



# SECONDO

A Security ECONomics service platform for smart security investments and cyber insurance pricing in the beyond 2020 networking era

## SECONDO Newsletter

Issue 12 | January 2023

### WE INTRODUCE YOU TO THE TWELFTH SECONDO NEWSLETTER!

We are pleased to present you the twelfth issue of the SECONDO Project Newsletter.

As technology develops more and more, Cybersecurity issues are arising every day. Regarding security in cyberspace, the SECONDO project in terms of Cyber Insurance will support professionals who seek cybersecurity investments, developed to support human decision making, and a complete well-founded security strategy. Moreover, SECONDO will provide services for smart security investments and cyber insurance pricing.

The consortium all this time has been active with virtual meetings and conferences among partners to deliver the best results.

Having reached the 49th month of the project, the consortium continues to work with all objectives and tasks as well as with all core elements in order to provide solid outcomes which are leading towards the completion of the project.

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#### PROJECT COORDINATION

**Prof. Christos Xenakis:** School of Information and Communication Technologies Department of Digital Systems University of Piraeus Karaoli and Dimitriou 80, PC 18534, Piraeus, Greece

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email: [xenakis@unipi.gr](mailto:xenakis@unipi.gr)

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Project number: 823997  
Project Website: [secondo-h2020.eu](http://secondo-h2020.eu)  
Project start: 1st January 2019  
Duration: 60 Months  
Total cost: EUR 1 600 800  
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### What's New!

Currently, the researchers are focusing on the deliverable D6.1 entitled "Platform Integration", which will deliver the integrated SECONDO platform together with functional and evaluation tests for each module, as well as, integrational tests for each need integration among the SECONDO modules.

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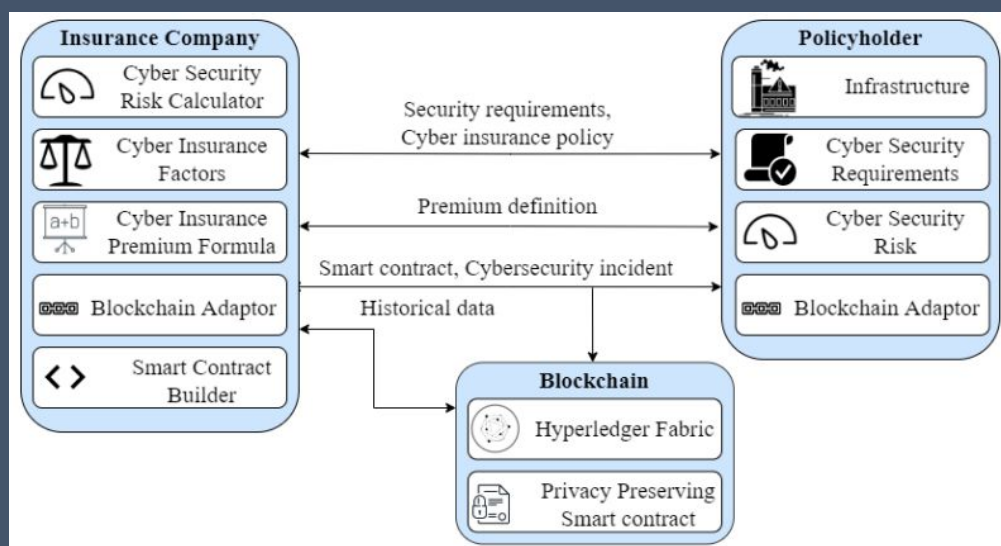
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### TASK 5.3 – Cyber insurance estimation and smart contracts

This task delivered the SECONDO Cyber Insurance Premium Coverage and Premium Module (also known as CICPM). It is responsible for calculating the premium for cyber insurance and generating a Smart Contract that bonds the corresponding Insurance Company and the Policyholder under specific behaviours and obligations. CICPM consists of the two following components: i) the Pricing scheme and ii) the Blockchain instance. Its blueprint is presented below.



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### TASK 5.3 – Cyber insurance estimation and smart contracts

#### Pricing Scheme

The SECONDO pricing scheme consists of numerous that influence the final value price. These parameters are the following: i) **Base Rate** that depends on the annual revenue of an organization and the risk group that it belongs; ii) **Waiting Period** that represents the hours that an organisation affords to wait until the business interruption is done and its processes are workable again; iii) **Limit of liability** that determines the maximum amount of money an insurance company will pay for a covered claim; iv) **Deductible** that represents the amount that the organisation must pay on its own before cyber insurance can cover the damages; v) **Territory Factor** that represents the location of the insured; vi) **Claims made** represent the claims made to the insurer after the coverage period will not be covered even if the incident occurred while the policy was in force unless an extended reporting coverage is purchased; vii) **Credit Factor** that represents the possible discounts; viii) **Group factor** that represents discounts related to insuring more than one company; ix) **Data Factor** that represents the type of data that an insured keeps in its infrastructure and x) **SECONDO Factors** that are factors, whose main source are the components of the SECONDO platform (i.e., Dark Web Factor, Twitter Factor and QRAM Factor).

**Premium**= Base Rate (Annual Revenue, Risk Group) \* [Down Time Factor] \* [Limit of liability factor] \* [SECONDO factors] \* [Deductible Factor] \* [Territory Factor] \* [Claims-made Factor] \* [Externed Reporting Factor] \* [Credit Factor] \* [Group Factor] \* [Data Factor]

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### TASK 5.3 – Cyber insurance estimation and smart contracts

#### Smart Contract

The SECONDO Smart Contract consists of the following functions:

- **Initiate(ctx):** Policyholder calls this function of Smart Contract. The function loads ledger.
- **PolicyholderExists(ctx,id):** It checks if policyholder with specific id exists.
- **ReadPolicyholder(ctx, id):** This function returns a policyholder 's information.
- **GetAllPolicyholders(ctx):** It returns all policyholders stored in the ledger.
- **CreatePolicyholder(ctx,id,premium,limit,deductible,status,incident,indemnification):** This function creates a new policyholder in the ledger with given parameters.
- **ReportIncident(ctx, id, incident, indemnification):** This function is called by the policyholder and reports an incident.
- **ResponseIncident(ctx,id):** This function calculates the final indemnification subtracting deductible from indemnification. Then it makes two checks about the final indemnification. The first one is to check if final indemnification is equal or bigger than the Limit and the second one is to check if final indemnification is equal or bigger than the Average Cost of Report Incident. If the aforementioned checks return true then automatically subtract final Indemnification from the Limit.

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## TASK 6.1 – System integration and testing

Below, the communication among the SECONDO modules are depicted.

		Receiving Component										
	Component	RAOHM	SEAM	CRMM	ECM	GTM	BDCPM	Dark Web Crawler	Social Media Crawler	CICPO	Blockchain	CICPM
Originating Component	RAOHM			X			X					
	SEAM	X										
	AP	X										
	CRMM										X	
	ECM											
	GTM											
	BDCPM			X	X	X						X
	Dark Web Crawler						X					
	Social Media Crawler						X					
	CICPO											
	Blockchain											
	CICPM										X	

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## TASK 6.1 – System integration and testing

Below, the software and hardware requirements of the SECONDO modules are depicted.

Module	Partner	CPU	Storage (GB)	Memory (GB)	Internet Access	Other
RAOHM	UPRC	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS
SEAM	UPRC	Xeon(R) Silver 4114 @ 2.20 GHz	18.5	12	YES	Ubuntu 18.04.4 LTS
CRMM	UBI	4 cores	100	8	YES	Centos
ECM	CUT	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS
GTM	UPRC/FOGUS	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS
BDCPM	LST	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS
Dark Web Crawler	CUT	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS
Social Media Crawler	CUT	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS
CIPO	LST	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS
CIPM	UPRC	Xeon(R) Silver 4114 @ 2.20 GHz	105.6	12	YES	Ubuntu 18.04.4 LTS

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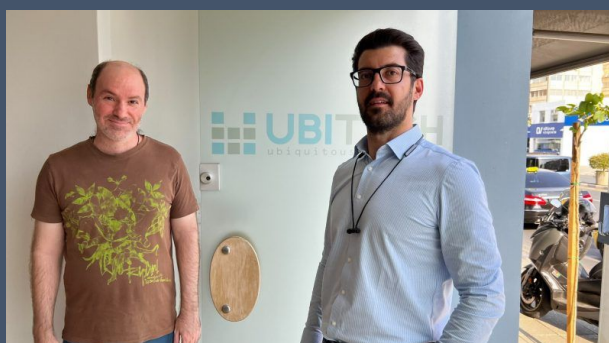
### SECONDO News

#### Researchers Night 2022 @ NTUA



#### 3rd SECONDO Plenary Meeting

#### New Secondment start within the SECONDO project



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### SECONDO News

SECONDO biweekly  
Technical meeting



SECONDO biweekly  
Technical meeting

SECONDO in  
NTUA\_H4CK



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### SECONDO News



Another SECONDO  
secondment successfully  
completed

Another SECONDO  
secondment completed



**BOUSSIAS** presents



2nd Year – DiGiTAL  
FiNANCE AWARDS –  
Last Call Entries

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### SECONDO News



Prof. Christos Xenakis

**Jury President – Pillar #2: Digital Insurance**

Director of the Master Course Digital Systems Security, Department of Digital Systems, University of Piraeus

### DIGITAL FINANCE AWARDS 2023 – Judging Committee

### SECONDO in the 6th InsurTech Conference



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### SECONDO publication

- Bountakas P, Xenakis C. Helped: Hybrid Ensemble Learning Phishing Email Detection. Journal of Network and Computer Applications. 2023 Jan 1;210:103545.

### Future Activities

SECONDO researchers are working on deliverables and tasks in order to fulfill all the main objectives where will lead toward the completion of the project.

In the next months, researchers will work on the following deliverables:

- **D6.1:** Platform Integration
- **D6.2:** Platform Assessment
- **D7.2:** Dissemination and Standardisation Activities, Market Analysis and Exploitation Plan

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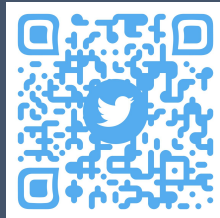


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