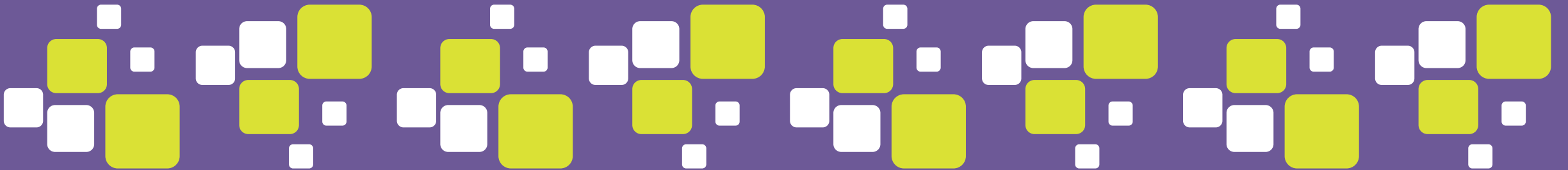




Enforcing security on the edge-cloud continuum

Luis Augusto Dias Knob (Fondazione Bruno Kessler - Italy)

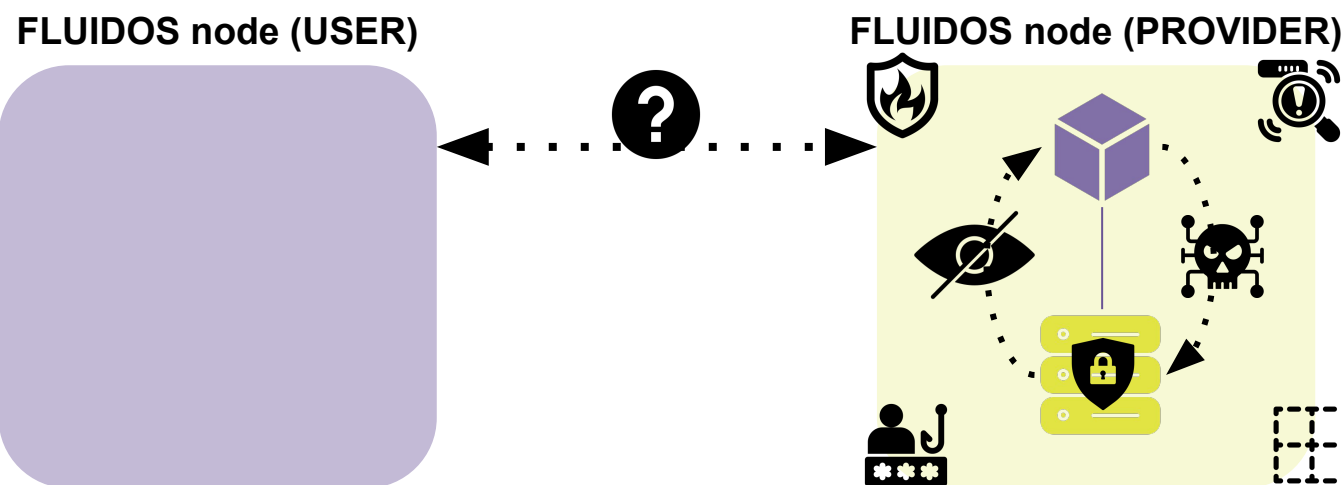
AIOTI Days 2024 @ FLUIDOS



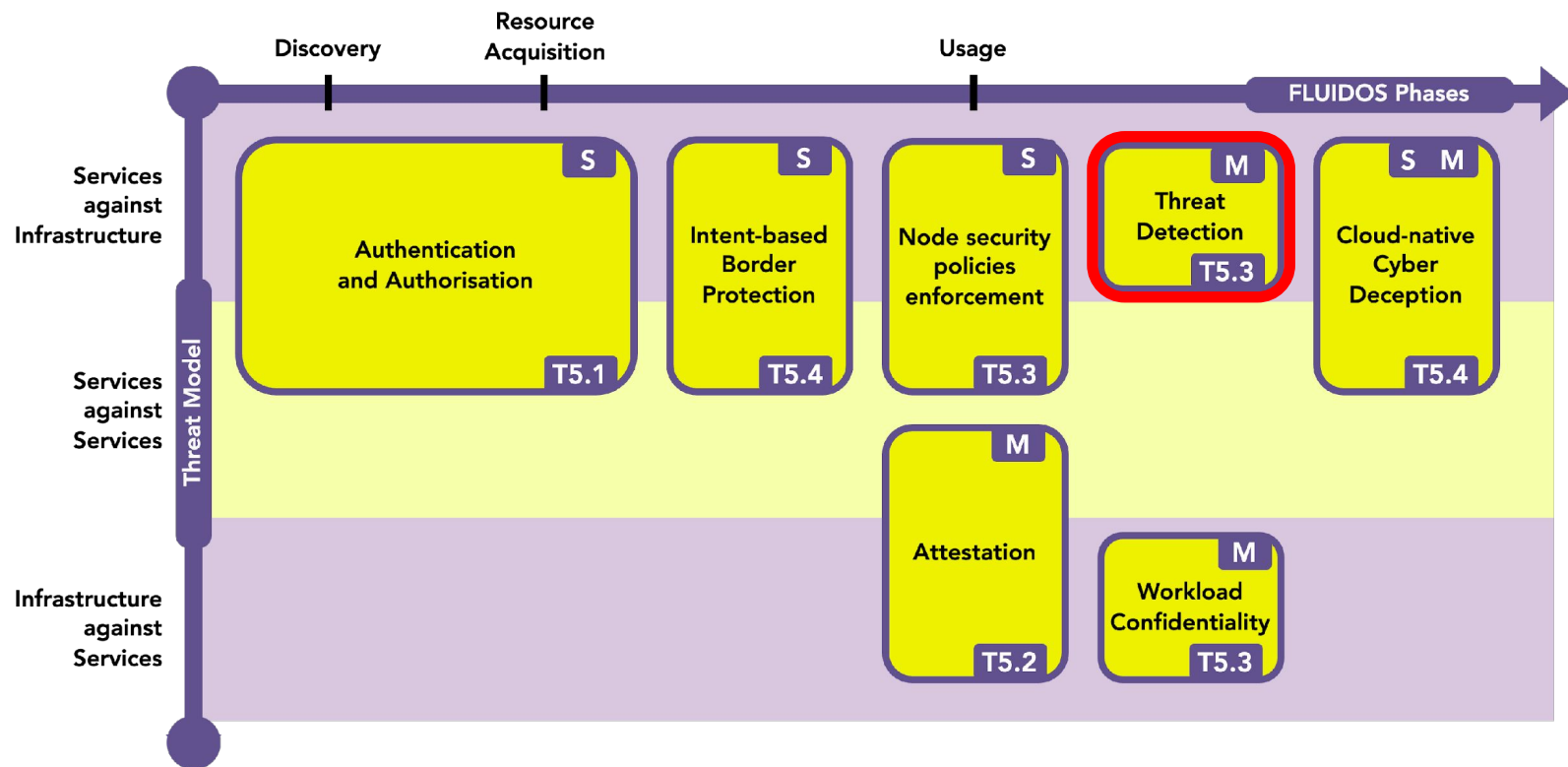
Objectives



- Ensure that each FLUIDOS node is what it claims to be and restrict its access to resources
- Offer an environment where user's workloads can run untampered and provide evidence of its integrity and compliance
- Defend users from intrusive providers and providers from malicious users
- Manage security in an automated way and avoid affecting workloads' performance



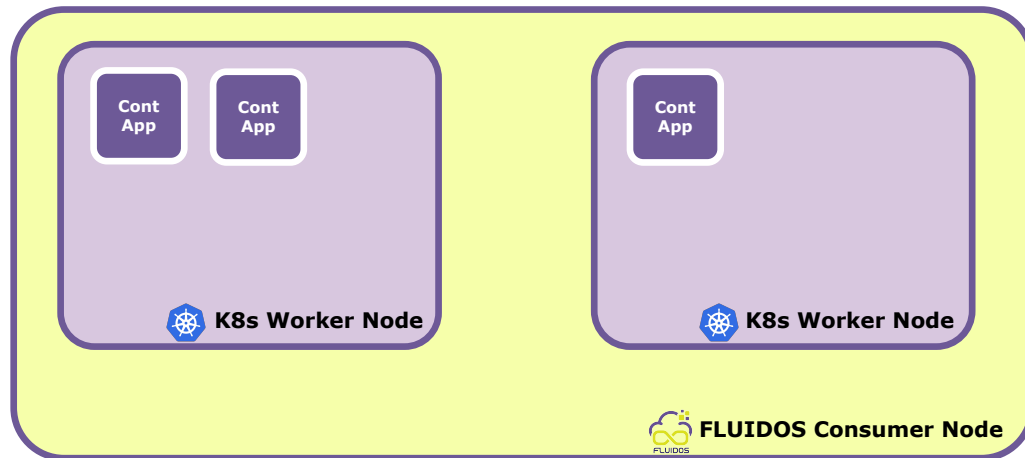
Edge-cloud security: a visual perspective



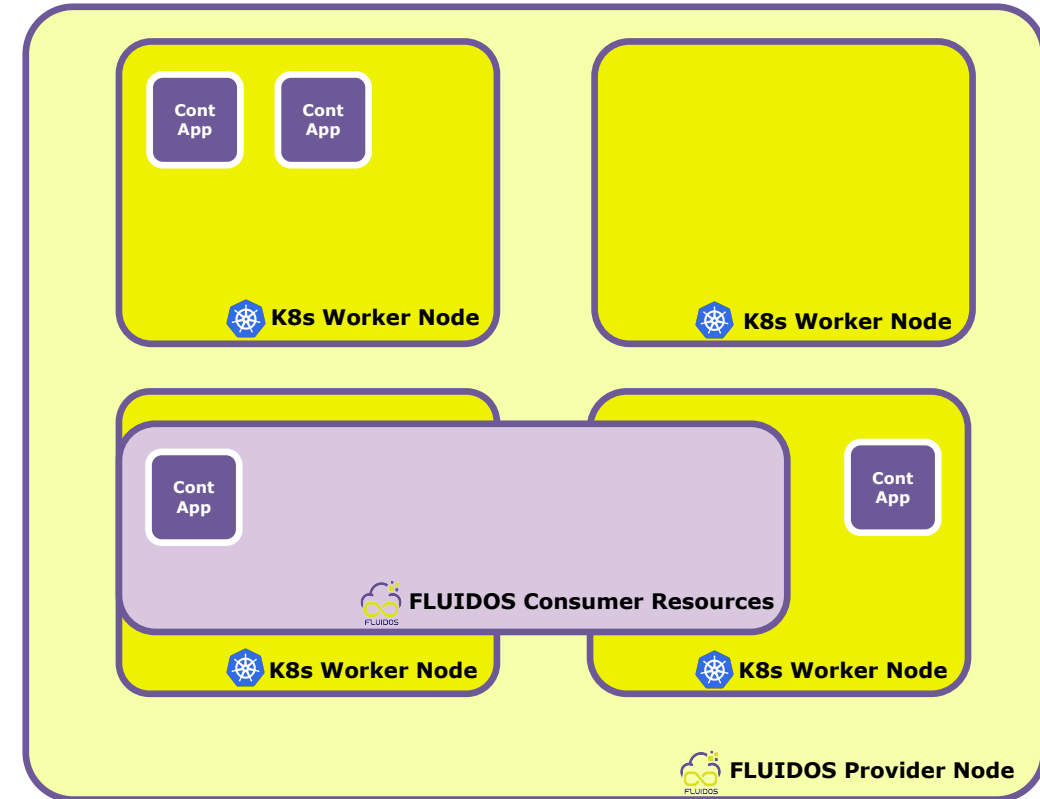
- S Software tool
- M Method (Algorithm, Protocol, Policy, etc.)



FLUIDOS Infrastructure



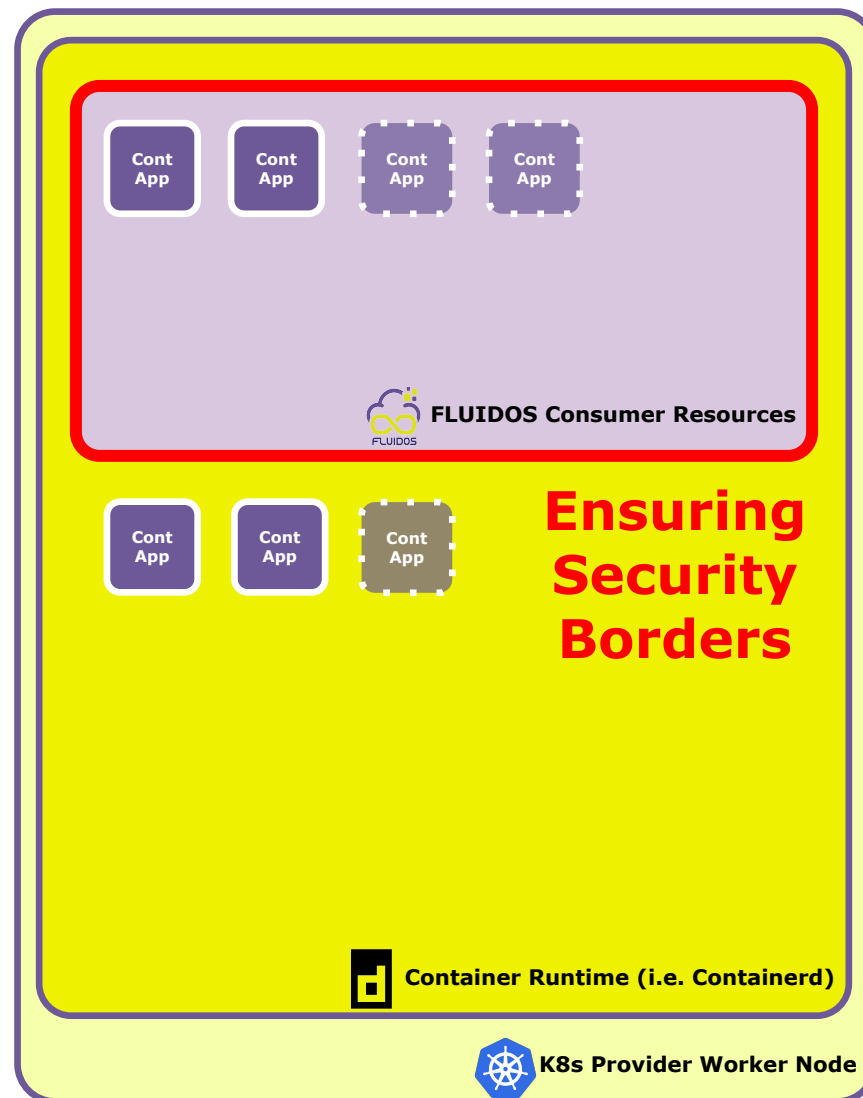
FLUIDOS Consumer



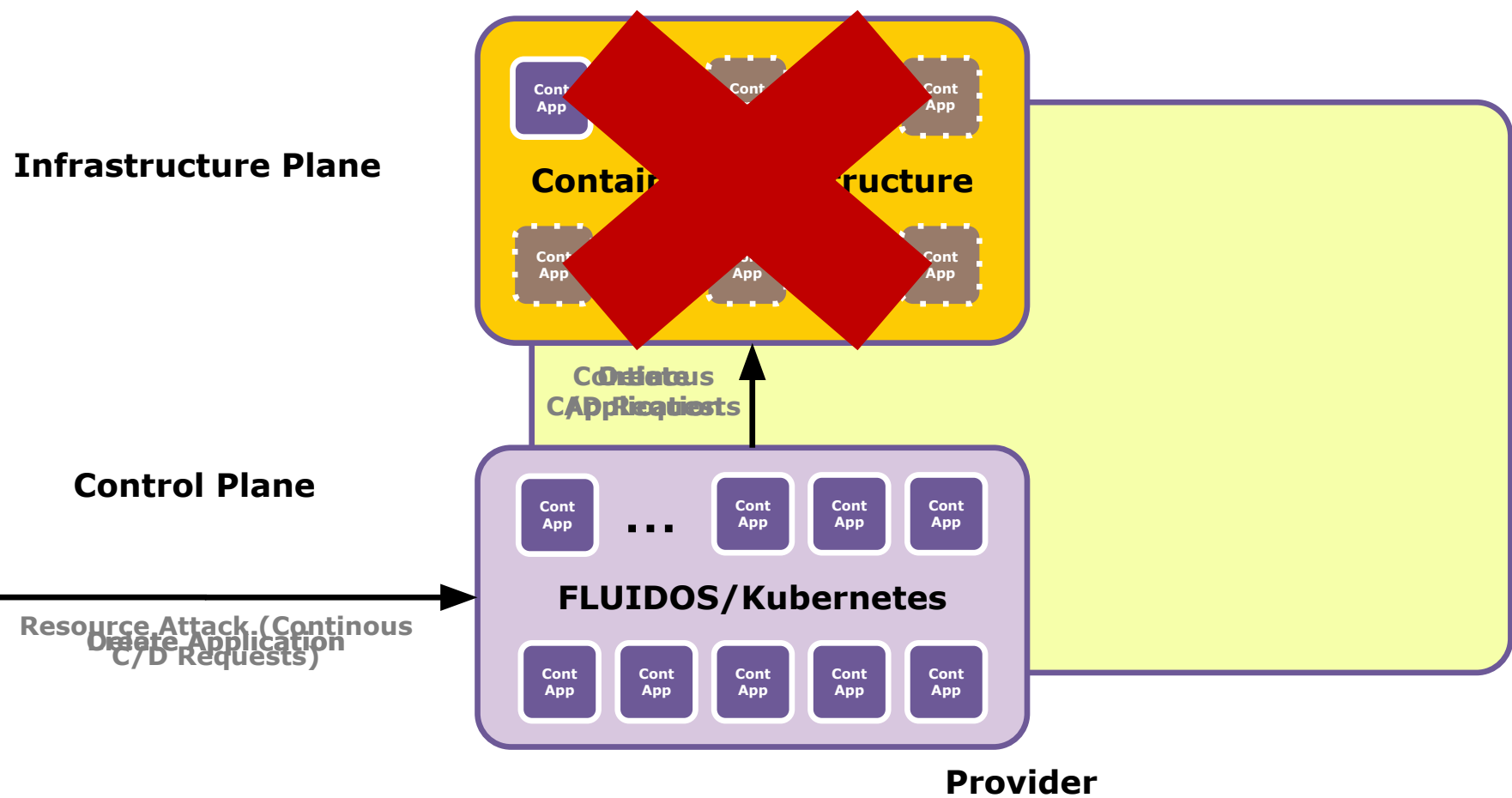
FLUIDOS Provider



Provider Node Isolation



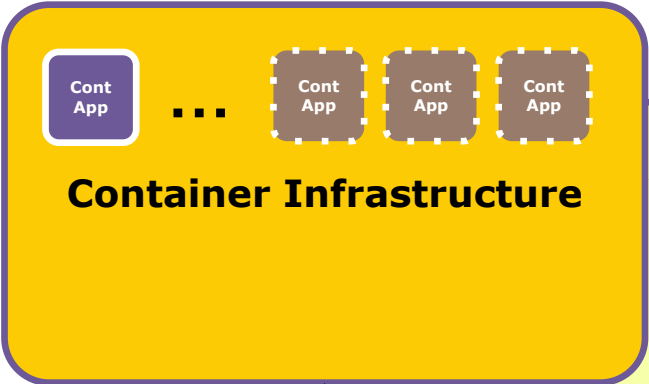
Resource Exhaustion Attack



MAGI System



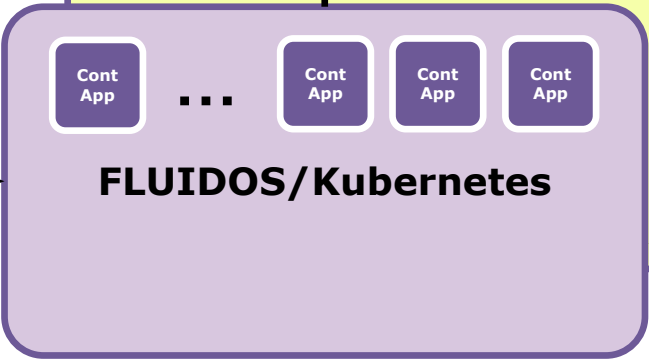
Infrastructure Plane



TCP Connections
CRI Syscalls

Sanitize Queue

Control Plane



MAGI SYSTEM

Stored
Deploying
Containers

Consumer

Resource Attack (Continuous
Create Application
C/D Requests)

Provider

Requests





DEMO:

Enforcing security on the edge-cloud continuum

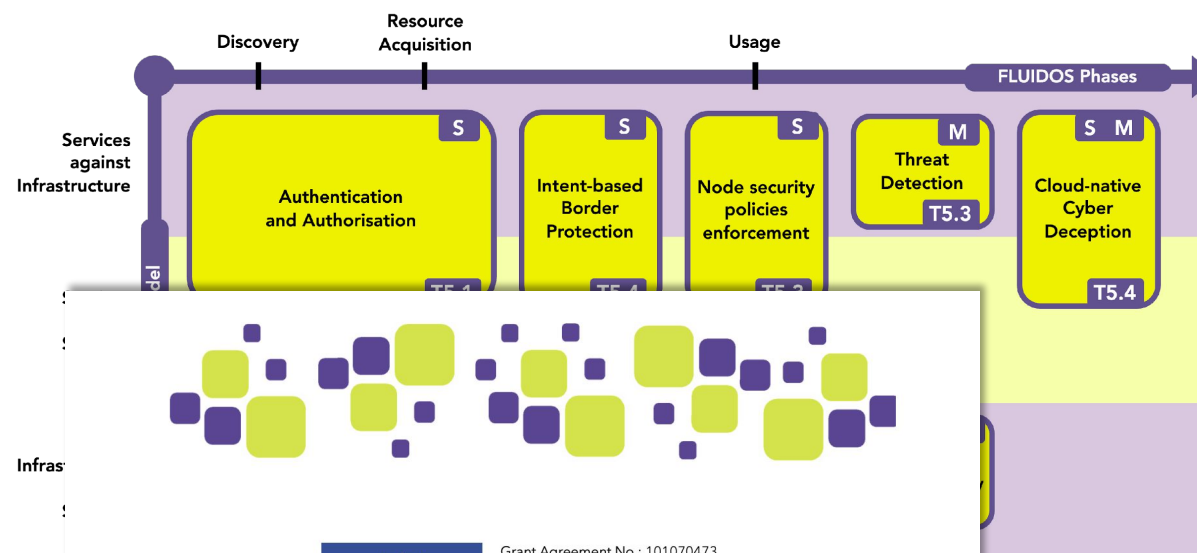
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Conclusions

- Security is an intrinsic part of the FLUIDOS project
- MAGI is only one of several projects and tools developed by FLUIDOS
- On the website, you can find Deliverable 5.1 with a complete definition of the security framework
- You can also check other security papers that can be found on the website



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D5.1 SEAMLESS, ZERO-TRUST SECURITY AND
PRIVACY

Revision: v.1.0





Thanks!

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Solution

