NRK

Request for information (RFI)
for
New Media Distribution platform

NRK-MA3462/21E

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Content

1. Introduction

Norwegian Broadcasting Corporation AS, subsequently named NRK, has initiated this Request for Information (RFI) process, which will potentially be followed up by Request for Proposal (RFP) process with the intention of replacing larger or smaller parts of our current media distribution platform. There are several reasons why we are going out with an RFI now.

Among these are the need for a general system redesign, plus some platform components are nearing the end of life. NRK also wants to strengthen our technological flexibility and futureproofing several of the systems against the technological changes we observe.

We ask the supplier market for input and comments, – preferably with recommendations and references to how we can handle the technological challenges and aspirations presented in this document. If you are familiar with these challenges. As a start, we want to invite you to an information meeting on Microsoft Teams, and possible subsequent 1:1 meetings with suppliers who have valuable insight. We expect to continue the dialogue with the market up until a possible RFP(s) will be announced. By then we expect to have clarified the most suitable scope for going forward.

2. Today's distribution

As a start, we would like to present an overview on the present distribution of NRK services – from its creation on to its consumption. In short these are products we present to our audience:

- Main Linear: NRK1, NRK2, NRK3, NRK sign language. NRK1 is split into 10 Regional Channels. These channels are broadcasted on the traditional platforms, DTT, Satellite and fiber/cable, alongside OTT

- On our NRK branded player and on WEB – in addition we provide ~20-25 Event channels

- Radio for streaming: 32 programs + 5 event channels

- Extensive ON-Demand Video and Audio services on our NRK branded player and on WEB

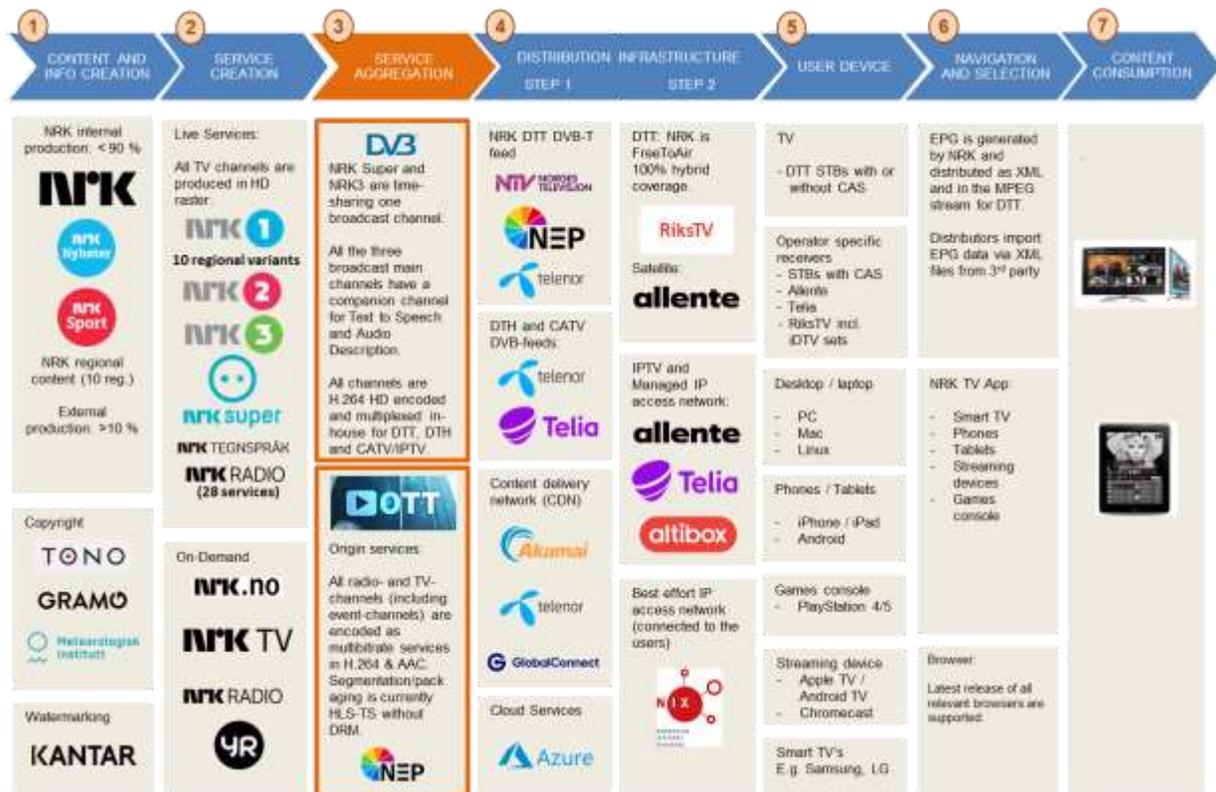## 2.1.   NRK distribution value chain for TV and OTT

Figure 1 areas especially related to this RFI have been highlighted

Technology is changing at a rapid pace, as are media consumption habits; this RFI will focus on modernizing the media distribution systems, DVB and OTT. Apart from what we expect to be mandatory functionality, NRK wants to take advantage of the technological development to increase usability, scalability, reliability, flexibility, security and modularity. In short - enable us to be a world-class publicist and give the public the best experience of our services.

In about 7 to 8 years, NRK will move to a new headquarter and expect to continue using the system we now want input on. However, the workflow may need to change along the way in the process to a different architecture and technology (for example IP-based), i.e., an agnostic solution format. This can introduce new requirements such as site redundancy. A very important point is that NRK needs to be in full production – even when on the move to a new a HQ, with world class products that are perceived flawless.

For more information about NRK see https://www.nrk.no/about/

3. A view on the Scope

NRK currently has several systems for delivering DVB and OTT, and one of the goals for this project is to explore the market for the possibility and maturity in a solution where we can serve both traditional broadcasting and streaming distribution.

As we already mentioned – there are several reasons why we would like to ask the market now. Among these are the need for a general system redesign, plus some platform components are

nearing the end of life. NRK also wants to strengthen our technological flexibility and futureproofing several of the systems against the technological changes we observe.

As the reader can see, the distribution value chain above is quite complex. However, we do not intend to change everything. The drawing above shows a simplified overview, and we will focus our efforts in this RFI on the coloured elements. When we refer to the "media distribution platform" in this document, we are addressing radio and television distribution.
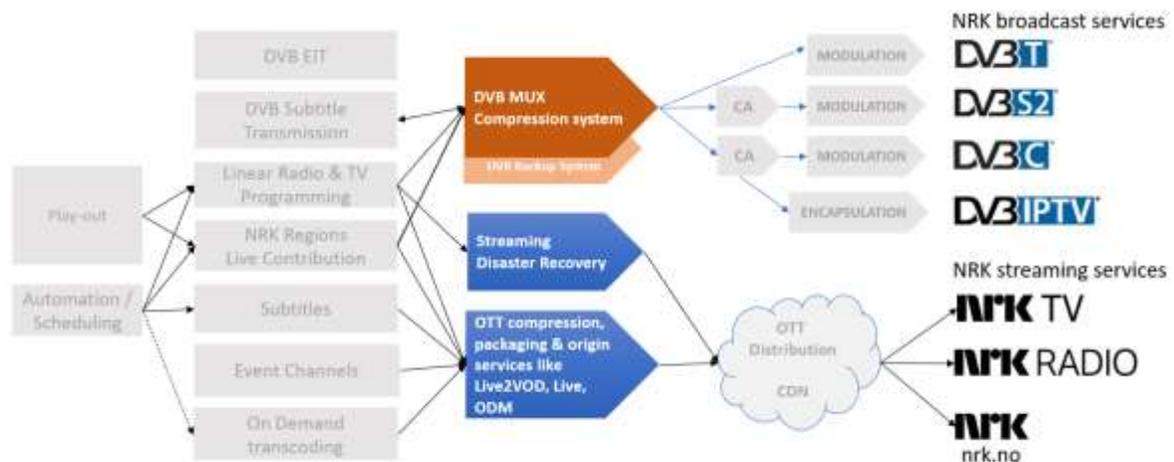
3.1.　　NRK Media Distribution System

Figure 2 - the technology and systems affected by this RFI is highlighted in colours.

Even if we present this oversight, there may very well be implications to other systems (in grey). However, we believe it is best to start with the highlighted systems. At the same time, we kindly ask you to inform us on important advantages of including other systems outside this scope.

For the DVB-part, NRK is distributing its services in HD and SD, AVC-encoded and with statistical multiplexing and HE-AAC, AAC-LC, Dolby 5.1 AC3 audio.

For the OTT part NRK is using AVC and HEVC video-encoding, HLS, DASH, IceCast radio-streaming and Adaptive bitrate streaming. For Live / linear channels NRK is using sliding window and live buffer. Currently, Live-to-VOD / Live-to-Audio-functionality is controlled by our automation-system and made available for the users on-the-fly. And then replaced by high quality versions afterwards as On-demand clip. Another ambition is to enhance our platform with modern functionalities like Full HD, UHD, - further on HDR, Low Latency, CMAF-packaging and Improved Video Codecs/Immersive Audio will also be on the wish list.

We would also ask you if it were best to build a modular solution or separate systems for OTT and DVB.

Please keep in mind that we also want to talk with suppliers specialised in either DVB- or OTT-solutions.

3.2. Integration into a complex production chain

As you can understand from the illustrations above our production environment is rather complex and advanced. Thus, building these solutions have taught us the value of extensive and good APIs. In the coming redesign and acquisitions, we will emphasise on acquiring solutions that are open and adaptive, and that offer a high level of possible integrations – in particular if they are able to integrate well with our existing infrastructure.

We think that we at least would need API's for these applications:

- Streaming services backends
- Playout automation system (Live-to-VOD)
- Subtitling system (synchronization and data exchange)

4. Areas of particular interest to NRK

The following list defines the areas we particularly want to be able to increase our understanding and insight into. Not necessarily in this order of importance. This list could also be the basis of a dialogue during 1:1-meetings.

1) One of the biggest questions we have struggled with have been:
   a) The maturity of combining OTT and DVB systems?
   b) Choice of – on premise or cloud solutions?
   c) Best practices with reference to other customers?

2) If NRK were to combine OTT and DVB in one solution, what would be the main challenges?

3) Best practices and recommendations for redundancy and / or disaster recovery with regards to technical feasibility and cost efficiency?

4) How can we achieve simplification of operations and administration?
   a) Reduction of downtime (e.g., for software/firmware upgrades and extensions)
   b) Possibility of multiple automated processes (e.g., possibility of redundance between different nodes, automatic balancing of systems, failover of defective hardware, etc.)

5) Project Execution:
   a) Please give a consideration of your company's implementation capacity in 2022.
   b) Given our time restrictions, would this influence the possible proposed solution designs?
   c) Please describe critical elements in a typical project plan.
   d) Any other considerations that may affect the rollout that we have to be aware of?

6) Economy

   a) Pricing model – what alternatives and pricing structures can we expect?
preferably in alignment with our strategic principles

   b) What are the biggest cost drivers – can you help us understand the costs and consequences associated with e.g. system extensions?

   c) Could you provide some ballpark price estimates on key elements?

   d) Support alternatives?

Is there anything else that NRK should know or be aware of, that has not been covered by the questions above?

5. Execution of the dialogue and Tender process

As you will find in this tentative time plan, we gradually ramp up to the procurement process, we will outline the highlights here:

➢ Invitation to an open Microsoft Teams information meeting the 5th of January 2022 where we intend to present the different aspects of our view on this RFI and the reasons for conducting it – there will be possibility to ask questions. Link for this meeting will be posted on the Mercell portal.

➢ The suppliers may request a one-to-one meeting with NRK between 10-21th of January 2022. Since there are limited time-slots available for these meetings, interested suppliers need to send us a meeting request including an explanation of why you will be relevant and what you would like to cover in the meeting no later than 7th of January 2022. Timeslots and way of booking will be posted on the Mercell portal. Furter questions could be made in the Mercell portal or to Mr Svein Larsen svein.larsen@nrk.no.

➢ Interested suppliers will be invited to submit an application to qualify for the Tender procedure. Subsequently, qualified suppliers will be invited to participate in Tender process for a contract on the new Media Distribution Platform or parts thereof. This will focus on choosing suitable vendors with sufficient financial strength to fulfil the contract, as well as the ability to prove suitable experience.

In summary, NRK will seek not to provide information or use the information received in a manner that provides a competitive advantage. Information advantages can be offset by giving the same information to other suppliers and give them sufficient time to submit a tender based on the information.

Suppliers should therefore be able to participate in this market dialogue in assurance that the principle of equal treatment will apply and that they, by participating in this dialogue, should not be prevented from participating in the following competition due to information received by or communicated to NRK.

6. Administrative provisions

Below you will find the administrative provisions for the suppliers.

6.1.   Overall tentative time plan

The procurement process is scheduled to be completed after the tentative and overall milestone schedule as given in the table below.

Activity	Date
Announcement of RFI	7th December 2021
Microsoft Teams information meeting *Link to meeting will be given in the Mercell portal*	05th January 2022
One to one meetings *Timeslots and way of booking will be posted on the Mercell portal.*	10th -21st January'22
Scheduled announcement of Tender notice and invitation to qualify	Q2'22
Tender start	Q3'22
Contract	Q1'23

Explicit time schedules for the acquisition will be announced in the qualification-/Tender documents.

6.2.   Announcement

This prior announcement has been published 03 December 2021 at www.mercell.no, reference NRK-MA3462/21E and at www.doffin.no as well as at TED (www.ted.publications.eu.int/official).

The announcement of the Procurement process will be conducted separately after the completion of technical marketing dialogue.

6.3.   Communication regarding the dialogue

NRK manages its procurement processes and market dialogues in Mercell Pro Portal (www.mercell.no).

This will include the announcement, to which this document is attached; the suppliers' registration to participate in the dialogue, following the dispatch of information and documentation; and submission of any documentation from the suppliers.

For questions about the use of the Mercell portal, please refer to Mercell Support on telephone +47 21 01 88 61 / +47 21 01 88 00 or e-mail: support@mercell.com

6.4.   Your required response to the RFI

Suppliers are asked to confirm the download of the invitation and inform whether they intend to participate. This is communicated through the procurement portal www.mercell.no by using the button "I want to respond", preferably in less than 10 days after reading this.

You are also required to use the communication module to send us a message with the names and positions of the persons attending. Please observe that NRK would like to have the discretion of limiting the number of persons attending from each supplier.

Explicitly, you are not required to upload any documents in this stage of the process, even if the portal may generally indicate such.

6.5.   Cost of participation

At this stage, suppliers participate and prepare presentations at their own expense and risk. NRK thus assumes no financial responsibility for the invested effort or other costs in connection with the preparation of an application for participation or the participation in the competition as such.

7. Appendix:
Additional relevant information

In this RFI we would like to inform the market of vendors about NRK's plans for the future distribution project. Initially we would like to take a broad approach and talk to as many vendors as possible. Therefore, we do not request an extensive written response. However, here is a list of information we will probably be asking in the RFP process. You may use this as an inspiration to provide more extensive information. Thus, this is not in any form an obligation.

We would like to emphasize that not all questions might be relevant.

1. **Company background and experience**

   1. Describe you company's core distribution solutions and services, and how this aligns to NRK's strategic direction and objectives.

   2. Describe some relevant reference cases from the media distribution industry. Provide reference customers especially in Nordic or Scandic region using your distribution services or distribution systems.

2. **Delivery and operating model**

   1. What delivery models for NRK distribution platform (such as on-premises, private cloud, software based, or a hybrid of those, SaaS, etc.) are relevant for NRK? Explain the benefits and drawbacks of the respective delivery models for NRK.

   2. Please describe all components of your proposed distribution platform system / services.

   3. Describe the operating model(s) for your proposed solution(s) for NRK, and what internal capabilities/obligations will be required by NRK to support the proposed operating model. What types of integrations and services are needed?

   4. What would be the key value-added services to be covered by your proposed distribution solution?

3. **Technology trends and innovation**

   1. Describe important technology trends in the distribution platform area, and how these could be relevant for NRK.

   2. How could new innovations affect the distribution area going forward, and how could this innovation benefit NRK?

4. **Backup and disaster recovery**

   1. Please describe how the backup and disaster recovery solution look like for the proposed distribution service.

   2. What kind of SLA can NRK expect from the proposed backup system and proposed DR service?

   3. What additional value-added features for backup and disaster recovery differentiate your distribution solution from your competitors?

5. **Security and privacy**

   1. What security mechanisms are appropriate to protect NRK data and information? What performance impact will they have?

6. **Reliability, availability, and serviceability**

   1. Describe the reliability, availability, and serviceability features of your proposed solution and how they differentiate your solution from your competitors.

2. What Service Level Agreements (SLA) will be applicable for organisations like NRK?

7. Pricing models

1. What pricing models would you propose for NRK?

2. Please provide your tentative pricing or estimated effort in the following table

components	High level pricing / Effort in # of hours needed from vendor
Infrastructure including Servers	
Software / Licensing?	
Disaster Recovery Solution	
Installation / Integration / Testing / Transition Services	
Training	
Support Services/SLA-alternatives?	

3. What are the most important cost drivers in your proposed solution?

8. Transition and migration

1. Please provide information on your transition / implementation solution. How can you ensure a reliable and cost-effective transition from NRK's current distribution infrastructure to your proposed solution?

2. Describe a summary of the suggested transition plan, including high-level activities and time schedule. What would be NRK's role during the implementation project.

3. If NRK needs to have obligations for learning and maintaining your proposed distribution technology, please describe training programs you can offer NRK as part of the proposed solution.

9. Overview of recommended distributed solution for NRK

1. Please provide a summary of the solution you would propose to meet NRK's strategic challenges.

2. Please describe the components of the solution, how they would be interconnected, and how they would meet NRK's strategic direction, objectives, principles, and security guidelines

3. How adaptable is the proposed solution? How does the solution allow flexibility to accommodate changing business requirements and emerging technical capabilities?

4. Describe how will your proposed solution be supported (describe your Service levels, or how will you ensure NRK's meets its key objectives, describe how will you keep your system and services be kept up to date)

5. Describe your strategy and solution for sustainability, such as reducing the carbon footprint of your proposed media distribution solution with regards to power, cooling and physical space.

10. Supplementary information

1. Is there anything else that NRK should know or be aware of, that has not been covered by the questions above?

2. Briefly describe a reasoned request to why NRK should invite you for 1:1 dialogue meeting.

3. What additional data and information would you require regarding NRK's current distribution environment in a potential RFP?

4. Are there other special circumstances that NRK needs to consider when we prepare our specification for the RFP?