

Ministerie van Infrastructuur en Milieu

> Return address PO Box 20904 2500 EX The Hague

Chairman of the House of Representatives
of the States General
Binnenhof 4
2513 AA The Hague

Plesmanweg 1-6
The Hague
PO Box 20904
2500 EX The Hague

Our reference
IENM/BSK-2014/99023

Enclosure(s)

The Preference Decision and the Railway Map 3.0 are translated from their original Dutch versions. The translations are a courtesy to stakeholders, other governments and the market. The original versions in Dutch form the basis for the next phases and decision making. In case of debate on interpretations or translations the original Dutch versions are always the leading documents.

Date 11 April 2014
Ref Preference decision ERTMS and Railway map
3.0/Memorandum on Alternatives

Dear Chairman,

Summary

In the recent past, I have discussed interim insights into the implementation of the train protection system ERTMS (European Rail Traffic Management System)¹ from studies in the Exploratory Phase, with your House. These studies have confirmed the benefits and needs in relation to transferring to this system. In the Long Term Rail Agenda part 2, I also indicated that the implementation of ERTMS would modernise the protection system and that ERTMS, alongside safety and interoperability (in this case simplification of cross-border rail travel), can also offer potential advantages in terms of capacity, speed and reliability. In order to conclude the Exploratory Phase, the favourable scenarios, which have been presented to your House previously, were further examined in relation to the implementation of ERTMS. Various discussions have also been held with stakeholders (passenger and freight transporters, consumer organisations, decentralised authorities and unions) and market parties (suppliers, engineering bureaus and contractors). There has also been a great deal of contact with other countries in order to learn from their experiences with ERTMS.

The results of the completed studies into the favourable scenarios, supported by reviews by experts, provide me with an adequate basis for making a Preference Decision with one preference scenario.

The preference scenario encompasses ERTMS with the tried-and-tested technology of Level 2 being implemented on the railway network in large parts of the broader Randstad in the period up to 2028. In 2022, ERTMS will have been installed in all of the existing rolling stock that uses the Dutch railways. The customer will be prioritised within the rollout of ERTMS; passengers and freight transporters must benefit from the advantages and ideally be unaware of the transition. ERTMS falls under the Major Project procedure. This guarantees the transparency that I believe to be necessary for your House and stakeholders.

¹ General consultation ERTMS/Railway safety dated 22-01-2014.

This Preference Decision forms the start of the subsequent phase. The Plan Elaboration Phase, over the next 3 years, will encompass a gradual process, involving go/no-go moments, of working towards definitive investment decisions and the subsequent tendering process. I thus provide substantiation to the intention to implement ERTMS in a phased manner from 2016 as set out in the coalition agreement. I will also be making use of the budget set aside for this in the period up to and including 2028.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

As annexes to this Preference Decision, I have enclosed the Railway Map ERTMS version 3.0 with the results of the studies.

1. Steps taken

This Preference Decision concerns the policy-based response to the results of studies conducted during the Exploratory Phase examining the benefits and needs in relation to the implementation of ERTMS on the Dutch railway network. It also provides the context within which, in the coming Plan Elaboration Phase, concrete project decisions must be made and a tendering process for the implementation of ERTMS must be set up.

The Preference Decision is a subsequent, important step in a meticulous process, in line with MIRT rules and the corresponding 'from outline to detail' method, for scenarios regarding definitive decisions about the implementation of ERTMS. This began with the Start Decision that was included in the Railway Map ERTMS version 1.0² which was sent to your House. The interim results and the choices made for restricting the number of favourable scenarios are included in Railway Map ERTMS version 2.0³. Account has also been taken of the observation by your House's Temporary Railway Committee⁴, that the introduction of ERTMS is an important condition for the future effectiveness of the railway system.

This Preference Decision and the corresponding Railway Map ERTMS version 3.0 build upon the Railway Map ERTMS version 2.0. This presented, among other things, fact-based studies into the effects of ERTMS on the goals: safety, capacity, interoperability, speed and reliability. The identified relevant scenarios were then funnelled via quantitative analyses (Memorandum on Favourable Scenarios and quickscan MKBA) into favourable scenarios/final visions for further investigation. I have shared these favourable scenarios and two additional analyses with your House.

² Parliamentary papers II, session 2012-2013, 29984 nr. 385.

³ Parliamentary papers II, session 2013-2014, 33652 nr. 4.

⁴ Parliamentary papers II, session 2011-2012, 32707 nr. 9.

These favourable scenarios have been further researched over the past few months. The scenarios that have been examined are⁵:

- a. The PHS-scenario: A scenario where Level 2 is rolled out on the Trans European Network-corridors and PHS-corridors. This scenario assumes the implementation of ERTMS Level 2 on the EU compulsory corridors (2020 and 2030) and the PHS corridors, including a number of connections between these corridors. ATB⁶ will be maintained on other routes (remaining HRN and regional). The PHS lines correspond to the greatest capacity needs and the highest passenger flows. At many locations on these lines, block compression will be applied. By compressing so-called detection blocks, track sections are released more quickly and the capacity of the railway network is enlarged.
- b. The Main Railway Network (HRN) scenario: A scenario where Level 2 is rolled out on the HRN. In this scenario, ERTMS Level 2 is implemented across the entire railway network. ATB will be maintained on the regional track sections. Only at locations where a substantial effect is expected, will block compression be applied; this will particularly apply to PHS track sections and around larger stations.
- c. The National scenario: A scenario where Level 2 is rolled out nationally. In this scenario, ERTMS Level 2 is implemented on the entire Main Railway infrastructure, resulting in uniformity and homogeneity within the network. Only at locations where a substantial effect is expected, will block compression be applied. This will particularly apply to PHS track sections and around the larger stations.

Additional analyses have also taken a glimpse into the possible alternative variants/scenarios with ongoing development of Level 2 (Level 2plus) and a mixture of Levels 1 and 2.

Over the past few months, in line with the MIRT process, the favourable scenarios have been examined in more detail with an estimate of the costs, benefit/effect analysis, risk analysis and social cost/benefit analysis.

They have also been compared to the 0 scenario. This 0 scenario involves installing ERTMS Level 1 on top of the current protection system ATB for the Trans European Network corridors that must be equipped with ERTMS by 2020 and 2030, and installing ERTMS Level 2 on a number of lines that already have ERTMS (in this case, the Hanzelijn and Amsterdam-Utrecht) and the OV-SAAL-corridor.

The studies utilised the most recent transport forecasts that were drawn up in the context of the Long Term Rail Agenda 2. These growth figures are lower, for example, than the PHS forecast from 2010.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

⁵ All scenarios take account of the refurbishment in line with ERTMS of the full fleet of rolling stock permitted for use in the Netherlands. The PHS-scenario concerns a limited deviation from this; 50% of the regional rolling stock is refurbished.

⁶ 'Automatische Trein Beïnvloeding' or the current train protection system.

2. The Preference Decision

On the basis of the studies carried out, I have chosen to elaborate the following preference scenario in the Plan Elaboration Phase. The preference scenario encompasses ERTMS with the tried-and-tested technology of Level 2 being implemented on the railway network across large parts of the broader Randstad in the period up to 2028. In 2022, ERTMS will have been installed in all of the existing rolling stock that uses the Dutch railways. The content and background of my Preference Decision is explained below. In this explanation, I will go through each of the frameworks for the decision, the chosen ERTMS level, the scope of the refurbishment of infrastructure, the refurbishment of rolling stock and finally the pilot and subsequent research.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

2.1 Contextualisation, MKBA and budget

The results of the studies, including the Social Cost/Benefit Analysis, demonstrate that each of the three scenarios involve safety improvements. As ERTMS is rolled out across larger sections of the railway network, the impact on the total safety of the railway network increases. The greatest contributions are made on the PHS network as a result of high levels of usage. A similar view is provided in line with contributions to the other goals.

The calculated scenarios all show a similar benefit/cost ratio, from 0.7 (for the low economic growth scenario) to 1.0 (for the high economic growth scenario). This concerns MKBA scores which include the full cost of rolling stock refurbishment but it must be noted that the cost check showed that estimates were on the conservative side. The substantial benefits of ERTMS in other projects (OV-SAAL in particular) have not been included again. If the costs and benefits of OV-SAAL are included, the benefit/cost ratios increase to 1.0 and 1.4 respectively.

The greatest added value of ERTMS involves the busiest corridors (in this case, the PHS scenario). The fact that the score from the MKBA is comparable with the other scenarios is the result of the greater complexity of the railway network there and the high initial costs that are incurred when all the rolling stock is refurbished. This was chosen in light of the fact that almost all of the rolling stock criss-crosses the Netherlands, to reach workplaces for example.

When formulating the Preference Decision, the focus will lie on the period up to and including 2028. This is the time horizon for the Infrastructure fund and thus forms the budgetary framework. The calculated scenarios (including rolling stock refurbishment) vary in costs from € 3.6 billion for scenario a (PHS) to € 5.2 billion (for scenario c – national). On the basis of my considerations between contexts and criteria, such as the rollout on EU-TEN-corridors, the added value for passengers and freight transporters, the budget (see paragraphs 3.20 and 3.3), the estimate of effects and the cost/benefit ratio, the Preference Decision will be based as far as is feasible on the aforementioned scenario/final vision PHS or scenario 'a', insofar as this fits within the agreed budgetary boundaries of € 2.5 billion. In the coming years, a managed step-by-step approach will be applied to work towards the investment decisions and tendering process. This will lead to the implementation of ERTMS in all of the rolling stock and on the railway network across large parts of the wider Randstad. The consent in the coalition agreement regarding the implementation of ERTMS is thus fulfilled.

2.2 ERTMS Level 2 as departure point

There are numerous levels of ERTMS. These will be indicated with the terms Level 1 and Level 2. Newer variants, Level 2plus and Level 3, are under development. These new variants do not involve proven technology and this is unlikely to change before 2025.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

ERTMS is being implemented in order to replace and improve the train protection system. On the basis of the research conducted into the opportunities that correspond to ERTMS, Railway Map ERTMS version 2.0 concluded that ERTMS, as a result of its characteristics and assuming it is implemented carefully, could also contribute towards the interoperability, speed, capacity and reliability of the railway system. In order to achieve a system transition, ERTMS Level 2, at least, must be implemented. Level 2 is the most realistic format. Higher levels involve technology that has not yet been tested. Level 2, as already indicated to your House, does however correspond to a number of focus areas where further research is required, such as application on sidings.

The choice of Level 2 is based on the results of the studies during the Exploratory Phase. These studies have also shown that ERTMS contributes towards the desired improvements in safety. The lowest investment costs are incurred with the introduction of ERTMS in the form of Level 1, alongside the current protection system ATB. This approach, however, delivers fewer benefits compared to the current system than is the case with Level 2.

ERTMS Level 2 is thus a socially responsible and future-proof investment on the frequently used lines. Level 2plus and level 3 are still insufficiently developed to make a decision regarding introduction on the railway network. Software upgrades can be applied to adapt Level 2 to Level 2plus or Level 3. This will only become an issue once the technology has been adequately trialled and proven.

2.3 Implementation of ERTMS in infrastructure up to 2028

As previously discussed with your House, the process will begin with the refurbishment of rolling stock. During the Exploratory Phase, the above scenarios were examined in relation to the most efficient rollout of ERTMS on the railway infrastructure. On this basis, as explained above, I have decided to work with the proven technology of ERTMS Level 2 until 2028 so that the mandatory EU-TEN corridors and large sections of the PHS corridors in the Randstad are equipped with ERTMS by 2020 and 2030 respectively. This forms the so-called scope of the Preference Decision.

In more detail, this means that the following points will be prioritised in the coming Plan Elaboration Phase:

- a. Fulfilling (at least) the EU obligation to have implemented ERTMS by 2020 on the appointed lines (Amsterdam-Betuwroute and Kijfhoek-Belgium).
- b. Fulfilling (at least) the EU obligation to have implemented ERTMS by 2030 on the appointed lines.
- c. Fulfilling the Preference Decision, that has already been made, regarding implementation of ERTMS on the SAAL corridor (Schiphol/Amsterdam/Almere/Lelystad; 2023).

- d. Equipping as many PHS lines as possible with ERTMS.
- e. Connecting the lines that are already fitted with ERTMS.
- f. Preventing a temporary 'patchwork quilt' of protection systems by carrying out the replacement task for the current train protection system, with a view to creating a connected network, via corridor-based rollout and combating transitions between the current ATB and ERTMS systems.

Date
1 april 2014
Our reference
IENM/BSK-2014/99023

With this in mind, the rolling stock accepted for use in the Netherlands must be equipped with ERTMS in 2022. This is further elaborated in the following paragraph.

I understand large sections of the wider Randstad to refer to the EU obligations for 2020 and 2030, the decision already made for OV-SAAL and then the PHS corridors as much as possible. I specifically mention the PHS corridors 'as much as possible' because the budget, tendering result, further optimisation, connecting into the replacement requirement and the intention to connect ERTMS lines and limit the number of transitions between systems, play a significant role herein.



Figure 1 This figure indicates both the EU compulsory corridors for 2020 and 2030 and the PHS network.

The figure above shows the lines that form part of the PHS scenario up to and including 2028. The exact scope of the rollout on the PHS corridors over and above the EU-TEN-corridors depends on the results of the Plan Elaboration Phase and the market strategy. The aim is to employ an effective tendering strategy to equip as many kilometres of railway line as possible with ERTMS using the available budget. In so doing, work will focus on the best rollout plan whereby the seamless connection between rolling stock and track will be specifically managed via an effective tendering strategy. The quest to achieve a network that is as well-connected as possible will lead to the number of interfaces between the various protection systems being limited.

The justification of the scope of the Preference Decision is based on complying with agreements made for the EU-TEN-corridors and OV-SAAL. The considerations

in terms of choosing the PHS network come from studies that are further elaborated in the enclosed Railway Map ERTMS version 3.0. These show that the implementation of ERTMS Level 2 corresponds to the highest benefits on the busiest lines, i.e. the PHS corridors. This also applies, to a lesser extent, to the regional lines. On the one hand, this is due to the fact that the regional lines carry fewer passengers and, on the other, because many of the regional lines are equipped with ATB-NG, which has roughly the same functionality as ERTMS Level 1⁷.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

2.4 Refurbishment of rolling stock

Previously, I have indicated to your House that the implementation of ERTMS must (partially) occur in a dual fashion because inconvenience with respect to rail travel must be kept to an absolute minimum during the implementation process. As a result of this and cost considerations, Railway Map ERTMS version 1.0 opted to begin with the refurbishment of rolling stock to ERTMS. The rolling stock will also remain suitable for use with the current system (dual functionality of rolling stock).

In order to implement ERTMS, work will start on the installation of ERTMS equipment in existing rolling stock that is using the Dutch railways. In practice, most of the rolling stock must be refurbished as almost all rolling stock uses large sections of the railway network, e.g. in order to reach workshops. For this reason, trains from decentralised operators, maintenance trains and freight locomotives must also be fitted with the required equipment⁸. The installation process will run in parallel with the refurbishment of the first track sections to ERTMS. The installation can be completed, according to current insights provided by NS, by 2022. In 2014, planning will be further elaborated, in consultation with all operators. I will keep the House informed of the results via progress reports. In this context, there will be regular checks of whether all of the rolling stock is using large sections of the railway network and must therefore be refurbished.

As a departure point, I will assume that the operators will bear the costs of refurbishment themselves, in light of the social role they fulfil. There will be a review of whether and to what extent, for the dual period of the (existing) rolling stock, IenM will be able to provide a contribution, specifically because the benefits will often only be realised after concession periods have come to an end. This fits into the approach from the Long Term Rail Agenda 2 in which the organisations concerned in the railway sector fulfil a social role. In the coming months, as part of a covenant to be drawn up, it will be established whether the State can make a contribution and, if so, their maximum contribution towards the investments that operators make for the installation of ERTMS in rolling stock. I will hold discussions with the NS, FMN, freight operators and decentralised authorities in this regard. I will set out the agreements in a regulation or a collaboration agreement. The costs for IenM must fall within the boundaries of the European rules for state support.

During these discussions, I will consider the costs, benefits and net financial effect

⁷ For details, see Railway map ERTMS version 3.0 and the MKBA.

⁸ This encompasses historical heritage items, such as museum trains that regularly use the railway network.

on the operators' profitability. Collective agreements will be made in this context regarding measures for ensuring timeliness and cost-effectiveness. In this regulation I will also indicate at what point the rolling stock (existing and new) that is permitted to use the Dutch railways must be fitted with ERTMS. This also applies to rolling stock that only uses lines with ATB. Trains that have been approved for use but which are to be replaced shortly before 2030 could constitute an exception, as long as these trains are only used on lines with ATB.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

I have agreed with NS that the sub-series of rolling stock that is already suitable for ERTMS will be used on track sections with ERTMS Level 2, such as the Hanzelijn and Amsterdam-Utrecht, as quickly as possible. This means, for example, that a speed of 160 km/h will be achieved between the Randstad and Noord-Nederland (and vice versa) as soon as possible. This will be included in the new railway concessions for the HRN and goes some way to fulfilling the De Boer/Hoogland motion.⁹

2.5 Pilots on sidings

The Railway Map ERTMS version 2.0 refers to limited experiences with Level 2 and with GSM-Rail on large sidings. In order to obtain practical experience, pilots will be carried out where necessary. In this respect, I am particularly thinking in terms of focus areas regarding the functionality of ERTMS Level 2 on large sidings. This means, for example, a pilot on the Zevenaar siding for Level 2 and a pilot on the Utrecht siding for GSM-Rail. In terms of assessing manageability on large sidings, an analysis will also be conducted in order to demonstrate feasibility and modification options in terms of Level 2.

2.6 Further research

This Preference Decision focuses on the period up to and including 2028. In line with the Long Term Rail Agenda 2, research will be conducted into ERTMS on the other sections of the network in consultation with stakeholders. The programme will also incorporate accumulating expertise in order to be able to anticipate improvements in ERTMS in good time.

3. Costs and funding

3.1 The available budget up to 2028

In accordance with the coalition agreement, the phased implementation of ERTMS will use existing budgets. For the period up to and including 2028, the current programme has set aside a budget of approximately € 2.5 billion. This amount is made up of reserved amounts for ERTMS that have already been discussed with you (€ 2 billion), the reserved amount for ERTMS on the corridors between Schiphol, Amsterdam and Almere/Lelystad (€ 225 million) and part of the Mistral-budget for replacing the existing protection system (€280 million, excluding VAT). The necessary resources will be transferred to article 17 of the Infrastructure Fund. This budget must not be breached and is sufficient for funding this Preference Decision which encompasses the State contribution to refurbishing rolling stock and refurbishment and additional costs for management and maintenance of the infrastructure as a result of ERTMS. As announced in the Long

⁹ Parliamentary papers II, session 2013-2014, 33652 nr.7

Term Rail Agenda 2, I will reassess whether the integration of ERTMS and the PHS will lead to cost savings and greater efficiency.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

3.2 Estimate of costs

The Cabinet's Preference Decision has estimated an amount of approximately € 2.5 billion (including VAT, price benchmark 2013). Maintenance costs in the period up to and including 2028, according to the current conservative forecast, will end up being greater than is the case for the current protection system. This estimate of the costs at around € 2.5 billion will be applied as the upper limit in the Plan Elaboration Phase. Independent international reviews have shown that estimates in some sections are conservative. This could well be the case because we are talking about a huge investment in ICT. I believe caution is important in this instance.

This Preference Decision will lead to much of the researched favourable scenario PHS (also known as scenario a) being carried out. A total of € 5.2 billion has been estimated for the complete national implementation (scenario c or National) of ERTMS. The estimate of the costs for scenario b or HRN amounts to € 4.7 billion. The estimate for the PHS scenario, in which the EU obligations for 2020 and 2030, the existing decision for OV SAAL and all PHS corridors including the intervening corridors are equipped with ERTMS, totals € 3.6 billion. All of these estimates include costs for the refurbishment of rolling stock and do not fit within the available budget for ERTMS up to 2028.

3.3 Budget optimisation

The estimates are long-term. In this period, there may be opportunities for additional cost savings. This particularly applies to the replacement of existing protection systems. A great deal of attention will be paid to realising cost savings and reducing risks, which currently account for a large percentage of the estimates. A more in-depth review of risks and risk management will be provided in this Preference Decision, the Railway Map ERTMS version 3.0 and the Basic Report.

In order to facilitate implementation on the largest possible area of PHS corridors, the available resources for the replacement of the existing protection system will be used as effectively as possible. Options for saving costs that have already been mapped out will be further elaborated. Experiences in Denmark have shown that challenging market parties to come up with innovative and cost-saving proposals creates favourable tenders. I would like to achieve this in a similar manner. In so doing, extra space can ultimately be created for ensuring that the implementation of ERTMS in the period up to and including 2028 is as far-reaching as possible, within the financial boundaries.

4. Approach

In order to further elaborate the Preference Decision, it is important that consultation with the stakeholders is once again transparent and effective within the subsequent phase. Slowly but surely, the emphasis is shifting from a policy programme to actual execution. Good agreements regarding governance are vital. Below, I provide a further explanation of how I will work with your House, how the programme setup will be shaped and how risk management and stakeholders will

be handled in the next phase of this programme.

4.1 Major Project status and involvement of the House

The ERTMS programme has been allocated Major Project status. This guarantees a structured, open and transparent method of consultation with the monitor from your House as well as with the members of the Parliamentary Committee for Infrastructure and the Environment. The implementation of ERTMS will take a great deal of time and encompass various parliamentary sessions. The result of my exchange of ideas with your House, my response to your House's departure point memorandum and a description of the specific features of the programme can be found in the Basic Report ERTMS enclosed with this letter. This Basic Report forms the foundation for the coming half-yearly progress reports. The progress of the introduction of ATB-Improved version (ATB-Vv) is included herein, but it also encompasses the way in which recommendations from the Kuiken committee have been processed. There may be times when I update you about progress in a confidential manner. This is the case when information that could prejudice the position of the State in the tendering process is being provided.

Alongside formal reporting moments, I also see an important role for technical briefings and working visits. Open communication is a priority for me.

4.2 Forerunner phase

After the Preference Decision, comes the Plan Elaboration Phase. This begins with a forerunner phase. This is a chance to further elaborate programme organisation and structure. In this period of 3 to 6 months, one or more formal agreements will be concluded with the operators and ProRail, once commitment is assured. During this period, details of collaborations with the other stakeholders will also be formalised. I will conclude the forerunner phase with a go/no-go moment which I will present to your House. I consider the establishment, at that moment, of commitment from NS, ProRail and other parties involved in the implementation, in the form of one or more collaboration agreements, as conditional to the continuation of the Plan Elaboration Phase.

During this phase, the task of the system integrator will also be set out specifically and in detail. On the basis of previous experiences with ERTMS and ICT projects, this role is vital. ERTMS is a single system but has components in both train and track. Until now, my ministry has taken on the role of system integrator but, as the project progresses, it becomes more technical and thus requires a system integrator who will ensure that not only the systems but also the operators and infrastructure manager continue to communicate with one another. In so doing, we must end up with the best solutions for the entire transport system. The system integrator will be appointed by my ministry and my ministry will provide independent advice regarding system integration for the system of rolling stock and infrastructure. When elaborating the role of the system integrator, I also expect to utilise findings from your House's research committee into ICT projects for the government.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

4.3 Programme-based approach

The Plan Elaboration Phase includes go/no-go moments which encompass, among other things, the further substantiation of the programme organisation, market strategy and programming. This is explained further in Railway Map ERTMS version 3.0 and the Basic Report. The Plan Elaboration Phase will ultimately result in concrete project decisions and tendering in 2016 or thereabouts. Go/no-go moments will be tied into this process. In order to come up with the eventual tendering strategy, lessons can be learnt both at home and abroad.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

In order to anticipate future insights and developments and ensure that the implementation and the corresponding risks remain manageable, the rollout of ERTMS will take place in a phased manner and a 'programme based approach' that is calibrated thereupon. This fits in with developments that are now taking place in relation to the ICT project. With respect to the choice and form of tendering, the capacity of the market parties, scope and the period within which realisation must take place play an important role. It is also essential that rolling stock and infrastructure connect into one another effectively. The role of the system integrator is vital in this regard. IenM will maintain the directorial role in terms of this programme and, with a view to attracting the necessary expertise to this major project, will provide additional support for the Plan Elaboration Phase.

An adaptive programme will be developed in the Plan Elaboration Phase. In this, the scope of the Preference Decision will be the priority. The route to this, however, may change. For each element, a decision will be made as to whether it has to be adjusted or amended. This could involve, for example, new social and technical developments. Insights into the market and cost developments regarding ERTMS, and insights into realising the calculated benefits will be included.

The most efficient order for refurbishing routes will be elaborated within the programme. ProRail's replacement task for the railways and protection system and servicing plans for operators will be applied herein as effectively as possible. The costs and consequences for users of the railway network, such as the number of transitions between protection systems, will be regarded as criteria herein, as well as during the period of refurbishment. The inconvenience for passengers and freight transporters will thus be limited.

4.4 Involvement of stakeholders

During the Exploratory Phase, NS and ProRail were involved in the research as a result of their responsibilities for execution. This phase also saw comprehensive discussions with other stakeholders regarding the structure of the Exploratory phase and the results hereof. More detailed feedback of the results from these discussions and the parties with whom discussions took place can be found in Railway Map ERTMS version 3.0. I regard their input as extremely useful in terms of the public interests that correspond to railway transport. The stakeholders (passenger and freight transporters, consumer organisations, decentralised authorities and unions), market parties (suppliers, engineering bureaus and contractors), NS and ProRail all believe that ERTMS is important in terms of safety. In a further substantiation of this, they also indicate that ERTMS provides an important contribution to long-term ambitions and the operational railway concept. More information about the input from stakeholders and market parties

can be found in Railway Map ERTMS version 3.0.

During the implementation of ERTMS, I will of course involve other stakeholders too. So far, they have provided information and taken a consultative role in relation to the creation of the consecutive versions of the Railway Map ERTMS. The input from stakeholders is important for the quality of the studies and the elaboration of programme components. It also contributes towards promptly highlighting and managing risks and considerations with regard to choices. Railway Map ERTMS version 3.0, as was the case with Railway Map ERTMS version 2.0, provides a summary of the focus points that have been provided by stakeholders in the intervening period. In the coming period, concrete stakeholder agreements will be made regarding the way in which this involvement will be organised, and contributions and responsibilities in the Plan Elaboration Phase. Market parties, such as suppliers, engineering bureaus and contractors will also be closely involved in the process via market consultations.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

4.5 Risk and project management

Risk and project management form a hard framework for the Plan Elaboration Phase, in line with the requirements of Major Project status.

As part of the Exploratory phase examining the implementation of ERTMS in the Netherlands, a comprehensive analysis of the possible risks and uncertainties that are linked to the investigated scenarios was conducted. Management measures were examined in relation to factors that could impact upon the implementation and effectiveness of ERTMS. A quantitative estimate was also made of the possible consequences of risks in terms of calculations in the MKBA. On the basis of the analysis, I have kicked off the following approach in relation to uncertainties and risks; these are further elaborated in the Basic Report and the Railway Map ERTMS version 3.0. I have distinguished four risk categories:

- The first category relates to the programme structure for the Plan Elaboration Phase and the subsequent Realisation phase. Previous large infrastructure and technological projects have shown that the inclusion of a forerunner phase is an important risk management measure. Continuing use will also be made of the critical views of experienced experts within the context of programme management, and formal agreements will be made with ProRail, operators and any decentralised authorities regarding the mutual responsibilities and the contributions to be made.
- The second category involves the avoidance of disinvestments. Rolling stock and infrastructure last for a long time. ERTMS must naturally continue to develop. By choosing a programme-based approach, space is provided for transferring to improved technology as and when this becomes available at a later stage. As an additional management measure, I am establishing the prerequisite that proven technology must be used in all cases.
- The third category involves the risks and uncertainties in the ERTMS system itself. The uncertainties are particularly found in relation to ICT technology and in the connection between the train on the tracks and external control. The ERTMS software has already been extensively developed and tested. In the coming Plan Elaboration Phase, pilots and tests will be used to expand the reliability of GSM-communication. The system must be even more accurate particularly at locations where many movements take place close to one another, e.g. on sidings.

- The fourth category involved the uncertainties of estimates. The Exploratory phase was conducted using standard rules for estimating the cost of projects. Reviews have shown that, in general, estimates have been on the conservative side. The likelihood of unpleasant surprises is therefore limited. The ultimate costs will be determined by the success of the tendering process. In the Plan Elaboration Phase, a market strategy will be drawn up in order to arrive at a successful tendering process and effective task management.

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

During the project, continuing attention will be paid to risk management. Risk management will be applied to areas such as management, the estimate of costs, planning and the tendering strategy. Your House will receive updates regarding risks and management measures via regular progress reports.

4.6 Using experiences from abroad

In other countries (particularly Denmark, Belgium and Switzerland), experience has already been gained with regard to the elaboration and tendering processes and, in the coming years, there will be further lessons and practical experiences that could prove useful to the Netherlands. Within the programme, these foreign experiences will be monitored closely, as was previously the case with the Maturity Study that was sent to your House with Railway Map ERTMS version 2.0. Further information in relation to the state of play of tenders abroad can be found in Railway Map ERTMS version 3.0. This substantiates my pledge from the General Consultation at the beginning of January.

5. Additional advantages of ERTMS

I recently sent you the Long Term Rail Agenda part 2¹⁰ (LTSA part 2). This sets out my approach to improving the quality of the railway network as a transport product. The wishes of the passengers and freight transporters are central to this. Alongside the further improvement of the protection system, which is in fact the primary role of ERTMS, the LTSA also incorporates further increasing the already high (in an international context) performance of the Dutch railway sector via a system transition. The LTSA thus seeks to expand available capacity, reliability and ease of use, reduce journey times, improve information provision and raise sustainability in terms of train transport. ERTMS could also make a contribution to these aims. This has become clear from further research and the social cost/benefit analysis that was summarised in the Railway Map ERTMS version 3.0. ERTMS thus supports vital elements in the operational railway concept 'Better and More'¹¹ as applied by NS and Prorail in order to achieve the goals of the LTSA. In the coming period, there will be reviews of whether combining (tasks for the purposes of) PHS and ERTMS could lead to efficiencies.

¹⁰ Long Term Rail Agenda part 2 "Network Netherlands – public transport on the right tracks", dated 28 March 2014.

¹¹ Annex to Parliamentary papers II, session 2012-2013, 29984 nr. 464.

6. Finally

During execution, the desires of users (passengers and personnel) and operators will be taken into account in order to ensure that the transition takes place in the manner that most suits them. Company processes will change as a result of the implementation of a new control system in the context of the Redesign of traffic control and disruption management and ERTMS. A thorough approach is therefore required within which the training of personnel plays an important part.

Accuracy must be prioritised over speed however, pace is necessary in order to gain the benefits of ERTMS in good time. The approach that I have chosen enables me to fulfil the recommendations from the Hoogland and De Boer motion¹².

I am happy to organise a technical briefing about the many studies that, alongside the social cost/benefit analysis, form the basis of this Preference Decision and the Railway Map ERTMS version 3.0.

Yours sincerely,

THE STATE SECRETARY OF INFRASTRUCTURE AND THE ENVIRONMENT,

Wilma J. Mansveld

Date

1 april 2014

Our reference

IENM/BSK-2014/99023

¹² Parliamentary papers II, session 2013-2014, 33652 nr.7 6