



NRK MA

3106/18E

IT SOURCING

INVITATION TO PARTICIPATE IN A
REQUEST FOR INFORMATION
AND A PROCUREMENT PROCESS

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1 READING GUIDE

To get the most value of the information included in this RFI, the following approach for reading the provided material is proposed:

1. Read chapter 1-4 in the RFI document
2. Read Appendices A-F
3. Read chapter 5
4. Read Appendices 1-2
5. Read chapter 6-8 in the RFI document

2 INTRODUCTION

Norwegian Broadcasting Corp., subsequently named NRK, invites to technical market dialogue (RFI) with the objective to explore the market and initiate the dialogue with potential strategic partners. The overall objective of the RFI process is to receive information from the market, ensure that the best-suited vendors deliver insightful and knowledgeable responses, and ensure their interest in participating in the future RFP process. The RFI should give NRK knowledge and a solid foundation to decide the scope of the RFP, and NRK aims to achieve this by asking open, challenging and relevant questions. This process is hereafter referred to as the Sourcing Project.

Our goal is to move from the RFI phase into a sharp competition during October 2018 by initiating a procurement process. Please see chapter 7 for further details.

NRK wants to remind the vendors that the rules for Transfer of Business (“virksomhetsoverdragelse”) from the Working Environment Act (“Arbeidsmiljøloven”) apply to NRK and the chosen strategic partner(s) in regards to the sourcing process.

3 OVERVIEW

3.1 About NRK

NRK is the public broadcasting corporation in Norway and offers the Norwegian public a wide range of content with three national TV-channels, 14 national radio channels and the website nrk.no. NRK is financed by means of a license fee, and is mandated to offer public broadcasting via radio, TV and the internet. The traditional use of radio and television has stable support among the public and the use of content on mobile platforms is rapidly increasing. Hence, NRK increasingly utilizes mobile platforms. The website nrk.no is the second biggest website in Norway, with 1.1 million daily users on average. NRK also provides the world’s largest free to consume TV, radio archives and the most popular Norwegian online TV service.

With approximately 3500 employees, NRK is a nationwide business, and it is the largest media company in Norway. NRK is characterized by its diversity, which is partly reflected by the fact that over 120 professions are represented among the employees.

In addition to the HQ at Marienlyst in Oslo, NRK also has regional centers in Trondheim, Bergen and Tromsø, as well as regional offices (“DK – Distriktskontor”) in Alta, Bodø, Ålesund, Førde, Stavanger, Kristiansand, Porsgrunn, Fredrikstad, Tønsberg, Drammen, Oslo and Lillehammer. Several of the regional offices also have one or more local offices (“LK – Lokalkontor”). NRK is located in Mo i Rana with the License Office and Information Center, as well as in Karasjok with NRK Sápmi.

For further information about the business, please refer to <https://www.nrk.no/about/>.

NRK Aktivum is a wholly owned subsidiary of NRK, located at Marienlyst and runs NRK’s commercial activities. The company has approximately 20 employees.

For further information about the business, please refer to www.nrkaktivum.no.

3.1.1 Technology division

As illustrated in Figure 1, the Technology division constitutes one out of nine divisions in NRK.

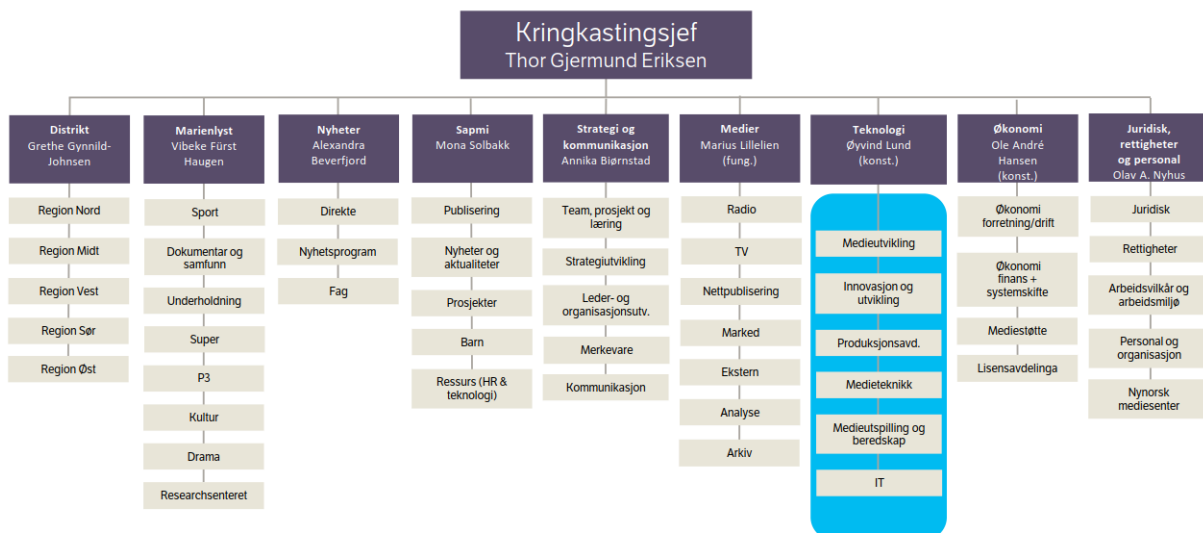


Figure 1: Technology is one out of nine divisions in NRK

The Technology division is under establishment and changes might occur. However, the division currently includes six departments:

1. **Media Development:** Responsible for continuously improving, renewing and developing some of Norway’s most widely used digital services (e.g. NRK.no, NRK TV).
2. **Technology portfolio and architecture:** Responsible for architecture and the portfolio of technology and technical systems.
3. **Production:** NRK’s internal production house. Delivers total productions within the areas: Drama, Feature, News, Sports and Studio.

4. **Media technology:** Responsible for the services and systems utilized during production and editing of content.
5. **Media payout and emergency response:** Responsible for distributing content for TV and radio, operating web-based applications and strategic security.
6. **IT:** Responsible for Service desk, ERP-applications and IT infrastructure that is the platform for both publishing-, production- and administrative applications.

Although IT is a separate department in the Technology division, IT can also be found outside the IT department. Figure 2 illustrates the overall IT portfolio in NRK and Table 1 describes the terminology used. The blue boxes in Figure 2 (1.1-1.4) correspond to the four sections within the IT department and these are further described in Figure 3. However, IT tasks and IT systems are also included in other Technology departments. The green boxes (2-4) “Media development”, “Media payout and emergency response” and “Media technique” all include IT and their responsibilities are described in bullet points 1, 4 and 5 listed above. The grey boxes (5-6) include clients and publishing platforms, respectively. The clients are mainly grouped in three categories: 1) administrative clients, 2) travelling journalists, and 3) editing clients. Example of publishing platforms are NRK1, NRK.no, NRK TV, NRK P1, NRK Super, and YR. Social media like Snapchat, Facebook and Instagram are also utilized.

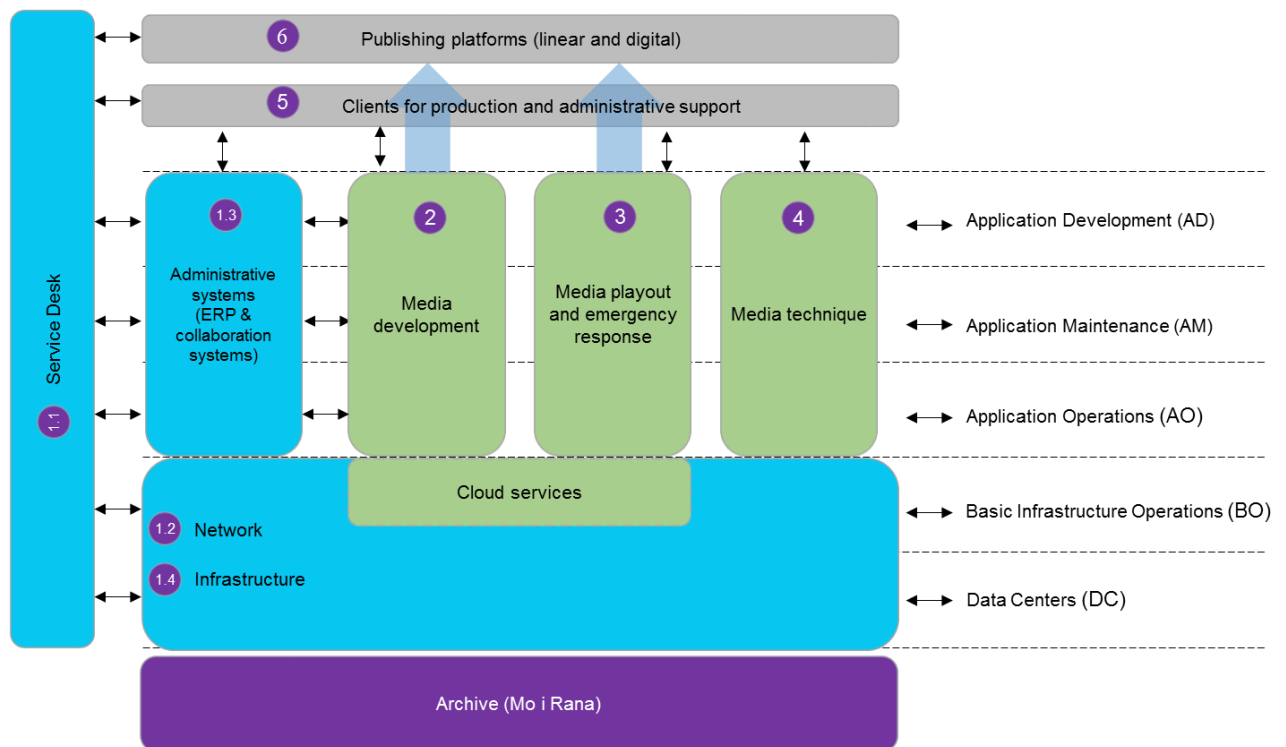


Figure 2: Overall IT Portfolio

- Application Development (AD)** All activities and services that are necessary to develop new, change, or remove functionality.
- Application Maintenance (AM)** All activities, tools, and services that are necessary in order to ensure that the quality of the applications is maintained over time and in accordance with agreed relevant Service Levels.

Application Operations (AO)	All activities, tools, and services that are necessary in order to (1) ensure that the application is available and performing in accordance with agreed relevant Service Levels, and (2) being the prime service provider during the operation phase.
Basic Infrastructure Operations (BO)	All activities and services that ensure that the availability and performance of platform services, basic SW, and HW are in accordance with agreed relevant Service Levels.
Data Centre (DC)	All activities and services that ensure that the Basic Infrastructure Operation has a physical operating environment in accordance with agreed relevant Service Levels.

Table 1: Description of IT service terminology

3.1.2 IT department

NRK's IT department is part of the Technology division, and consists of four sections, as illustrated in Figure 3. The IT department is responsible for services related to infrastructure, network, service desk and monitoring, as well as other support services.

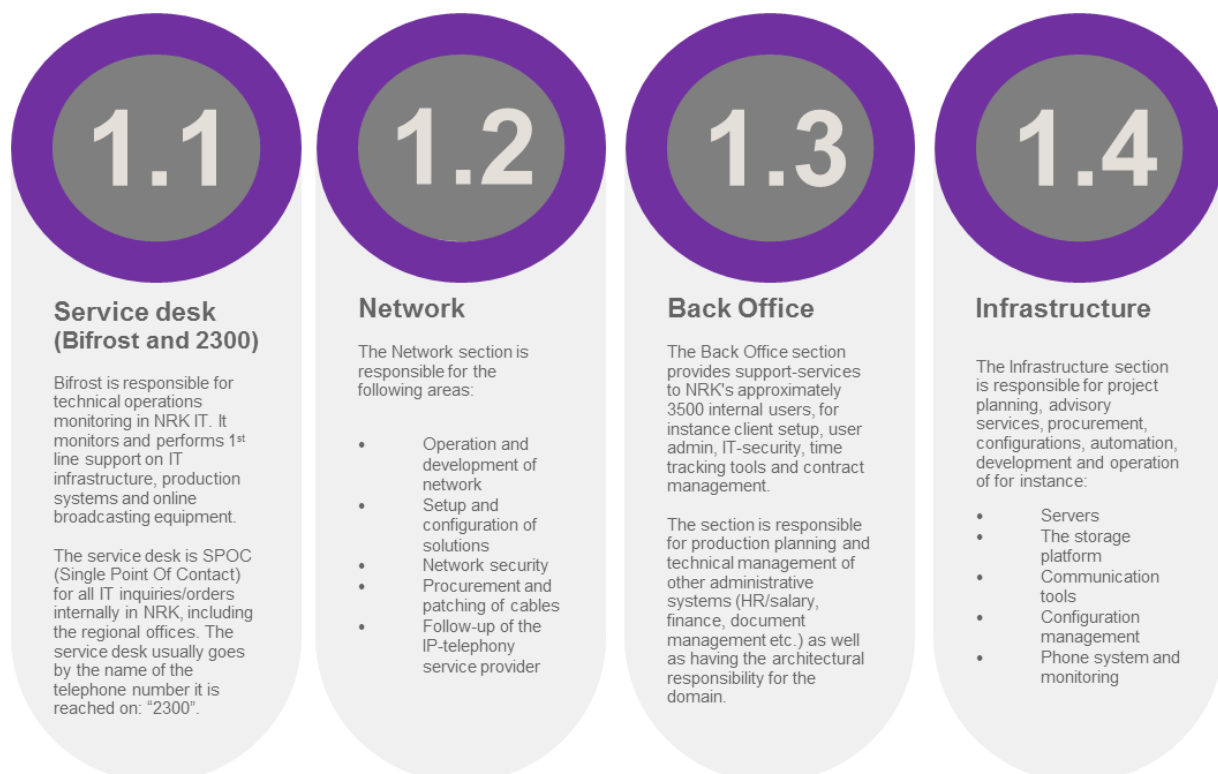


Figure 3: Sections within the IT department

3.1.3 IT systems portfolio consolidation

The Technology division utilizes numerous IT systems. The systems are mainly used and distributed across the boxes between publication platforms and network and infrastructure illustrated in Figure 2 (i.e. boxes 1.3, 2, 3 and 4). Table 2 summarizes NRK's system portfolio, which is divided into four groups. A detailed description of NRK's system portfolio is not included in this RFI, but will be described in the RFP.

Category	Number of systems	Number of critical systems	Example of critical systems
Administrative	101	16	<ul style="list-style-type: none"> • E-mail services • Collaboration tools • HR system • Accounting system • Production planning tool
Production	140	32	<ul style="list-style-type: none"> • Media Asset Management • Metadata management • Broadcast Management • Video Editing • Radio Editing • News Production • Studio Automation • Transcoding • Streaming
Publishing and distribution	55	37	<ul style="list-style-type: none"> • Content Delivery • TV-player applications • DAB main system and contingency system
Uncategorized	96	19	<ul style="list-style-type: none"> • Applications covering different functional needs • The work of categorizing these applications is part of NRK's system portfolio consolidation program
Total	393	104	

Table 2: Systems used by IT-related business areas in NRK

Figure 4 depicts the assessment of NRK's 400-500 IT systems, in terms of functional and technical condition. The number of systems in Figure 4 includes small and less critical systems, hence the numbers depicted in the figure are not necessarily accurate. The systems are placed into one of the four categories; eliminate, migrate, tolerate or invest according to Gartner's TIME framework. NRK is currently in the planning stages of optimizing the system portfolio based on these four categories. As a result of this work, consolidation, elimination and implementation of systems are expected. Approximately 45-65 out of the 400-500 systems are identified as candidates for consolidation and will be managed by the consolidation program.

NRK is considering working in a long-term relationship with an integration partner who will provide hosting, integration, implementation, maintenance and changes to NRK's system portfolio (or parts of it). Examples of competencies needed on or off premise are: program management, enterprise/technical architects, system development, test management, procurements and delivery support.

Currently, NRK's system portfolio consists of a combination of SaaS/standard applications and in-house developed applications. Going forward, in establishing NRK's future system portfolio, the

following governance and sourcing principles (see Figure 18 for a complete list of principles) will be the primary guidelines:

- **Governance 5:** We should adapt to off the shelf systems, utilize the systems fully and not have overlapping systems for the same tasks.
- **Governance 7:** Open standards and open source should be evaluated for all technology decisions.
- **Sourcing 3:** Primary, procurement of services is preferred. Rental is preferred over procurement of off the shelf solutions.
- **Sourcing 4:** In-house development should only be performed when it gives NRK a clear competitive advantage and no commercial solutions exist.

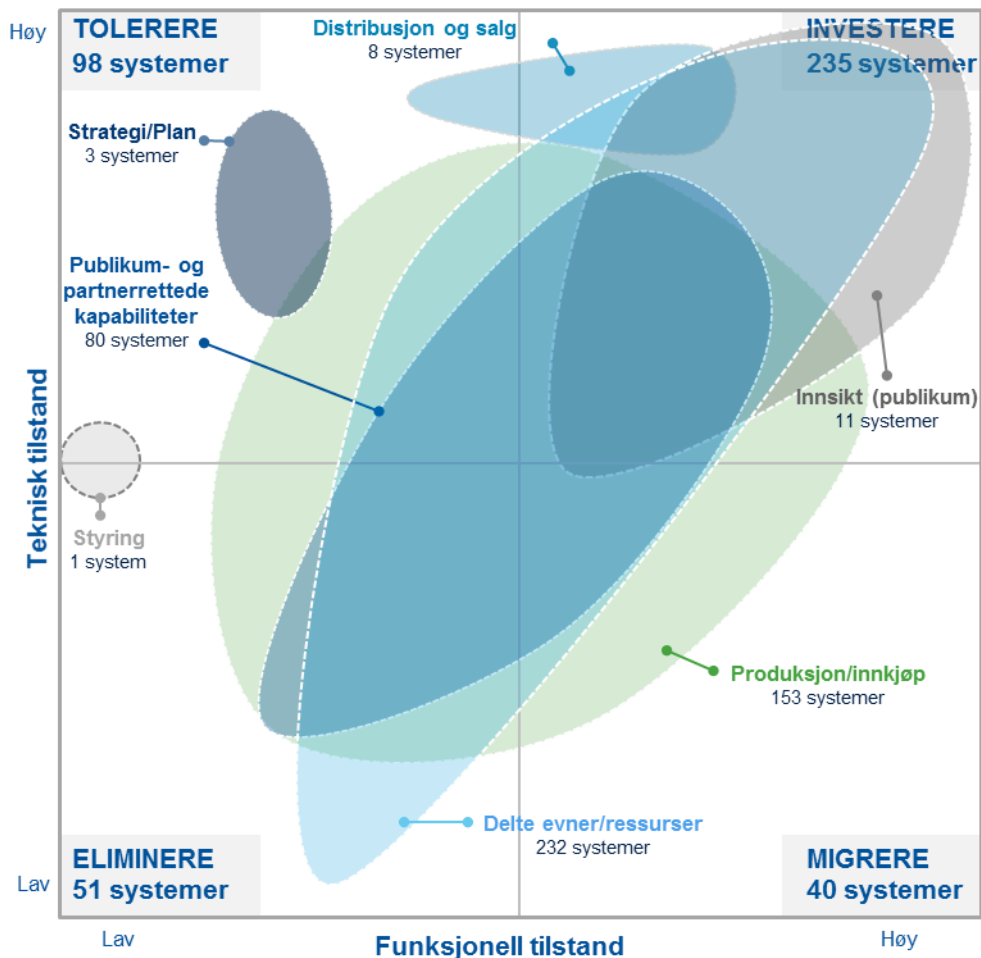


Figure 4: Assessment of NRK's systems portfolio, performed in relation to the Technology plan

3.1.4 Production and publishing

The overall task of IT and the Technology division is to ensure the technical aspects of successful production and publishing of NRK content on various platforms. Processes, capabilities and services are developed in order to achieve this task. Figure 5 is an overall illustration of the process from production to publishing in NRK. A number of external and internal IT services are utilized during this process.

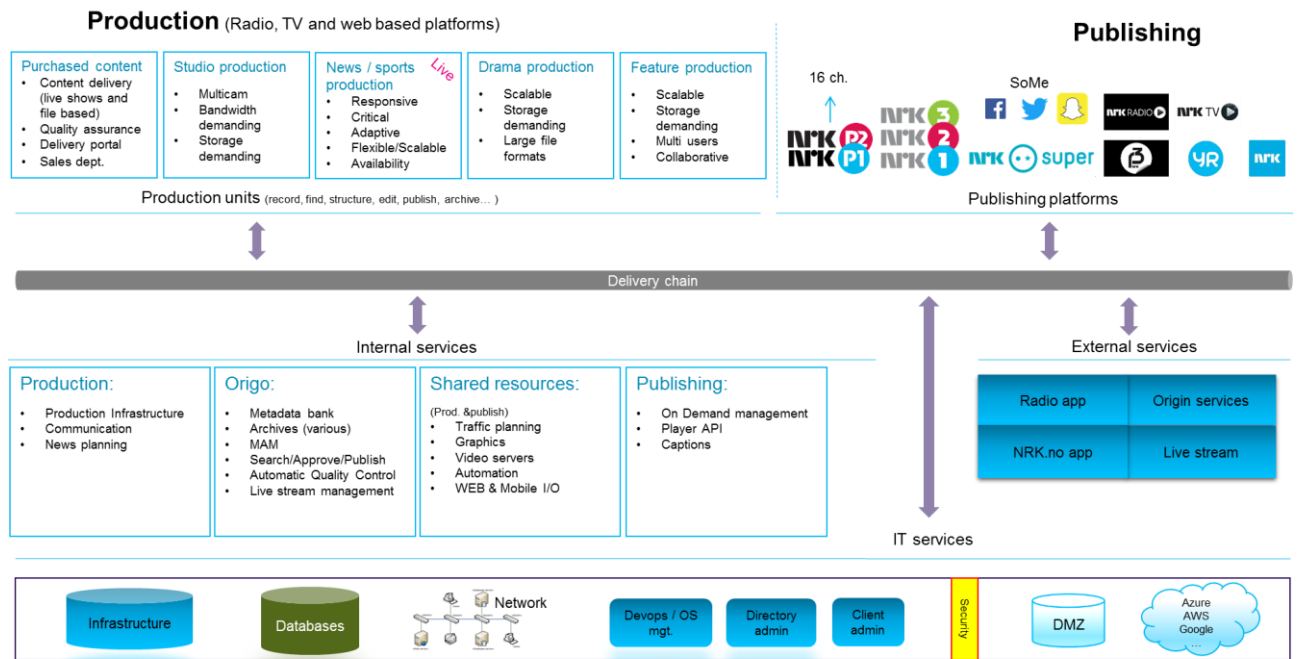


Figure 5: Flow and services involved in publishing content from production

In Figure 5 there is a grey line titled “Delivery chain”. The delivery chain includes both production and publishing. Services listed in the bottom part of Figure 5 serve different functions during the delivery chain flow. Figure 6 and Figure 7 are two examples illustrating the delivery chain for linear and web visual production and radio production, respectively.

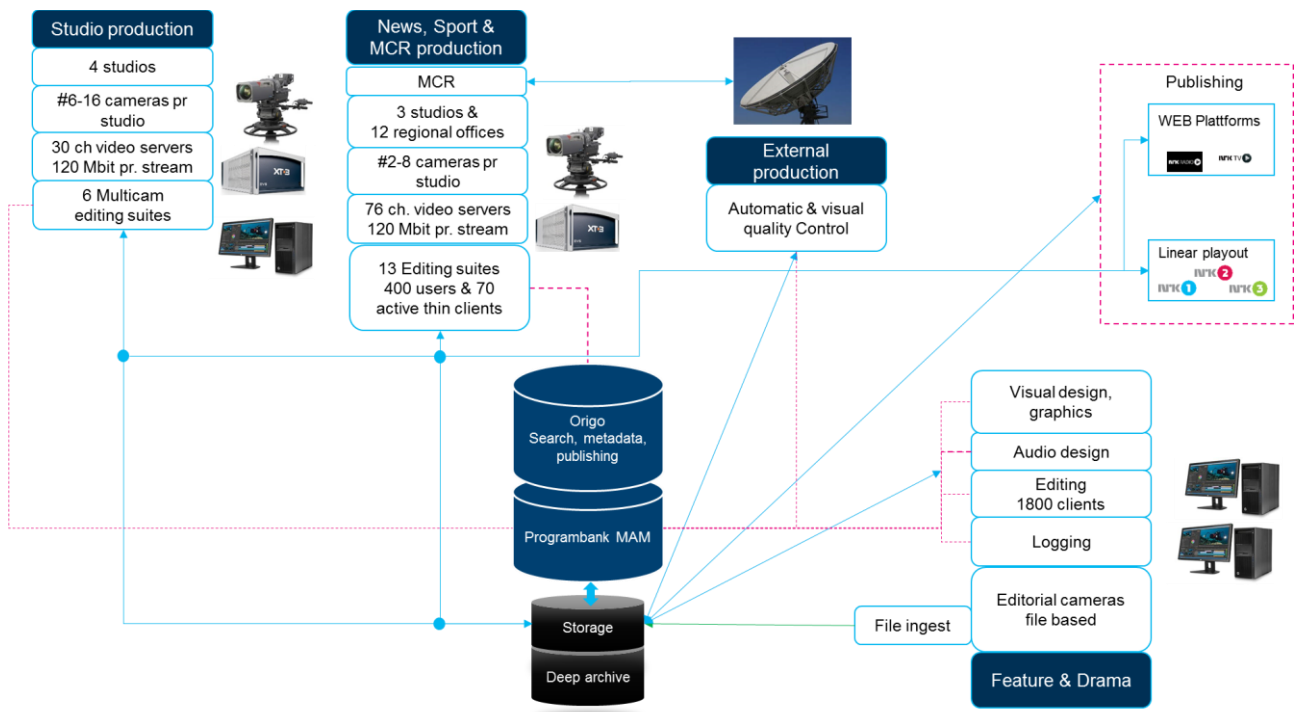


Figure 6: Delivery chain for linear and web visual production

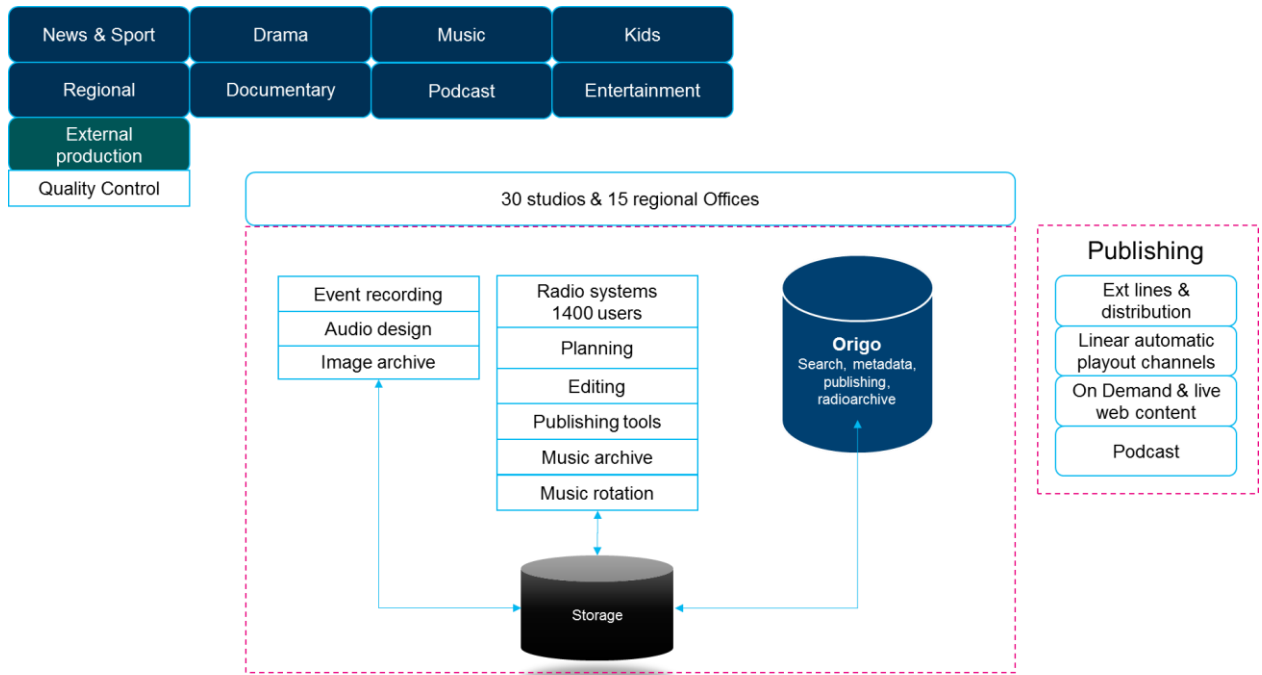


Figure 7: Delivery chain for radio production

In order to deliver the services in Figure 5, a solid infrastructure needs to be in place. Figure 8 illustrates the details concerning the infrastructure indicated in the bottom left corner of Figure 5.

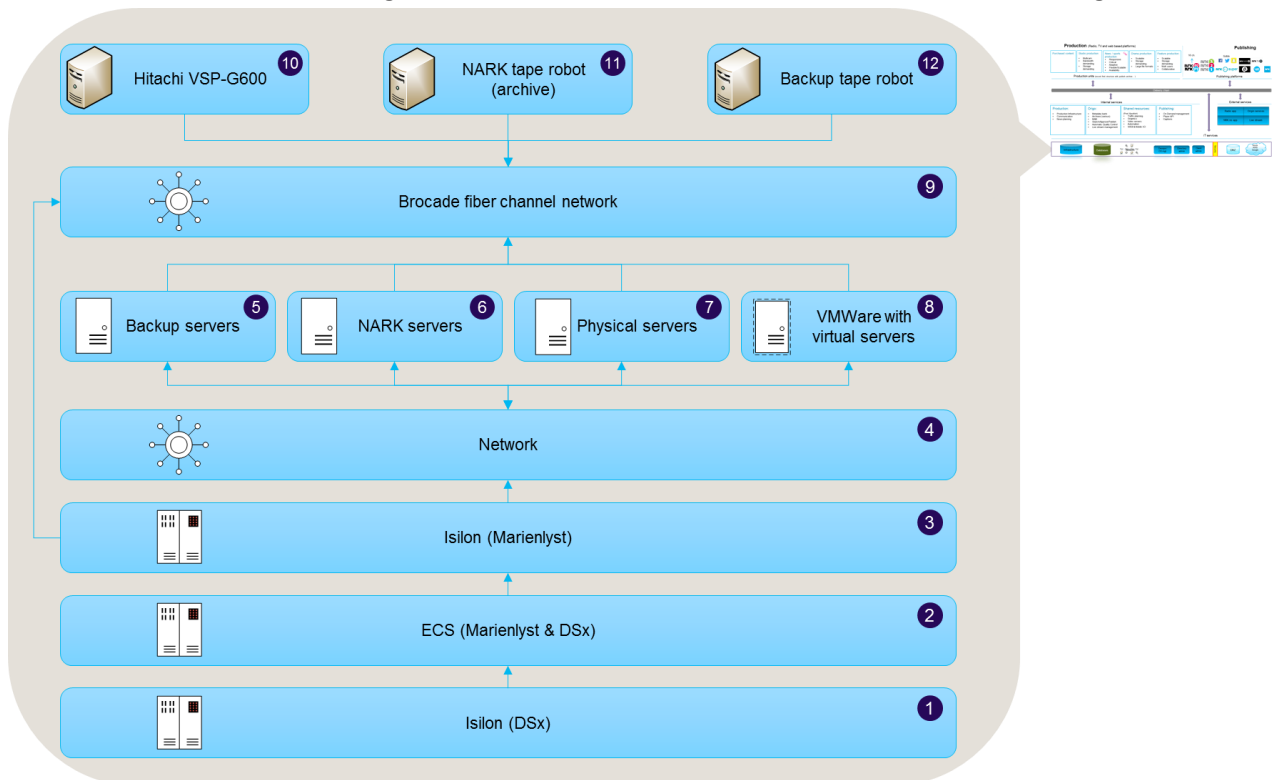


Figure 8: The underlying infrastructure for production and publishing of content

The underlying infrastructure for production and publishing of content is further detailed in Table 3. Furthermore, chapter 8.1 in “Appendix D – Infrastructure” includes three scenarios illustrating

workflows related to Figure 8.

#	Short description - Functionality	Vendor/technology
1	Isilon NAS storage that provides SMB/NFS storage for servers, systems and users in DSx and is a SyncIQ target for some replicated shares from Marienlyst	DellEMC NAS
2	ECS (Elastic Cloud Storage) is object based storage used as CloudPool archive for Isilon storage on all sites. It is split into two sites and geo replicated for security purposes	DellEMC Object storage
3	Isilon NAS storage that provides SMB/NFS storage for servers, systems and users. This is the main storage platform for NRK Marienlyst and serves as storage for almost all storage purposes	DellEMC NAS
4	Network providing 1/10Gb network for all usages	Cisco
5	Running Veritas Netbackup backup software to take backup of Isilon, VMWare, servers	HPE Servers Windows Server OS Veritas Netbackup software Hitachi VSP G200 storage
6	Running Oracle Frontporch DIVA archive software to archive video files on the StorageTek SL8500 tape system	HPE Server Windows Server OS
7	Running various systems for NRK's production on physical servers. Usually these systems are not virtualized due to very high CPU or memory usage or the manufacturer of the software running does not allow virtualization easily (Oracle) or does not support virtualization	Dell Servers HPE Servers Windows OS Linux OS
8	Virtualization software running over 1000 VMs for NRK's production systems	HPE Servers VMWare vSphere
9	Two fibre channel fabrics providing storage network for NRK's SAN infrastructure	Brocade X6-4 Directors
10	Provides storage for NRK's VMWare servers, physical servers needing storage.	Hitachi SAN Storage
11	Provides tape storage for NRK's NARK Front Porch DIVA archive system. Has 10x T10K C drives and about 6000 tape slots	Oracle StorageTek SL8500
12	Provides tape storage for NRK's backup system. Has 16 LTO drives and about 4500 tape slots	IBM 3584

Table 3: Short descriptions of underlying infrastructure

The capabilities, processes and services needed for NRK to produce and publish content are reflected in the organizational structure of the IT department and the Technology division. There are clear connections between the organizational structure in Figure 1, the capabilities in Figure 2 and the services and flow in Figure 5. The IT sections "Network" and "Infrastructure" can be found in the IT services box at the bottom of Figure 5. "Media development" is located between the delivery chain and the publishing platforms in Figure 5. They ensure the content is published on platforms such as Mobile Devices and NRK.no. "Media playout and emergency response" is also connected to the part of the delivery chain related to publishing. "Media technology" on the other hand, is related to the production part of the delivery chain. They are responsible for the services and systems utilized during production and editing of content. The IT sections for Service Desk and administrative systems (Back Office) support the complete delivery chain from production to publishing and own systems and services used by all the actors in the delivery chain.

3.1.5 Future retained organization

NRK acknowledges that the current organization of the Technology division is not optimal and that improvements are necessary. The outcomes of NRK's Technology plan, to be introduced in chapter 3.3, will influence the future organization of the Technology division. This applies to the Sourcing Project in particular, as NRK's sourcing strategy will impact what capabilities are needed in the IT department and in the Technology division overall. Capabilities within the IT organization must be developed in order to meet the needs resulting from the chosen sourcing strategy. Examples of capabilities typically needed in the retained organization when outsourcing IT services are illustrated in Figure 9. Hence, changes to the IT organization could be necessary in order to successfully outsource IT services. NRK initiated a project in Q1 2018 to establish and develop NRK's retained organization.

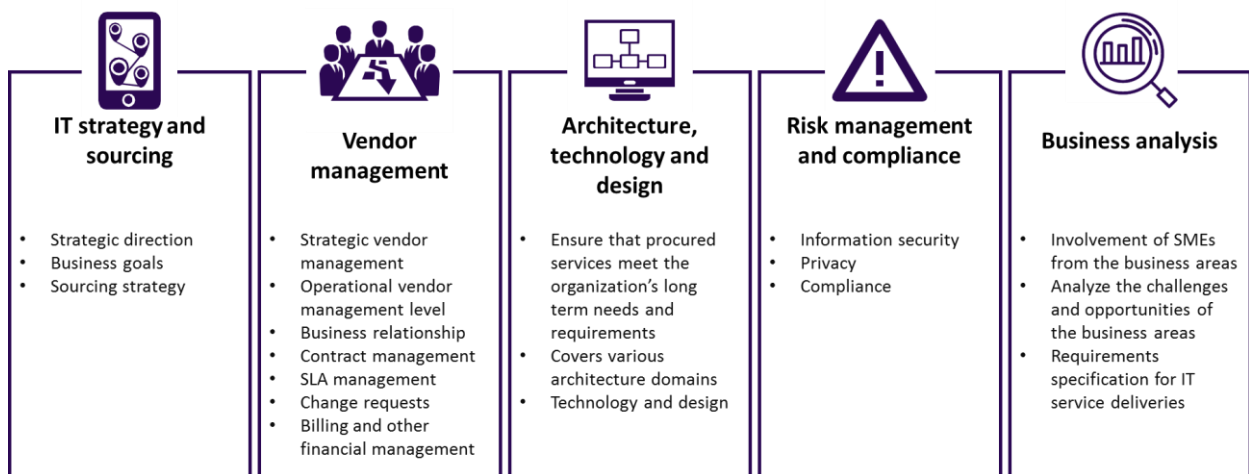


Figure 9 - Retained organization capabilities

3.2 NRK's objectives and challenges

3.2.1 Main strategy

In the long-term strategy for 2017-2022, NRK states three main objectives, which are described in Figure 10.

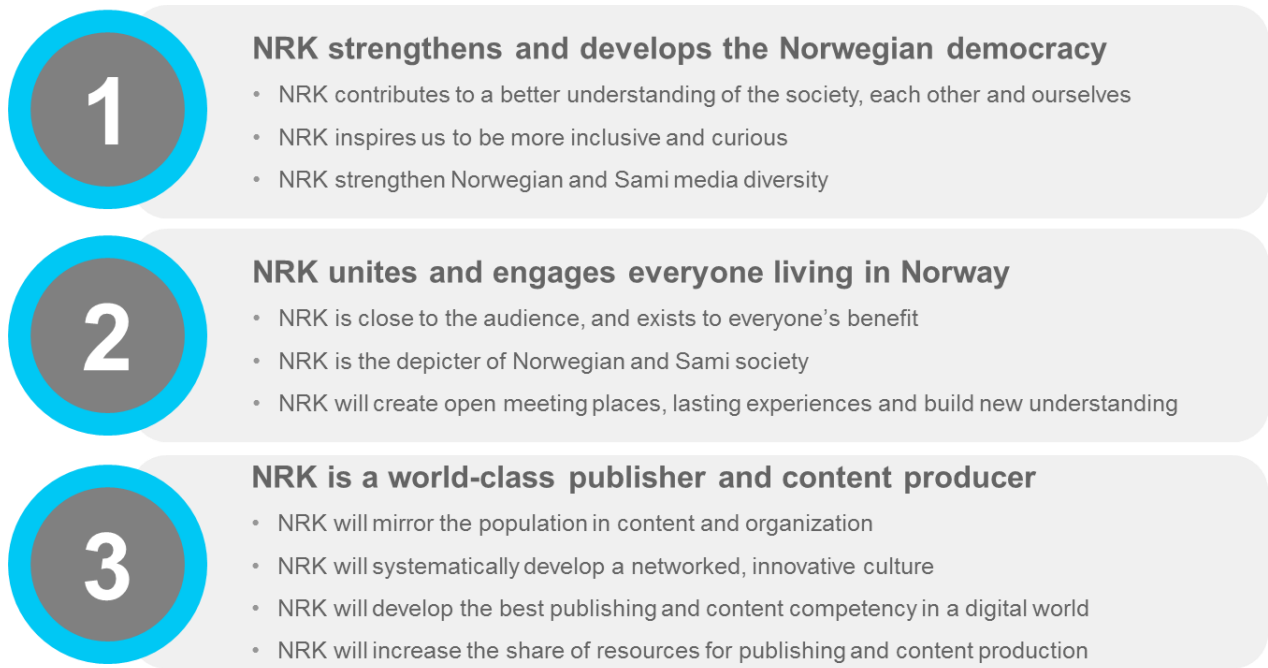


Figure 10: NRK's long-term strategy

The strategy is based on NRK's role in the society, as formulated both through the statutes approved by the Ministry of Culture and through the NRK placard set by the Parliament.

3.2.2 Challenges

The challenges in the Technology division in NRK have been assessed in two stages. Firstly, challenges and improvement areas were assessed in a top down approach in association with the development of the Technology plan, and secondly, challenges were assessed in a bottom up approach in association with the AS-IS analysis of the Sourcing Project. The challenges and areas for improvement resulting from the top down analysis can be broadly categorized into four areas, as described in Figure 11.

Main results



STRATEGY – Central strategic guidelines and principles for NRK’s Technology plan are identified, for instance, focus on content production, increased adaptability and innovation rate, increased digitalization, digital expertise and reduced complexity.



TECHNOLOGY – A number of NRK’s solutions are perceived as high quality but the system portfolio seems unnecessary comprehensive and complex.

NRK’s technical production platform is comparable with other Nordic Broadcasters, but is considered to be more complex, fragmented and lacking a holistic architecture.



IT MANAGEMENT– NRK has a potential for improvement within holistic prioritization, decision processes and technology procurements, in addition to organization and coordination, and is recommended as prioritized functional areas for NRK’s Technology plan.



COMPETENCE– NRK has a competent team with a high percentage of special competence but needs to develop internal competence and focus on strategic technology management.



FOCUS AREAS – NRK’s functional and capability areas which are considered strategic important and/or have challenges associated with technical/functional condition or costs are identified as potential focus areas for further work;

- Online and digital channels within audience and partner-oriented capabilities
- Main areas within strategy, planning and management, e.g. content strategy, right clearance and broadcast planning
- Core business as production, publishing and distribution and capabilities within audience insight, e.g. user identification, personalization and analysis.
- Shares capabilities/assets, e.g. innovation, handling of metadata, enterprise architecture, HR and media services, and support services as network and connectivity and archive services

Figure 11: Identified challenges and areas for improvement in the Technology plan

The main observations concerning challenges and areas for improvement from the AS-IS analysis performed during the Sourcing Project include many of the same areas. However, there are some differences and the observations are summarized in Table 4.

Relatively low presence of formal direction, guidelines or central architecture function for IT	<ul style="list-style-type: none"> • Lack features for IT strategy, governance, supplier management, architecture, IT security, business analysis and project and portfolio management
Technical debt	<ul style="list-style-type: none"> • The number of systems in NRK (~400-500), and their condition, brings complexity, cost ineffectiveness, and inefficient work processes • Lacking direction, guidelines and central architecture
Resource scarcity	<ul style="list-style-type: none"> • The number of employees seems to be at a minimum • Extensive use of external / contractors to execute standard operations tasks
High degree of autonomy	<ul style="list-style-type: none"> • The departments and employees have a high degree of autonomy. You are free to initiate independent initiatives that should in many cases be led by the IT department (using new technology, etc.)
High dependence on individuals	<ul style="list-style-type: none"> • Formal procedures and work processes are often waived ("One must know who to contact to get something done") • Need for cultural change to succeed with outsourcing

Fragmented delivery of IT services	<ul style="list-style-type: none"> • A lot of IT exists outside the IT department • Unclear distinction between consumer and supplier of IT services
Great loyalty among employees	<ul style="list-style-type: none"> • Today, high uptime is guaranteed by hard efforts and loyalty from employees • Deployment of services can adversely affect the unique company spirit that exists in NRK
Digital surfaces prioritized	<ul style="list-style-type: none"> • Underlying systems in the value chain are partly old and do not get the same focus • Development resources are less prioritized on old technology/old systems
The risk profile is quite high	<ul style="list-style-type: none"> • Individual dependence, autonomy, partly old system portfolio and lack of structure and formalism. Tries to reduce with increased degree of service orientation • Project for assessment of disaster recovery is ongoing
Extensive service catalogue	<ul style="list-style-type: none"> • Provides good documentation of the IT department's activities • Good mapping between services and infrastructure, including automation
Low maturity within sourcing	<ul style="list-style-type: none"> • Ad hoc and individual initiatives with low level of coordination • Different approaches to sourcing within the organization

Table 4: Main observations from bottom-up analysis

The results from both the top down and AS-IS analysis support that NRK is placed at level 1 in Gartner's maturity framework for application management (see Figure 12). Gartner explains the level 1 maturity due to the following:

- Lack of overview and knowledge about existing system portfolio complicates strategic IT decisions.
- Considerable one-time efforts required for reporting and change initiatives due to lack of systematic monitoring of e.g. technical condition, functional support and operations and maintenance costs.
- Opportunities for simplification and efficiency improvements are not identified or utilized.

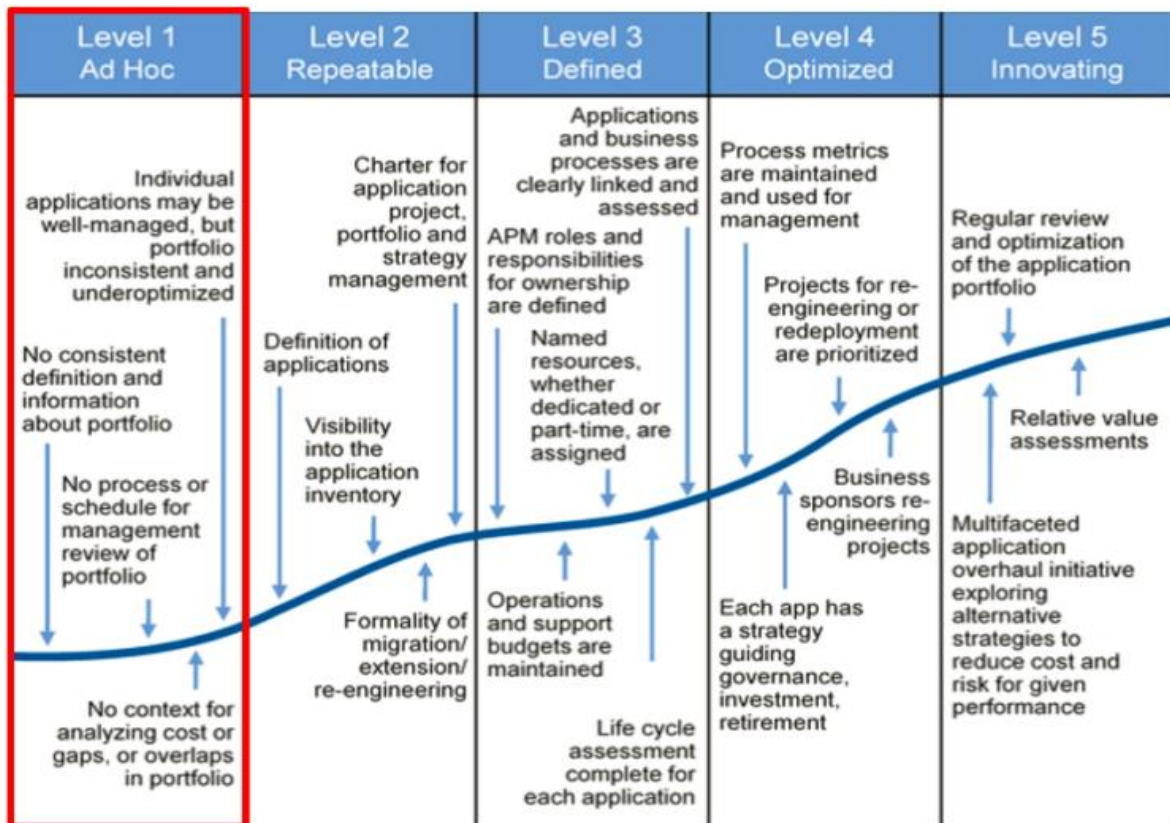


Figure 12: NRK is considered level 1 in Gartner's framework for application management maturity

3.2.3 Overall objectives

In order to overcome the challenges, NRK has developed four main objectives for the technology division in NRK. These are summarized in Figure 13.

MAIN OBJECTIVES FOR NRK'S TECHNOLOGY PLAN

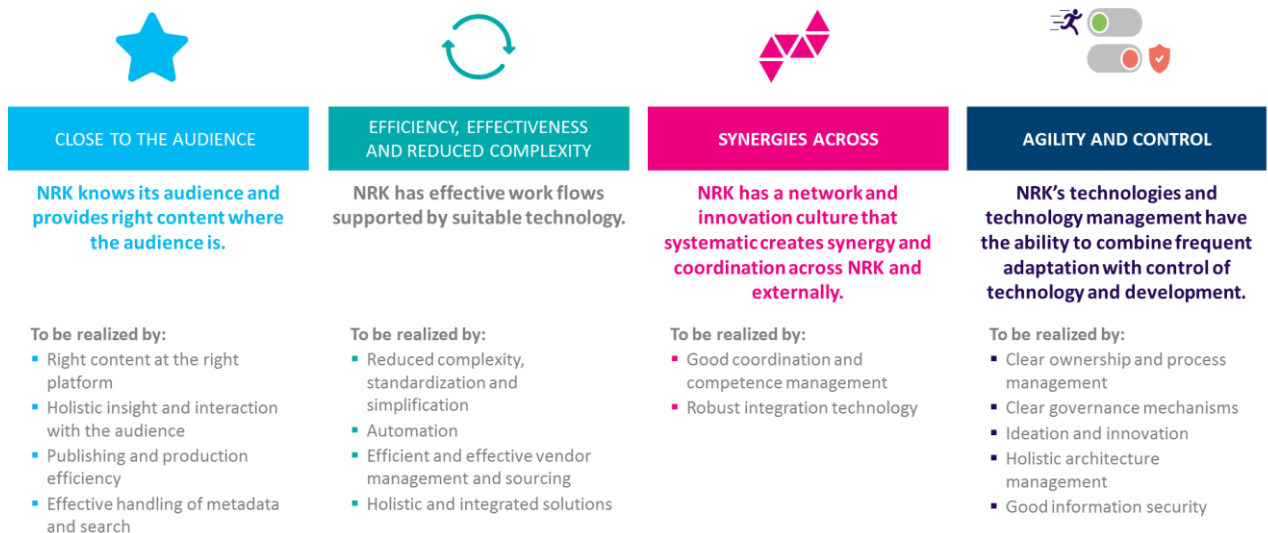


Figure 13: Main objectives for technology

3.2.4 Objectives of the Sourcing Project

NRK faces a number of market and technology opportunities that influence the strategic direction and decisions. Making the right technology decisions will be central in the realization of NRK's long-term strategy. In addition to establishing one common direction for technology, NRK's Technology plan (see section 3.3) is a tool for structuring decisions and initiatives regarding technology.

Acceleration in the technological development and advancement in the population, combined with increased commercialization of content and convergence of the traditional value chains, leads to major changes in use of media and increases the importance of providing the right content to the public on various platforms.

NRK wants to cooperate with one or more strategic partners that can deliver reliable services of high quality so that NRK is able to reduce internal complexity, free up capacity and focus on content production and publication. Figure 14 summarizes NRK's objectives for outsourcing, which are also the overall criteria to be used for the assessment of the potential strategic partners.



Figure 14: NRK's overall criteria for strategic partner(s) assessment

3.2.5 Objectives of the RFI process

The overall objective of the RFI process is to receive information from the market and ensure that the best suited vendors deliver insightful and knowledgeable responses and aim to participate in the future RFP process. The RFI should give NRK knowledge and a solid foundation to decide the scope of

the RFP. NRK would like to establish a retained organization positioned to ensure a well-functioning cooperation with one or more strategic partners. Hence, NRK expects the RFI process to provide knowledge concerning the development of the retained organization.

NRK considers the RFI process to be critical in a number of dimensions:

- The RFI output will help NRK shape the scope, process, and schedule for the upcoming strategic initiatives (as part of the implementation of NRK's Technology plan) through the knowledge gained from the potential strategic partner(s) and their capabilities. The RFI will be the cornerstone for the RFP(s) beginning with selected application areas and infrastructure.
- Inspiration. NRK seeks input on what impact the disruptive innovation and technology trends could have on transforming NRK for the future, and how NRK can utilize the position as the national broadcaster in Norway to create value-adding services to the public.

During the RFI process, NRK will look for vendors describing solutions that meet the eight objectives of the Sourcing Project described in chapter 3.2.4. This means that desirable vendor capabilities are, for instance, the ability to be flexible and scalable regarding functionality and costs, being innovative and inspirational, reliable and trustworthy, competent and experienced within the media industry, as well as being cost efficient.

The RFI process provides an opportunity for vendors to establish themselves in NRK's preferred future strategic partnership(s). At the moment, NRK is open-minded with respect to the creation of the partnership model and the configuration of roles within it. NRK views its challenges in a long-term perspective and NRK's executive management fully support the implementation of the NRK Technology plan and the underlying strategic initiatives – and are hence committed to the changes that will be required of the organization as a whole.

3.3 [Background and direction](#)

NRK's long-term strategy and strategic guidelines focus on continuously striving to run more efficient and effective, facilitate more innovation and to provide more resources and capacity for production of content. To meet these objectives, in addition to meeting the constantly changing market and competition, NRK needs to coordinate how it works with technology, technology management and technical procurement. As a result, an initiative for establishing a technology plan began during the autumn of 2016.

The work with NRK's Technology plan consisted of two main phases, whereas phase one included an analysis of the AS-IS situation in NRK and phase two included the creation of a technological roadmap with recommended initiatives for the short, medium and long term (see Figure 15). Proposed initiatives are based on NRK's long-term strategy, the observations from the AS-IS analysis and established governance and sourcing principles.

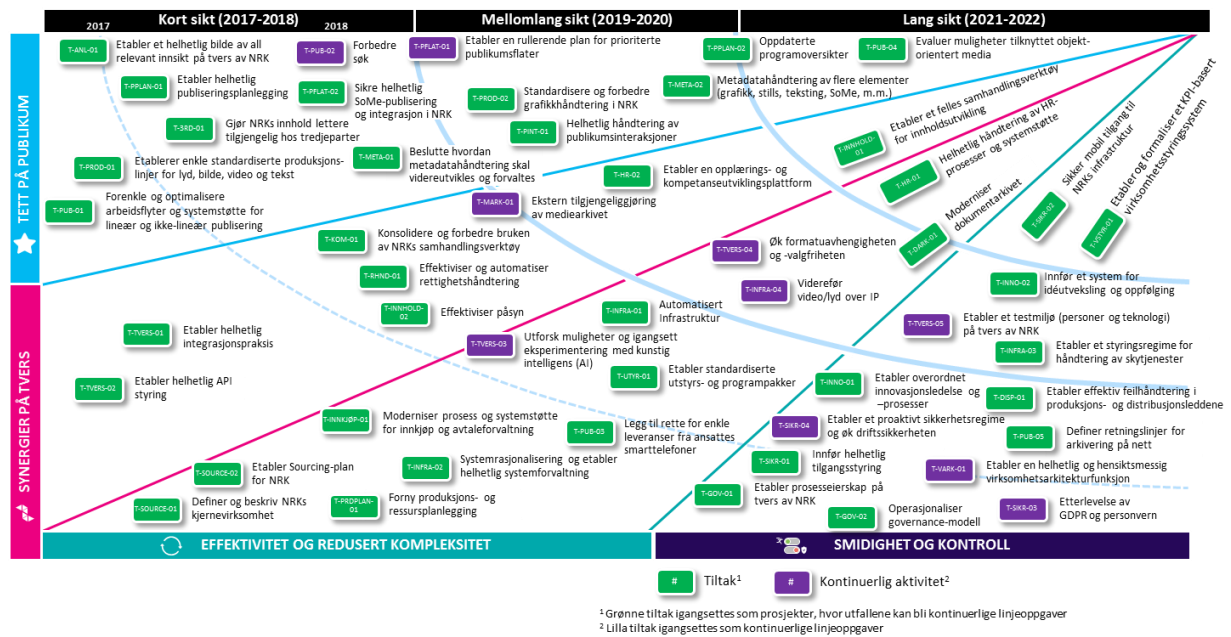


Figure 15: Technological roadmap from NRK's Technology plan (see Appendix 2 for full size)

The initiative in the Technology roadmap associated with this RFI was to establish a sourcing strategy for NRK. The initiative named T-SOURCE-02 and its sub initiatives are described in Figure 16.

T-SOURCE-02 Establish a sourcing strategy for NRK

Consolidated initiative – Efficiency, effectiveness and reduced complexity

Description of initiative

Define and describe NRK's core business and analyze NRK's sourcing maturity and initiate preparatory activities. Including developing a specific sourcing strategy where principles and sourcing models are converted into specific outsourcing packages. Perform an economic analysis of the consequences of outsourcing and decide on a contract strategy with clear performance parameters. In addition, establish increased procurement expertise and the ability to efficiently evaluate and handle various sourcing models.

Benefits for NRK	H	Start	Q3 2017
Complexity/ Risk	M	Est. duration	12 m
Cost ¹	M		

Sub initiatives

ID	Initiative	Description	Benefit for NRK	Complexity / Risk	Further documented
T-SOURCE-02.01	Analyze NRK's sourcing maturity	Analyze NRK's sourcing maturity and initiate preparatory activities.	L	L	View sourcing chapter
T-SOURCE-02.02	Develop a sourcing strategy	Develop a specific sourcing strategy where principles and the sourcing models are converted into specific outsourcing packages. Perform an economic analysis of the consequences of outsourcing and decide on a contract strategy with clear performance parameters.	M	M	View sourcing chapter
T-SOURCE-02.03	Define and establish a function for vendor management	Define and establish a function for vendor management with competency and are able to handle a multi sourcing model.	M	L	View sourcing chapter
T-SOURCE-02.04	Initiative outsourcing	Procure the outsourcing packages defined in T-SOURCE-02.02.	H	H	View sourcing chapter

¹Cost
 H High > 20 MNOK
 M Medium 5-20 MNOK
 L Low < 5 MNOK

Figure 16: Description of T-SOURCE-02 (see Appendix 2 for full size)

Figure 17 illustrates the described connection between NRK's long-term strategy, the Technology plan and the Sourcing Project.

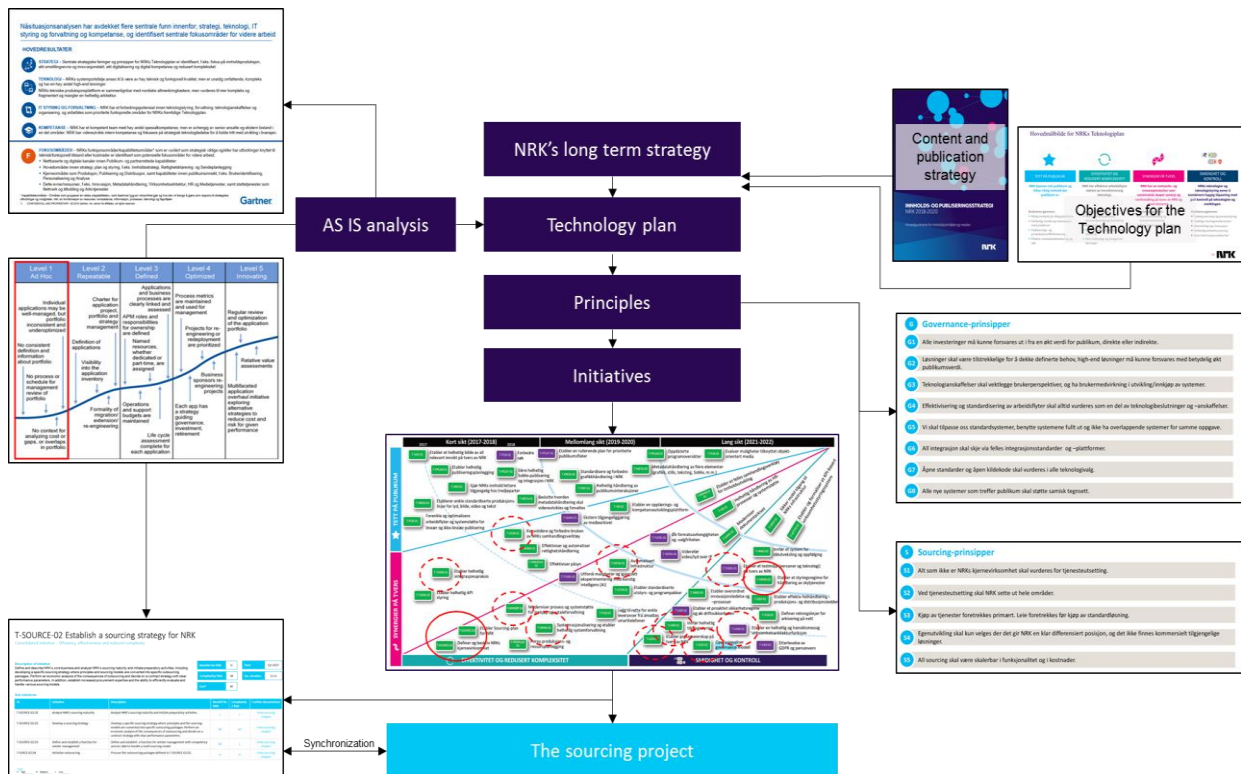


Figure 17: Connection between NRK's long-term strategy, the Technology plan and the Sourcing Project (see Appendix 2 for full size)

As an extension and detailing of the long-term strategy, NRK has formulated a content and publishing strategy. This strategy, in addition to the four technology-related objectives stated in chapter 3.2.3, makes out the foundation for the Technology plan and ensures its adherence to NRK's long-term strategy. All initiatives in the Technology plan meet one of the four overall objectives in chapter 3.2.3. The sourcing initiatives in the Technology plan meet the objective of "Efficiency, effectiveness and reduced complexity".

In addition to the overall objectives, principles for governance and sourcing have been established. These principles are central instruments for the execution of the Technology plan. Particularly the five sourcing principles influence the terms for future sourcing models in NRK. The governance and sourcing principles are presented in Figure 18.

G Governance Principles

- G1 All investments need to be justified by increased value for the audience, directly or indirectly.
- G2 Solutions should be sufficient to cover defined needs, high-end solutions must be justified by considerable increased value for the audience.
- G3 The user perspectives should be emphasized in technology procurements, in addition to involvement of users in developing/procuring systems.
- G4 Streamlining and standardization of work flows should always be evaluated as a part of technology decisions and procurements.
- G5 We should adapt to off the shelf systems, utilize the systems fully and not have overlapping systems for the same tasks.
- G6 Shared integration standards and platforms should be used for all integrations.
- G7 Open standards and open source should be evaluated for all technology decisions.
- G8 All new systems interacting with the public should support the Sami character set.

S Sourcing Principles

- S1 Everything not part of NRK's core business should be considered for outsourcing.
- S2 When outsourcing, NRK should outsource complete areas.
- S3 Primary, procurement of services is preferred. Rental is preferred over procurement of off the shelf solutions.
- S4 In-house development should only be performed when it gives NRK a clear competitive advantage and no commercial solutions exist.
- S5 All sourcing should be scalable in both functionality and costs.

Figure 18: Governance and Sourcing principles

3.4 Critical requirements

During the analysis phase, NRK has formulated a set of critical business requirements that describe in what way NRK believes that it differs from other organizations. The requirements are quite high-level, but still critical for NRK to be able to deliver its services in an appropriate manner.

3.4.1 Quality and availability

NRK is depending on high quality and close to 100 % availability in its publishing interfaces (both linear and digital), and these interfaces rely on the infrastructure provided by IT. Hence, High Availability (HA) solutions (automatic failover) is required for parts of the infrastructure. This also entails that maintenance must be performed within service-windows agreed upon with the publishing departments.

The infrastructure services must be divisible into service level categories, based on the type of applications they support. NRK's service catalogue operates with the following four application categories:

1. Broadcast critical (publishing, news broadcast, other live broadcasts, etc.)
2. Production critical systems
3. Support systems/Administrative systems
4. Non-critical services

NRK differs from many media companies in the extensive use of live broadcasts (both on TV and radio). In addition, NRK is required by law to serve as Norway's broadcaster in emergency responses.

3.4.2 Video editing user experience

NRK relies on a great user experience when editing video (and audio for radio), which in today's solution places strict requirements on production clients and underlying infrastructure.

The current production platform is based on editing over a Local Area Network (LAN), both at the central Marienlyst site and regional offices geographically spread throughout Norway. Today, no direct editing happens over WAN. However, large files are exchanged regularly. This design requires a high performance LAN with high bandwidth and low latency. A concern with moving towards a more standard network setup and/or remote storage is that poor network performance and low latency will disturb workflow effectiveness. If today's architecture model is changed, it is crucial that the user experience of video editing is perceived as at least equally good. Will it be possible to deliver an equivalent user experience with external storage (data center)? Is it possible to purchase standardized production clients that satisfy NRK's required performance?

The fact that today's solution places very strict requirements on the production clients has resulted in silos of systems dedicated to contrasting workflows. For example, one system optimized for fast news, another for high-end drama, and a third downscaled portable system for delivery strictly to social media platforms. A production client suited for high-end drama often requires 10 Gbit Ethernet, while a social media focused short video production client may deliver via 4G (cell phone).

NRK is also interested in information about other possible architectures/models for video editing, for instance; video editing as a cloud service, where both storage and processing (CPU) are provided from a remote/external data center. With this setup, the requirements for bandwidth and performance of the production clients may be lower.

3.4.3 Need for high storage capacity and bandwidth

NRK needs to be able to store very large amounts of data, primarily video/audio files, as well as to transfer great amounts of data to internal/external storage. Both content for production and publishing (Dell EMC Isilon) and for archiving needs to be stored. Transmission of such amounts of data requires very high bandwidth. The requirements become even more stringent when switching to video and audio over IP, handling multiple parallel data streams, transitioning to new formats and higher production quality, etc.

3.4.4 Scalability, with regard to technological development

The technological development impacts the terms of the services that NRK purchases. For example, the transition to video in new formats, as well as higher production quality, will lead to stricter requirements for both network and storage capacity. It is essential for NRK to ensure flexible contractual arrangements with scalable pricing models.

3.4.5 Backup of data

NRK is dependent on having backup of data both in the production phase, after production and for archiving. NRK is currently in the process of establishing a service agreement for the implementation and operation of a new backup solution. The solution is expected to be finalized and brought into operation in Q3 2018. In that regard, NRK would like to know if potential vendors would be interested in taking over the maintenance of the contract, as well as additional thoughts on such a takeover.

NRK has defined RTO (recovery time objective) and RPO (recovery point objective) for its different levels of data and has a clear set of rules for retention times of datasets that need to be backed up.

3.4.6 Requirements for delivery locations

NRK is subject to policies/guidelines on where data can be stored and processed. NRK is interested in knowing how similar organizations comply with such requirements, and how latency and other quality requirements can be safeguarded at different delivery locations.

3.4.7 Relocating NRK's headquarters

NRK is considering moving its headquarters in five to seven years. The new delivery model, as well as the transition to this, must take into account the relocation of the headquarters. In addition, flexibility with regard to relocation is important for NRK. Future strategic partner(s) need to be able to support and facilitate NRK in making the right decisions associated with the relocation.

3.5 Expectations towards the vendors

NRK's expectations to its strategic partner(s) are that they are highly knowledgeable in the media industry and the services in scope. NRK's Technology plan has ambitious goals for IT in NRK in the future. These ambitions are closely connected to both NRK's long-term strategy and content and publishing strategy. NRK believes that the ability to deliver on these ambitions and the long-term strategy will require the following from a strategic partner:

- In-depth expertise and experience with proven credentials from the media industry
- In-depth understanding of NRK's critical requirements (chapter 3.4)
- Communicative and solution-oriented
- Proactive with suggestions for innovation and continuous improvement
- Take great responsibility and drive the operations with cost-efficiency
- It is important that the selected partner(s) has flexibility on number of resources, but also on different competencies. Selected partner(s) are expected to meet high requirements, on short notice, with respect to scaling of resources
- The selected partner(s) is expected to be compatible with NRK's culture, values, competence and risk profile. It is important that the partner(s) understand how NRK operates
- It is important that the selected partner(s) adheres to NRK's social responsibility and mission by having a strong profile and reputation regarding social responsibility, e.g. operating environmentally friendly, compliance with human rights, labor rights (compliance with the Norwegian Working Environment Act) and anti-corruption laws, etc.

NRK wants a vendor that can deliver as many of the described services as possible, but vendors that specialize in only one or some of the services in scope should nonetheless participate in the process. NRK is also open for vendors cooperating to deliver a larger part of the described scope.

4 IT IN NRK

4.1.1 Overall description of IT in NRK

As described in 3.1.1, IT in NRK is currently not only confined to the IT department. Other departments within the Technology division also include IT and relevant departments are therefore included in the scope of this RFI in addition to the document archive. As IT is spread throughout the Technology division, tasks and systems in the different departments and sections partly overlap. In cooperation with a strategic partner, NRK wants to reduce the organizational complexity and consolidate the system portfolio. More details concerning the challenges of IT can be read in chapter 3.2.2.

4.1.2 AS-IS descriptions

The purpose of the AS-IS descriptions is to give the vendors an objective description of IT in NRK, in addition to insight into the various departments and sections. The descriptions in the appendices show that NRK is currently task oriented, and that familiarity with service orientation differs across the sections.

There is a total of eight appendices, as illustrated in Figure 19. Appendix 1 describes the preliminary scope, while Appendix 2 presents full-size versions of selected figures from this RFI document. Appendix A-D correspond to the four IT sections. Appendix E aims to cover departments and sections outside the IT department which are currently delivering IT services in NRK. Appendix F describes the record management (document archive) in NRK. Some of the appendices also have attachments that provide further details. Appendix X illustrates the potential description of NRK's system portfolio and its associated infrastructure. This will be included as part of the RFP if considered part of the final scope.

The detail level of Appendices A-D are currently higher than Appendix E and F, but the RFP will include more detailed descriptions of all areas selected for the final scope.

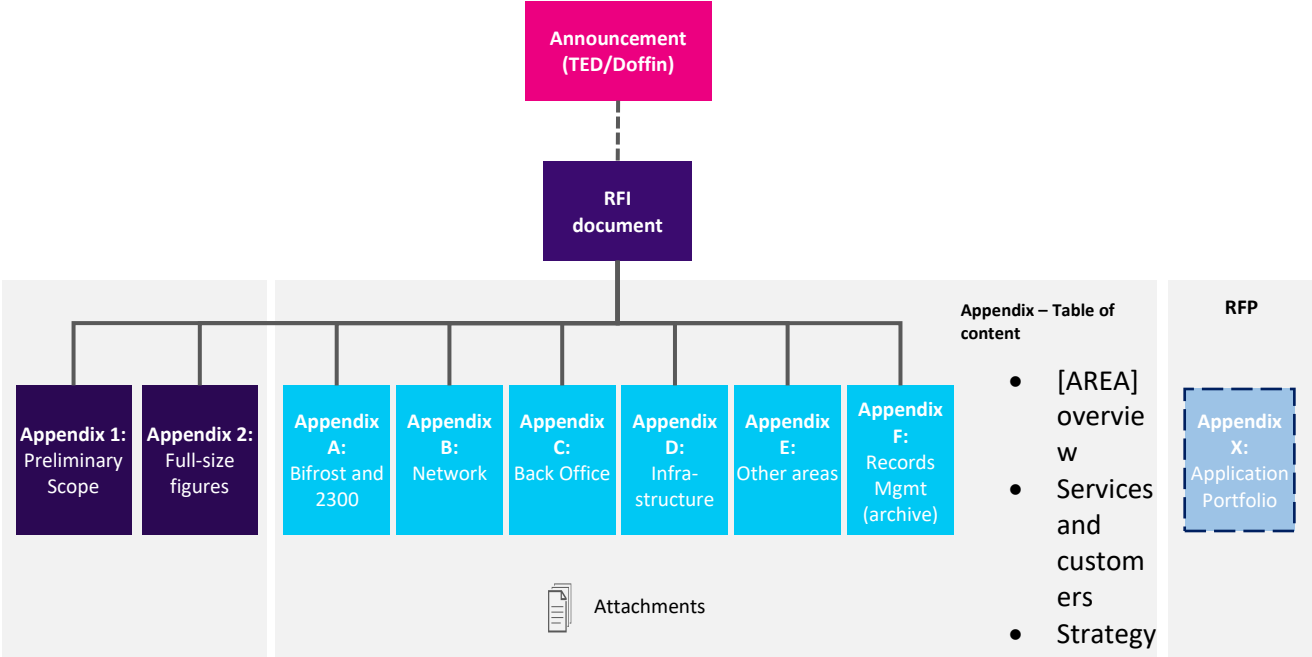


Figure 19: Appendix structure

5 SERVICES IN SCOPE

In this chapter, NRK will attempt to structure the tasks and services described in the appendices with regards to service categories, thus outlining the scope for the upcoming RFP process. Furthermore, NRK will discuss the identified service categories in terms of outsourcing potential, taking into consideration NRK's sourcing maturity and the complexity of the services. NRK wants to stress that the scope of services described in this chapter is not carved in stone, and NRK wants to discuss potential service delivery models with the vendors in order to create the final scope for the RFP. This is an important goal of the RFI process, as it will help ensure alignment between the RFP requirements and the vendor's services and delivery models.

NRK believes that the following two factors are important to consider when determining the potential scope of the Sourcing Project:

1. NRK's sourcing competency
2. The complexity of the services to be outsourced

These factors will be briefly described in sections 5.1 and 5.2.

5.1 Sourcing competency

NRK is in the process of establishing sourcing competencies in the retained organization through an internal transformation of NRK IT. NRK believes that the potential scope of the Sourcing Project will increase both through the RFI and RFP process, and after potentially signing a contract with one or more external strategic partners. This indicates that a gradual shift from in-house to external delivery of services will be necessary, and that the organizational learning achieved through the process is adamant to the success of the Sourcing Project.

5.2 Categorization of services with respect to outsourcing potential

Figure 20 shows a model used for categorizing services according to potential for outsourcing. The two higher levels in the pyramid represent functions that are always necessary in the internal organization, namely IT management and the retained organization. The necessary size and complexity of the retained organization will vary based on the degree of outsourcing. The three bottom layers in the pyramid represent services of varying levels of complexity, from standard services that are freely available in the market to services that require in-depth knowledge of NRK, its systems, organization etc.

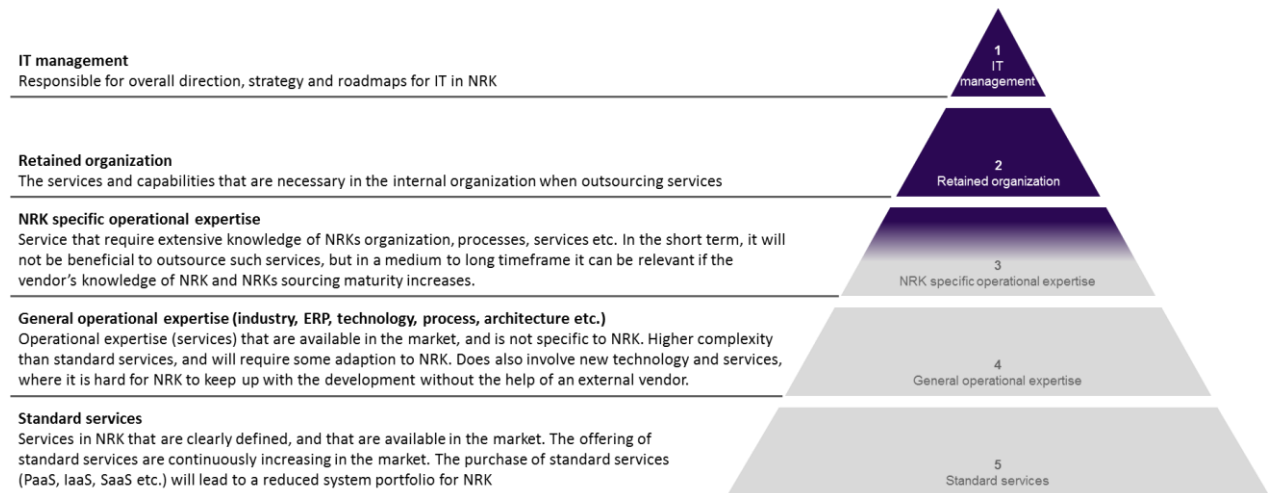


Figure 20: Categorization of services with respect to outsourcing potential

Services that are categorized as level 4 or 5 will naturally be a part of the preliminary scope of the RFI. NRK does also want to discuss with the vendors the possibility of including services in level 3 in the scope of the process, if this proves to be beneficial to NRK.

5.3 Preliminary scope

When establishing a preliminary scope for the Sourcing Project, NRK has categorized the services described in the appendices according to Figure 20. Furthermore, this categorization has allowed NRK to group tasks and services together in service categories, which resemble service offerings that are available in the market. In Appendix 1, the preliminary scope for the various sections is described. As you can see in the Appendix, some of the service categories are currently delivered by more than one section/department. In this regard, NRK encourages the vendor to propose how these services can be delivered differently in the future (for instance through centralization) and what potential synergies this may provide.

The following service categories are included in the preliminary scope and further described in Appendix 1:

#	Service category
1	Infrastructure and network services
2	Service desk services
3	Client services
4	Collaboration system services
5	Integration Platform services
6	NRK system portfolio consolidation program
7	Records management (document archive)

Table 5 – Service categories in scope

The blue boxes in Figure 21 illustrate the preliminary scope of the RFI.

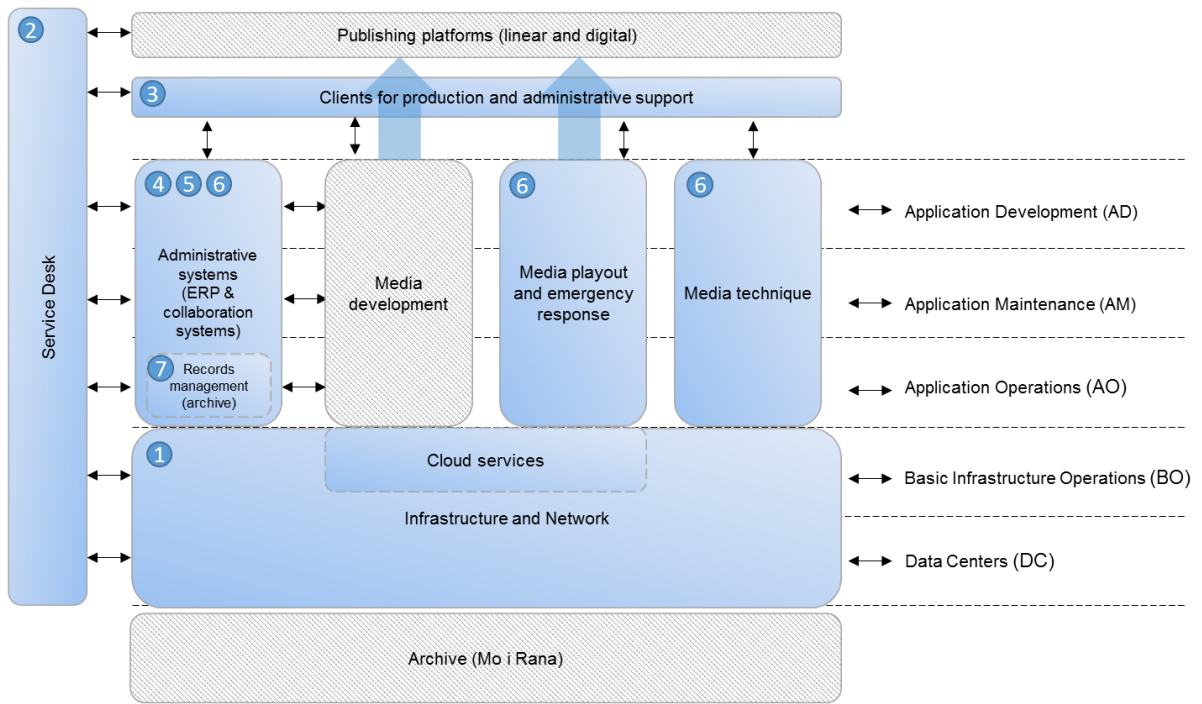


Figure 21: Preliminary scope of the RFI

6 RFI QUESTIONS

As stated before, the main goal of the RFI is to get input from the vendors on how to best address the challenges and opportunities that NRK is facing. The vendors are expected to answer the questions in chapter 0 to 6.14 in a written document in accordance with instructions and guidelines in chapter 6.1. In addition, administrative provisions regarding the process are described in chapter 8. The RFI questions are structured based on a number of areas of interest to NRK. NRK will use the answers from the vendors as guidance both when preparing the planned RFP and in the development of NRK's internal organization. NRK believes that the effort the vendors put into the RFI will be a valuable foundation for the subsequent RFP process. NRK will select vendors to participate in one-on-one meetings based on NRK's perceived value of their RFI response.

6.1 Instructions & Guidelines

The vendors are encouraged to prepare their answers according to the following guidelines:

- The vendors may structure and format their response as they like. It is nonetheless important that they formulate their response in a way that will provide value to NRK and the process.
- The questions in chapters 0-6.5 and 6.14 are mandatory for all vendors.
- The remaining categories of questions (6.6-6.13) are optional, but if the vendor chooses to answer one or more questions within a specific category, all questions marked as "Mandatory" within this category need to be answered. The vendors can choose which of the questions marked as "Optional" they want to answer, based on what they consider relevant in regards to their service offering.
- When preparing their responses, the vendors should closely examine and use the information provided in Appendices A-F as well as the objectives, challenges, background and direction described in chapter 3.2 and 3.3 in this RFI document. The response should be clearly linked to the presented opportunities and challenges.
- NRK is not interested in generic market material, unless the vendor considers it to be of high relevance and value to NRK.
- It is expected that the vendors' responses are compliant with regulations such as GDPR etc.
- Responses must be in pdf-format, with font Times New Roman and font size 11
- NRK expects short and precise answers. The following limitations apply:

Chapter	Service category	Maximum pages
6.2	The vendor's intended response	1
6.3	Management summary	5
6.4	Critical requirements	7
6.5	General requirements	20
6.6	Service desk services	8
6.7	Network services	10
6.8	Infrastructure services	30
6.9	Client services	10
6.10	Collaboration system services	5
6.11	Integration platform services	5
6.12	Records management (document archive)	5
6.13	NRK system portfolio consolidation	10
6.14	Vendor feedback	5

Table 6 – Response length limitations

6.2 The vendor's intended response

NRK would like to know which parts of the proposed scope the vendor intends to respond to/bid on in the RFP. As this is only an RFI, NRK would like to emphasize that the vendors' answer to this question is not binding and can be changed in the RFP. The vendors' answers will be used by NRK as an indication on how the proposed scope is covered.

Please state which parts of the scope, with reference to Appendix 1, you intend to respond to/bid on. **(Mandatory)**

6.3 Management summary

The vendors must submit a management summary, which purpose is to provide a high-level description of the vendor's proposed solution, focusing on the fulfilment of the objectives of the Sourcing Project (see chapter 3.2.4). Hence, the target group for the management summary is NRK's top management, IT management and other important stakeholders. NRK would like to emphasize that the Management Summary is expected to express the vendor's commitment and delivery solution for the vendors' delivery scope. **(Mandatory)**

6.4 Critical requirements

As described in chapter 3.4, NRK has formulated a set of critical business requirements that describe in what way NRK believes that it differs from other organizations. NRK asks the vendors to address each of the requirements by describing, on a high level, their understanding of the requirement and how it will affect the delivery of the services they offer. It is expected that the vendors outline their understanding of all the critical requirements. **(Mandatory)**

6.5 General requirements

This section contains general questions that NRK wants answered during the RFI process. Even though this category of questions is mandatory, you do not have to answer the questions marked as optional.

NRK is a media company, and would like information from the vendors regarding their experience working with other, similar companies.

- 6.5.1.1 Specify your experience with delivering IT services and/or business transformations to comparable broadcasting and/or media companies, in the form of references to specific clients. Based on this experience, describe the most significant areas for improvements within an organization such as NRK (for instance with regards to operational quality, cost efficiency, flexibility, risk mitigation, innovation etc.). **(Mandatory)**

NRK seeks long-term collaboration through a proactive strategic partnership. This means that the chosen vendor will be an integrated part of NRK's strategy, and thus help NRK achieve its business

goals and vision. The following questions are aimed to provide a better understanding of the key drivers in making a long-term relationship commercially viable for both parties.

6.5.1.2 From your point of view, describe what you perceive as the key elements in creating a successful business partnership with NRK. **(Mandatory)**

6.5.1.3 Describe the elements that are key to your company in maintaining a profitable relationship with NRK (e.g. business volumes, contract term, timeline, scope etc.). **(Mandatory)**

Companies all over the world are experiencing an unprecedented pace of change, and need to transform and adapt to new business models in order to stay competitive. The following questions address the vendor's recommended approach for business transformation.

6.5.1.4 Based on the information provided in the appendices, please describe any potential synergies that can be achieved through means such as: **(Optional)**

- Restructuring of organizational units
- System portfolio modernization
- Consolidation of systems
- Simplification
- Etc.

As stated earlier, NRK is conducting an internal transformation in parallel to the external transformation that is initiated through this RFI process. NRK realizes that its sourcing maturity level is low, and that this will affect the potential scope of the outsourcing of IT services. NRK wants to hear about any valuable lessons that the vendors have in this regard from other companies with limited experience with outsourcing.

6.5.1.5 Based on NRK's description of their status and challenges, particularly related to sourcing maturity, does the vendor have any advice from similar clients? What are the risks, and what are the success factors for succeeding with an outSourcing Project for an inexperienced outsourcer? **(Mandatory)**

NRK believes Service Integration & Management (SIAM) to be a key success factor for the collaboration between NRK and the vendors if services are delivered externally (either partially or entirely). The primary focus will be on providing the necessary consistent governance, assurance, and management of potentially multiple vendors and services. It includes approaches for supplier coordination, integration, collaboration, interoperability and delivery. This creates an environment where all parties know their role, responsibilities, context and are empowered to deliver – and are then held accountable for the outcomes. The aim is to provide a single point of visibility and control for the service management and delivery of all services provided by suppliers.

6.5.1.6 Describe the need for SIAM services in NRK's case, and how that need should be met in order to support NRK's overall goals and objectives. Please refer to relevant experience from similar clients. **(Optional)**

As described in 3.4.1, NRK's applications are categorized on a scale from 1 to 4 in terms of criticality, where 1 is most critical (critical for broadcast). The label is used by, for instance, the on duty guards, and indicates how urgent the response should be if an application should fail. However, NRK does not have formal SLA's for internal delivery of IT services. Thus, services are delivered on a "best effort" basis, where mutual trust and understanding is a key element.

6.5.1.7 NRK realizes that the expectations of the consumers' needs to be managed when entering into SLAs with an external provider, as not all services are "Platinum graded". Please describe your experience with similar situations, and provide advice on how NRK should approach this. **(Mandatory)**

NRK expects that entering into an outsourcing-agreement with a vendor will result in improved operational quality and cost efficiency. The vendor(s) selected as future strategic partner(s), will form the backbone of business transformation in NRK and continuous improvement in the foreseeable future. Please answer the questions in accordance to your best practices and standard solutions when possible, also taking into consideration the laws, regulations and public expectations that apply to NRK.

6.5.1.8 Describe your suggested delivery model (e.g. onshore/nearshore/offshore) for NRK (low maturity level concerning outsourcing, rules and regulations that apply) during the transition phase, stabilization phase, and in a long-term solution. Please describe how this has been solved with other, similar clients. **(Optional)**

As new threats and regulations evolve, NRK must be able to adapt to ensure that important/sensitive information is secure and handled according to regulatory requirements. For instance, NRK is extremely careful when it comes to protection of its sources (anonymity), and this is considered highly critical for NRK's business as a news publisher.

6.5.1.9 Describe considerations that will be important for NRK in terms of securing sensitive information and complying with internal and external regulatory requirements. What experience do you have with clients with needs similar to those of NRK? Please explain how NRK's sensitive information is safeguarded in your proposed solution. **(Mandatory)**

Acceleration in the technological development and advancement in the population, combined with increased commercialization of content and convergence of the traditional value chains leads to major changes in use of media and increases the importance of providing the right content to the public on various platforms. NRK is looking for new and innovative services to offer to its audience, as well as new and innovative ways of ensuring business effectivization.

6.5.1.10 Describe what disruptive technology trends you see could be a threat or opportunity to NRK. **(Optional)**

6.5.1.11 NRK is interested in learning more about the potential benefits of cloud technologies. How can NRK centralize, consolidate and standardize the procurement and management of cloud services, and what benefits can NRK achieve by doing so? **(Mandatory)**

NRK believes that the transition is the main key to establish a mutually beneficial relationship between the vendor and the customer. NRK is seeking advice on how to perform transitions according to best practice based on the vendor's experience with similar clients.

- 6.5.1.12 Describe how you will approach and perform a smooth transfer of services to continue to meet the business requirements in a way that minimizes unplanned business interruptions. Include a timeline for the transition with key activities and dependencies. **(Mandatory)**

NRK believes that a structured governance and collaboration model is crucial in order to sustain a win-win situation for both NRK and the strategic partner(s). NRK would like to get the Vendor's advice on what kind of competencies and capacity NRK needs to have in its retained organization regarding governance and vendor collaboration.

- 6.5.1.13 Based on mutually beneficial partnerships with other similar clients, describe what competencies and capacity NRK needs to have in its retained organization regarding governance and vendor collaboration in order to maintain a balanced relationship. How can NRK build such competencies within the given time span, considering the current organizational structure and maturity level? **(Optional)**

NRK currently has an agreement with Canon regarding print, where Canon supplies NRK with hardware and performs maintenance on that hardware. NRK is responsible for everything else, as described in Appendix D.

- 6.5.1.14 Please describe a future state for NRK's print services. Can the vendor provide a full print service, or should NRK still be responsible for some print activities? **(Optional)**

Today, NRK has a fragmented delivery of audio and video solutions in its meeting rooms. The procurement of such equipment is currently performed on an ad/hoc basis.

- 6.5.1.15 Describe what services and delivery models regarding audio and video services in meeting rooms that would be suitable for NRK. Please elaborate on the benefits this would involve for NRK, compared to the current state. **(Optional)**

NRK does not currently have a holistic approach to testing, e.g. test methodology and test framework/execution.

- 6.5.1.16 Please describe how NRK can utilize testing-as-a-service (TaaS)? **(Optional)**

NRK will not be asking for any concrete pricing details at this point, but is interested in learning about various pricing models and how they relate to NRK's needs and requirements to be able to decide the final scope of the RFP.

- 6.5.1.17 Please describe which pricing models you can offer NRK, and elaborate on which you think will be most suitable for NRK given its future plans, applicable rules and regulations and other requirements. **(Mandatory)**

- 6.5.1.18 Based on experience from similar engagements, what would you consider to be the main drivers of cost for the scope outlined in this RFI? **(Optional)**
- 6.5.1.19 In order to support the decision of the final scope of the RFP, NRK needs to learn more about the costs associated with outsourcing of IT services. Please provide relevant prices from your service catalogue and your standard rate cards. **(Optional)**

6.6 Service desk services

- 6.6.1.1 Based on the descriptions in the RFI documentation, recommend a future state for NRK's service desk services, including a possible transformation. Support the above with references to, and descriptions of, existing customer engagements and transformations, with companies similar to NRK. Also, describe the key benefits and risks involved in your proposed solution. **(Mandatory)**
- 6.6.1.2 As Appendix A-E show evidence of, monitoring (of servers, applications, network etc.) is performed by various organizational units today. Some potential challenges with this is overlap, inefficiencies and lack of synergies. Please describe how you believe monitoring services should be delivered to/in NRK in a future state. What benefits will the suggested approach involve for NRK? **(Optional)**
- 6.6.1.3 NRK is currently in the RFI-process of a new ITSM tool, which will be used by the Service Desk and Operations Bridge to handle incidents, etc. Please elaborate on how this might affect a potential service delivery in this area. **(Optional)**
- 6.6.1.4 The Service Desk supports employees across the entire NRK organization, and has a strong presence at the Marienlyst headquarters. Thus, the end users' perception of the services provided by the suggested service desk in question 6.6.1.1 is essential. How will the end users' expectations, such as Norwegian-speaking service desk employees, the service desk's physical presence at the headquarters etc., be catered for in the suggested future state? **(Mandatory)**
- 6.6.1.5 The Service Desk and Operations Bridge distribute tasks to various subject expert groups (internal and/or external), which then act as 2nd line support. Please describe a suggested regime for incident management, i.e. how will an external vendor communicate with applicable parties in the process, escalate incidents, etc. **(Optional)**
- 6.6.1.6 As mentioned in 3.4.1, applications are labeled in terms of criticality. When applications/systems/equipment critical to content publishing fail, consensus in NRK is to put aside everything that is not labeled as critical and exclusively focus on restoring the error. Thus, crisis management is central in NRK, with the primary objective of preventing errors to affect the content publishing. Please describe how you will set up the service desk function in order to cope with critical errors and emergencies. **(Optional)**

6.7 Network services

- 6.7.1.1 Based on the descriptions in the RFI documentation, recommend a future state for NRK's network services, including a possible transformation. Support the above with references to, and descriptions of, existing customer engagements and transformations, with companies similar to NRK. Also, describe what you see as the main risks with such transformations and your approach to manage such risks. **(Mandatory)**
- 6.7.1.2 NRK's wireless network (WiFi) is in urgent need of improvements. Please propose a solution for wireless networking that you believe will suit NRK. Also, provide a high-level timeline for implementing the proposed solution. **(Mandatory)**
- 6.7.1.3 NRK is gradually transitioning towards uncompressed IP-based production, meaning transferring audio, video and control signals over IP. Please describe your experience with similar transitions in other media companies. **(Mandatory)**
- 6.7.1.4 A large proportion of NRK's content (sports events, concerts, etc.) is produced "off-site" (external to NRK offices), hence the delivery of network services to NRK will differ from such deliveries to other organizations. It is therefore necessary to offer flexible network solutions, adapted to available infrastructure at the location of the production and various technological challenges. Not all "off-site" production can be planned (for instance news production/broadcasts), thus NRK must have great flexibility and the ability to concentrate all its effort to solve unpredictable, big challenges. Please describe how this affects the suggested model in question 6.7.1.1. **(Mandatory)**
- 6.7.1.5 Describe potential models in which NRK's existing network investments can be utilized in a best possible way, taking into consideration the potential relocation of NRK's headquarters within 5-7 years, as well as the network investments at the regional offices and local offices. Also, describe how you can include NRK's existing network infrastructure as a part of your suggested solution. **(Mandatory)**

6.8 Infrastructure services

- 6.8.1.1 Based on the descriptions in the RFI documentation, recommend a future state for NRK's IT infrastructure services, including a possible transformation. Support the above with references to, and descriptions of, existing customer engagements and transformations, with companies similar to NRK. Also, describe what you see as the main risks with such transformations and your approach to manage such risks **(Mandatory)**
- 6.8.1.2 Describe potential models in which NRK's existing hardware and software investments can be utilized in a best possible way, taking into consideration the potential relocation of NRK's headquarters within 5-7 years, as well as the hardware and software at the regional offices and local offices. Also, describe how you can include NRK's existing infrastructure as a part of your suggested solution. **(Mandatory)**
- 6.8.1.3 Based on NRK's internal operations (Infrastructure) and NRK's existing cloud service agreements (e.g. Azure), suggest a future state delivery model where this is combined. **(Mandatory)**
- 6.8.1.4 Please describe how NRK's data can be migrated from your infrastructure to another BO/DC provider's infrastructure upon termination of the contract, including the costs related to such a migration. How will the vendor provide services to NRK without creating a lock-in effect? **(Mandatory)**
- 6.8.1.5 As described in Appendix D, NRK is currently conducting an RFP process for a new backup solution. Ideally, backup should have been included in the potential sourcing RFP following this RFI, but due to business needs, the backup project is running in parallel. Please comment on how this affects the potential delivery of BO and DC services to NRK. In what way would it be possible/viable for NRK to transfer the ownership of the backup contract to the chosen vendor in the sourcing process? How could such a transfer be conducted in practice? **(Optional)**
- 6.8.1.6 NRK utilizes various types of databases across the organization, such as Oracle, MongoDB and MySQL, with no centralized operating unit for these databases. For instance, Back office is responsible for operating the Oracle databases. In the short term, NRK would like to know if an external vendor could overtake operation of all databases. In addition, NRK would like to know the vendor's proposed long term solution for database operations. **(Optional)**

Good security solutions, controls and processes are crucial for the infrastructure and application operations.

- 6.8.1.7 Describe how you implement the different security controls. Examples of the control domains: **(Optional)**

- Governance
- Physical Security
- Personnel Security
- Asset Management
- Change Management
- Security Incident Management
- Communications and Operations management.

6.8.1.8 Provide a description of your security solutions and services to be offered to NRK. For example: **(Optional)**

- Perimeter security
- Firewall Assurance
- AAA for Network Devices
- Web Security
- Remote Access
- Security for Privileged Access
- Server Security
- Security for End Users
- Security for Collaboration

6.8.1.9 NRK has a heterogeneous application portfolio: **(Optional)**

- COTS systems, hardware based systems, custom developed older applications in on-premises Datacenter.
- Modern custom developed applications developed and deployed in Cloud, built and operated based on DevOps principles.

Describe how you would provide the infrastructure and application operations services for these different types of applications and platforms.

Application Operations services are today intertwined with the other service types. NRK would like to see Application Operations described as a discrete service type. The description should include content and cover interaction both above and below AO in the IT service stack (i.e. interaction with AM and BO).

6.8.1.10 Describe in detail the service expectations from the AD/AM and BO layers that you will require in order to deliver Application Operations at appropriate cost and quality.

(Mandatory)

6.8.1.11 Please provide references where you have delivered AO services that may have specific relevance for NRK (e.g. delivery of operations on applications within NRK's application portfolio). **(Mandatory)**

6.8.1.12 The consolidation program (see chapter 3.1.3) will assess all applications in the organization. NRK understands that there are strong dependencies between the consolidation program and the potential transition of infrastructure services, and it is not desirable to transition applications before they have been thoroughly assessed by the consolidation program. Please describe how the transitioning of the AO responsibility to an external provider can be conducted in a gradual manner, catering for the aforementioned considerations. **(Optional)**

High stability, cost efficiency, and quality within BO is important for NRK and are key drivers in the RFI process.

- 6.8.1.13 Describe your Basic Infrastructure Operations offering in the technology domain, which is relevant for NRK. Please include key characteristics, such as service level options, scalability concept (e.g. capacity on demand), virtualization, automation, cloud assessment, disaster recovery and business continuity, monitoring, upgrade, and maintenance. **(Mandatory)**
- 6.8.1.14 Describe in a similar fashion other technology service offerings that might be relevant for NRK IT's internal operations. **(Mandatory)**

NRK anticipates that there will be substantial changes in this area and wants to keep up with technology trends. NRK is interested in learning about your data center/cloud service capabilities and how you deliver such services.

- 6.8.1.15 Describe in what way you believe cloud services could be suitable for NRK. **(Mandatory)**
- 6.8.1.16 Describe the data center/operational facilities that would be appropriate for NRK's requirements, including location and other key characteristics. **(Mandatory)**

6.9 Client services

6.9.1.1 Based on the descriptions in the RFI documentation, recommend a future state for NRK's client services (clients and mobile devices), including a possible transformation. Support the above with references to, and descriptions of, existing customer engagements and transformations, with companies similar to NRK. Also, describe what you see as the main risks with such transformations and your approach to manage such risks. **(Mandatory)**

6.9.1.2 As described in Appendix C, clients/images differ across business areas in NRK. NRK's ambition is to standardize clients/images in four different categories: production, development, editing, and administration. Please provide your thoughts on software and hardware standardization, and consider NRK's ambition. **(Mandatory)**

Chapter 3.4.2 describes video editing user experience as one of the critical requirements for NRK.

6.9.1.3 Describe the alternative solutions (covering clients, network, storage etc.) which can provide the required user experience. Describe to what degree you have implemented /operated such solutions for your clients similar to NRK. **(Optional)**

6.10 Collaboration system services

As described in the Appendix C, NRK currently uses Office 365. The Enterprise contract with Microsoft expires in June 2019, and NRK would like the vendors to provide input on the current collaboration platform and suggest alternative solutions for NRK to consider.

6.10.1.1 Based on the descriptions in the RFI documentation, recommend a future state for NRK's collaboration system services, including a possible transformation. Support the above with references to, and descriptions of, existing customer engagements and transformations, with companies similar to NRK. Also, describe what you see as the main risks with such transformations and your approach to manage such risks. **(Mandatory)**

6.11 Integration platform services

As described in Appendix C, there is ongoing work on developing an integration platform, including integration bus, for information exchange between systems in NRK (on premise- and SaaS-solutions). The following question addresses how an external vendor can support or handle integration and implementation of NRK's systems.

6.11.1.1 Based on the descriptions in the RFI documentation, recommend a future state for NRK's integration platform services, including a possible transformation. Support the above with references to, and descriptions of, existing customer engagements and transformations, with companies similar to NRK. Also, describe what you see as the main risks with such transformations and your approach to manage such risks. **(Mandatory)**

6.12 Records management (document archive)

The Records Management (RM) service is a company-wide function-based service that aims to collect and manage a diverse body of documentation. This documentation arises both within and exterior to the organization. NRK has its own records management policy that consists of a retention schedule and instructions specific to the service. NRK's current records management system (RMS) is designed according to the Norwegian Archival Standard (NOARK5).

The primary challenge of the Records Management domain is declaring and channeling records in a greater extent than what is done today. Today, the RMS contains about 5-10% of what should have been recorded, according to the retention schedule.

As described in Appendix F, filing and retrieval of records are currently done by accessing NRK's records management system. NRK would like this process to be more automated and integrated in the employees' daily work.

- 6.12.1.1 Based on the descriptions in the RFI documentation, recommend a future state for NRK's records management services, including a possible transformation. Support the above with references to, and descriptions of, existing customer engagements and transformations, with companies similar to NRK. Also, describe what you see as the main risks with such transformations and your approach to manage such risks. **(Mandatory)**
- 6.12.1.2 Describe how your proposed solution will ensure a more automated and integrated records management process. **(Mandatory)**
- 6.12.1.3 NRK is in the process of consolidating and optimizing its technical system portfolio. Describe how your proposed solution will handle new and eliminated systems in the technical IT system portfolio while meeting NRK's requirements for records management. **(Optional)**

6.13 NRK system portfolio consolidation

NRK is currently in the planning stages of optimizing its technical system portfolio which is assessed to be partly overlapping and too complex. NRK is considering working in a long-term relationship with an integration partner who will provide hosting, integration, implementation, maintenance and changes to NRK's system portfolio (or parts of it).

- 6.13.1.1 Describe your experience with consolidation programs and how your company can contribute to NRK's technical consolidation and optimization. **(Mandatory)**
- 6.13.1.2 Based on your previous experience with consolidation programs, how would you recommend the program to be organized and conducted? Which roles and capabilities are necessary from both the vendor and NRK? **(Mandatory)**
- 6.13.1.3 Does your company provide services in integration and implementation? Please describe in what way these services are relevant to NRK. What are your requirements to NRK in order to make this a success? **(Optional)**

- 6.13.1.4 The tables in chapter 8.1 in Appendix 1 describe potential candidate areas for consolidation. Please provide an assessment of the identified candidate areas based on your experience from similar engagements. Describe potential benefits of consolidation within each of the identified candidate areas. Include possible SaaS alternatives in your assessment. **(Mandatory)**

6.14 Vendor feedback

The RFI material in total gives a detailed view of NRK from several different perspectives (technological, organizational, managerial, operational, external etc.). NRK's main objective of the RFI is, as previously stated, to learn as much as possible from the vendors before deciding on the direction of the RFP process. Hence, NRK highly encourages the vendors to provide any other advice or guidance based on the received RFI material that they believe will help NRK to reach its goals.

Also, based on the information received in the RFI documentation, NRK challenges the vendor to answer the following: **(Mandatory)**

1. What further information does the vendor find necessary in a potential RFP process?

7 EXECUTION OF THE TECHNICAL MARKET DIALOGUE

7.1 The purpose of the process

NRK wishes to explore the market and start an RFI process with registered vendors to survey how existing and/or new vendors can be strategic partner(s) in whole or parts of the future NRK IT delivery model. NRK seeks the best strategic partner(s) with emphasis on supporting NRK's business ambitions, a successful internal transformation, an efficient transformation of the system portfolio and a reduction in the number of vendors into more strategic partnership(s).

7.1.1 Market dialogue

NRK will perform the technical market dialogue as follows:

- NRK will hold an open information meeting, according to the time table in chapter 7.2, with vendors who are registered for participation. A tentative agenda for this plenary meeting is:
 1. Presentation of NRK's identified needs and challenges, also described in this document
 2. A synopsis of relevant questions received
 3. Q & A session based on questions submitted by the vendors in advance, with the aim to improve the understanding of NRK's challenges and what the market can offer
- The vendors are invited to submit their written RFI response based on the RFI documents and information given at the plenary meeting. The response must be in accordance with the instructions in chapter 6, i.e. include the following: the vendor's intended scope, management summary, critical requirements, RFI-questions and vendor feedback. Please turn to the time schedule in chapter 7.2 for the deadline for responses.
- Based on the received RFI responses, NRK will invite a selection of the vendors to participate in individual meetings. The meetings will be used to further clarify both NRK's needs and the vendors' suggested solutions.
- NRK may make changes to the RFI document at any stage in the process, if this is required to better understand the market and/or to improve the descriptions of the presented services. This includes adding new RFI questions.
- At a later stage in this RFI process, NRK will consider the possibility of sending a draft version of whole or parts of the RFP specifications to the participants for consultation.

7.1.2 Dialogue principles

With use of this technical market dialogue, NRK will work to fulfill the basic requirements of equal treatment set out in the laws and regulations governing public procurement, so it prevents any vendor from getting a specific competitive advantage by:

- Biasing the requirements used in the tender documents to its advantage
- Influencing the structure of the tender documents to its advantage
- Achieving greater insight about the actual conditions
- Achieving a greater understanding of customer requirements than its competitors

In summary, NRK seeks to avoid giving information, or using information received, in a manner that provides individual vendors with a competitive advantage. To counteract such imbalance, NRK will strive to provide the same information to all vendors.

Vendors who are prevented from participating in this market dialogue could therefore expect to receive the necessary information in the following competition.

7.2 Time schedule

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

	Activity	Date
RFI	Prior notice publication distributed to Mercell	22 nd of February 2018
	Deadline for registration for Public information meeting	14 th of March 2018, 12 CET
	Deadline for submitting questions for the Public information meeting	14 th of March 2018, 12 CET
	Public information meeting with registered vendors held at NRK's HQ in Oslo	21 st of March 2018, 10 CET
	Deadline for submitting questions to the RFI document(s)	9 th of April 2018, 12 CET
	Deadline for submitting written RFI response	16 th of April 2018, 12 CET
	Deadline to sign up to participate in the procurement process	16 th of April 2018, 12 CET
	1:1 dialogue with a selection of vendors	7 th - 9 th of May 2018
	Whole or parts of the RFP specifications sent to the participants for consultation	Q2/Q3 2018
RFP	Invitation to participate in RFP (tentative)	Q3 in 2018
	Signing of contract (tentative)	Q1 in 2019
	Start of contract (tentative)	Q2 in 2019

Table 7 – Milestone schedule

8 ADMINISTRATIVE PROVISIONS

8.1 Announcement

This prior announcement has been published 20th of February 2018 at www.mercell.no (reference NRK MA3106/18E) and at www.doffin.no, as well as at TED (www.ted.publications.eu.int/official).

NRK is defined as a public body according to the Norwegian Procurement regulations. As a public body, NRK is free to use a prior announcement according to the same regulations.

When using a prior announcement there are no obligations to make the procurement documents accessible at the same time as the publication of the procurement. However, as this is the only announcement, the total scope of all potential services is described together with a deadline for signing up to participate in this procurement process. Referring to §8-17 and § 21-2 (2) in the Norwegian Procurement regulations.

NRK will use the time between the prior announcement and the deadline to sign up to participate in this procurement to obtain relevant information which hopefully will result in a complete set of procurement documents.

IMPORTANT:

Since NRK is using a prior announcement, **this** might be the only public notice of the procurement. Therefore, it is of utmost importance that participants sign up for this process within the "deadline to sign up to participate in this procurement", as stated in chapter 7.2. Only signed up vendors can participate in this procurement.

If needed, NRK reserves the right to publish the procurement with an ordinary public notice, according to the Norwegian Procurement regulations part III.

8.2 General

This procurement process is managed via the Merccell portal. In this portal, the vendors will be able to register for the information meeting, submit questions and written RFI response, and later on submit the qualification and tender documents. Other correspondences concerning this procurement are conducted on the same platform.

NRK is planning to use, but is not limited to, one or more of the Norwegian standard contracts (SSA) to manage the final scope. These standard agreements can be viewed at <https://www.anskaffelser.no/it/statens-standardavtaler/statens-standardavtaler-ssa>. More detailed information will be sent to the qualified and invited vendors in the RFP.

NRK is planning to use a negotiated procedure in the upcoming RFP process.

8.3 Confirmation of participation

Vendors are asked to confirm whether they intend to attend the information meeting and further activities described in chapter 7. This is done by sending an email in the Mercell communication module including name, position/function and company name for those who will participate in www.mercell.no and using the Mercell function "I want to respond".

Please note that NRK reserves the right to exercise discretion about how many participants from each company are given an opportunity to participate in the information meeting.

8.4 Questions, clarifications and communication

Any questions regarding the RFI/procurement process should be addressed through www.mercell.no. Inquiries should be marked with case number: NRK MA3106/18E

Incoming questions will be reviewed and answered in a general and anonymous manner, and will be continuously distributed via www.mercell.no, where an email notification will be submitted to the registered contact persons. The deadline for questions is stated in chapter 7.2.

Other inquiries cannot be expected to be answered. Attempts to acquire information or to influence NRK's employees involved in the procurement process may lead to rejection or a cancellation of the competition.

For questions on the use of Mercell Pro refer to Mercell Support on telephone +47 21 01 88 61 / +47 21 01 88 00 or email: support@mercell.com.

8.5 Language

All communication in relation to this RFI will be either English or Norwegian.

8.6 Confidentiality

NRK will treat all information that the vendors regard as trade secrets confidential, as far as it is allowed by the Norwegian law.

Accordingly, NRK supposes the vendors to handle information received from NRK in connection with this procurement confidential.

8.7 Cost of participation

Vendors participate and prepare for the dialogue at their own expense and risk. NRK does not undertake any financial responsibility for the invested effort or other costs in relation to the RFI process.

The same applies for the RFP process, if the outcome of this RFI ends up in a RFP.

8.8 Cancellation

NRK reserves the right to cancel any part of this process if there are any objective reasons for this.