hackmd:2.4.2
            - name: codimd
  17
              versions:
  18
              - postgres:11.6-alpine
  19
            - name: syncthing
              versions:
  21
              - syncthing/syncthing
  22
            - name: nextcloud
              versions:
  24

    nextcloud

  25
              - mariadb:10.6
  26
            - name: jitsi
  27
              versions:
              - jitsi/jvb:stable-9220-1
```

```
assets_software.yml M X
domain > cyfun > identify > software > output > 🖹 assets_software.yml
       - collected on: '2025-06-14'
          software:
            - name: bitwarden
              - ghcr.io/bitwarden/notifications:2025.6.1
   54
              - ghcr.io/bitwarden/sso:2025.6.1
              - ghcr.io/bitwarden/icons:2025.6.1
           packages:
  58
            - name: acl
  59
              version: 2.3.1-3
   60
            - name: adduser
   61
              version: '3.134'
  62
            - name: ansible
  63
             version: 7.3.0+dfsg-1
   64
            - name: ansible-core
  65
              version: 2.14.3-1
   66
            - name: apparmor
             version: 3.0.8-3
  68
           - name: apt
   69
              version: 2.6.1
  70
           - name: apt-listchanges
  71
             version: '3.24'
            - name: apt-utils
              version: 2.6.1
  74
            - name: base-files
              version: 12.4+deb12u6
  76
           - name: base-passwd
              version: 3.6.1
  78
            - name: bash
  79
              version: 5.2.15-2+b7
   80
            - name: bash-completion
  81
              version: 1:2.11-6
            - name: bind9-dnsutils
   82
              version: 1:9.18.28-1~deb12u2
            - name: bind9-host
```

```
JANUS
                                                                                                                       中の甘む
                                                                                                                                                               domain > cyfun > identify > policies > scripts > sectors > € accounting.yml
 2 # Legal rules & cybersecurity for the accounting sector
       commit-msg
       pre-commit
                                                                                                                                                                                sector rules:

    README.md

                                                                                                                                                                                      sector_name: "Accounting (Belgium)"
> rchive
                                                                                                                                                                                       last_updated: "2025-06-10"
> RB code
> la documentation
                                                                                                                                                                                       intro:
                                                                                                                                                                                           This document explains the main legal and cybersecurity rules for our accounting firm in Belgium.

✓ Image: Value of the desired o
                                                                                                                                                                                           It helps meet **CyFun ID.GV-3** (governance) and refers to **NIS2**, active since October 2024.
 > 🖿 cyber
                                                                                                                                                                                           All team members (managers, accountants, secretary) must know these rules.
 The **Directive Manager** ensures they are followed.

✓ identify

✓ □ assets

                                                                                                                                                                                       legal sections:
         > manuals
                                                                                                                                                                                         - title: "1.1 General Data Protection Regulation (GDPR)"
                                                                                                                                                                                                 content:

✓ Image output

                                                                                                                                                                                                      We handle clients personal and financial data.
                  assets.yml
                                                                                                                                                                                                      Data must be safe (strong passwords, encryption, secure backups).
          > in scripts
                                                                                                                                                                                                      Clients can ask to see, change, or delete their data.
       > checklist
                                                                                                                                                                                                      If there's a data breach, we must tell the Belgian Data Protection Authority (APD) within 72 hours.
        > information
       > inventory
                                                                                                                                                                                            - title: "1.2 Belgian Accounting Law"
                                                                                                                                                                   23
                                                                                                                                                                                                 content:

✓ Maria policies

                                                                                                                                                                                                      Accounting documents must be kept for at least 7 years.

✓ Imamuals

                                                                                                                                                                                                     Documents must be ready for tax authorities if requested.
                  ** cybersecurity-procedures.md
                                                                                                                                                                                                      Digital storage is allowed but must be secure and organized.

★ inventory-policy.md

                  risk_management_plan.md
                                                                                                                                                                                            - title: "1.3 Confidentiality Rules"

✓ Image output

                                                                                                                                                                                                     As accountants, we must keep client data private.
                  ** legal_compliance.md
                                                                                                                                                                                                      Only authorized staff can access sensitive files.

✓ Im scripts

                                                                                                                                                                                                      Personal USB drives or private email accounts are not allowed.
            accounting.yml
                                                                                                                                                                                           - title: "1.4 NIS2 Directive (optional)"
                  legal_compliance.yml
                                                                                                                                                                                                 content: |
                ** cybersecurity-policy.md
                                                                                                                                                                                                      Our firm may be an "important entity" or a supplier to critical sectors (e.g., healthcare, finance).
                                                                                                                                                                                                      CyFun level 1 meets basic NIS2 needs, but extra steps (e.g., audits, documentation) may be needed for full compliance.
                ## risk_strategy.md
        > iii risk
                                                                                                                                                                                       actions table:

✓ Image: value of the sound of the soun
                                                                                                                                                                                           - rule: "GDPR - Protect Client Data"
          > manuals
                                                                                                                                                                                                 how: "Strong passwords, limited access, encrypted backups via JANUS"

✓ Image output

                                                                                                                                                                                                 who: "Directive Manager"
                  assets_software.yml

✓ Im scripts

                                                                                                                                                                                            - rule: "GDPR | Client Data Requests"
                                                                                                                                                                                                how: "Clients can email to update or delete data"
                  collect-software.yml
                                                                                                                                                                                                 who: "Secretary"

    README.md

              README.md
                                                                                                                                                                                            - rule: "GDPR Report Data Breach"
      > policies
                                                                                                                                                                                                how: "Process in place, reviewed yearly"
```

```
** checklist-ID.AM-1.md X
domain > cyfun > identify > checklist > ** checklist-ID.AM-1.md > * CyFun ID.AM-1 Compliance Checklist - Infrastructure & Asset Inventory > * ## Checklist
      # CyFun ID.AM-1 Compliance Checklist - Infrastructure & Asset Inventory
      This checklist ensures compliance with the CyFun sub-control **ID.AM-1**:
       _"Physical devices and systems within the organization are inventoried."_
      ## OBJECTIVE
      To maintain a complete, accurate, and up-to-date inventory of all physical and virtual devices involved in information processing.
 10
 12
      ## Checklist
 14
 15
        Requirement
                                                                              Status
                                                                                             Evidence / Notes
                  1. An **inventory tool** exists and is version-controlled
                                                                             | [x] | `collect-assets.yml` in Git
       2. Infrastructure is **automatically inventoried**
                                                                             | [x] | Generated on `vagrant up` (`assets.yml`)
 18
        3. A **manual inventory template** exists for non-automated assets
                                                                                    `manual-assets.yml`
 19
        4. Manual inventory includes required fields (id, name, type, etc.)
                                                                             | [x] | Template with TO BE FILLED placeholders
        5. There is a **review policy** that defines frequency and roles
                                                                             [x] | `inventory-policy.md`
 21
        6. Inventory includes **network and non-network assets**
                                                                             [ ] | Instructions in `manual-assets.yml`
 22
       7. All inventory files are tracked in Git
                                                                             [x] | Git versioning of `assets.yml`, `manual-assets.yml` |
 23
                                                                             [ ] | `last_review:` field in both YAML files
        8. Last review date is visible and up-to-date
        9. Team roles and responsibilities are clearly assigned
                                                                             [x] | Documented in `inventory-policy.md`
 25
       10. Auditability is ensured (readability, reproducibility)
                                                                             | [x] | Markdown, Git, YAML, Ansible-based
 27
 28
 29
```