

Helsinki Music Centre—A New Vineyard Configuration Concert Hall—Opens

By Dr. Yasuhisa Toyota

The Helsinki Music Centre I wrote about three months ago (in a June, 2011 article discussing the importance of the hall's first rehearsal) held its inaugural concert on August 31, 2011. The 1,704-seat concert hall is the new home hall of both of Finland's two major orchestras, the Finnish Radio Symphony Orchestra and the Helsinki Philharmonic Orchestra. Both orchestras moved here from Finlandia Hall, which stands adjacent to the new Helsinki Music Centre.

The orchestras share the new Music Centre building with Finland's one music university, Sibelius Academy. In addition to the main concert hall, Helsinki Music Centre has 6 small halls, each designed for a different specific purpose, including a 240-seat orchestra rehearsal hall, a 240-seat chamber music hall, a 140-seat pipe organ hall, a 206-seat (increasable to 284-seat) hall for vocal music, a 225-to-400-seat "Black Box" alternative performance space and an 82-seat auditorium, as well as multiple practice rooms sized for ensembles or solo use. The Music Centre's overall layout is shown and identified in the 3D illustration of Fig. 1 and the related Table 1 data chart.

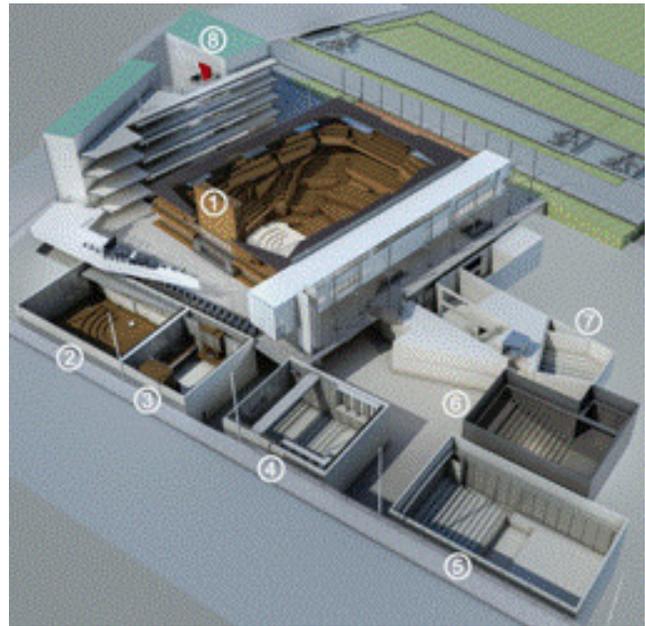


Figure 1: Helsinki Music Centre (illustration by Laiho-Pulkkinen-Raunio Architects)

Helsinki Music Centre Project Chronology

During 1999 and 2000, the owners (State of Finland, Helsinki City and Finnish Broadcasting Company) conducted a design competition to select the project's architect. Nagata Acoustics began our consulting work on the project one year earlier, in 1998. My article about this phase of the project appeared in our November, 2000 newsletter.

While the architect selection process completed in 2000, work on the hall's design began in 2005. The design process, including building and testing in the 1/10 model, continued through the latter half of 2007, and then construction began in the second half of 2008. We wrote about acoustical testing in the 1/10 model in our February, 2007 newsletter and discussed the construction implementation of aspects of the sound isolation design in the October, 2009 newsletter. Construction was substantially complete this past spring (2011). The project duration from the start of the design phase through the end of construction lasted 6 years.

Advantages of this Hall's Vineyard Configuration

In the design competition of 1999-2000, the winning architectural proposal used a vineyard configuration for the hall footprint and the audience seating arrangement. The work of the architectural design phase made a fair number of adjustments and refinements to the design details, but the fundamentals of the originally proposed design stayed the same. The audience seating surrounds the stage in a staggered layout of blocks of seats. Our room interior design strategically located the blocks of seats to create wall sections that serve as effective sound reflecting surfaces. Fig. 2 shows the plan view of this layout.

In this concert hall, the two-dimensional perimeter of the blocks of audience seating has a rectangular shape, differentiating it from, for example, the complex footprint of the audience seating in the Berlin Philharmonic Hall, which is justly considered the progenitor of the vineyard configuration, as well as from halls such as Sapporo Concert Hall Kitara that have audience seating areas with footprints shaped like an open Japanese fan. The ability to vary the overall shape of the audience seating's footprint is an important distinguishing characteristic of the vineyard configuration and a characteristic that gives the concert hall design team great flexibility. The shoebox configuration always requires that the hall have a rectangular footprint with a narrow width, a constraint that contrasts starkly with the flexibility available with the vineyard configuration.

Among the many reasons why the Helsinki Music Centre owners chose to build a hall with a vineyard configuration, here I will focus on the fact that, compared with the stage of a shoebox configuration, the stage of a vineyard configuration can be set at a closer distance to the entire audience, thereby increasing the sense of intimacy between the audience and the performers. Also, when the audience seating surrounds the stage, audience patrons can see the faces of other people in the audience. This creates a sense of intimacy and connectedness among and between the audience patrons. The proof of this came on August 31 at the inaugural concert when for the first time an entire audience flowed into the hall, took their seats and experienced being in the sold-out hall. People had the feeling of participating in a masterpiece about to happen. As I and others looked out into the hall and to our left and right, we saw rows of other faces equally brimming with eager anticipation. A taste of how this felt can be gleaned from the photo of Fig. 3.

When the superb concert began to sound in the hall, the delight of the entire full house permeated the hall, visually in the audience's facial expressions as well as acoustically in the music. It came home to me that I was savoring the true charm of the vineyard configuration and surround seating experience.

Location	Mannerheimintie 13a, Helsinki, Finland
Owner	Kiinteistö Oy: State of Finland (48%), City of Helsinki (26%), Finnish Broadcasting Company (26%)
Architect	Arkkitehtitoimisto Laiho-Pulkkinen-Raunio
Construction	SRV
Operation	Helsingin Musiikkitalo Oy
Year opened	2011
Main user	Helsinki Philharmonic Orchestra (HPO) Finnish Radio Symphony Orchestra (FRSO) Sibelius Academy (SibA)
Gross floor area	38,600 m ²
Cost	188 Million Euro
Music facilities	1. Concert Hall (1704), 2. Orchestra rehearsal (240), 3. Organo (for organ/140), 4. Camerata (for chamber music/240), 5. Sonore (for vocal/206+78), 6. Black Box (225-400), 7. Auditorium (82) (No.: Seating cap.) 8. Sibelius Academy: Class rooms (for lesson/practice), Studios Artist rooms (for HPO & FRSO)

Table 1: Helsinki Music Centre data chart

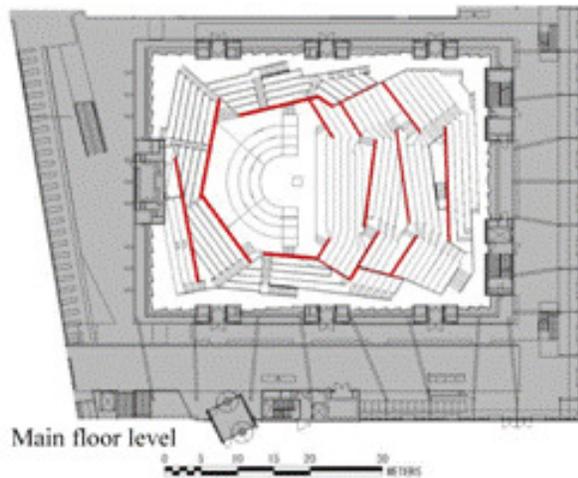


Figure 2: Plan view of the Helsinki Music Centre Concert Hall

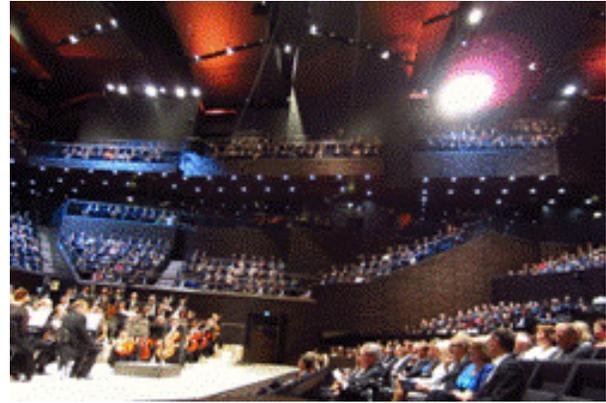


Figure 3: The Concert Hall on opening night

The Inaugural Concert Program – Just Right for This Hall

The hall's two resident orchestras played the starring roles on the inaugural concert program, beginning with a joint performance of Sibelius' "Finlandia" conducted by Maestro Jukka-Pekka Saraste. The chorus stood in the aisles of the audience seating and beautifully delivered the famous Finlandia Hymn portion of the work. In Finland, the Finlandia symphonic poem and especially this hymn are as dear to the Finnish people as national anthems are in other lands. At the height of the hymn's performance, when words and music rang through Helsinki Music Centre Concert Hall rich and clear, one did not need to be a Finn to be deeply moved.

The evening's most incredible performance was surely the last piece on the program, the Finnish Radio Symphony Orchestra's performance of Stravinsky's "The Rite of Spring" conducted by Maestro Sakari Oramo. This work, with its many rhythm changes and dissonant sound combinations, ranks as one of the most complex and difficult compositions ever written for orchestra. In the new concert hall, the composition resounded powerfully in the hall and at the same time reached every corner of the hall with clarity of tone.

The Vineyard Hall Configuration – Excellent for Obtaining Early Sound Reflections

Rich, full-bodied sound and very clear tones often seem like mutually exclusive elements of a hall's acoustics, but achieving the optimal realization of both these characteristics is acoustically important and was one of the key objectives for the acoustics of Helsinki Music Centre Concert Hall. To create rich sound, a longish reverberation time may be the most effective means. However, if the reverberation time becomes too long, clarity becomes adversely affected.

To obtain clear tones, the acoustical room design must cause sufficient production of early sound reflections, because early sound reflections play an essential role in obtaining clarity of sound. A concert hall's shape significantly affects the production of early sound reflections. It seems to me that the vineyard hall configuration provides a more appropriate shape for effectively producing the early sound reflections that are so important in determining how a concert hall sounds.

Modern and Contemporary Classical Music Needs the Vineyard Hall Configuration

The day after the Helsinki Music Centre inaugural concert, I flew to Vienna and spent 3 days attending concerts at the Musikverein. Whenever I attend a performance in this epitome of shoebox-type halls, the beautiful richness of the hall's sound overwhelms me.

However, with regard to clarity of sound, the new vineyard configuration concert hall in Helsinki Music Centre produces clearer tones than does the Musikverein. In the Helsinki concert hall, the musical structure of compositions reaches the ears of the audience with distinct clarity. At least for modern and contemporary compositions such as the Stravinsky repertoire, I am of the strong opinion that these works sound best when heard in vineyard configuration halls.