

UNIVERSITETET I BERGEN

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**Vår ref.:**  
322491/KBHA  
**Søknad mottatt:**  
18.11.2020

**Oslo,**  
15.12.2021

Utlysning: Midler til forskningsinfrastruktur av nasjonal viktighet, 18.11.2020  
Prosjekt: Artistic Research and Innovation InfraStructure  
Prosjektnummer: 322491  
Prosjektansvarlig: UNIVERSITETET I BERGEN  
Prosjektleder: Anne-Helen Mydland  
Adm. ansvarlig: Synnøve Myhre

## Søknaden er avslått

Norges forskningsråd har behandlet søknaden deres. Vi kan dessverre ikke bevilge midler til prosjektet.

### Slik har vi behandlet søknaden

Forskningsrådets styre behandlet søknaden 09.12.2021. Det er utlysningsteksten, vurderingskriteriene, kravene til søknadstypen, den faglige vurderingen fra ekspertpanelet og den strategiske vurderingen utført av Forskningsrådets administrasjon som ligger til grunn for vedtaket.

Søknadene det ble søkt støtte til ble først vurdert av utvalg som besto av eksterne fagekspertter (ekspertpaneler). Disse vurderte forskningsmessig og vitenskapelig betydning av infrastrukturene. Forskningsrådets administrasjon vurderte deretter infrastrukturenes nasjonale viktighet og strategiske relevans, samt planene for ledelse, fremtidig drift og tilgjengeliggjøring.

Basert på den samlede vurderingen fra de administrative panelene, ble det gjort en helhetsvurdering innenfor tilgjengelig budsjett på tvers av fagområder og porteføljer. Dere vil finne en utfyllende beskrivelse av behandlingsprosedyren i [utlysningen](#).

- Antall søknader behandlet i denne søknadsrunden var: 120
- Totalt søknadsbeløp var: 9,2 milliarder kroner
- Antall prosjekter som blir invitert til kontraktsforhandlinger: 22
- Antall prosjekter på reserveliste: 7

Dere finner en oversikt over innvilgede søknader på [Forskningsrådets nettsider](#). Her finner dere også [en oversikt over](#) fagekspertene som behandlet søknadene. Ta kontakt med oss hvis dere ønsker mer informasjon om hvilke fagekspert som vurderte søknaden deres.

Vedlagt finner dere:

- Vurdering fra ekspertpanel (engelsk)
- Administrativ, strategisk vurdering (norsk)

Noen av søknadene har blitt vurdert av mer enn ett ekspertpanel. De søkerne dette gjelder vil derfor motta flere vurderinger.

Vurderingene er faglige tilbakemeldinger, ikke en begrunnelse for avslaget på søknaden.

Søknader som ekspertpanelene ga total karakter 4 eller lavere er ikke vurdert av Forskningsrådets administrasjon. De søkerne dette gjelder mottar derfor kun ekspertvurdering(er).

### **Karakterfordeling - alle søknader**

#### *Faglig ekspertvurdering*

<b>Karakter</b>	7	6	5	4	3	2	1
Antall	10	46	46	16	1	1	0

#### *Administrativ strategisk vurdering*

<b>Karakter</b>	A	B	C
Antall	62	39	1

### **Begrunnelse for vedtaket**

Den samlede begrunnelsen for vedtaket er som følger:

Det kom inn svært mange gode søknader både faglig og strategisk, og konkurransen om midler var derfor spesielt høy. Søknader som har fått lavere karakter enn 5 av ekspertpanelene ble ikke vurdert for finansiering.

Dere kan ta kontakt med oss hvis dere har spørsmål om saken. Søkere har ikke lov til å ta kontakt med fagekspertene.

### **Begrenset klagemulighet**

Forskningsrådets vedtak er unntatt fra forvaltningslovens regler om klagerett, men vi har likevel innført en klageordning som gir dere en begrenset mulighet til å klage. Se mer informasjon om dette på [Forskningsrådets nettsider](#). Legg merke til at dere ikke kan klage på de faglige vurderingene og prioriteringene som ligger til grunn for vedtaket i dette brevet.

Fristen for å klage er tre uker fra dere mottar dette brevet. Klagen må være skriftlig og begrunnet. Det er administrativt ansvarlig ved den prosjektansvarlige institusjonen som skal sende inn klagen.

### **Innsideinformasjon**

Dersom dere blir kjent med at Forskningsrådet har opplysninger som utgjør innsideinformasjon etter verdipapirhandeloven, ber vi dere om å gjøre oss oppmerksom på dette.

### **Har dere spørsmål?**

Kontakt gjerne saksbehandler Kirsti Solberg Landsverk på e-post [ksl@forskningsradet.no](mailto:ksl@forskningsradet.no) hvis dere har spørsmål om saken. Oppgi prosjektnummer 322491 når dere sender e-post.

Med vennlig hilsen

**Norges forskningsråd**

Solveig Flock  
avdelingsdirektør

Kirsti Solberg Landsverk  
saksbehandler

**Dette dokumentet er godkjent og sendt elektronisk.**

Vedlegg

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Kindly address all mail and e-mail to the Research Council of Norway, not to individual staff.

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# Assessment of grant application submitted to the Research Council of Norway

## Grant application

Project number	322491
Project title	Artistic Research and Innovation InfraStructure
Project manager	Mydland, Anne-Helen
Project owner	UNIVERSITETET I BERGEN
Application type	Research Infrastructure / Support for Establishment/Upgrades of Research Infrastructure of National Importance
Topic	Culture
Programme/Activity	Nasj.sats. forskn.infrastrukt
Case officer	Kirsti Solberg Landsverk

## Confirmation

By completing and submitting this form, I / we confirm the following (applies for the individual referee or the referee panel):

- I/We have no conflicts of interest that would prevent me/us from conducting this assessment. See Regulations on Impartiality and Confidence in the Research Council of Norway.	Yes
- I/We have read and understood both the criteria I/we have been asked to use for assessing the application and the description of the scale of marks. The scale of marks is to be applied as an absolute scale, i.e. marks are to be determined for each grant application independently and not relative to other applications that the panel/referee is assessing.	Yes
- I/We understand and accept the guidelines for assessing applications for the Research Council of Norway. See Guidelines for referees/panels who assess applications for the Research Council of Norway.	Yes
- I am/We are qualified to conduct this assessment.	Yes

## Summary of marks

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Criterion	Mark
Excellence	5
Impact	6
Implementation	3
Overall assessment of the referee/panel	4

## Criteria

### Excellence

The extent to which the infrastructure will contribute to scientific renewal and/or scope

- The extent to which the infrastructure will help to elevate Norwegian research to a top international level;
- The extent to which the infrastructure provides services that meet the needs of relevant research communities or research areas.

The quality and uniqueness of the infrastructure

- The extent to which the infrastructure is "state-of-the-art" – the best technological solutions are being chosen;
- How the infrastructure is aligned with the landscape of existing, relevant infrastructures, and the extent to which the proposal has been coordinated with these.

ARIIS is a shared Research Infrastructure which will support the discipline of Artistic Research in both its current activities and future ambitions. Norway has made concerted investments in the relatively new field of Artistic Research (AR), with an internationally strong programme of research and postgraduate teaching. Whilst other international centres of excellence in AR are focussed at individual institutions, in Norway provision is spread across numerous sites and institutions, all of whom are represented in and support the RI proposal. The lack of a digital infrastructure that supports the storage, sharing, and use of digital assets such as audio and video, including supporting broadcasting and collaborative view and editing, is a significant obstacle for further developing the field. Therefore, the need for an infrastructure to fulfil the needs of researchers, students, and research artists is strongly motivated. Creation of the ARIIS RI, while ambitious, would undoubtedly enhance the scale and quality of AR research and provision in Norway; doing so in a distributed manner, through the RI, would set a world-leading example.

The proposers of the RI constitute leading members of the AR community in Norway, with excellent representation of the needs of the research community in Norway. The proposers are in an authoritative position to assert that ARIIS services will meet their research needs, that these needs are crucial to a thriving AR research area in Norway, and that the combination of needs presents unique challenges for an RI for AR. However, to make a fair assessment in comparison to other RIs, the proposal should also describe what the current (limited) practices are of AR researchers in Norway, and explain exactly how the RI would overcome current limitation.

Specific technological choices are not included in any great detail in the proposal, with architectures and technical requirements described in broad terms and technologies; although some significant length of the ARIIS proposal is titled as through it should characterise requirements and identify appropriate technological solutions, much of the text is a reassertion of the motivation and proposed solutions, rather than indicating a detailed rationale of these choices assess and justified in comparison to alternatives. The motivations are admirable and sensible, however a clearer and more structured characterisation of requirements (see below) should could be made. The proposers indicate a recognition of state-of-the-art solutions and approaches through their use of appropriate terminology (e.g 'as-a-Service' approaches) and clearly intend to follow these in practice.

The proposal sets out that existing RI approaches, such as those currently found within DARIAH, do not meet the needs of AR. These needs appear to be found in two areas:

(1) low latency networking to allow distributed live AR activities in real-time, e.g. for supervisions, rehearsals, and performances across sites;

(2) large media storage of AR multimedia outputs, including rights management and clearance, for publishing, future reference, and archiving.

While the proposal frequently states, correctly, that ARIIS uniquely provisions an RI which combines the two, it would have been beneficial for the assessment to also address the technical requirements of these elements separately, which would make it easier to judge the appropriateness, suitability, and value for money of the technologies and approaches proposed. For example, the use of (1) for AR is not very clearly or succinctly motivated in the proposal with reference to use case requirements, only stated; better characterisations can be found in the letters of support than in the main proposal.

This conflation makes it difficult to assess whether the best technological approaches have been chosen, since (1) and (2) will surely address different technical requirements. For example, do all users of the proposed 'MAM' for type (2) activities need the same very low latency network requirements which are certainly required for (1)? Currently this is not justified by the proposal.

There is good co-ordination with existing provision, both in the use of UNINETT networking and UNINETT Sigma2 'cloud' use; and with the MAM apparently being backed by NIRD Archive and NIRD Active Data. Exactly how these infrastructures will be utilised from a technical perspective (or process by which this configuration will be determined) is not discussed. While DARIAH provision is identified as insufficient, the European Artistic Research Network is not mentioned at all, either as a positive or unsuitable comparator.

Selected mark : 5 - Very good  
The proposal addresses the criterion very well. A small number of shortcomings are present.

## Impact

### Potential impacts

• The extent to which the infrastructure will have a potential impact on:

- the research system;
- innovation;
- society.

### Accessibility and utilisation

• The extent to which:

- the infrastructure will be made accessible to all relevant users;
- there will be dissemination and communication activities targeted towards all relevant stakeholders/users;
- the infrastructure facilitates user participation from research communities, the business sector, public administration and other relevant contributors.

In general terms, ARIIS will bring clear, potentially crucial, beneficial impacts to Artistic Research (AR) in Norway and beyond.

The RI will be highly innovative in provision of live distributed AR activities across Norway (type (1) as described in the Excellence section comments), which will be of international impact; and a Media Asset Management (MAM) system which, in particular, will identify and implement complex rights issues for type (2) activities. The value of these could, however, be better evidenced by concrete examples of some AR activities and explanation of the RI impact upon them.

Norwegian society will experience clear and direct benefit from the aspects of the RI for type (1) activities, since ARIIS will be made available for reuse by commercial and public sector cultural organisations. Furthermore, through the nature of AR itself, ARIIS will enable the public to experience and participate in AR type (1) activities. The RI has an inherent, and commendable, societal impact. The panel has some concern that AR end users might

use alternative (commercial) platforms and solutions despite the existence of ARIIS; a clearer assessment of use case requirements to demonstrate the particular implementation of ARIIS will be suitable for adoption would mitigate this concern.

Provision has been made in the proposal to make the RI accessible to all relevant users, indeed this forms a part of the business model for sustaining ARIIS (with an operating company being formed in the second half of the project). Dissemination and communication activities are well planned; practical demonstrations during development of the RI will be compelling (embedded use of the RI in AR activities; trials using the RI for cultural festivals etc.). Different user communities are well represented in the proposal, including academia (AR), industry (Media Cluster/City) and the wider cultural community (Arts Council, festivals, etc.).

The proposal purports to address multiple Sustainable Development Goals (p.9 of case for support) however does not indicate how the RI does so.

Selected mark : 6 - Excellent

The proposal successfully addresses all relevant aspects of the criterion. Only minor shortcomings are present.

## Implementation

Quality of project management and organisation

- The extent to which:
  - the project manager has the necessary qualifications to lead the project;
  - the project group has the relevant expertise and resources needed to establish, operate and offer services to relevant user groups;
  - the project organisation is suitable for the infrastructure.

Plans for establishment/upgrade and operation of the infrastructure

- The extent to which:
  - there is a carefully weighed, realistic plan for establishing/upgrading the infrastructure, including breakdown into work packages/sub-projects, milestones, deliverables, costs and resource needs;
  - there are plans for how to make optimal use of the infrastructure;
  - there are well thought out plans for how the data that the infrastructure generates/manages are to be structured, stored and published or otherwise made accessible;
  - there is a risk assessment and proposed measures for dealing with any high-risk incidents.

- Applications proposing the establishment/upgrade of a Norwegian node of an international research infrastructure collaboration will be assessed on the extent to which the role distribution between the Norwegian partner (node) and the international partners is clearly defined and suitable (based on the information provided by the applicant in a special attachment).

Assessment of technical solutions

- The extent to which the proposed technical solutions are sufficiently mature to warrant establishment of the infrastructure;
- Projects involving independent development of equipment and technical solutions will also be assessed as to:
  - whether it is documented that no available solutions exist in the market, which justify the independent development;
  - whether the underlying methodology/technology has been demonstrated as functional in a relevant environment (Technology Readiness Level 6 as defined in the European Commission).

The project manager is an excellent choice, a leader in the Norwegian Artistic Research (AR) community, and has clear and strong experience in academic management roles.

Overall, the proposal documentation unfortunately lacks the necessary structure, consistency, and detail (particularly of technological elements) for a thorough assessment of the proposed implementation. Motivations are repeatedly asserted, and duplication of these could be reduced; motivations, although admirable, are not a substitute for characterising requirements in greater detail and alignment with the technologies selected to address them.

The narrative can be hard to read and is jargon-heavy, with terms and acronyms neither explained or expanded on first use. The overall architecture of the RI is not fully or consistently presented in a one place; some details can be assembled by cross-referencing between the main narrative, work package descriptions, and letters of support, however this requires a degree of interpretation by the reader. There are some basic presentational errors and typos in the material as presented (e.g. WP7 missing from Gantt; non-standard CV formats; some mandatory CV sections missing).

The technologies invoked are all plausible and appropriate, although the criteria by which they were selected against requirements is opaque. The LOLA and DANTE protocols have some drawbacks not mentioned in the proposal (e.g., the need for dedicated hardware, cable-based transmission); an assessment of recent technologies emerging from the music technology industry should be included, even if this assessment rejects them. The proposal does not articulate why technological approaches such as IaaS, PaaS, SaaS, and LMAaaS are more appropriate than others; nor, given these are very high-level characteristics, exactly how it is expected they will be realised and implemented in the RI or what different APIs might be expected to provide (some broad examples are given in a business plan table, but none at a technical level).

Broadly, the coalition of partner support the RI is excellent, and overall should bring the requisite experience required to establish and operate ARIIS. However the mapping of individual and institutional expertise is not sufficiently detailed in the proposal, such that it is impossible to judge whether appropriate expertise and resources are allocated to specific tasks. It would be helpful for Work Package descriptions to indicate the person-months allocated to tasks, and which roles and institutions will work on those tasks.

The balance of roles is rather unclear. The specification indicates a full-time project coordinator and technical coordinator across all 5 years (i.e. 10 person-years total); with developers at UiB for 1 person-year and Innlandet for 6 person-years (although a different section of the proposal suggests UiB will undertake the majority of technical development?). It is not clear whether the technical coordinator and '50% IT support persons from each institution' will also contribute to software development. It is unclear how this software development resource is allocated to, and within, WP; it is not clear that WPs leaders are local to the implementation resourcing allocated to their WP (one might infer the developer staff will be based at a different institution) and, if at different sites, what remote management structures will be put in place to ensure clear direction across institutional management boundaries. Will the same developers move between multiple work packages, in sequence or in parallel? Or will effort be split into a smaller number of specialised roles?

WP3 & WP5 will be critical to the project's success, so it is unfortunate that important CV sections for their leader (Jönsson) are incomplete. While the consortium includes commercial and industrial partners, it is not clear what role they will play in development; if all development will take place in the IT Departments of the partner Universities, they should indicate prior experience of successfully delivering national (rather than local) infrastructures.

The structure of the work packages should be justified, as otherwise it might seem unnecessarily complex. e.g. can WP5 be grouped with WP4? Why is there not a stronger tie or merger between WP1 and WP6 (requirements, and evaluation of meeting those requirements)? The description of the crucial WP7 appears inconsistent with other statements in the proposal (Standard rather than nuanced contracts). It is well known how much cultural heritage and creative industry use cases require sophisticated means for managing rights, and their negotiations often involve complex workflows.

A feasibility study is referenced, which sounds helpful, although no details or results are relayed in the proposal. WP3 indicates a “large degree of R&D” remains to be completed in the project. The balance between software developed by the consortium versus off-the-shelf commercial solutions is not clear – a license fee of 2.5M NOK per annum is included without detail of what this provides for. WP2 includes a long list of (fairly generic) requirements which have already been identified by the proposers: documenting the commercial solutions which can or cannot address some, or all, of these requirements is not present; nor a work plan detailing how they will be met by new software developments (i.e. these requirements are not explicitly carried through into work package tasks). As such, it is difficult to assess whether the work package and management structure is a good configuration to meet the needs of the project – conceptually there is a clear collaborative flow between work packages, but this is not reflected in the detail within. On balance, it seems the proposed solutions are at Technology Readiness Level 6 or higher, although a lack of detail in the proposal makes this assessment incomplete. WP7, on legal aspects of the proposal, is clear and precise.

The inclusion of personally identifiable information in the content of digital assets (affecting GDPR) cannot be dismissed by simply stating that users will make sure to adhere to GDPR. Processes to identify and manage violations to GDPR within the use of the infrastructure should be established and means for supporting users in identifying GDPR violations in their productions. This is a major risk for the sustainability of the proposed model and it is dramatically underestimated by the proposal.

The business plan positively offers a number of possibilities for sustainable operation of the RI beyond the establishment phase. This is excellent to see, but weakly evidenced. The income assumed is substantial, and critical to the RI viability; it would therefore be helpful to see further detail of future RI users (e.g. specifically which other academic disciplines) and letters of support substantiating this demand (e.g. from commercial users such as cinemas, galleries), any international comparators or market research (e.g. viability of 50 events per year), and that their business models would support the proposed charges.

Selected mark : 3 - Fair

The proposal broadly addresses the criterion, but there are a number of significant weaknesses.

## Overall assessment of the referee/panel

Overall assessment of the referee/panel based, on the criteria Excellence, Impact and Implementation.

ARIIS is an excellently motivated proposal for a RI, which would have clear and significant benefits for the Artistic Research community, technological innovation, business, and wider society. The proponents of the RI make for an excellent team, and bring good prospects for delivering both academic and civic impacts of great value. Completion of such an RI would be of international significance.

The proposal has significant weaknesses in a lack of detail and attention when articulating the technological challenges of creating such an RI, the need for a more detailed breakdown of requirements driven by AR activities, and precise and concise explanation of how the RI activities, work packages, and structures will address these challenges while meeting the needs of AR. These are surmountable issues, and one can infer the project team is very capable of doing so, nonetheless the requirements and solutions are not sufficiently well evidenced in the proposal, making it difficult to assess the project structures and budgets to a positive conclusion.

Assessment of funding proposals is always very competitive. Identifying needs and assembling an experienced team is necessary but not sufficient. The panel commends the idea of this RI, and the motivation with which the Norwegian AR community have worked together to create the proposal. We recommend the proposers consider

resubmitting in due course, paying close attention to the quality of project presentation and the criteria by which the proposal will be assessed, and ensuring these criteria are clearly and unambiguously addressed in as much detail as possible.

The panel also recognises the potential dissonance between the strictures and technicalities of an RI specification, compared to the fluidity of artistic activities present within AR. If this presents a challenge or tension, it is better to identify and address it. It might be reasonable to question what we should expect of an RI for Artistic Research? If the RI is embedded within the activities and processes of AR, perhaps we cannot assume a traditional approach to RI design and specification as might be found in the physical sciences. Instead, perhaps these could be argued to co-evolve during use of the RI as a part of Artistic Research? As such, might the project structure, management, and work packages, become a framework within which there is freedom to experiment within broad technological parameters, and for the RI to emerge as part of, as well as for, Artistic Research? This case is not currently made by ARIIS, but there may be an argument that an RI which could take a fundamentally different approach to its realisation would be appropriate for AR. A proposal of this sort would be a radical and high risk RI to fund, which would need very careful structuring and justification, but which could offer an extremely exciting and ground-breaking approach to a humanities RI. We cannot assure the success of such an approach, only that it may be an interesting perspective to consider.

Selected mark : 4 - Good

The proposal addresses the criterion well. A number of shortcomings are present.

## Special points to consider

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Comments to special points to consider