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I Jornadas Técnicas de Protección de Sistemas de Control en Infraestructuras Críticas

ENISA - First International Conference Cyber Crisis Cooperation Cyber Exercises

Paris

27th of June 2012

CNPIC
CENTRO NACIONAL PARA LA PROTECCIÓN DE LAS INFRAESTRUCTURAS CRÍTICAS

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Content

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Background

- **Isdefe** (http://www.isdefe.es/), in collaboration with the **National Centre for Critical Infrastructure Protection** (**CNPIC**, http://www.cnpic.es/) of the Spanish Ministry of Interior, has conducted during last April and May 2012 a series of practical sessions, **nationwide** and **cross-sector**, to reinforce and test the skill acquisition for the Protection of **Control Systems** in **Critical Infrastructures**, as well as to assess their processes and procedures.

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Aim of the Workshop

- Introduce the **cyber threat** of **Control Systems in Critical Infrastructures** to participants, making them aware of the related **risks**.
- **Train operator's staff**, technically and **hands-on**, addressing previously identified **skill gaps**, such as Risk Assessment and Management, Incident Response and Situational Awareness within Control Systems in Critical Infrastructures.

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Targeted Audience

- Limited to **Energy, Nuclear and Transport Strategic Sectors**, given their importance and that they come within the European **Directive 2008/114/EC**.
- **20 teams** were invited to participate:
  - Including **major Spanish companies** which operate Critical Infrastructures in those sectors. (16 teams)
  - As well as some governmental departments, with sectorial responsibilities in protecting Critical Infrastructures: **Ministry of Development**, **Ministry of Industry, Energy and Tourism**, **Nuclear Security Council** and **National Intelligence Centre**. (4 teams)

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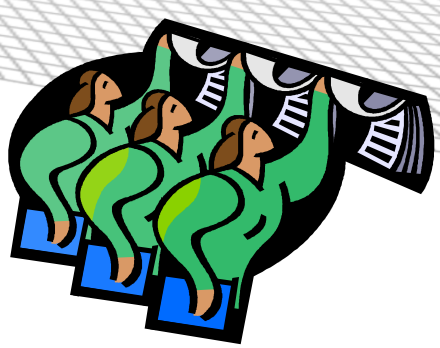

Targeted Audience: Profiles

- **Systems** and **security administrators** in **ICT departments** of critical infrastructure operators.
- **Technical staff** dealing with **control systems management** in critical infrastructure.
- **Directors of security** departments of energy, nuclear and transport strategic infrastructures companies.
- **Managers** and **technical staff** in **governmental agencies** with responsibility for Critical Infrastructure Protection.

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Workshop Scheme

- **Opening Session,** in which were presented objectives, profile of participants and scheme of the technical sessions. It was a face session, held at the Isdefe premises (11/04/2012).
- **Two Practical Sessions**, which took place in 2 consecutive days (17 and 18/04/2012) over a virtualized scenario. They were remote sessions and each team attended from their own premises. All participants were connected through an interactive web conferencing service over Internet.
- **Closing Session**, in which the results and conclusions of the workshop were presented. It was a face session, held at the Isdefe premises (08/05/2012).

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Workshop Scheme: Sessions Content

1st Practical Session: Management of Security Incidents in CIs

Objectives:

- Introduce national regulatory framework on Critical Infrastructure.
- Raising awareness of the threats (real cases).
- Implementing techniques of monitoring and managing security incidents.
- Raise awareness of the importance of sharing information.
- Secure architecture design.

Workshop Scheme: Sessions Content

1st Practical Session: Management of Security Incidents in CIs

Used Tools:

- **OSSIM** (SIEM) for monitoring events.
- **Wiki** for recording incidents and sharing information.

Workshop Scheme: Sessions Content

2nd Practical Session: Risk Assessment and Management

Objectives:

- Raise awareness of the risk assessment, its utility and practical application.
- Become familiar with the process of risk management.
- Spreading the benefits of good risk assessment.
- Using the **MAGERIT methodology.**

Workshop Scheme: Sessions Content

2nd Practical Session: Risk Assessment and Management

Used Tools:

- **PILAR** for risk assessment and management.
- **Wiki** for recording incidents and sharing information.

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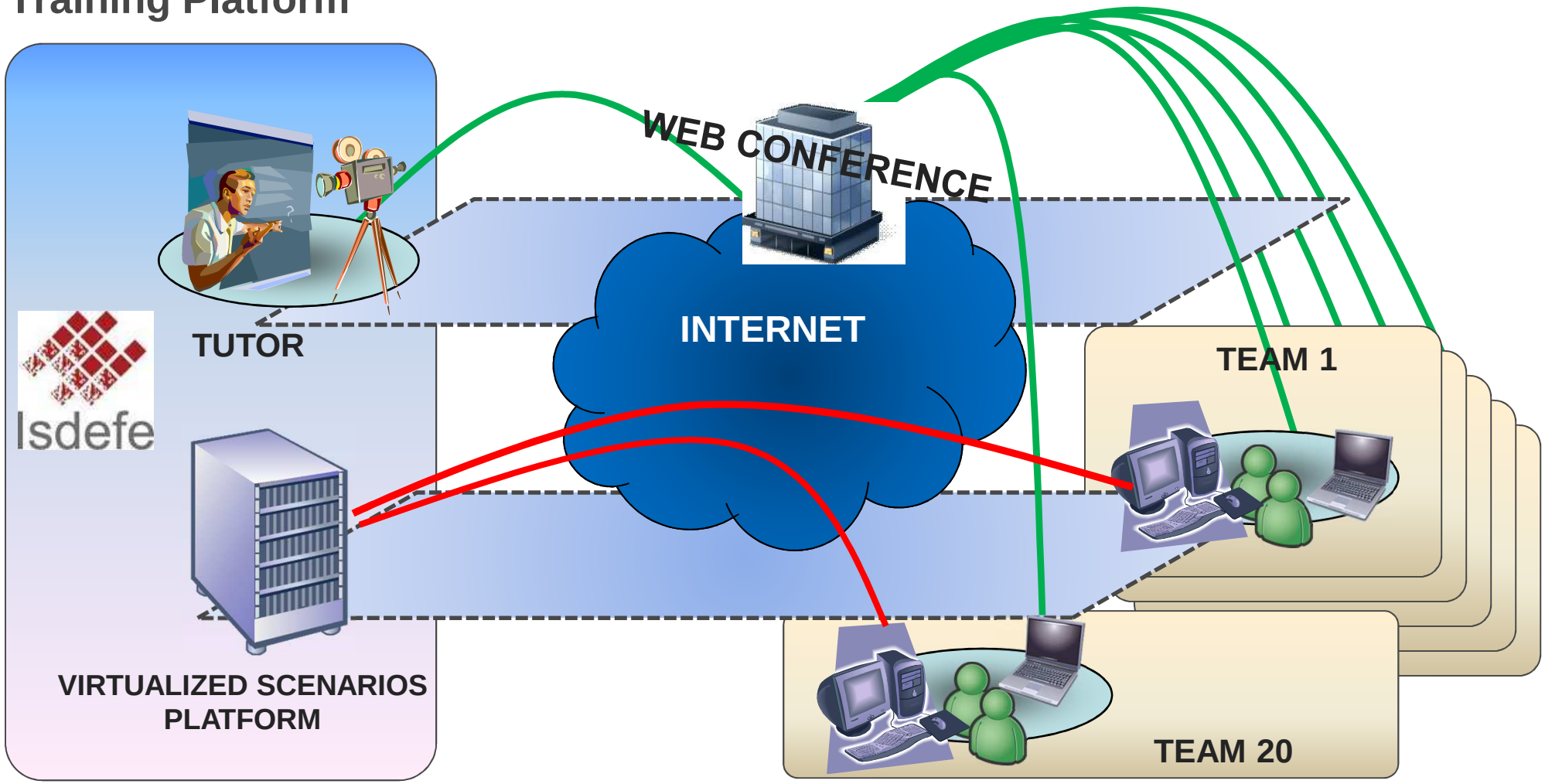
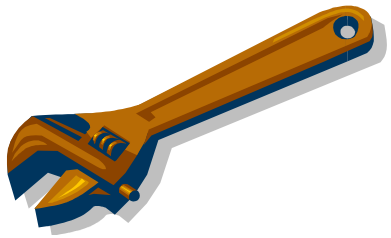
1. Background
2. Aim of the Workshop
3. Targeted Audience
4. Workshop Scheme
5. Training Platform
6. Results and Conclusion

Training Platform



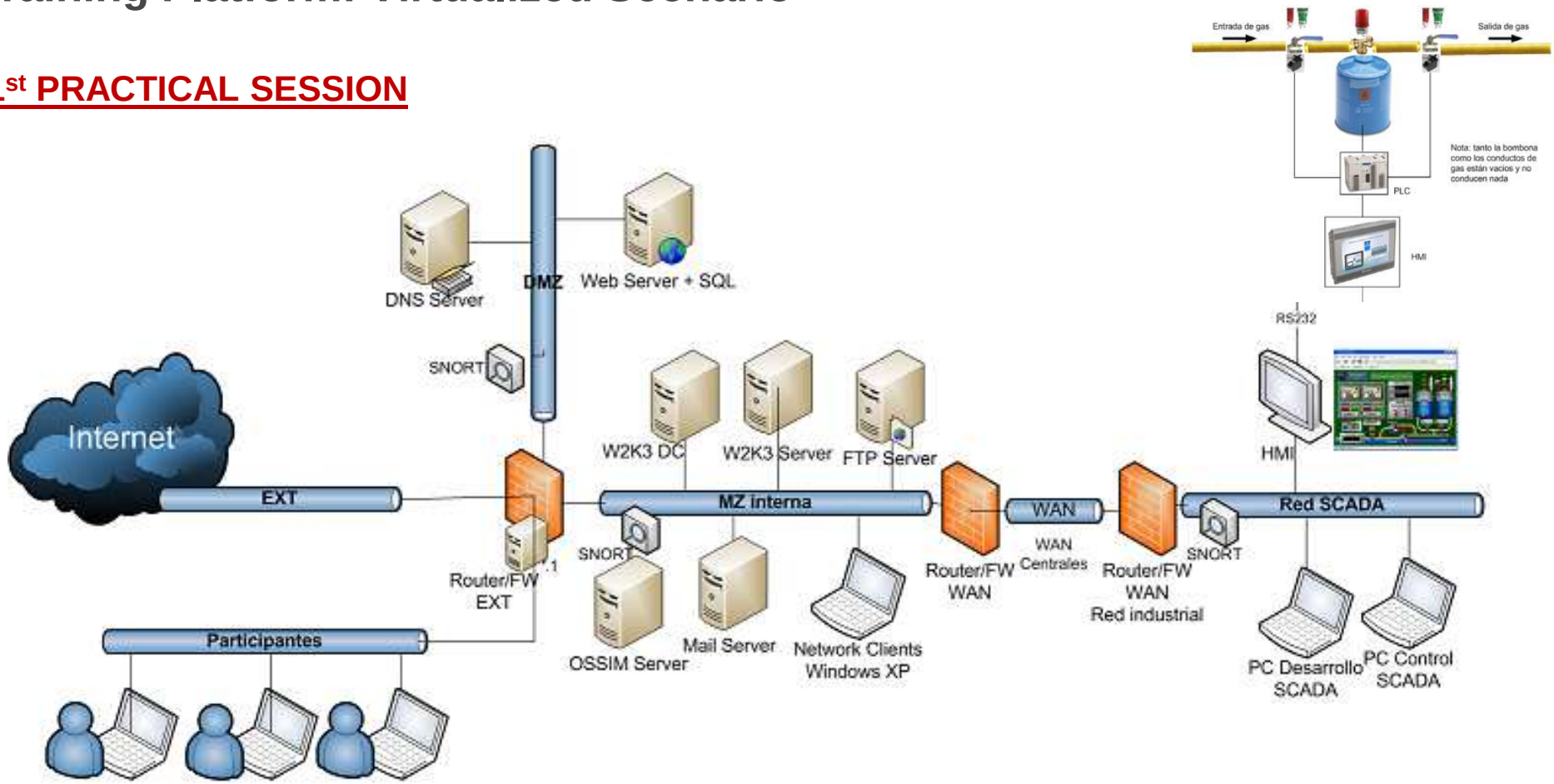
Training Platform

- Making practice remotely from each of the facilities of the participants.
- The tools were provided in a self-bootable DVD.
- Secure communications through a VPN with the platform of practice.
- Strong authentication with USB tokens.
- For participating only needed 1 PC and 1 Internet connection.



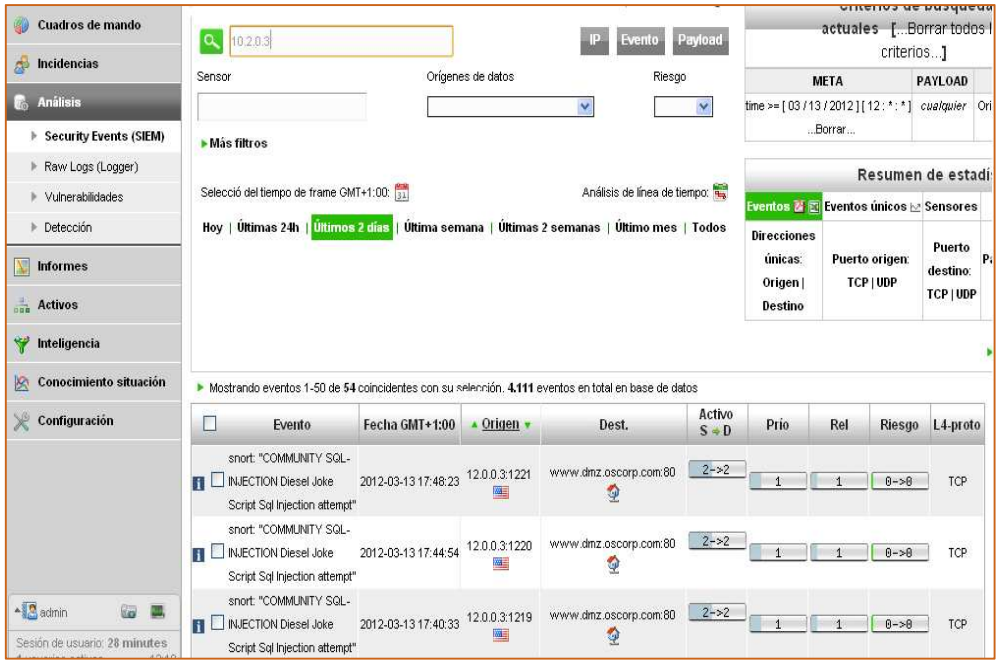
Training Platform: Virtualized Scenario

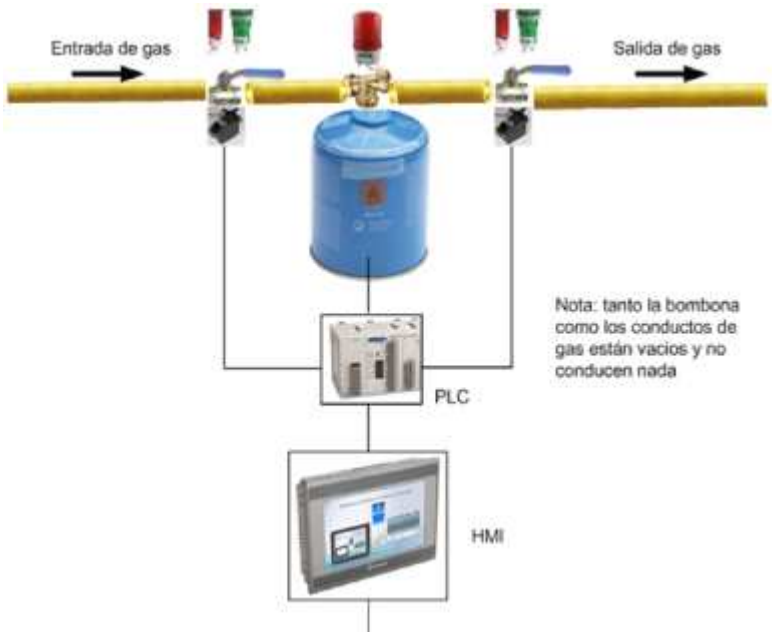
1st PRACTICAL SESSION



Training Platform: Tools and SCADA

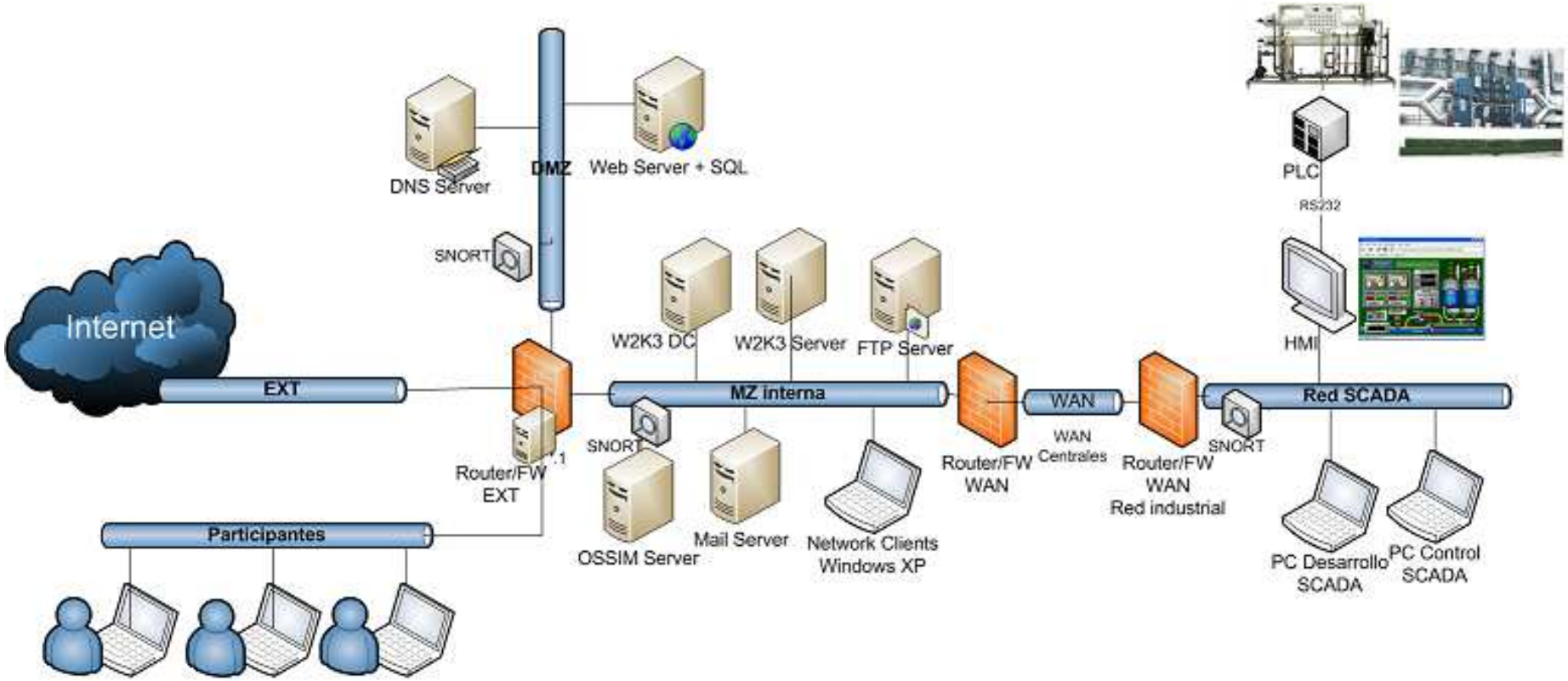
1st PRACTICAL SESSION





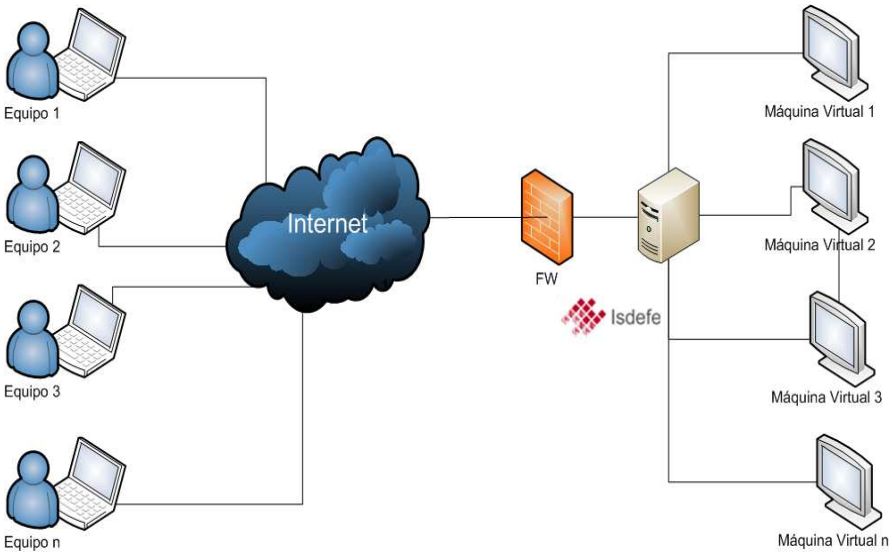
Training Platform: Virtualized Scenario

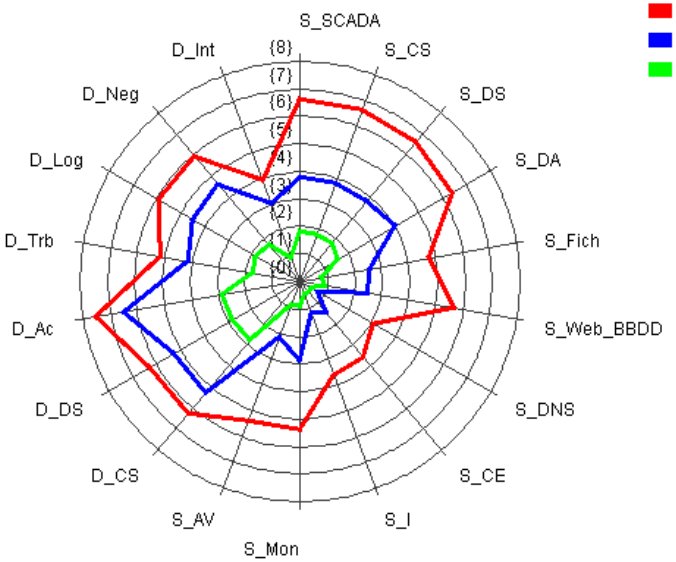
2nd PRACTICAL SESSION



Training Platform: Tools

2nd PRACTICAL SESSION





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[D_Ac] Datos de Acceso	[A.11] Acceso no autorizado	[C]	[9]	[9]	50%	[8]	100	{7,5}
[SW.SW SRV.SW_SRV] Software ge...	[A.8] Difusión de software dañino	[C]		[9]	100%	[9]	10	{7,1}
[SW.SW PC.SW_DE] Software de De...	[A.8] Difusión de software dañino	[D]		[9]	100%	[9]	10	{7,1}
[SW.SW SRV.SW_SD] Software de S...	[A.8] Difusión de software dañino	[C]		[9]	100%	[9]	10	{7,1}
[D_Ac] Datos de Acceso	[A.19] Revelación de información	[C]	[9]	[9]	100%	[9]	10	{7,1}
[SW.SW_PLC] Software PLC	[A.8] Difusión de software dañino	[D]		[9]	100%	[9]	10	{7,1}

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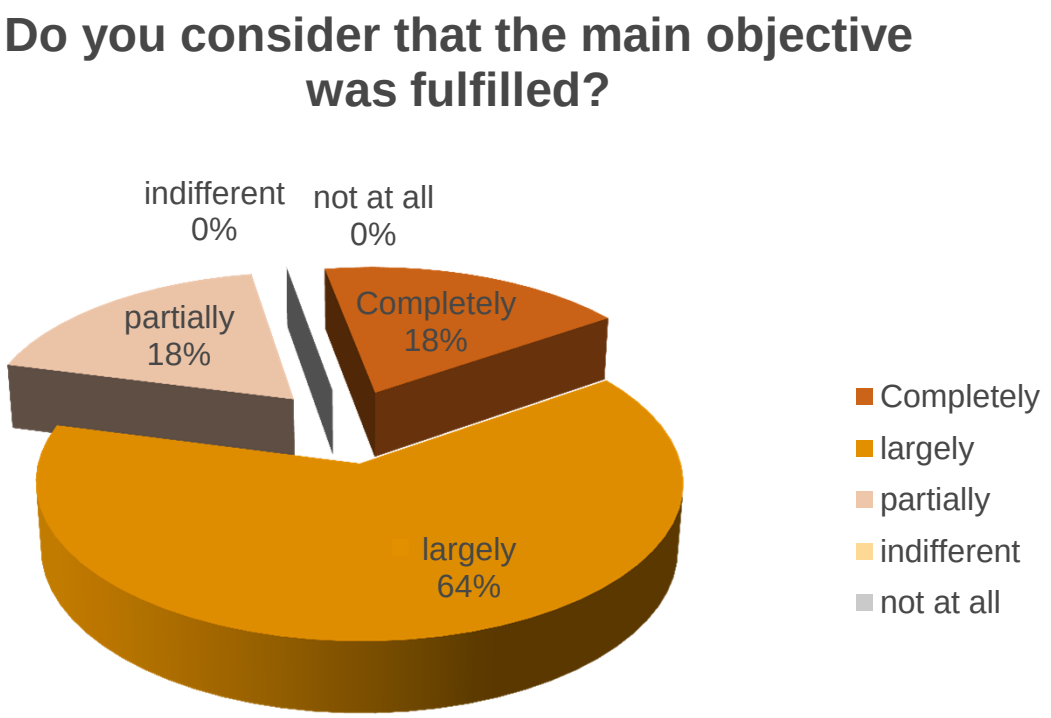
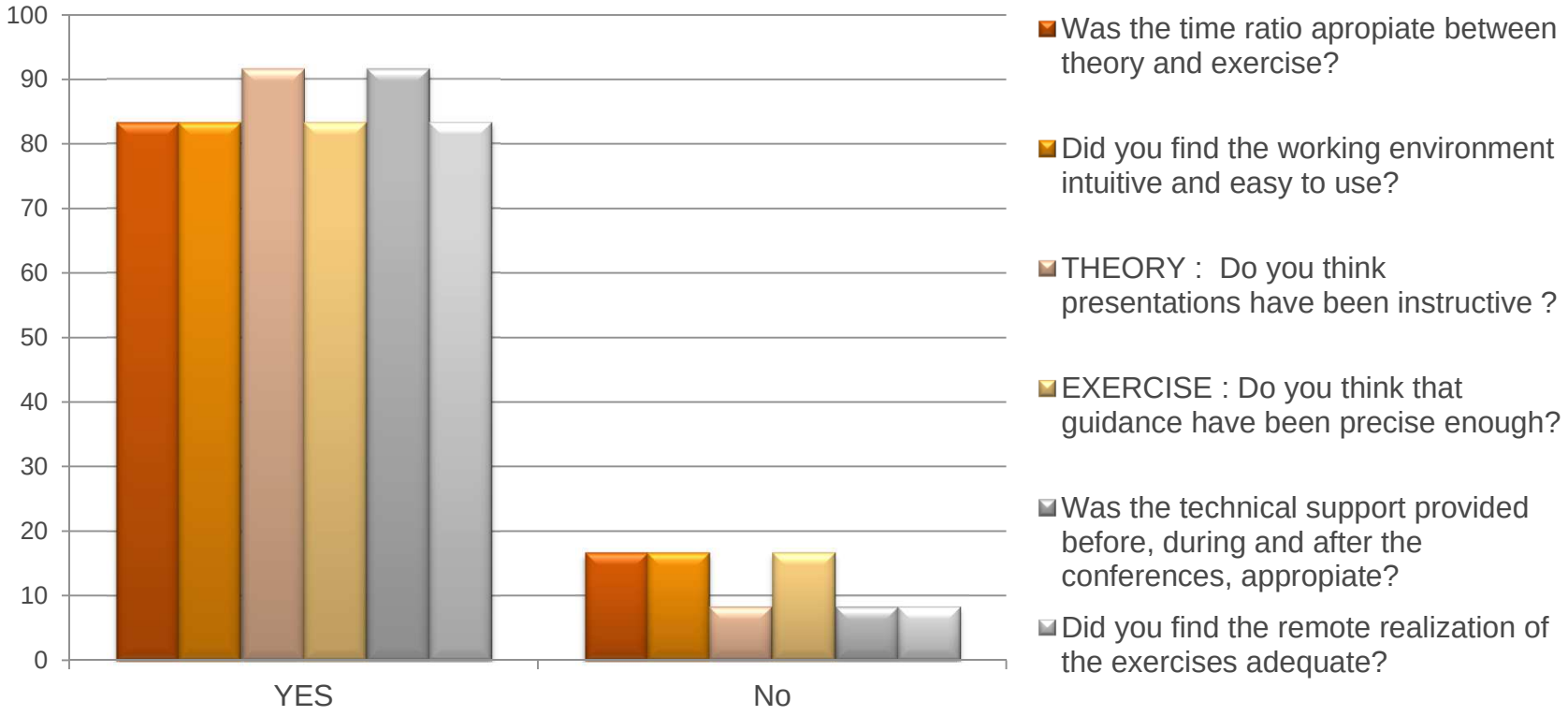
Results and Conclusion: Participants Assessment

Objectives



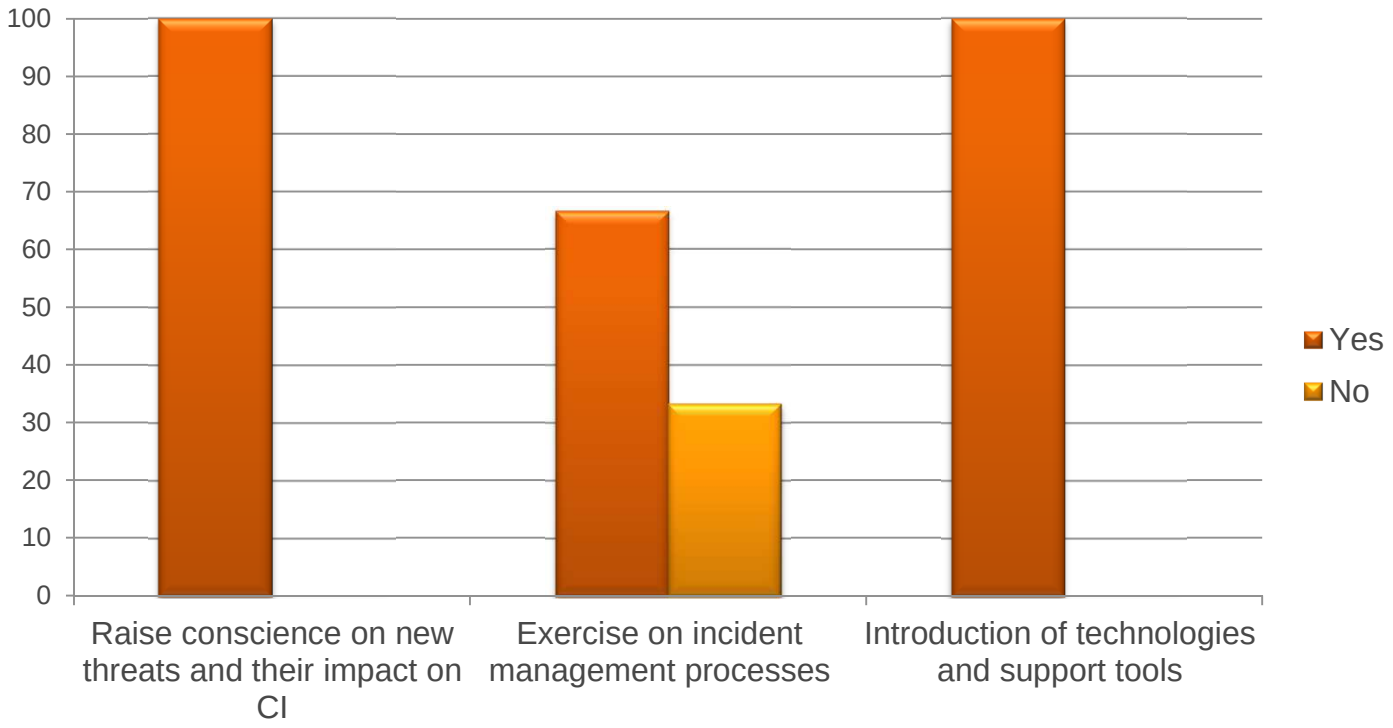
Results and Conclusion: Participants Assessment

Organization



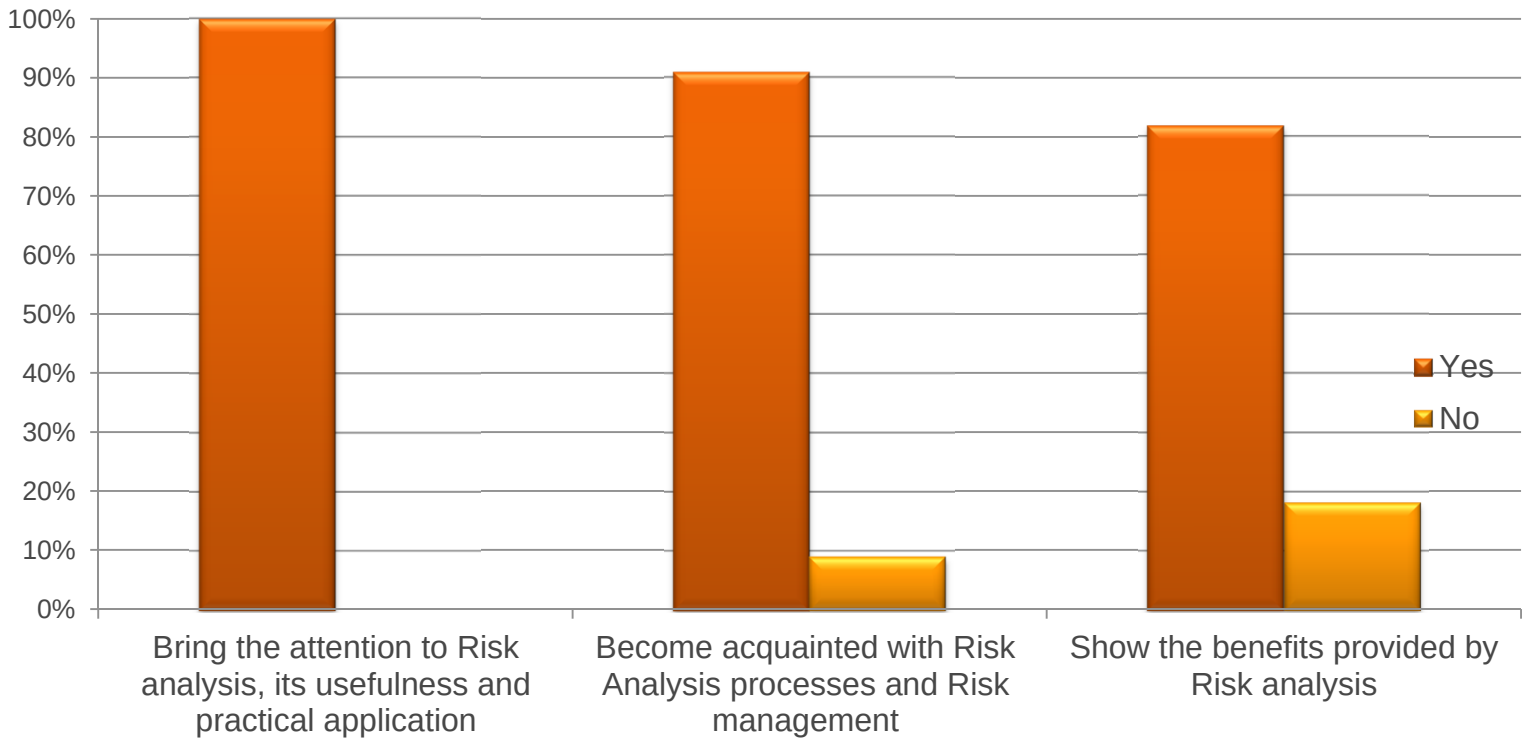
Results and Conclusion: Participants Assessment

Theme of 1st Practical Session



Results and Conclusion: Participants Assessment

Theme of 2nd Practical Session



Results and Conclusion: Lessons Learned

- Diversity in the number of participants per team, from 2 to 20 people / team.
- Different levels of technical knowledge among participants.
- Widespread use and positive Wiki as facilitator of information exchange.

Results and Conclusion: Lessons Learned

- **1st Practical Session: Security Incident Management**
  - Adaptation of the scenario to the expectations.
  - Disparity of expertise between the various participants.
  - Learning SIEM tools to be able to detect complex attacks.
  - Improvements were noted in the management of incidents by users during the course of the day.

Results and Conclusion: Lessons Learned

- **2nd Practical Session: Risk Assessment and Management**
  - Greater homogeneity in the level of knowledge of the participants in this field.
  - Greater complexity of this practice session for the participants.
  - High interest in expanding knowledge in the area of Risk Assessment.

Conclusion

- High acceptance of the event.
- Very satisfactory level of participation.
- According to assessment of participants, successful theme and organization.
- High degree of interest from the teams participating in the Practical Sessions.
- Achieved the objectives set out above.

Questions?

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