

Tutorial 4

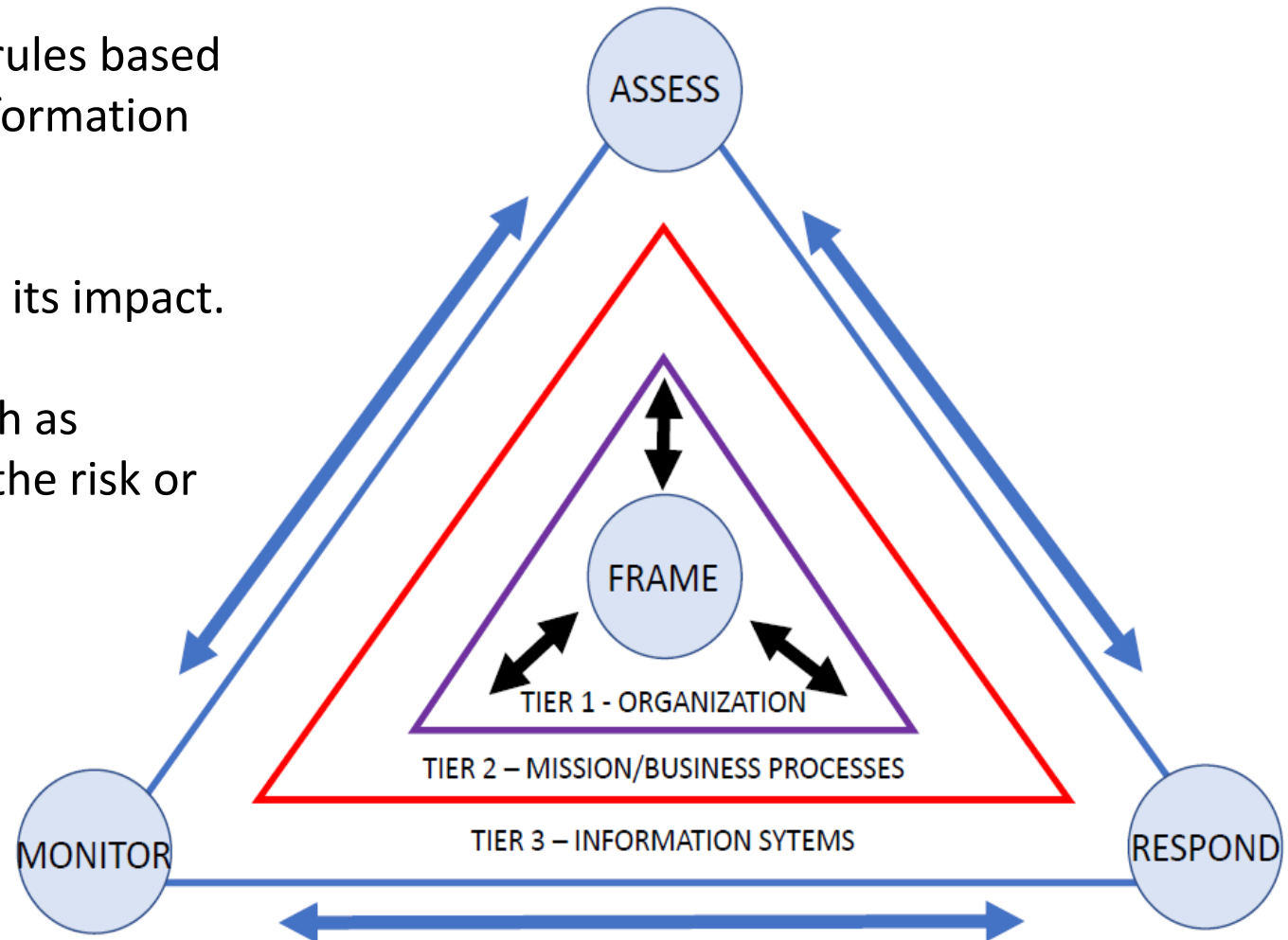
Risk Management and Assessment

Basics: Risk Management Process

➤ Frame:

Framework for risk decisions, which contains some rules based on organization, Mission (business process), and Information systems.

1. Monitor the environment to detect the risk and its impact.
2. Assess threats and vulnerabilities.
3. Respond to the risk by selecting one action, such as accepting the risk, avoiding the risk, mitigating the risk or transferring the risk



Exercise : Water Distribution System

❑ PLC T1 detects the following to send True signal (1) to PLC P1:

1- There is sufficient water in the tank. 2- There is water in the pipe 3- Is there any leakage in the Tank?

❑ PLC P1 detects the following to start the pump:

1- There is water in the well. 2- No blockage in the pipe. 3- There is water in the pipe. 4- Receiving True signal from PLC T1.

❑ The sensors s1 and s2 are pressure sensors, s3, s4 and s6 are flow sensors and s5 is a level sensor. The output of all sensors are Boolean (0 or 1).

➤ Assuming that the PLCs are MicroLogix 1100s with the vulnerability CVE-2016-0868 Unpatched.

- ✓ Perform a risk assessment by considering threats and their likely impact (exploiting + affecting).
- ✓ Calculate the CSSV score for this vulnerability .
- ✓ Perform a risk management framework related to this case for the water treatment organization in Cyprus.

