



About HAWK Technology LLC

HAWK Technology LLC has been established by:

- B.Sc. Mohamed Al Hameli (Marryville University, St. Louis, USA)
- M.Sc.EE Çınar KURRA (University of Evansville, Evansville and Illinois Institute of Technology, Chicago, USA)

at April 2011 in Abu Dhabi, UAE.

www.hawktotechnologyllc.com



About dB-KES

dB-KES Ltd. Co. has been established by:

- M.Sc.ME Ferit BONFIL (Institut National des Sciences Appliquées, Fransa)
- M.Sc.EE Çınar KURRA (University of Evansville and Illinois Institute of Technology, USA)



at September 2000 in Istanbul.

www.dbkes.com



About HAWK Technology LLC

Important Remarks...

HAWK Technology LLC, located in Abu Dhabi, U.A.E. is sister company with dB-KES which is located in Istanbul, Turkey.

Prof. Dr. Selma Kurra is our official consultant in all our acoustical projects .





Our companies focuses on below fields



- Architectural acoustics
- Environmental acoustics
- Naval acoustics
- Mechanical vibration
- Measurements of sound, noise and vibrations
(continuous monitoring)
- Predictive maintenance projects



SALES



dB-KES is the exclusive distributor of:

- 01dB-Acoem; Sound and Vibration Measurement Systems
- Polytec GmbH; Vibration Measurement Systems by Laser
- Datakustik; Noise Mapping and Building Acoustics Software
- Sonimtech; Mobile devices
- Viewsonic; Mobile devices
- Push to Talk International Co.; PTT Services



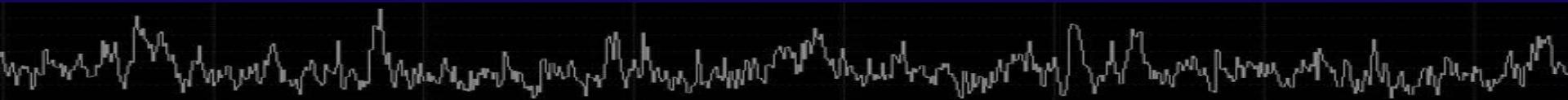
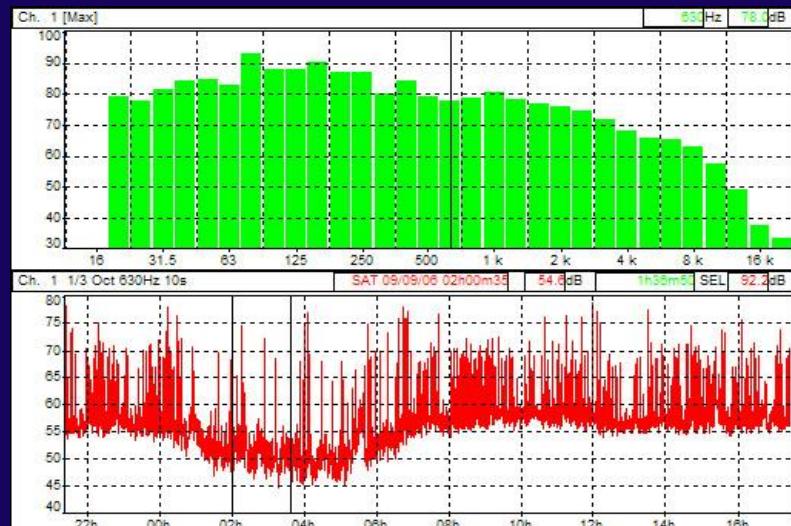
dB-KES is the 3rd Party Solution / Service Provider for:

- **TURKCELL (EU 3rd Largest GSM Operator)**
- **KKTCELL (Northern Cyprus Only GSM Operator)**
- **AVEA (TR 2nd Largest GSM Operator)**
- **STM for Turkish Naval Forces**
- **HEAŞ : Sabiha Gökçen Airport**
- **TOYOTA**





Sound & Vibration Measurement Systems & Equipment





EQUIPMENT LIST



- 01dB, dB4, 4 Channel data acquistion system (x 1)
- 01dB, NetdB, 12 Channel data acquisition system (x 1)
- 01dB, Blue Solo, 1 Channel portable noise level meter (x 5)
- 01dB, CAL21 Calibrator for microphone (x 2)
- 01dB, CAL01 Calibrator for microphone (x 1)
- GRAS, MCE212 Type 1 microphone (x 5)
- 01dB, WED007 Dosimeter (x 1)
- 01dB, dBLEXD Dosimeter Analysis SW
- 01dB, dBTRIG Online measurement SW
- 01dB, dBTRAIT, Noise Analysis SW
- 01dB, dBFA, Industrial Noise and Vibration Analysis SW
- PCB, IMPACT HAMMER (x 1)
- POLYTEC, PDV100, Laser Vibration Measurement System (x 1)
- 01dB, Dodeca, 10 Way Loudspeaker for Building Acoustics (x 1)
- 01dB, dBBATI, Building and Hall Acoustics SW
- DATAKUSTIK, CADNA, Noise Mapping SW
- DATAKUSTIK, BASTIAN, Noise Insulation Calculation SW
- F-MULAY, Sound Absorption SW (written by Prof. Dr. S. Kurra)
- ODEON, Acoustical Simulation SW
- Various amplifiers, tripods, preamps, cables (BNc and LEMO)

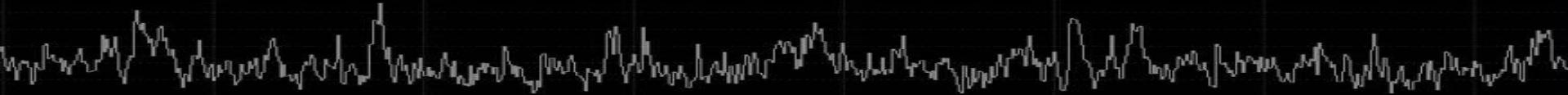


Laser Vibration Measurement Systems





SOUND AND VIBRATION MEASUREMENTS AND PROJECTS



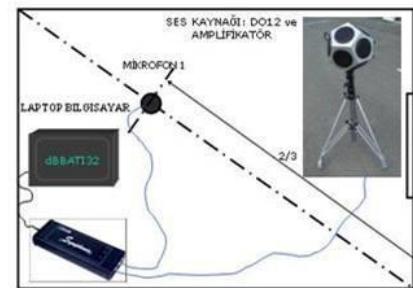


Building Acoustics Measurements



**SENFONİ VE dBBATİ YAZILIMI İLE
SES YALITIMI ÖLÇÜMÜ**

SYMPHONIE



2. ADIM: REVERBERASYON SÜRESİ ÖLÇÜMÜ

Ses kaynağından başka, özel tabanca veya MLS teknigi de kullanılabilir.

dB-KES

Environmental Noise Measurements



Applications:

- Noise and vibration control projects and consultancy
- Analysis and solutions for industrial noise and vibration problems in environment and industry
- Noise mapping (Transportation sources and industry)
- Hall and studio acoustics analysis and design and evaluation of existing halls & modifications
- Implementation and construction practices based on the acoustical projects



Noise and Vibration Measurements On The Field

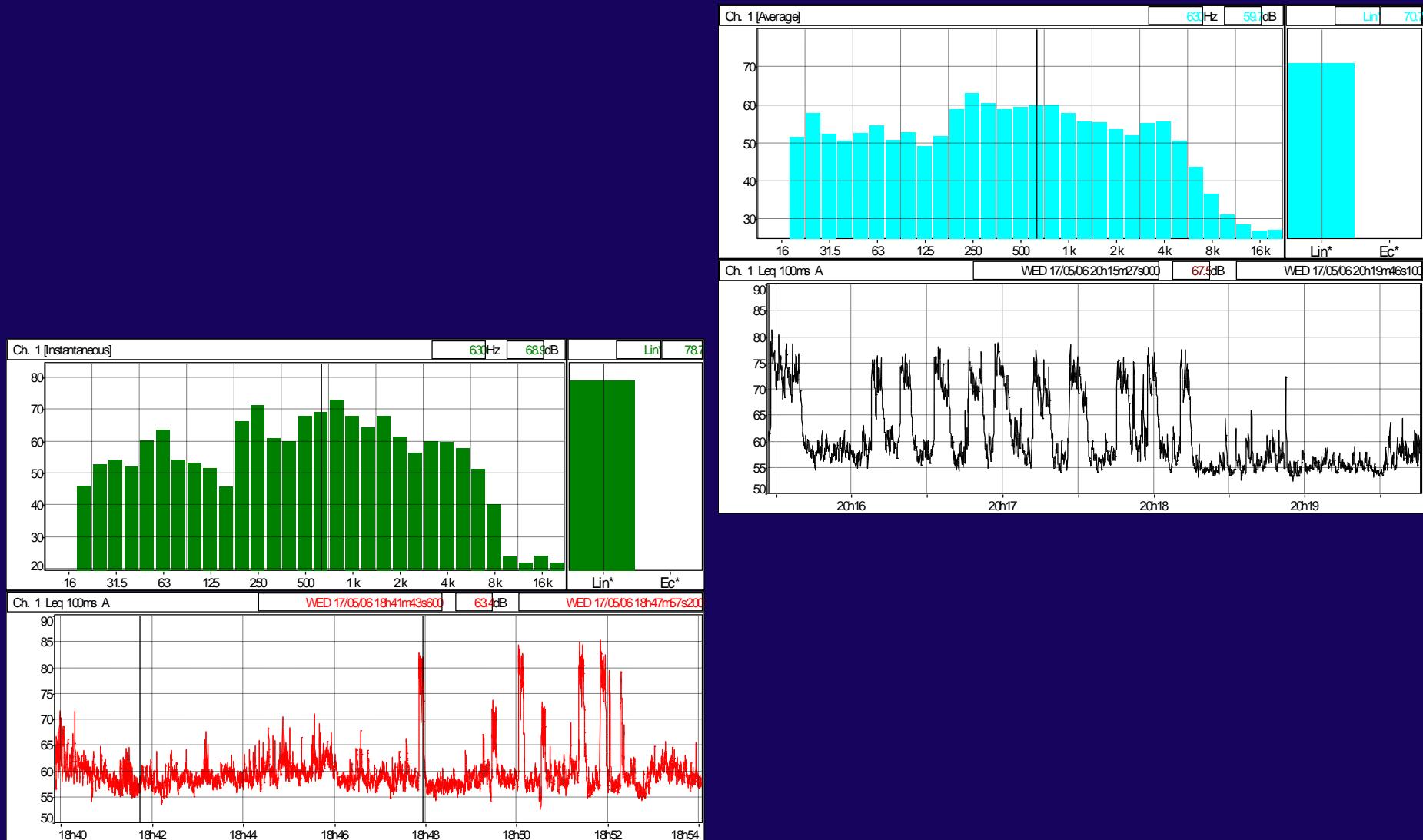


Baku Traffic Noise Measurements

H. ALIYEV CULTURAL CENTER



Noise and Vibration Analysis





ARCELIK WASHING MACHINE MOTORS TESTING



BORUSAN PIPE HOT MILL TESTING



WARSHIP TESTING



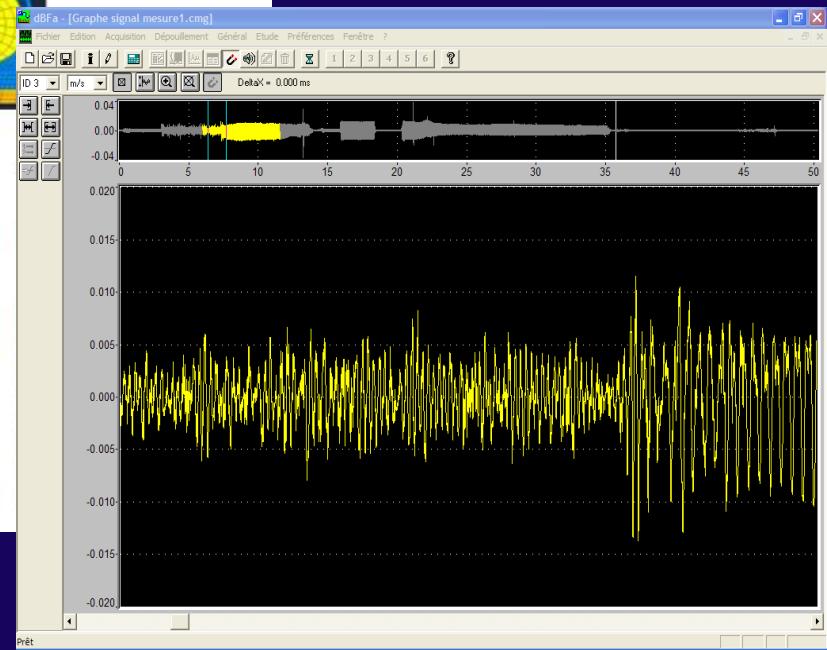
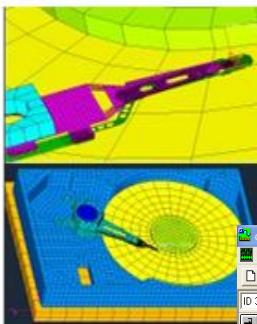
BORUSAN LARGE PIPE TESTING



TOYOTA CLICKCHECK PROJECT

Vibration Measurements and Analysis

Vibration Sources: Everything that moves







Industrial Vibration Control Projects

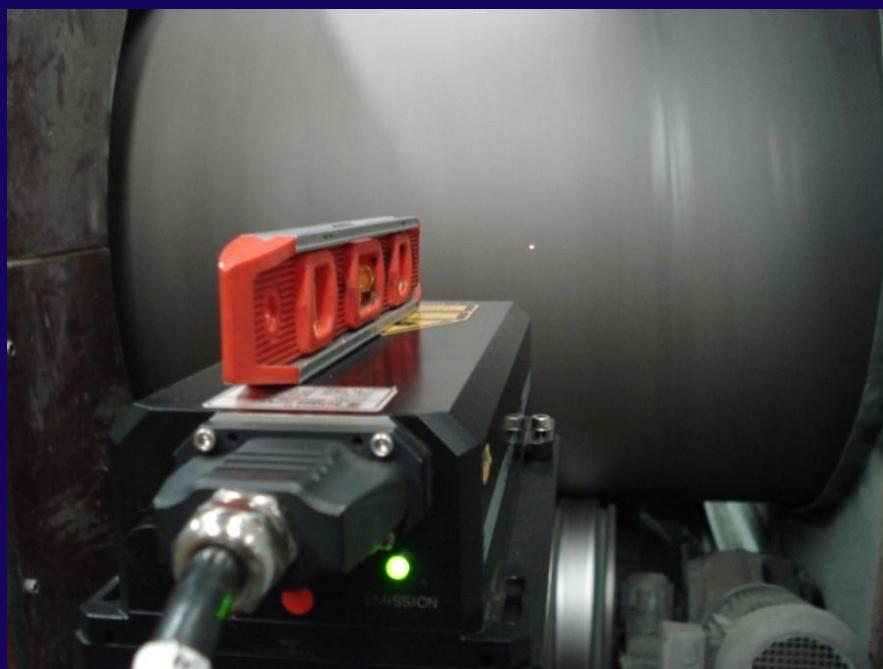
- Arçelik Çerkezköy Electric Motors Production Factory : Continuous vibration measurements and quality control systems
- Milgem Istanbul Naval Shipyard Project Office: The New Frigade (98m.) vibration control and monitoring project.
- Borusan-Mannessman and Asil Çelik Gemlik Factories; Steel pipe productions length measurements via Polytec Laser Vibrometer systems. (Hot and Cold Mill applications)



ARCELIK DRYER MOTORS TESTING



BORUSAN MFCT TESTING



UMRANIYE PIPE MFCT TESTING



FICOSA BMW SIDE MIRROR MOTOR TESTING



ASIL STEEL CO. SYSTEM SET UP



ASIL STEEL CO. COLD MILL BEAM TESTING



ASIL STEEL CO. HOT MILL BEAM TESTING



- Matay Otomotiv; Noise and vibration control for exhaust systems R&D department.
- Toyota Türkiye A.Ş.; Acoustical quality control system on the production line for new Verso and Auris models.
- BOSCH; Vibration measurements on the production line for diesel injectors
- Engineering of Defence Technologies (STM) – Milgem; Special Design for vibration analysis quality control software



HALL ACOUSTICS PROJECTS

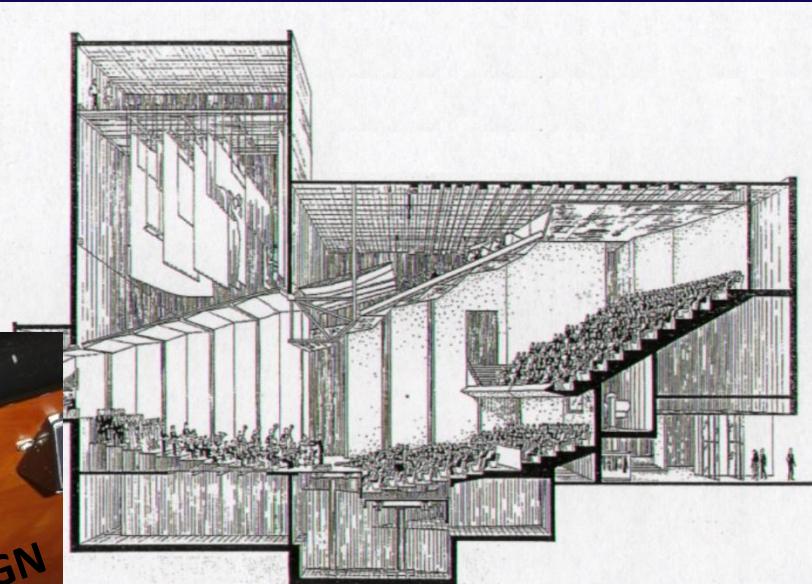
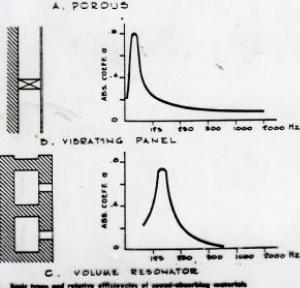
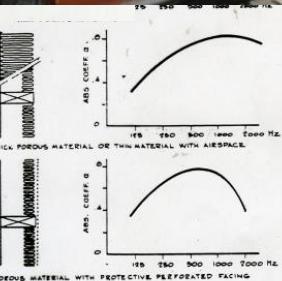
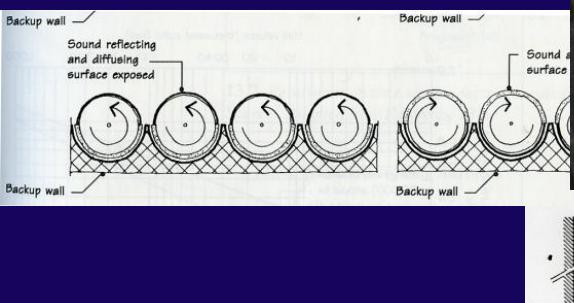
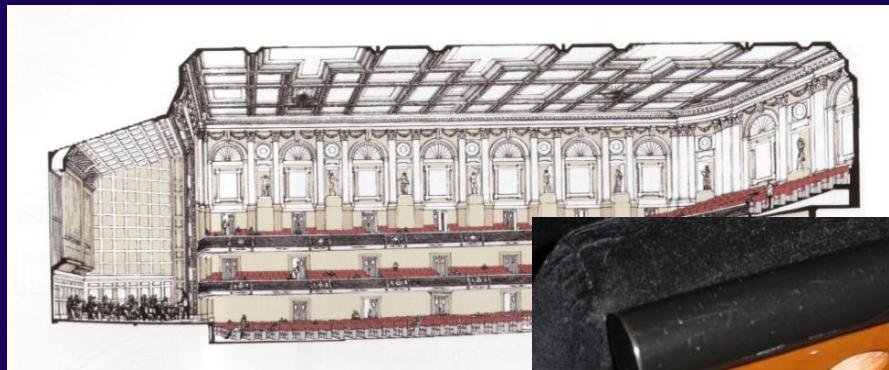


Hall Acoustics Projects

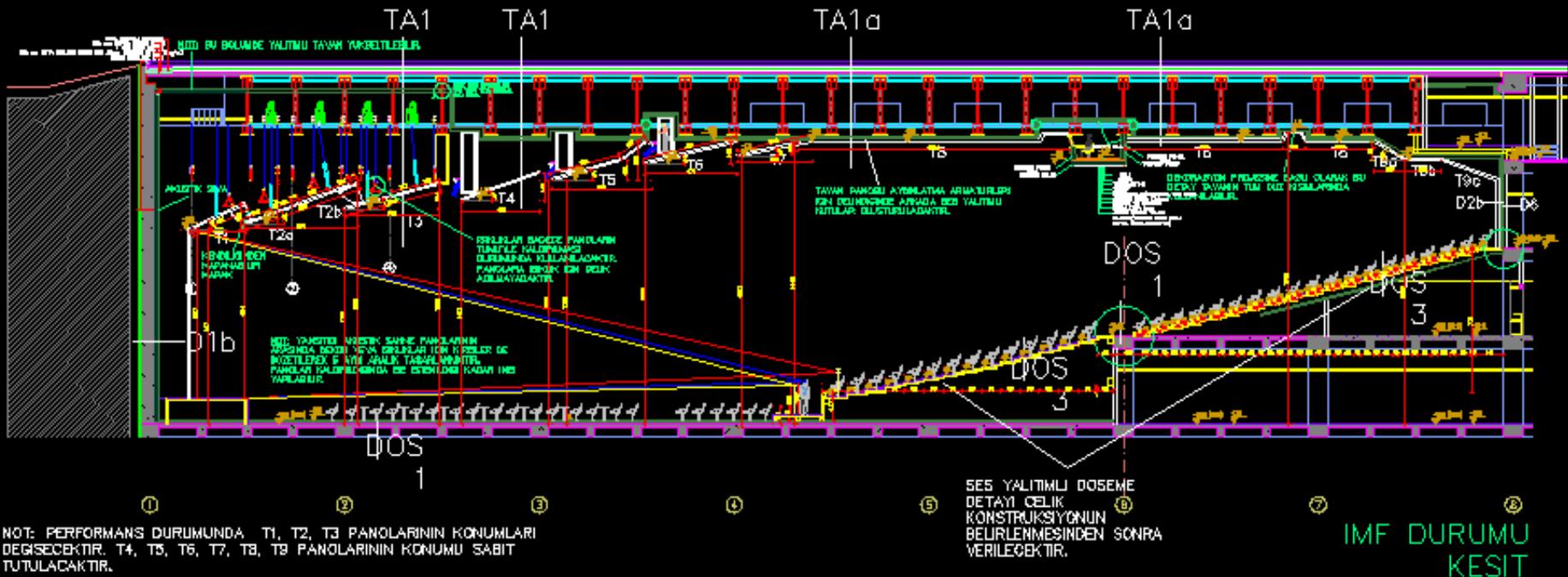


- Computer simulation for hall and auditorium acoustics
- Evaluations of room acoustics parameters
- Analysis of sound fields (geometrical, acoustical and audial)
- Conducting acoustical projects (all architectural details)
- Stage design
- Design of electroacoustic systems in halls
- Acoustical design of studios (TV, radio, film etc)
- Active system design for speech privacy in office buildings

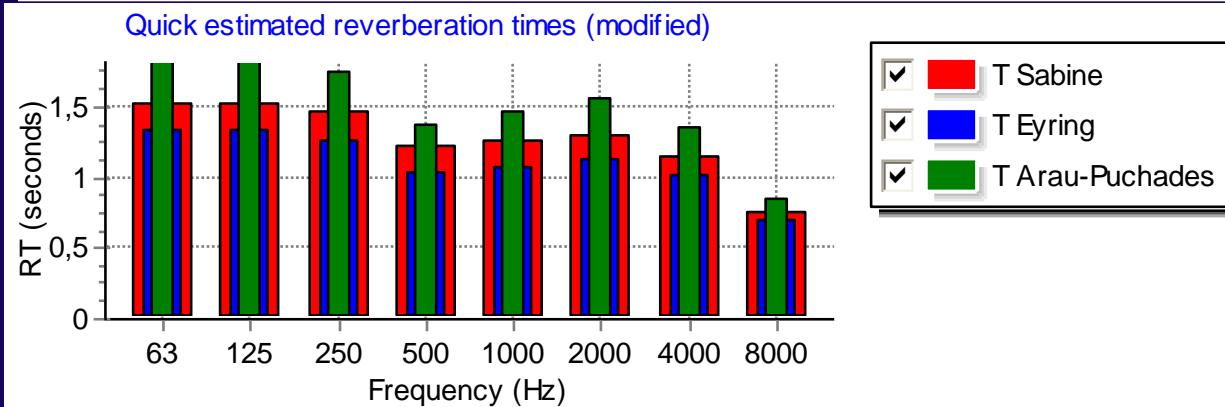
Hall acoustics: Form, shape, material selection and layout



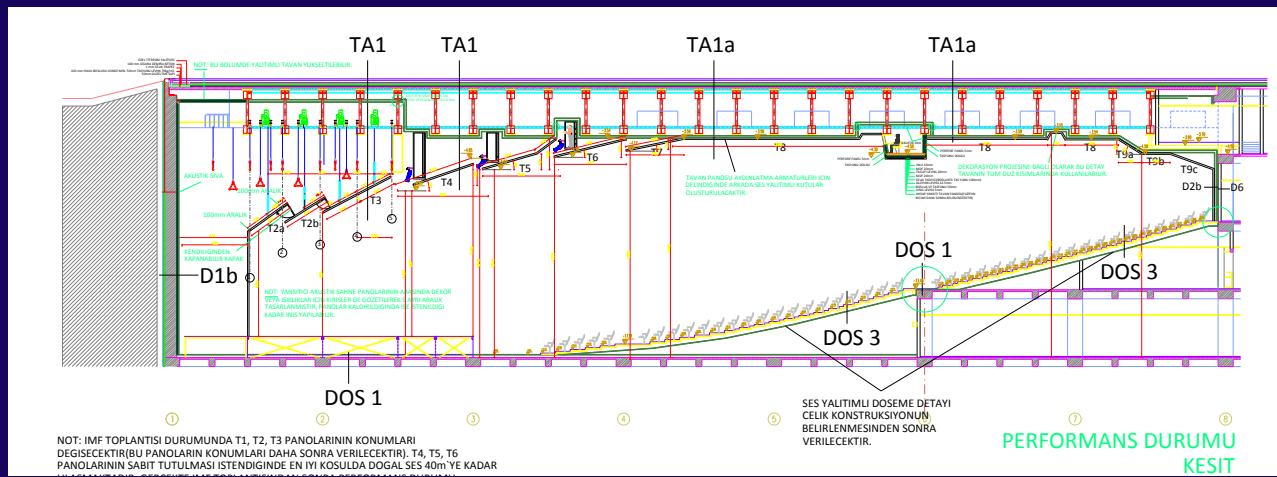
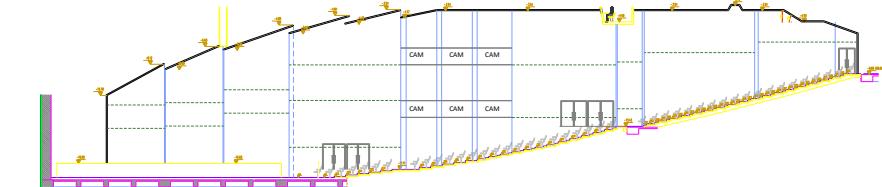
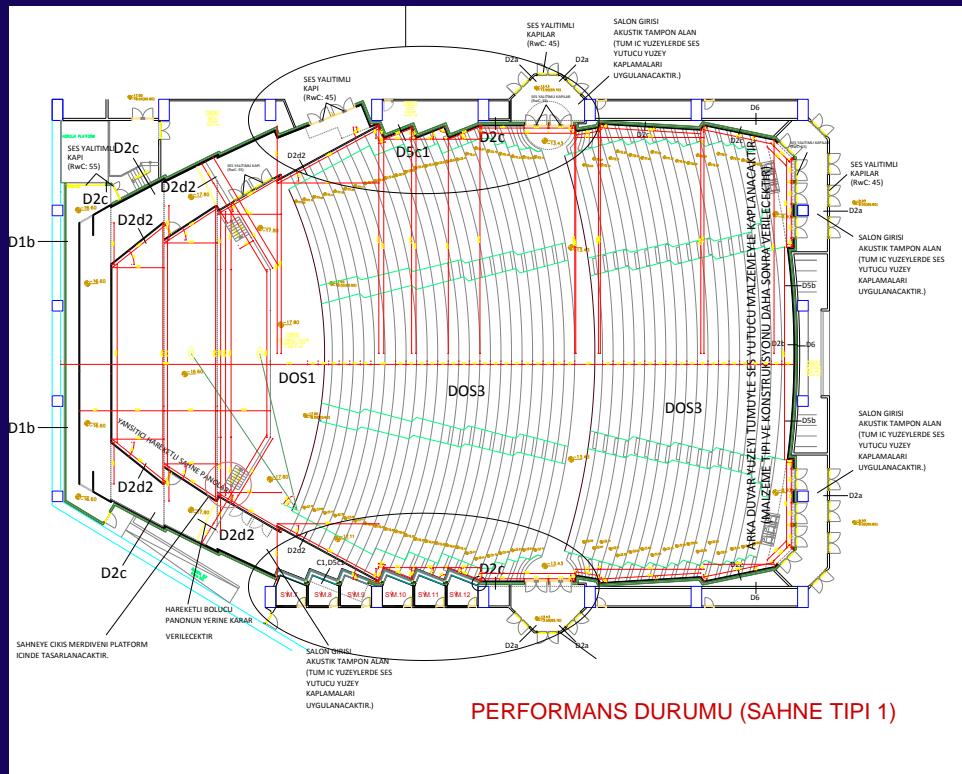
Harbiye Cultural Center, ISTANBUL, TURKEY



Harbiye Cultural Center



Harbiye Cultural Center

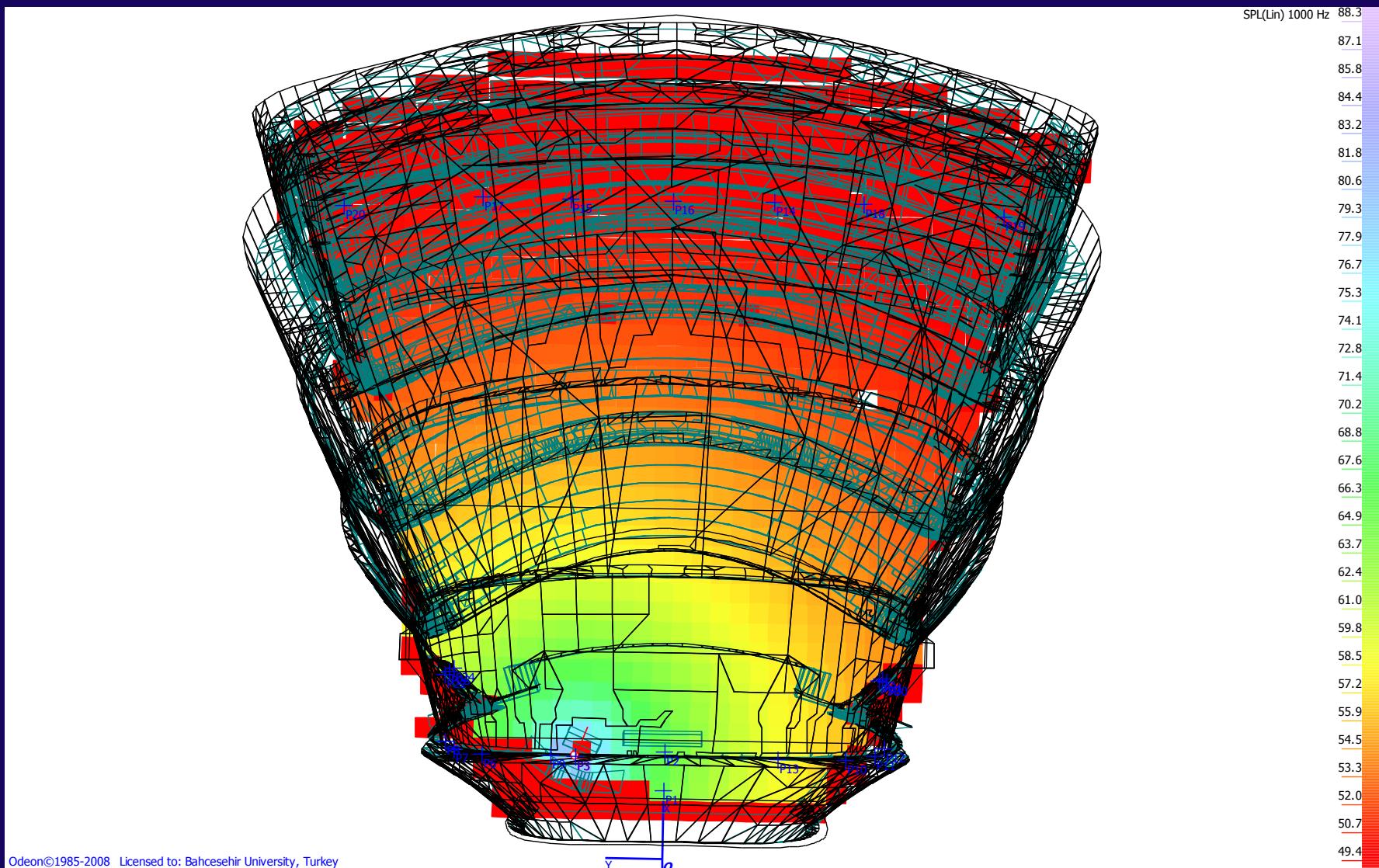


Heydar Aliyev Cultural Center BAKU AZARBAIJAN

ARCHITECT :
ZAHA HADID

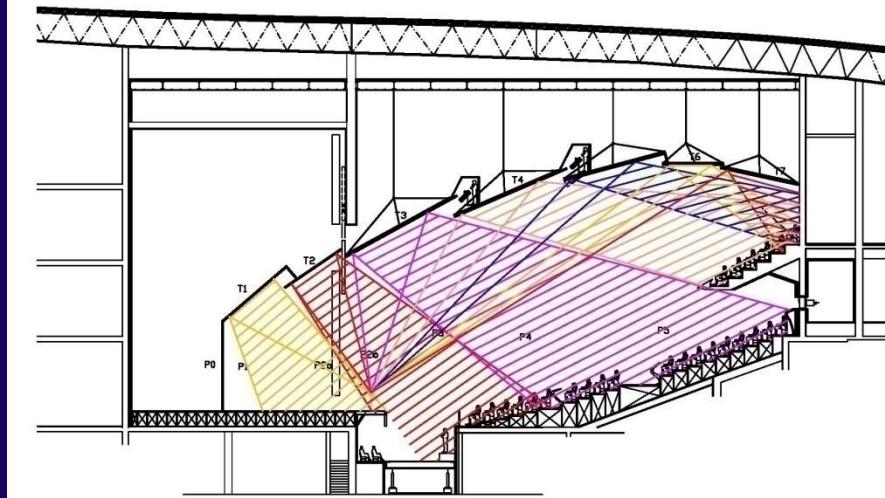


Heydar Aliyev Cultural Center

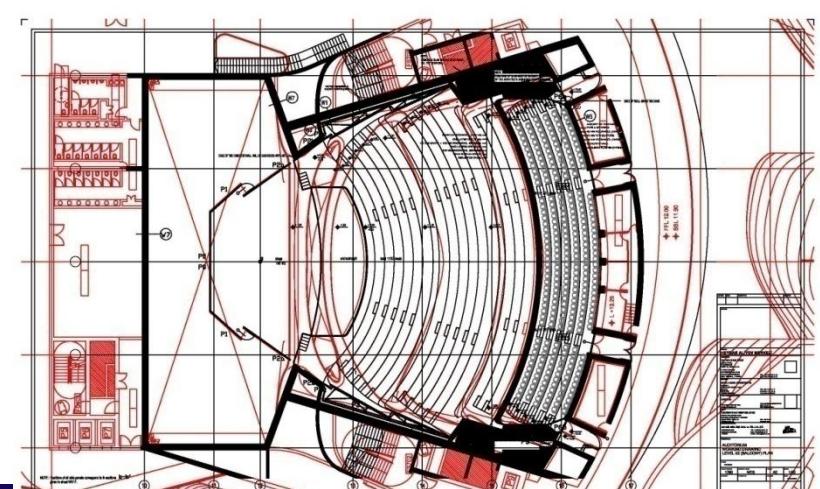
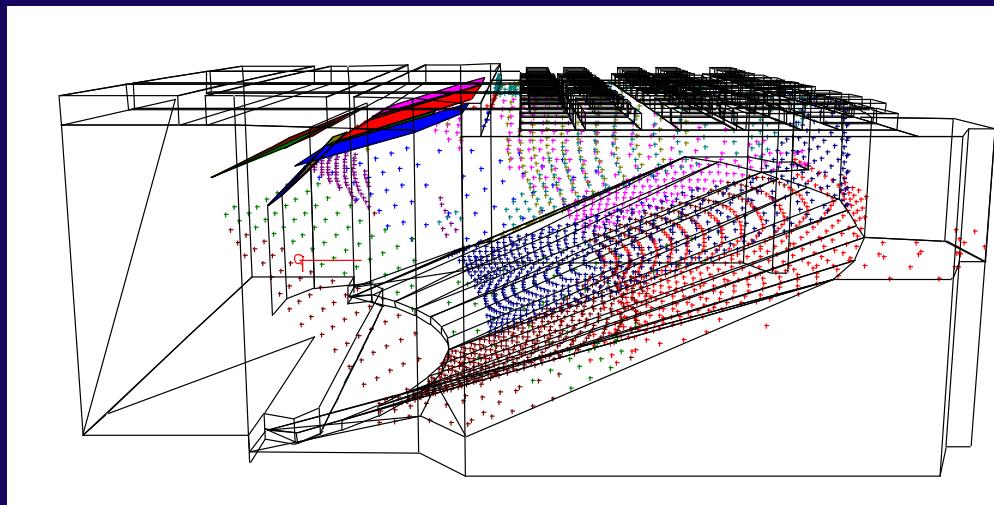
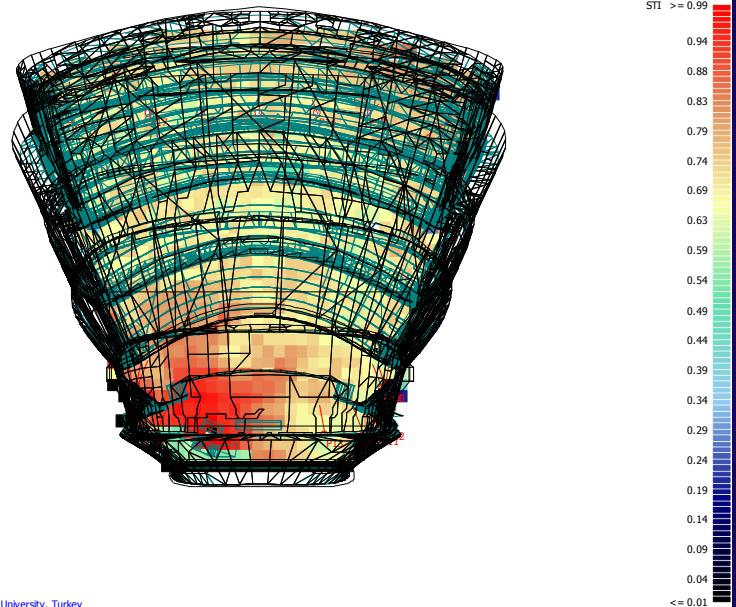


With Loudspeakers On

Heydar Aliyev Cultural Center

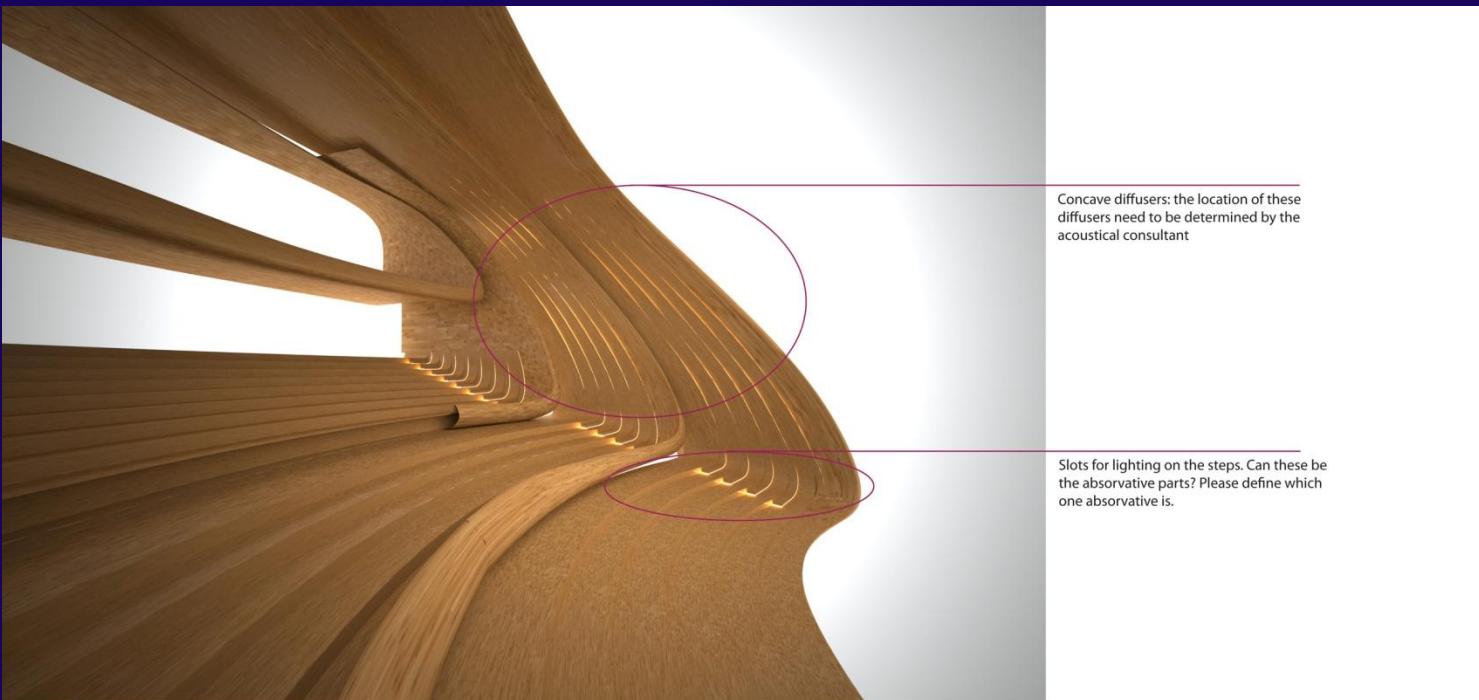


Odeon©1985-2008 Licensed to: Bahcesehir University, Turkey

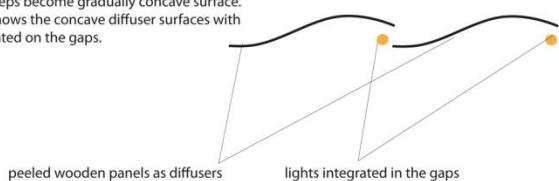


Natural Acoustics Analysis and Design

Heydar Aliyev Cultural Center



SECTIONAL DIAGRAM OF THE CONCAVE DIFFUSERS:
Pealed flat steps become gradually concave surface.
The image shows the concave diffuser surfaces with
lights integrated on the gaps.



Antalya Airport Indoor Acoustics Design, ANTALYA, TURKEY

Sound Insulation Prediction

File Tools Help

Material Properties

Density (kg/m ³)	1400
Stiffness	
<input type="radio"/> Youngs Modulus (GPa)	7.8
<input checked="" type="radio"/> fc.m (Hz.kg/m ²)	38472
damping	0.010

OK Cancel Help

Panel Size 2.7x4 m

Panel 1 | Panel 2 | Wall | Ceiling | Floor | Double Glazing |

Material: Azerbeycan tuglasi

Thickness: 190 (mm) **Number of Linings:** 1

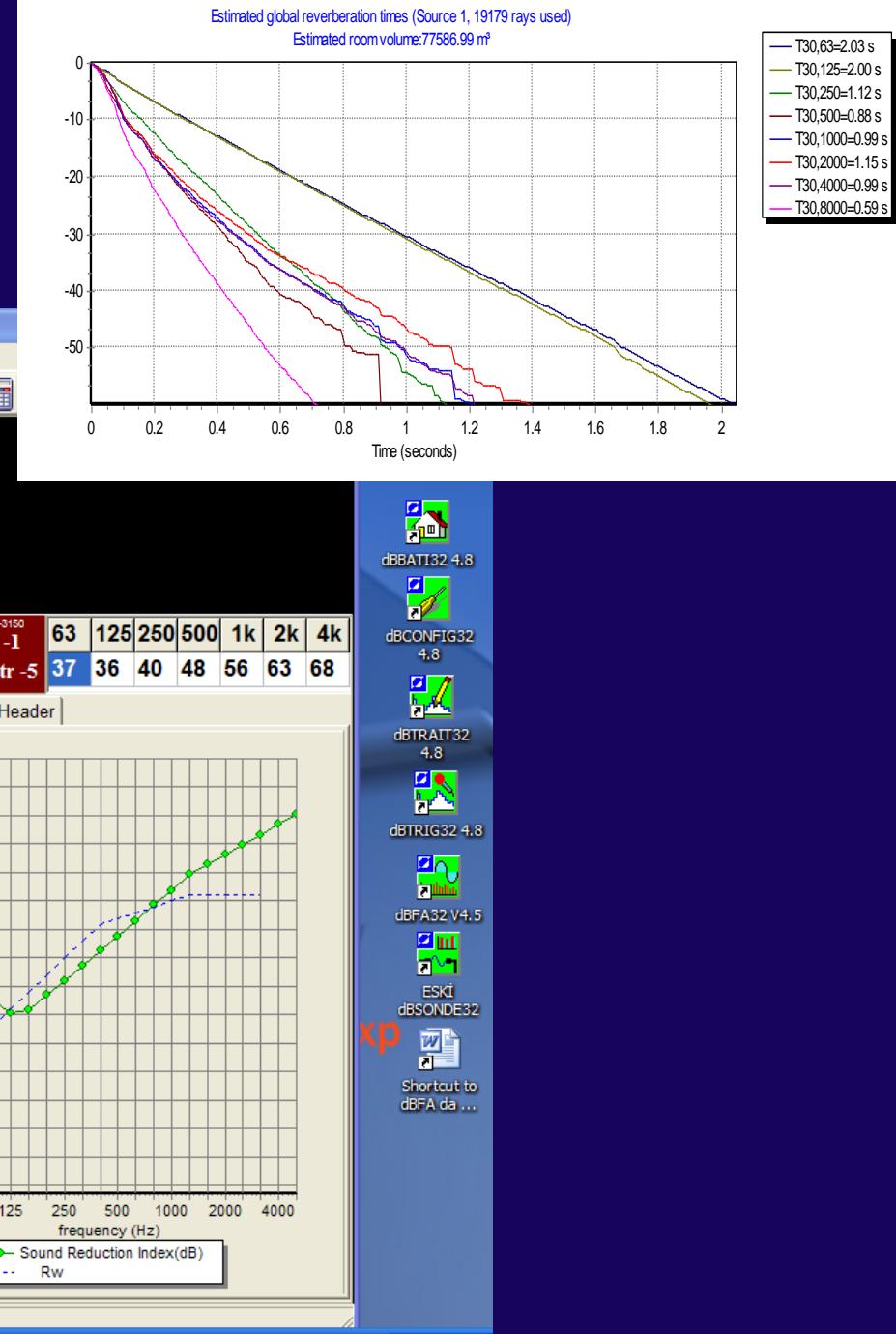
Surface Mass 266.0 kg/m² Critical Freq 144.6 Hz

Flat Corrugations Ribs

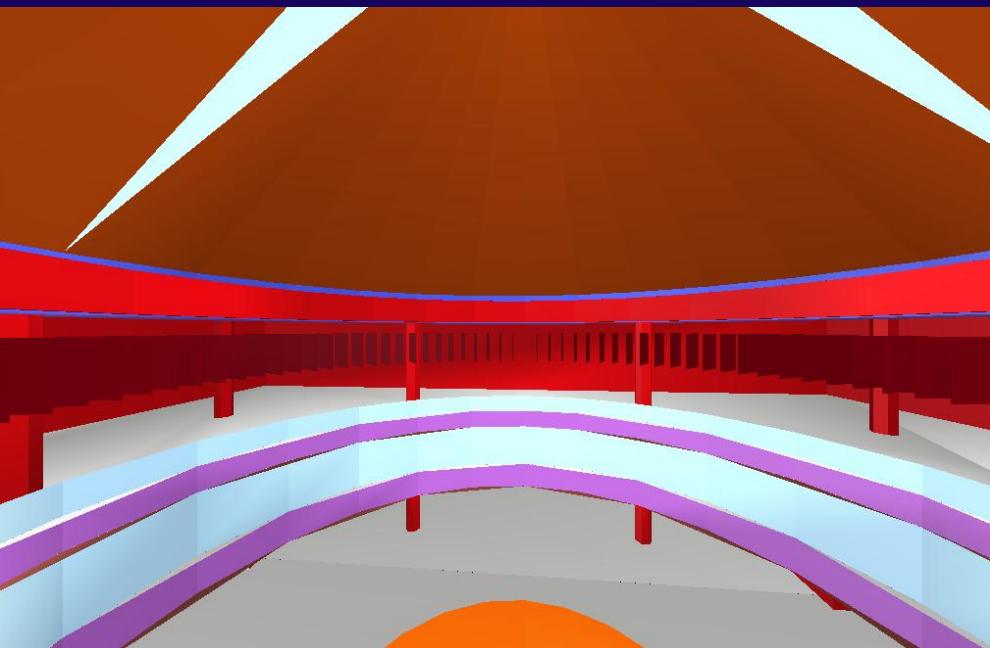
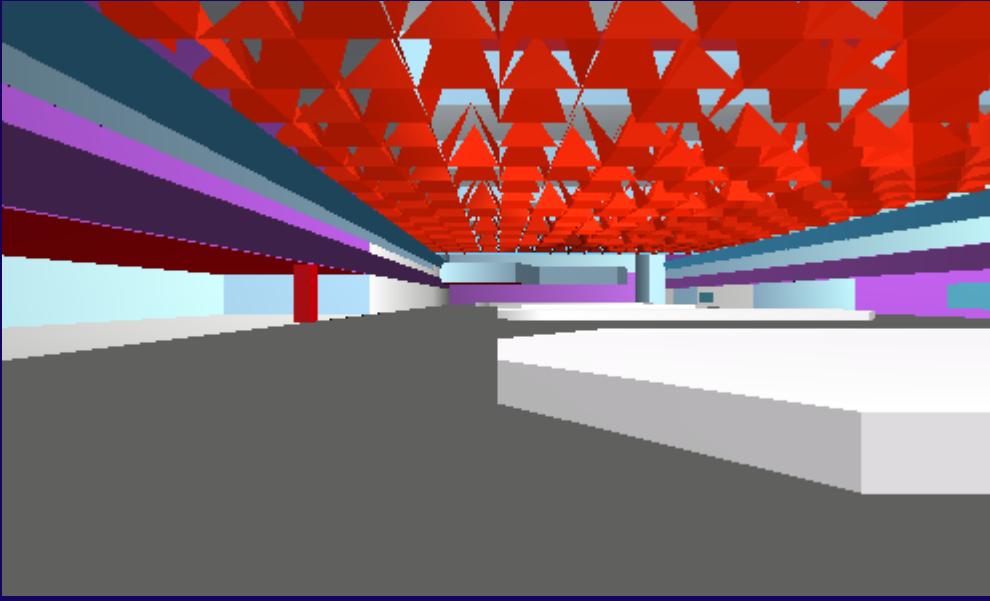
Outer layer Inner layer

Serial No. 0096

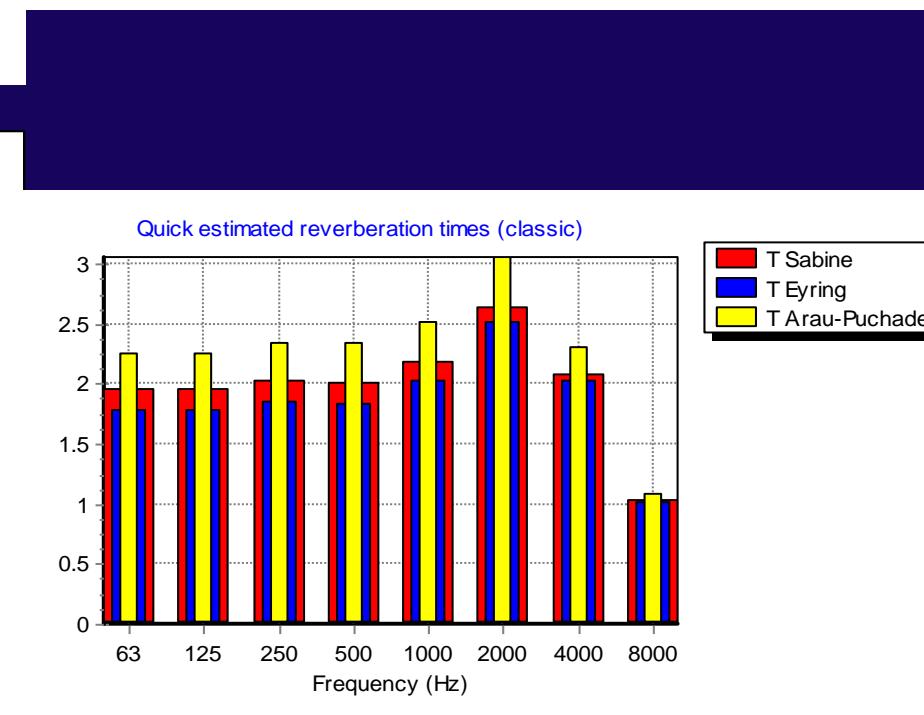
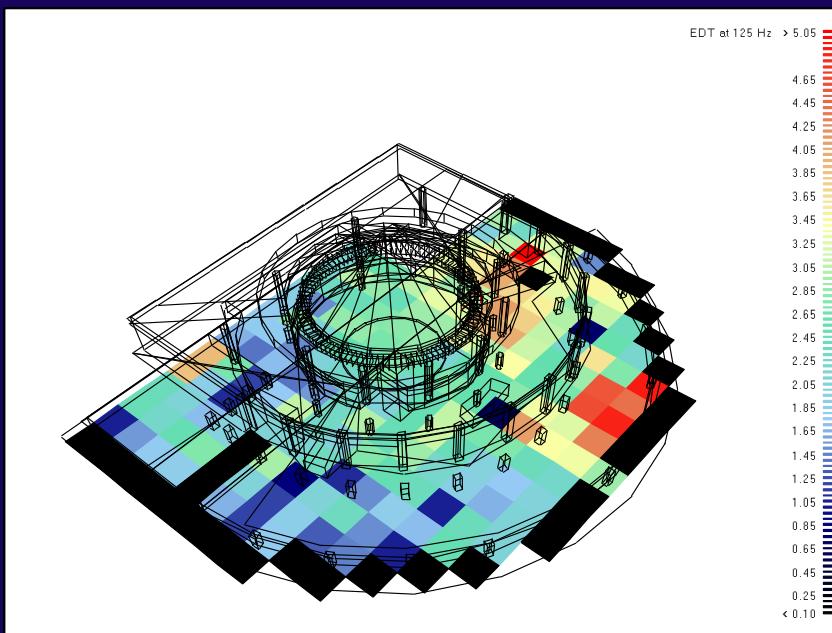
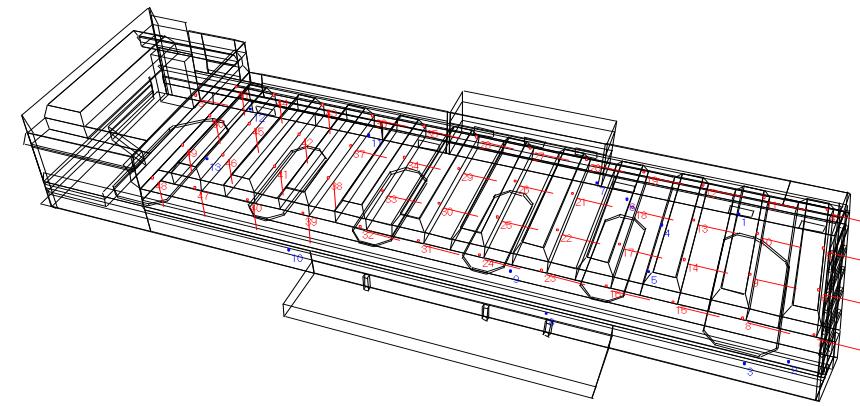
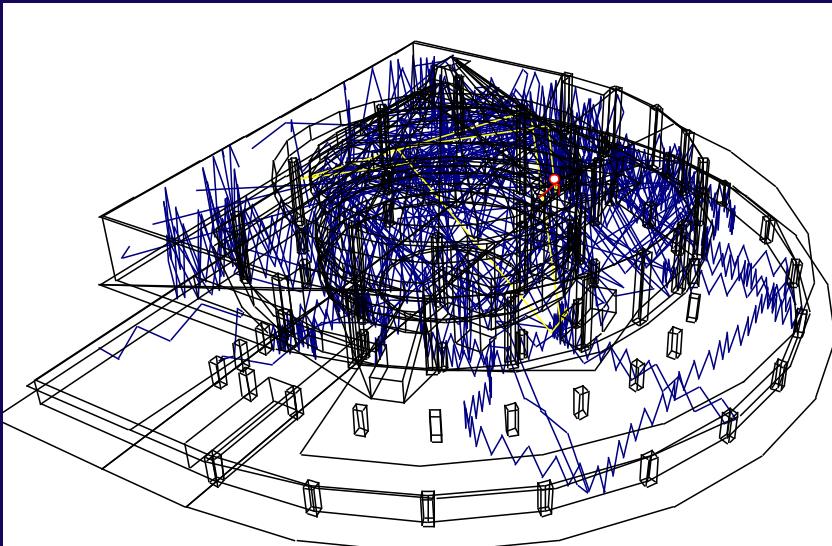
CALCULATION OF... Sound Insulation ... TR



Antalya Airport Indoor Acoustics Design



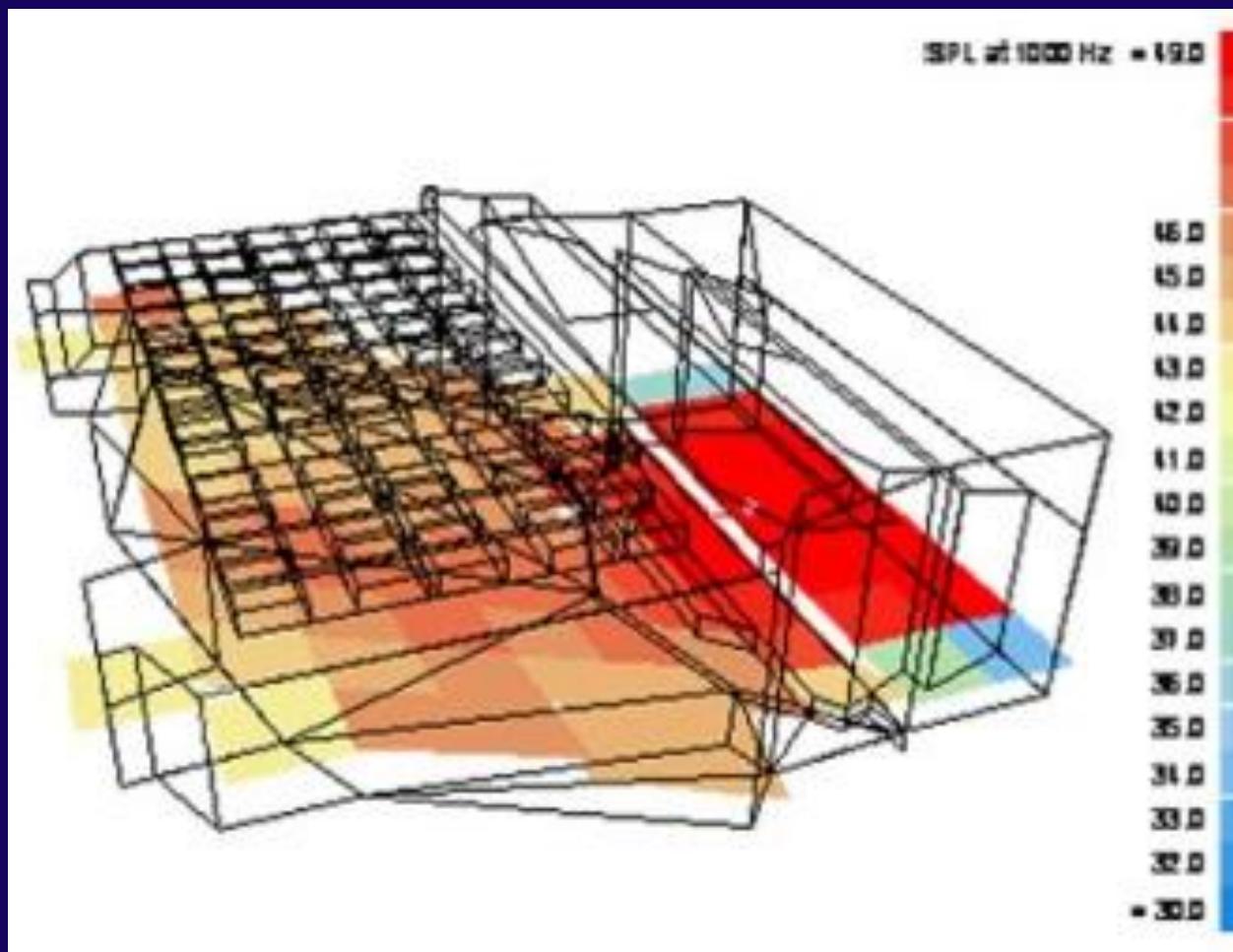
Antalya Airport Indoor Acoustics Design



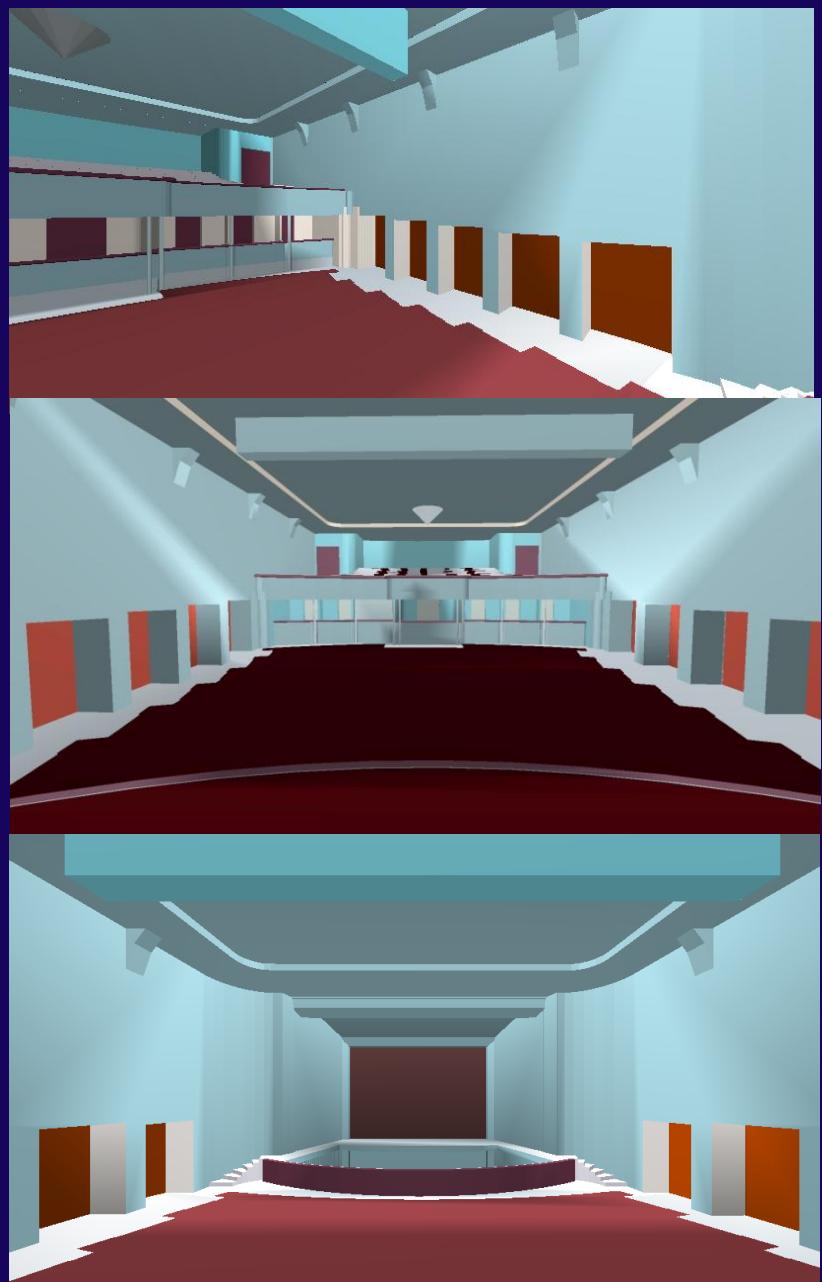
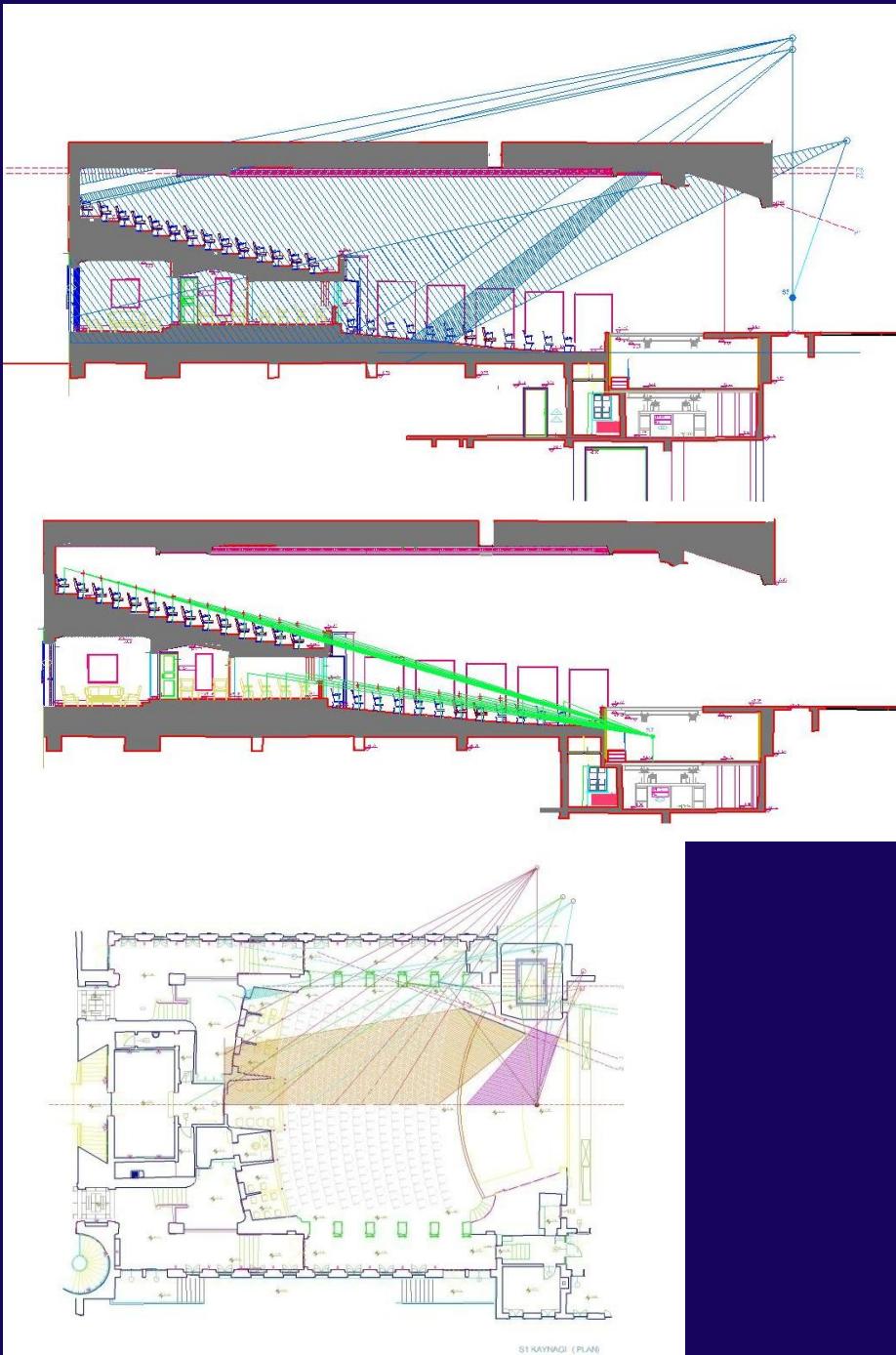
Applications:

- Bodrum Cultural Center , 2000
- Izmit Suleyman Demirel Cultural Center ,1998
- Yesilkoy Mydonose Showland,2001
- Mine Erkaya Music Studio and Improvement Project, 2004
- Besiktas Auditorium of Bahcesehir University, 2004
- Heydar Aliyev Convention Center Acoustical Project, 2009
- Harbiye Kültür Merkezi Multipurpose Hall,2007
- Gaziantep Sanko College Cultural and Sports Center - Acoustical project, 2005
- Bay Hotel Conference Hall Acoustic Project, 2006
- Antalya Airport International Terminal Building Acoustical Project, 2006
- Şişhane Metro Station Acoustical Project”, 2007

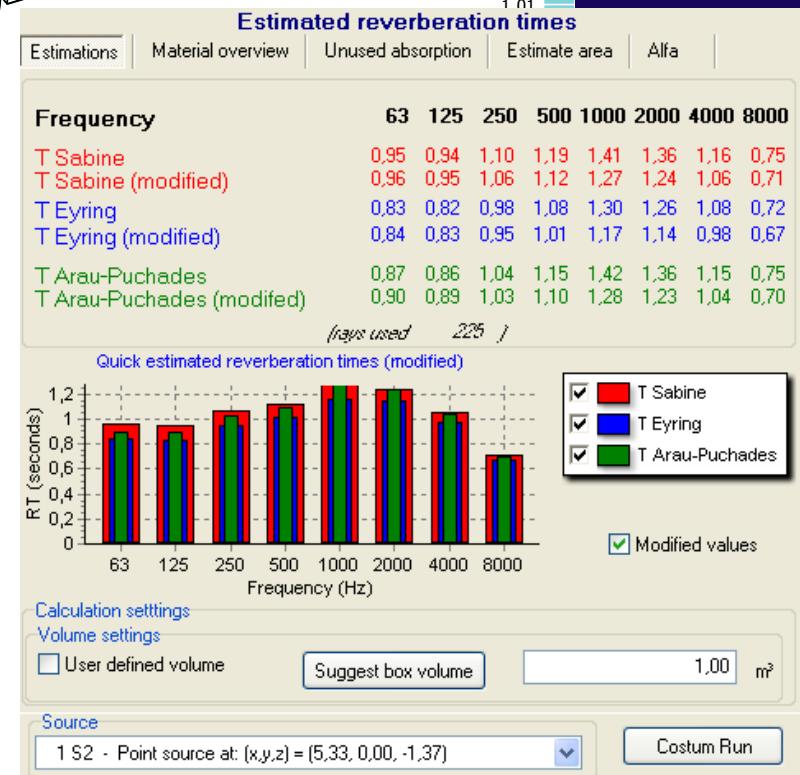
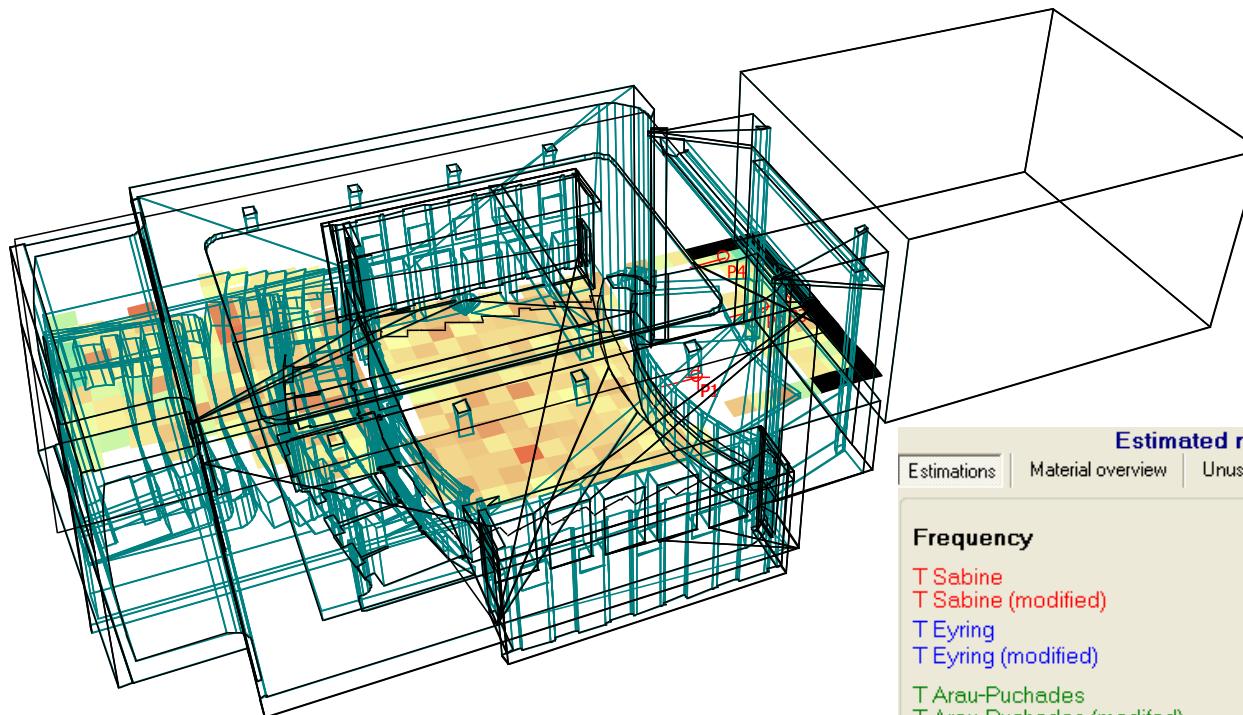
Bahcesehir University Auditorium Indoor Acoustics Design



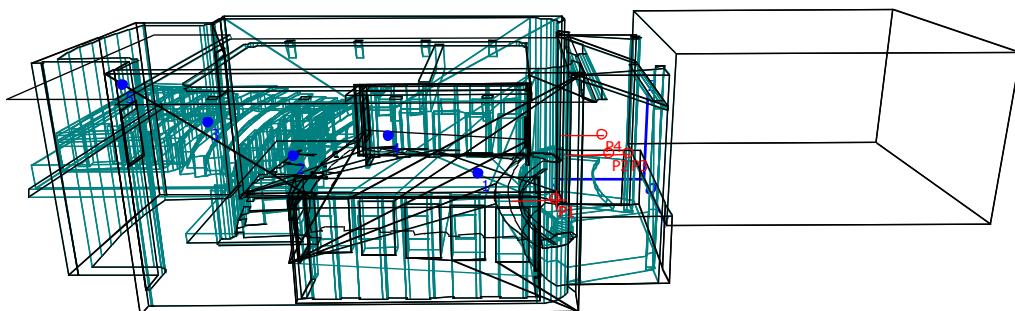
Ankara Opera Hall



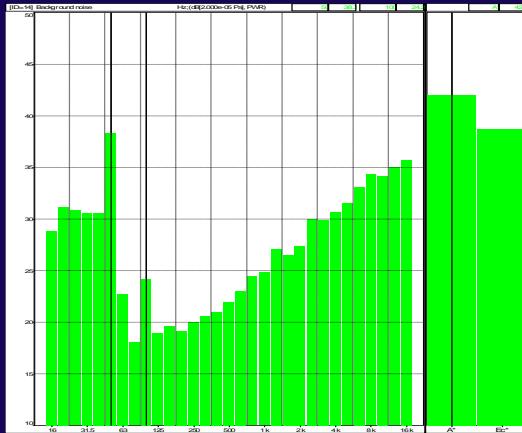
Muhsin Ertuğrul Theatre, ISTANBUL



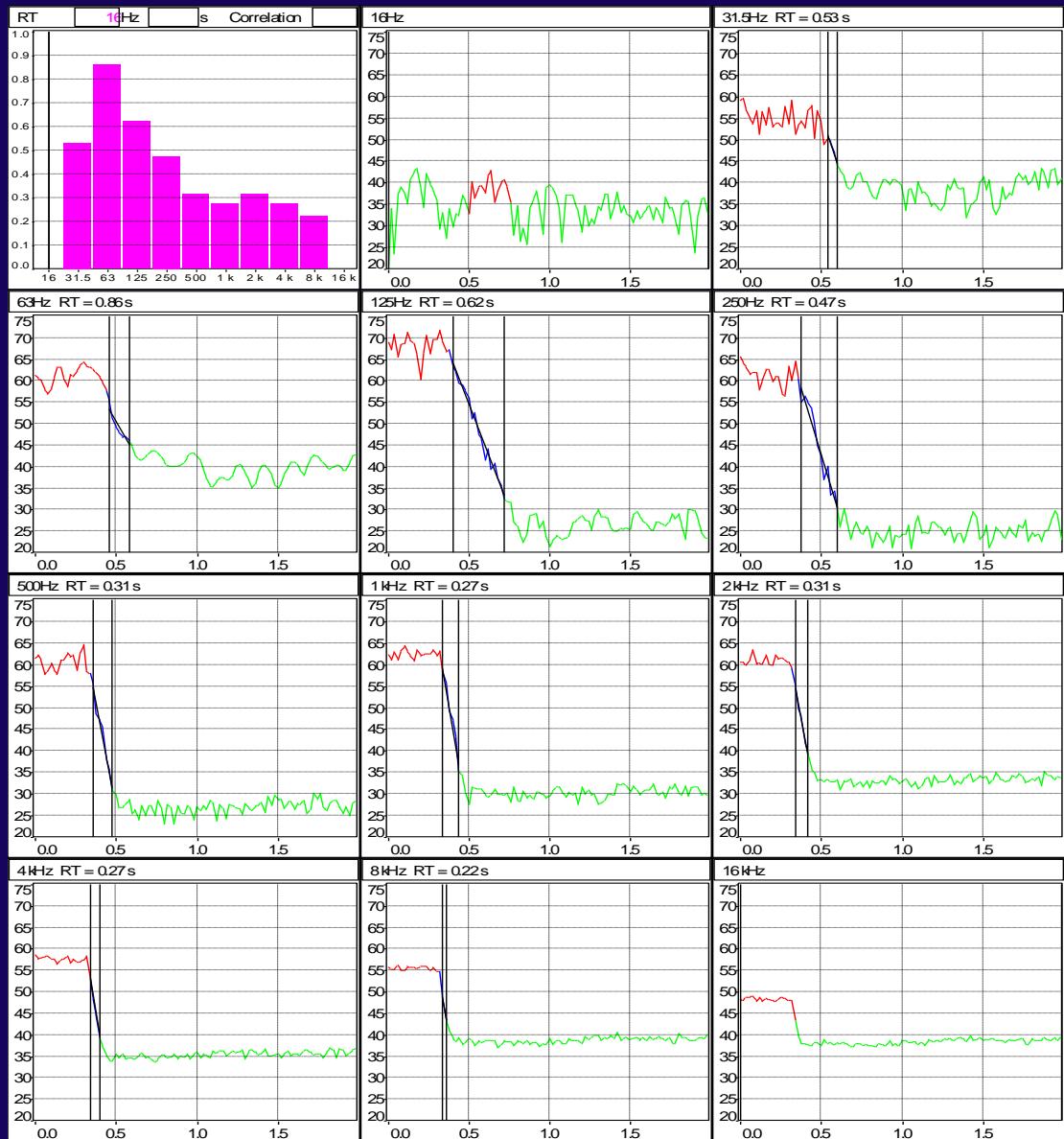
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M.Coşar Recording Studio Acoustics Measurements

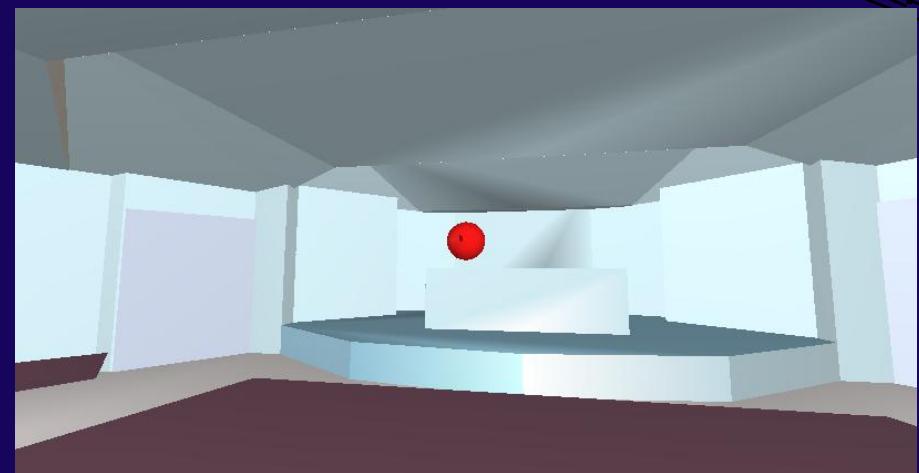
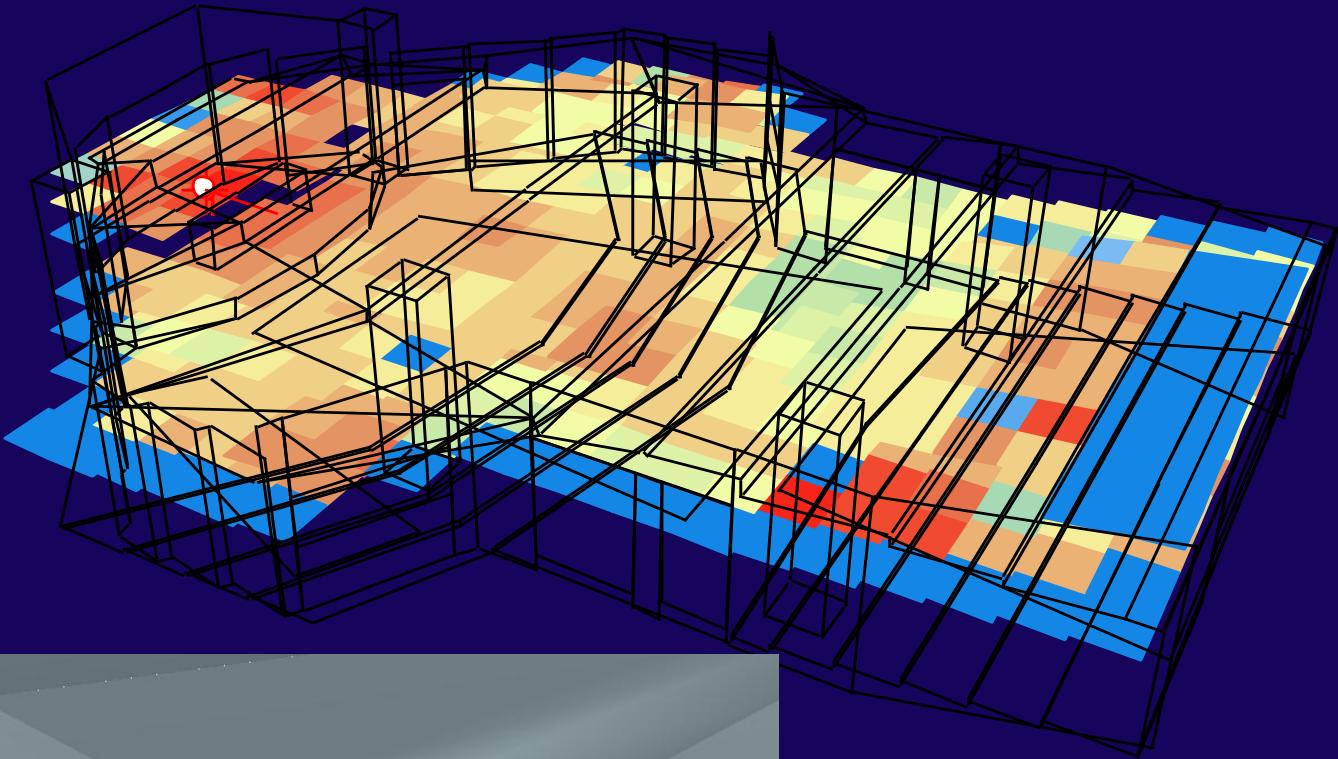


Reverberation Time

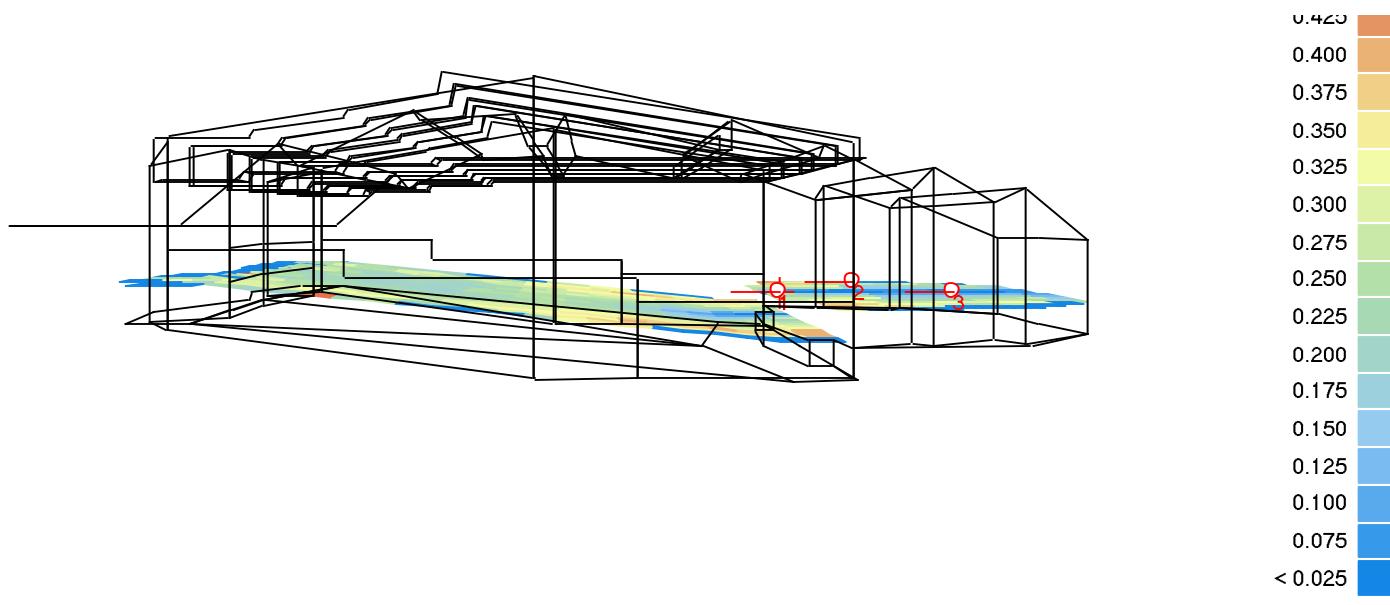
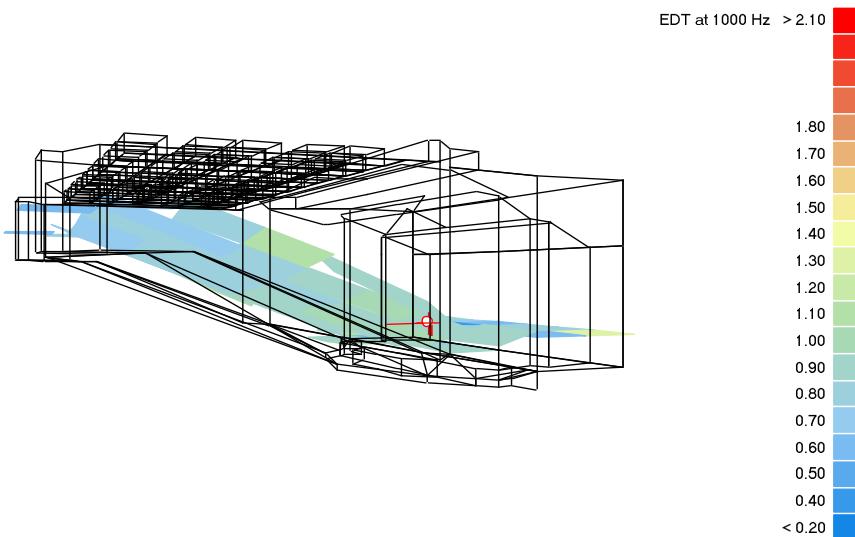
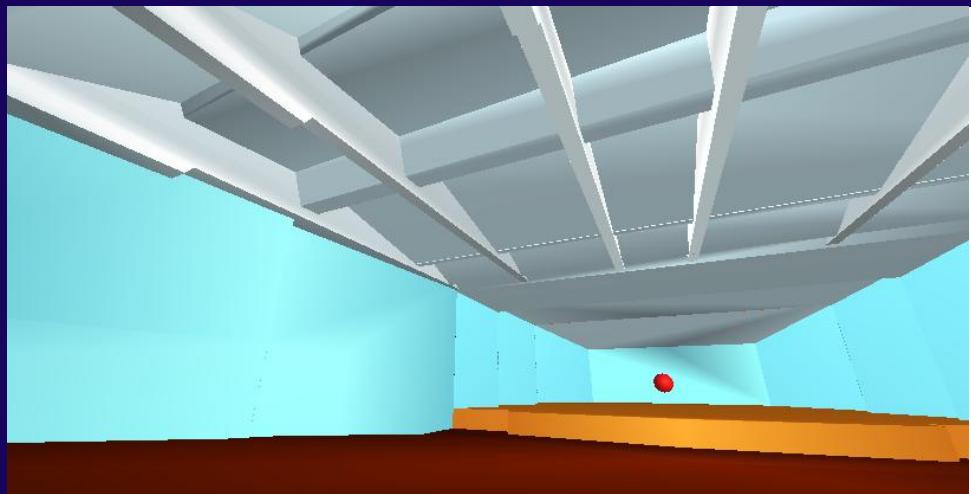


D50 at 1000 Hz > 1.00

Bay Otel Conference Room Acoustics Project, ISTANBUL

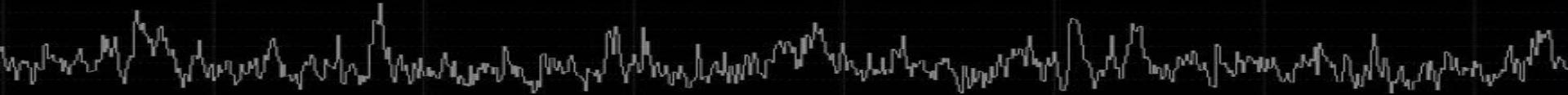


Gaziantep Sanko Multipurpose Hall, GAZIANTEP, TURKEY





NOISE MAPPING PROJECTS



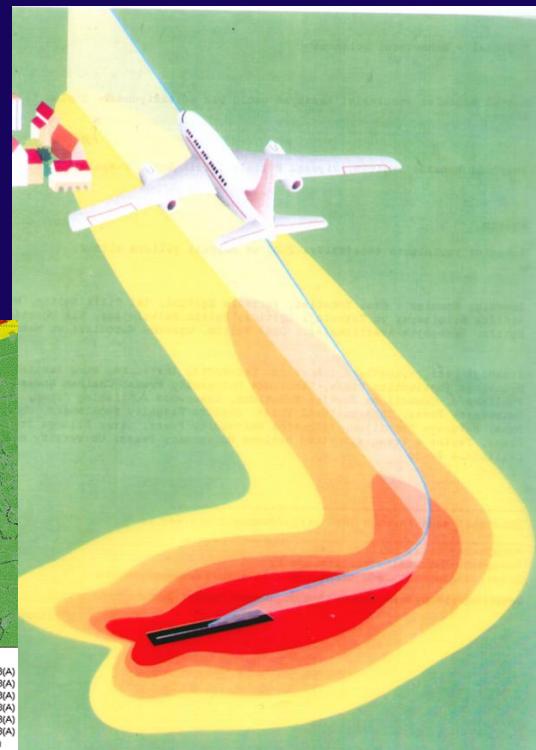
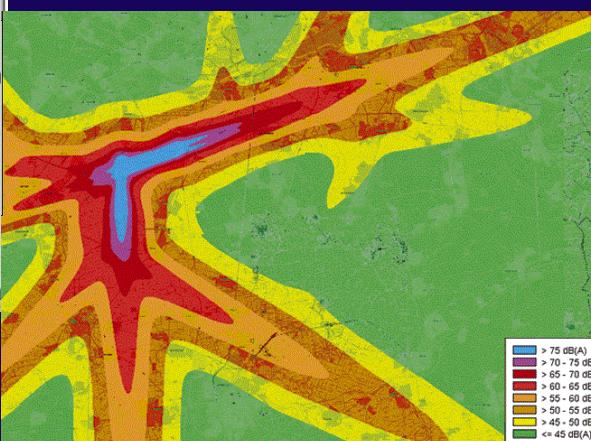
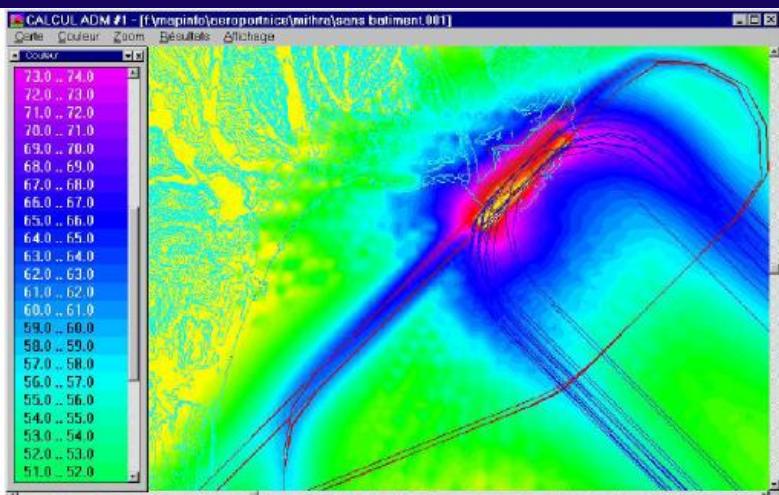
Noise Mapping Applications:

- Noise Mapping and Barrier Design for Trans-European Motorways in Istanbul
- Macka Square Noise map
- Barbaros Avenue Yildiz section
- Beşiktaş Ciragan Street
- E5 (O1) Highway Sisli section
- 4.Levent- TEM Connection road and barrier design (2003)
- Istanbul Bosphorus Bridges and Highway connections
- Besiktas Square
- Buca Municipality (İzmir)

Noise Mapping

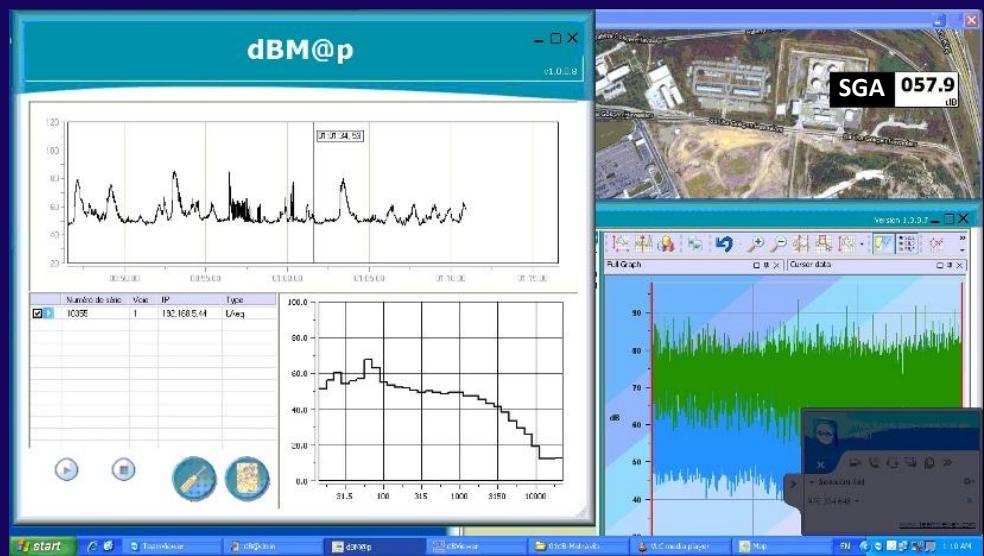
- Preparation of noise maps in accordance with **EU Directive 49/EC** for airports, highways, railroads and industrial buildings by using CADNA-A computer model.

Airport noise map samples (from other sources)

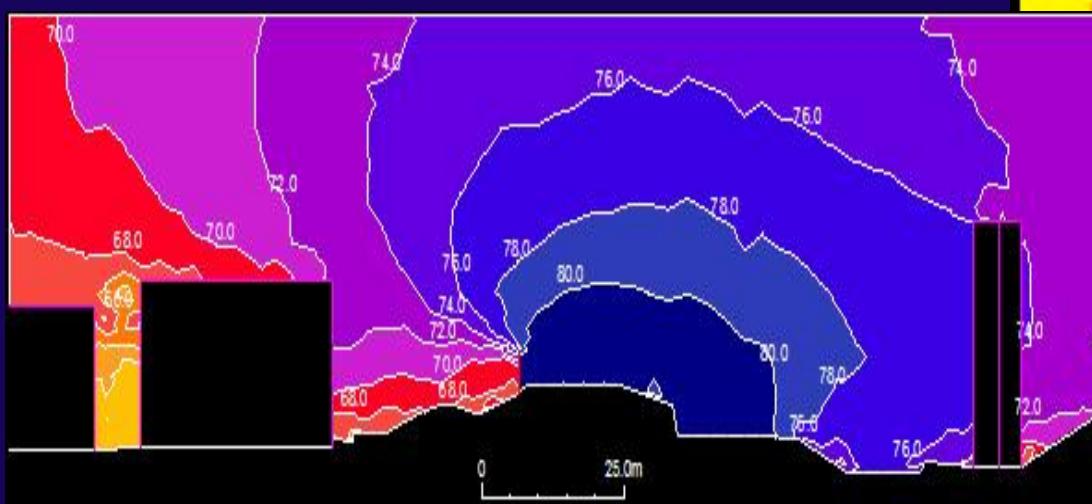
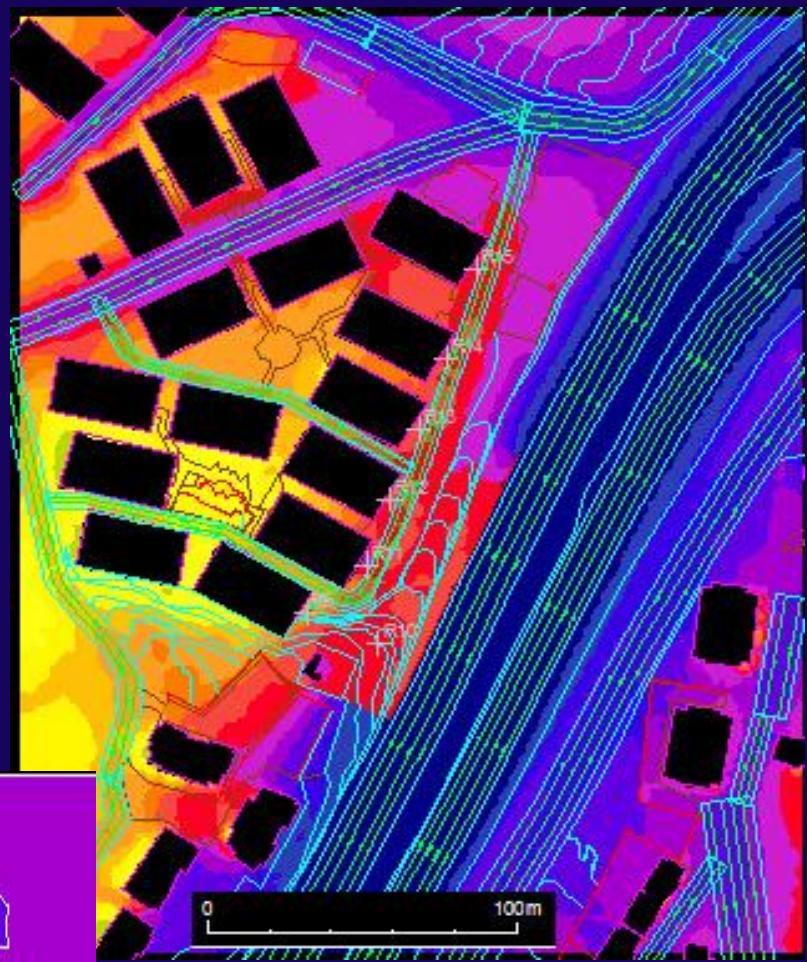




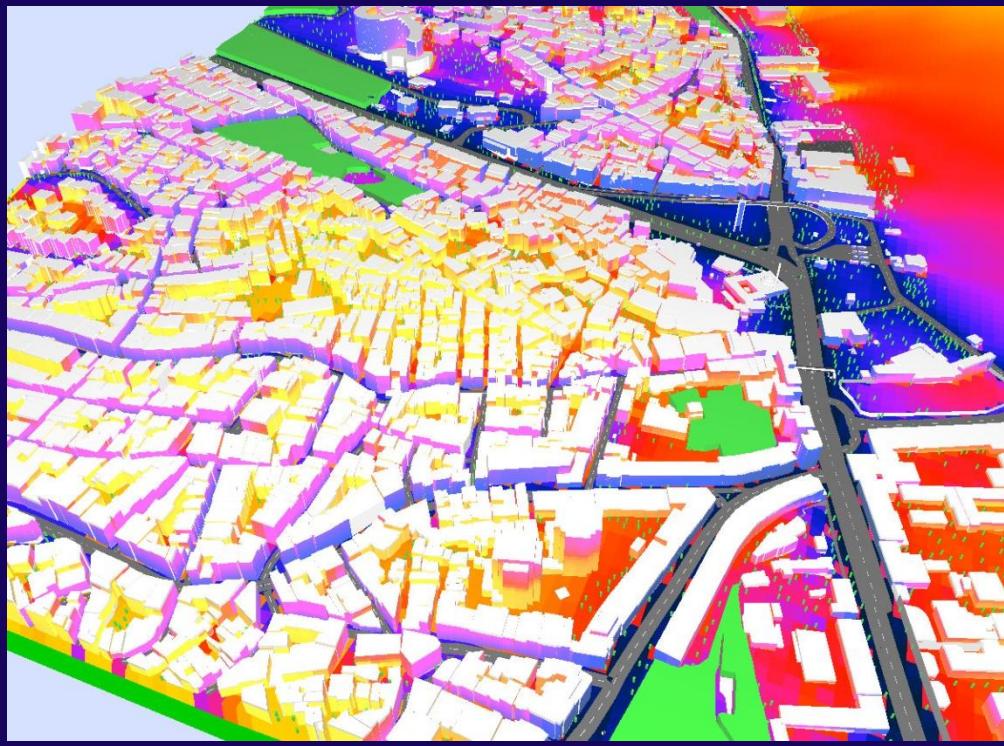
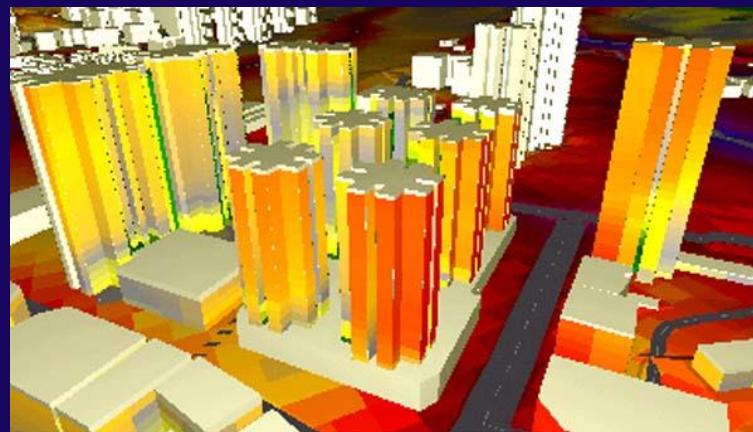
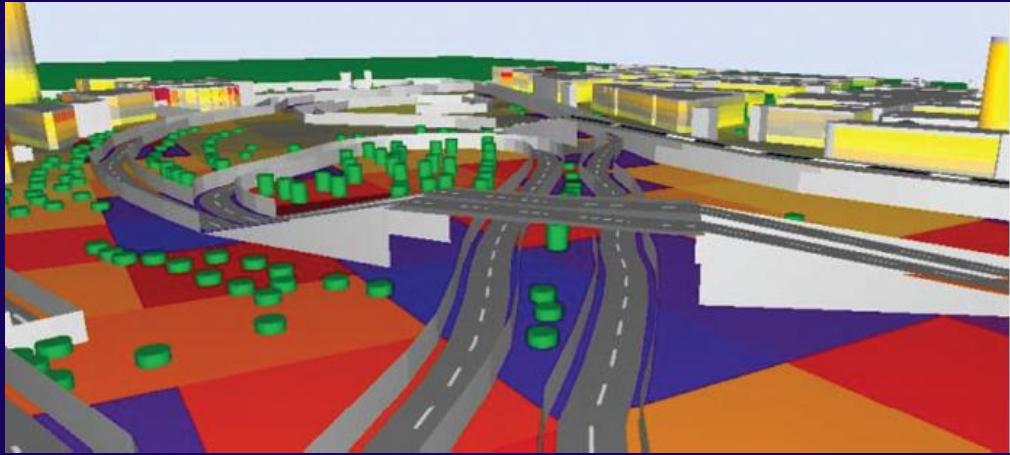
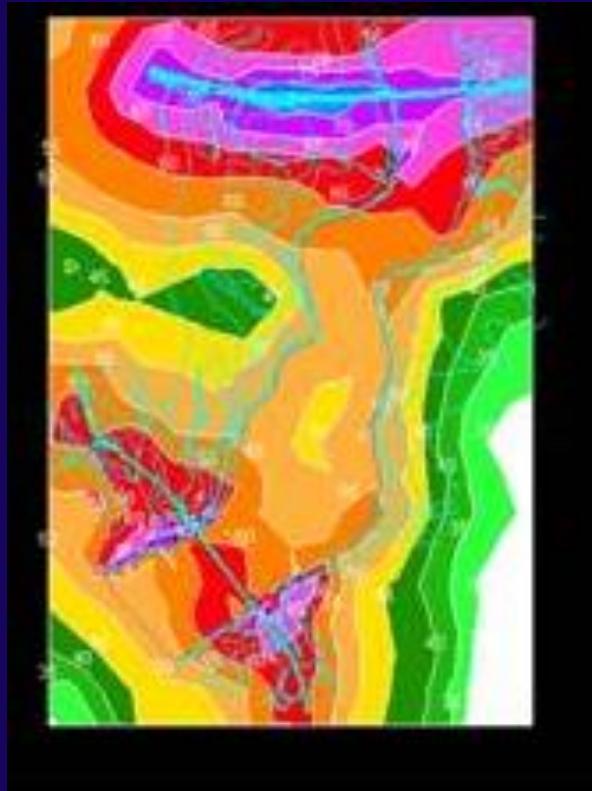
Istanbul Sabiha Gokcen Airport Noise Monitoring System Set Up by dBKES - Hawk



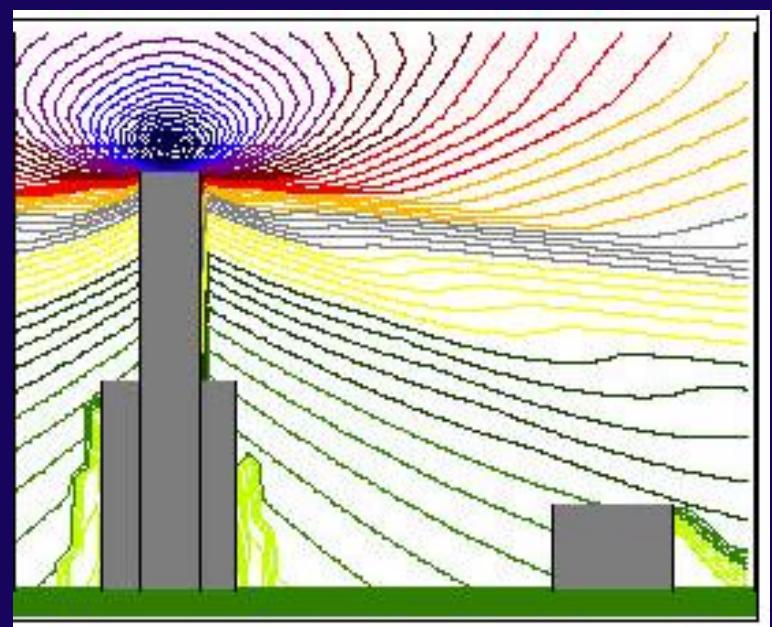
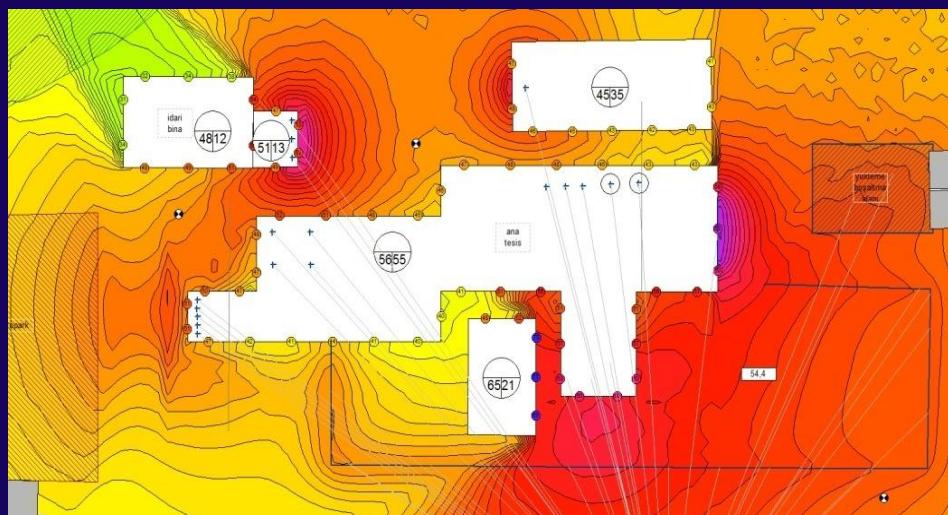
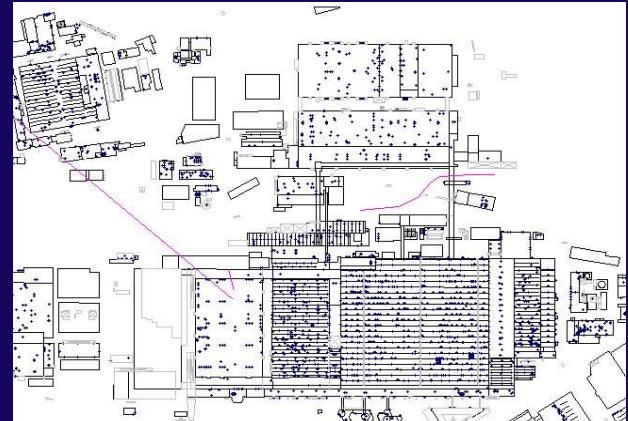
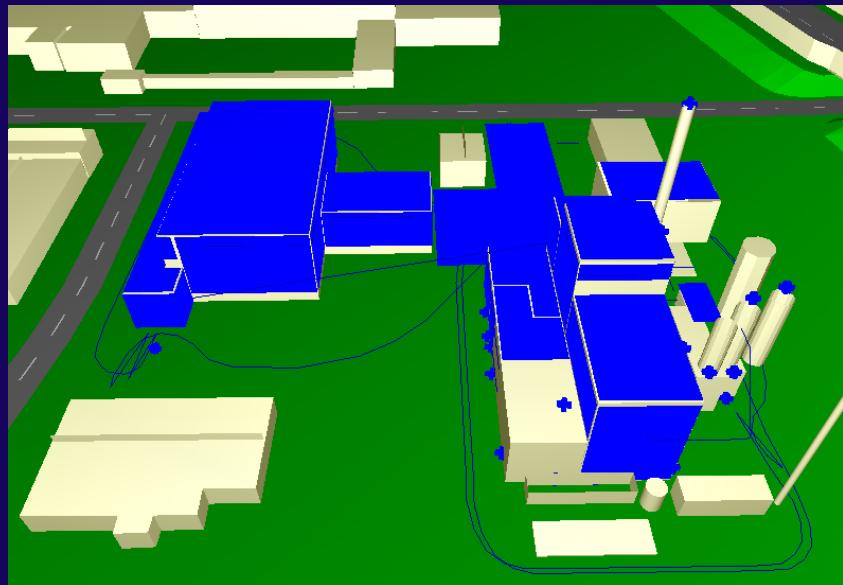
Traffic Noise Maps TEM (Trans European Motorway)



Various Noise Maps

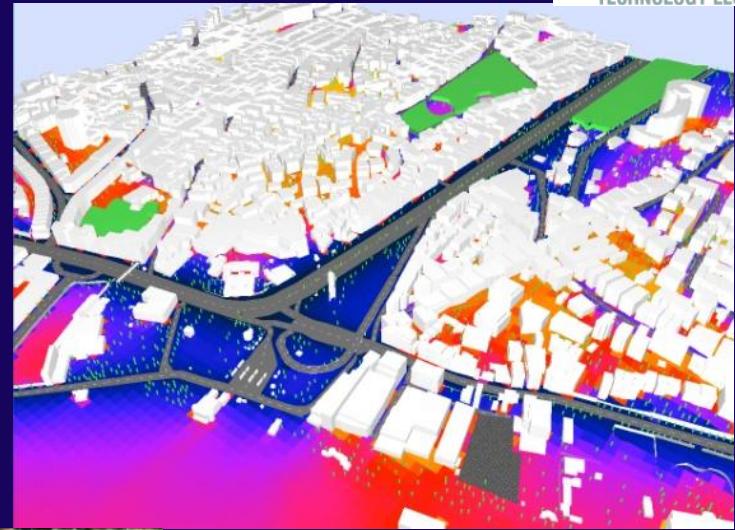
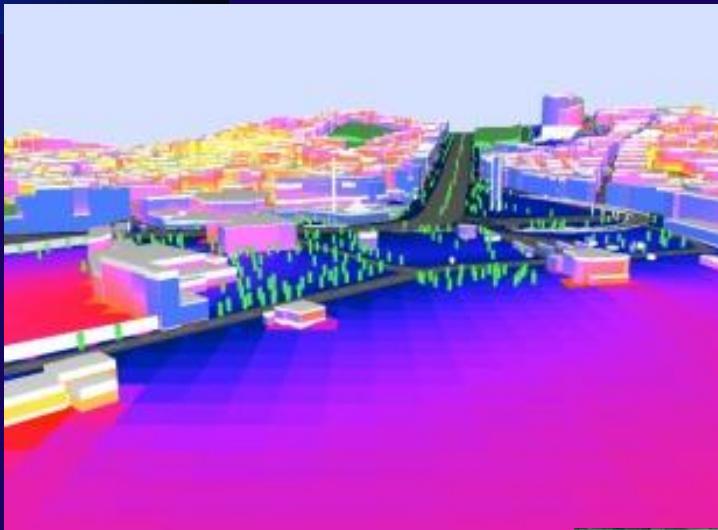


Industrial Noise Mapping

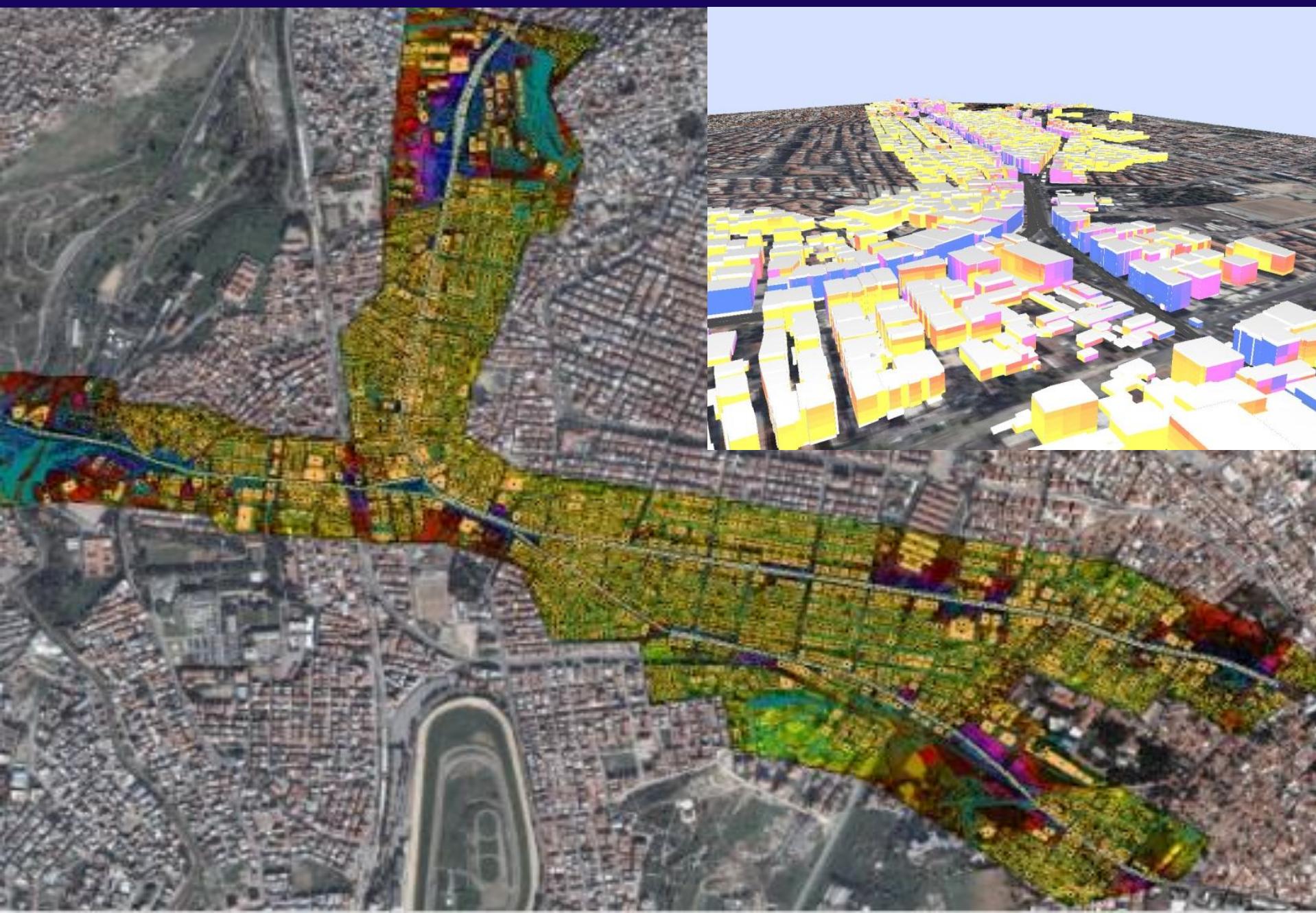




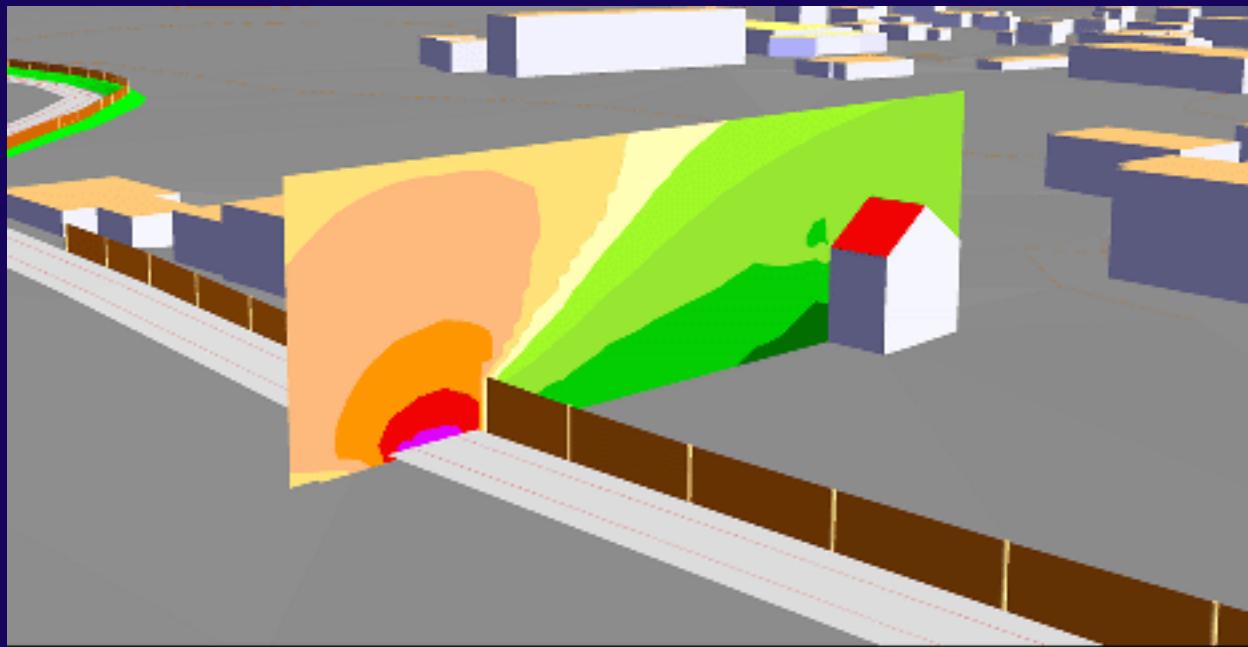
Noise Mapping Projects; Besiktas District - Istanbul



Noise Mapping Projects; Buca District - Izmir



Design of Noise Barriers using CADNA SW DATAKUSTIK



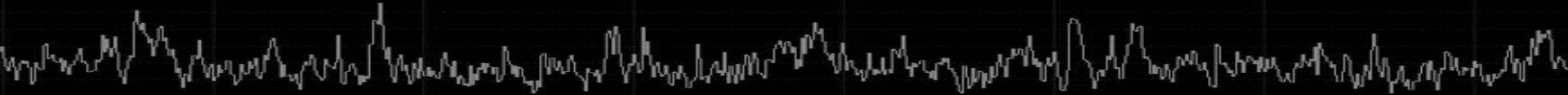


Noise Barrier Applications

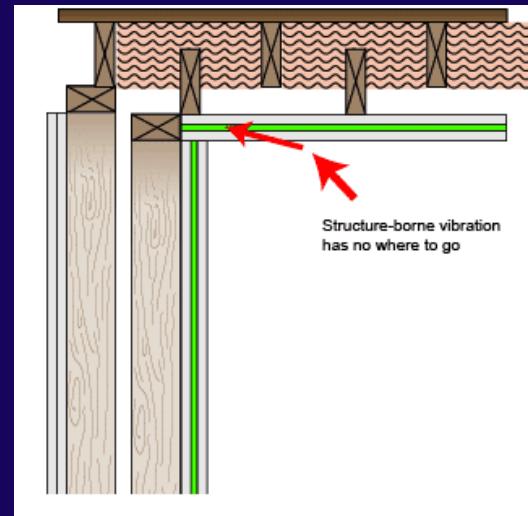
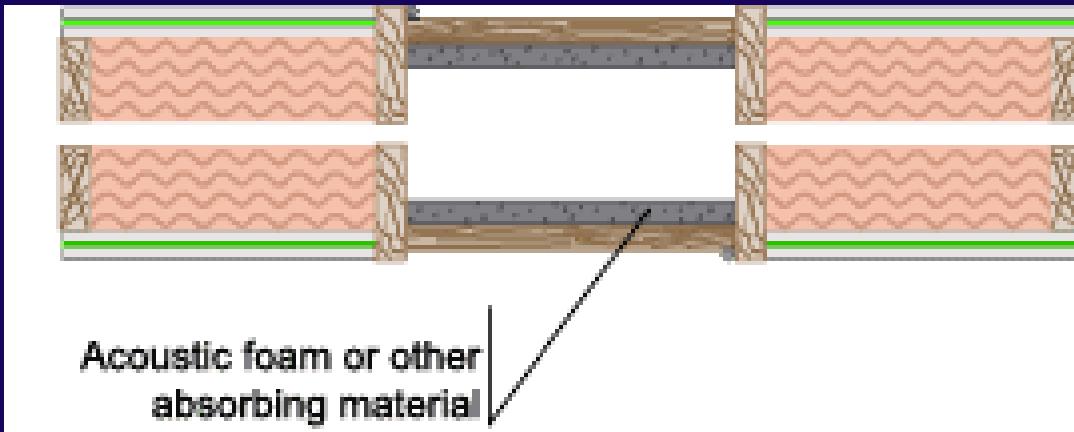
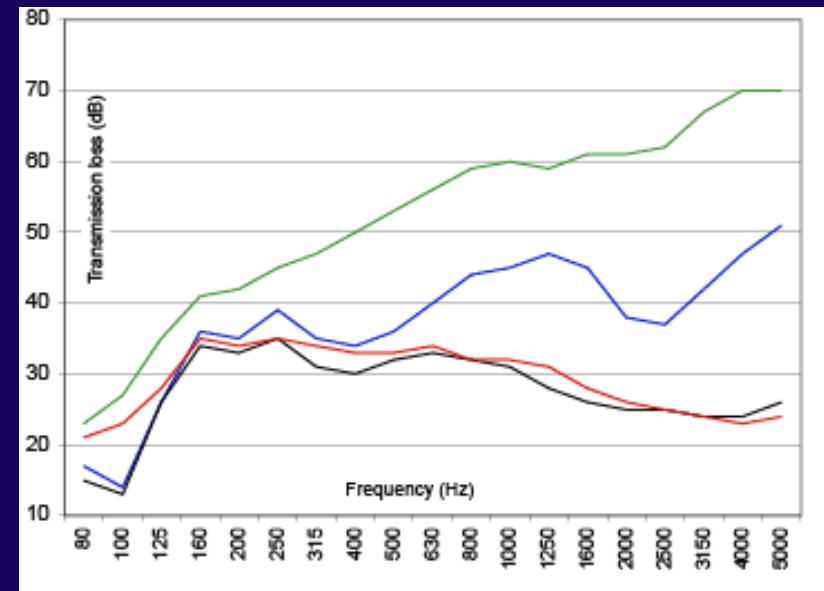
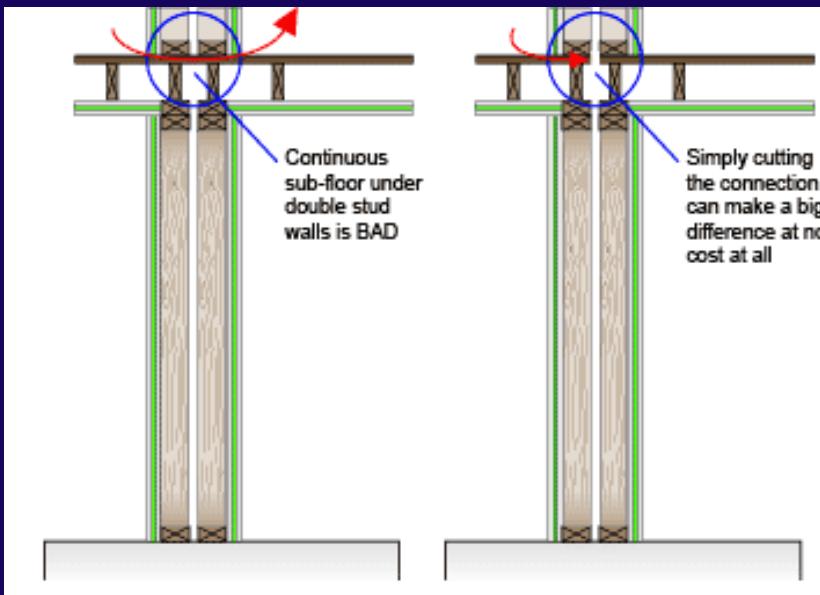




NOISE CONTROL AND SOUND INSULATION PROJECTS



Sound Insulation



Sound Insulation Design by Bastian SW DATAKUSTIK

Bastian - PARTITION BETWEEN CORRIDOR AND LOUNGE.bsp [Copy of Corridor]

Construction Chooser

Country: USA Sketch Diagram Autocad

Elements

- external fiber frame wall
- double, steel panel sections
- uninsulated double wall, massive
- lightweight double wall, under frame

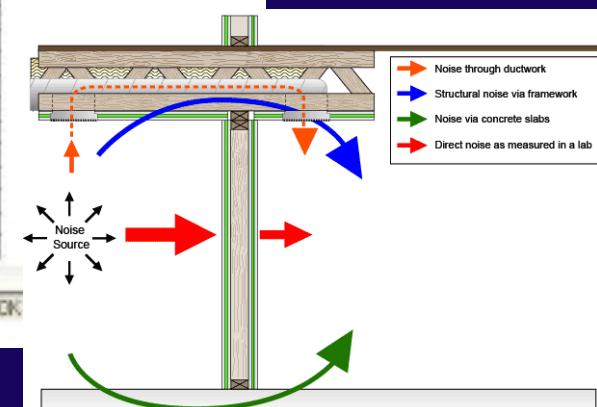
Construction

- [1] gypsum bed, 2x125 mm, 2xDW 50 (HPL) 3xCM 50, gypsum bld, 2x125 mm (2000)
- [2] gypsum bed, 2x125 mm, 2xDW100, gypsum bld, 2x125 mm (1900)
- [3] gypsum bed, 2x125 mm, air 48 mm, gypsum bed, 2x125 mm (96/48)
- [4] gypsum bld, 2x125 mm, air 50 mm, gypsum bld, 2x125 mm
- [5] gypsum bed, 2x125 mm, air 50 mm, gypsum bld, 2x125 mm
- [6] gypsum bed, 2x125 mm, air 70 mm, gypsum bed, 2x125 mm
- [7] gypsum bed, 2x125 mm, CL0150/LEN1 LR 40 mm, gypsum bed, 2x125 mm (96/48)
- [8] gypsum bed, 2x125 mm, CW 100, gypsum bed, 2x125 mm (2000)
- [9] gypsum bed, 2x125 mm, CW 100, gypsum bed, 2x125 mm (2000) 2nd test
- [10] gypsum bed, 2x125 mm, CW 90 (studs 2xDW 50), gypsum bed, 2x125 mm (2000)
- [11] gypsum bed, 2x125 mm, CW 90 (studs 2xDW 100), gypsum bed, 2x125 mm (2000)
- [12] gypsum bed, 2x125 mm, CW 90 (studs CW 50), gypsum bed, 2x125 mm (2000)

OK Cancel Construction Data... Help

Setting Room		Receiving Room	
	DM/CM		DM/LW
Basic Element	Additional Layer	Basic Element	Additional Layer
#999999 (W) 2x125 mm, 2xCM 50 (HPL) 3xCM 50, DW 50			
Overlays - 47.9 kg/m ² 1-3/4 inch thick weiging door (Wood)			50.3 71
Gypsum bld, 2x125 mm, 2xDW 50 (HPL) 3xCM 50, gys	T8 gypsum bld, 2x125 mm, 2xDW 50 (HPL) 3xCM 50, gys		50.4 8
concrete (2200 kg/m ²) 150 mm	T9 concrete (2200 kg/m ²) 150 mm		50.2 10
concrete floor (2200 kg/m ²) 140 mm	T10 concrete floor (2200 kg/m ²) 140 mm	chipboard 25 mm, TD5	50.0 8
concrete floor (2200 kg/m ²) 200 mm	T11 concrete floor (2200 kg/m ²) 200 mm	gypsum bld, 12.5 mm (HPL) 6	
	Total:		49.5 100
	Ground Source		L1 L2
	stereo set (DU Reale)		B(A)B(A)
			50.3 68.8

DM (1) OK





Noise Control Projects



- Solutions for noise and vibration control according to ISO standards and the EU Norms.
- Evaluation of environmental noise pollution
- Transportation noise control (i.e. road traffic noise, aircrafts and airports, railway noise)
- Industrial noise control systems
- Acoustic solutions for office buildings



Noise Control Projects



- Speech privacy systems for open plan office spaces
- Sound insulation solutions for schools, hospitals, residential buildings and other noise sensitive spaces
- Noise and vibration control for mechanical rooms
- Noise control for HVAC, sanitary and electrical systems in buildings



Noise Control Projects



- Solutions for entertainment noise problems (open air and indoor spaces)
- Design of noise barriers (for highways,etc)
- Design of partial or complete enclosures for industrial noise sources



Hotel & Residence Acoustics

Projects:

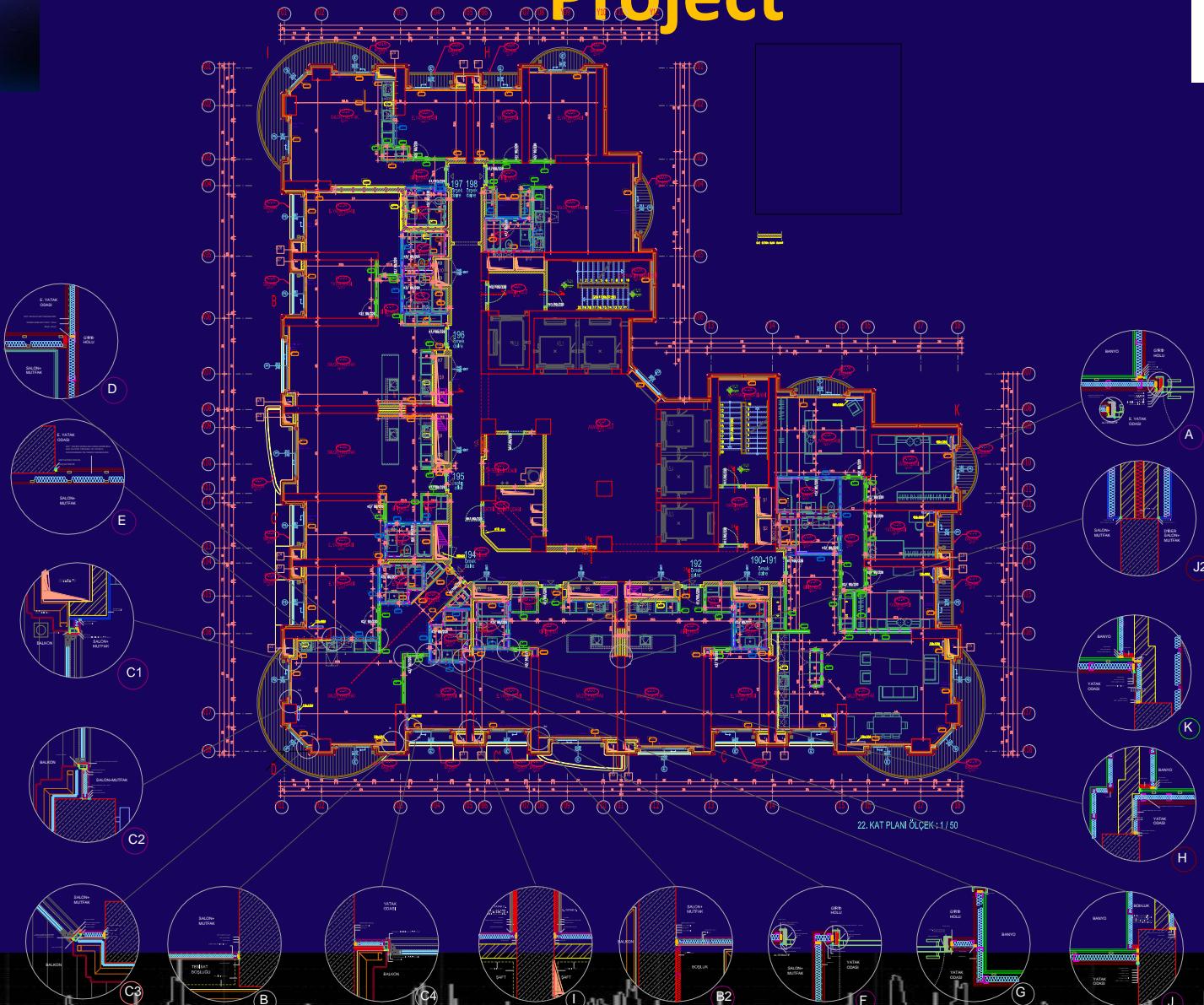
(Measurement, evaluation, noise control, sound insulation)



- Marriot Hotel (Halkalı)
- Bay Hotel (Kadıköy)
- Macka Hotel (Nisantasi)
- Hyatt Hotel (Taksim)
- Radisson Blu (Atasehir)
- Bomonti Anthill Residences Sound Insulation Project
2008
- Metrocity Building (Levent)



Anthill Residences Acoustics Project





Some Other Applications



- Acoustical project of Digiturk Building, 2004
- TEM noise (4.Levent and TEM connection) barrier design, 2003
- Akmerkez Bowling Hall Noise and Vibration Control Project, 2005
- Limonlu Bahçe Sound Control Project, 2006
- Acoustics Project for Antalya International Airport, 2006



OTHER ACTIVITIES



Training Activities



- Organized by both Bahçeşehir Üniversitesi Technology Development Center and dBKES Ltd. The readers : Prof.Dr.Selma Kurra (Bahcesehir University), Frantz Leguy ve S. Bloquet (01 dB Metravib), Ferit Bonfil (Polytech). Nov. 17-18 2003
- dB-KES Ltd. applies user training programs (1-3 days) for the 01dB - ACOEM and Polytec products.
- On The Road training activities and workshops, once a year May – June timeframe, since 2004.



REFERENCES



Universities Who Selected dB-KES

- Anadolu University
- Atatürk University
- Bahçeşehir University
- Bilkent University
- Bosphorus University
- İstanbul Technical University
- Kocaeli University
- Koç University
- Middle East Technical University
- On Dokuz Mayis University
- Sabancı University
- Yildiz University



Some of the Companies Who Selected **dB-KES**

- Alarko
- Arçelik
- Aselsan
- Borusan
- Bosch
- DIA Holding
- Erdemir Steel
- Ford
- Izocam Glass
- Matay
- Mebant
- Medikal Galeri
- Roketsan
- SANKO
- Schneider Electric
- STM
- TACA Construction
- TCMA
- Tekno Kauçuk
- Toyota
- Turkish Naval Forces
- Urban Sys



THANK YOU



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