



Your Network's Edge®



# Birdf meeting task 17

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# Project 3 tasks 17– ICS security by design



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- Focus on communications requirements of operational networks
- Design networking architecture and protocols that are simultaneously
  - Flexible (allow adding functionalities throughout the networks)
  - Security by design
- Problem addressed :
  - Deployed networking protocols are insecure
- Research direction :
  - Develop programable (generic) pluggable security device (Misc)
    - Selectable encryption , tunneling protocol, headers – **in progress within FPGAs**
    - DDOS blocking - **in progress within FPGAs**
  - SURLLC forwarding paradigms
  - Exploit 5G security mechanism (AKA, etc) - **in progress**
  - Study Block chain architecture relevancy for this applications – **in progress**

# Task 17 current activities in progress until end of march 2023

- Analysis of existing security issue – how is it done today as GW -  
**Completed**
- Design Misec features -**completed**
  - DDOS blocking : black and white list , DNS attacks , packet size , fragmented packets blocking
  - Encryption
  - Tunneling
- Implement Misec features
- Definition design and start implementation of pluggable security devices (MiSec) – **L3 security (IPSEC) implementation completed and L2 Security (MACSEC) implementation design completed.**
- Additional issues – **In progress not yet completed**
  - Utilization of network visibility for network security, including zero-day DDoS, zero-trust, etc.

# Task 17 Commercialization and Collaboration



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- **Commercialization**
  - RAD is deployed with its IOT GW at utilities like Exelon EVN CPC ENEL and much more. We are going to add Task 17 features in the future (**some abilities in the future ASIC**) to enhance the security of the overall solution by SW and HW upgrade.
- **Collaboration**
  - Not decided yet
- **Demonstration plan**
  - Once the system will be ready it can be demonstrated in RAD's LAB or showed in application video or at one of Birdf's LABS
- **Impact** – Secure OT networks and specially the sensors. Prevent Man in the middle attacks of any kind



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**40** years  
INNOVATION

Thank you  
For your attention