MEASURING ROI FOR EARLY-STAGE DIGITAL INITIATIVES IN THE ENERGY INDUSTRY

Developing a dedicated approach to measuring ROI for early stage digital initiatives at Elia Group – The N-ROI approach

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EXECUTIVE SUMMARY

The NEST manages a diverse pipeline of early stage digital ideas, each with different goals, resource requirements, and potential impacts. However, limited quantification and ex-post validation make it difficult to measure the return on investment or determine the need for deeper involvement. NEST thus faces the dual challenge of identifying the most promising concepts early and ensuring objective, data-driven validation of their success over time.

To tackle this, a structured framework (NEST ROI) has been developed. It offers a five-stage approach that includes an initial checklist for quick filtering, a scoring model covering five core dimensions (desirability, strategic impact, operational impact, investment, and feasibility), prototyping to validate assumptions, and a standardized post-NEST business case. This ensures that both the qualitative aspects of an early stage initiative and its quantitative potential are evaluated consistently.

In practice, potential ideas undergo a rapid screening before they enter NEST, followed by structured workshops and user interviews to refine and score each concept. Prototyping further tests feasibility, guiding necessary refinements. After implementation, a standardized business case quantifies the realized benefits, and a cohort analysis aggregates the overall impact of the NEST. By blending speed and rigor, the approach delivers a transparent, comparable, and pragmatic way to measure success.

The challenge

- Highly diverse portfolio of ideas and approaches considered by Nest
- Need to bridge pragmatism with proper approach to select the most promising ideas
- Limited quantification as of now
- Linited ex-post validation

Key considerations

- Consider phase before enterin the Nest (“Selection rule”) as well as afterwards (“Validition”)
- Speed to evaluate ideas of essence
- Comparability between differing use cases to be ensured
- Individual initiative view as weill as aggregate portfolio view

Suggested solution

- Fast screening of new potential value-add ex-ante and scoring based on five core dimensions “N-ROI Score”
- Selecting most promising initiatives
- During Nest Phase, validating scores and being in position to quantify the N-ROI
- Aggregating individual scores into value-add evaluation of all Nest activities

THE CHALLENGE

Innovation and digitalization is essential for growth and competitive advantage, yet measuring its return on investment (ROI) remains uniquely challenging. Unlike traditional projects with clear financial metrics, those initiatives are characterized by high uncertainty, intangible benefits, and evolving cost structures. These factors make it difficult to apply conventional ROI models that focus solely on immediate financial returns.

Why Measuring Early Stage ROI Is Difficult

Early stage digital initiatives often depend on future market dynamics and long-term strategic benefits that are not easily quantified. Key challenges include:

- **Uncertainty and Intangibility:**
  The benefits of innovative ideas—ranging from enhanced brand reputation to operational efficiencies—are often indirect and materialize over an extended period. This makes it hard to pin down a clear, immediate value.
- **Fragmented Evaluation Methods:**
  Traditional approaches tend to assess early-stage ideas and post-implementation results separately. Early evaluations may rely on subjective judgments, while later reviews focus on realized benefits, leaving a disconnect that complicates overall comparison and decision-making.
- **Dynamic Benefit Realization:**
  As an innovation matures, its value evolves. A one-time assessment cannot capture the gradual realization of benefits, necessitating a more flexible, ongoing evaluation framework.

The Challenge Of Quantifying Impact of Early Stage Initiatives

The NEST confronts the challenge of identifying and nurturing the most promising projects among a diverse array of innovative ideas. More than 25 potential candidates are evaluated to attend the NEST program each year. Currently, the tools available for structured evaluation, quantification, and ex-post validation present some limitations, making it difficult to consistently assess each idea's potential.
A robust approach is needed that efficiently selects viable ideas before they enter the NEST phase and effectively validates their success afterward. This method must be pragmatic and swift while ensuring objective comparability across different use cases, balancing the evaluation of individual initiatives with an overall view of the long-term value created by the NEST program.

INTRODUCING A NEW APPROACH TO OVERCOME THOSE CHALLENGES:

The approach

Recognizing the limitations of traditional evaluation methods, a framework has been developed to offer a structured and transparent process for measuring ROI. This approach features a five-stage methodology that:

Pre-filters Ideas:
Uses clear criteria such as market need, strategic alignment, and user potential to select promising projects to evaluate general fit.

Evaluates Initiatives:
Applies a scoring model across key dimensions (desirability, strategic impact, operational impact, investment, and feasibility), ensuring that both impact and confidence in the evaluation are considered.

Validates Through Minimum Viable Solution:
Enhances confidence in initial assessments by testing ideas in a controlled, prototyping phase.

Measures Post-Implementation Benefits:
Utilizes a standardized business case to capture the full range of benefits—including cost savings and efficiency gains—after the initiative is deployed.

Aggregates and Analyzes:
Compiles insights across initiatives to demonstrate the overall value added by the innovation portfolio.

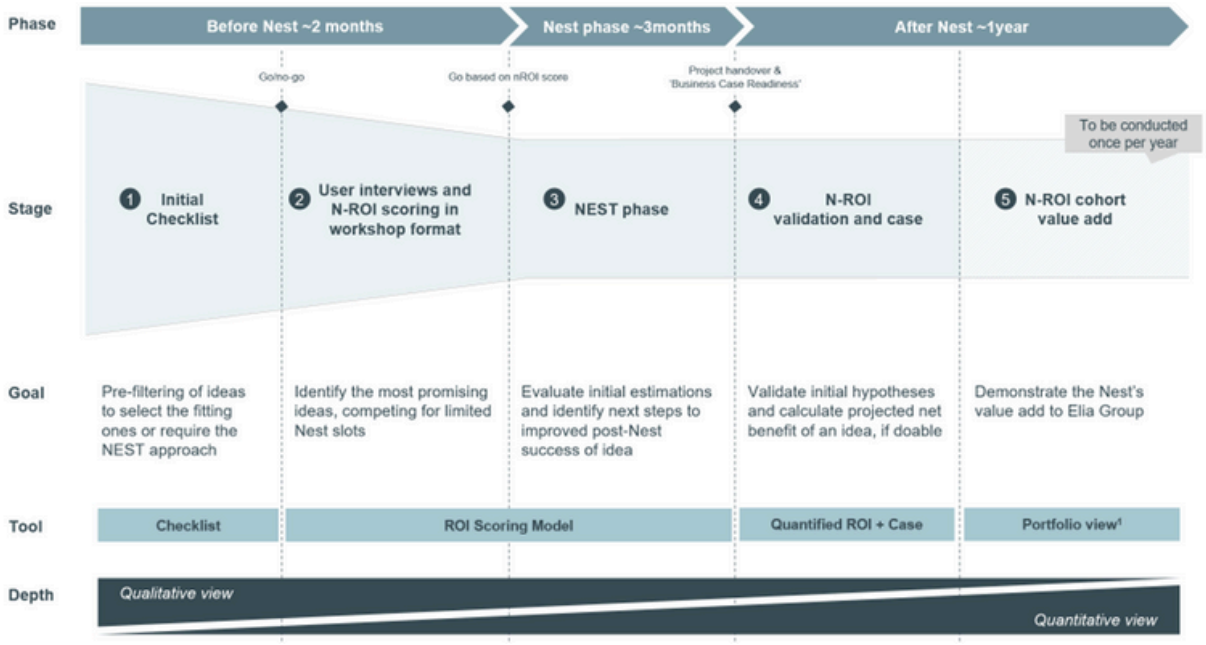

Figure 2 - Five-stage methodology to determine N-ROI

Five stages in depth

To address the challenges of fragmented evaluation, subjectivity, and dynamic benefit realization in digital initiatives, the N-ROI framework employs a structured five-stage process. This method ensures pragmatic, objective, and transparent evaluation from the initial idea selection through to long-term value aggregation, thereby enabling both individual initiative assessments and an overall view of the program's impact.

Stage 1

Initial Checklist (Pre-NEST Phase)

At the outset, a concise checklist is used to pre-filter ideas based on clear criteria such as user potential, innovativeness, market fit, data readiness, and strategic alignment. This stage quickly weeds out ideas that do not meet essential requirements, ensuring that only initiatives with genuine potential proceed further.

Benefit: By eliminating early on less promising concepts, ideas that are already covered by existing solutions or ideas that someone else could handle more effectively, this stage conserves resources and focuses attention on initiatives with a higher likelihood of success, addressing the challenge of managing a diverse portfolio efficiently.
More precise: Not only less promising, also ideas that are already covered by existing tools or can be handled easily by other teams.

Stage 2

N-ROI Scoring Model & User Interviews (Pre-NEST Phase)

In the next phase, selected ideas undergo a deeper evaluation through structured interviews and workshops. The scoring model assesses five key dimensions—desirability, strategic impact, operational impact, investment requirements, and feasibility—using a scale that captures both impact and confidence in the evaluation.

Benefit: Innovative ideas may not always result in immediate cost avoidance through desirability or operational impact. However, their strategic impact can be significantly greater. The aim is to identify early on which area an idea will have the greatest impact, enabling the idea owner to enhance other areas accordingly.

Stage 3

NEST Prototyping Phase

During this stage, a Minimum Viable Solution (MVS) is developed to test and refine the concept in a real-world setting. Prototyping not only validates the initial scoring but also identifies potential gaps and areas for improvement before full-scale implementation.

Benefit: By de-risking ideas early through practical validation, this stage increases confidence in the initiative's feasibility and scalability. It provides tangible insights that inform adjustments and improve the overall robustness of the project.

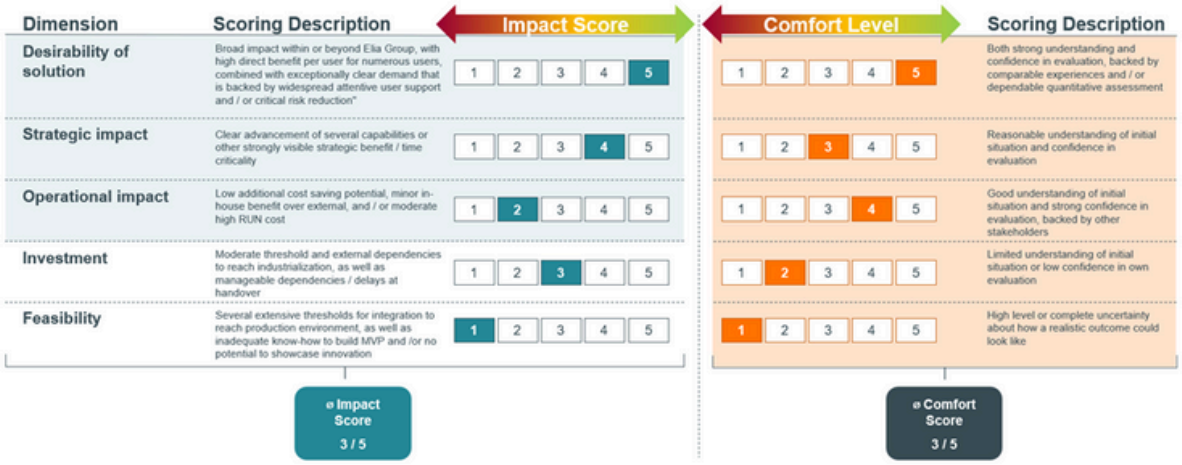

Figure 3 - Example of evaluation criteria for impact score and comfort level

Stage 4

Post-NEST Validation & Business Case

After the NEST phase, initiatives undergo a rigorous post-implementation review. The N-ROI scoring model is reapplied alongside the development of a standardized business case that captures investment costs, cost savings, efficiency gains, and risk reductions.

Benefit: This stage ensures that the realized benefits are accurately quantified and compared against initial expectations. It creates a transparent and data-driven framework for validating long-term value, thereby addressing uncertainties inherent in innovative projects.

Stage 5

N-ROI Cohort Analysis & Portfolio View

Finally, the results of individual initiatives are aggregated in a cohort analysis that provides a comprehensive portfolio view. This analysis compares the cumulative net benefits against the overall costs of the NEST program on an annual basis.

Benefit: Offering a holistic perspective, this stage allows decision-makers to evaluate the overall contribution of the portfolio. It supports strategic adjustments and helps optimize future investments by clearly demonstrating the long-term value added through the program.

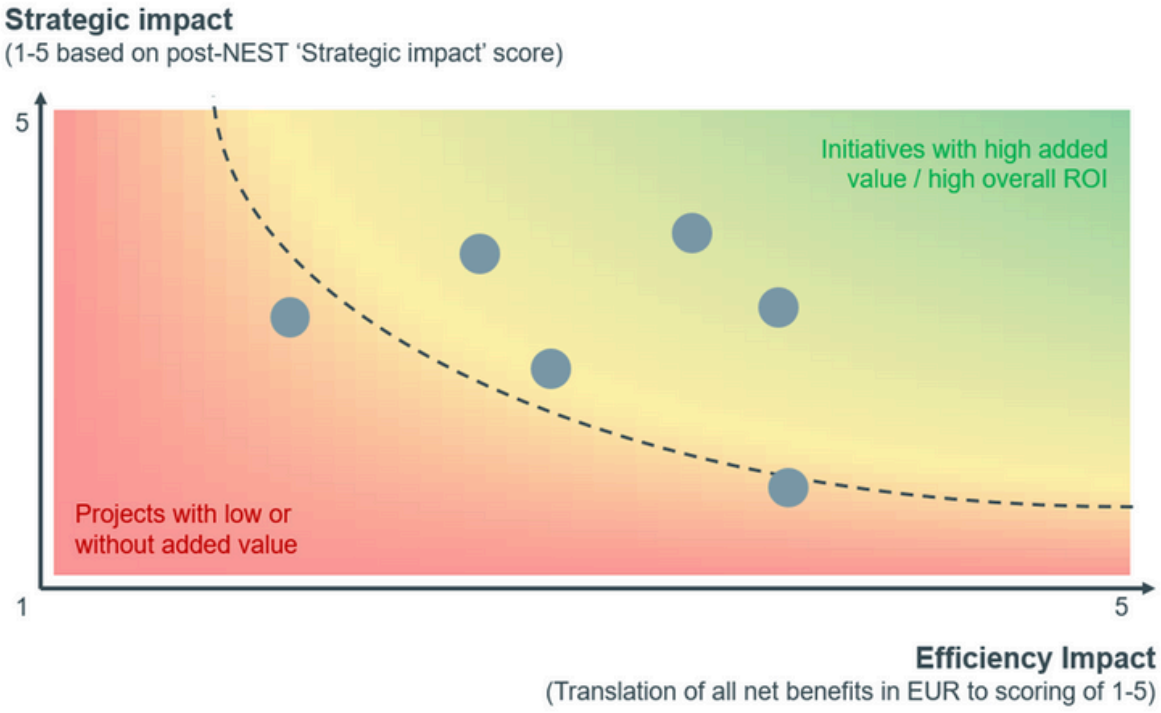

Figure 4 - Applying the scoring into a portfolio view of NEST

Together, these five stages form a scalable, transparent, and structured process that directly addresses the challenges of measuring ROI. By systematically filtering, evaluating, validating, and aggregating benefits, the N-ROI approach ensures that both individual projects and the overall portfolio are assessed with rigor and clarity, enabling informed, data-driven decisions.

INITIAL PROJECT CONSIDERATIONS AND APPROACH

Defining ROI in the Context of NEST

To create a meaningful assessment of ROI, it was essential to consider multiple perspectives, including the evaluation of individual initiatives versus NEST as a whole. A robust approach should differentiate between ex-ante decision-making (predictive assessment) and ex-post validation (measuring realized impact). Additionally, a well-structured ROI framework should account for different value creation horizons, distinguishing between short-term benefits and long-term sustainability. Another key consideration is data availability and the required investment in data collection for prospective initiatives.

Chosen Approach to ROI Assessment

The proposed approach to ROI assessment consisted of three key phases:

Reviewing Existing Approaches and Initiatives

- A thorough examination of the NEST innovation process was necessary, from idea inception to strategic outcomes
- Mapping past initiatives that have progressed through NEST enabled clustering based on customer benefits and required investment.
- Additionally, reviewing both successful and declined projects provides insights into decision-making patterns and impact

Developing a Structured ROI Framework

- Drawing on industry best practices, an ROI model to integrate both quantitative and qualitative factors, including financial returns, time-based performance metrics, customer-centric indicators, and organizational benefits
- A scoring system was set up to standardize the evaluation process, ensuring consistency and comparability
- Furthermore, a well-defined data collection process was evaluated to ensure accuracy and reliability in measuring outcomes

Backtesting and Fine-Tuning

- After the framework was developed , it was tested against real-world initiative
- Applying it to selected initiatives within NEST provided critical insight
- Iterative refinement, in collaboration with internal stakeholders, helped shape the framework to practical and aligned with business needs.

ABOUT

Elia Group

Elia Group is a leading European electricity transmission system operator (TSO) headquartered in Brussels, Belgium. The company plays a crucial role in the energy sector by managing and operating high-voltage grids through its subsidiaries in Belgium (Elia) and Germany (50Hertz).
Elia Group ensures a robust power grid that is vital for socio-economic prosperity. The company is at the forefront of the energy transition, working to integrate renewable energy sources and promote the decarbonization of society. Elia Group continuously optimizes its operational systems and develops new market products to facilitate the incorporation of new technologies and market participants.

The NEST

The Nest, Elia Group's digital in-house incubator, serves as a catalyst for digitalization across all departments by rigorously evaluating the feasibility, desirability, and viability of ideas within a time-bound, agile product development environment. It is an interdisciplinary team consisting of software architects, developers, and UX designers integrating business idea owners closely into the team during the MVP development phase to ensure alignment and effectiveness. Following a journey from idea to MVP, The Nest produces multiple MVPs each year and, if a product successfully achieves market fit, it is subsequently industrialized. This process drives innovation and strategic growth within the Elia Group.

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scaleon is a consulting firm specializing in driving sustainable growth and strategic transformation for organizations. By combining strategic consulting excellence with an entrepreneurial mindset, scaleon helps clients tackle complex challenges in strategy execution, growth strategy, and digital transformation. The scaleon approach integrates analytical rigor with creative, tailor-made solutions, ensuring that organizations can bridge the gap between visionary ideas and practical, measurable outcomes.

AUTHORS

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Oz Ural is a Product Lead at Elia Group with a proven track record across diverse industries, including gaming, mobility and energy. With over a decade of product experience, he has been instrumental in taking B2B2C products from concept to market, driving innovation and growth.

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Maximilian is the Product Owner for The Nest, Elia Group's digital in-house incubator. Driven by a passion for advancing the energy transition, he leverages his background in Engineering and Design Thinking to lead innovative projects. As the primary contact for all new ideas within The Nest, Maximilian collaborates closely with business idea owners to translate their concepts into MVS, ensuring alignment and feasibility throughout the development process.

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Stefan is a Managing Partner and Co-Founder of scaleon. He focuses on strategy development, strategy execution and value creation approaches in different industries. He has been advising top management teams in the Energy, Chemicals, TMT and Financial Services industires as well as Private Equity firms. As founder and C-Level, Stefan has managed fast scaling, global technology companies and holds degrees in business as well as public management and policy.

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