

## WE INTRODUCE YOU TO THE **NINTH SECONDO** NEWSLETTER!

We are pleased to present you the ninth issue of the SECONDO Project Newsletter. As technology developing more and more, Cybersecurity issues are arising every day. Regarding security in cyberspace, the SECONDO project in terms of Cyberinsurance 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 in order to deliver the best results.

Having reached the 37th month of the project, the consortium continues to work with all the critical 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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Issue 9 JAN 2022

#### **PROJECT COORDINATION**

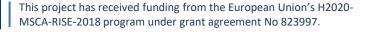
**Prof. Christos Xenakis:** School of Information and Communication Technologies Department of Digital Systems University of Piraeus Karaoli and Dimitriou 80,PC 18534, Piraeus, Greece

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#### **PROJECT DETAILS**

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Project number: 823997 Project Website: secondo-h2020.eu Project start: 1st January 2019 Duration: 60 Months Total cost: EUR 1 600 800 EC Contribution: EUR 1 600 800





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#### What's New!

The consortium has submitted the D4.2 "Continuous Risk Monitoring and Blockchain" which provide a detailed report on the design, implementation and evaluation of CRMM and SECONDO's private blockchain.

#### D4.2 in details!

The CRMM communicates with the majority of the SECONDO modules to calculate and store in the blockchain the new value of cyber and privacy risk including any identified ontological updated. CRMM's output is also considered in the CSIM module to produce the optimal investment. Public interfaces are also documented in the deliverable, while the high-level architecture of smart contracts that will be provided in the context of deliverable D5.3 is also provided.

#### In other News!

Currently, the researchers are focused on D4.3 "Cyber Security Investments" which will provide a detailed report on design, implementation and evaluation of CSIM and ECM as well as on the D5.2 "Cyber Insurance Policy Ontology" which will deliver a report where will describe the proposed cyber insurance ontology.

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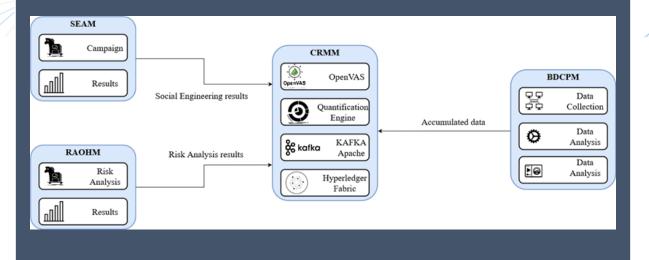




## TASK 4.2 – Continuous Risk Monitoring and Blockchain

#### **SECONDO Continuous Risk Monitoring**

The main goal of CRMM module is to assess on a continuous basis the risk levels, including the performance of the implemented cyber security controls in order to allow the adaptation of the cyber insurance contract considering the changing IT environment and the evolving cyber threat landscape. In other words, CRMM offers both quantitate metrics and qualitative insights and serves as the mediator between insurance companies that offer cyber insurance coverage and potential clients that want to optimize this process. Two different types of risk per asset are calculated a) one cyber risk and b) one privacy risk.



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## TASK 4.2 – Continuous Risk Monitoring and Blockchain

#### **CRMM High-Level Architecture**

The high-level architecture of CRMM along with the components of SECONDO that it has direct integration. CRMM considers the harmonized metamodel produced from Risk Analysis Ontology and Harmonization Module (RAOHM) and relevant information from Big Data Collection and Processing Module (BDCPM) in order to produce the final risk assessment report. RAOHM's metamodel includes both tangible and intangible assets including their relationship, while BDCPM is consulted to adjust the corresponding threat level.

SEAM				
Campaign		CRMM		
Results		OpenVAS OpenVAS		BDCPM
	Social Engineering results	Quantification Engine	1	Data Data
		& kofko KAFKA	Accumulated data	Data Analysis
RAOHM	Risk Analysis results	So Kulku Apache		Data
Risk Analysis		Hyperledger Fabric		Le Analysis
Results				

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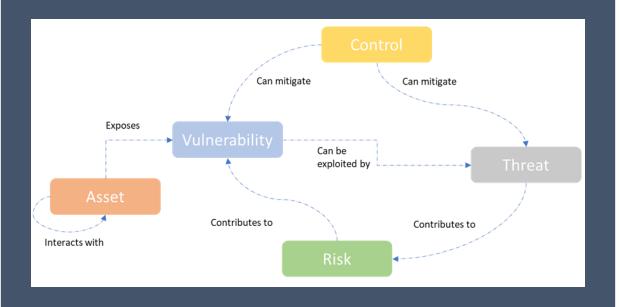




## TASK 4.2 – Continuous Risk Monitoring and Blockchain

#### Overview of the adopted risk assessment concept

The following image describes the risk assessment concept and the relationship between key elements of the risk assessment methodology of the CRMM, as well as a consistent terminology that will be used in this and future technical deliverables. The Assets are a key factor for a risk assessment process, as any risk quantification method is related to their exploitability. Each asset regardless of its nature (e.g., tangible or intangible), may entail several vulnerabilities.



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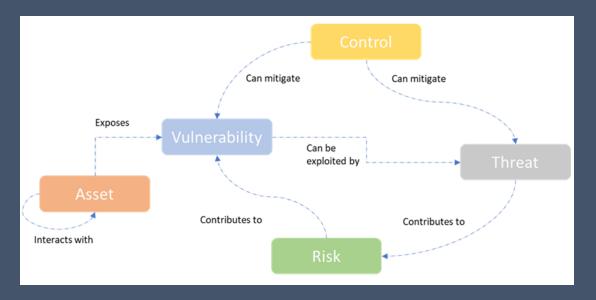
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## TASK 4.2 – Continuous Risk Monitoring and Blockchain

#### Overview of the adopted risk assessment concept

A potential attacker aims to exploit these vulnerabilities in order to cause harm to an asset, while Vulnerabilities may be inherent weaknesses of the assets. The exploitation of a vulnerability of an asset can have several consequences which may span from service unavailability, private information leakage and in turn to loss of revenue. However, a successful exploitation can be performed by an attacker only through the usage of an existing vulnerability. Hence, the goal of CRMM is to come up to a model that adopts concepts from the domain of Risk Assessment.



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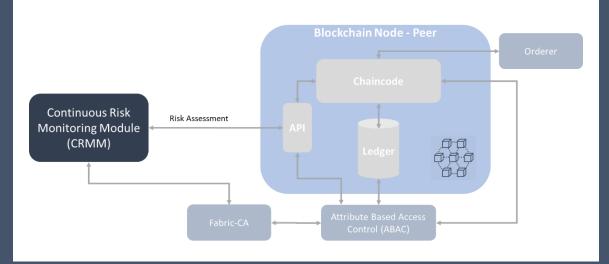
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## TASK 4.2 – Continuous Risk Monitoring and Blockchain

#### **Blockchain high-level Architecture**

The high-level architecture of blockchain along with the components of SECONDO that it has direct integration and are presented in the following scheme. As have been mentioned, the blockchain is used to store in a secure and immutable way the produced risk assessment reports. SECONDO will use a permissioned network, where members of the network are authenticated and authorized by administrators, thus the overall network shall not be open, in order to provide the maximum-security guarantees to the engaged stakeholders.



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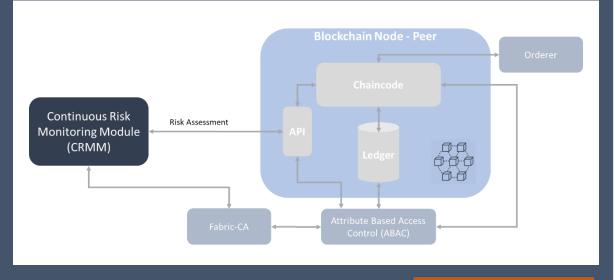
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## TASK 4.2 – Continuous Risk Monitoring and Blockchain

#### **Blockchain high-level Architecture**

For this manner, a trusted Certification Authority concept shall be used. Every blockchain node (e.g., Peer) has a Chain code (entity which is responsible for the execution of the different smart contracts), an API and a Ledger (to store the information from the blockchain). In addition, some other blockchain components are necessary these are the Ordered (entity which participates in the consensus protocol), the Fabric-CA (which is the implementation of a Certificate Authority under a PKI) and the Attribute Based Access Control service (which is the authorization service to the blockchain).



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#### **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:

- D4.3: Platform Integration
- D5.2: Platform Assessment
- D5.3: Decision Support for Cyber Insurance

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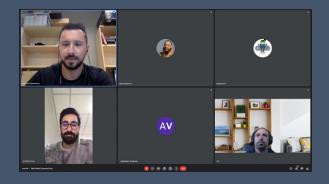
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## **SECONDO News**



SECONDO Newsletter Issue 8

Virtual Meeting Among Active and Inactive SECONDO Secondees





SECONDO on the 3d Ciir Conference 2021

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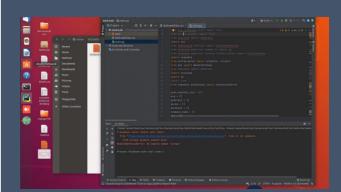
## **SECONDO News**



## Virtual Meeting Among Secondees about D4.2 and D5.2

New Developments at the Secondo Project





New Developments on Finalizing SECONDO's Tasks

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## SECONDO News



Last Virtual Meeting Between **SECONDO Researchers** Before the End of 2021

Why Companies Should Also Invest in Cyber Insurance





New Secondment Period Started in SECONDO Project

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## **SECONDO News**



Advances in 5G Wireless Communication Networks: The Path to 6G

#### Guest Editor Dr. Nikos Passas

Deadline 30 June 2022



Call for papers on Special Issue "Advances in 5G Wireless Communication Networks: The Path to 6G"

Researchers Had a Virtual Meeting About The Cyber Insurance Policy Ontology



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## Issue 9 JAN 2022

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