ESRA 2020

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E-LAND

*Integrated multi-vector management system for **E**nergy is**LAND**s*

Risk communication in E-LAND

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AGENDA / CONTENT

1. Introduction to the E-LAND project
2. Role assigned to the Risk Manager
3. Challenges to communicate the Risks relevant to:
   a) *The project*
   b) *The product*
   c) *Data privacy*
4. Conclusions
5. Future work *and follow-up at the pilot sites*

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1. Introduction of the E-LAND project

E-LAND assumes that the needs in energy supplies are changing according to the new usages of electricity:

- Electrification of transportation, buildings, industrial uses,…,
- Availability of the technology and development of the renewable source of energy, decarbonised energy (*solar panel, none fossil energy,…),*
- Increase of decentralized production sites, according to the need (*population, location, seasons,…*),

lead to the wish of producing, using, buying, selling and storing the energy in a more efficient way.

The goal of E-LAND is to support the energy islands and isolated communities by developing a toolbox. E-LAND will also implement this toolbox and demonstrate its viability and its impact in 3 pilot sites in Europe.

** communities of prosumers: users that produce and consume a part or the total of their energy needs and may experience dependency on external energy supply.*

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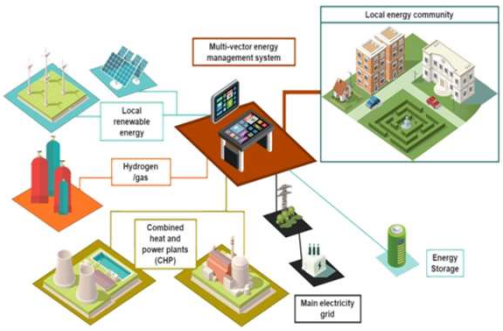
1. Introduction of the E-LAND project

E-LAND toolbox gathers data on:

- Historic of energy consumption
- Energy production
- Weather forecast
- Energy sellers' prices

to deliver an **optimized schedule** that allows the energy islands to produce, store, sell and buy energy according to their current and future need, with an overview of the energy market.



With the E-LAND solution, the energy islands become energy suppliers, that will face the same responsibilities as any energy grid suppliers and will be responsible for equipment and infrastructures similarly.

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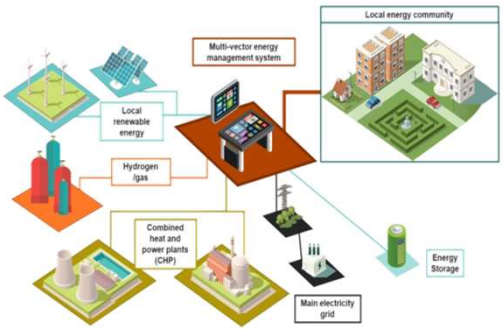

With the E-LAND solution, the energy islands become energy suppliers, **this means that risk, safety, and security must be handled to such a degree that the E-LAND solution adds no risk, to be accepted by the energy islands.**

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2. Role of the risk manager

IFE has been assigned the role of risk manager in the project:

- perform **project risk assessment** and **technical risk assessment**.
  (ensure that the concept, the solution, and the application to be delivered in E-LAND are safe, secure, and reliable).
- **assigning risk ownership.**
- **identifying, analyzing**, and **then responding** to any risk, over the life cycle of the project.
- updating and **communicating** risk status.

The project gathers 13 Europeans Partners, including 3 pilot sites:

with several languages, **multiple** cultures, academic and industry environments, **needs and goals, variance in responsibility and requirements.**

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3. Management of the project risks

This presentation gives examples on how risks have been identified and communicated in project with complementing and international partners.

Challenges to communicate the Risk:

- Need to choose a specific methodology that will fit both the project definition, the product requirements and the expectations of the partners.

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Follow a project risk management methodology that would fit the partners and the project

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3.a. Risks relative to Project Risk

Methodology

Step 1 – Preparation

- Templates for the risk register
- Presentation (slide) to summarize and present the content of the risk register

Step 2 – Gather status and updates

- Monthly 1-to-1 meetings to review and update the risk register, discuss potential new risks with each responsible in the project (Work Package Leaders)
- Update in the presentation of the risk register

Step 3 – Present and communicate the risks

- Monthly status meetings, with all the partners to discuss the potential risk that arises
- Accepted risks are added to the risk register to be monitored

Step 4 – Traceability and maintenance

- Updated risk register and prepared for next round of meetings (accessible to all partners)
- An archive of the presentation is shared (accessible to all partners)
- A snapshot of the risk status for the current month is creating.
  Over the months, this collection give the evolution of the project risk picture

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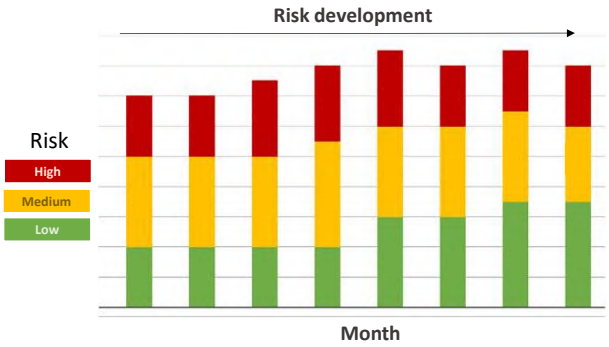
3.a. Risks relative to Project Risk



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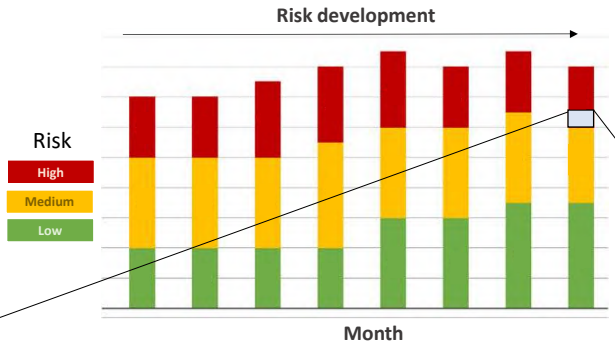
3.a. Risks relative to Project Risk



ID	Risk description	Impact Likelihood	Risk	Ownership	Status	Strategy	Mitigation	Comment and update
1	Security			Part A	Surveying	Mitigate	Through the risk analysis…	Risk assessment performed on the design. Mitigation was proposed and included in the design document

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3.a. Risks relative to Project Risk

Highlights:

Having an individual as risk owner (instead of an organization)

- Ensures that a response plan is developed and acted upon, in a timely manner

Include the risks judged as negligible into the risk register

- in order to keep track on their development

Both risk reporting and risk following are experienced as challenging:

- Added complexity of having many involved partners.
- Difficulties to understand what the project risk register is. Why project register and technical risk register are separated? What to report into?

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- Added complexity of having many involved partners.
- Difficulties to understand what the project risk register is. Why project register and technical risk register are separated? What to report into?

Simplify the process:

- **1-to-1 phone calls** were arranged with each responsible.
- Focus was **only on the concerns** of tasks where the responsible was involved.
- **Discuss** the entire risk register **early** in the project, **with all** partners.
- **Updates** of project risk register was **communicated selectively** according to the risk relevance each months.

➢ **Improve the risk collection and the understanding among the partners** (according to feedbacks and experience of risk management in the project).

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3.b. Communication technical risks

This presentation gives examples on how risks have been identified and communicated in project with complementing and international partners.

Challenges to communicate the Risk:

- Need to choose a specific methodology that will fit both the project definition, the product requirements and the expectations of the partners.

Perform at an early stage of the project, during the design phase, when the technical documentation and the architecture were still in development.

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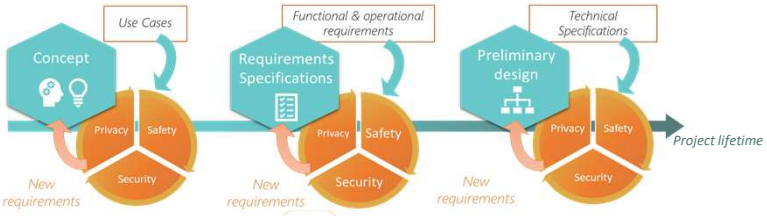
3.b. Communication technical risks

Risk assessment*:

- High-level use cases on the concept
- Functional requirements and business requirements on preliminary design *(incomplete architecture knowledge)*
- Identify risks pertaining to safety, security, and privacy at each step.



A list of 14 mitigations has been proposed in a high-level detail**

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* X. Gao, & al. , *Risk Assessment in the E-LAND Project*, **ESREL paper 5072**
** P.-A. Jørgensen & al. , *Addressing Cybersecurity in Energy Islands* **ESREL paper 5428**

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3.b. Communication technical risks

Methodology

Step 1 – Preparation

- Templates for the risk register

Step 2 – Gather status updates

- After each main phase of the development process achieved (*e.g. design documentation update, new solution, or change in the design,…*) the mitigations are discussed with partners responsible of the risk.
- 1-to-1 meetings to check if the risk relevant for the part of the solution the partner is responsible for, has been resolved or not,
- Discuss if potential risk can affect the evolution of the project *(milestones, delays, …)*

Step 3 – Present and communicate the risks

- Relevant risk that can affected the project are monthly updated with all partners

Step 4 – Traceability and maintenance

- Updated risk register and prepared for next round of meetings
- Report / deliveries

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3.b. Communication technical risks

Highlights:

Having an individual as risk owner (instead of an organization)

- Ensures that a response plan is developed and acted upon in a timely manner.

Include the risks judged as negligible

- in order to keep track on their development.

Focus on the risk that are relevant for each responsible/partners:

- Due to the complexity and the size of the risk register.
- May experience difficulties to understand the full document. Time consuming.

Simplify the process:

- **1-to-1 phone calls** were arranged with each responsible person.
- Focus was **only on the concerns** of each tasks responsible.
- **Discuss** only the risk that can affect the progress of the project to all partners
- **Updates** of project risk register was **communicated selectively** according to the risk relevance but the risk register is available to all.

➢ **Similar to the project risk communication**
partners were familiar with this process so the collection and update of risks were performed quickly.

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3.c. Management of the privacy risks

This presentation gives examples on how risks have been identified and communicated in project with complementing and international partners.

Challenges to communicate the Risk:

- Need to choose a specific methodology that will fit both the project definition, the product requirements and the expectations of the partners.

Need knowledge on the type and amount of data that will be collected and used in the solution

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3.c. Management of the privacy risks

The risk assessment, performed at an early stage of the project identified that privacy might be an issue.

Challenges:

- The assessment of privacy performed early in the solution was limited (*not enough details, technical details was not clarified – as the architecture was not definitive, at this point to make accurate assessments).*
- Ownership and responsibility were difficult to assigned.
- Concerns were expressed when installing and using the toolbox on the pilot sites without any **privacy notice.**

Simplify the process:

- **1-to-1 phone calls** to contact each partner
- Understand which type of data is collected, and advice each partner
- To issue a Privacy Guidance in compliance with the relevant standards in practice (e.g. GDPR,…)

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4. Conclusions

- The **difference between project risk and technical** (product) risks seems to be unclear for many.
- **Privacy and cyber security** risks might be unclear, underestimated or even neglected in business.
- **The definition and distinction between security, safety and privacy** might have been clearer to the project partners.
- Process and mitigations on privacy, security and safety were well received according to feedback of the partners.

At the end, a **better understanding** among the partners and the risk manager was established thanks to the 1-to-1 call and monthly presentation.
Process followed help us to catch risk among the project.

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5. Next steps

Project risk:

- **Continue the regular contact meetings monthly** with partners with a dedicated focus on their risks.
- Monitored the upcoming risk till the end of the project.

Product risk:
When the toolbox will be ready to be implemented in the pilot sites.

- **Following up** of the implementation process on the pilot site and update on the risk register when risk have been mitigated.
- **Support individual** partners in choosing the right methodologies and approaches to implement the suggested/accepted mitigations.
- Privacy guidance and privacy requirements
  - for some data, decisions are required, or follow-up evaluations are needed.

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Flyers: how to start communicating about Risk

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List of references

For more information on the project:

- https://elandh2020.eu/
- Risk And Security Practices: Experiences From The E-LAND Project
  ESREL paper 5023
  C. Esnoul, S. A. Olsen, B. A. Gran, X. Gao, P.-A. Jørgensen and J. E. Simensen
- Risk Assessment in the E-LAND Project
  X. Gao, C. Esnoul, S. A. Olsen, P.-A. Jørgensen and B. A. Gran
  ESREL paper 5072
- Addressing Cybersecurity in Energy Islands
  P.-A. Jørgensen, J. E. Simensen, C. Esnoul, X. Gao, S. A. Olsen and B. A. Gran
  ESREL paper 5428
- **D.4.7 - Privacy, Security, and safety,** nov. 2020 (to be published, E-LAND deliverable)

Standards and guidelines followed:

- EU GDPR, General Data Protection Regulation, website: https://gdpr-info.eu/ (last visited 13.02.2020)
- NISTIR 7628 Revision 1 2010, Guidelines for Smart Grid Cybersecurity", Available: https://nvlpubs.nist.gov/nistpubs/ir/2014/NIST.IR.7628r1.pdf (last visited 13.02.2020).

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Thank you!

Any question or comment?

https://ife.no/en/project/e-land-horizon-2020/

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How to start communicating about Risk

Mitigations templates

Mitigations template for the security and privacy risks, identified for the E-LAND toolbox.

Proposed mitigation ID	Mitigation unique number
Title	Short title of the mitigation
Description	High-level description to detail the scope of the mitigation
Risk	Description of the risk
Rationale	Description of why the mitigation is asked
Risk Owner	Responsible of the Risk
Component	Component of the architecture or concerned asset
Risk Category	Origin of the risk
Verification Measurement	Input of potential solution measurement (proposal)
Source/Related Requirements	link to the functional requirements and the business case directly affected by the risk.

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