GÜRÜLTÜ EĞİTİM PROJESİ ÇALIŞTAYI

www.noise-training.eu

erasmusplusnoise@gmail.com

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IMPROVEMENT OF ENVIRONMENTAL NOISE MANAGEMENT SKILLS IN AUDITS

KİTAPÇIK-3: ÇEVRESEL GÜRÜLTÜ YÖNETİMİNDE TEKNİK YAKLAŞIMLAR

Antalya Çevre ve Şehircilik İl Müdürlüğü
11 Ekim 2019

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KİTAPÇIK 3 İÇERİĞİ

- Çevresel Gürültü Yönetimi Kapsamında Çalışanlardaki Gereklilikler
- Çevresel Gürültü Ölçüm Teknikleri
- Gürültü Kaynaklarına Göre Ölçüm Prosedürleri
- Örnek Durumlar için Gürültü Ölçümü Pratik Rehberi

İtalya, İspanya ve Türkiye'deki Uygulamalar

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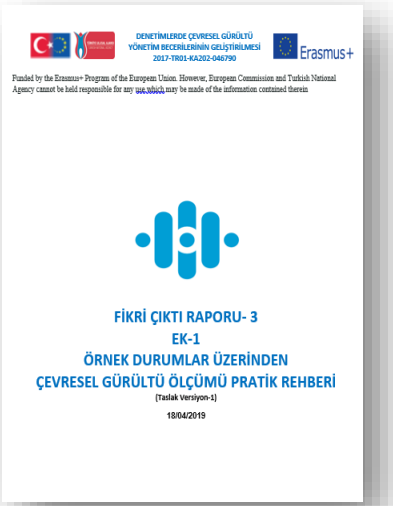
		ITALY	SPAIN	TURKEY
BİNA CEPHESİNDE GÜRÜLTÜ ÖLÇÜMLERİ	1A	ULAŞIM DIŞINDAKİ TÜM GÜRÜLTÜ KAYNAKLARI İÇİN	TOPLAM ÇEVRESEL GÜRÜLTÜ DÜZEYİ İÇİN	EĞLENCE YERLERİ VE İŞYERLERİ VB.
	1B	ULAŞIM KAYNAKLARI İÇİN	ULAŞIM KAYNAKLARI İÇİN	KARAYOLU, DEM,RYOLU VE ENDÜSTİ TESİSLERİ İÇİN
	1C	MOVIDA –GEÇİCİ FAALİYETLER	MOVIDA –GEÇİCİ FAALİYETLER	İNŞAAT FAALİYETLERİ
GÜRÜLTÜ KAYNAĞI KARAKTERİZASYONU	2	-ISO 3744-3746 STANDARDS)	ISO 3744-3746 STANDARDS)	- ISO 3744-3746 STANDARDS)
İÇ ORTAMDAKİ GÜRÜLTÜ ÖLÇÜMLERİ	3A	İÇ ORTAM GÜRÜLTÜ DÜZEYİ ÖLÇÜMLERİ – TÜM KAYNAKLAR İÇİN	KONUTA BİTİŞİK İŞYERLERİ DENETİMLERİ İÇİN VE MOVIDA İLE GEÇİCİ FAALİYETLER DAHİL	KONUTA BİTİŞİK İŞYERLERİ-EĞLENCE YERİ VB. DENETİMLERİ İ
	3B		TOPLAM ÇEVRESEL GÜRÜLTÜ DÜZEYİ ÖLÇÜMÜ	



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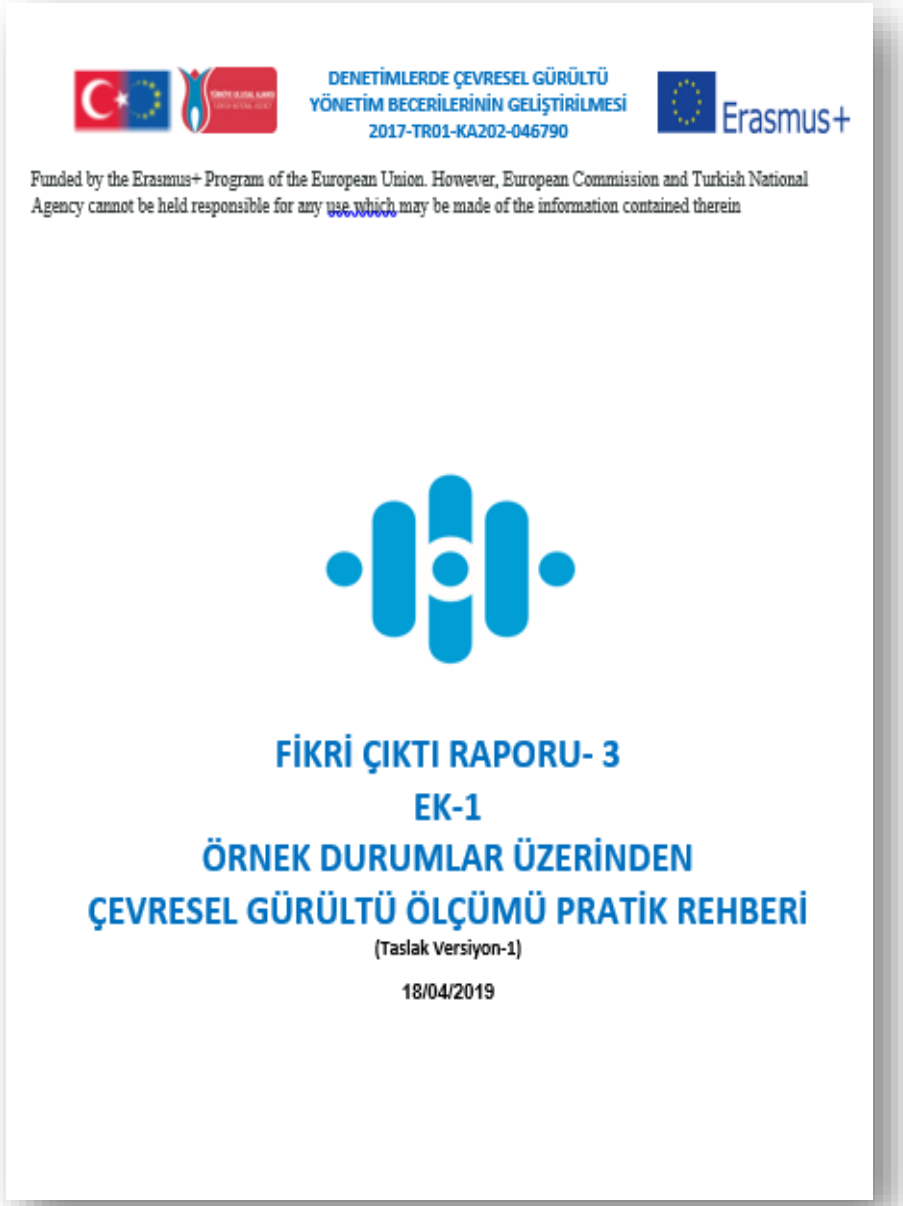
REHBERDEKİ HER BİR ÖLÇÜM SENARYOSU İÇİN VERİ İÇERİĞİ

HEDEF
KAPSAM
ÖLÇÜM CİHAZI
CİHAZ AYARLARI
TEMEL REFERANS AKUSTİK PARAMETRELER
KALİBRASYON
ÖLÇÜM KOŞULUNUN TANIMLANMASI
ÖLÇÜM İÇİN ÇEVRESEL DÜZENLEMELER
ÖLÇÜM CİHAZI VE PERSONELİN KONUMU
ÖLÇÜM PERİYODU VE SÜRESİ
LİMİT DEĞERLER
RAPORLANACAK TEMEL ÖĞELER
ÖLÇÜM PERSONELİ NİTELİĞİ


DENETİMLERDE ÇEVRESEL GÜRÜLTÜ YÖNETİM BECERİLERİNİN GELİŞTİRİLMESİ
2017-TR01-KA202-046790

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FİKRİ ÇIKTI RAPORU- 3
EK-1
ÖRNEK DURUMLAR ÜZERİNDEN
ÇEVRESEL GÜRÜLTÜ ÖLÇÜMÜ PRATİK REHBERİ
(Taslak Versiyon-1)

18/04/2019

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REHBERDEKİ HER BİR ÖLÇÜM SENARYOSU İÇİN VERİ İÇERİĞİ
BİNA CEPHESİ ÖLÇÜMLERİ

	ITALY	SPAIN	TURKEY
	Noise measurements on building facade (for all sound sources except for infrastructures)	**Overall environmental noise measurements outdoors (on building facade, or any location within an acoustic zone)**	**Noise measurements on building facade (for the entertainment places, manufactures, workplaces not directly connected/structured to the exposed building) - Outdoor measurements**
TARGET	Comparison with the zone limits deriving from the acoustic zoning	Determine whether the overall acoustic environment complies with the reference levels defined for the area	Comparison with the noise limit value based on the differential level with the background noise
SCOPE OF	All sources (except infrastructures)	Environmental noise produced by the contribution of all the noise sources in the area	Entertainment places, manufactories, workplace, ect. not directly connected to the exposed building
MEASURING INSTRUMENTS	Sound level meter and acoustic calibrator in class 1; windproof hood. Calibration certificate every 2 years	Sound level meter and acoustic calibrator in class 1; windproof hood. Calibration certificate every year	Sound level meter and acoustic calibrator in class 1; windproof hood. Calibration certificate every 2 years
INSTRUMENTS SETTINGS	Analysis in 1/3 octave frequency band (20-20000 Hz) with acquisition of LZFmin to verify the presence of tonal components. Acquisition time: in general 1 s (100 ms to check the presence of impulsive component)	A-weighted equivalent continuous sound level	For audit purpose in noise complaints: selection on time weighting Slow, Fast, Impulse based on the noise type. LAeq and LCeq (to verify the low frequency components). For preparing noise level assessment: analysis in 1/3 octave frequency band - LZFmin (to verify tonal components); LAeq, LCeq (to verify the low frequency components); LCmax, LFmax, LAImax (to verify the impulsive components). Minimum noise measurement time: 5 minutes
MAIN REFERENCE ACOUSTIC PARAMETERS	LAeq, L95, LZFmin (in 1/3 octave frequency band) to verify the presence of tonal components. LAImax, LASmax, LAFmax to verify the presence of impulsive components	$L_{Aeq,x}$ (to determine noise level in day, evening and night periods)	LAeq vs Lceq; LZFmin (in 1/3 octave frequency band) LAImax, LASmax, LAFmax, LCmax
CALIBRATION	Before and after each measurement. Maximum deviation: 0.5 dB.	Before and after each measurement. Maximum deviation: 0.3 dB.	Before and after each measurement. Maximum deviation: 0.6 dB.

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BİNA CEPHESİ ÖLÇÜMLERİ

	ITALY	SPAIN	TURKEY
SCENARIO AND MEASUREMENT CONDITIONS DEFINITION	Microphone positioned at least 1 m from the receiver facade (approximately near the windows). Environmental noise level and background noise are measured.	The measurement have to be performed at any receptor location in the zone. Influence of background noise and facade reflection effect must to be excluded.	Facade most disturbed by the specific noise source. Measurements taken with noise source switched on and off. Background noise correction and facade reflection are considered.
ENVIRONMENT CONFIGURATION FOR MEASURE	No human noise and absence of exceptional noisy events around the area of investigation.	Regular setup of the noise sources in the area.	No Human noise and absence of exceptional noisy events. No rainy weather and wind speed under 5 m/s
POSITION OF THE INSTRUMENT / OPERATOR	At 1 m from the facade; the measurement height is usually 4 m. The operator must position himself at a distance of not less than 3 m from the microphone.	Although other heights are possible, the noise measurements must be referred to a location at a 4m height. The measurement point must be at a distance of 1.2m from the facade.	At 3-3.5 m from the facade (min. 1 m if there is no sufficient space). Microphone height is min. 1.2-1.5 m.
PERIODS AND TIME OF MEASURE	Daytime period (6 am-10 pm) and Nighttime period (10 pm-6 am). The measurement time will be chosen for correctly representation of specific source (usually 10-15 minutes).	Daytime period (7 am-7pm), Evening period (7 pm-11 pm) and Nighttime period (11 pm-7 am). The assessment has to be done for each time period.	The measurement time will be chosen for correctly representation of specific sound source. The minimum measurement time is 5 minutes.
LIMITS TO BE RESPECTED	Absolute immission limits and/or emission limits. These limits are defined to the Acoustic Zoning and are refered to the entire time period (daytime or nighttime).	2 limits: 1) long term LAeq,x of each period 2) 2 dB higher than the previous, a value that can not be exceeded by 97% of the daily values.	The noise limits are based on the difference between the background noise and the emission noise level of specific noise source.
REPORT ESSENTIAL ELEMENTS	Description of the scenario and measurement context, description of the source under investigation, identification of the limits of the reference law.	Description of the scenario and source condition. Description of the measurement records, and the assessment indicators. Identification of the limits to be applied according to the acoustic zoning.	Description of the scenario, measurement context and noise source under investigation. Presentation of the noise measurement data and conditions. Identification of the limit values and comparison with the reference law.
TECHNICIANS QUALIFICATIONS	Qualification of “Expert in Acoustics” according to national requirements	Not applied	For measurement staff: level A1 or A2. For measurement laboratory: qualification certificate.

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GERÇEK DURUM ÇALIŞMASI- GÜRÜLTÜ DENETİM Ocak 2019

TÜRKİYE CUMHURİYETİ
ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI
Antalya Çevre ve Şehircilik İl Müdürlüğü

GÜRÜLTÜ ÖLÇÜM RAPORU
Measurement Report of Noise

ÖLÇÜM YAPILAN TESİS
Measured Facility

ADI *Customer's Name*	[redacted] – İçkili Restoran Kafe Bar
ADRES *Customer's Address*	Şirinyalı Mah. Lara Cad. [redacted] Muratpaşa /ANTALYA
TEL *Customer's Telephone Number*	[redacted]
FAX *Customer's Fax Number*	-
ÖLÇÜM TARİHİ *Date of Measurement*	16.01.2019
RAPOR TARİHİ *Date of Report*	29.05.2019
RAPOR SAYFA SAYISI *Number of pages of the Report*	24
RAPOR NÜSHA SAYISI *Number of copies of the Report*	1
AÇIKLAMALAR *Remarks*	-

ÖLÇÜM YAPAN KURUM
Measured By

ADI *Laboratory's Name*	Antalya Çevre ve Şehircilik İl Müdürlüğü
ADRES *Laboratory's Address*	Meltem Mahallesi Dumlupınar Bulvarı No:175 -- 07030 Muratpaşa / ANTALYA
TEL *Laboratory's Telephone Number*	(242) 237 00 10
FAX *Laboratory's Fax Number*	(242) 237 00 10
WEB *Laboratory's Web Address*	antalya.csb.gov.tr
e-MAIL *Laboratory's e-Mail Address*	antalya@csb.gov.tr

TEST REPORT

MEASUREMENT AND EVALUATION OF NOISE I
DWELLING, DUE TO A DISCO BAR.

Test report code: PV19LEA1

ef. of activity:
[redacted] Cafe & Bar
ctivity address:
irinyalı Mahallesi ,
7160 Muratpaşa (Antalya) Turkey

FO-MC-00-05/II (06/12/2018)

LABENAC
LABORATORIO DE ENSAYOS ACÚSTICOS
Campus Sur UPM.
Edif. E.T.S.I Topografia, Geodesia y Cartografia.
Ctra. Valencia, km 7. - Madrid – 28031
Teléfono: +34 910678963

Measurement and assessment of noise immission in a living environment

Şirinyalı Mahallesi,
07160 Muratpaşa (Antalya) Turkey

Due to the activity of *Club Cafe & Bar*

Vie en.ro.se.
Ingegneria

April 2019

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ÖLÇÜM VE DEĞERLENDİRME YÖNTEM KARŞILAŞTIRMASI

Haziran 2019 –Madrid Çalıştayı

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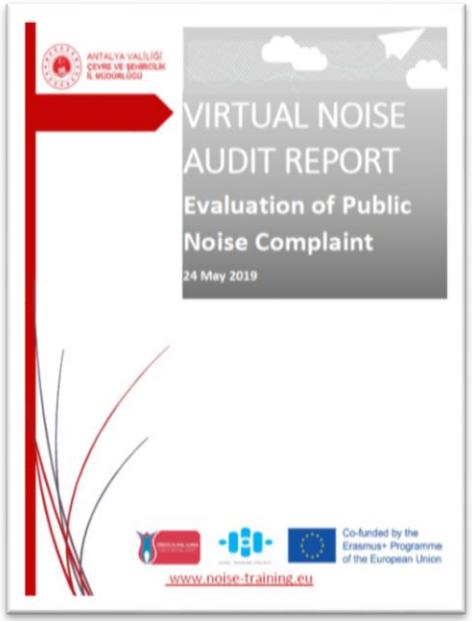
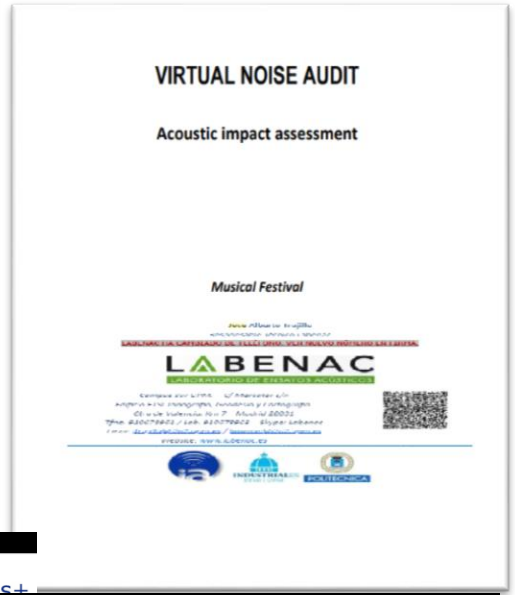
LinkedIn





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ÖZETLE;

Gürültü ölçüm ve denetimlerinin hem yasal anlamda hem de teknik bağlamda farklı şekilde yürütüldüğü görülmektedir.

Bu alanda çalışan kişilerin yeterliliklerinin ortak noktada buluşması ve diğer ülkelerde de çalışılabilirliği artırma anlamında önemli olacaktır.
limitations

Aynı gürültü senaryoları olmasına rağmen çevresel gürültünün değerlendirme sürecinin farklı olduğu da ortaya çıkmaktadır.

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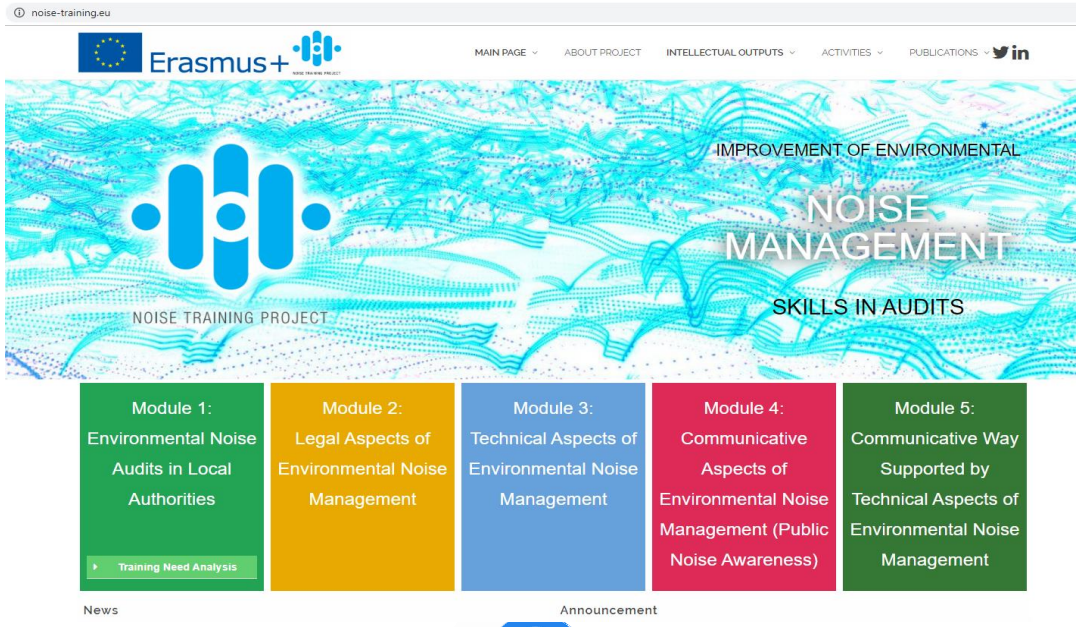
#ERASMUSDAYS
10, 11, 12 Oktobar 2019



Detaylı bilgi için