



Rijkswaterstaat
*Ministry of Infrastructure and the
Environment*

Rijkswaterstaat innovations: The Guidelines

Description of the current procedures



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1 More about the guidelines

1.1 Background

Innovation is of the utmost importance for the tasks undertaken by Rijkswaterstaat. The demand for mobility on road and waterway networks continues unabated. The requirements associated with the environment, safety, quality of life and sustainability call for new and innovative solutions. For example, higher traffic concentrations increase the need to limit nuisance from road works through the use of smart products and operating processes. Water management needs to take into account rising sea levels, soil settlement and increased water discharge via large rivers. Innovation is crucial in order to shape our future 'wet' and 'dry' infrastructure. Obviously budgetary constraints also play a part. Innovation can contribute to quicker and simpler solutions with better price/performance ratios.

Rijkswaterstaat aims to improve the quality of its services and, as a professional awarding authority, wants to derive optimum benefits from market forces. Innovative tendering must be a standard procedure. The philosophy of 'Market, unless...' implies that tasks relating to installation, management and maintenance formerly executed by Rijkswaterstaat must be handed over to the market where possible. The business sector will be given more freedom to make design, implementation and material choices. To put it in a nutshell: defining 'what' is required remains a task for Rijkswaterstaat whilst 'how' this requirement can be achieved is primarily assigned to the market.

1.2 Objective of the guidelines

The interaction between awarding authority (Rijkswaterstaat) and market creates individual roles with respect to innovation for both parties. The current shift in relationships between the awarding authority and the market demands that the roles of both parties be mapped out as clearly as possible.

The primary objective of the guidelines we are putting forward in this document is to create maximum clarity about what the market can expect from Rijkswaterstaat. What are guidelines for innovations, who does what, who carries which risks, what are the conditions, how do we interact? But also: what should the market expect from Rijkswaterstaat? We aim to provide an insight into the way in which innovation is organised within Rijkswaterstaat and what rules apply to communications with market parties.

This document covers the outlines. The guidelines are not exhaustive and no rights shall be derived from them. The guidelines we describe represent a snapshot of current practices. In some cases matters will arise that Rijkswaterstaat is still working towards, a desirable situation that has not actually been accomplished yet.

1.3 Who are the guidelines intended for?

First and foremost the guidelines have been defined for the benefit of the private sector, i.e. Rijkswaterstaat's contractors. These are mostly companies working in the land and road engineering sector, but also include those operating in sectors such as ICT and electrical engineering. A number of companies have provided input for this document.

The guidelines also apply internally at Rijkswaterstaat, to all project leaders involved in innovative order award processes and project leaders within the various innovation programmes.

1.4 Bookmark

Chapter two deals with the changes that are currently affecting the roles of Rijkswaterstaat and the market and with their potential impact on innovation. We differentiate between four sources that could instigate innovation initiatives, i.e. standard requests for quotation, unsolicited proposals, challenges and innovation programmes. Chapter three describes the two innovation levels, the above mentioned four sources being the first level, followed by validation.

The general guidelines and preconditions pertaining to innovation are detailed in chapter four. Chapter five deals with the guidelines specifically associated with the four innovation sources. Finally, chapter six covers the guidelines applicable to validation.

'The current shift in relationships between the awarding authority and the market demands that the roles of both parties be mapped out as clearly as possible.'



2 Innovation



2.1 Definition

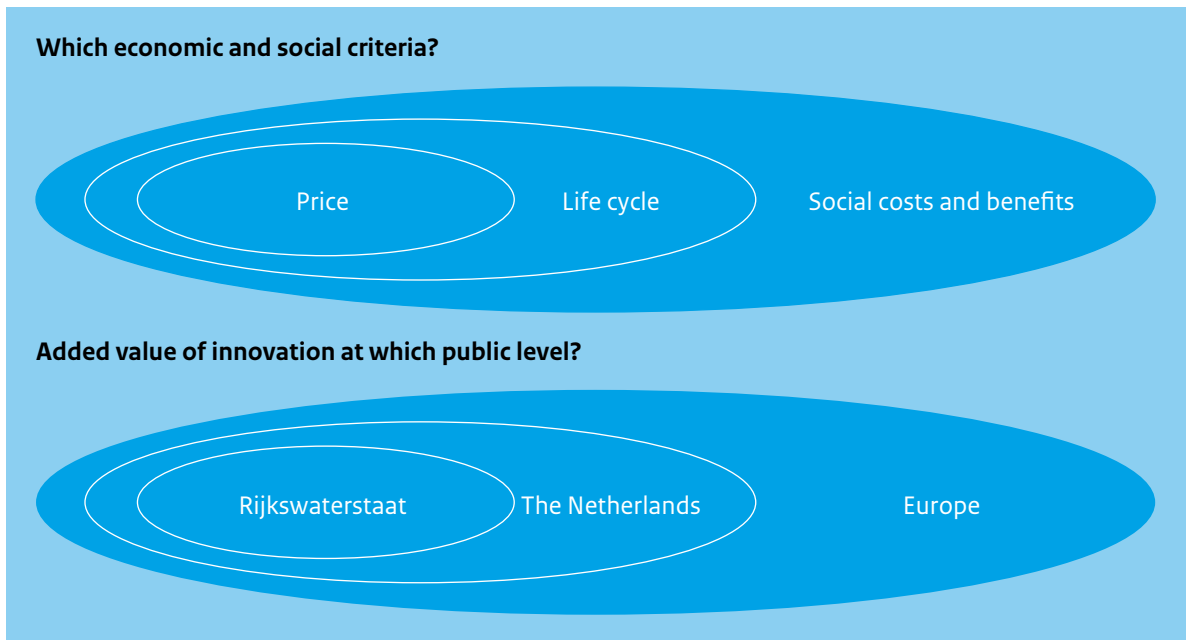
Innovation encompasses much more than the creation of something new, i.e. a new product, service or process. It can also relate to an existing, but not previously widely applied invention. The degree of innovation can, therefore, vary from a completely new concept or radically different solution to taking the same action but in a different way (smarter, faster, better, cheaper). Innovation has to be more than just an interesting invention. The proof of the pudding is in the eating. Ultimately it has to be achievable, feasible and deliver added value to the Rijkswaterstaat domain when compared to existing solutions. Our definition is as follows: innovation is the application of an innovation and/or improvement to a product, service, process or system.

2.2 Individual roles

Both the government and the business sector can benefit from innovation. Rijkswaterstaat is primarily a public client and theoretically leaves innovations (products, methods, processes, materials and applications) to the market. However, this does not prevent Rijkswaterstaat from adopting a stimulating role where possible (for instance via innovation programmes) and supporting market initiatives with innovative tenders and, for example, through testing and validation.

Figure 2.1

Innovation assessment perspective



The higher the degree of uncertainty with respect to the potential implementation of an innovation, the more reluctant an entrepreneur will be to invest. Rijkswaterstaat is a key awarding authority and, therefore, highly significant when it comes to the potential recouping of an investment in the market. Obviously both parties are out to obtain maximum guarantees from one another. The entrepreneur is looking for guarantees for follow-up purchases. Rijkswaterstaat wants guarantees in relation to the performance, sustainability and impact of an innovation.

As far as the entrepreneur is concerned potential return on investments is crucial. His innovation must generate a competitive advantage when acquiring orders. He needs to know which performance characteristics are valued by Rijkswaterstaat. The entrepreneur wants to be able to assess how the market is developing with respect to the sale of his innovation. This assessment is sometimes hampered by the fact that Rijkswaterstaat operates within a political framework, as a result of which the assessment criteria can change.

With regard to the latter Rijkswaterstaat specifically operates on the premise that the way in which innovations are assessed is based not only on purely economic criteria, but also on social criteria. Social costs and benefits can also have an impact on innovation assessment criteria.

Furthermore, different public levels can also play a part. Added value in the domain of Rijkswaterstaat can just as easily represent social added value at national level. At a European level an innovation can, for example, contribute to a reduction in CO₂ emissions or improved commercial transport flows. Normally innovations are evaluated by Rijkswaterstaat at the level of life cycle costs. But due to the political context the assessment sometimes shifts to the public domain of the Netherlands and the social costs and benefits become part of the appraisal in a wider sense.

2.3 Innovation and the land and road engineering sector

Chapter one outlined a number of reasons as to why the importance of innovation in the operating sphere of Rijkswaterstaat, and consequently also for its contractors, is increasing. However, traditionally there are fewer innovation stimuli in the land and road engineering sector (with a limited number of awarding authorities) than, for example, in consumer markets. Overall the land and road engineering sector is definitely not a forerunner in innovative performance. Research has shown that the sector is 56th out of 58 charted sectors in the Netherlands.¹

¹ 'De meest innovatieve sector van Nederland, ranglijst van 58 sectoren', EIM, business and policy research, Aug 2005.

From a financial perspective the land and road engineering sector is in fact Rijkswaterstaat's main contractor, but by no means the only one. For instance, Dynamic Traffic Management involves completely different sectors such as ICT and electrical engineering. These sectors in particular rate highly when it comes to innovation potential.

'Where do we come from and what are we aiming for.'

Reasons for the relatively poor performance of the land and road engineering sector in the field of innovation include the following:

- the tendering system (Rijkswaterstaat defines the product) and traditional relationships between the government and the market;
- limitations imposed by existing contract rules and a long standing insistence on price as the main criterion for an award;

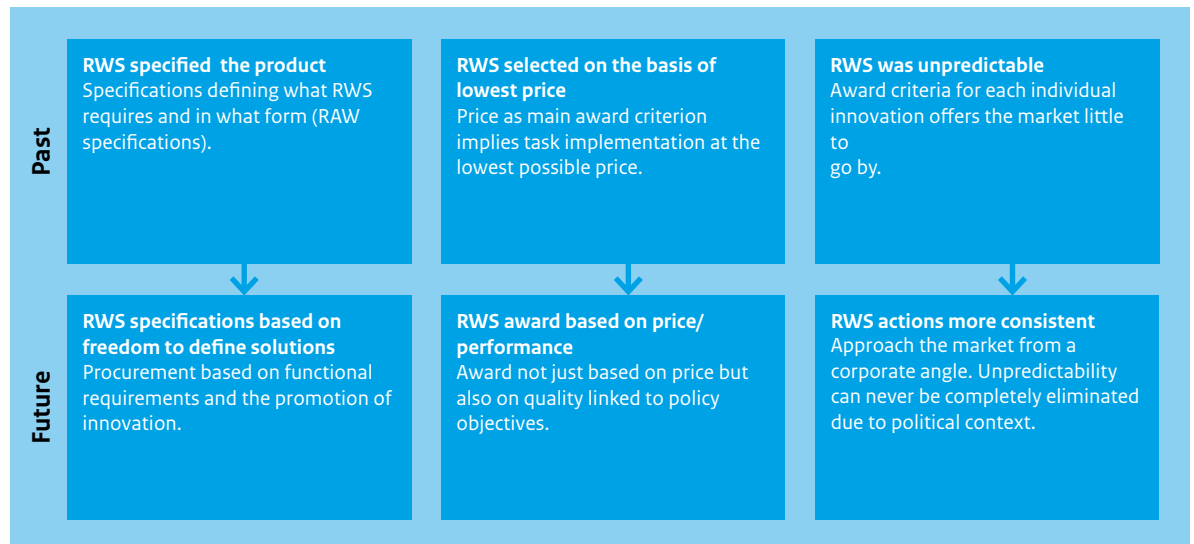
- absence of a consumer market: the user is not actually the awarding authority;
- entrepreneurs having difficulty in assessing their return on investment, often high development costs and long development times in a market with relatively low margins;
- minimal interest for entrepreneurs in an oligarchic (limited number of suppliers) market;
- it is difficult for an entrepreneur to 'stand out from the crowd' and there is a high risk of products being copied once in the public domain.

Consequently, the underlying causes for moderate performance in the field of innovation originate not only from the business sector, but also from Rijkswaterstaat as the awarding authority. That is why Rijkswaterstaat took the initiative to break away from the traditional relationships between parties. These traditional relationships impose three types of restrictions that Rijkswaterstaat has an influence over. They are closely related to the tendering process and are illustrated in the diagram as: 'where do we come from and what are we aiming for'.



Figure 2.2

Remove obstacles to innovation



Product definition versus ‘freedom to define a solution’

Traditionally Rijkswaterstaat used to outline what it expected from the market, how it should be produced and which materials should be used, in so-called RAW specifications. In fact all the entrepreneur had to do was to enter unit prices. This type of tender did not provide scope for innovation other than that literally specified by Rijkswaterstaat. The new relationships between Rijkswaterstaat and the market are based on the premise that the description of ‘what’ remains the task of Rijkswaterstaat, whilst figuring out ‘how to’ is left to the market. The fact that risk management is a social task for Rijkswaterstaat does play a part in this freedom to define the ‘how to’.

Generally Rijkswaterstaat will no longer demand specific products in standard tenders, i.e. the specifications will be based on ‘freedom to define solutions’. In that case departments going out to tender will issue a functional set of specifications and the market will be at liberty to devise an optimum solution. This method requires adjustments to the operating procedures employed by Rijkswaterstaat and adaptation from entrepreneurs.

Functional specifications include two specific points of attention that must be taken into account, i.e. performance falling short of requirements and performance exceeding requirements.

- If an entrepreneur opts for a specific road surface solution, which only lasts seven years instead of the functionally specified ten years, Rijkswaterstaat is faced with damages that are difficult to recover. That is why Rijkswaterstaat will initially demand proof that the proposed solution complies with technical standards, i.e. either ask for guarantees or ask to validate products.
- On the other hand Rijkswaterstaat will have to specify how solutions or products that perform considerably better than stipulated in the requirements should be handled. Using the above road surface example: what if the entrepreneur can supply a product that will last fifteen rather than ten years, as stated in the requirements? In other words, to promote innovation also means awarding performance that exceeds minimum functional requirements and ultimately offers accepted added value.

Selection based on lowest price versus price/performance

With standard tenders, even with innovative contract types, the lowest price is often still the most influential award criterion. On the one hand this is logical. Rijkswaterstaat must use public funds and execute its tasks with maximum efficiency. On the other hand, as a primary award criterion, price does not encourage the market to devise solutions that contribute to wider policy objectives such as safety or quality of life.

Hence Rijkswaterstaat’s initiative focused on awards based on price and quality, whereby quality is related to wider policy objectives – in brief from lowest price via life cycle to social benefits.

Unpredictability versus clearly defined frameworks

To some extent the market perceives Rijkswaterstaat as unpredictable. This unpredictability is based on two aspects:

- unpredictability as a result of the social and political setting;
- not always consistent and unequivocal procurement methods.

To a large extent the social and political aspect has to be seen as a constant. For instance, as befits a democracy, an economic recession or a change in government can lead to adjustments in policy priorities. On the whole policies will seldom alter dramatically. Mobility is and will remain problematic and, in practice, Rijkswaterstaat’s key tasks will not suddenly change. What we do see are shifts in policy priorities (resulting in Rijkswaterstaat, as the implementing body, following suit) such as the increased emphasis on problems associated with particulate matter in the vicinity of roads in recent years. As a result innovations that are originally considered highly promising can later lose their attraction.

The second aspect of unpredictability, i.e. the procurement method, is more easily influenced by Rijkswaterstaat itself. Example: if award criteria are defined per project the market will focus more on an individual project rather than on structural product development. With regard to the latter an entrepreneur would like to have an insight into the return on his investments by assessing:

- the total market for his innovation;
- the potential market share based on a price/quality comparison with competitors.

Consequently entrepreneurs want to find out from Rijkswaterstaat how specific product differences (e.g. impact on noise reduction) are evaluated, not ad hoc but for longer periods where possible. Rijkswaterstaat can, therefore, promote innovation by making its procurement policy, including the award criteria, more consistent and long term. (The evaluation factors can still differ for each project.) However, entrepreneurs will never be able to rely on guaranteed sales.

2.4 Innovation sources

The initiative for a specific innovation can originate from four different sources. From the market in reaction to a standard request, from unsolicited input, or from Rijkswaterstaat via challenges or innovation programmes. The following is a brief explanation of the four innovation sources. Chapter five describes the specific guidelines applicable to all four sources.

From the market

Box 1.

An entrepreneur can introduce a new solution in his tender resulting from a standard request for quotation because he feels that it would deliver advantages for Rijkswaterstaat and because it would improve his competitive position. In that instance an innovation might well become part of a contract for the implementation of specific operations.

Box 2.

The second innovation source is unsolicited. We also refer to this as 'own initiatives' or 'unsolicited proposals', i.e. innovations that are introduced spontaneously by an entrepreneur without a relevant request from Rijkswaterstaat. The entrepreneur takes the initiative and submits an original and creative proposal for evaluation by Rijkswaterstaat, with a view to its future application.

From Rijkswaterstaat

Box 3.

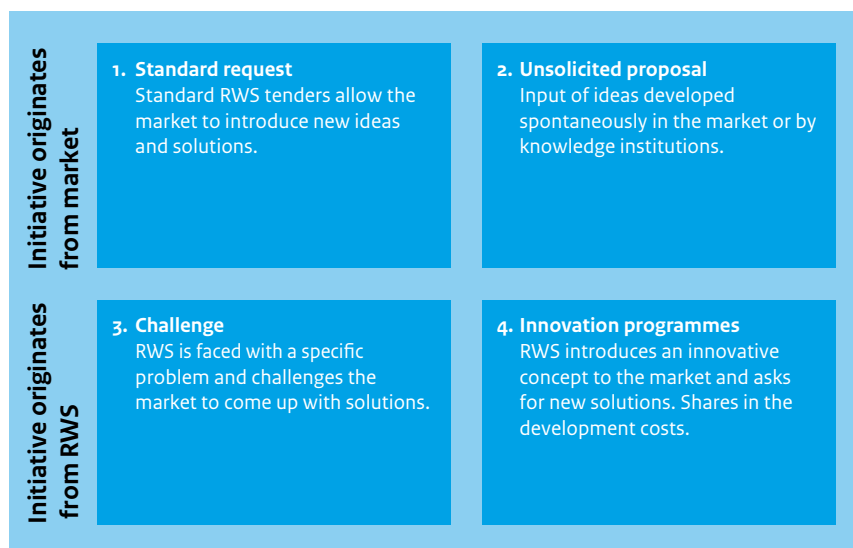
In some cases Rijkswaterstaat challenges the market to come up with new solutions for a previously defined problem. This kind of challenge can originate from a specific situation. Example: Rijkswaterstaat needs a new solution for a specific dam and challenges the market to produce appropriate designs.

Box 4.

In addition to the above there are innovation programmes, such as *Wegen naar de Toekomst* (WnT – Roads to the Future) and *Water als INNOvatiebron* (WINN – Water as a source of Innovation). These programmes involve close cooperation between the government, market and knowledge institutions. The market is requested, on the basis of actual orders, to deliver ideas or concepts defined by Rijkswaterstaat. Sometimes Rijkswaterstaat shares in the development costs associated with innovation programmes.

Figure 2.3

Four innovation sources

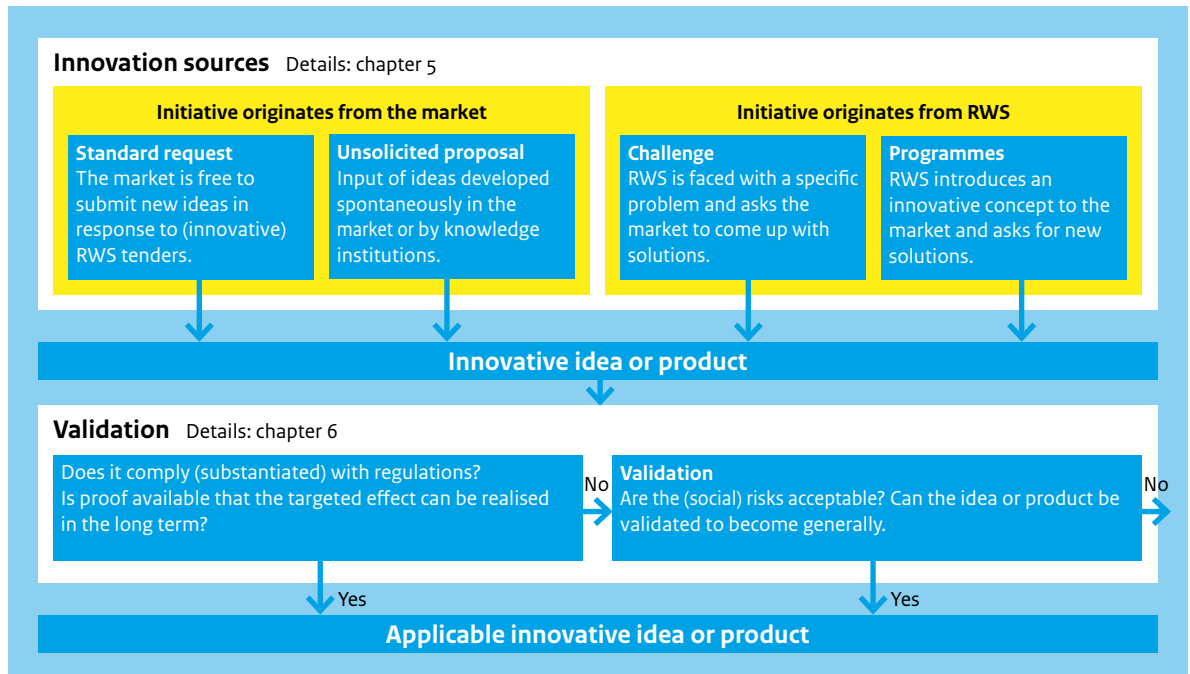


3 From innovation to application



Figure 3.1

Two levels within innovation projects



3.1 Innovation: generation and validation

The previous chapter differentiated between four sources of innovation:

- unsolicited proposals
- standard requests for quotation
- challenges
- programmes

Each of the above mentioned four sources can be a trigger for the generation of an innovation. However, the existence of an innovative idea or product (at whatever stage of development) says little about the question as to whether there is a market for it, more specifically whether the innovation could have added value for Rijkswaterstaat. In order to finally arrive at the successful application of an idea or product, the innovation process requires a second level, i.e. validation.

Validation implies that an innovation has been tested on the basis of the following criteria:

- Does the innovation comply with regulations?
- Is the targeted effect achieved long term?
- Are the (technical and social) risks acceptable?

3.2 Validation in two ways

To get an innovation to the stage of an applicable product, it needs to be validated regarding existing (legal) regulations. Secondly validation should give an insight into the technical attainability.

Check on regulations

Rijkswaterstaat needs to know whether an innovation complies with current regulations. This can be both legal regulations and/or Rijkswaterstaat policy guidelines. If an innovation is in breach of regulations, the regulations could in exceptional cases be amended, but usually the result will be that the innovation cannot be applied. If the innovation complies with regulations there is, in principle, no objection to it being made applicable.

Validation of targeted effect

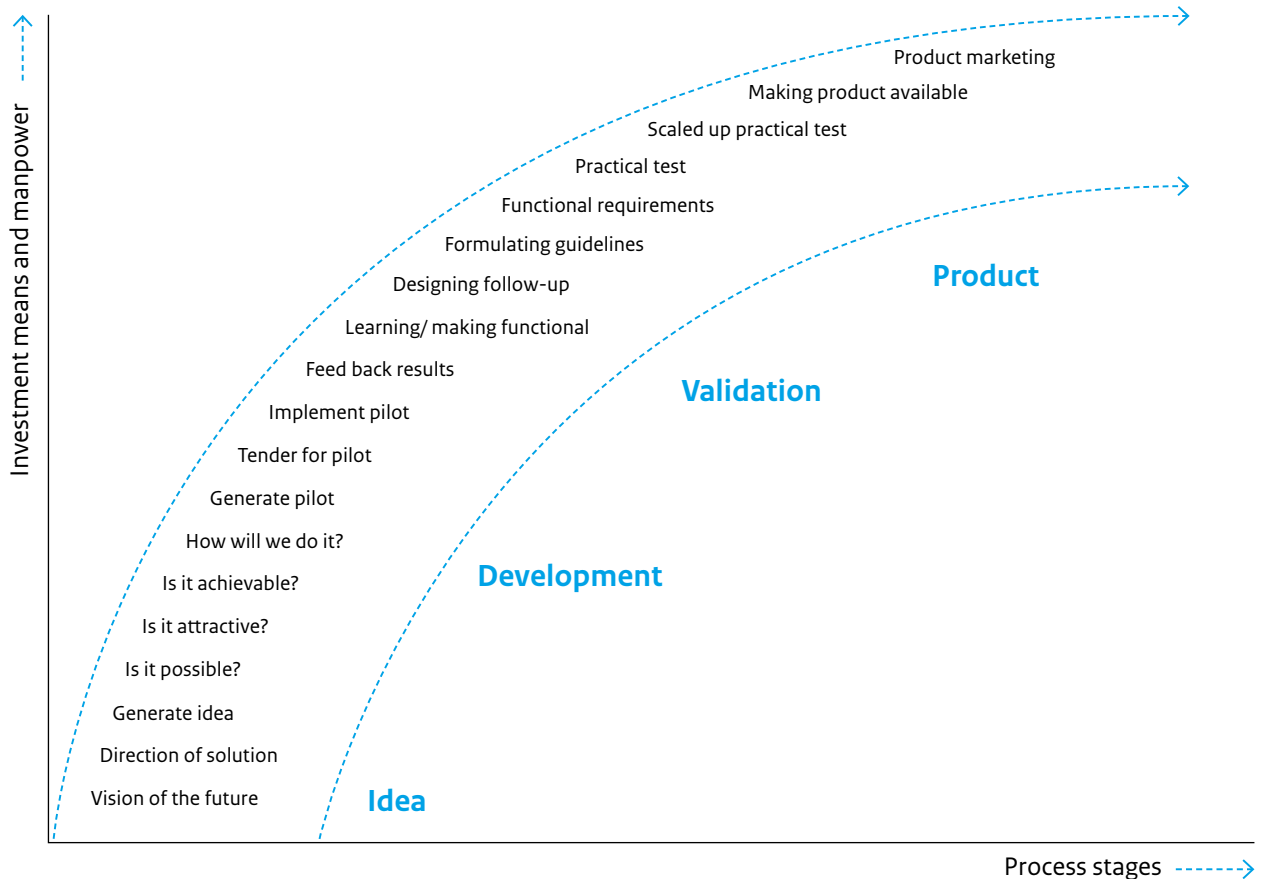
Sometimes being successful in a tender requires more. In addition to compliance with regulations, validation of (technical) content may be required. In that respect risk management is an important issue for Rijkswaterstaat. After all, who will bear the cost when an innovative road surface needs to be replaced after eight rather than twelve years? Other than the direct cost (taxpayers' funds), social costs such as loss of vehicle travelling time as a result of nuisance caused by road works will also play a part. Moreover, it tends to be Rijkswaterstaat's image rather than that of the relevant contractor that is compromised in such cases.

As far as Rijkswaterstaat is concerned validation is closely related to risk management. Entrepreneurs can have their innovations tested to ensure that they operate correctly and function successfully in Rijkswaterstaat's technical environment. That way both Rijkswaterstaat and the entrepreneur gain an insight into the innovation's durability and the possible added value it offers over existing solutions. In such cases validation provides an answer to the question as to whether the targeted result of the innovation is accomplished in the long term:

- from a technical / traffic management point of view;
- from an organisational point of view;
- from a process point of view.

Figure 3.2

Innovation from idea to product



4 General guidelines

4.1 General guidelines

Rijkswaterstaat's market approach in relation to innovation is based on the customary market principle that a supplier wants to sell something and a customer wants to buy something. Entrepreneurs must be prepared to invest in their innovation in order to reap the benefits later. They are subject to market forces. Rijkswaterstaat, as the awarding authority, makes it clear which innovations, and which aspects of an innovation, it is willing to pay for. In principle innovation is not an objective per se, it has to be founded on a relevant demand or requirement. Rijkswaterstaat evaluates the significance of an innovation on this basis. Entrepreneurs must assess their market opportunities and draw their own conclusions.

This gives rise to a number of general guidelines that are outlined in this first paragraph. The subsequent paragraphs of this chapter cover relevant preconditions, i.e. European legislation, property rights, secrecy and confidentiality, general procurement policy and a code of conduct for public awarding authorities. More specific guidelines associated with the four different innovation sources are described in chapter five.

The general guidelines under consideration are as follows:

- ultimately it is up to the market;
- the innovation's price/performance ratio must be better than that of the conventional solution;

- the entrepreneur must invest in the development of his product;
- Rijkswaterstaat must make it clear (in advance) how it will evaluate the advantages of an innovation;
- Rijkswaterstaat may invest during the development stage in concepts that it will not necessarily put into practice at a later stage;
- an innovation must be properly validated before it can be applied;
- there is no such thing as a sales guarantee;
- a patent is never considered an obstacle.

Ultimately it is up to the market

Ultimately it is up to the market to produce innovations that enable Rijkswaterstaat to execute its tasks correctly and in accordance with society's demands. Rijkswaterstaat can promote innovations and make procedures accessible. Technically the innovations are left to the market.

The innovation's price/performance ratio must be better than that of the conventional solution

An innovation will only be applied if its price/performance ratio is better than, or equivalent to, a conventional solution. Its performance must be demonstrated objectively, if necessary on the basis of validation. The price is defined by the entrepreneur in a competitive market. Competition also implies that an existing solution will always be available and thus prevent undesirable monopolies.

The entrepreneur must invest in the development of his product

An innovative product must prove its benefits against competition. The entrepreneur demonstrates his faith in his product by investing in it. Other than in exceptional cases (see below), Rijkswaterstaat will not contribute to development costs because the entrepreneur will eventually benefit from his innovation. This obviously also implies that Rijkswaterstaat leaves price setting to the market.

Rijkswaterstaat must make it clear (in advance) how it will evaluate the advantages of an innovation

An entrepreneur must be able to assess whether there is an economic advantage in his innovation (return on investment). This requires transparency concerning how Rijkswaterstaat intends to evaluate the innovation's advantages. It is important to know whether only project costs or life cycle costs are evaluated. The possible inclusion of additional advantages in the evaluation is also important for the entrepreneur. They include, for example, aesthetic advantages (no noise barriers required), environmental

advantages (lower CO₂ emissions) or advantages for the user (fewer delays). It is clear that policy considerations define the extent to which additional advantages are valued.

Rijkswaterstaat will have to provide maximum transparency, but political realities imply that social demands can change over time.

Rijkswaterstaat may invest during the development stage in concepts which RWS is, at that time, uncertain whether it will implement them at a later stage

It is not always possible to establish in advance whether there is a market for a specific innovation. It may be difficult for an entrepreneur to assess his chances, particularly with innovations that represent a change in development trend and are focused on the long term. This also affects innovation programmes, i.e. it is not always clear even to Rijkswaterstaat (as the party issuing the request) whether a specific concept will eventually be put into practice.

The high degree of uncertainty in these circumstances justifies Rijkswaterstaat's possible investment in the initial stage. In these cases unequivocal agreements will have to be made about the exact content of this initial stage, e.g. that the first stage terminates once a working test model of the product has been produced. It must subsequently become clear whether the concept has independent market potential. Further development will then be entirely at the entrepreneur's expense.

An innovation must be properly validated before it can be applied

Validation is necessary in order to be able to judge the applicability of an innovation objectively. This applies to both compliance with regulations and traffic related or technical performance. Validation is needed to compare an innovative product with other well known products. Chapter six describes the specific guidelines pertaining to validation.

There is no such thing as a sales guarantee

Rijkswaterstaat operates within a social and political context. Notwithstanding the fact that Rijkswaterstaat's priorities (e.g. on the basis of the Mobility Policy Document) tend to be fixed long term, there is no guarantee that a specific innovation will be adopted on a large scale. An economic recession or change in government during a development stage can result in a shift in priorities resulting in a specific innovation suddenly being considered less critical. This does not detract from the fact that, by definition, mobility will remain problematic and the focus on, for example, the environment and quality of life will not change overnight.



A patent is never considered an obstacle

An entrepreneur must be able to protect an innovation from competition. In view of the fact that an innovation will almost always have conventional solution rivals, a patent will never create a monopoly. In exceptional cases Rijkswaterstaat may buy specific rights but, by and large, licence agreements provide a solution in these instances. Refer to paragraph 4.3 for protection of property rights.

4.2 European regulations

Obviously the actions of both Rijkswaterstaat and the entrepreneurs involved will be subject to European regulations. Government tenders are subject to the European 'Traditional Sectors Directive'. It replaced the three former directives for Works, Supplies and Services on 1 December 2005. The directive's basic principles are as follows:

- transparency (with respect to market parties and sound public government);
- objectivity (with respect to the scope and rational procurement decisions);
- non-discrimination (code of conduct for contract awards).

As a government organisation Rijkswaterstaat has to work with threshold values¹, above which European tenders must be issued. A contract for a specific operation or service that exceeds the threshold value must be tendered in accordance with one of the four procedures stipulated in the directive:

- public procedure;
- non-public procedure;
- award based on negotiation with preliminary publication;
- award based on negotiation without preliminary publication.

The first two procedures are the most relevant. In the event of a public procedure all interested applicants can submit a tender following the official publication of the contract, for which the award criteria are also published in advance. In such cases Rijkswaterstaat will select directly from these tenders. The term 'non-public procedure' is in fact confusing. The tender procedure is actually public but based on two phases. During the initial phase interested parties can subscribe on the basis of the official publication of the order. During the second phase Rijkswaterstaat selects a minimum of five applicants, on the basis of previously published criteria, who are then invited to submit a tender. The award is made on the basis of previously published criteria.

The European Directive for Traditional Sectors has also been implemented in Dutch legislation, i.e. in the 'Besluit Aanbestedingsregels voor Overheidsopdrachten' (BAO – Tender Regulations for Government Contracts Decree), which can be found on the website of the Ministry of Economic Affairs, www.ez.nl.

Other relevant European regulations include the Construction Products Directive (CPD), which stipulates that manufacturers must obtain a CE mark for their construction products. The CE mark guarantees that a product has been tested in accordance with European specifications and complies with all legal regulations. (The aim is to lift trade restrictions within Europe and reduce the costs associated with product certification to facilitate the introduction of new products in the European market.) The CPD imposes certain obligations upon a government client. The options to use non CE marked products may be limited, which can be an obstacle for the application of innovative products. Where innovations are involved RWS will consider each case individually to establish how the CDP can be applied with minimum restrictions.

4.3 Property rights

Companies are at liberty to obtain legal protection for their innovations (products or part products). The fact that, on the whole, an innovation coexists with conventional solution rivals prevents monopoly situations. Consequently Rijkswaterstaat has no objections to patents. Where necessary agreements are set up with respect to Rijkswaterstaat's user rights.

Rijkswaterstaat does not evaluate on the basis of property rights when an entrepreneur supplies a specific product. The entrepreneur is responsible for the lawful application of a product. Should another entrepreneur claim specific property rights this would constitute a judicial matter between the relevant entrepreneurs.

Intellectual property rights are legally allocated to the producer of a specific product, who has the exclusive right to publish, develop or multiply the product. The following types of intellectual property rights apply:

- patent rights
- copyright
- trademark rights
- design and model rights

This document comprises a brief description of the different types of protection insofar as they are relevant to innovations and their implementation.

¹ The actual threshold values are published, for example, on www.europadecentraal.nl

Patent

New technical solutions can be protected with a patent². The allocation of a patent is linked to particular legal guarantees. For instance products that can be protected with a patent include noise barriers with specific environmentally friendly properties, new road surfacing methods, asphalt with soundproofing qualities. In that case the patent relates to the techniques and materials that are applied.

Rijkswaterstaat is prohibited from including technical specifications that refer to specific patents in a tender. (Aanbestedingsrichtlijn (Tendering Directive) art 23 item 85.) In exceptional circumstances Rijkswaterstaat might consider buying property rights. However, in practice user rights tend to be managed on the basis of a licence fee.

'The holder of a registered trademark (word and/or logo) has the right to bar anyone else from using it.'

Copyright

Copyright applies to products such as designs, drawings, models and computer programmes (Auteurswet 1912 Copyright Act). Condition: this kind of work can only have copyright protection if it has sufficient originality and if the maker is able to oppose infringement of the work by third parties. Rijkswaterstaat is entitled to request a declaration from an entrepreneur to confirm that third parties cannot claim copyright on (part of) his work.

To enable Rijkswaterstaat to evaluate a specific innovative design the entrepreneur will have to authorise its multiplication for internal use only. If the innovation is subsequently put into practice Rijkswaterstaat shall be entitled to publish it with acknowledgement of sources. Furthermore, its implementation may result in the entrepreneur having to renounce his right to oppose further development. In that case a licence agreement may follow.

Trademark rights

The holder of a registered trademark (word and/or logo) has the right to bar anyone else from using it. (Beneluxwet op de Merken – Benelux Trademark Act.) If an innovation is put into practice Rijkswaterstaat may demand that the

entrepreneur renounces his trademark rights. For example to prevent non implementation by third parties at a later stage as a result of a trademark having been registered.

Design and model rights

An entrepreneur is at liberty to register a drawing or model (Uniform Benelux Act pertaining to Drawings and Models) and gain exclusive rights to its reproduction and/or publication. When an innovation is put into practice Rijkswaterstaat will generally demand that an entrepreneur renounces these rights and/or issues a licence. This is subject to the same interpretation as that described above for copyright.

4.4 Secrecy and confidentiality

Entrepreneurs who develop innovative solutions or products want to keep one step ahead of the competition and keep anyone from 'looking over their shoulder'. Consequently, entrepreneurs who submit innovations can be safe in the knowledge that Rijkswaterstaat will maintain confidentiality with respect to sensitive business information. As long as innovations are still under development or being evaluated or validated by Rijkswaterstaat this kind of information will remain within Rijkswaterstaat, i.e. an entrepreneur can demand that business information is kept entirely or partly within Rijkswaterstaat.

This is subject to the Freedom of Information Act, which stipulates that Rijkswaterstaat is obliged to provide specific information, either unsolicited or specifically requested, to the public. Exceptions to this obligation to provide information include business and manufacturing data which the entrepreneur has divulged or provided confidential access to. This definition means that Rijkswaterstaat can guarantee secrecy and confidentiality in relation to innovative ideas and designs.

The situation changes when ideas or designs proceed to a subsequent stage with Rijkswaterstaat as the awarding authority, for example, when a test section is made available, a pilot is executed or in an actual tender. In that case the essence of the innovation is revealed and specific information can enter the public domain – by mutual consultation. In such cases elements that the entrepreneur wants to keep secret can be withheld if necessary. In specific cases the entrepreneur and Rijkswaterstaat may enter into a confidentiality agreement.

² The patent holder has the exclusive right: A. to manufacture, use, distribute or sell on, rent out, deliver or trade otherwise and/or offer for a specific reason, import or store the patented product in or for his company, and B. to apply the patented method in or for his company or to use, distribute or sell, rent out, deliver or trade otherwise and/of offer for a specific reason, import or store in or for his company the product directly obtained from the application of this method. (Rijksoctrooiwet 1994 Patent Act)

4.5 Procurement policy

Innovations are also subject to the guidelines resulting from Rijkswaterstaat's general procurement policy. In this document we merely highlight the main points of this policy. Rijkswaterstaat's business plan stipulates that the procurement function must be professional, based on expertise and focused on actively safeguarding public interests. When buying services and/or products Rijkswaterstaat has three objectives:

- to use the market to maximum effect;
- optimum price/quality ratio;
- efficiency (minimum transaction costs).

Development within Rijkswaterstaat's procurement policy

From 'supportive foreman'...	To professional awarding authority...
Aim to have all knowledge in-house	(Externally) organise knowledge with the necessary expertise
Design in detail in-house	Promote market innovation
Lowest price	Price and quality
Decentralised procurement	Coordinated procurement
Contracts based on technical requirements	Contracts based on functional requirements
Multiform contracts	Uniform standard contracts

Rijkswaterstaat's procurement strategy for products in the land and road engineering sector prescribes a number of obligatory procurement or contract forms:

- (Integrated) performance contracts for maintenance;
- Engineering and Construction contracts (E&C) for variable maintenance;
- Design and Construction (D&C) contracts for installation projects;
- Public Private Cooperation (PPS) for more complex development projects.

4.6 Code of conduct for public clients

Because it is a public client Rijkswaterstaat:

- must always evaluate a wide range of interests;
- operates under the primacy of politics;
- must be publicly accountable.

Within this context a code of conduct governing the way in which Rijkswaterstaat operates has been formulated. It also defines specific requirements with respect to the conduct of entrepreneurs. The code of conduct consists of four components, which are briefly described in this document:

- social responsibility
- integrity
- reliability
- transparency

Social responsibility

Rijkswaterstaat has social and political responsibilities. Agreements with contractors must be appropriate and lawful. This means that information submitted to Rijkswaterstaat by contractors must be reliable and verifiable. We operate to the letter and spirit of (inter) national legislation. (Also refer to paragraphs 5.2 and 5.3.)

Integrity

Integrity pertains to secrecy and confidentiality (see paragraph 4.4), the conduct of employees and impartiality. With regard to the latter, all (potential) contractors are subject to the same procedures. They will be given equal access to information and there must be no inappropriate conflict of interests.

Reliability

Contractors shall be expected to maintain the same degree of reliability as Rijkswaterstaat, including compliance with agreements and not raising unrealistic expectations. Exchanges of information will be based on the provision of mutual insights into the quality and reliability of available data. When executing orders relevant information pertaining to appropriate and lawful management and accountability must be available.

The political context implies that the possibility of political/government decisions being made that are not in accordance with existing and current agreements cannot be ruled out entirely. In such cases these agreements will be brought into line by mutual consultation, whereby the contractor will be expected to cooperate.

Transparency

When selecting contractors for a specific contract Rijkswaterstaat will indicate clearly in advance which procedure applies and which award criteria are important. Rejection will be substantiated with reasons. Rijkswaterstaat will select contract types that match the nature and extent of the work, within the scope of tender regulations. The objective will be to provide transparency concerning the distribution of risks in advance. Conflicting insights into contract agreements will be discussed in a businesslike and open manner. Finally, Rijkswaterstaat aims to exchange knowledge and experience, independent of projects, in order to promote both the client's and the contractors' level of professionalism.

5 Guidelines pertaining to the four innovation sources



5.1 Introduction

In addition to the general guidelines described in the previous chapter, specific guidelines apply to the following four different innovation sources:

- innovation programmes
- challenges
- unsolicited proposals
- standard requests

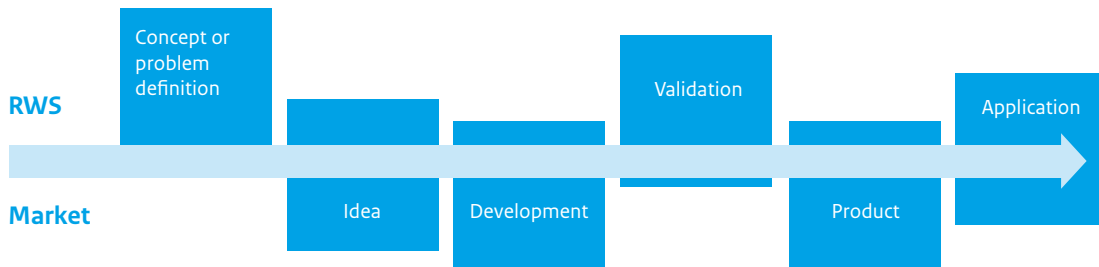
This chapter deals with these specific guidelines that relate to the first level of innovation, i.e. the generation of ideas and concepts. Guidelines pertaining to validation are detailed in chapter six.

5.2 Innovation programmes

Rijkswaterstaat employs different programmes to promote innovation, structured within several themes. Although the topics of the innovation programmes may vary, on the whole, their methods and the guidelines that apply to them are the same. In each case cooperation with external (market) parties is crucial and at a specific moment the market will be asked to realise ideas or concepts defined by Rijkswaterstaat, on the basis of actual contracts or requests for quotation.

Figure 5.1

Innovation programme process



In fact the innovation programmes are based on a continual selection process. Overall this proceeds as follows. A thousand ideas are received, one hundred of which are selected because they show potential. Of these hundred about ten are progressed to the pilot or test stage. A number of these will eventually pass the validation process and be suitable for wider application in the Rijkswaterstaat domain. Experience has also shown that components of an innovation will find their way into standard products.

Rijkswaterstaat recognises the importance of the market

As far as the entrepreneur is concerned, his main aim is to gain an insight into the financial benefits generated by the innovation. He wants to convert successful innovations into orders and/or marketable products. Rijkswaterstaat recognises this and will carefully consider the entrepreneurs interests. This concern is, for example, reflected in the observance of secrecy and confidentiality where necessary (see paragraph 4.3), cooperation regarding product protection (patents) and support based on research and validation.

Rijkswaterstaat asks for contributions from companies

Innovation programmes generate innovative concepts, which are subsequently introduced to the market. The market is requested to develop these concepts, usually by setting up a pilot project. In view of the fact that there are several innovation programmes that comprise different concurrent stages, the range of contributions varies considerably. In the event of tenders for pilots the general tender regulations apply and the requested contribution will be described as accurately as possible.

The company chooses its own motivation and method of participation

It is up to the company to decide whether or not to participate in an innovation programme. The same applies to the extent of his own investment in, for example, a pilot project or further development into a saleable product.

An entrepreneur's motivation for participation in an innovation programme could, for example, relate to the following:

- company image, promoting itself as an innovative enterprise;
- direct financial gain for the implementation of a pilot;
- getting ahead of the competition;
- looking upon the Netherlands as a test site for innovations that might be introduced to an international market.

Completing a pilot project indicates an intent of successful application

A pilot or test project is not an objective in itself. A decision to execute a pilot project within an innovation programme shows a degree of confidence in the potential offered by a specific innovation. In other words, the execution of a pilot also reflects an intention to achieve successful implementation. Rijkswaterstaat does not initiate pilot projects solely to enhance its image or 'score points'. Evidently there is always a chance of the pilot, or the rest of the project, demonstrating that further development is not feasible. Furthermore, in certain cases only specific knowledge or part products are applied individually.

Tendering for pilots in line with European regulations

Unless no payments are involved, all pilots shall be tendered for at a European level (also refer to paragraph 4.2). If Rijkswaterstaat's cooperation with companies does not involve any financial transactions a cooperation agreement will be set up. Within innovation programmes companies are usually requested to cover the technical development of a concept, which is offset by financial remuneration and the provision of test facilities provided by the innovation programme.

Idea or product protected by the entrepreneur

Entrepreneurs are at liberty to take out patents to protect products or part products for most pilots within innovation programmes. Often user rights or licence rights are agreed upon. Extensive analysis usually indicates that the decision

on how to handle this should be the pilot manager's responsibility. Patents are only awarded if the idea or (part) product is deemed 'original' enough and described in sufficient detail. If something is already generally applied or described, it will be considered 'state of the art' and consequently not original and/or suitable for a patent. Also refer to paragraph 4.3.

Pragmatic risk distribution

The potential risks associated with a pilot project are charted in a risk analysis, which is the basis for agreement with participating companies on how to distribute the various risks. Risk has a financial impact. Practical experience with innovation programmes has shown that if the entrepreneur bears all the risk during the pilot phase, the costs greatly increase for Rijkswaterstaat.

Accordingly the rules pertaining to risk liability during the implementation of pilots are usually as follows:

- direct damage to the products of participating companies and Rijkswaterstaat is at the companies' expense;
- consequential damage to third parties and the property of third parties shall be at the expense of Rijkswaterstaat.

Risks associated with further development after the pilot phase are part of the validation stage, refer to next chapter.

Harmonising expectations

Practice has shown that parties sometimes have different perceptions of a specific project. Unrealistic expectations may be created as a result of the entrepreneur's and Rijkswaterstaat's basic principles not having been discussed in sufficient detail. This is particularly important when an entrepreneur decides to invest in an innovation. Example: an innovation demands that tests be carried out with 'glow in the dark' road markings. An entrepreneur investing in this type of test may well assume that there will be a market for 10,000 km of this type of markings, whereas Rijkswaterstaat only considers it a solution for a specific problem at a designated location. Hence the need to specify mutual expectations from the outset during the initial stage and through regular consultation thereafter.

Pilot follow-up

The results of a pilot project and subsequent products can vary significantly and include:

- a detailed design on paper;
- a model or animation;
- a computer simulation;
- a product tested in a secure environment;
- a product tested on a test section or in a practical simulation;
- a product fully tested in traffic situations.

In innovation programmes the success of a pilot scheme is assessed on the basis of a number of fixed criteria. A pilot found to be successful needs to be followed up. Various options are available with respect to the follow-up stage, the main difference being the extent to which Rijkswaterstaat remains involved:

- The entrepreneur invests in the hardware for follow-up stages and Rijkswaterstaat acts as a facilitator by executing research, providing access to test sections, test locations or testing facilities (validation).
- The results of the pilot are such that it can be assumed that the entrepreneur will recognise and utilise the market opportunities. If the prospects for marketability and return on investment are obvious Rijkswaterstaat will no longer play an active part in the development of the innovation.
- Sometimes an entrepreneur may decide to develop a specific part of the pilot independently.

To put it in a nutshell: the results of a successful pilot in an innovation programme are decided by Rijkswaterstaat insofar as it has invested time and money in it. Other than that the entrepreneur is free to utilise the results as he sees fit, i.e. he is at liberty to continue with the development independently. Moreover, the entrepreneur can opt to continue with the development of specific parts of a pilot only.

5.3 Challenges

Challenges mainly refer to two tools at the disposal of Rijkswaterstaat. The first one being market consultation to gauge the reaction of entrepreneurs to Rijkswaterstaat's potential solutions and ideas at an early stage. The second one being an 'ideas contest' to generate innovative ideas/solutions for a specific problem. The 'launching customer-ship' concept is a different kind of challenge. A typical example relates to Rijkswaterstaat, as a government buyer, setting an example by only buying vehicles with quiet tyres and diesel particulate filters. Launching customer-ship can promote the application of innovations but is less significant in the development of new innovations and is, therefore, not described in more detail in this paragraph.

A. Market consultation

Market consultation is an instrument to utilise the market to maximum effect by involving entrepreneurs in plan development from the outset. This enables Rijkswaterstaat to gain an insight into the feasibility of potential solutions and interest from the business sector. Entrepreneurs familiarise themselves with Rijkswaterstaat's intentions and are better able to anticipate developments. Market consultation is entirely without obligation. Entrepreneurs and Rijkswaterstaat have no mutual commitments.

However, Rijkswaterstaat must ensure that:

- the process is entirely transparent;
- the submitted information is handled correctly;
- the information is collated into a report;
- the report is published.

This document only describes the main aspects of the guidelines applicable to market consultations.

Market consultation is not an invitation to tender

When Rijkswaterstaat issues a request based on market consultation, it must still be possible to realise the request, i.e. the development process must still provide scope for the introduction of new ideas. Market consultation precedes, but is not an invitation to, tender. An invitation to tender may be the next step, but in that case participation or non participation in the market consultation process does not affect the entrepreneur's position with respect to the tender. In the event of a subsequent tender there will be no differentiation between entrepreneurs that have/have not participated in the consultation process.

The entrepreneur's investment is limited

Rijkswaterstaat will issue clear and well defined questions in the event of a market consultation to solicit a brief and swift response from the market. No remuneration will be paid,

all the more reason for a short market consultation process and lead time. By indicating the expected degree of effort and input in advance Rijkswaterstaat will give the entrepreneur something to work on. The entrepreneur can then decide whether or not his participation is feasible.

Market consultation is a public process

Entrepreneurs decide to what extent (depth) they should respond and what suggestions to make. Market consultations must always be an entirely public process. Of course there is a risk that entrepreneurs keep their cards close to their chest. Market consultation reports are accessible to any interested party. This prevents differences in information in the event of a subsequent tender.

Selective invitation is an option

Providing the market consultation process remains public and transparent and does not result in privilege, Rijkswaterstaat is at liberty to issue selective invitations to market consultations. The advantage being that specific expertise is applied more efficiently and the process is more cost effective. After all, some questions are so specific that only a small number of market parties are able to respond. To avoid any semblance of privilege the process will usually involve a wide and open invitation of market parties so that selection is in fact left to the market.



Rijkswaterstaat decides the procedure

A market consultation can be a written or oral and, where applicable, an interactive process. A written consultation based on a questionnaire will suffice for relatively simple questions. Oral enquiries would be more appropriate for more complex queries. The latter can be a bilateral process or joint work session to promote interaction. A combination of both is also possible, as are various digital tools such as a chat room or digital discussion platform.

Report and publication

The entire market consultation process will be recorded in a report. Rijkswaterstaat will forward a draft report to participants to verify that the recorded opinions are correct. The aim is to prevent factual errors rather than retract actual statements. Consultation participants will receive an unsolicited final version of the report and it will be made public and accessible to any interested party. No rights shall be derived from information submitted during the market consultation process. Rijkswaterstaat is at liberty to publish on relevant websites (links and downloads) and place adverts, for example, in professional magazines. Market parties are also free to distribute the report, for example, via their umbrella organisations.

Rijkswaterstaat is in charge of the decision making process

Following the market consultation Rijkswaterstaat will formulate a separate document based on the results for internal use. The decision making process is the government's responsibility and Rijkswaterstaat will decide how these decisions will be communicated. The same applies to the way in which results will affect a possible tender.

B. Ideas contest

Rijkswaterstaat can challenge the market to put forward ideas for a solution to a specific, well defined problem. The instrument used for this process is a contest: a request to external parties to submit innovative ideas for a specific problem, which is linked to specific requirements and conditions. The winner, or winners, may get a financial reward. The contest can be organised within an innovation programme, although independent input is also feasible. The contest shall be subject to the following specific guidelines.

Open to everyone

The contest will be announced in accordance with the instructions pertaining to the award of government contracts. (European) contest regulations stipulate that a contest cannot be limited to the specific territory (or part thereof) of a member state. Limitations with respect to a participant's legal statute shall not be acceptable either. Companies, private individuals and, for example, training bodies or idealistic foundations are entitled to participate.

The entrepreneur decides whether or not to participate

Major companies are not necessarily 'waiting' for contests. In some cases there is a sense of 'obligation' to participate because of the relationship with Rijkswaterstaat as a major awarding authority and/or owing to company image. Conversely a contest can sometimes represent an ideal opportunity for a company to profile itself with a (technological) innovation that will to all intents and purposes open up new applications or markets. Briefly: it is up to the entrepreneur to judge what the pros and cons of entering a contest are and to decide whether or not to participate.

The jury has the deciding vote

The jury for a contest is made up of natural, independent persons. (Independent vis-à-vis the participants, the jury can include a Rijkswaterstaat representative.) When specific expertise is required at least one third of the jury members must have the same qualifications. The jury will judge all submitted projects on the basis of the contest criteria and make completely autonomous decisions. Participants' names will not be made public until the jury's final decision has been made.

Rijkswaterstaat abides by the jury's decision

The appointed independent jury will announce the winner(s) of the contest. Rijkswaterstaat will abide by the jury's decision. (Even if Rijkswaterstaat had a different preference.) Rijkswaterstaat only gains access to the submitted plans and designs upon expiry of the set term. When exchanging or storing information the integrity and confidential nature of the data must be protected.

Rijkswaterstaat is not obliged to proceed to implementation

Providing it is clearly defined in advance in the procedure, Rijkswaterstaat shall not be obliged to actually put a winning design into practice.

Confidentiality and secrecy

Also refer to paragraph 4.4 for general information on this specific rule. Similar to the jury, Rijkswaterstaat must respect data confidentiality and, where required by the participant (entrepreneur), maintain secrecy with respect to specific components. However, submitted ideas or designs will become public. Usually the regulations stipulate that at least a summary of the idea or design will be made public. In fact Rijkswaterstaat and the participant will often benefit from a public relations point of view.

Monetary reward or honour

A cash reward may be available to the winner or winners of a contest, but this is not a necessity. Even if there is a cash prize, it is mainly a symbolic gesture. On the whole costs incurred by the entrepreneur to participate in a contest are

not reimbursed. (Any remuneration must be the same for all participants.) Briefly, participation in a contest is first and foremost an investment as far as the entrepreneur is concerned. (Another reason why Rijkswaterstaat should exercise restraint when it comes to using contests as an instrument.) Within Rijkswaterstaat's innovation programmes winning a contest represents more than merely an honour, because it usually results in a pilot project. The prospect of a successful product then becomes much more likely and Rijkswaterstaat may proceed with financial contributions.

5.4 Unsolicited proposals

In the absence of an explicit request from Rijkswaterstaat, an entrepreneur may still want to submit an innovative concept or product which he feels could benefit Rijkswaterstaat. This is also referred to as an 'unsolicited proposal' or 'own initiative'. The Ministry of Infrastructure and the Environment welcomes these initiatives and has, therefore, launched the 'Idea IenM'. It is in fact a service where proposals can be submitted.

The Ministry applies the following basic principles:

- a judiciously submitted proposal (in accordance with the format) is worthy of serious consideration;
- the person or company who submits the idea (providing it is original) remains the owner of the idea, unless mutually agreed otherwise;
- the Ministry will only invest in an idea which can be of use for IenM.

The 'Idea IenM' service covers the Ministry's entire policy domain (both 'wet' and 'dry') and directs the input of own initiatives. Open interaction with the submitting party is crucial, i.e. looking for opportunities and possibilities rather than impossibilities. Tailor made processes are important because each initiative is unique. The basic process entails the following stages:

- Intake: 'separate the wheat from the chaff'. Genuine proposals will be given serious consideration. Rejections will be substantiated.
- Initial consultation: a positive intake decision is followed by an invitation to a meeting during which the participant is given the opportunity to explain his idea. Where necessary additional documentation can be provided. The initial consultation ends with a decision from IenM: whether or not to proceed to the next stage.
- Evaluation. The dialogue with the participant is used for an evaluation based on a number of fixed, previously explained criteria.
- Possible result: if the evaluation is positive a follow-up proposal with substantiation will be formulated. The follow-up can take various forms and will be routed through the most relevant IenM organisation section. The Idea may be forwarded to The Innovation Test Centre, for example.

The guidelines associated with the submission of own initiatives are detailed in this document in sequence with the various process stages. General rules such as those pertaining to secrecy and confidentiality (referred to in chapter four) also apply here.

Withdrawal possible at any stage

Urged also by the business sector, the Ministry wants to embrace third party initiatives and adopt a welcoming, transparent and flexible approach. However, with one 'disclaimer': the mere submission of an innovative proposal shall never lead to any kind of obligation on the part of IenM. It retains the right to reject (substantiated by reasons) the further development of a proposal at any stage.

Likewise, the entrepreneur is entitled to withdraw from the 'Idea IenM' process at any stage.





Intake: basic form and criteria

When submitting an 'own initiative' proposal the applicant must complete a basic form with a number of questions, including a brief description of the proposal and explanation of its general purpose. The applicant must also indicate what he expects from the Ministry and which role he envisages for himself in a possible follow-up. 'Idea IenM' will make an intake decision based on the following criteria:

- Has the basic form been duly completed?
- Has the proposal got sufficient gravitas?
- Is the idea sufficiently innovative and original?
- Has the applicant contacted the correct authority, i.e. IenM (wide interpretation)?

In the event of a negative intake decision the procedure will be terminated with substantiation. A positive decision will be followed by a meeting.

Initial consultation:

The initial consultation will be a meeting during which the applicant can explain and highlight various aspects of his idea and answer any questions that 'Idea IenM' may have. This meeting will deal with issues such as:

- The content of the idea and the problem it is meant to solve.
- The social added value and relevant substantiation.
- What is known about positive and negative effects, costs and benefits.

- Originality (can others derive rights from the idea).
- How realistic is the proposal and proposal development.

This is followed by an assessment based on the allocation of scores linked to fixed criteria, including:

- Is the idea clear, tangible, interesting and does it have potential?
- Does it interface sufficiently within the Ministry's sphere of operation?
- Is the implementation of the idea feasible?
- Have the (social) costs and benefits been charted in sufficient detail?
- Can the (legal) risks be adequately assessed?

A satisfactory score leads to the next stage, i.e. an evaluation based on policy content. To this end a bespoke process proposal is formulated. A policy management or Rijkswaterstaat representative will be appointed to the idea. This representative will submit the proposal to the relevant experts for assessment.

Evaluation

From this stage onwards the content of an own initiative will be assessed by the specific organisation section that reflects its subject matter most closely. The applicant and experts enter into consultations. An 'Idea IenM' team will continue to provide support and monitor the correctness of the process. Evaluation based on policy content relates to social added value, feasibility and political opportunity.

The Innovation Test Centre may also become involved during this stage.

Follow-up requires tailor made solutions

Once an initiative has progressed through the first consultation and policy content evaluation successfully, many different avenues for follow-up are possible. These depend upon the kind of idea it is, it may vary from a policy priority to a tangible product. The following are but a few follow-up options:

- The idea is a building block for new policy.
- The idea will be given a role in current planning and decision making processes.
- Rijkswaterstaat develops an idea and informs the applicant about the follow-up.
- The applicant develops an idea in more detail.
- A project resulting from 'Idea IenM' proceeds to the tendering stage.
- A product proceeds to validation via the Innovation Test Centre.
- An idea leads to a joint pilot.

Follow-up will always demand tailor made solutions and is based on mutual agreement between the applicant and the Ministry of Infrastructure and the Environment.

5.5 Standard request for quotation

This paragraph deals only with the guidelines concerning innovations that are part of a standard request for quotation. This implies that in the event of a tender an entrepreneur offers a solution that is innovative compared to existing solutions.

Rijkswaterstaat is focused on developing professionalism and competence in its position of awarding authority and on actively safeguarding public interests. This results in different types of contracts and a different contract management method, with a focus on maintaining distance and risk based contract management. To this end Rijkswaterstaat employs system based contract management (SCB).

Innovations introduced via standard requests for quotation are evidently subject to the general guidelines and preconditions in chapter four. Furthermore, a wide range of legislation pertaining to tendering law applies, the most important being the ARW 2005 – Tendering Regulations for Public Works. Rijkswaterstaat's corporate procurement strategy also applies. It is based on the principle of 'market, unless...' and the premise of optimum market input. When subcontracting operations Rijkswaterstaat aims to issue clear and well defined questions to the market, by issuing functional specifications for the required products or services. The function rather than the solution is the focus

of the request. In the past products used to be the subject of technical specifications, which is why we now refer to innovative contracts (E&C, D&C, DBM, DBFM). These contract types provide the scope for markets to come up with smart solutions and use own operating processes during implementation. Assessment and award are based on price and quality.

Practical experience has shown that we are currently going through a transition phase. Rijkswaterstaat must get used to the new tendering method and the market is also in a learning process. Too much scope for alternative solutions is still being blocked during the planning phase. In the coming years different ways of thinking and working should result in improvements in the quality of functional requests and more scope being created for entrepreneurs to win tenders utilising innovative solutions.

The application of innovative types of contracts goes hand in hand with innovative contract management procedures. For Rijkswaterstaat the key is to operate in a managed and demonstrable manner, maintain distance and focus on risk based management. The entrepreneur defines which activities need to be executed in order to deliver the requested operation (service or product), taking into account set (pre) conditions, i.e. Rijkswaterstaat does not provide a description of the required activities and does not impose quantities. The entrepreneur is able to complete the work in the, for him, most efficient way. This offers extensive scope for process innovations which are reflected, for example, in successful organisational coordination with other business activities, coordination with own business possibilities and/or optimum utilisation and deployment of personnel and equipment.

Remote contract management

The new contract types give market parties more input into the development and design of the work. They themselves must take the necessary measures to realise, guarantee and demonstrate the quality of the work. Rijkswaterstaat manages the contracts from a distance. During the implementation process the entrepreneur must demonstrate his compliance with contractual requirements on the basis of previously agreed verification and inspection methods. It is up to the entrepreneur to prove that the intended results have been achieved.

System based contract management

With system based contract management (SBC) Rijkswaterstaat uses data from the contractor's project management system. System, process and products tests are used to determine whether the data is reliable and whether the project management plan is complied with. Rijkswaterstaat also needs to gain an insight into the contractor's quality assurance system and will, therefore, frequently ask the contractor for a project management and project quality plan pertaining to the implementation of specific operations.

'Rijkswaterstaat requires guarantees about the submitted innovation's performance.'

Validated products only

An important rule stipulates that (contrary to the other three sources of innovation) with a standard request the contractor can, in principle, only submit validated products.

The solution must comply with current regulations and its operation must be demonstrated to be sufficiently durable. This stems from the fact that, as a public client, Rijkswaterstaat requires guarantees about the submitted innovation's performance (see chapter six). Furthermore, the 'validated products only' rule also has an impact on competition between companies. For instance, if a non-validated innovation does not realise the promised price/performance ratio in practical applications, the traditional solutions put forward by other companies would, with hindsight, have been rejected unfairly. The validation requirement for ideas and products involved in standard requests gives all parties a better understanding of the award criteria.



6 Guidelines pertaining to validation

6.1 Introduction

The guidelines described above related to the generation of innovative ideas or products, based on four different sources: innovation programmes, challenges, unsolicited proposals and standard tenders. The generation of innovative ideas or products represents the first process level. The second level relates to the transformation of the innovation into a widely applicable product. The second level centres on validation. (See paragraph 3.1, this chapter describes the second level). Validation refers to the testing of an innovation to ensure that:

- it complies with regulations and guidelines;
- the desired effect is achieved in the long term.

As far as regulations and guidelines are concerned, before an innovative product becomes generally applicable within Rijkswaterstaat's technical domain (for example in a tender) it must be clear that the product complies with European regulations, national legislation and Rijkswaterstaat guidelines. The latter could, if necessary, be adapted to ensure that a specific innovation is given a fair chance.

As far as the realisation of the desired effect is concerned, both compliance with regulations and a validation of content will usually be required for acceptance in a standard tender. In that case the realisation of the desired effect of an

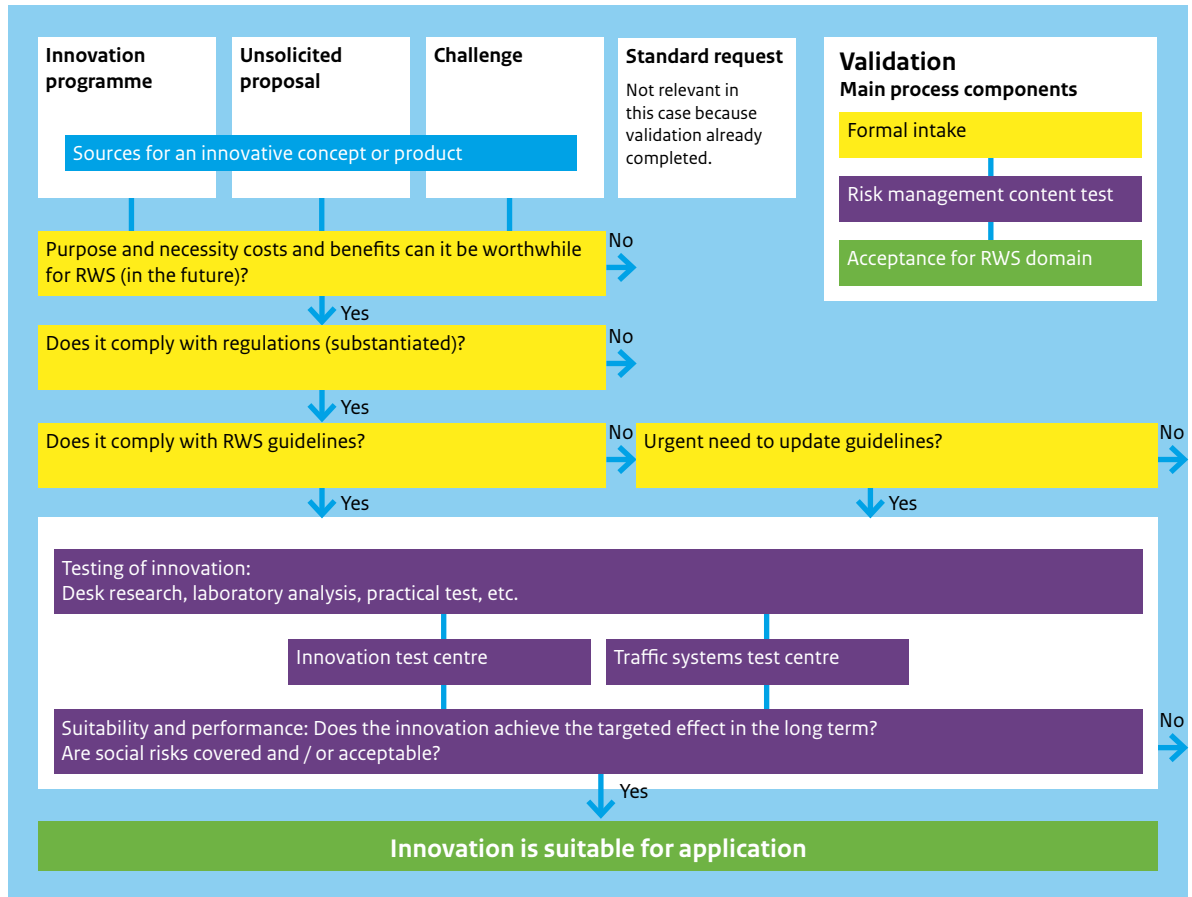
innovation is assessed on the basis of technical, traffic related, organisational and process aspects, whereby risk management plays an important part. We aim to establish whether an innovation functions correctly and how it operates within Rijkswaterstaat's technical domain.

In order to give entrepreneurs a better understanding Rijkswaterstaat will make every effort to help validate innovations that are considered relevant and sufficiently mature. Support can be given via the Innovation Test Centre (ITC) or Traffic Systems Test Centre for Dynamic Traffic Management (DVM) products.

For the time being the Innovation Test Centre only validates material innovations, i.e. innovations relating to materials, raw materials, constructions and production, installation and control and maintenance techniques. The Traffic Systems Test Centre deals with the verification and validation of Dynamic Traffic Management (DVM) innovations and products. The Verification and Validation facilities for DVM systems can also be used for innovations submitted by entrepreneurs. Where applicable, innovations outside the scope of the ITC or Test Centre can (if considered useful and necessary by Rijkswaterstaat) be validated elsewhere in the organisation. In that case the 'Idea IenM' service (see paragraph 5.4) could become involved.

Figure 6.1

Process of validation



6.2 Validation by the Innovation Test Centre

The Innovation Test Centre (ITC) coordinates validation of innovative techniques and products with a short-term scope of two or three years. In some cases the ITC defines specified themes to cluster several validations in one process.

Intake of innovations for validation

A panel of experts of the Department for Transport and Navigation (DVS) selects innovations that qualify for validation. They assess the innovation on the basis of the following:

- the proposal's innovative strength;
- its problem solving capacity for Rijkswaterstaat, i.e. the extent to which the innovation contributes to aspects in the Mobility Policy Document such as accessibility, reliability, safety and quality of the social environment;
- the expected improvement in price/performance ratio with regard to existing conventional solutions.

The entrepreneur's application must be substantiated with relevant technical documentation to facilitate this assessment. The assessment will be recorded in a notification to the ITC support group and will be followed by an intake decision.

Project request

Companies can submit a project request to ITC. The 'Idea IenM' service can provide support during this process (see paragraph 5.4). The project request must include, but is not limited to, the following:

- a description of the product and applied technique;
- substantiation of the innovative characteristics;
- economic significance and other interests (costs and benefits);
- results from previous research;
- can a monopoly be expected;
- where applicable, references relating to the innovation;
- proposal for a test programme, staged plan, required investigations.

Development stage during which validation starts

Validation can start during different development stages of an innovation. The relevant stage is also dependent upon the degree of uncertainty and risk. For example, the assessment of a physical infrastructure related innovation could take place during one or more of the following stages:

- Development stage: prototypes to produce a tangible model of the innovation as early as possible with a view to identifying problems that will have to be solved during further development.
- Implementation stage: following careful laboratory analysis the innovation can be validated, for example, on limited length road sections. Rijkswaterstaat offers special support and evaluation during the implementation of these operations.
- Technical demonstration stage: Once the above stages have been completed successfully, a full scale on site technical demonstration can be used to evaluate whether the innovation is technically acceptable. Rijkswaterstaat offers technical support at these locations.
- Economic demonstration stage: During this final stage other locations of significant length are used to establish whether the innovation is economically viable and favourable.

Cooperation agreement

A cooperation agreement will be set up with the relevant companies for each validation project. The agreement will clearly define responsibilities, mutual obligations and distribution of costs. Agreements concerning the expected lead time and stages will also be recorded. Risks associated with the positioning of a product in the market (after all a validation project may not achieve the targeted results) shall always be borne by the entrepreneur.

Cost distribution

Rijkswaterstaat does not share in the development cost of an innovation via the ITC. It is the entrepreneur who invests in his product. Because there is a mutual interest Rijkswaterstaat does share in the cost of validation. Validation costs are distributed on the basis of a number of criteria:

- Only costs incurred after the date of commencement of the cooperation qualify for a contribution.
- Research costs are shared equally between the entrepreneur(s) and Rijkswaterstaat.
- In principle costs associated with the construction of test sections etc. shall be at the expense of Rijkswaterstaat.
- Cost estimates will be based on open estimates.
- Where applicable subsidies from other organisations will be taken into account.

Validation document and publication

The results of a validation project via the ITC are recorded in a validation document. This document will highlight the evaluation of the specific innovative aspects to enable the

entrepreneur to market his product. Moreover, application recommendations based on the results will be issued to enable, for example, Regional Directorates to benefit during tender procedures.

The results are freely available. Obviously agreements pertaining to confidentiality and secrecy (see paragraph 4.4) must be observed. Specific elements that a market party does not want to make public to protect his intellectual property rights must be kept secret. The final results may be published, subject to consultation, in periodicals of the Ministry of Infrastructure and the Environment, on websites and in professional magazines. These publications will highlight the essence and innovative character of the idea.

Property rights and patents

Validation is also subject to the relevant stipulations in paragraph 4.3. The entrepreneur is at liberty to apply for a patent. However, this is independent of a possible patent application in relation to the results from a validation test. In that case one party's patent application always coincides with the award of a licence to the other party.

6.3 Conclusion

A successful validation will produce an innovation that can be used within the framework of standard tenders. The innovative product's progress in the market is then cleared. After all, following the validation the product's life cycle will be defined by, amongst others, technological developments, competition with alternatives and eventually the creation of other new innovations. The success of innovative efforts is in everyone's interest, the entrepreneur wants a profitable business and Rijkswaterstaat wants to promote social benefits. This has brought us to the end of this document on the guidelines pertaining to innovation and relationships with market parties.

It is a snapshot based on current regulations and practices at Rijkswaterstaat. It describes the relationship changes between Rijkswaterstaat and the market with respect to innovations. All parties will to some extent have to become familiar with these changes. Sometimes a specific rule will have scope for improvement in order to better comply with the guiding principles described in this document. Rijkswaterstaat will continue to make every effort to professionalise the way in which it deals with innovations and ensure that communications with the market are as lucid and transparent as possible. We are convinced that these guidelines are a valuable contribution to this endeavour.



Appendix a

List of abbreviations:

ARW	Aanbestedingsreglement Werken (Tendering Regulations for Public works)
BAO	Besluit Aanbestedingsregels voor Overheidsopdrachten (Tender Regulations for Government Contracts Decree)
CPD	Construction Products Directive
CROW	Kennisplatform infrastructuur, verkeer, vervoer en openbare ruimte (Research Centre on infrastructure, transport and public space)
DBFM	Design, Build, Finance and Maintain
DBM	Design, Build and Maintain
D&C	Design and Construct
DVM	Dynamisch Verkeers Management (Dynamic traffic management)
E&C	Engineering and Construct
ICT	Informatie en Communicatie Technologie (Information and communication technology)
IPG	Innovatie Programma Geluid (Noise Innovation Program)
IPL	Innovatie Programma Lucht (Air Quality Innovation program)
ITC	Innovatie Test Centrum (Innovation test Centre)
IenM	Ministerie van Infrastructuur en Milieu (Ministry of Infrastructure and the Environment)
PPS	Publiek Private Samenwerking (Public Private Partnership)
RAW	Standard contract Rationalisatie en Automatisering in de Grond-, Water- en Wegenbouw (Standard Contract regulations for the land and road engineering sector)
RD	Regionale Directie (van Rijkswaterstaat) (Regional Department of RWS)
RWS	Rijkswaterstaat (Highways Agency)
SBIR	Small Business Innovation Research Programme
SBR	Stichting Bouwresearch
SCB	Systeemgerichte Contractbeheersing (systembased contractmanagement)
SD	Specialistische Dienst (van Rijkswaterstaat) (Specialised Department of RWS)
USP	Unsolicited Proposal
WiNN	Water Innovatiebron (Water Innovation Source)
WNT	Wegen naar de Toekomst (Roads to the Future)

Appendix b

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