# Challenges for CyberSecurity Hackathon

Notes on Hackathon organization

## Challenges

*Participants should be able to envisage and outline proposals and deliverables aimed at improving protection against Cyber-attacks in a global scenario by means of :*

- *new and original ways to manage and improve Cyber security processes related to 5 functions of NIST framework (Identify, Protect, Detect, Respond, Recover)*
- *innovative technological solutions both based on integrations of existing tools and on development of original ones*

*related to following areas :*

1. *Internet of things*
    a. *Proposals aiming at developing Machine-to-Machine Identity Management also based on Blockchain technology*
    b. *Solutions for threats and health monitoring of complex IOT environment*

2. *Industrial Control Systems/SCADA*
    a. *Proactive attacks detection (i.e. silent APT/ 0-day attacks) with capabilities to guarantee service continuity also in case of partial success of attack (even in case of encrypted traffic).*
    b. *Social Asset Inventory of Industrial Control Systems based on advanced recognition techniques in order to maintain a central Asset Repository .*

c. *Solutions aiming at protecting operating systems and applications for old 'legacy SCADA' overcoming whitelisting limitations.*
d. *Proximity smart and safe authentication for automation Human Machine Interface*

3. *Mobile computing and End Point Protection*
   a. *Overcoming current authorization mechanisms (Single Sign On , Personal Password) in all current possible operational scenarios aiming at Security improvement and at increasing ease of use for all possible devices (smartphone, tablet,..)*
   b. *Segregation and coexistence techniques of multiple applications environments for BYOD implementation.*

4. *Data protection and Web Identity Management*
   a. *Solutions to guarantee confidentiality, integrity and availability for all mobile devices in cloud environment managing devices losses and lack of connection*
   b. *Data protection based on advanced data classification techniques*