



PRISMA PILOTS RRI ROADMAPS: Spectro

CEN workshop background document

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Case description: SPECTRO

The Company

Spectro is a Dutch manufacturer of cleaning agents for professional use. It is a family-owned company with about fifty employees and a small R&D department.

The company has an active Corporate Social Responsibility (CSR) policy, with a focus in particular on sustainability. The mission is 'to decrease the total environmental impact of its products as well as decrease the cost of cleaning', and the company has the ambition to become a European player in the area of sustainable cleaning agents. Spectro also successfully implemented the A.I.S.E. Charter for Sustainable Cleaning (update 2010) in 2011 throughout the company. The 'Charter' is the quality system of the European Sector Association A.I.S.E. which has many overlaps with other quality systems such as ISO 9001, ISO 14001, OHSAS 18001 and EMAS.

The company develops highly concentrated ecological cleaning agents that are combined with smart dosing systems. A main example is the brand Ecodos, a system that takes care of the exact dosage of cleaning agents, so that overdosing becomes impossible. The rationale behind this is that life cycle analyses show that a large part of the environmental impact of cleaning detergents is in the use phase. Reducing detergent use, thus, has a positive environmental impact. Moreover, it reduces costs of cleaning. The Ecodos Easy system also has a small solar panel so that it can function independently from the electricity grid. The system stores data about its use.

Commitment

- The RRI PRISMA pilot has been endorsed by both the CEO and the R&D manager
- Motivation for RRI: respecting public values and avoiding ethical problems, ensuring acceptance of innovation by stakeholders, increasing market share though adding societal value

Context

- Type of pilot organization: SME
- Country: The Netherlands
- R&I project selected: development of EcoDos in a cleaning devices system for sharing of data
- Technology: cleaning technology and Internet of Things
- Relevant regulatory regimes: cleaning detergents, General Data Protection Regulation
- Type of R&I activities: in-house and outsourcing
- Type of business: business to business
- Time to Market (indicative): 3-5 years
- CSR policies: in-house CSR and sustainability policy. Spectro also supports customers in achieving their CSR targets.
- RRI Maturity Level: Strategic

Materiality and experimentation

- Key stakeholders: cleaning products distributors; cleaning personnel; healthcare personnel; patients (and relatives); hospitals cleaning departments, purchase units, logistics departments, directions, expert infection prevention; health inspection; ministry of health
- Key ethical, legal and social issues: public/patient health and hygiene, sustainability, privacy, security, transparency (of data collection), autonomy (of cleaning personnel), reliability and trust

- RRI actions selected for the PRISMA pilots:
 - Literature study about hygiene issues in hospitals and the potential for better cleaning solutions
 - Stakeholder and value inventory and value scenarios (design for values): identification of values hierarchy, conflicting values and potential ways to deal with them

Validation aspects (key performance indicators)

- The most significant criteria identified with the company to analysis and monitor over time the impacts (in terms of costs & benefits) of the RRI actions on the Ecodos project are ⁶
 - Q1.1: Inspire technological innovation;
 - Q2.2: Product safety; Q2.3: Product environmental sustainability; Q2.6: Address user's needs and rights' (e.g. privacy, data ownership, etc.);
 - Q3.1: Competitive advantage; Q3.4: Customer satisfaction, meeting new consumers' needs or requests;
 - Q4.5: Risk management
 - Q5.1: Product cost; Q5.3: Market penetration;

5.1. RRI Roadmap

RRI VISION

To develop new cleaning technologies that contribute to public health and hygiene (and respect other relevant values) and offers Spectro the possibility to increase market share.

RRI technologies and products

A main technological development for Spectro is the Internet of Things (IoT). This will allow making cleaning devices connected and the collection and exchange of data. Some larger multinational companies are already developing and advertising new cleaning applications using IoT. Spectro is embarking on this development and is developing a number of IoT-based applications. Such applications will allow better maintenance and servicing (e.g. refilling in time). They also allow the collection of data about cleaning which can contribute to better or more efficient cleaning.

- (T1) New version of Ecodos that can exchange information through internet
- (T2) Share data with customers: this development was based on (A5). Spectro has developed an app to more actively share data with its customers so that they can take responsibility for the frequency and quality of cleaning.
- (T3) Use data for prevention (e.g. warning of potential lack of cleaning): this is the long-term perspective that might help to attain D3

Drivers and challenges for RRI

Drivers:

- (D1) Increased use of IoT in cleaning**
- (D2) Strong commitment of the company to CSR and public values**
- (D3) Adding societal value (public hygiene) may offer new business opportunities for the company:**
One of the potential markets that was explored for new clever dosing systems using IoT is that of cleaning in hospitals. This market is interesting for Spectro because the company is still a smaller player in that market but would like to expand. It was found – through a literature study – that healthcare-associated infections (HAI) are a main concern in hospitals.

⁶ For more details on the criteria for impact analysis used in this section, see PRISMA D5.1: Report on conditions for success of RRI uptake by industry

- (D4) The company is developing from a product provider (cleaning agents) to a technology/service provider

Challenges

- (C1) **Building new relationship with customers**
- (C2) **Acquiring expertise on IoT and ICT**
- (C3) Increase RRI expertise

Risks and barriers to be addressed by RRI actions

- (R1) **Privacy and security concerns** raised by new applications that share data
- (R2) Extensive **stakeholder engagement is too costly for a small company** like Spectro
- (R3) Cleaning **contracts are awarded through tenders in which often much emphasis is on costs** of cleaning and with little attention for other values (including public hygiene)
- (R4) **Social acceptance of innovation:** actors in value change do not necessarily see the need for improvement of current cleaning practices
- (R5) **Company has only a small role in a long value chain:** The value chain contains many parties (the distributor, the user organization (e.g. hospital), parties within the user organization, the cleaning company etc). It is questionable whether it is feasible and desirable to aim at vertical integration along the value chain.

RRI approaches, tools, actions

Reflection & Anticipation:

- (A1) **Stakeholder and value inventory:** a first inventory was made and then enriched on basis of A2 and A3.
- (A2) **Literature study** about hygiene issues in hospitals and the potential for better cleaning solutions.
- (A3) **Development of value scenarios:** these are short hypothetical stories about (unexpected) use that help to reveal relevant values and potential value conflicts.
- (A4) **Inventory of conflicting values and ways to handle them:** these were based on A2 and A3 and put in a diagram to show the values that reinforce each other and that might be at tension in the development of the new product.

Inclusiveness:

- (A5) Better inform customers about collection of data: based on the value scenarios (A3) it was decided that better informing customers would help to prevent some potential ethical issues. This resulted in T2.
- (A6) **Stakeholder dialogue at the branch level:** a stakeholder dialogue at the branch level is chosen to overcome barrier R2.
- (A7) **Pilot study at a hospital.**

Responsiveness:

- (A8) **Investigate implications of GDPR:** The data that are currently collected are most likely not personal data in the sense of the GDPR (General Data Protection Regulation) of the EU because they cannot be traced back to individuals. Nevertheless, it would be wise for Spectro to develop a policy about privacy collection and sharing that explicitly addresses privacy issues, in particular because future technological innovations may involve the collection of data that can be traced to persons.
- (A9) **Broaden CSR reporting to include ethics and values in innovation** as well

Roadmap design

The aspects relevant for the RRI uptake by the company have been synthesized in an overall diagram, following the visual approach described in the PRISMA exemplar roadmap (Figure 4).

The RRI roadmap developed in PRISMA is a useful starting point for RRI uptake.

The company's CEO has indicated that participation in the PRISMA project was particularly useful for him because it made him think about issues he would not normally think of. Spectro now aims at more actively sharing data with its customers so that they can take responsibility for the frequency and quality of cleaning. The CEO also found out that many of his customers are not aware of the data being collected and of the potential value of this data. He now sees it as the company's responsibility to make its customers more aware. Increased collection and sharing of data may also potentially raise privacy issues. The data that are currently collected are most likely not personal data because they cannot be traced back to individuals. Nevertheless, it would be wise for Spectro to develop a policy about privacy collection and sharing that explicitly addresses privacy issues, in particular because future technological innovations may involve the collection of data that can be traced to persons.



