

Building for the Future

Research and Innovation in KMH's new facilities

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ABSTRACT

This studio report describes the design of a new building for The Royal College of Music in Stockholm (KMH) and the plans for research and artistic activities which the facility will afford. The new facilities will be completed and inaugurated in the Fall 2016.

1. A NEW BUILDING

The Royal College of Music in Stockholm (KMH) is currently in the historic process of building completely new facilities. The modern, purpose-built campus will provide—for the first time in KMH's long history—not only a vastly improved home for the current activities of the college but will also realize an exciting opportunity for innovative development. Designed for a diversity of performance and research situations, the complex of studios and concert halls concretize a modern paradigm of advanced, multi-purposed spaces with variable acoustics, flexible seating and high-tech audio-visual capabilities. In short, a new home for music and a hub and technical instrument for research, as well as a cultural nexus for Stockholm.

KMH's new building comprises five performance spaces, six control rooms, three recording studios and twelve production suites. The backbone of these performance spaces and studio complex is based on fiber-optic and Ethernet networks and features comprehensive input/output matrices for highly flexible digital routing and facilitates the integration of future developments, eventual intramural re-configurations and expansion.

Best described holistically, the complex is conceived as a fluid system; public spaces and studios converse with each other as if through permeable walls. As the facilities can be re-defined and re-configured according to changing conditions, it is perhaps useful to apply metaphorical descriptions to reveal aspects of the projected research and artistic activities. These are:

- laboratory/studio
- concert hall/theater
- network of audio and visual media.

In the first, the studios may be dedicated either to audio research, music production or both. For research on a larger scale, the performance spaces can be configured as laboratories and then re-purposed for public activities. Second, the design paradigms of a concert hall, theater and cinema are fused into a single flexible performance space with the potential to go beyond traditional strictures. The third metaphor, an audio/visual network, is intended to highlight the diversity of media that flows through the complex.

2. AN INTEGRATED VIEW

A total of six control rooms will be housed in the new building, three of which are designed more traditionally for music production with 5.1 monitoring. All of them will be equipped with video for mixing to image, audiovisual production and communication with other localities.

For electroacoustic music, two of the control rooms will feature multichannel monitoring in all industry standard delivery formats (stereo, 5.1, 7.1) plus eight channels (8.1), all on the horizontal plane. These will be clustered about a common recording studio with one of the aforementioned control rooms, which although initially based on 5.1 can be retrofitted to the same configuration as above. The flagship main studio will also offer this flexible solution plus five loudspeakers in the ceiling to add a vertical dimension resulting in a 13.2 configuration that is directly compatible with the Audiorama concert space in Stockholm. The studio has its own adjacent recording studio.

The audio network will be built around a combination of fiber-optics (MADI) and audio-over-ethernet (DANTE) which will link not only the control rooms with the recording studios and performance spaces, but also with numerous alternative spaces for public activities in the building complex such as the large foyer at the entrance. The DANTE system permits anyone with virtual soundcard software to access audio hardware anywhere in the facility, and video signals will also be routable to many locations in the complex.

The large concert hall will provide KMH with a modern multi-purpose facility for orchestral music and larger ensembles, but with the possibility of realigning the traditional audience/stage orientation by making the concert hall floor flat and thus encouraging alternative types of production. The remaining performance spaces include a Black Box, which will provide an additional open space for experimentation, a large choral hall with

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floor to ceiling windows overlooking

Valhallavägen and a chamber music hall that also contains a pipe organ. Of course, they will all double as recording studios.

The small concert hall is particularly configured for both research and experimental performance and will be one of a handful of similar large-scale installations internationally. A flexible system of up to 49 loudspeakers affords a platform for a wide variety of projects including sound spatialization either in the acousmatic tradition or together with acoustic and electronic instruments. The system will create an immersive sound environment while providing precise sonic imaging for studies in spatialization and cognition.

For intermedial purposes, large-scale, flexible video resources are required. The development of audiovisual music lies close at hand, extending a Swedish tradition and incorporating current trends. The video components can also potentially serve as virtual scenography, a highly

intriguing area of investigation that has been undertaken at KTH. Moreover, by bringing the above potential together with new media and its latent telematic aspects into the creative mix, new spaces can be opened for the exchange and development of research and artistic expression that extend far beyond the locality of Valhallavägen and concerts performed in virtually any part of the world may potentially be enjoyed at KMH.

3. RESEARCH DEVELOPMENTS

The particular strength of the nascent research environment at KMH is our broad artistic competence. Our current research focus is narrativity, interaction and music and drama, and in conjunction with the aforementioned infrastructural developments, new research initiatives are being formulated. For example, spatialization is anticipated to become a significant area of research and artistic activity. The combination of our new studios and public spaces will provide the college with a prominent position in this respect.

We envision a variety of collaborative structures with some of the major music and music technology research centers in Sweden as well as abroad. Indeed many obvious collaborators are already here in our local neighborhood. Thus, all in all, the coming resources will afford us, along with associated research partners, the opportunity to advance to the forefront of this exciting area of artistic potential.