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ITEA 3 is a EUREKA strategic ICT cluster programme

Exploitable Results by Third Parties

17032 CyberFactory#1

Project details

Project leader:	Adrien Bécue
Email:	adrien.becue@airbus.com
Website:	https://www.cyberfactory-1.org/home/

Name: Airbus OT CyberRange		
Input(s):	Main feature(s)	Output(s):
▪ Topologies ▪ Users	▪ Modelling interface ▪ Attack generation engine	▪ Pretests ▪ Trainings

Unique Selling Proposition(s):	▪ Highly realistic IT/OT modelling and simulation to support security decision, testing and training
Integration constraint(s):	▪ Accessible from the cloud and or as a mobile or fixed platform ▪ Secure channel required for multisite/cloud use-cases ▪ VMWare / Docker
Intended user(s):	▪ Cybersecurity students, engineers, practitioners and decision makers
Provider:	▪ Airbus Cybersecurity France
Contact point:	▪ Martin Praddaude (martin.praddaude@airbus.com)
Condition(s) for reuse:	▪ For research purpose: Collaboration Agreement ▪ For business purpose: License agreement
	Latest update: 18.5.2022

Name: Airbus OT Security Operation Center		
Input(s):	Main feature(s)	Output(s):
▪ Network Logs ▪ IDS alerts ▪ IoCs	▪ Log correlation & analysis ▪ Alert enrichment ▪ IoC sharing	▪ Enriched Alerts ▪ Mitigation plans ▪ Incident Response
Unique Selling Proposition(s):	▪ Detect complex cyber-physical threats, provide enriched alerts for security analysts decision, optimize incident response	
Integration constraint(s):	▪ SIEM/SOAR (eg QRadar, Splunk, the Hive…) ▪ OT NIDS (eg. Nozomi, Foescout…)	
Intended user(s):	▪ Cybersecurity operators and analysts	
Provider:	▪ Airbus Cybersecurity Germany	
Contact point:	▪ Matthias Glawe (matthias.glawe@airbus.com)	
Condition(s) for reuse:	▪ For research purpose: Collaboration Agreement ▪ For business purpose: Managed Security Service Contract	
	Latest update: 18.5.2022	

Name: IoT Fingerprint		
Input(s):	Main feature(s)	Output(s):
▪ IoT Device ▪ IoT Network	▪ IoT authentication ▪ Lightweight encryption ▪ IoT identity and access management	▪ Secure IoT device enrolment
Unique Selling Proposition(s):	▪ IoT Fingerprint provides secure authentication, lightweight encryption and scalable identity & access management for low power, low processing and high criticality devices (eg smart sensor and Industrial IoT)	
Integration constraint(s):	▪ IoT hardware specification is required ▪ CymID manager software to be deployed on Admin console	
Intended user(s):	▪ Industrial Network Managers / Critical Infrastructure Operators	
Provider:	▪ Airbus Cybersecurity France	
Contact point:	▪ Marco Lobe Kome (marco.lobe-kome@airbus.com)	
Condition(s) for reuse:	▪ For research purpose: Collaboration Agreement ▪ For business purpose: License Agreement	
	Latest update: 18.5.2022	

Name: Collaborative AGV Controller		
Input(s):	Main feature(s)	Output(s):
▪ Transport Jobs ▪ Strategies ▪ AGV Status	▪ Selforganization of AGV Fleet ▪ KPI transfer to Database ▪ Control of AGV	▪ Transport Assignment ▪ AGV Control Commands
Unique Selling Proposition(s):	▪ AGV Fleet orchestration is decentralized (no single point of failure) ▪ Self optimizing Job assignment	
Integration constraint(s):	▪ Node.js bases, requiring JavaScript ▪ Requires MQTT Broker for Communication	
Intended user(s):	▪ Factory Owner /Production Coordinator	
Provider:	▪ ASTI	
Contact point:	▪ Janstefan.zernickel@de.abb.com	
Condition(s) for reuse:	▪ None ▪	
	Latest update: 18.5.2022	

Name: ASTI Analysis Tool		
Input(s):	Main feature(s)	Output(s):
▪ Transport Status Data ▪ AGV Status Data	▪ AGV/Transport Data Storage ▪ Data Analysis ▪ Derivate KPI Display	▪ KPIs/Derivate KPIs ▪
Unique Selling Proposition(s):	▪ Easy to comprehend Data Display ▪ Highlighting of possible Problems	
Integration constraint(s):	▪ Database is based on Microsoft SQL ▪	
Intended user(s):	▪ Production Forman / Operations Manager in the Factory	
Provider:	▪ ASTI	
Contact point:	▪ Janstefan.zernickel@de.abb.com	
Condition(s) for reuse:	▪ None ▪	
	Latest update: 18.5.2022	

Name: Functional safety of autonomous mining vehicles under IP network hiccups		
Input(s):	Main feature(s)	Output(s):
▪ IP based control messages of autonomous vehicles	▪ Simulates regulated functional safety requirements by deviating and corrupting IP control messages	▪ Corrupted IP control messages ▪ Test results and ideas how to improve for meeting functional safety requirements

Unique Selling Proposition(s):	▪ Supports any wired IP traffic, even in high-speed environments ▪ Full control to corrupt any byte of ethernet frame ▪ Exact µs level repeatably to find even the toughest bugs
Integration constraint(s):	▪ Not a PC solution: requires network processor unit based HW specialised to process IP traffic (not expensive)
Intended user(s):	▪ Software testers of any critical IP solutions and networks
Provider:	▪ Rugged Tooling, www.ruggedtooling.com
Contact point:	▪ Risto Kauppi, risto.kauppi@ruggedtooling.com
Condition(s) for reuse:	▪ Buying or leasing the product with annual license and support fee
	Latest update: 18/05/2022

Name: MITRE or OWASP Attack Scenarios		
Input(s):	Main feature(s)	Output(s):
▪ MITRE Att&ck https://attack.mitre.org/ ▪ OWASP; https://owasp.org/	▪ Wide variety of Test Cases for simulating MITRE Att&ck scenarios or OWASP test cases	▪ MITRE test cases (>>270) ▪ OWASP test cases (>70)

Unique Selling Proposition(s):	▪ Wide variety of test cases for simulating various attack scenarios ▪ Tested together Airbus CyberRange cyber security simulation environment with Bittium Use Case and related Digital Twin.
Integration constraint(s):	▪ Adapted to Bittium use case and generalization on-going by estimated 12.2022
Intended user(s):	▪ Bittium internal use (www.bittium.com) ▪ Available as service for external customers after next development phase est. latest by 12.2022
Provider:	▪ Bittium Wireless Ltd. (www.bittium.com)
Contact point:	▪ Jari Partanen (jari.partanen@bittium.com)
Condition(s) for reuse:	▪ Currently not reusable ▪ Licensing
	Latest update: 18/05/2022

Name: SQL Trigger Software		
Input(s):	Main feature(s)	Output(s):
▪ No user interface available. ▪ No input.	▪ Helps to collect data ▪ Extracts material consumption and process data from the machine's internal server (internal SQL server).	▪ Material consumption and process data
Unique Selling Proposition(s):	▪ Runs automatically in the background. Thus, faster and more reliable. ▪ Easy integration with machines. ▪ Machine-independent software.	
Integration constraint(s):	▪ Machine's server should be reachable	
Intended user(s):	▪ Programmers (C# Developers) ▪ Database engineers ▪ System Developers	
Provider:	▪ VESTEL	
Contact point:	▪ ilhan.kaya@vestel.com.tr	
Condition(s) for reuse:	Commercial licence	
	Latest update: 18/05/2022	

Name: Windows Service Software		
Input(s):	Main feature(s)	Output(s):
• No user interface available. • No input.	▪ Helps to collect data ▪ Extracts traceability data from the xml files generated by SMD machine (internal XML files).	▪ Traceability data

Unique Selling Proposition(s):	Runs automatically in the background. Thus, faster and more reliable. Easy integration with machines. Machine-independent software.
Integration constraint(s):	▪ Machine's XML files should be reachable.
Intended user(s):	▪ Programmers (C# Developers) ▪ Database engineers ▪ System Developers
Provider:	▪ VESTEL
Contact point:	▪ ilhan.kaya@vestel.com.tr
Condition(s) for reuse:	Commercial licence
	Latest update: 18/05/2022

Name: Manufacturing execution system (MES / MOM) platform for real time asset tracking and traceability		
Input(s):	Main feature(s)	Output(s):
▪ Material consumption data ▪ Traceability data	▪ Dashboards using data collected from the shop floor. ▪ Integrates data with other enterprise platforms such as ERP, Warehouse management system (WMS), AGV. ▪ Assists for optimization ▪ Decision making and visualization.	▪ Asset tracking dashboards - visualizing traceability and material consumption data. ▪ Optimizing the AGV traffic inside the factory.
Unique Selling Proposition(s):	▪ Cost reduction and efficiency increases in consumer electronics production plants ▪ Easier material logistics management in consumer electronics production plants ▪ Providing transparency in production ▪ Reducing of the number of inventory counting (endless rechecking) ▪ Providing production and process resilience	
Integration constraint(s):		
Intended user(s):	▪ Consumer electronics manufacturers ▪ Application Developers ▪ Product Manager ▪ System Developers ▪ Performance evaluation expert	
Provider:	▪ VESTEL	
Contact point:	▪ ilhan.kaya@vestel.com.tr	
Condition(s) for reuse:	▪ Commercial licence	
	Latest update: 18/05/2022	

Name: PDM tool integrated with MOM for plastics Injection Machines		
Input(s):	Main feature(s)	Output(s):
▪ Machine's sensor parameter	▪ Visualizes sensor data on dashboards. ▪ Predicts machine failures with machine learning model in real time ▪ Notifications for possible upcoming breakdowns	▪ Estimated breakdown dates of machines
Unique Selling Proposition(s):	▪ Cost reduction for maintenance and efficiency increase in production ▪ Limit Unplanned Downtime ▪ Optimize Equipment Lifetime ▪ Increase Employee Productivity ▪ Help Increase Revenue	
Integration constraint(s):	▪ ▪	
Intended user(s):	▪ Manufacturers who depend upon plastics for certain components ▪ System Developers ▪ Application Developers ▪ AI Experts ▪ Performance evaluation expert	
Provider:	▪ VESTEL	
Contact point:	▪ ilhan.kaya@vestel.com.tr	
Condition(s) for reuse:	▪ Commercial licence	
	Latest update: 18/05/2022	

Name: L1-Wireless Intrusion Detection System		
Input(s):	Main feature(s)	Output(s):
▪ Raw wireless spectrum data	▪ Can detect impersonation attacks that can be initiated in physical layer (L1). ▪ Can differentiate devices from their wireless transmission	▪ Wireless fingerprints ▪ L1 Intrusion Detection Alarms
Unique Selling Proposition(s):	▪ Increases the wireless security in manufacturing sites by avoiding impersonation attacks. Even the wireless communication credentials are gained by the attackers, the unique wireless fingerprints can identify the attacker from normal wireless device.	
Integration constraint(s):	▪ A wireless receiver is needed that can collect wireless information in the air. ▪ At least 4-5 hours of data should be collected before making accurate predictions.	
Intended user(s):	▪ Secure manufacturing areas.	
Provider:	▪ GOHM Electronics	
Contact point:	▪ ca@gohm.com.tr	
Condition(s) for reuse:	▪ Licensing	
	Latest update: 18/05/2022	

Name: SmartUX		
Input(s):	Main feature(s)	Output(s):
▪ HMI usage	▪ Seamlessly gather web application usability metrics ▪ Automatic and non-intrusive Human-machine data collection	▪ Gathered HMI usage data ▪ Web Interface for data analysis and forensics
Unique Selling Proposition(s):	▪ Virtually compatible with any web application ▪ Provides a unique set of usability metrics and data exploration features ▪ Allows profiling of users and forensics for any web software ▪ Non-intrusive data collection	
Integration constraint(s):	▪ Needs a Javascript-enabled environment	
Intended user(s):	▪ Companies wanting to understand how users use their apps ▪ Companies wanting to capture user emotions ▪ Companies wanting to improve the usability of their software	
Provider:	▪ Sistrade, Software Consulting S.A.	
Contact point:	▪ diogo.santos@sistrade.com	
Condition(s) for reuse:	▪ Not for reuse without express Sistrade consent – conditions to be negotiated	
	Latest update: 18/05/2022	

Name: Intelligent Role Management System (IRMS)		
Input(s):	Main feature(s)	Output(s):
▪ Existent permissions structure data	▪ Interoperable IAM system ▪ Layer of “easiness and intelligence” to permissions and role based to virtually any software that uses RBAC ▪ Compliance towards ISO 27001 standard	▪ Security-compliance scoring system ▪ Web application to dynamically manage roles and permissions
Unique Selling Proposition(s):	▪ Virtually compatible with any any software that uses RBAC strategy ▪ Provides a scoring system in order to assess the system’s role mapping best practices ▪ Automatic permissions conflict detection for improved management	
Integration constraint(s):	▪ Has a layer of communication with an ERP/MES system	
Intended user(s):	▪ Companies that want to better perform and manage the system’s access policies	
Provider:	▪ Sistrade, Software Consulting S.A.	
Contact point:	▪ diogo.santos@sistrade.com	
Condition(s) for reuse:	▪ Not for reuse without express Sistrade consent – conditions to be negotiated	
	Latest update: 18/05/2022	

Name: Virtual Assistant Agent (VAA)		
Input(s):	Main feature(s)	Output(s):
▪ Events generated by external sources	▪ Central hub for awareness enhancement at the manufacturing environment ▪ Automation of the deployment of contention measures and attack mitigation	▪ Email notification ▪ SMS notification ▪ Equipment control

Unique Selling Proposition(s):	▪ Central hub for the manufacturing environment with flexible configuration possibilities ▪ Can trigger any action in the shopfloor, as long as the object has an HTTP interface
Integration constraint(s):	▪ Both external sources and action objects have a compatible API connection through HTTP(s) protocols ▪ JSON-compliant event exchange
Intended user(s):	▪ Companies that want to automate the deployment of contention measures and notifications
Provider:	▪ Sistrade, Software Consulting S.A.
Contact point:	▪ diogo.santos@sistrade.com
Condition(s) for reuse:	▪ Not for reuse without express Sistrade consent – conditions to be negotiated
	Latest update: 18/05/2022

Name: Production Scheduling Optimization (PICO)		
Input(s):	Main feature(s)	Output(s):
▪ Current plan and multi-site shop-floor information	▪ Multi-criteria optimization ▪ Multi-factory representation ▪ Two optimization metaheuristics implemented ▪ Available as an on-demand web service	▪ Optimized plan, via JSON domain-model structure, with the gains (in comparison with the original)
Unique Selling Proposition(s):	▪ Available as an on-demand web service for increased interoperability and scalability ▪ Multi-factory representation, multi-domain and multi-criteria decision making for improved results quality	
Integration constraint(s):	▪ Target integration system must comply with PICO API specification	
Intended user(s):	▪ Companies that want to evolve/improve their scheduling process	
Provider:	▪ Sistrade, Software Consulting S.A.	
Contact point:	▪ diogo.santos@sistrade.com	
Condition(s) for reuse:	▪ Not for reuse without express Sistrade consent – conditions to be negotiated	
	Latest update: 18/05/2022	