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EGI Conference 2023

binare.io: a success story

Binare.io
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Binare in a Nutshell

- binare = we love **bina**ry and **r**everse **e**ngineering
- Deep-tech cybersecurity spin-off from University of Jyvaskyla (Central Finland)
  - Founded in mid 2020 (2 co-founders)
  - Present: 8 core members, 6 nations, ~10 spoken languages,
- Develops a unique platform for (I)IoT cybersecurity (analysis, monitoring, protection, certification, SBOM) – SaaS or on-premise
- Offers a unique mix of skillsets in the cybersecurity fields (R&D&I)

Binare x EGI 2020

- EGI Conference 2021 (online talk)
- EGI Conference 2022 (online talk)

Binare IoT-SESOD EUH4D OC1

- **IoT SEcurity SOftware Data**: foundation for Secure/Trustworthy Digital Europe and EU Cybersecurity (2021)
  - Binare.io produced a cybersecurity dataset, generating complete and accurate IoT firmware SBoMs and their always up-to-date vulnerability mapping
  - More than 14.000 IoT/IIoT firmware files were analyzed
  - 7.9 million vulnerabilities identified in firmware files
  - 3652 distinct CVEs identified
  - More than 150 device types from 215 different vendors were scanned
  - 2733 distinct software components were detected

Binare IoT-SESOD EUH4D OC1

- EGI
  - EGI Cloud Compute @ BARI
- Know-Center (project mentoring/monitoring)
  - Data Value Business Development Services
- CeADAR
  - Strategic R&D Services

Binare EGI-ACE

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- **IoT SEcurity SOftware Data**: foundation for Secure/Trustworthy Digital Europe and EU Cybersecurity (2022)
  - More than 14.000 IoT/IIoT firmware files were analyzed
  - … towards 21.000 IoT/IIoT firmware files
  - … towards 3 major PoC Data Value pilots
  - Gather enough data, knowledge, experience, insights, evidence and vision for cutting-edge Research and Industry Innovation

Binare IoT-DiTwiCS EUH4D OC3

- **IoT Digital Twins for CyberSecurity**: supporting EU Cybersecurity and Digital Twin Strategic Pillars (2023)
  - virtualizing/emulating (I)IoT devices/firmware to obtain a running/operating "Digital Twin"
  - offer a sufficiently-accurate representation of the (I)IoT device/firmware under test
  - aims at “closed-loop system & experiment” producing "cybersecurity x Digital Twin" relevant dataset(s)+technology
  - develop additional added-value and business models atop of this

Binare IoT-DiTwiCS EUH4D OC3

- Data space contributions
  - Cybersecurity targeted at (I)IoT/DigitalTwins (as a horizontal cross-cutting data space)
  - “Cybersecurity” is not explicitly mentioned as a “data space” within European Data Strategy (EDS). However, cybersecurity is usually a cross-cutting horizontal component at the basis of any digitalized society, activity and vertical (e.g., data spaces, industries).

Binare IoT-DiTwiCS EUH4D OC3

- Main outputs
  - Datasets supporting “digital twin” and emulation/virtualization
  - Technology development supporting the production and usage of the dataset
  - Dissemination activities (whitepapers, webinars, conference/workshop/expo participation)
  - **Hackathon event(s) to boost/validate all the above main outputs**

Binare IoT-DiTwiCS EUH4D OC3

- Main outputs
  - **<u>Hackathon event(s)</u> to boost/validate all the above main outputs**
    - IoT cybersecurity hackathon
    - Physical HQ: 28-30 Sep 2023, Zaragoza (Spain)
    - Participation: mainly online/remote within EU
    - Stay tuned, participate and help spread the word #BinareHackathon1
      - https://www.linkedin.com/company/binare/
      - https://twitter.com/binareio

Binare IoT-DiTwiCS EUH4D OC3

- **EGI (project mentoring/monitoring)**
  - EGI Cloud Compute @ BIFI, Brokerage, Awards, Challenges
- SINTEF
  - Digital Twin Big Data, AI and standards services, Secondment
- DIH Technicom
  - Collaboration services
- Ibercivis / BIFI
  - Hackathon organization, logistics, support
- Improve **Binare's IoT-SESOD dataset (EUH4D OC1 + EGI-ACE)**
  - 21.000+ firmware and counting

Binare x EGI 2020

- EGI Conference 2021 (online talk)
- EGI Conference 2022 (online talk)

Binare x EGI 2023

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- EGI Conference 2021 (online talk)
- EGI Conference 2022 (online talk)
- EGI Conference 2023 (sponsor booth + stage talk)
- … and hoping to count more ;) !
- **Binare x EGI = SME/startups Value++**
  - **EGI is a top and trusted partner for Binare!**

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Thanks to EGI

- Alphabetic order (all are equally important to us!)
  - Andrea Manzi
  - Elisa Cauhé
  - Gwen Franck
  - Ilaria Fava
  - Levente Farkas
  - ... and other support teams and members (dissemination, EGI Conference)

Binare 2020

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Binare 2023

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Binare 2020

- Flagship projects
  - **EUHubs4Data OC1/OC3**
- Other projects

Binare 2023

- Flagship projects
  - **EUHubs4Data OC1/OC3**
  - **EGI-ACE OC**
  - LAZARUS HE (10+ partners)
  - EXTRACT HE (10+ partners)
  - DigiFed GE / DigiFed AE OC3
  - StairwAI OC1
  - CYRENE OC2
  - PoDoCo
- Other projects
  - HUBCAP
  - BlockStart
  - ESN & NGI TETRA
  - DigiCirc
  - BF Tempo
  - BF Expo Explorer
  - EUIPO SME Fund

Thank you!

Questions/comments?

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