



ICS CYBER SECURITY IMPLEMENTATION IN INDUSTRIAL PROJECTS – A SUCCESS STORY OR SOMETHING LOST IN ACTION

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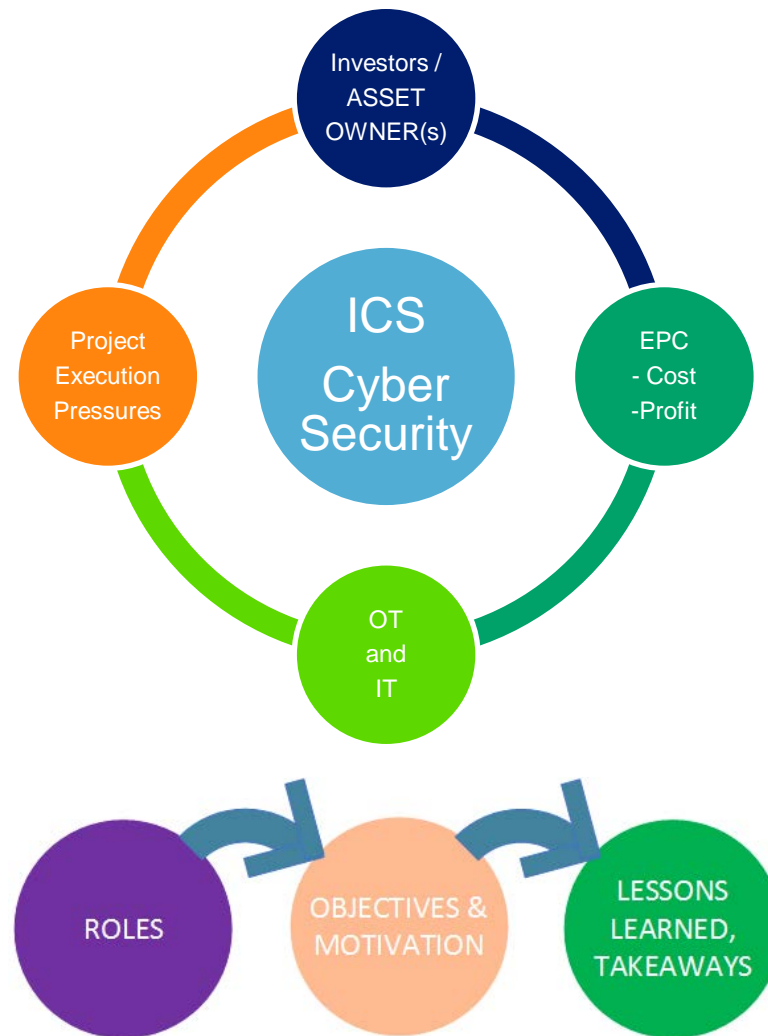
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AGENDA



PÖYRY IN BRIEF

Pöyry is an international consulting and engineering company. Our vision is to be the trusted partner, delivering smart solutions through connected teams.



ENERGY

Thermal Power & Renewable Energy
Hydro, Transmission & Distribution,
Nuclear Energy

Ranked within

TOP 10

in power generation in the world
(Source ENR 2015)

70%

of Europe's major energy players
rely on our market projections



INDUSTRY

Forest Industry
Chemicals & Biorefining
Mining & Metals

Ranked

#1

in pulp & paper in the world
(Source ENR 2015)

Delivered projects for

90%

of the World's major pulp & paper
companies



INFRASTRUCTURE

Transportation
Water
Environment

More than

1,000km

of transportation tunnels in
the last decade

Conducted

2,000+

environmental due diligences in
the last decade



10,000

projects delivered p/a
across ~ 100 countries



6,000

experts across
70 nationalities



150

offices in 45 countries



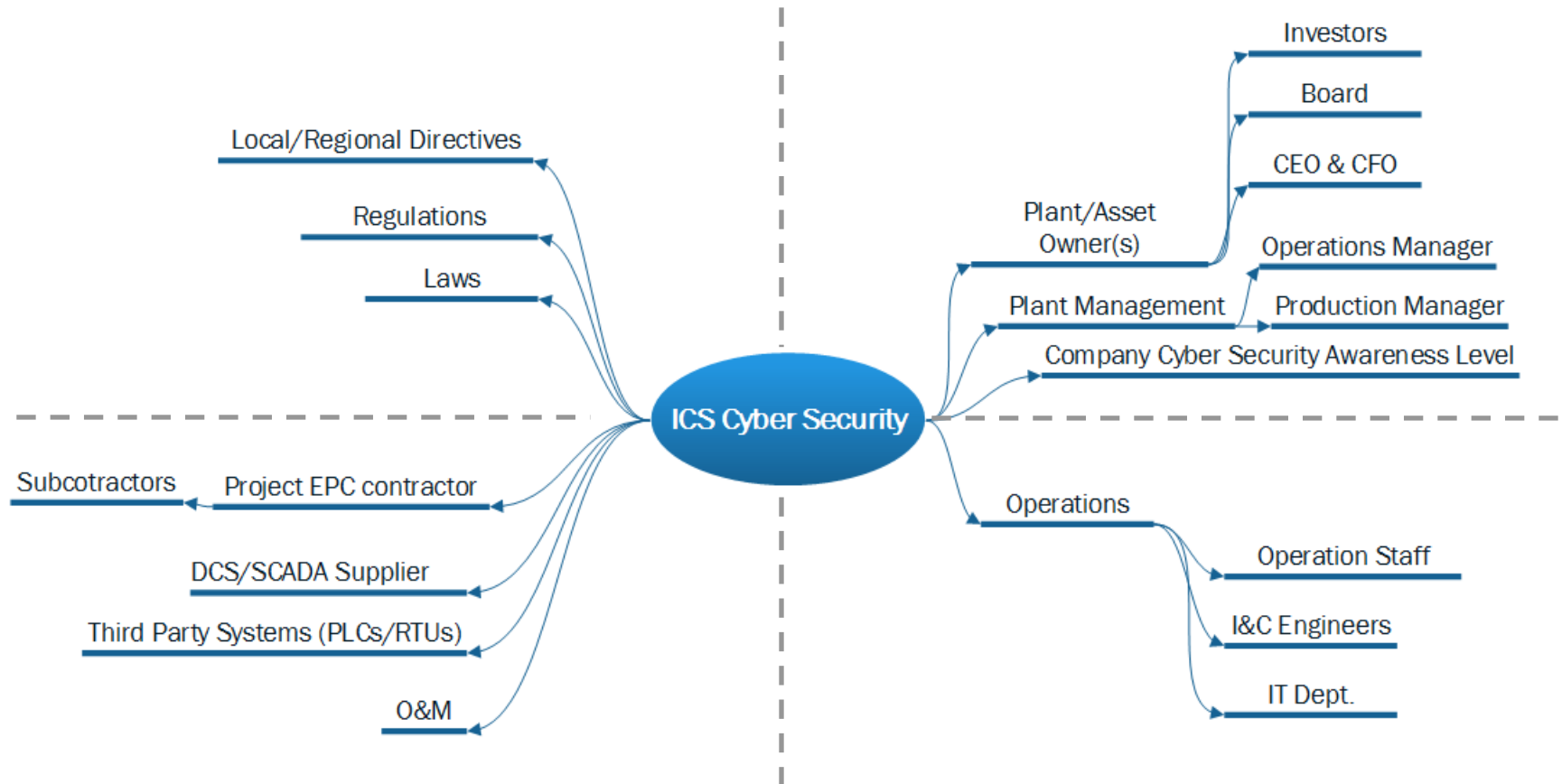
1958

55+

years

ICS CYBER SECURITY

Stakeholders , Influencers and other parties



ASPECTS

Standards, Laws and Regulations



- Selection, Customization, Effort and Commitment required
- As early as possible, for Brownfield on Operation phase by default



ASPECTS

Specification: “One time cyber security please”

1.1 Cyber Security



Qty. 1

- Common problem is that the Cyber Security is Specified as an Equipment
- Standards and requirements thrown to (ECP) contractor “to take care of”
- Often a real big surprise is that DCS vendors does not want to take responsibility for the Plant Cyber Security implementation



ASPECTS

MFS - Minimum Functional Specification

- How to define and describe ICS/OT cyber security in the contract specification
 - What to specify: functionality, amount of zones, no. of firewalls, etc...
- In which part of the contract to place the core requirements of IT Cyber Security
 - Technical Specification?
 - Functional Specification?
 - Make a specific annex?

If it isn't written (to contract), it doesn't exist



ASPECTS

Business Expectations

- Investors
 - => *Profits*
- Asset Owners
 - Business Management
 - CEO, CFO
 - Protection of Assets
 - ⇒ *Requirements for Cyber Security*
 - Production
 - Prod.Man., Eng.Man., etc.....
- Plant Operations
 - Head of Production, Engineering Manager,
 - Operators,
 - O&M
 - ⇒ *Production Pressure (Money, Resources, Results)*
- EPC Contractor, Subcontractors, Third Parties
 - Fast project execution to maximize profits
 - Answers for the “Own Scope” cyber security solution

ASPECTS

OT Vs IT

OT

- “DO NOT FIX SOMETHING THAT ISN’T BROKEN!”
or “NOBODY TOUCH THE RUNNING SYSTEM!”
- Even small changes are a big headache
- Sometimes misbelief for “Security in Obscurity”

IT

- “We’ve been doing Cyber Security for years, i.e. much longer than you, so
DO NOT COME TO TELL US WHAT TO DO!”
- “Why we should to speak now with OT?”
- Due to data privacy and ERP needs, the Plant Management has closer ties with IT than with OT

ASPECTS

EPC Project



The element of
CONFUSION

CONCEPT SPEC FEED DESIGN PROCUREMENT EXEC COMMISSIONING HANDOVER OPERATION



ASPECTS

Project and Production Pressures

There comes the time in the project when:

1. Investors become anxious and put the Asset Owner under pressure



2. Plant top management transfers pressure to Project Organization



3. Project Management pushes sheer pressure to EPC Contractor to make plant to produce (Power/Water/...) ASAP



Agreement:
If the ics cyber security
issues has moved to a later
stage of the project

REMEDIES FOR ICS CYBER SECURITY IMPLEMENTATION

TAKEAWAYS

- Plant Top Management must be Cyber Aware and promote Cyber Awareness
- Cyber Security Strategy/Concept for IT as well as OT is Paramount
- IT/OT Cyber Security Strategy can be planned as a democracy, but Implementation must be performed as a Dictator
- Implementation support and enforcement from ICS Cyber Security experts is often helping and bringing much needed “urgency” for Implementation
- Remain Focused as “Cyber Security is a journey, not a destination”



THANK YOU FOR YOUR ATTENTION

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