NS LIVE CASE SERIES 2017:

Early Warning System
Foresight in the Rijkswaterstaat, Netherlands

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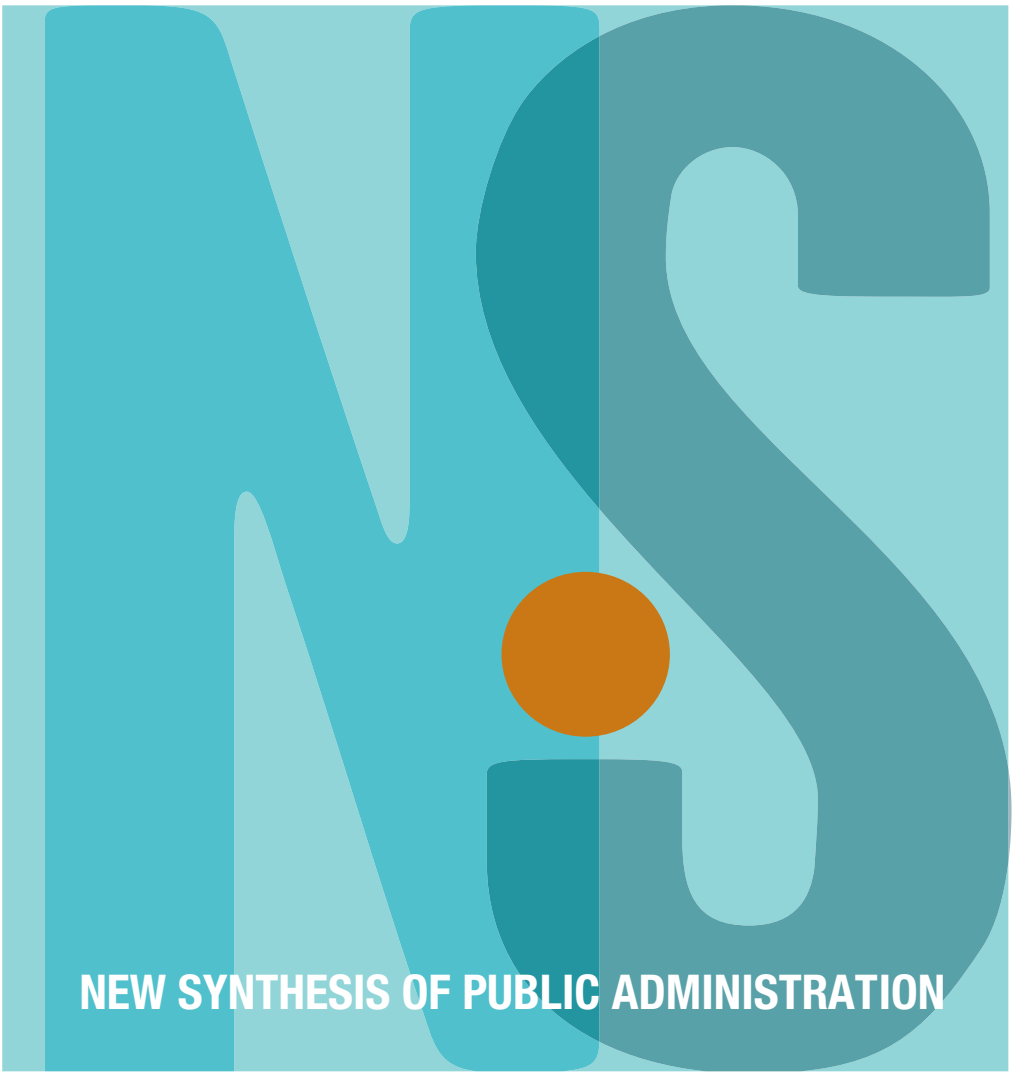

NEW SYNTHESIS OF PUBLIC ADMINISTRATION

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The context

Change is a characteristic that has been internalised by Rijkswaterstaat through the years as a natural element of the organisation. Commissioned by the Ministry of Infrastructure and the Environment, Rijkswaterstaat is an agency responsible for the implementation and management of the main infrastructure facilities in the Netherlands. Its role in Dutch society has changed significantly since its creation in 1798. The adaptation to increasingly complex environments and renewed public purposes is a core and relevant feature of the organization's design. The development of foresight policies throughout the 2000's arguably relates to this embodiment of change.

Multiple interactions between the economic, political, social, environmental and technological systems create a dynamic and complex environment. Important patterns that will eventually shape our society arise from these intertwined and reciprocal interactions. This phenomenon is described as Emergence.[1] Improving the capacity to anticipate emerging trends and patterns reflects on the organisation's capacity to course-correct and adjust to changing circumstances. The exercises of foresight through the Early Warning System (EWS), as developed by the Rijkswaterstaat, have important implications for the organisation's capacity to anticipate and use insights to make better policy decisions and inform institutional change.

While a number of foresight initiatives have been put forth across different governments, few enjoy the sophistication achieved by the Rijkswaterstaat. Governments often design foresight divisions and departments that act independently and in isolation from core decision-making structures. In such cases, insights may be interesting and of great quality, but may have little impact on the organisation if not attached to a decision-making processes.

Moreover, foresight processes often remain internally focused and based on few and often not very prestigious experts. In such cases, the processes and insights provided often translates into limited credibility, which harms their potential use in policymaking.

The sophistication and singularity of the Rijkswaterstaat EWS come from addressing both of the aforementioned aspects. The process includes and leverages support from external experts of various backgrounds, which increases the prestige and credibility of the process. In addition, it integrates the higher instances of organisational decision-making in the process, ensuring that the board will acknowledge the insights and be encouraged to integrate them into the management system.

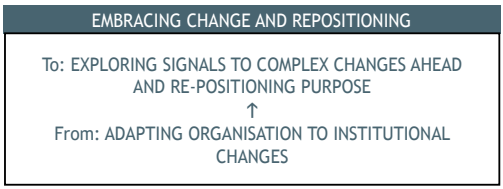
The Rijkswaterstaat was first established in 1798 with the main purpose of managing, maintaining and building Dutch rivers, canals, and flood defences. During the 19th century, the agency extended its role to include the maintenance of bridges, viaducts, roads and rail networks.[2]

1 Open Society Foundations, "Living Together – Part Three: Projects Promoting Inclusion in European Cities" (Hungary: Open Society Foundations, 2014).

2 Rijkwaterstaat, "Our History," Institutional Website, Rijkwaterstaat - Ministry of Infrastructure and the Environment, (2017), https://www.rijkswaterstaat.nl/english/about-us/our-organization/our-history.aspx.

The agency has had an enduring leadership importance for the Netherlands, and the flood of 1953 reinforced the priority of having a centralised agency with the capacity to prepare the country for natural and human-made disasters. This resulted in the Delta Works system against flooding, built between 1954 and 1997.[3]

Towards the end of the 20th century, the Rijkswaterstaat reformulated its position to encompass the growth of new institutional and market actors, focusing increasingly on its stewardship and management roles. The agency additionally works to build on cooperation with different sectors of society and promote citizen engagement.[4]



Rijkswaterstaat has conducted multiple experiences in foresight and scenario prospecting. These entailed efforts to break with the technocratic image often associated with the agency[5] and engage society in a spirit of transparency and participation with the purpose of prospecting the institution's future.

Since the late 1980s, the Rijkwaterstaat has been working with prospective scenario analyses for organisational transformation.[6] Since around 1995, the use of foresight in developing innovations was undertaken as part of the innovation programs 'Roads to the Future' and 'Water INNovation (WINN)'.[8]

Furthermore, in the 2000s, distinct activities reinforced the use of foresight, such as the RWS2020 (2008), a foresight organisational instrument focusing on the roles and positions that Rijkswaterstaat could develop, in order to anticipate future trends.[7]

In 2008, reflecting the need for gathering future information and knowledge, the EWS was developed as part of the Strategic Explorations Programme within the Water Division. The system was based on the idea of collecting the signals that spread in the society which would provide possible insights about future developments. A network of correspondents was established comprising both senior staff of the organisation and external experts.[9] These signals were gathered and discussed in the management board. If considered relevant, they would be slated for further Strategic Exploration and finally submitted as a Board Recommendation.

3 Ibid.
4 Ibid.
5 Martijn van der Steen et al., "Integrating Futures Studies with Organizational Development: Design Options for the Scenario Project 'RWS2020,'" Futures 43, no. 3 (April 2011): 337–47, doi:10.1016/j.futures.2010.02.002.
6 Ibid.
7 Ibid.
8 Patrick van der Duin, Tobias Heger, and Maximilian D. Schlesinger, "Toward Networked Foresight? Exploring the Use of Futures Research in Innovation Networks," Futures 59 (June 2014): 67, doi:10.1016/j.futures.2014.01.008.
9 Martijn van der Steen et al., Early Signals, Timely Strategy - The Early Warning System at the Dutch Rijkswaterstaat (Netherlands School of Public Administration, 2013).

In 2009, the Director-General of Rijkswaterstaat decided to expand the initiative for the whole organisation. In 2010, an integrated organisational early warning system was started.

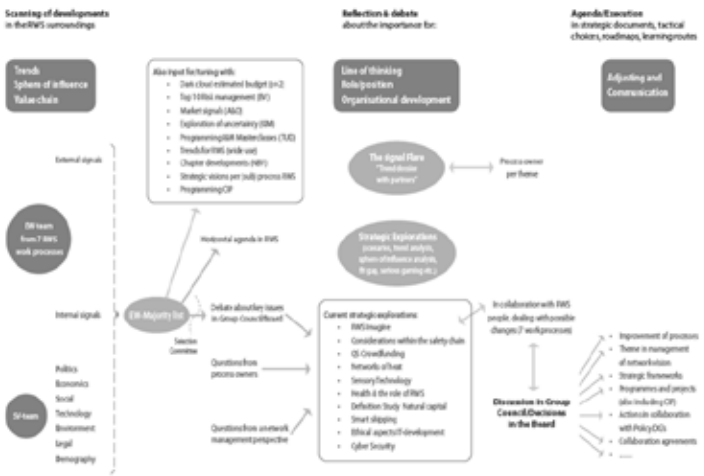
Method and Process

The Eearly Warning System's starting point was the need for the Agency to glance over the horizon of the strategic planning cycle in order to detect blind spots and signals (however weak) that could help inform future scenarios the organisation is likely to face.

The 2008 exploratory and research-oriented process was developed originally to detect signals from the outside looking in, crosscutting all water-related subjects. It sought to enable action over future issues that could be tackled immediately to avoid consequences down the line and prepare to grasp forthcomming opportunities.

From 2010 onward, the process developed as a step towards a broader institutional awareness in addressing sensitive issues. The organization undertook the effort to analyse uncomfortable signals (even weak ones) that contained potential repercussions for programs and projects, and therefore could not be ignored. The process encompassed not only water; rather it involved all Rijkswaterstaat business areas. The process was guided by the interrogation "Are we really doing fine, even if all projects and programs are doing well?" Therefore, the process became a push for change in agenda-setting, organizational policies, and political processes.[10]

Figure 1: Process scheme of the Strategic Explorations Programma Rijkswaterstaat. It consists of three stadia (from left to right): Permanent scanning (the early warning part), Reflection & Debate, and Agendasetting/ implementation.



10 For the description of method and process we could gratefully make use of the article Benedict Wauters had written in close cooperation with Erna Ovaa: "The Dutch Agency of Rijkswaterstaat (Transport and Infrastructure" in: Benedict Wauters, 2017. Strategic Management in the public sector. Report to the European Commission's Public Administration and Governance network.

The development of the EWS process of Rijkswaterstaat was anchored in the idea that organizational strategy must reflect the function of the organization in society. As such, the organisation should be alert and prepared to gather the available signals to re-think, re-design and re-position its role to reflect and internalize societal changes. These changes ought to be internalized in redefining strategic directions and operational tasks.

The collection of signals depends on the participation of a group of designated persons from each of the seven main business areas of the Rijkswaterstaat. These professionals gaze outwards from inside the organization, seeking new developments, trends, and changes that will have an impact on the roles played by Rijkswaterstaat in the future. In imagining these key issues, they select external parties and experts to discuss and further research the topic. On average they perform three external conversations per half year and bring each from three to eight new signals related to their business area.

In the meanwhile, the strategic explorations team aims at tracing new developments in society with an open view, independent of the Rijkswaterstaat business area. As a starting perspective they use the PESTELD domains (Politics, Economics, Social, Technological, Environmental, Legal, Demographic). They also conduct one or two external conversations in each domain per half year. Apart from this, the strategic explorations team acts in support of the different unit representatives, helping to scan and organise the early warning signals for the selection process.

The signals gathering is a continuous effort that happens year-round, but the processing of signals into the decision-making process is performed twice a year. From all signals collected, the exploration teams screen for pertinent ones, excluding the ones that are already known, incomplete or not clear, too small, or out of the scope of the organisations mandate. Signals that do not make the screening process might be horizontally referred to particular units for follow-up and monitoring.

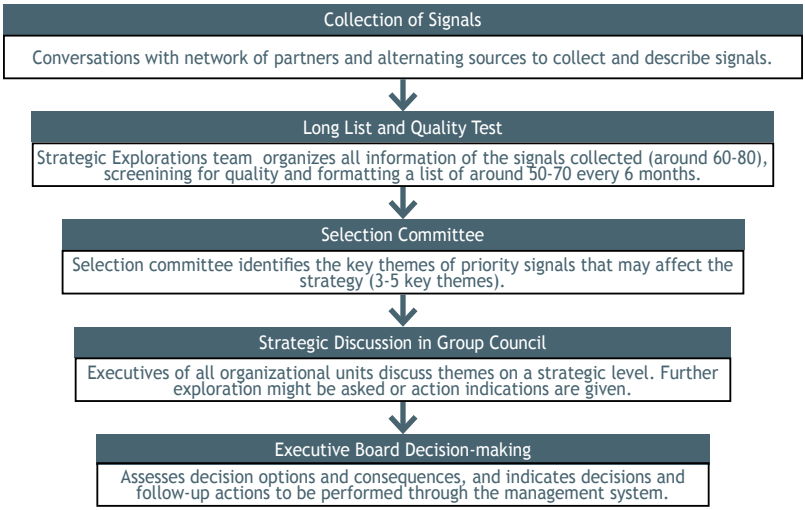
All signals that qualify are compiled in a document, in which each signal is shortly described with a title, source, description, consequences, and a discretionary suggestion for action. This document is referred to a selection committee formed by approximately 15 persons reflecting different parts, types of knowledge and working areas in the organisation. Members are asked to reflect upon the signals and point out which ones make them feel uneasy. Do they see relationships between signals from different sources? Which of them might imply serious changes for the role, tasks or organisation of Rijkswaterstaat? Finally, the group comes out with 3-5 key themes that should be addressed by the top management body of the organisation. Each of the key themes put forward by the selection committee is further developed in a summary with the aid of internal experts that help improve the quality of the descriptions and suggest questions for the strategic discussion.

Once in possession of the summaries of key themes, the 16 heads of organizational units gather under the umbrella of the Group Council to discuss the subjects on a strategic level. The Group Council demands further strategic explorations on particular themes as needed. Alternatively, if

they understand that actions regarding the themes are due, and that these require changes in the organisational strategy and processes, the Group Council forwards the themes for presentation to the Executive Board.

The Executive Board will analyse a briefing note regarding decision options and consequences. The board is already familiar with the themes since its members also participate in the Group Council. In most cases, decisions on necessary actions are just asked of the Executive Board after (some kind of) strategic exploration has taken place.

Figure 2: Foresight decision-making process from Rijkswaterstaat



Process Analysis

In addition to integrating society with the process of foresight, the participation of external experts brought a series of advantages. A large and diverse group of experts, from various backgrounds, provided the possibility of gathering more diverse and relevant signals. Also, integrating various and renowned experts improved the prestige and credibility of the process internally and externally. The sophisticated dynamic put forward by this process worked to leverage the contribution of various social actors in the promotion and institutionalisation of the foresight process.

Signals are included in the management system to ensure subsequent action in a defined period of time. Their introduction into the management system also means that the board has the opportunity to follow the signal's development and contingent problems are 'put on the agenda horizontally', to ensure that relating parts of the organization are aware of (the visions of external groups and experts on) coming developments in their area. In some cases, signals are directed to particular departments for follow-up.

The Rijkswaterstaat method is intended to promote a closer interaction between external agents and internal staff; its strength is perceived to lie with this aspect.

Spotting weak signals that together hint at a possible change is a very sensitive and complex endeavour. Misjudgement of particular signals could leave pertinent signals out of the Board's decision-making process. There is no easy solution for this problem out of the strategic discussions in the Group Council and/or the Board's, yet this dilemma remains an important point for consideration.

According to Van der Steen (2013), the process itself faces a continuous 'paradox of professionalisation'. The system brought surprising signals that translated into strategic actions. However, as the EWS becomes more and more institutionalised, managers might get used to it, and treat the signals/key themes as just another item on the agenda, that easily can be postponed. Therefore, the Strategic Explorations Program continuously changes the way they organize the discussion and bring forward the Early Warning signals.

The institutionalisation of the process brought improvements in the interactions with correspondents, as well as improvements in the quality of the signals.

By naturalising and normalising the process, foresight might become increasingly comfortable. However, given the intended aims of the process (foresight of important and disruptive future tendencies), the process should remain an uneasy, unsettling, and uncomfortable trail of discovery.[11] In that sense, Strategic Exploration Teams are continuously working to improve the method and avoid the unintended consequences of a comfort zone.

Emergence and Outcomes

The EWS developed by the Rijkswaterstaat seems to regard the uncertainty and changing conditions of the future as one of its main resources in projecting and adapting its purpose. This very particular characteristic might have been shaped by the organisation's constant need to adapt its role in Dutch society, expanding its role and transforming its position in the infrastructure sector. As such, the constant regard to the future represents an effort to keep pace with the ever-evolving societal purpose of the organisation.

Furthermore, setting up a diverse network of collaborators inside and outside the organisation constitutes an interesting feature of the system. Apart from providing cross-sector and comprehensive perspectives for the process, it also democratises and engages societal actors with the organisation's purpose.

One of the core features of the EWS is having the Executive Board as a central player in the method. The Board is ultimately responsible for defining which signals are going to be incorporated for defining which signals (and resulting debates and strategic explorations) are going into the strategic planning

11 Ibid.

INTEGRATING FORESIGHT AND STRATEGY
To: COORDINATED FORESIGHT PROCESS INTEGRATED WITH CORPORATE STRATEGY ↑ From: INDEPENDENT FORESIGHT INITIATIVES WITHIN BUSINESS UNITS

and management system. Therefore, it is necessarily committed to the foresight process. Integrating the EWS into a strategic planning effort and bringing the organisation's leadership on board shield the process from the consequences of its being tested in a closed environment. Such an environment would limit the direct repercussions and diminish the sense of urgency for the signals raised.

A good illustration of the policy results achieved through the EWS is the phosphate example. The chemical substance is commonly found in wastewater and causes problems for water treatment operators. This substance is usually regarded as a problem to be addressed in water treatment operations, but this disregards its original potential use as fertilizer for the agriculture and even infrastructure sectors.

The EWS pointed to signals regarding the limited supply of phosphates in the global market, due to exhaustion of mineral supply and the fact that some of the major sources are located in politically unstable countries. The system evidenced the opportunity, not as a waste problem, but rather as a future value opportunity. This enabled the Rijkswaterstaat to take action in encouraging and facilitating the process for the industrial sector to develop new technology for recuperating phosphate from wastewater treatment plants. This development puts the Netherlands in a leading position for phosphate recovery technology and propels the country to play a role in the international phosphate market.[12]

Likewise, different signals brought the Executive Board's attention to various issues concerning a broader organisational time horizon, calling for new approaches and policies to address future challenges. In seizing the opportunity to anticipate emerging patterns to limit negative impacts and to leverage from opportunities,[13] the organisation develops the capacity to deal with an increasingly complex world.

12 Ibid.

13 Bourgon, A New Synthesis of Public Administration.

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