

**Erasmus + Project No 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP
Strengthening Educational Capacities by Building Competences and
Cooperation in the Field of Noise and Vibration Engineering
S E N V I B E**

No&Vib HUB: matching the EU trends with the needs in Serbia

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1 INTRODUCTION

As one of the objectives of the Erasmus + SENVIBE project – ‘**Strengthening educational capacities through building competencies and cooperation in the Field of Noise and Vibration Engineering**’ is to establish the No&Vib (Noise and Vibration) Hub ensuring the existence of the links between the key stakeholders, Task 1.6 sets the basis for its realization in Work Package 6 (WP6) by matching the EU trends with the needs in Serbia, compiling the list of stakeholders, analyzing mutual and individual contributions to the project goals as well as defining its modus operandi.

Creation of the **SENVIBE Noise and Nibration platform / No&Vib Hub** - a unique central unit for networking between academic and non-academic institutions in the field of noise and vibration in Serbia, aims to make significant progress in this field through expert and scientific contributions of its members, both in terms of harmonizing national legislation with EU legislation, and in building professional capacity in the implementation of that legislation. The provisional task of **No&Vib Hub** members, which will be precisely defined in WP6, is to provide students with professional practice (student internship) and application of practical knowledge in their work on solving local issues in this field, realization of joint projects, as well as providing additional training to their employees.

Task 1.6 covers the survey on institutional/professional capacities of local authorities, professional organizations, industrial and business sector in the noise and vibration fields in Serbia and their interest in participating in the establishment and activities of **No&Vib Hub** (Section 2-6). The methodology of survey is described in more details in **Appendix 8.1 – 8.6 Applied methodology in survey questionnaires**.

The motivation for establishing **No&Vib Hub** stems from many examples of good practice that exist in Europe and also worldwide. Different types of education hubs¹ have been established, especially at universities. All of them aim to attract foreign participants in an effort to build a critical mass of actors. The first type of educational hubs is a student hub, whose focus is on the recruitment and education of students. The second type is a talent hub, whose focus includes training and retention of professionals to support the country's economic development. The third type is a knowledge/innovation hub, which focuses on the production and application of new knowledge. Despite the differences between these types, all of them are concerned with higher education's connections with economy and national development. Collaboration – especially between universities and companies – will become increasingly important in the future. Factors such as fewer financial resources, competition from emerging economies, and increasingly complex technological developments make the landscape simply too volatile to go it alone². Companies which do not build bridges to the university sector will be out of touch with the students who will potentially turn into young professionals and bring a wealth of new knowledge into their company. In addition, they might miss out on accessing wider knowledge, new research results and marketable new findings. The university world now sees the benefits of looking beyond the theoretical and taking an active role in overseeing the transfer of new knowledge into practical applications,

¹https://books.google.rs/books?id=xbDBAAAQBAJ&pg=PA35&lpg=PA35&dq=hubs+aims&source=bl&ots=e32KT_ElqB&sig=ACfU3U1oo3ptzgc5EPJTUMX1cul1Zs9XYw&hl=en&sa=X&ved=2ahUKEwiNsuP0_dLhAhUQqYsKHc12BZ8Q6AEwAHoECAgQAQ#v=onepage&q=hubs%20aims&f=false

²<http://www.urban-hub.com/sustainability/university-and-company-collaborations-benefit-all/>



but also into enabling their students to experience practical aspects of their education in companies via student internships or realization of their projects in companies. However, besides companies, other interested stakeholders can be involved in this type of cooperation. Note that stakeholders, as originally defined in theory³, are groups or individual who can affect or are affected by an issue. Different organizations partner because they cannot fully achieve their goals by working as a single entity. They can only achieve greater impact, reform and/or sustainability by working cooperatively with others. So, the first step is recognizing when a multi-stakeholder collaboration is necessary. It is important to point out that this collaboration should not be beneficial in one way, but should be mutually useful. This implies that if, for example, universities need companies or local/regional governmental bodies to provide students internships or practical subjects for their projects, one would need to determine how companies or local/regional governmental bodies can benefit from this cooperation as well. Survey conducted during the SENVIBE project are seen to give certain answers to these questions regarding **No&Vib Hub** that is planned to be established. Subsequently, the selection of the right partnership framework should be made, which will be done at the later stages of the SENVIBE project (WP6).

³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3653754/>



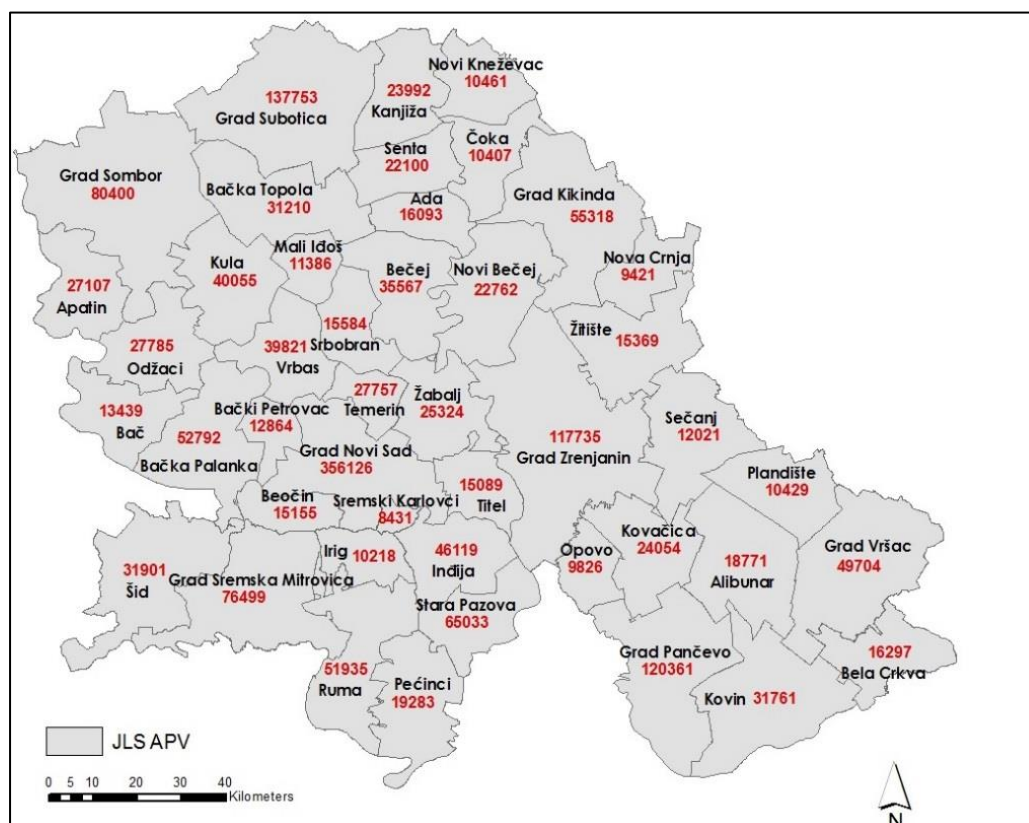
2 INSTITUTIONAL CAPACITIES AND INTEREST OF LOCAL SELF GOVERNMENT UNITS TO PARTICIPATE IN No&Vib HUB

2.1 Methodology of the survey

On-line questionnaire adapted to the specific needs of SENVIBE project and the target group of respondents in the local self government units (LSGUs)⁴ was used as a method. In order to establish a clearer overview and assessment of the results of the survey, **Appendix 8 - 8.5 Competences of LSGUs regarding the field of environmental noise protection**, provides a brief overview of the LSGUs competencies in the field of protecting the environment from noise pollution.

All LSGUs in the territory of the Autonomous Province of Vojvodina were surveyed, a total of 45 (7 cities and 38 municipalities) - **Figure 1**. Respondents were employed in LSGUs' in charge of the environment. The survey consisted of 33 questions of a combined type, with the aim to determine the opinions and views of employees about the topic of the survey in a short time. With regard to easier data collection and processing, time saving, as well as an adequate implementation of the survey, most of the questions were closed-ended, designed as short, easy to understand, multiple choice ones. Open-ended questions allowed respondents to provide more information in their responses, include their views and show an adequate understanding of the topic.

Figure 1. Spatial coverage of LSGUs' respondents in APV



⁴ Local Self- Government Unit (LSGU) is a local community (municipality / city) with an autonomous system of planning, governing and managing public affairs that are within its competence and of interest to the local population.



The questionnaire consisted of 5 parts, namely (**Appendix 8 – 8.1 Questionnaire for for local self-government units (LSGUs)**) :

- I. General part
- II. Institutional capacities of LSGUs (financial, administrative, technical)
- III. Cooperation between governing bodies
- IV. Informing the public
- V. Participation in the partnership- Noise and Vibration Platform / No&Vib Hub

The survey was public, while the time needed to fill out the survey was estimated at 20-30 minutes.

Answers to the survey were collected from 1 to 15 February 2019. All 45 respondents of LSGUs, that is 7 cities and 38 municipalities in the territory of the AP Vojvodina, submitted completed questionnaires, closing on February 15, 2019. After the delivery of completed questionnaires, a logical control of each questionnaire was performed with the aim of identifying inadequate, inconsistent and inappropriate responses. Changes and adjustments were made, in consultation with LSGUs, where it was necessary and appropriate. LSGUs' responses were processed statistically and interpreted by a comparative and normative method.

Survey is available on SENVIBE Project website, SUPEP website, and will be available on other websites, if necessary.

2.2 Results of the survey

2.2.1 General part

The general part of the questionnaire consists of questions related to basic info on the organization of LSGUs and relevant local authorities, with particular emphasis on the authorities in charge of environmental protection, and therefore for noise and vibration in the environment as well. Data on the number of employees, their qualifications, work experience and work engagement in the field of noise and vibration were collected.

A limited number of employees in local governments, as well as an uneven scope of work for all administrative areas within its competencies, cause problems in ensuring full volume of work for employees in each individual area, thus combining governing roles into individual authorities by their related nature. The position of environmental protection, as a relatively young administrative area, can already be viewed on the basis of the organizational structure of the local government. Different organizational models can be identified, but in most LSGUs environmental affairs are added as related to the department with competencies over administrative areas of urban planning, construction and utility activities (23/45 surveyed LSGUs, 51%). Environmental protection is an independent organizational unit only in cities.

Similar to the organization of local government, the number of employees is an indicator of the importance of a particular administrative area as well. In most of LSGUs, the share of employees performing tasks related to environmental protection at the local level is less than 3% (69%). In less than half of municipalities (47%), there is only one employee who performs tasks related to environmental protection.

Competences of local self-government, and consequently local government for environment protection, are very wide, which is why a relatively small number of employees are not able to adequately implement them.

As far as the percentage of the share of work engagement in the area of noise and vibration is concerned, only one third of the LSGUs provided data. Out of LSGUs that provided data, even in 93% of LSGUs employees have been engaged up to a maximum of 10% of working hours on tasks related to noise and vibration.



2.2.2 Institutional capacities of LSGUs

2.2.2.1 Financial capacities of LSGUs

Only 18 LSGUs (40%) stated that sufficient funds were allocated from the LSGUs' budget for the implementation of competencies in the field of noise and vibration (Figure 2).

In 2018, 23 LSGUs, which is slightly more than half, did not allocate budget funds for the implementation of competencies in this area. Situation becomes slightly better in 2019., since 20 LSGUs (44%) have not provided budget funds for these purposes (Figure 3). Analysis of survey results points to the fact that the funds allocated to other 21 LSGUs for these purposes are insufficient. Only 7 LSGUs-16% allocated more than one million dinars (Pančevo, Novi Sad, Zrenjanin, Kikinda, Ruma, Senta, Kanjiža). The largest amount is allocated by the City of Pančevo (4.5 million dinars).

Only 7, that is 15 LSGUs responded affirmatively to the questions related to the realized and planned projects in 2018. and 2019. Analysis of results indicated that the City of Novi Sad was the only city that implemented a special project in the field of noise and vibration "Study on the dependence of density and type of traffic on noise emissions on the selected road", in 2018. Other affirmative answers for 2018. and 2019. have not been related to the realization of special projects, but to regular activities of implementing competencies in this field, specifically to monitoring. They have not represented a realistic picture, they have not been considered relevant and thus treated as negative responses (Figure 4).

Figure 2. Budget funds for implementing competencies in the field of noise and vibration

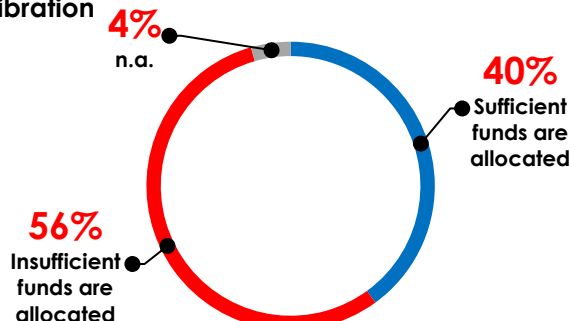


Figure 3. Budget funds for implementing competencies in the field of noise and vibration 2018-2019 (RSD)

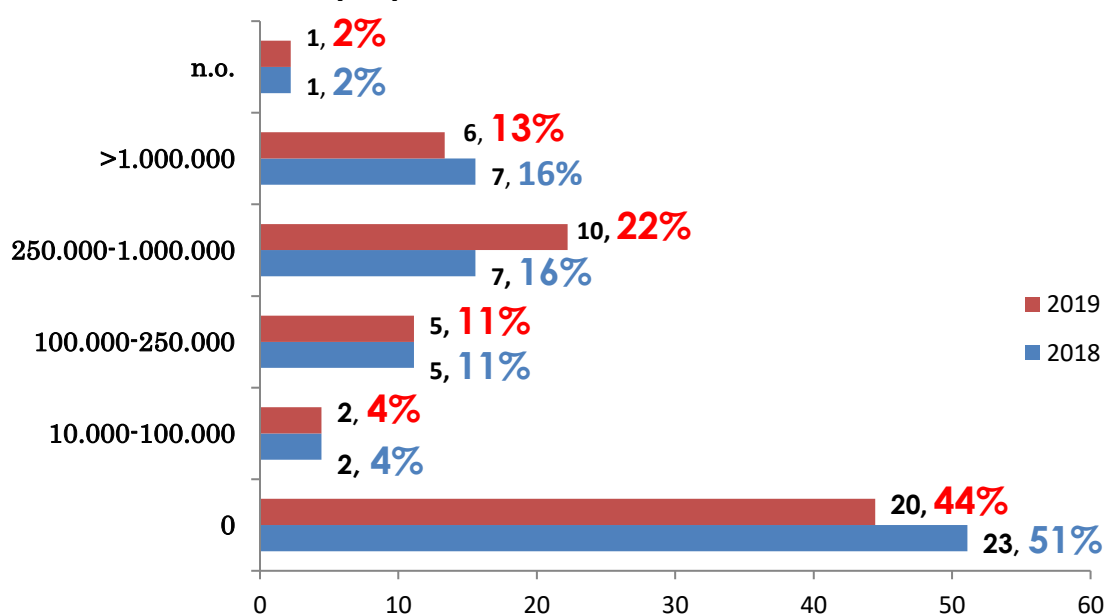
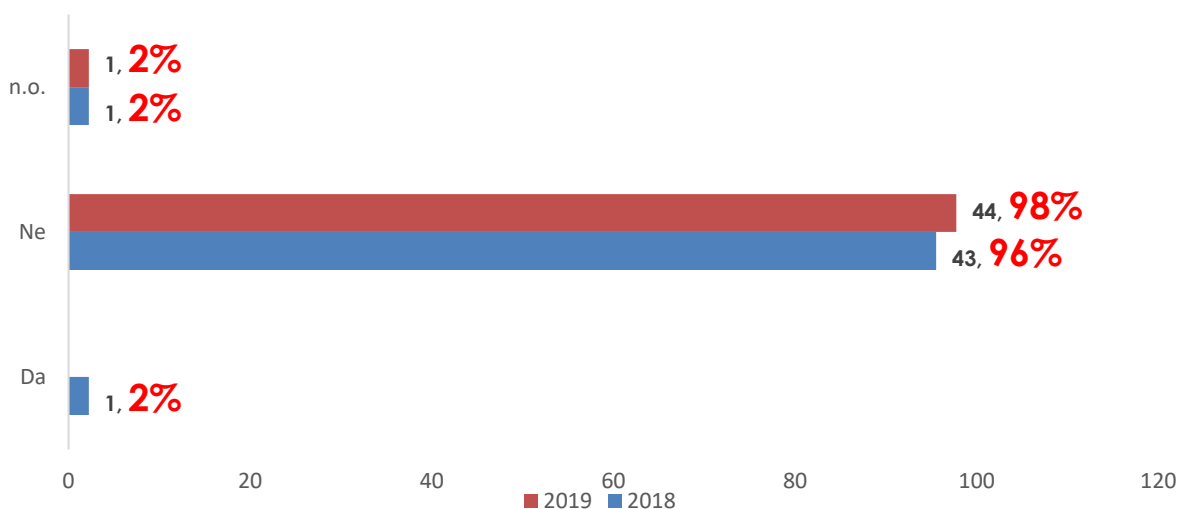


Figure 4. Realized projects in the field of noise and vibration 2018.-2019.



2.2.2.2 Administrative capacities of LSGUs

Regarding legislation in the field of noise and vibration, slightly more than half of LSGUs (56%) have stated that they have been "completely familiar with" national regulations (**Figure 5**). Slightly more than 80% of LSGUs think that regulations are "clear" (24%) and "mostly clear" (60%) - (**Figure 6**) and that responsibilities are "clear and unambiguously defined" (21%) and "mostly clear and unambiguously defined" (60%) - (**Figure 7**).

Figure 5. Being familiar with national legislation regarding the field of noise and vibration

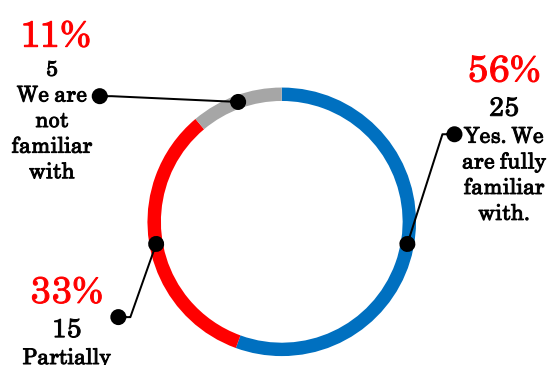


Figure 6. Regulations regarding the field of noise and vibration

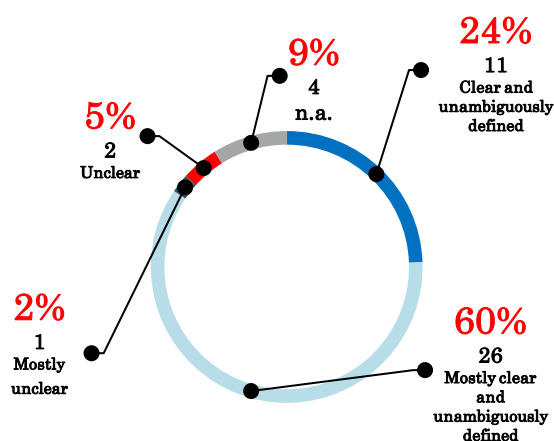
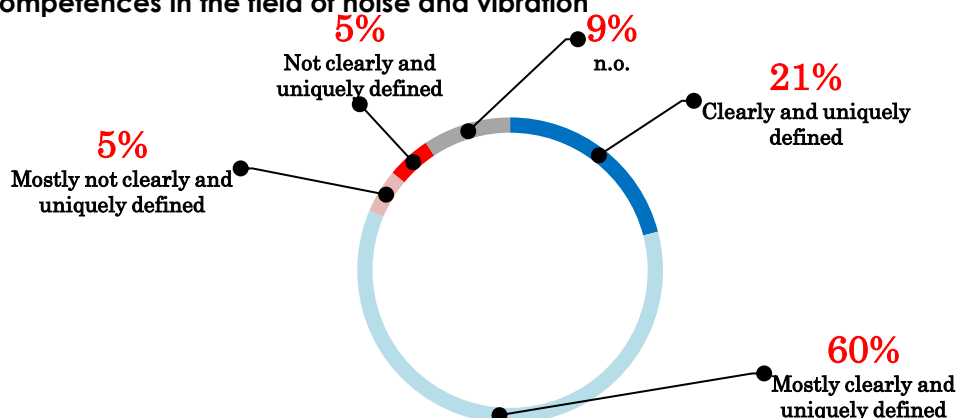
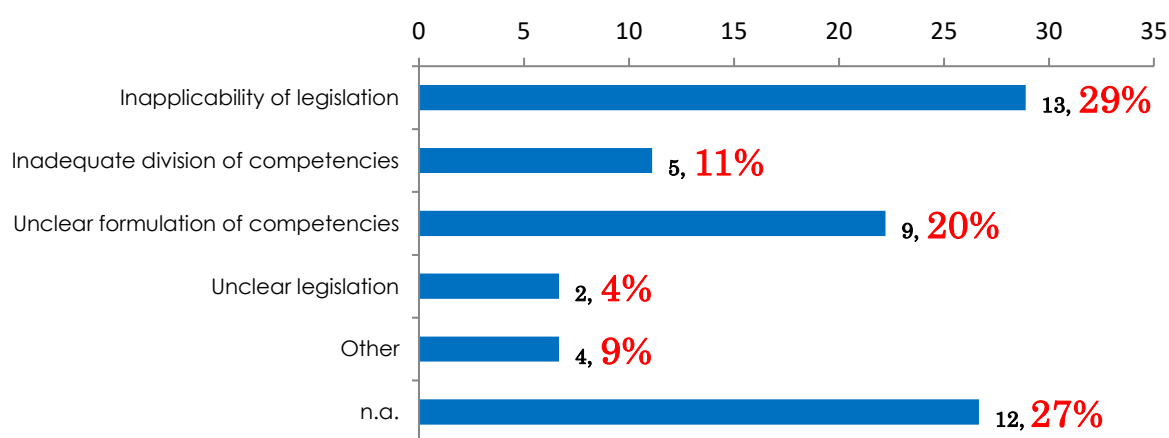


Figure 7. Competences in the field of noise and vibration

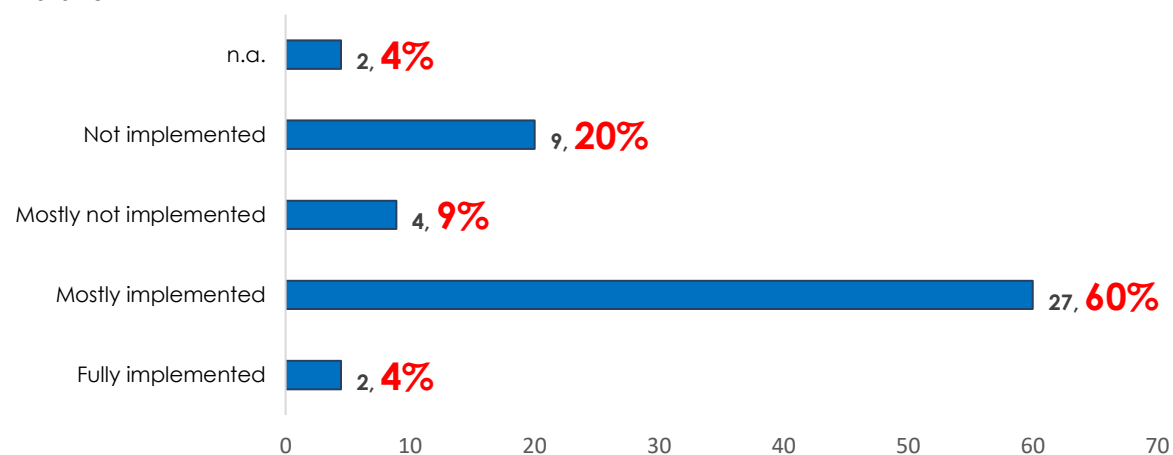
Out of offered answers, as a disadvantage of legislation, most of LSGUs have emphasized the inapplicability of the legislation (29%) and in the second place, unclearly formulated competences (20%) - **(Figure 8)**. Answers to the question "What should be changed in legislation?" have been related to a clearer definition of competences, especially regarding catering facilities, a clearer definition of the methodology of noise measurement and control, regulation of vibration area, harmonization of regulations with practical application etc.

Figure 8. Disadvantages of current legislation

Only 2 LSGUs (4%) - Kikinda and Novi Sad have responded that they have fully implemented the competencies, while 60% of LSGUs responded that they "mainly implement" competencies in the field of noise and vibration. It is necessary to point out that even 13 LSGUs-29% "do not implement" and 'mainly do not implement' competencies in this field **(Figure 9)**.

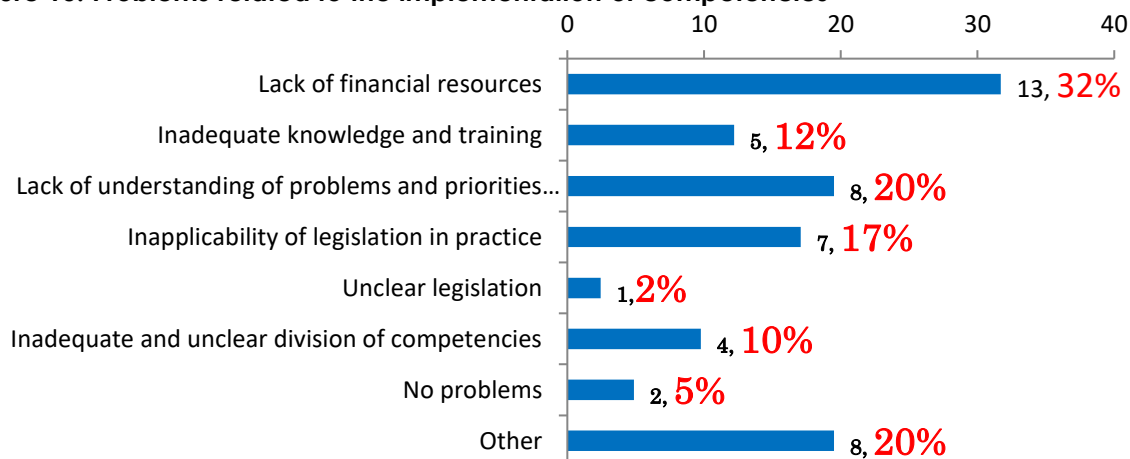


Figure 9. Implementation of competencies in the field of noise and vibration



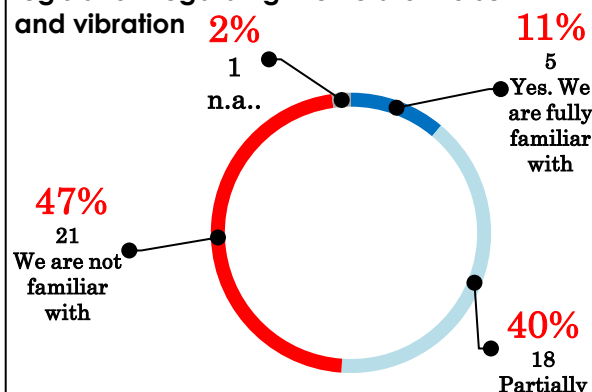
Out of problems in the implementation of competencies, offered in answers, the highest number of LSGUs have highlighted the lack of financial resources (32%), followed by misunderstanding of priorities and inadequate decision-making (20%) - (Figure 10).

Figure 10. Problems related to the implementation of competencies



Only 11% of LSGUs have declared that they are fully familiar with the EU regulations in the field of noise and vibration, while 40% of them are partially familiar (Figure 11). Compared with knowledge of national regulations (fully and partially familiar with- 89%), there is far less knowledge of EU regulations in this field (fully and partially familiar with-51%), which points to the need for additional training / education in the application of European regulations and practices in the field of noise and vibration.

Figure 11. Being familiar with EU legislation regarding the field of noise and vibration



A special segment of the survey was dedicated to personnel capacity and needs for its strengthening in the field of noise and vibration. More than 60% of LSGUs expressed the view that personnel capacity (number of employees and their training) in this field is insufficient and inadequate (Figures 12-13.). In more than 90% of LSGUs employees did not undergo additional trainings in this field (Figure 14).

Survey results indicate that there are great needs for professional training of employees in local governments in the field of noise and vibration - 96% of LSGUs have expressed the need for additional education / training of employees (Figure 15).

Figure 12. Number of employees in the field of noise and vibration

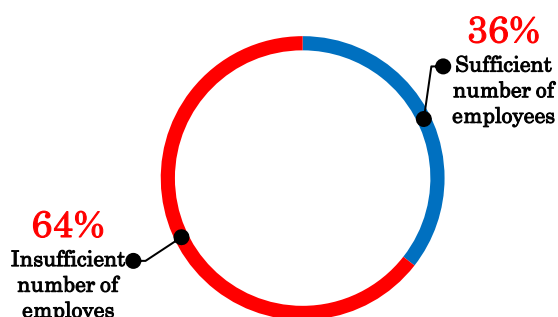


Figure 13. Personnel capacities in the field of noise and vibration

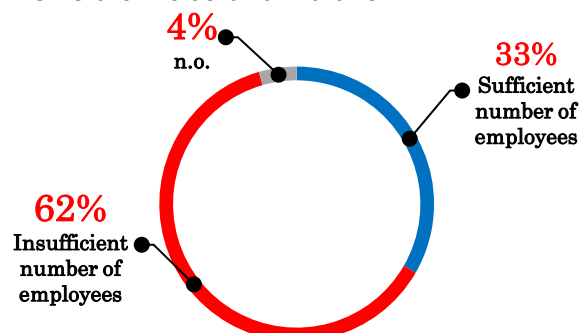


Figure 14. Additional trainings in the field of noise and vibration

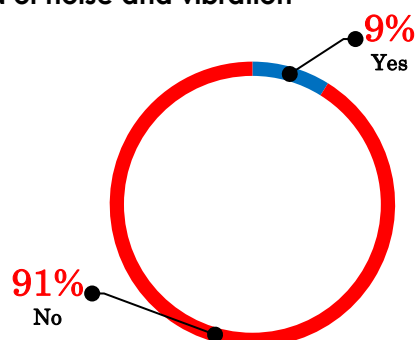
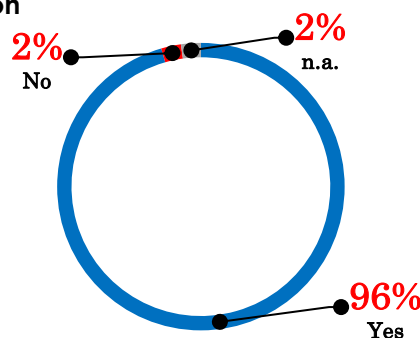


Figure 15. Need for education/training in the field of noise and vibration



Greatest needs are in the field of implementation of legislation in practice (54% of LSGUs). Interest in additional education / trainings in other offered fields has been relatively small, from 8-16% (**Figure 16**). More than half of LSGUs are most interested in trainings done through seminars, while 16% state the need for trainings done by using educational manuals / materials (**Figure 17**).

Figure 16. Fields of training

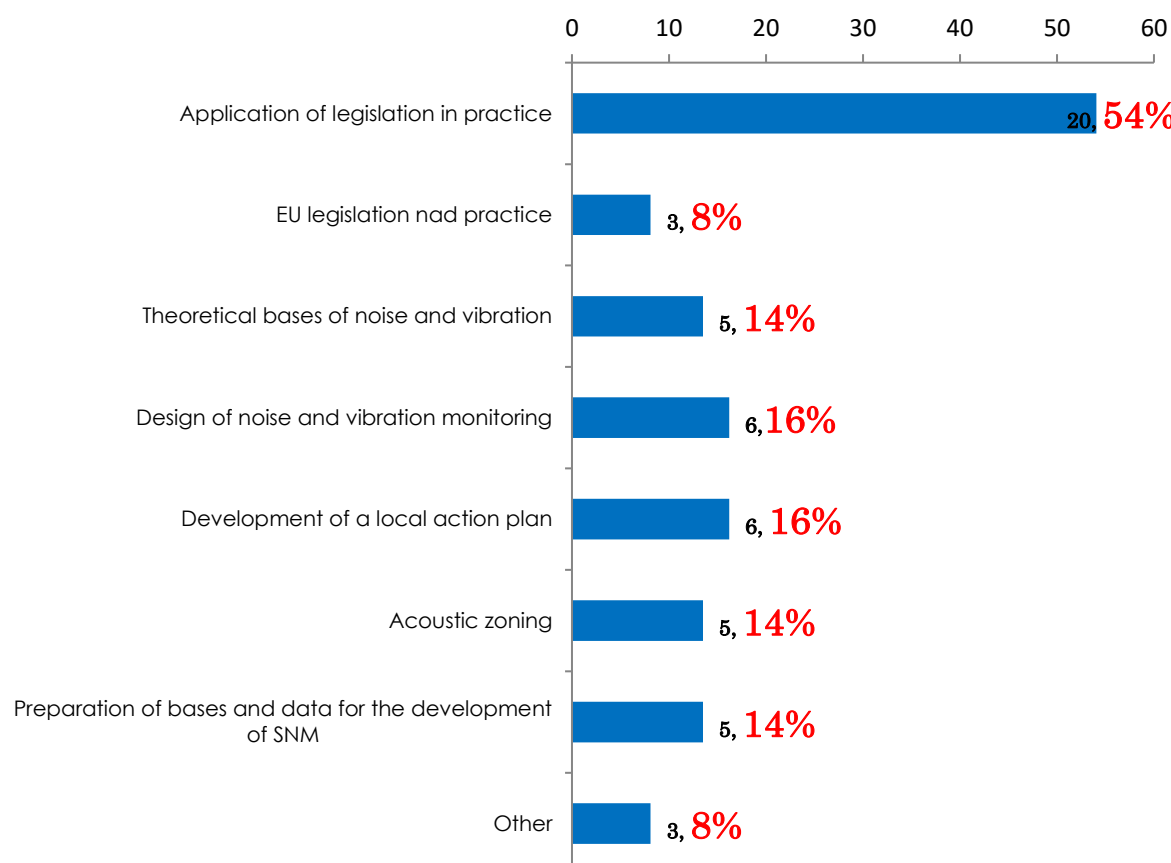
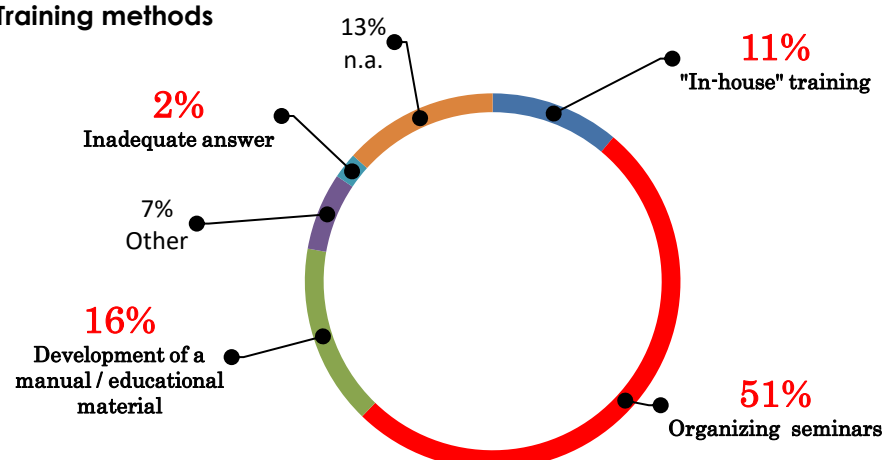


Figure 17. Training methods



Total of 31 LSGUs - 69%, determine measures and conditions of protection from noise (sound protection) in plans / programs / projects, including spatial and urban planning, environmental impact assessments (EIA), strategic environmental assessment (SEA) and integrated pollution prevention control (IPPC) (**Figure 18.**)

Acoustic zoning was performed only in 12 LSGUs (27%) – **Table 1**, and only 4 LSGUs submitted a legal act on acoustic zoning.

Table 1. Acoustic zoning

LSGUs	Legal act on acoustic zoning
Apatin	n.a..
B. Palanka	n.a.
B. Petrovac	n.a.
Kanjiža	n.a.
Kikinda	n.a.
Kovin	Decision on Measures for Noise Protection in the territory of the Municipality of Kovin (Official Gazette of Kovin Municipality, no. 17/2016 and 1/2017-st. Decision)
N. Sad	n.a.
Pančevo	Decision on determining acoustic zones and protection against noise in the territory of Pančevo City (Official Gazette of the City of Pančevo 21/17)
Sečanj	Decision on noise protection measures
Senta	n.a.
Srbobran	(Official Gazette of the Municipality of Srbobran, 2/2013)
Temerin	n.a.

Acoustic zoning has not been performed in 31 LSGUs (69%) (**Figure 19.**) and, as main reasons for that, a lack of financial resources and insufficient and inadequate capacity of personnel have been stated. Less than half of LSGUs have stated their planned execution deadline and as the deadline, for the largest number of LSGUs, a year 2019. has been set. It should be noted that the Report on Acoustic Zones of the City of Zrenjanin was made for the City of Zrenjanin by PC 'Directorate for Planning and Construction of Zrenjanin City', but the competent authority did not issue regulation on acoustic zoning.

Figure 18. Determining measures/conditions for environmental noise protection in spatial and urban plans, SIA, IA, IPCC

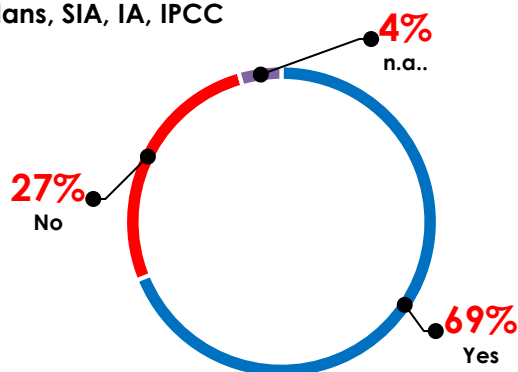
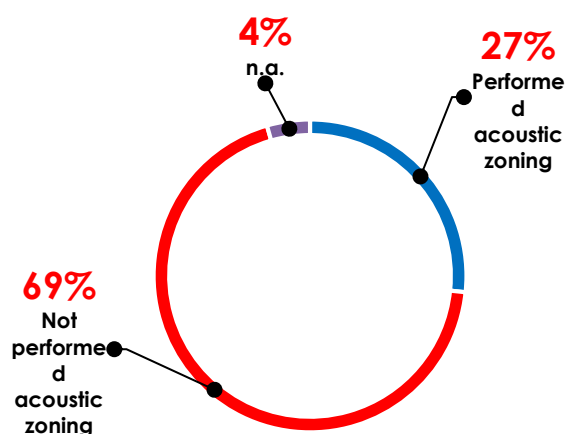


Figure 19. Acoustic zoning

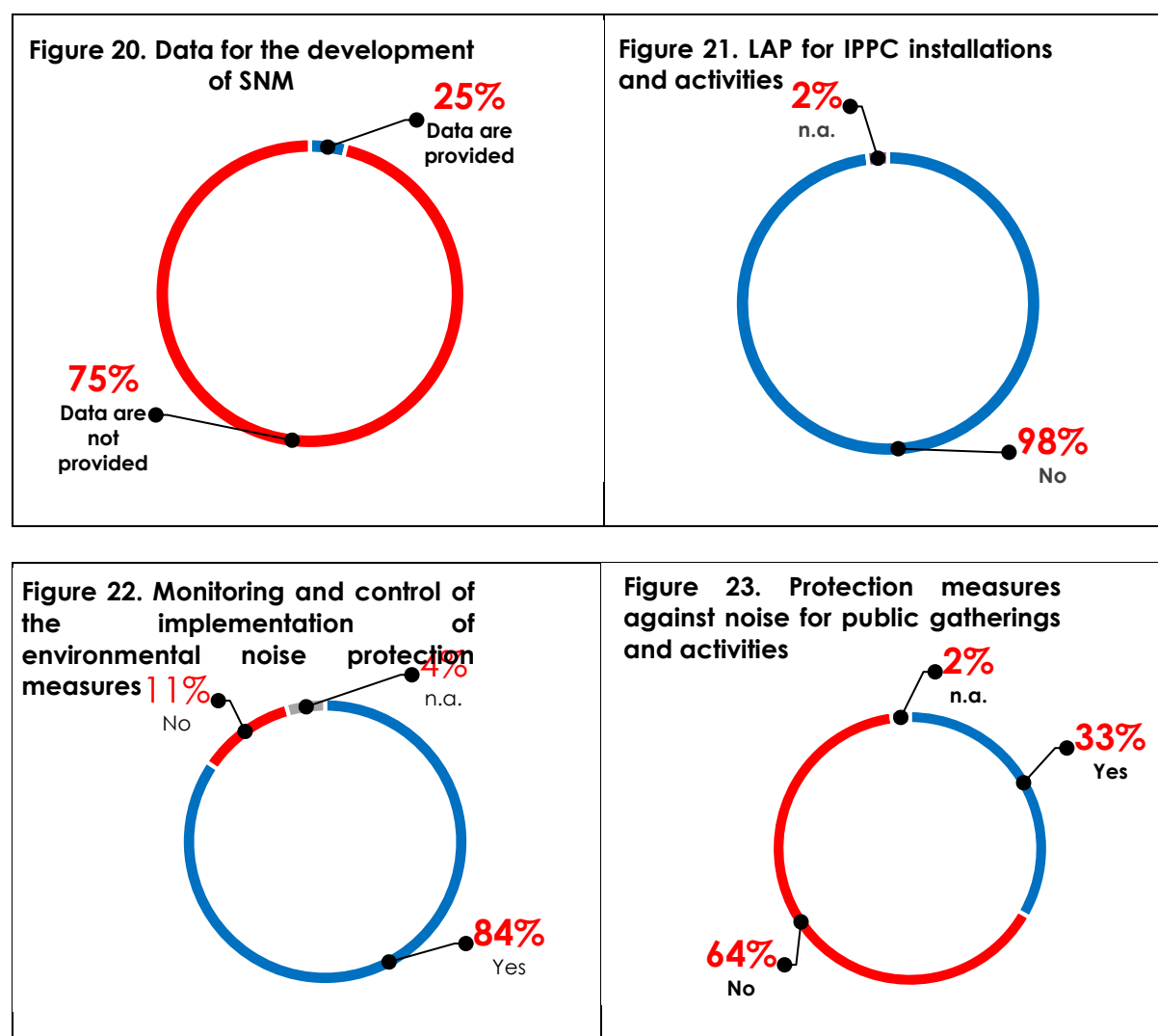


Out of cities Novi Sad, Subotica, Pančevo and Zrenjanin (agglomerations with more than 100,000 inhabitants), for which there is a legal obligation to create strategic noise maps (SNM), only the City of Pančevo has collected a part of input data sets for the production of SNM (25%) (**Figure 20**). The city of Novi Sad has stated that the dynamics of realization of this activity depends on the dynamics determined by the Environmental Protection Agency, which has the legal obligation to develop SNM,



while the City of Subotica has stated that this activity will be carried out after the adoption of the methodology by the competent authority, that is Environmental Protection Agency. The city of Zrenjanin did not provide an answer regarding the collection and preparation of input data sets.

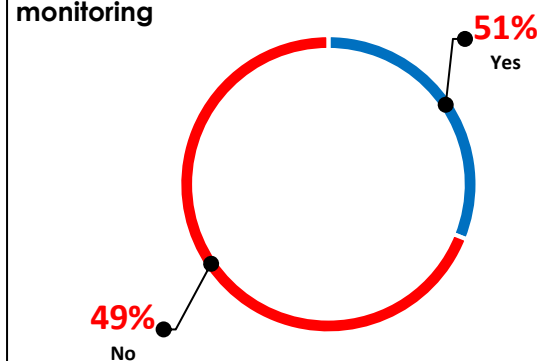
Regarding the local action plan for the protection from environmental noise, for installations and activities for which IPPC permit was issued, not one LSGU has developed this plan (**Figure 21**).



When monitoring and controlling the application of environmental noise protection measures are in question, 38 LSGUs (84%) perform this type of supervision and control (**Figure 22**), while noise protection measures for public gatherings and activities are regulated only in 15 LSGUs (33%) - (**Figure 23**).



Figure 24. Financing and conducting of environmental noise monitoring



Slightly more than half of LSGUs (23 LSGUs-51%) finance and conduct environmental noise monitoring, which supports the fact that the field of environmental noise has not been given enough importance to **(Figure 24)**.

Slightly less than half of LSGUs implement monitoring continually **(Table 3)**. In all LSGUs where monitoring is implemented, measurements are carried out by scientific and professional organizations accredited for environmental noise measurements (in

60% of LSGUs measurements were carried out by public health institutes from the territory of APV). Measurement methodology is in accordance with standards SRPS ISO 1996-1, 2010 and SRPS ISO 1996-2, 2010.

Data on the realization of monitoring in 2018. were submitted by only 15 LSGUs (47%). Monitoring was implemented in all 7 cities in the territory of APV (the range of population - from 59,453 in Kikinda to 341,625 in Novi Sad). Other municipalities that did the realization of monitoring in 2018. have fewer than 50,000 inhabitants. Monitoring requires, first of all, personnel and financial capacities, that is relatively developed administration, which smaller municipalities are unable to provide.

The amount of funds spent for the implementation of environmental noise monitoring in 2018. ranges from 32,000 dinars (N. Bečej) to 1,111,491 dinars (Zrenjanin). The scope of monitoring that was realized in 2018. in the majority of LSGUs is not sufficient, both in terms of time and spatial coverage (number of measuring sites). Regarding the number of measuring sites, the largest coverage of monitoring in 2018. was in Pančevo, (41 measuring sites). Automatic traffic counting was realized in 3 LSGUs (Novi Sad, Pančevo, B. Petrovac), by the Institute for Occupational Safety and Health at Work, Novi Sad.

Out of 22 LSGUs that do not finance and implement noise monitoring in the environment, only 8 (36%) LSGUs stated the reasons why they failed to implement the monitoring, whereby the majority of LSGUs (75%), as the reason why they failed to implement monitoring, stated that funds were not allocated for this purpose.

An overview of the development and coverage of environmental noise monitoring, as well as the realization / plan for the period 2018-2019., in the territory of LSGUs in APV is provided in the Table. Monitoring that will be implemented in 11 LSGUs in 2019. will be of the same scope as it was in 2018. both in terms of the coverage of measuring sites, and in terms of the amount of funds planned for the realization.

Only 37% of LSGUs have responded that monitoring results are available and published on LSGUs' website. All LSGUs (26%) who submitted their answers, send monitoring results to the Environmental Protection Agency and / or the Provincial Secretariat for Urban Planning and Environmental Protection.

2.3 Cooperation between governing bodies

The largest number of LSGUs (19-42.2%) have expressed the view that cooperation between governing bodies at the local level is partially satisfactory. A total of 13 LSGUs (28.9%) is satisfied and fully satisfied with the cooperation at the local level **(Figure 25)**.



The problem of unclearly defined competences, as well as unprofessional and inadequate treatment of environmental protection by other sectoral areas was highlighted.

Figure 25. Assessment of the quality of cooperation between governing bodies of LSGUs

horizontal level

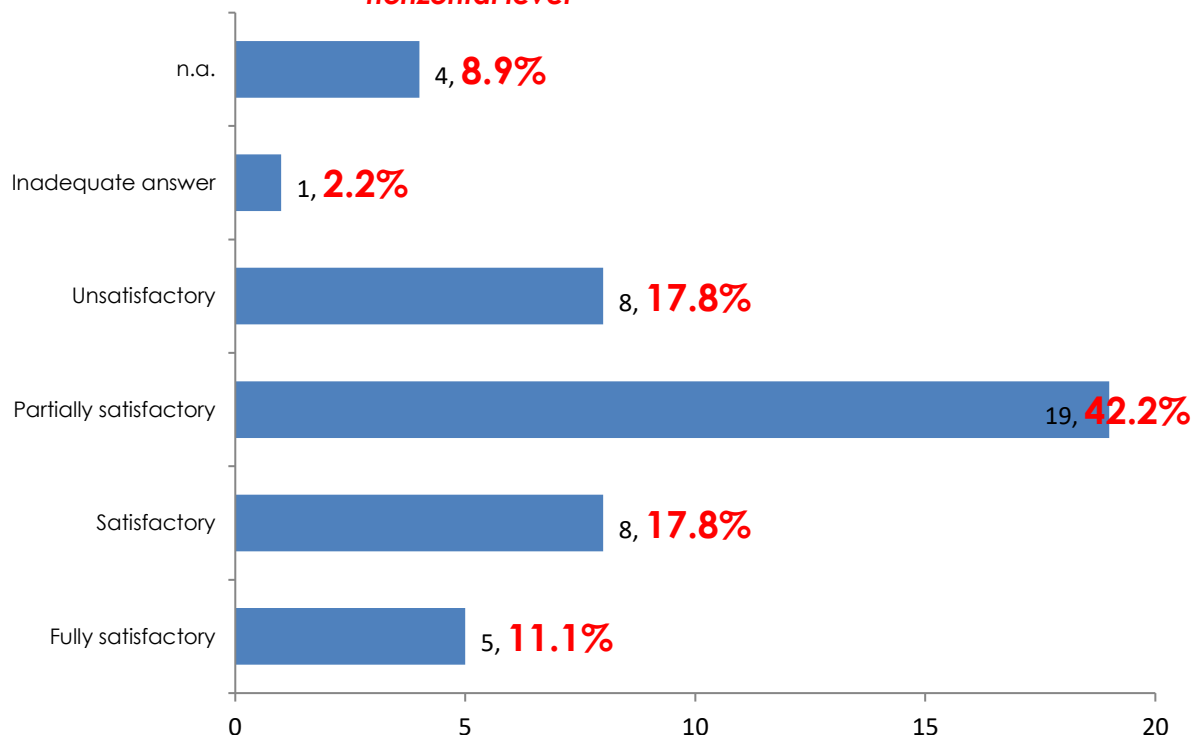


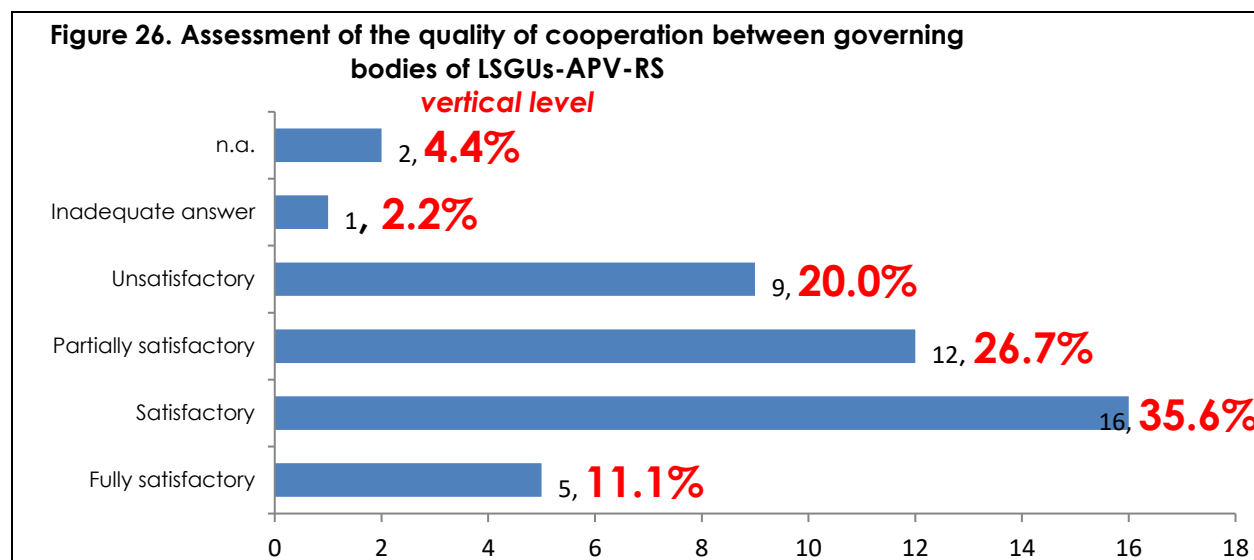
Table 3. – An overview of environmental noise monitoring conducted by LSGUs in APV (2018-2019.)

Environmental noise monitoring	LSGUs	Monitoring is done continually	2018.				2019.			
			Number of ms	Measuring methodology	Scientific/Expert organization	Amount of funds (RSD)	number ms	Measuring methodology	Scientific/Expert organization	Amount of funds (RSD)
1985.	N. Sad	+	8	Continually 24h, measuring interval 15min; automatic traffic count	OSHWI NS; IV NS	961.000	8	Continually 24h	IV NS	n.a.
1998.	Pančevo	+	41	Continually 24h, measuring interval 15min (working day-32ms; working day +weekend-9ms); automatic traffic count -3ms	OSHWI NS	n.a.	Same volume with possible extensions upon citizens' complaints	Continually 24	OSHWI NS;	n.a.
1999.	Subotica	+	5	intervali	PHISU	127.300	5	intervals	PHISU	127.300
2005.	Senta	n.a.	3	n.a.	PHIKI	815.000	3	n.a.	PHIKI	815.000
2007.	Vršac	+	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	N. Bečej	-	2	Continually 24h	PHIZR	32.000	2	Continually 24h	PHIZR	32.000
2008.	Kovin	+	12	Continually 24h	PHIPA	600.000	12	Continually 24h	PHIPA	500.000
	Kikinda	+	19	Continually 24h	PHIKI	1.100.000	19	?	PHIKI	1.100.000
2010.	Zrenjanin	+	10	Continually 24h	PHIZR	1.111.491	10	Continually 24h	PHIZR	1.204.115,25
	Kanjiža	+	2	n.a.	PHIKI	180.000	n.a.	n.a.	n.a.	n.a.
2011.	Indija	+	4	intervals	MI BG	316.800	n.a.	n.a.	n.a.	n.a.
2012.-2013.	Bač	-	n.a.	-	-	-	n.a.	n.a.	n.a.	n.a.
2015.-2018.	Ada	+	4	n.a.	PHIKI	135.970	n.a.	n.a.	n.a.	n.a.
2016.-2018.	B. Palanka	-	23	Continually 24h	OSHWI NS	800.000	n.a.	n.a.	n.a.	n.a.
2017.	S. Pazova	-	-	-	-	-	n.a.	n.a.	n.a.	642.876
	B. Petrovac	+	10	Continually 24h, measuring interval 15min (working day-7ms; working day +weekend-3ms); automatic traffic count -1ms	OSHWI NS	580.000	10	Continually 24h	OSHWI NS;	560.000
2018.	S. Mitrovica	-	5	intervals	PHISM	578.566	n.a.	n.a.	n.a.	n.a.
	Sombor	-	3	Continually 24h	OSHWI NS	588.000	n.a.	n.a.	n.a.	n.a.
	Bečej	-	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2019.	Šid	-	-	-	-	-	n.a.	intervals	n.a.	250.000
	Plandište	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
	Odžaci	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
	Irīg	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.

ms- measuring site; OSHWI NS- Occupational Safety and Health at Work Institute, Novi Sad; IV NS-Institute Vatrogas, Novi Sad; PHISU-Public Health Institute Subotica; PHIKI-Public Health Institute Kikinda; PHIZR-Public Health Institute Zrenjanin; PHIPA- Public Health Institute Pančevo; MI BG-Mining Institute, Belgrade; PHISM- Public Health Institute Sremska Mitrovica

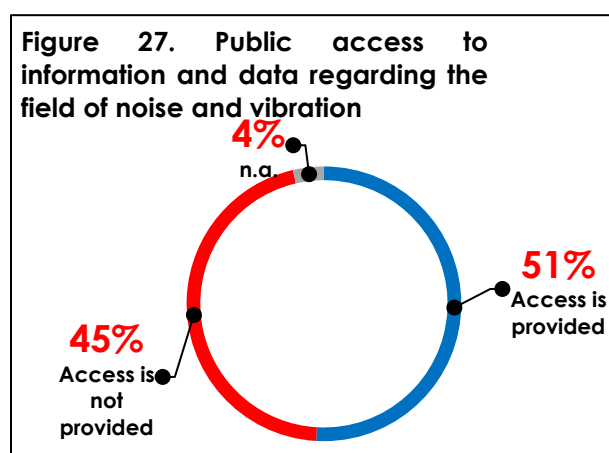


Regarding the cooperation between governing bodies at different levels (LSGUs - APV-RS), the largest number of LSGUs (16-35.6%) have expressed the view that cooperation is satisfactory. It can also be stated that a much greater number of LSGUs have expressed satisfaction and total satisfaction with cooperation at the vertical level (46.7%) - **(Figure 26)**. It was pointed out that LSGUs would implement the competences more adequately and more effectively, by intensifying cooperation at all levels in this field.



Based on received answers, it can be concluded that it is necessary to improve and establish more active cooperation between governing bodies at all levels.

2.4 Informing the public about the field of noise and vibration



Informing the public about the field of noise and vibration is at a very low level, as shown by the results of this survey. Only 51% of LSGUs in APV provided public access to information and data related to the area of noise and vibration **(Figure 27)**. More than half of the respondents of LSGUs have provided access to information through their website, while 18% have provided access through their website and other forms of access to information **(Figure 28)**.



Regarding the implementation of information campaigns and raising public awareness of the field of noise and vibration, most LSGUs (87% that is 91%, respectively) have declared that they did not implement such types of campaigns.

Campaigns that were implemented in 3 LSGUs (Kikinda, Novi Sad and Šid) were realized by marking International Noise Awareness Day (April 20th), by participating in fairs, thematic forums, conferences, seminars, lectures, by financing projects, developing educational and promotional materials etc.

Figure 28. Way of public access to information and data regarding the field of noise and vibration

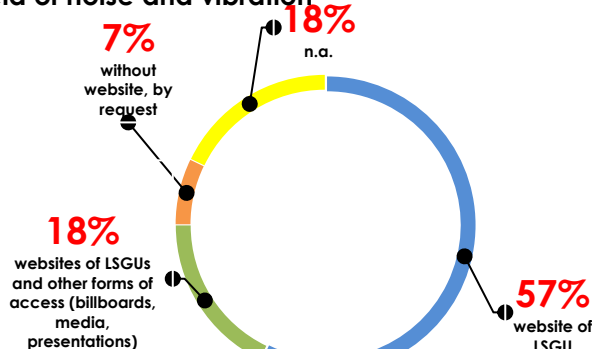


Figure 29. Conducting campaigns on informing citizens about activities in the field of noise and vibration

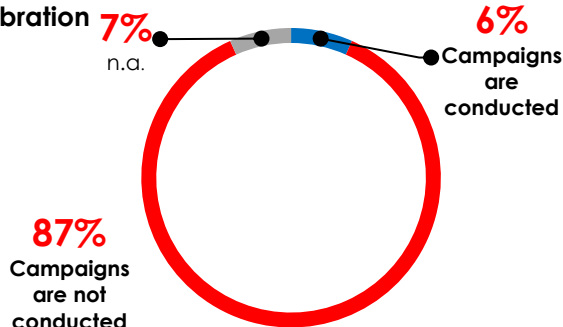
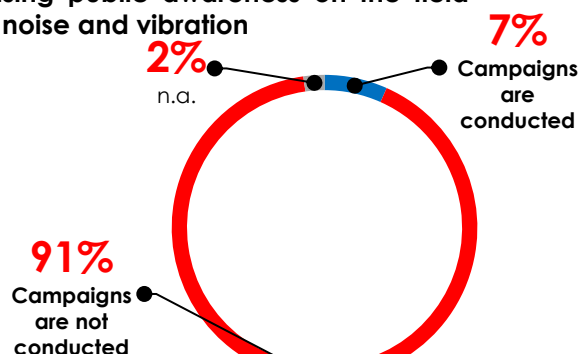


Figure 30. Conducting campaigns on raising public awareness on the field of noise and vibration

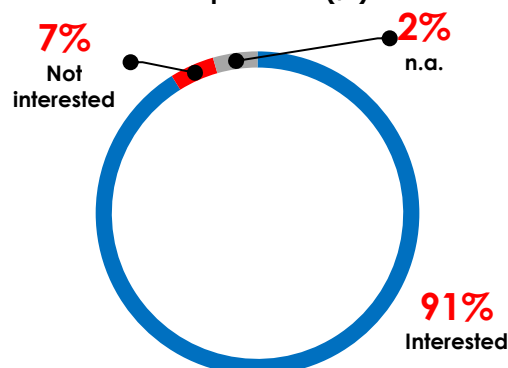


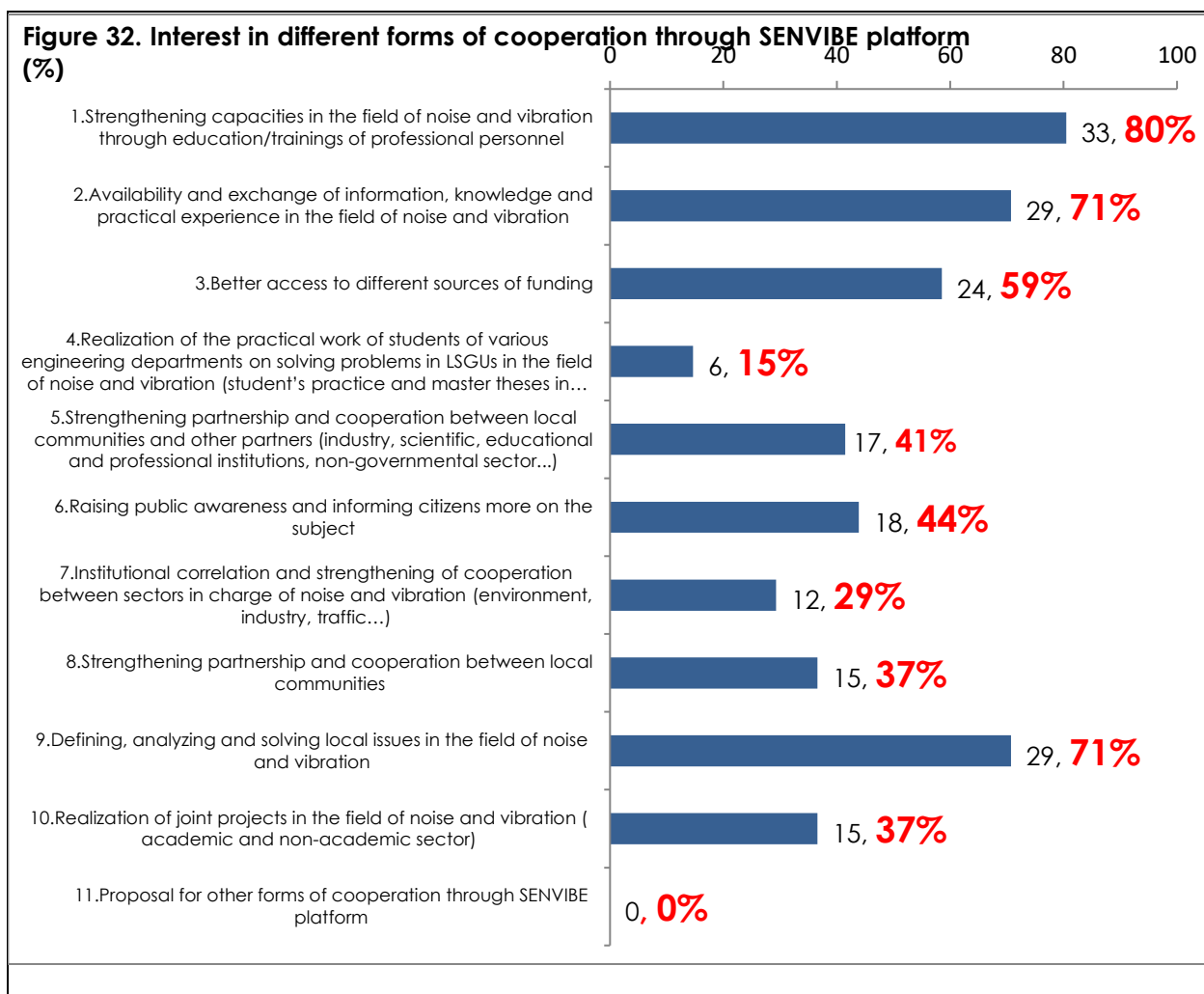
2.5 Participation in the partnership-noise and vibration platform/No&Vib hub

One of four specific objectives of SENVIBE project is the development of No&Vib Hub - a central unit that will initiate and facilitate strategic cooperation between stakeholders in this field, academic communities, local and regional businesses, local and national governing bodies, as well as wider civil society.

According to the results of this survey, out of 45 LSGUs 41 LSGUs-91% (**Figure 31**) are interested in active participation in SENVIBE noise and vibration platform.

Figure 31. Interest of LSGUs in the participation in SENVIBE platform (%)





Only 3 LSGUs are not interested in cooperation through the platform (Ada, Apatin and Vršac), while 1 LSGU did not respond to this question.

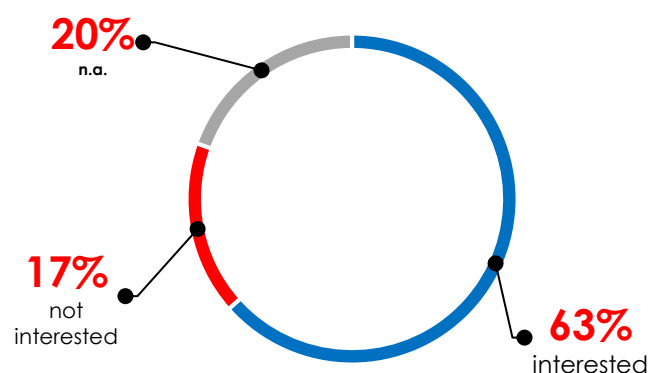
Of the offered forms of cooperation through the SE NVIBE platform (there was a possibility of choosing multiple responses), the majority of LSGUs (80%) believe that this type of partnership, first of all, brings **Strengthening capacities in the field of noise and vibration through education/ trainings of professional personnel (80%)**, followed by **Availability and exchange of information, knowledge and practical experience in the field of noise and vibration (71%)** and **Defining, analyzing and solving local issues in the field of noise and vibration (71%)**. None of LSGUs had any proposal for additional forms of cooperation (Figure 32).



There is a lack of interest in the form of cooperation through **Realization of the practical work of students of various engineering departments on solving problems in LSGUs in the field of noise and vibration (student's practice and master theses in vibroacoustics).**

Out of 41 LSGUs that are interested in participating in the platform, 63% said they were ready to "open the door" to student's practice and master theses (**Figure 33**). More than half of LSGUs consider it necessary to sign a special non-disclosure agreement regarding certain information and to define intellectual property rights during the realization of students' residence and / or work with data related to LSGUs.

Figure 33. Interest of LSGUs in the realization of practice and master theses of students (%)

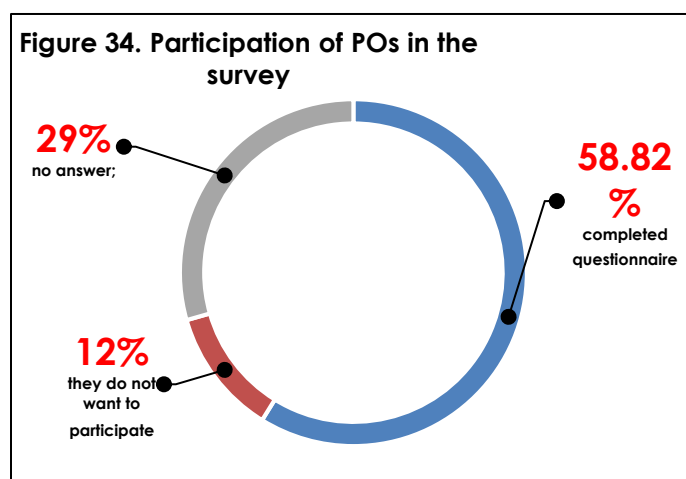


3 CAPACITIES AND INTEREST OF PROFESSIONAL ORGANIZATIONS TO PARTICIPATE IN No&Vib HUB

3.1 Objective and methodology of the survey

The subject matter of the analysis of this report is the review of professional and technical capacities of professional organizations (POs) for environmental noise measurement in the Republic of Serbia that, in accordance with the Regulation on the conditions to be met by the PO for noise measurement, as well as the documentation submitted with the request for authorization for noise measurement ("Official Gazette of the Republic of Serbia" No. 72/2010), get the authority by the ministry responsible for environmental protection activities to measure noise pollution in the environment⁵.

Questionnaire for POs for environmental noise measurement prepared for the purposes of SENVIBE project (**Appendix 8 – 8.2 Questionnaire for professional organizations (POs)**) was sent on January 16, 2019, via e-mail to **34** addresses of POs based in the territory of the Republic of Serbia.



Response to the questionnaire was obtained from **24** professional organizations. **10** organizations did not respond at all (**Appendix 8 – 8.8 List of POs**). Further analysis of the situation and needs was carried out on the basis of 58.82% of completed and submitted questionnaires (**Figure 34**). Out of the total number of submitted questionnaires, 45% are of state health institutions in the Republic of Serbia (Institutes and public health institutes) that have the authority to measure noise pollution in the environment.

The questionnaire consists of 7 chapters:

1. General part - basic information about the company and dates of accreditations and authorizations
2. Examination field
3. Personnel capacity
4. Technical equipment
5. References
6. Legislation
7. Participation in the partnership

⁵ Source: January 2019. www.ekologija.gov.rs/dozvole-obraci/zastita-od-buke-i-vibracija/pregled-organizacija-koje-ispunjavaju-uslove-za-merenja-buke-u-zivotnoj-sredini/



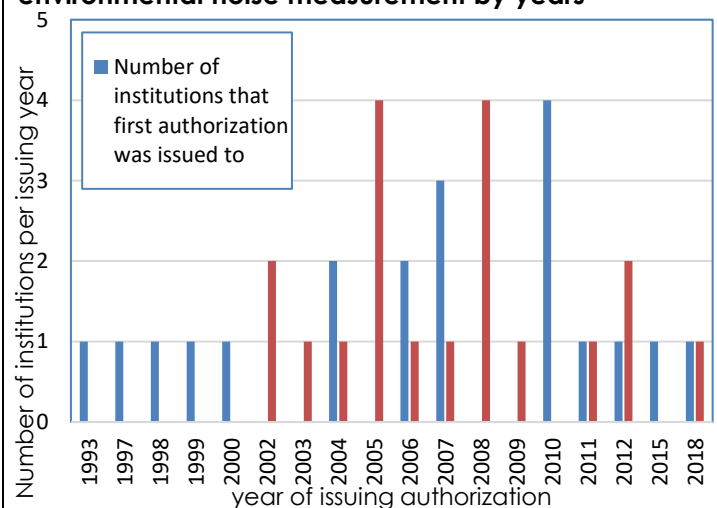
3.2 Results of the survey

3.2.1 General part - basic information about the company; dates of accreditation and authorizations

Regulation on the conditions to be met by the professional organization for noise measurement, as well as the documentation submitted with the request for authorization for noise measurement ("Official Gazette of the Republic of Serbia" No. 72/2010) (hereinafter: the Regulation) prescribes the conditions that the PO for noise measurement must meet in terms of equipment, space and personnel, and a mandatory requirement is that it must be accredited by the competent accreditation body for performing activities in this field.

The first authorization for noise measurement in the environment was issued to the Institute for Public Health of Vojvodina in 1993, in accordance with then valid Regulation on the permissible level of noise in the environment ("Official Gazette of RS", No. 54/92). In the period from 2004 to 2010, the largest number of institutions have been authorized and accredited for measuring noise in the environment and working environment. With the entry into force of the new Law on Environmental Noise Protection ("Official Gazette of RS", No. 36/2009 and 88/2010), followed by the new Regulation on the conditions to be met by professional organization for noise measurement ("Official Gazette of RS", No. 72/2010) in the period from **2011 to 2018**, no significant increase (on average 1-2 per year) in the number of PO that obtained the first authorization and accreditation for fulfilling the conditions for measuring environmental noise was recorded (**Figure 35**). Authorizations and accreditations are issued for a four-year period.

Figure 35. Issuing of the first authorization for environmental noise measurement by years



3.2.2 Examination field

Out of the total of 20 POs that submitted questionnaires, all 20 were accredited for environmental noise measurement and, in addition 7 POs were accredited for determining exposure to noise in the work environment, and only 2 POs (Institute for Safety and Preventive Engineering Ltd, Novi Sad and Institute IMS JSC, Belgrade) have been accredited for all three areas of noise testing (Table 4.). Considering the interdisciplinarity of noise and vibration issue in all sectoral policies, it is necessary to significantly improve and expand the field of examination, both in terms of fulfilling legally prescribed obligations, and in significantly reducing the impact of excessive noise on the health of the population.

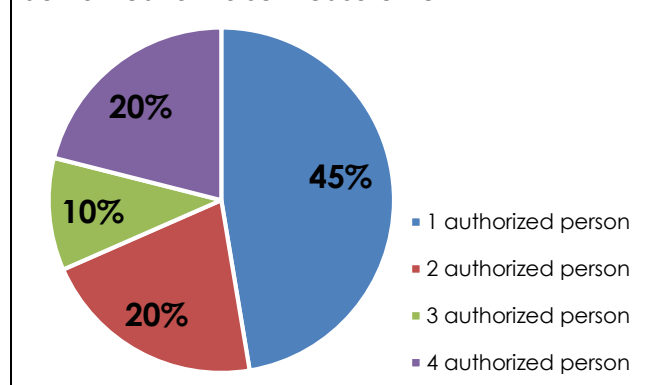


Table 4. Numerical illustration of institutions by their field and types of noise testings in accordance with valid standards

Examination field	Number of POs who carry out measurements	Type of testing	Reference documents
environment	20	determining the level of noise	SRPS ISO 1996-1:2010; SRPS ISO 1996-2:2010
noise environment	7	determining exposure to noise	SRPS EN ISO 9612:2016
sources of noise	2	Determining acoustic power level based on sound pressure	SRPS EN ISO 3741:2010, SRPS EN ISO 3744:2011, SRPS EN ISO 3746:2010

3.2.3 Personnel capacity

Figure 36. % employees in PO authorized for noise measurement

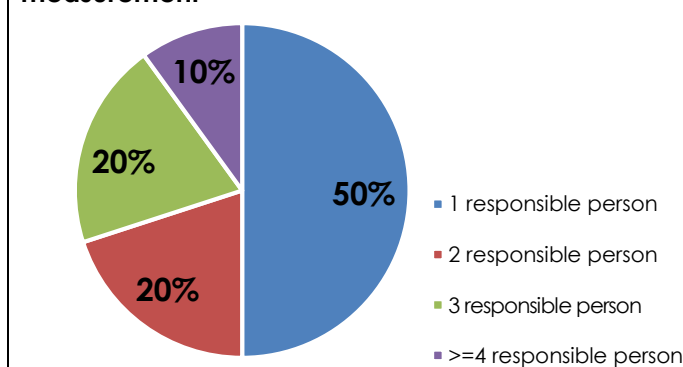


In accordance with Article 4. of the Regulation ("Official Gazette of RS" No. 72/2010), the PO must have an employed person responsible for signing a report on the measurement of a high level of education in the field of technical and technological sciences, medical sciences or in the field of physical sciences and at least 3 years of working experience in noise measurement activities, as well as a **person who is authorized for noise measurement**, of at least higher education in the field of technical and

technological sciences, medical sciences or in the field of physical sciences and at least 3 years of working experience in the field of noise measurement.

In terms of personnel capacity, based on the received information, it can be concluded that about 50% of the POs employ only one person authorized for noise measurement, and only one person responsible for signing the report (**Figures 36-37**). In certain POs, one employed person is responsible for noise measurement and for signing reports as well. Based on the results of the survey, personnel capacity meets the requirements of the valid Regulation, but in order to improve the situation in this field in accordance with European frameworks, it is necessary to significantly increase

Figure 37. % employees in PO responsible for signing a report on measurement



personnel capacity, especially in state health institutions, due to a significant impact of the noise on the health of the population.

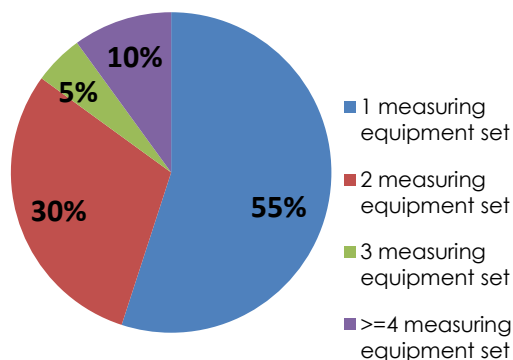
3.2.4 Tehnical equipment

According to Article 3. of the Regulation ("Official Gazette of the Republic of Serbia" No. 72/2010), PO should have the equipment that complies with the standards (**Table 5**) and which must be calibrated once on two years by an accredited laboratory.

Table 5. Measuring equipment for noise measurement in the environment according to prescribed standards

O.n.	Name of equipment	Standard name
1	Sound meter (phonometer)	IEC 61672-1
2	Class 1 filter	IEC 61260
3	Class 1 sound calibrator	IEC 60942

Figure 38. % classification of POs according to technical equipment

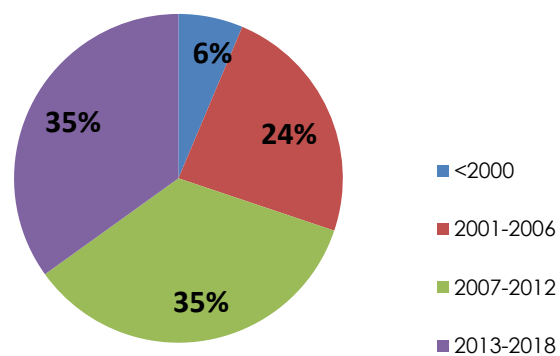


European and national standards.

Increasing competitiveness on the market and improving the quality of noise measurement services in the environment will be achieved through the modernization of measuring equipment in order to obtain reliable data, which as such can be used for the development of strategic and planning documents.

According to provided data, more than 80% of POs have 1-2 sets of measuring equipment (**Figure 38**), which indicates that it is not possible to fulfil users' requests for more frequent noise measurements and / or on multiple measurement sites at the same time. Furthermore 70% of measuring equipment is older than 5 years (**Figure 39**), which indicates the need for the modernization of measuring equipment itself in accordance with the latest

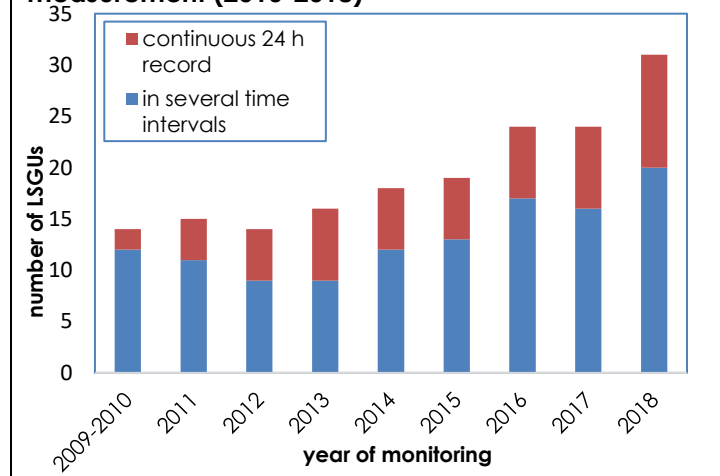
Figure 39. % age of equipment by the year of production



3.2.5 References

Environmental noise monitoring is conducted by subjects of environmental protection that is LSGU in accordance with their legal authorizations. Methods for implementing noise monitoring are carried out in accordance with the requirements of the LSGUs that are defined in the technical specification of the service during the implementation of the public procurement procedure and in accordance with the available financial resources. Measurement of environmental noise is carried out in most LSGUs on several daily, evening and night intervals, while, only in certain LSGUs it is carried out by a continuous 24h record with a reference time of 15 minutes. In order to obtain

Figure 40. Environmental noise monitoring by years and according to the type of measurement (2010-2018)



uniform and high quality data, it is necessary to harmonize the methodology of measurement at the national level and to establish the continuity of measurement. Considering the vulnerability of the population to excessive noise and the need to introduce noise reduction measures in urban areas, a significant trend in the growth of environmental noise monitoring conducted in the last 3 years with a larger share of the continuous 24h record was noted (Figure 40 - Environmental noise monitoring conducted by LSGUs, the City of Belgrade and SUPEP by years).

Noise measurement projects carried out by POs since 2010, but not related to environmental noise monitoring:

- **Projects of acoustic zoning** are, according to the data provided in the period from 2012-2016. in 9 LSGUs in the Republic of Serbia, realized by 4 POs (Institute IMS JSC Belgrade, Institute for Safety and Health at Work Ltd, Institute for Public Health Kragujevac and Faculty of Mechanical Engineering and Construction in Kraljevo, University of Kragujevac. According to Article 7. of the Law on Environmental Noise Protection ("Official Gazette of RS", No. 36/2009 and 88/2010), LSGUs are obligated to perform acoustic zoning on their territory. Acoustic zones are most often determined on the basis of urban plans according to the current condition of construction, method of using land, as well as according to the planned purposes of the area and are defined by the limit values of noise indicators (for day and night). In the Autonomous Province of Vojvodina, projects of acoustic zoning were done in Pančevo and Bačka Palanka

- **Projects implemented upon inspection order** are related to noise measurements in catering facilities, craft shops, noise level measurement during the operation of individual factories, measurement of noise level of a specific source, and the like. The number of performed measurements depends of the engagement of the professional acoustic



consultant by the user, that is, the number and type of inspectors' requests, but by an approximate assessment, certain professional acoustic consultants perform 50-100 noise measurements in the environment annually and about 500 noise measurements per year in working environment.

- **Other projects** implemented by POs are related to the development of the study on musical equipment; the study and performance projects of the noise protection system; impact analysis study; noise mapping; limiting acoustic power level and monitoring noise level during music events; continuous measurements for the development of strategic noise maps; continuous measurements according to different requirements of companies, etc.

3.2.6 Legislation

All POs are familiar with the valid national legislation, while 20% of surveyed professionals who directly apply the law think that regulations in the field of noise and vibrations are not clear (**Figure 41**).

Disadvantages of the existing legislation are primarily related to its inapplicability in practice, as well as to the inadequate division of responsibilities and an unclear formulation. According to their suggestions it is necessary to:

- regulate the field of vibrations by the Regulation, as it is not currently regulated;
- harmonize legislation regarding the field of noise with other legal acts outside this field and take into account certain specificities that are already regulated in the countries of the European Union;
- define legal frameworks and competences more precisely, that is specify procedures and strategies of measurement for different situations in practice, define all indicators, measuring uncertainty; define the method of performing acoustic zoning more precisely; for example introduce a transition zone between industrial and adjacent zones.
- when issuing a licence for working in hospitality business, it is necessary to require measurement of the impact sound insulation; when building a facility, pay special attention to sound protection;
- Include the possibility of realizing rights and protection against traffic noise in existing legislation

Figure 41. Do you think that national regulations regarding noise are clear?

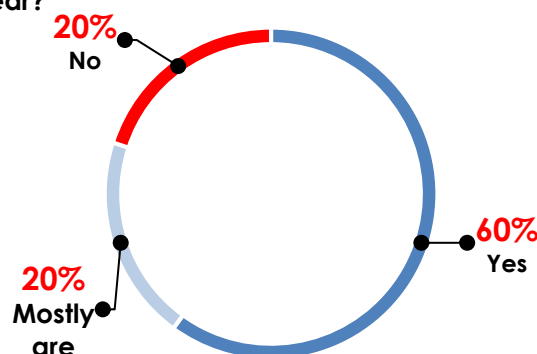
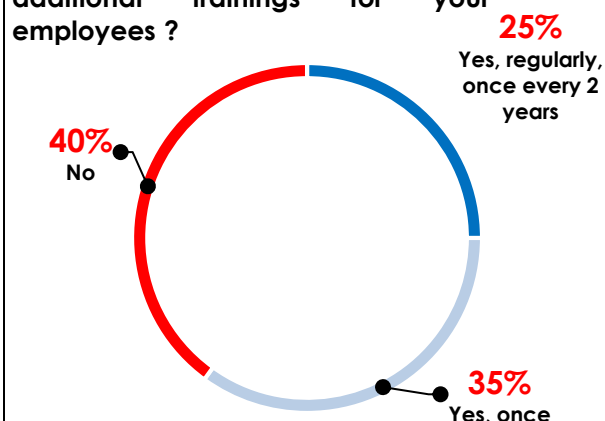


Figure 42. Do you regularly provide additional trainings for your employees ?



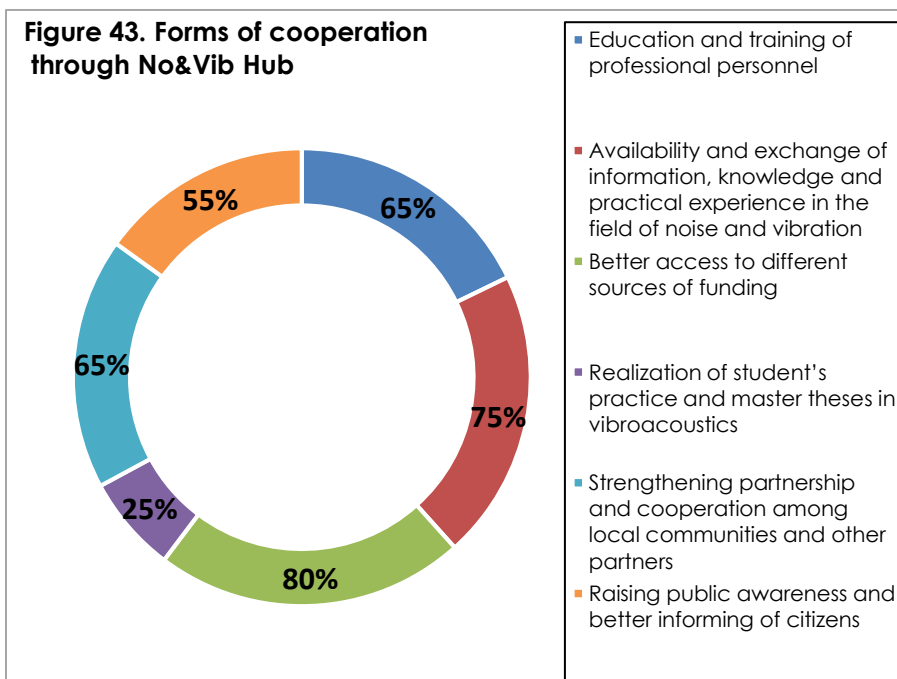
Half of the surveyed POs are fully informed about relevant EU regulations, which points to the need for better information and continuous education of employees in this field. Certain companies recognized the need for constant professional development of employees (Figure 42) in order to improve the quality of service as well as the quality of their business. Employees attend seminars and conferences in this field that are organized in the Republic of Serbia by the Faculty of Occupational Safety, the University of Niš and by authorized distributors of noise and vibration measurement equipment. The

need was also expressed for education in the implementation of national legislation in practice; EU regulations, providing practical instructions for designing noise and vibration monitoring, as well as the method of preparing bases and data for the development of strategic noise maps. The number of employees in professional organizations interested in trainings organized within the planned activities on the SENVIBE project is on average 2-5 persons.

Access to relevant information and data in the area of noise and vibration in the opinion of half of the surveyed is possible through web presentations of LSGUs, seminars, while half of them believe that access to public information is not granted.

3.2.7 Participation in the partnership

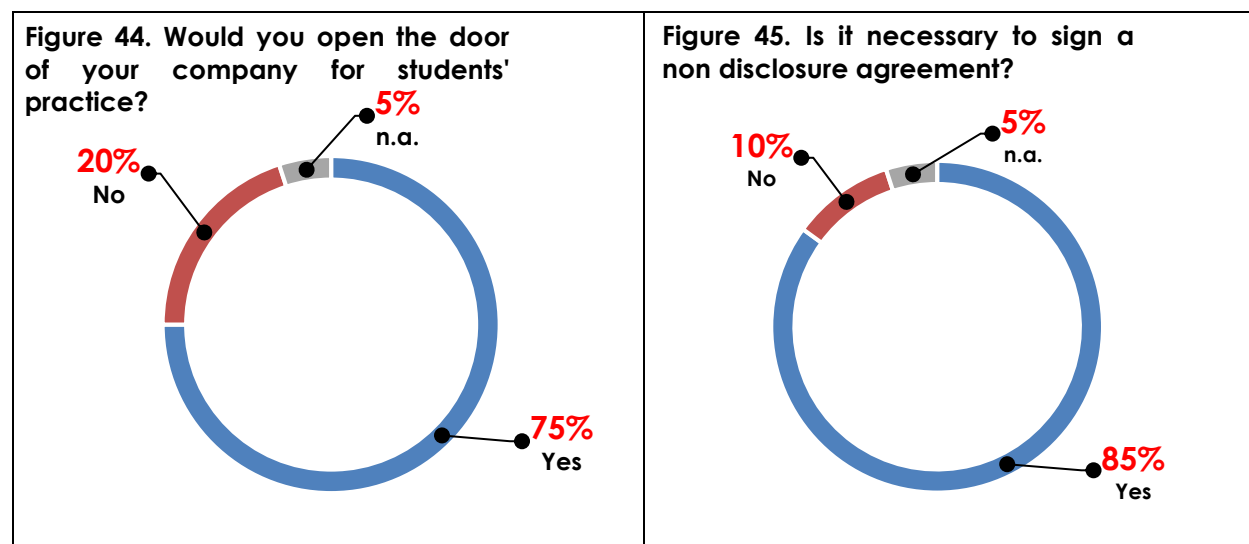
Figure 43. Forms of cooperation through No&Vib Hub



All POs responding to questionnaires are interested in participating in No&Vib Hub through various forms of cooperation. (Figure 43). Figures 44-45 give an overview of the possibilities of providing support for the realization of students' practice as well as for the company's request for signing Non-Disclosure Agreement. The greatest interest of POs regarding



cooperation with No&Vib Hub is to enable better access to various sources of financing, as well as the possibility of exchanging information, knowledge and practical experience in the field of noise and vibration through strengthening partnership and cooperation among all stakeholders, which is one of the specific objectives of this project in terms of its sustainability (**Figure 43**).



4 CAPACITIES AND INTEREST OF INDUSTRIAL SECTOR TO PARTICIPATE IN No&Vib HUB

SUPEP, within its competences, issues an integrated permit in the form of a decision, authorizing the commissioning of a plant or one of its parts that is, performing activities whose integral part consists of documentation with established conditions that guarantee that such plant or activity complies with the requirements provided by the Law on Integrated Prevention and Control of Environmental Pollution ("Official Gazette of the Republic of Serbia" No. 135/2004 and 25/2015) and the Law on Establishing the Competences of the Autonomous Province of Vojvodina ("Official Gazette of the Republic of Serbia", No. 99/09 and 67/2012- decision of CC). The permit authorizes the commissioning of new plants, operation and significant changes in the operation that is functioning of the existing plants.

Categories of industrial activities that are obligated to obtain an integrated permit are:

1. Energy production,
2. Production and processing of metals,
3. Minerals industry,
4. Chemical industry,
5. Waste management,

and they are in accordance with the Decree on the kinds of activities and plants for which the integrated permit is issued ("Official Gazette of RS", No. 84/05).

Considering the fact that the Request for issuing the integrated permit within the plant, processes and procedures data segment, must include data on noise sources, emissions, control, measurement and reporting on the performed noise measurements in the environment and working environment, the questionnaire addressed to plants contained all elements of the Request in accordance with the Regulation on content, form and manner of filling in the Request for issuing integrated permit ("Official Gazette of RS", No. 30/2006 and 32/2016). The Questionnaire is in **Appendix 8 – 8.3 Questionnaire for industrial sector (IS)**.

4.1 Results of the questionnaire

Questionnaire on noise protection measures in plants for which an integrated permit is issued in the territory of AP Vojvodina, within the SENVIBE project "Strengthening educational capacities through building competencies and cooperation in the field of noise and vibration engineering" was sent on January 17, 2019. to 37 facilities obligated to obtain an integrated permit in the territory of the AP Vojvodina, except to industrial plants for production – plants for fattening poultry and pigs (**Appendix 8 – 8.9 List of IPPCs**).

Since a certain number of plants do not contain all the prescribed data and / or documentation, the Provincial Secretariat for Urban Planning and Environmental Protection has set the deadline for the elimination of shortcomings that is submission of evidence, to the applicants, so that the Request for issuing an integrated permit would not be rejected. With regard to this fact, **Appendix 8 – 8.9 List of IPPCs** shows the status of plants that are in the process of obtaining an integrated permit, and it can be concluded from the above mentioned that the number of issued permits is only 24% in relation to the total number of plants that the questionnaire was sent to.



Out of 37 plants, only 4 submitted a completed questionnaire, as follows:

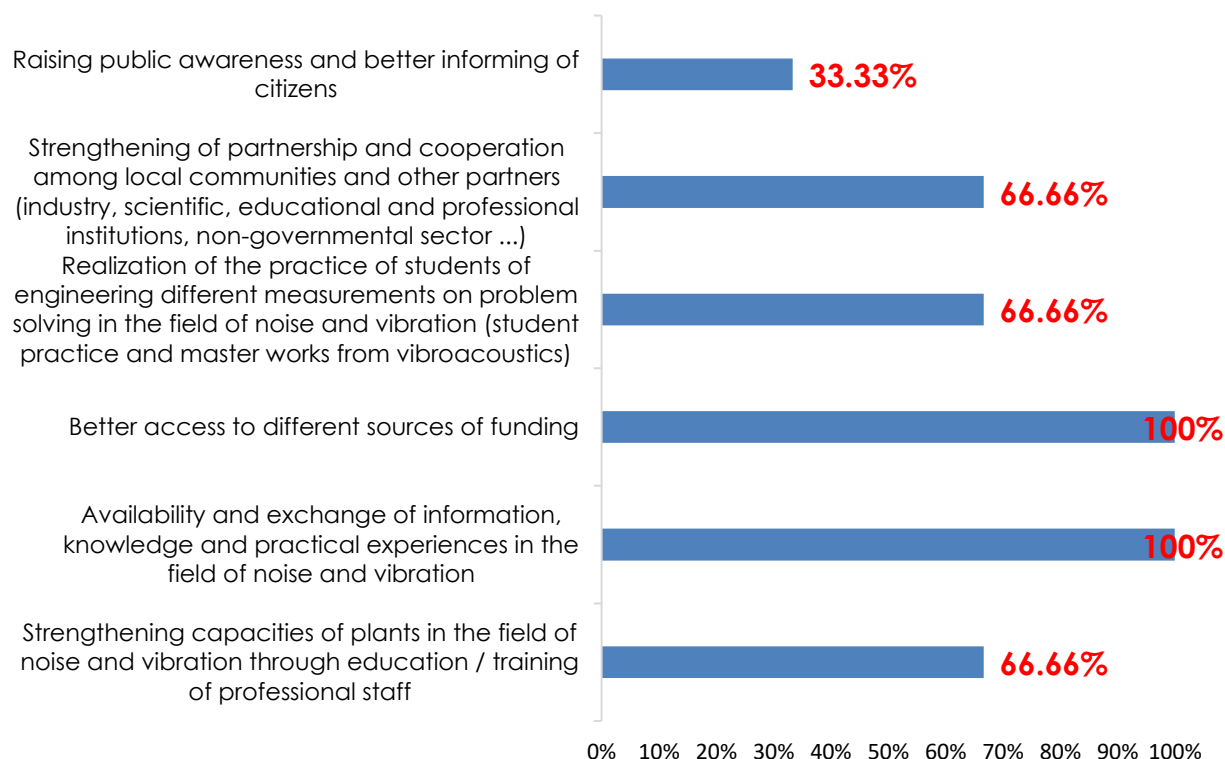
1. Monbat PLC, Ltd., Indija
2. PE Electric Power Industry of Serbia
3. JSC Neimar Zrenjanin
4. Metalfer Steel Mill Ltd., Indija

Elektroprivreda Srbije has responded that their company is not interested in participating in the SENVIBE project.

The data provided by plants Monbat PLC from Indija and Metalfer Steel Mill from Indija did not include data on noise sources, as requested in the questionnaire, while JSC Neimar from Zrenjanin submitted a list of devices that are sources of noise in that plant, as well as data on the implementation of environmental noise monitoring in accordance with the Environmental Monitoring Plan at eight (8) measuring sites. No exceedances of the prescribed limit values in this plant have been registered.

Monitoring of noise in Metalfer Steel Mill from Indija is done if needed, in the case of the reconstruction of existing, construction of new production unit or replacement of equipment at two measuring sites, in a time interval of 15 minutes within a reference time interval - day, evening, night. Description of noise by frequency content: broadband, with no distinct individual tones. Exceedances of limit values have been registered, but measures have been taken to reduce noise exceedance.

Figure 46. Participation in the partnership through SENVIBE platform for noise and vibration/No&Vib Hub (%)



Noise monitoring in the plant Monbat PLC Ltd, Indjija is carried out 1 / year at four (4) measuring sites. There were no registered exceedances of the prescribed limit values.

Considering the fact that one of the specific objectives of SENVIBE project is the development of No&Vib Hub- a central unit that will initiate and facilitate strategic cooperation among stakeholders in this field: the academic community, local and regional businesses, local and national governing bodies, and the wider civil society, the results of the questionnaire indicate that all 3 plants are interested in participating in the partnership through SENVIBE No&Vib Hub Platform, through various forms of cooperation (**Figure 46**).

Given that plants Metalfer Steel Mill Ltd. and Monbat PLC, Ltd. have declared that within the partnership they want to provide access to students for practice and master theses, signing a Non-Disclosure Agreement and defining intellectual property rights during the realization of students' residence and / or work with plant-related data will be necessary in the future.



5 CAPACITIES AND INTEREST OF BUSINESS SECTOR TO PARTICIPATE IN No&Vib HUB

Survey was conducted within the **activity 1.6 - No&Vib Hub: matching EU trends with needs in Serbia**. The leading authority of this activity is the Provincial Secretariat for Urban Planning and Environmental Protection, and the Union of Employers of Vojvodina had the task of examining the needs and familiarity of companies with this field. After informing professional services of the UPV on legislation in the field of noise and vibration and on the responsibilities of the business sector, the development of the questionnaire was initiated.

Questionnaire consisted of three parts (**Appendix – 8.4 Questionnaire for business sector (BS)**):

- general information about the company;
- company's familiarity with legislation regarding the field of noise and vibration;
- company's view on the possibility of cooperation through No&Vib Hub and on the possibility of admission of students to the company for training purposes.

Technical solution of the questionnaire was entrusted to the company "Center of New Technologies" Ltd. from Ruma, as the best one of three submitted bids for the execution of this service. The service included the preparation of the technical solution of the questionnaire, realization of its implementation and the method of summarizing submitted answers that is completed questionnaires. Questionnaire is set up to be mobile friendly, with the aim of meeting the needs of businesspeople and making the process of filling it in as simple as possible.

Figure 47. – On-line questionnaire, print screen

Erasmus + Project No 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP
Strengthening Educational Capacities by Building Competences and
Cooperation in the Field of Noise and Vibration Engineering
SeNViBe

Анкетни упитник за привредне субјекте - SeNViBe пројекат:

ОПШТИ ДЕО

НАЗИВ привредног друштва/ предузетника	http. Moja Фирма ДОО	Please fill out this field.
АДРЕСА	http. Лазе Телечког 2, 21000 Нови Сад	
web адреса	http. http://www.mojaweb.rs	
E-mail	http. email@mojaweb.biz	



OBJECTIVE OF THE SURVEY: The objective of the survey is to get information from the business sector: to what extent they are familiar with their responsibilities in the field of noise and vibration, what they suggest in order to improve this field and to be better informed about it, whether there is an interest in cooperation through No&Vib Hub and if they would consider "opening the door" of their companies for practice and master theses of students in this field;

DATA COLLECTION METHOD: CAWI (Computer Assisted Web Interview) – survey conducted through online questionnaire

SAMPLE: at least 1500 addresses

QUESTIONNAIRE LENGTH: Maximum 10 minutes

TYPE OF SAMPLE: Small, medium and large companies and entrepreneurs engaged in production activity, printing houses, construction companies, companies that provide craft services...

DURATION OF THE SURVEY: 18.01.2019 – 28.02.2019.

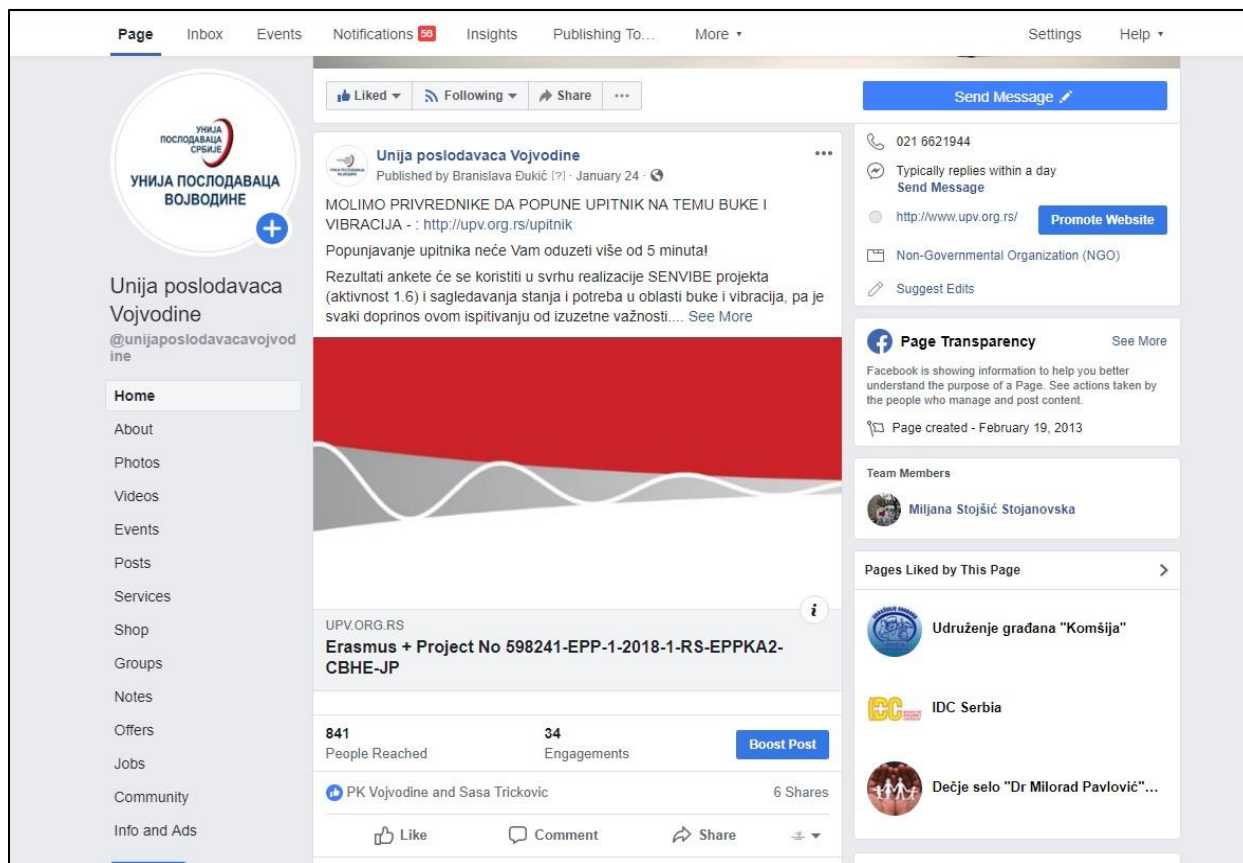
A professional service of the Union of Employers of Vojvodina sent the questionnaire to approximately 550 addresses. In addition, the questionnaire was forwarded to the following associations and institutions, with the request to forward the questionnaire to their members:

- Union of Employers of Serbia
- Union of employers of Zrenjanin
- Union of employers of Ruma
- Union of employers of Bačka Palanka
- Association of Enterprises and Entrepreneurs Subotica
- Business association of road transport "PANONTRANSPORT"
- Cluster of social enterprises of Vojvodina KASPEV Novi Sad
- Cluster of construction and utilities PANONIJA Novi Sad
- Vojvodina metal cluster VMC Temerin
- Regional Development Agency BAČKA Novi Sad
- Development Agency of Vojvodina
- Chamber of Commerce of Vojvodina
- Federation of Autonomous Trade Unions of Vojvodina

In addition, a link of the questionnaire was posted on the Facebook page of the Union of Employers of Vojvodina. Post was seen by 875 and shared by 6 Facebook users (Union of Employers of Serbia, Chamber of Commerce of Vojvodina, Management of UPS and UPV).



Figure 48. – On-line questionnaire on UPV Facebook page, print screen



Questions asked by businesspeople during the survey:

- Why are you interested in this topic now when there are matters that are more important for our business?
- Is it mandatory to fill out the questionnaire and who will have access to the questionnaires?
- Will our responses entail certain consequences in relation to governing authorities?
- Will we have to assume any obligations by completing the survey?

Number of companies that completed the questionnaire: 50

Activities of companies:

1.	Transport
2.	Computer programming
3.	Construction
4.	Distillation, purification and mixing of beverages
5.	Production of strip tapes
6.	Production of oils and fats
7.	Production engineering
8.	Agriculture - milk processing
9.	Graphic business

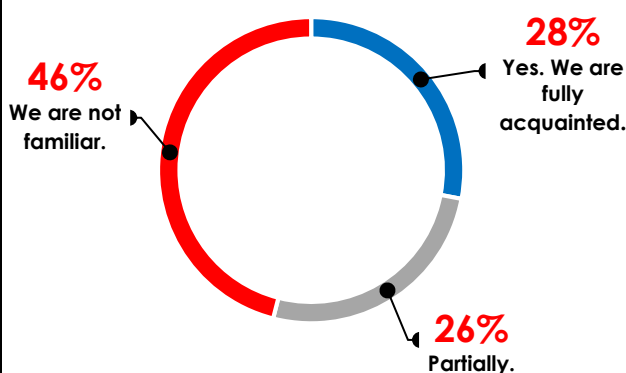


10.	Manufacture of footwear and clothing
11.	Production of plastic packaging – processing plastics
12.	Safety and health at work
13.	Hospitality industry
14.	Exploitation of crude oil
15.	Security system services
16.	Food industry
17.	Soda-water production
18.	Processing and selling meat
19.	Accounting services
20.	Metalworking
21.	Interior design
22.	Commerce
23.	Design and engineering
24.	Production of mortar
25.	Production of industrial gases
26.	Production of cooling devices
27.	Production and repair of industrial fittings
28.	Manufacture of cardboard packaging
29.	Veterinary
30.	Carpentry
31.	Health care

5.1 Results of the survey

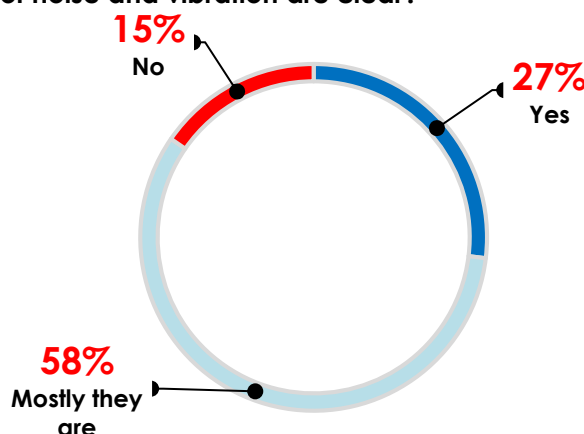
On question - **Are you familiar with the relevant national legislation regarding the field of noise and vibration?** 14 companies responded with YES (28%), 13 respondents answered that they were fully familiar (26%), and 23 companies answered that they were not familiar (46%). A total of 50 responses. (Figure 49).

Figure 49. Are you familiar with relevant national legislation in the field of noise and vibration?



On question - **Do you think that regulations regarding the field of noise and vibration are clear?** 7 companies responded with YES (27%), 15 respondents answered that they mostly were (58%), and 4 companies answered that they were not familiar (15%). 26 respondents answered in total (**Figure 50.**).

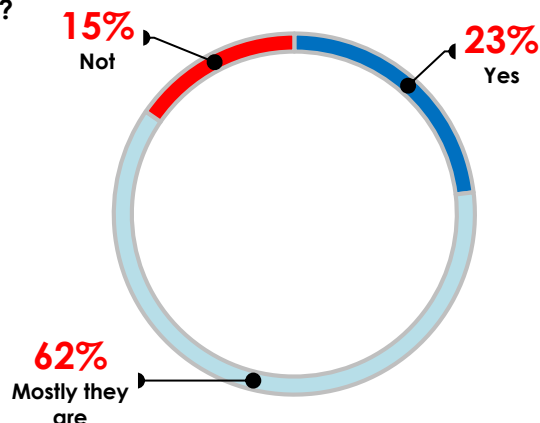
Figure 50. Do you think the regulations in the field of noise and vibration are clear?



When asked - **Do you think that competences in the field of noise and vibration are clearly and unambiguously defined?** 6 companies responded with YES

(23%), 16 respondents answered that they mostly were (62%), and 4 companies answered that they were not familiar (15%). 26 respondents answered in total (**Figure 51.**).

Figure 51. Do you consider that the responsibilities in the field of noise and vibration are clearly and unambiguously defined?



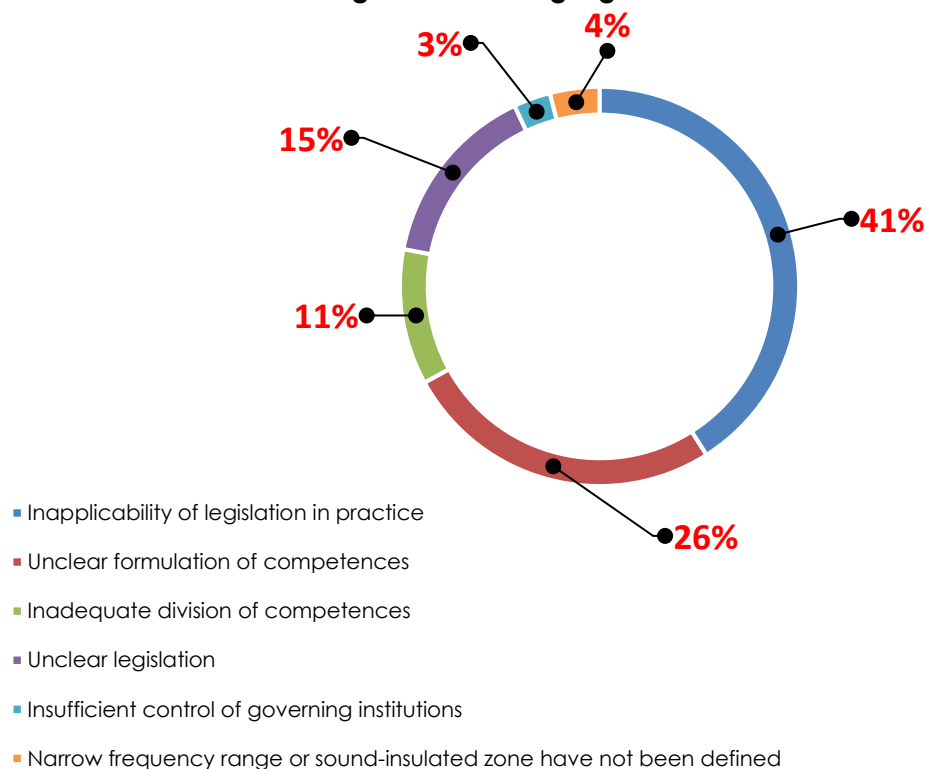
When asked - **What are disadvantages of the existing legislation?** 23 companies answered in total. 11 companies answered - the inapplicability of legislation in practice (41%); 7 companies think that competences are not clearly formulated (26%); 3 companies responded- an inadequate division of competences (11%); an unclear legislation = 4 companies (15%). Respondents added (considering that the survey allowed it) two more answers: insufficient control by

the governing institutions = 1 company (3%); Narrow frequency range or sound-insulated zone have not been defined = 1 company (4%) (**Figure 52.**).

the governing institutions = 1 company (3%); Narrow frequency range or sound-insulated zone have not been defined = 1 company (4%) (**Figure 52.**).



Figure 52. What are the shortcomings of the existing legislation?



Question - **In your opinion, what should be changed regarding legislation?**
allowed a free form of response. Businesspeople responded that the following is necessary:

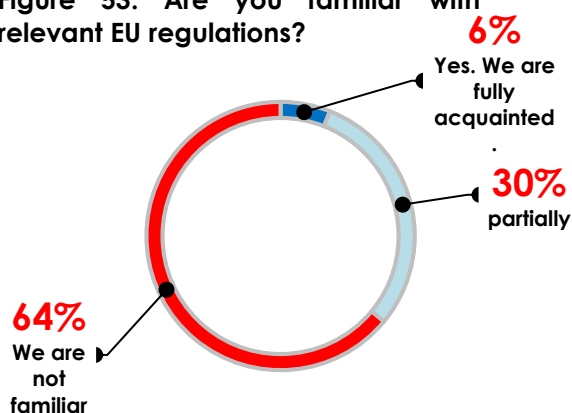
- A more precise and more complete definition of competences and responsibilities
- Enable better understanding through clearer formulations. Regulations should be as specific as possible.
- Harmonize with the real situation in this field and make laws applicable (more applicable than they are today).
- Uniform legislation
- Introduce an obligation of accreditation for organizations that measure exposure to noise and vibrations in the work environment.
- Laws should be clear and applicable
- Execute extensions and additions for complete application, especially for sound-sensitive objects, sites and specific activities
- In the Ordinance on Preventive Measures for Safe and Sound Work in Noise Exposure, the permissible noise levels are not specified depending on the activity.



On question - **Are you familiar with the relevant EU legislation?** all 50 respondents answered. We are fully familiar = 3 respondents (6%), we are partially familiar = 15 respondents (30%), we are not familiar = 32 respondents (64%)(Figure 53).

Are you familiar with your responsibilities regarding the field of noise and vibration? All 50 respondents answered. 32 companies answered YES (64%), 18 companies answered NO (36%) (Figure 54.).

Figure 53. Are you familiar with relevant EU regulations?



All 50 companies responded to the question **Have you carried out noise level measurements in your company?** 29 companies answered YES (58 &). 21 companies answered NO (42%) (Figure 55).

Figure 54. Are you familiar with your obligations in the field of noise and vibration?

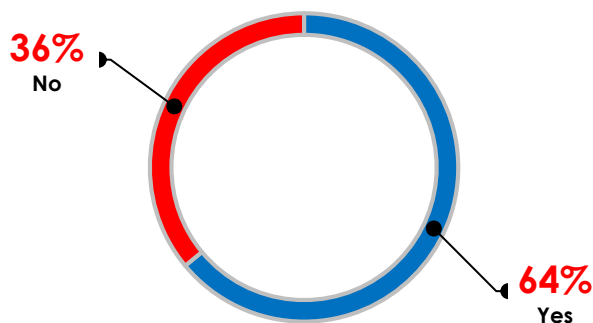
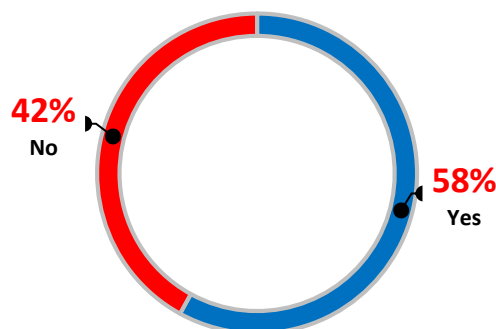


Figure 55. Have you measured noise level in your company?



Has an estimated noise level been stated in the Risk Assessment Act? All 50 respondents answered. 33 companies answered YES (66%), 17 companies answered NO (34%) (Figure 56).

Do you inform your employees of their rights and responsibilities in this field? All 50 respondents answered. 30 companies answered YES (60%), 20 companies answered NO (40%) (Figure 57).



Figure 56. Do you have an estimated noise level in the Risk Assessment Act?

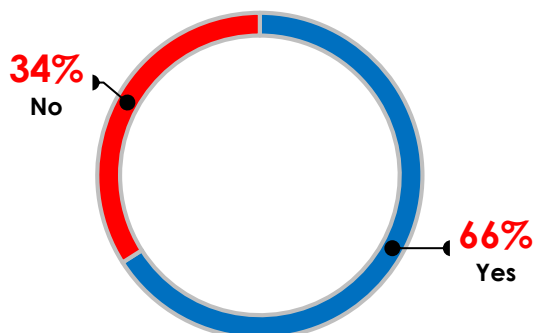
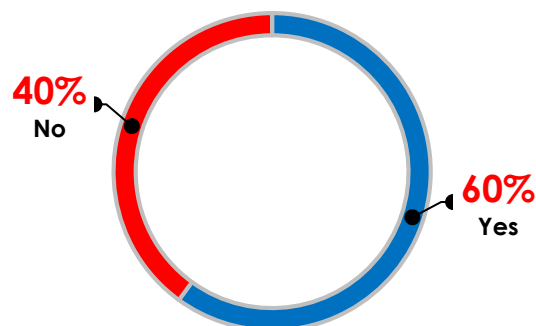


Figure 57. Do you inform your employees of their rights and obligations in this area?



Do you think that You and Your employees need education / trainings in the field of noise and vibrations? All 50 respondents answered. 29 companies answered YES (58%), 21 companies answered NO (42%) (Figure 58).

If your answer is yes, what kind of training would You prefer? 28 respondents answered this question. 13 respondents think that in-house training would be most appropriate (47%), 4 respondents think that organizing seminars would be most appropriate (14%), 11 respondents think that developing a manual would be useful (39%) (Figure 59).

Figure 58. Do you think there is a need for education / training for you and your employees in the field of noise and vibration?

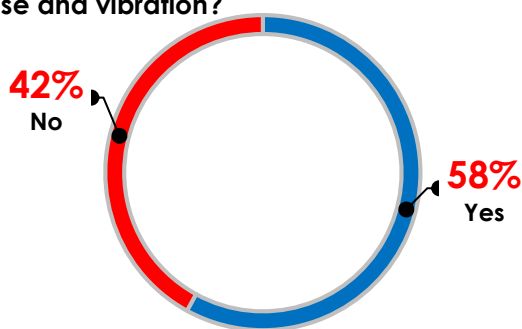
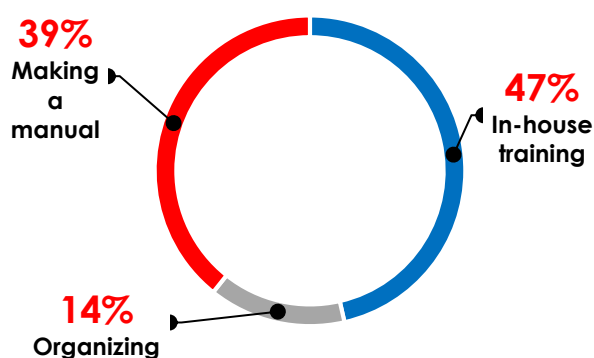


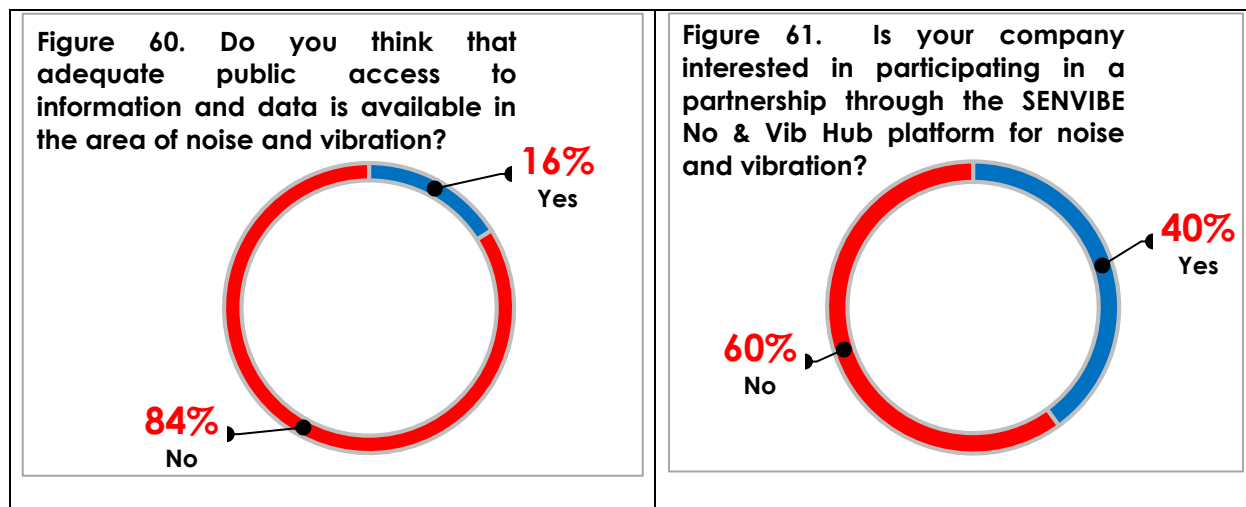
Figure 59. What kind of training would suit you most?



QUESTION - Do you think that an adequate access to information and data in the area of noise and vibration has been available to public? All 50 respondents answered. 8 respondents answered YES (16%) and 42 respondents answered NO (84%) (Figure 60).



When asked **if their company is interested in participating in the partnership through SENVIBE platform for noise and vibration/ No&Vib Hub?** all 50 respondents answered. 20 companies answered YES (40%), 30 companies answered NO (60%) (**Figure 61**).

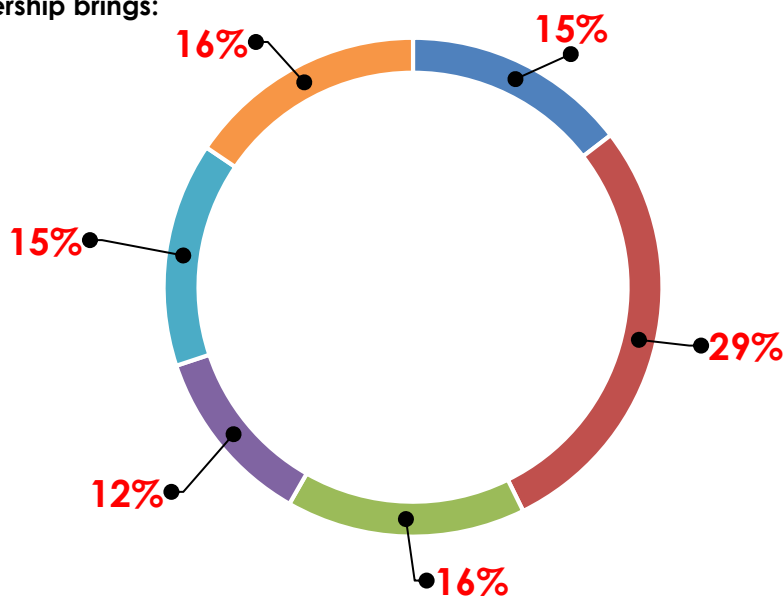


22 companies responded to the proposed **forms of cooperation** in the following areas (**Figure 62**):

1. Strengthening the company's capacity in the field of noise and vibration through education / trainings of professional personnel - 9 companies (15%)
2. Availability and exchange of information, knowledge and practical experience in the field of noise and vibration - 16 companies (29%)
3. Better access to different sources of financing - 10 companies (16%)
4. Realization of the practical work of students of various engineering departments on solving problems in LSGUs regarding the field of noise and vibration (student's practice and master theses in vibroacoustics) - 7 companies (12%)
5. Strengthening partnerships and cooperation between local communities and other partners (industry, scientific, educational and professional institutions, nongovernmental sector ...) - 9 companies (15%).
6. Raising public awareness and informing citizens more on the subject- 10 companies (16%).

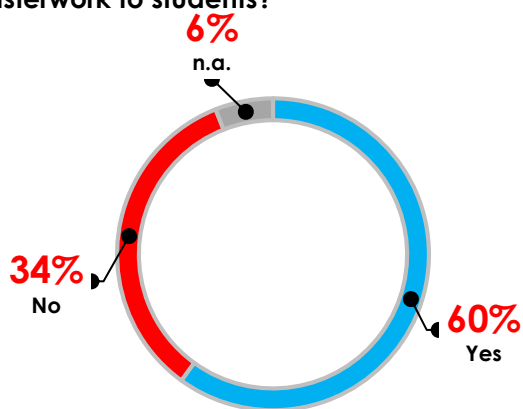


Figure 62. Partnership brings:



- 1. Strengthening capacities in the field of noise and vibration through education / trainings of your professional personnel
- 2. Availability and exchange of information, knowledge and practical experience in the field of noise and vibration
- 3. Better access to different sources of funding
- 4. Realization of the practical work of students of various engineering departments on solving problems in company in the field of noise and vibration (student's practice and master theses in vibroacoustics)
- 5. Strengthening partnership and cooperation between local communities and other partners (industry, scientific, educational and professional institutions, non-governmental sector ...)
- 6. Raising public awareness and informing citizens more on the subject

Figure 63. Would you open your company's doors for practice and masterwork to students?



Respondents could propose other forms of cooperation through SENVIBE platform. Two additional answers were obtained:

- Better informing of citizens through the media, raising awareness of citizens on the impact of noise on human health and the relevance of the noise issue.
- Consultancy services regarding the field of noise and vibration in the living and working environment. Cooperation on big projects.

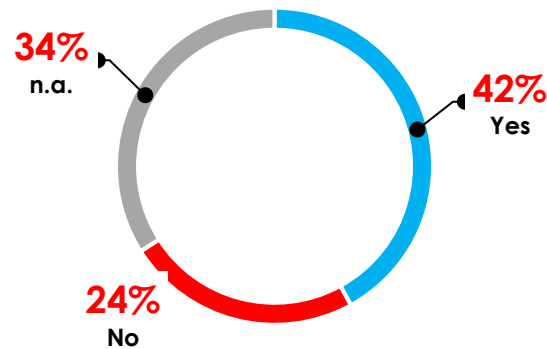
When asked: **Would you open the door of your company for the practice and master theses of students?** out of 50



respondents, 47 responded. 30 companies answered YES (60%), 17 companies answered NO (34%), 3 companies did not respond (6%) (Figure 63).

Companies that answered YES were asked if it would be necessary to sign a Non-Disclosure Agreement and to define intellectual property rights during the realization of students' residence and / or work with company-related data? Out of 50 respondents, 33 responded. 21 companies answered YES (42%), 12 companies answered NO (34%), 17 companies did not respond (24%) (Figure 64).

Figure 64. Would it be necessary to sign a special agreement on the confidentiality of certain information and the definition of intellectual property rights during the relocation of student residence and / or work with data related to the company?



6 CONCLUSIONS AND RECOMMENDATIONS

One of the objectives of the Erasmus + SENVIBE project is to establish the No&Vib (Noise and Vibration) Hub - a unique central unit for networking between academic and non-academic institutions in the field of noise and vibration in Serbia. Examples of good practice that exist in Europe and worldwide show that different organizations are gathered in hubs to achieve greater impact, reform and/or sustainability by working cooperatively with others. So, the initial step is recognizing when a stakeholder collaboration is necessary and then, defining how it can be beneficiary to different parties engaged in the hub. This implies that, if for example, universities need companies, local/regional governmental bodies and other stakeholders to provide students internships or practical subjects for their projects, one would need to determine how companies or local/regional governmental bodies and other stakeholders can benefit from this cooperation as well. Surveys conducted during the SENVIBE project are expected to give certain answers to these questions regarding **No&Vib Hub** that is planned to be established. Next is the selection of the right partnership framework, which will be done at the later stages of the SENVIBE project (WP6). Main conclusions from different types of surveys conducted are summarized below. Note that the full list of other stakeholders, including those that did not participate in these surveys but might be interested in the results of the SENVIBE project and **No&Vib Hub**, is created in a separate activity and will be available at the SENVIBE website.

6.1. Conclusions and recommendations: LSGUs

Analysis of results of the conducted survey provided an insight into disadvantages of work, organization and actions of competent authorities of LSGUs in APV, and thus a clearer picture of the necessary improvements and enhancements. Data collected by this survey will serve as a basis for providing initiatives and proposals, taking measures and adequate steps aimed at strengthening the capacity of the competent LSGUs services, improving the effectiveness of work and more efficient application of legislation in practice. Conducting the survey will also contribute, to a certain extent, to a greater transparency in the work of LSGUs, and the data collected through the survey will be available to the public on the web sites (SENVIBE website, SUPEP website ...).

Results and analysis point to the great lack of interest of LSGUs in completing the survey, both in terms of clarifying potential dilemmas and uncertainties regarding questions asked, as well as in a great number of incomplete, inaccurate, incorrect, one-sided and highly subjective responses. Problems identified in the authenticity of the data, inevitably result in inaccuracy and incompleteness of certain, final data and possible wrong conclusions. The problem with closed-ended questions, which were dominant in this survey, is that in a number of cases, due to their simplicity and limited answers, they do not offer respondents answers that reflect their attitudes. In addition, closed-ended questions do not provide an opportunity for respondents to express their inability to understand a particular question in the survey.

It was also noted that a large number of LSGUs had technical problems in completing the questionnaire (lack of adequate technical equipment and insufficiently computer-savvy respondents), since the survey was prepared as an online survey with the possibility of direct data entry.



Based on the analysis of the survey results, the following can be concluded:

- **General part**

- ✓ Environmental protection, as an administrative area, is not an independent organizational unit at the local level, except in cities (in half of LSGUs in APV, it belongs to the department responsible for the field of urban planning, construction and utility activities). Therefore, it is necessary to give higher priority to environmental protection, and to the field of noise and vibration at the local level accordingly, along with the strengthening of institutional capacities (financial, personnel, technical ...)

- **Institutional capacities of LSGUs (financial, administrative, technical)**

- ✓ Inadequate and unsatisfactory implementation of competences in the field of noise and vibration;
- ✓ Insufficient budget funds allocated to the field of noise and vibration, which points out the need to allocate additional funds for an efficient implementation of competences;
- ✓ Inadequate personnel capacity (insufficient number of employees and their unsatisfactory training for the implementation of competences in the field of noise and vibration) and an expressed need for education / trainings; (key area-application of legislation in practice)
- ✓ As main disadvantages of legislation inapplicability of legal regulations and unclearly formulated competences were stated, therefore a revision of laws and bylaws in the field of noise and vibration as well as their harmonization with EU regulations are necessary.
- ✓ Lack of financial resources, inability to understand priorities and inadequate decision-making were highlighted as a key problem in the implementation of competences.

- **Cooperation between governing bodies**

- ✓ Cooperation between governing bodies is not entirely satisfactory (horizontal and vertical level), therefore it is necessary to improve and establish more active cooperation at all levels;

- **Informing the public**

- ✓ Informing the public about the field of noise and vibration is unsatisfactory and it is necessary to intensify these activities through targeted campaigns and through the development of promotional / educational materials;

- **Participation in the partnership – platform for noise and vibration/No&Vib HUB**

- ✓ Great interest in participating in SENVIBE noise vibration platform (NO&VIB HUB), especially through the following forms of cooperation:
 - Strengthening capacities in the field of noise and vibration through education / trainings of professional personnel;
 - Defining, analyzing and solving local issues in the field of noise and vibration;
 - Availability and exchange of information, knowledge and practical experience in the field of noise and vibration;
 - Better access to different sources of funding;



- ✓ Involvement in the partnership will bring numerous benefits to LSGUs- it will intensify the strategic cooperation of all key actors in this field through the networking of academic and non-academic sectors (improvement and exchange of expertise and experience, improvement of work and linking of governing bodies, businesses and higher education, raising public awareness ...).
- ✓ More than half of LSGUs are interested in the realization of practice and master theses of students.

The conducted survey represents a kind of "umbrella survey" and provides the basis for developing more detailed surveys in the field of noise and vibration. Also, the coverage of this survey can be extended to other LSGUs in the territory of RS. This way, useful comparative data on the work and views of employees in the competent bodies of LSGUs in certain areas / regions in RS, with the aim of comprehensive strengthening of institutional capacities in the field of noise and vibration.

Based on the functioning of LSGUs, it is possible to determine and evaluate the actual reach of the functioning of public authority, as well as its ability/capability to fulfill the obligation of harmonizing the situation with European standards. Results of this survey can serve to assess institutional capacities and the functioning of competent local authorities and local self-governments in the field of environmental protection, particularly in the field of noise and vibration in the environment.

6.2 Conclusions: POs

Results of the conducted survey related to the analysis of the current situation and needs in the field of noise and vibration of POs for environmental noise measurement point to the following conclusions:

- Given the presence of noise and vibration in all sectoral policies, it is necessary to strengthen capacities of POs in order to acquire and expand accreditations for the activities of noise and vibration testing;
- In order to reach European frameworks and significant noise impact on the health of the population, it is necessary to significantly increase personnel capacity, especially in state health institutions;
- Technical capacity is very low. In order to increase market competitiveness and improve the quality of noise measurement services in the environment in accordance with European standards, POs should provide more measuring equipment sets of newer generation;
- There is a need for continuous education in the application of national legislation in practice and EU regulations, providing practical instructions for designing noise and vibration monitoring, as well as the method of preparing bases and data for the development of strategic noise maps;
- Participation in the No&Vib Hub is expected to provide better access to various sources of funding, exchange of information, knowledge and practical experience in the field of noise and vibration through strengthening partnership and cooperation among all stakeholders. Given that a small number of professional acoustic consultants are interested in the realization of students' practice and master these in vibroacoustics,



No&Vib Hub is expected to increase interest in transferring practical knowledge to younger generations through its activities.

6.3 Conclusions: IPPCs

Results and analysis indicate a great lack of interest of plants in completing the survey, with regard to the fact that 75% of plants that the survey was addressed to, are in the process of issuing an integrated permit.

Given that one of the specific goals of the SENVIBE project is the development of No & Vib Hab- a central unit that will initiate and facilitate strategic cooperation among stakeholders in this field, the results of the questionnaire indicate that all plants are interested in participating in the partnership through SENVIBE platform for noise and vibration / No&Vib Hub, mostly through the following forms of cooperation:

- Availability and exchange of information, knowledge and practical experience regarding the field of noise and vibration;
- Better access to various sources of funding;

It is very important to provide the possibility of the realization of the practical work of students of engineering of different departments on solving problems in the field of noise and vibration in plants (students' practice and master theses in vibroacoustics), which will be defined by a Non- Disclosure Agreement and by the definition of intellectual property rights during the realization of students' residence and / or work with plant-related data.

6.4 Conclusions: BS

From the obtained answers we can conclude that in most cases companies are not familiar neither with their responsibilities regarding the field of noise and vibration, nor with their harmfulness to the health and productivity of employees. Their competences are not clear, as well as regulations related to this field. Few companies that are familiar with regulations in this field think that they are not applicable...

Bearing in mind that in most cases companies are not familiar with national noise and vibration legislation, EU regulations are completely unknown to them and absolutely out of focus.

However, businesspeople are aware that they have certain responsibilities in the field of noise and vibration. Half of the respondents performed noise measurements in their business facilities and stated an estimated noise level in the Risk Assessment Act. The need for education and more information was shown by the half of surveyed companies. Most respondents think that the most effective training method would be in-house training, although a significant number of respondents believe that the manual regarding this field would be appropriate. Few respondents gave priority to seminars, thus in most cases we can conclude that there is no interest in this training method.

84% of respondents believe that information on noise and vibration is not sufficiently represented in the public.

On the possibility of participating in the SENVIBE project, a larger number of respondents gave negative answers - 60%. Other respondents gave the greatest importance to the availability and exchange of information, knowledge and practical



experience in the field of noise and vibration through SENVIBE platform for noise and vibration/ No&Vib Hub. In addition, better access to different sources of funding, raising public awareness and informing citizens more on the field of noise and vibration through No&Vib Hub were highly evaluated.

60% of respondents answered affirmatively regarding the possibility of opening the doors of their companies for practice and master theses of students, whereby 42% of companies requested the signing of a Non-Disclosure Agreement and the definition of intellectual property rights during the realization of students' residence and / or work with data related to the company.



7 LIST OF REGULATIONS AND REFERENCES

1. Municipalities and regions in RS, SORS, 2018
(<http://www.stat.gov.rs/oblasti/stanovnistvo/procene-stanovnistva/>)
2. Regulation on the conditions to be met by the PO for noise measurement, as well as the documentation submitted with the request for authorization for noise measurement ("Official Gazette of the Republic of Serbia" No. 72/2010).
3. Regulation on the permissible level of noise in the environment ("Official Gazette of RS", No. 54/92).
4. Law on Environmental Noise Protection ("Official Gazette of RS", No. 36/2009 and 88/2010)
5. Law on Integrated Prevention and Control of Environmental Pollution ("Official Gazette of the Republic of Serbia" No. 135/2004 and 25/2015)
6. Law on Establishing the Competences of the Autonomous Province of Vojvodina ("Official Gazette of the Republic of Serbia", No. 99/09 and 67/2012- decision of CC).
7. Decree on the kinds of activities and plants for which the integrated permit is issued ("Official Gazette of RS", No. 84/05).
8. Law on Environmental Protection ('Official Gazette of the RS', no. 135/2004, 36/2009, 36/2009 - st. law, 72/2009 - st. law, 43/2011 – decision of CC, 14/2016, 76/2018, 95/2018 - st. law and 95/2018 - st. law
9. Law on local self- government ('Official Gazette of the RS', no. 129/2007, 83/2014 - st. law, 101/2016 - st. law i 47/2018)



8 APPENDIX

8.1 Questionnaire for local self-government units (LSGUs)

Erasmus + Project No 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP
Strengthening Educational Capacities by Building Competences and Cooperation in
the Field of Noise and Vibration Engineering
SENVIBE

Dear Madam/Sir,

The Provincial Secretariat for Urban Planning and Environmental Protection is a partner at Erasmus + SENVIBE project -" (Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering), financed by the European Commission (No. 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP) - <https://senvibe.uns.ac.rs/>

The project has the global goal of **improving capacities in the field of noise and vibration**.

SENVIBE project consortium gathers 11 partner institutions from the country and abroad, and the leading institution is the University of Novi Sad. The project will last three years (2018-2021).

This project introduces, for the first time in Serbia, a new master vibroacoustics program, and it is envisaged to modernize study programs for the education of future engineers of different departments, as well as to introduce **lifelong learning courses** in the field of noise and vibration that will be implemented throughout the country for all interested subjects. The project will also contribute to the development of **SENVIBE noise and vibration platform / No&Vib Hub** - a unique central unit for networking academic and non-academic institutions in the field of noise and vibration in Serbia. No&Vib Hub aims at, in addition to improving and exchanging expertise and experience, improving the work and networking of governing bodies, businesses and higher education authorities in this area, and jointly contributing to raising awareness of the wider community on noise and vibration in the living and working environment. The platform will be developed at the University of Novi Sad at the end of 2019.

Bearing in mind Your competences and activities in this area, as well as the need for long-term sustainability of **SENVIBE** project, we will send You a questionnaire. The results of the survey will be used for the realization of **SENVIBE** project (activity 1.6) and the understanding of the situation and needs in the field of noise and vibration, so any contribution to this study is of exceptional importance.

Please fill in the questionnaire in electronic form **no later than 31.1.2019**. and submit to E-mail: hristina.radovanovic@vojvodina.gov.rs.

You will be informed about the results of the survey and project realization activities through media, on the websites of **SENVIBE** project <http://senvibe.uns.ac.rs> and project partners.

For further information, please contact MSc Hristina Radovanović Jovin (phone: 021/487 4689, E - mail: hristina.radovanovic@vojvodina.gov.rs).



Questionnaire for local self-government units (LSGUs) - **SeNVIBE** project:

GENERAL PART

1.

NAME OF LSGU	
ADDRESS	
Website	
E-mail	
Phone/fax	
Number of employees	
Contact person	
Function	

2.

Jurisdiction of LSGU's authority	Name of LSGU's authority	Leader of LSGU's authority (name, mail, phone, fax)
Environmental protection		
Traffic		
Industry		

3.

Jurisdiction of LSGU's authority	Number of employees	Contact data of employees (name, professional qualification/vocation, working experience, the percentage share of work engagement in the field of noise and vibration, mail, phone, fax)
Environmental protection		
Traffic		
Industry		

INSTITUTIONAL CAPACITIES OF LSGUs (FINANCIAL, ADMINISTRATIVE, TECHNICAL)

1. Are the funds allocated to LSGUs' budget for the field of noise and vibration sufficient for the implementation of competences?

- Yes
- No

If Your answer is NO, please explain.

2. Please indicate the individual amounts of funds in LSGUs' budget in 2018. and 2019. for the field of noise and vibration.



2018.	
2019.	

3. Have you realized projects in the field of noise and vibration in 2018?

- Yes
- No

Project title	Realization period	Source of funds	Amount of funds

4. Is the realization of projects in the field of noise and vibration planned in 2019?

- Yes
- No

Project title	Realization period	Source of funds	Amount of funds

5. Are you familiar with a relevant national legislation in the field of noise and vibration?

- Yes. We are fully familiar with it.
- Partially
- We are not familiar with it.

If Your answer is NO, go to question number 9!

6. Do you think that regulations regarding the field of noise and vibration are clear?

- Yes
- No
- They mostly are
- They mostly are not

7. Do you think that competences in the field of noise and vibration are clearly and uniquely defined?

- Yes
- No
- They mostly are
- They mostly are not

8. What are the disadvantages of the current legislation?

- Inapplicability of legislation in practice
- Inadequate division of competences
- Unclear formulation of competences
- Unclear legislation
- Other _____

Note: It is possible to circle more than one answer

9. In Your opinion, what should be changed regarding legislation?



10. Are you familiar with the relevant EU legislation?

- Yes. We are fully familiar with it.
- Partially
- We are not familiar with it.

11. To what extent do you implement competences in the field of noise and vibration?

- Fully
- Mostly yes
- Mostly no
- We do not implement.

12. Does your LSGU determine measures / conditions for the protection from noise (sound protection) in plans / programs / projects, including spatial and urban plans, strategic environmental assessment (SEA), environmental impact assessment (EIA) and IPPC permits?

- Yes
- No

Compliance request submitted for SEA/ EIA/IPPC permit in 2018.	Request status		
	Solved	Denied	In procedure

13. Has acoustic zoning been performed in the territory of Your LSGU?

- Yes
- No

*If the answer is **YES** please state an expert service that performed the zoning and submit the decision or a relevant document in electronic form.*

If the answer is No please state reasons and a planned deadline for execution.

14. Does LSGU provide financing and implementation of environmental noise monitoring?

- Yes
- No

*If the answer is **YES**:*

- **What year has monitoring started being implemented?**

- **Has monitoring been implemented continuously?**



2018.	Volume of monitoring				
	Measuring points	Frequency of measurement	Measuring methods	Expert organization which carried out measurements	Amount of funds
2019.	Volume of monitoring				
	Measuring points	Frequency of measurement	Measuring methods		Amount of planned funds
Are results available?		Whom are results sent to?		Where are results published?	

If the answer is No please state reasons for failing to execute.

15. Has your LSGU provided necessary data for the development of a strategic noise map (note: only agglomerations with more than 100,000 inhabitants should fill in this field– Novi Sad, Subotica, Pančevo, Zrenjanin)?

- Yes
- No

If the answer is Yes please state what type of data you have provided.

If the answer is no please state what is a planned deadline for execution.

16. If a strategic noise map for your agglomeration has been developed, has your LSGU adopted the Local Action Plan (LAP) of Environmental Noise Protection for agglomerations in its territory(note: only agglomerations with more than 100,000 inhabitants should fill in this field– Novi Sad, Subotica, Pančevo, Zrenjanin)?

- Yes
- No

If the answer is **Yes** please submit LAP in electronic form.

If the answer is **No** please state reasons for failing to execute.



17. Has your LSGU adopted the Local Action Plan (LAP) of Environmental Noise Protection for facilities and activities for which IPPC permits were issued?

- Yes
- No

If the answer is **Yes** please submit LAPs for issued IPPC licences in 2018., in electronic form.
If the answer is **NO** please state reasons for failing to execute.

18. Does your LSGU monitor and control the application of environmental noise protection measures in its territory?

- Yes
- No

19. Does your LSGU determine noise protection measures for public gatherings and activities (entertainment and sporting events and other outdoor and indoor activities)?

- Yes
- No

If the answer is **Yes** please submit the decision or a relevant document in electronic form.
If the answer is **NO** please state what is a planned deadline for execution.

20. Please indicate problems in implementing competences in the field of noise and vibration.

- Lack of financial resources
- Inadequate knowledge and training of employees
- Misunderstanding of priorities and inadequate decision-making
- Inapplicability of legislation in practice
- Unclear legislation
- Inadequate and unclear division of competences
- Other _____

Note: It is possible to choose more than one answer

21. Do you think that Your LSGU has a sufficient number of employees in the field of noise and vibration?

- Yes
- No

22. Do you think that employees in the field of noise and vibration have adequate knowledge and training for the implementation of competences ?

- Yes
- No

23. Have employees in the field of noise and vibration undergone additional trainings regarding this field?

- Yes
- No



Training title	Place	Year	Institution/organization which conducted the training

24. Do you think there is a need for education/ trainings for employees in the field of noise and vibration?

- Yes
- No

If the answer is **Yes** please state the number of employees that need education/training _____, as well as regarding which of the following fields there is a need for training:

- Application of legislation in practice
- EU legislation and practice
- Theoretical bases of noise and vibration
- Designing noise and vibration monitoring
- Development of the Local Action Plan
- Acoustic zoning
- Preparation of input data sets for the development of SNM
- Other _____

Note: It is possible to choose more than one answer

25. If Your answer is YES , which method of training would You prefer?:

- „In-house“ training in LSGU
- Organizing seminars
- Development of a manual– educational material (printed, video)
- Other _____

COOPERATION BETWEEN GOVERNING BODIES

26. Please evaluate the quality of cooperation in the field of noise and vibration between governing bodies of LSGU responsible for environmental protection, traffic and industry.

- Unsatisfactory
- Partially satisfactory
- Satisfactory
- Fully satisfactory

Note: Please explain your answer

27. Please evaluate the quality of cooperation in the field of noise and vibration between governing bodies of LSGU, APV and RS.

- Unsatisfactory
- Partially satisfactory
- Satisfactory
- Fully satisfactory

Note: Please explain Your answer



INFORMING THE PUBLIC

28. Has the public been provided with an access to information and data regarding the field of noise and vibration?

- Yes
- No

If the answer is Yes please explain how (through website, media...)

29. Has Your LSGU conducted campaigns in order to inform citizens on the activities of the competent authority regarding the field of noise and vibration?

- Yes
- No

If the answer is Yes please state the campaign title, place and time

30. Has Your LSGU conducted campaigns in order to raise public awareness regarding the field of noise and vibration?

- Yes
- No

If the answer is YES please state the campaign title, place and time.

PARTICIPATION IN THE PARTNERSHIP- PLATFORM FOR NOISE AND VIBRATION/No&Vib Hub

One of four specific objectives of SENVIBE project is the development of No&Vib Hub - a central unit that will initiate and facilitate strategic cooperation between stakeholders in this field, academic communities, local and regional businesses, local and national governing bodies, as well as wider civil society.

31. Is Your LSGU interested in participating in the partnership through SENVIBE platform for noise and vibration /No&Vib Hub?

- Yes
- No

Partnership brings:

1. Strengthening capacities in the field of noise and vibration through education/ trainings of professional personnel
2. Availability and exchange of information, knowledge and practical experience in the field of noise and vibration
3. Better access to different sources of funding
4. Realization of the practical work of students of various engineering departments on solving problems in LSGUs in the field of noise and vibration (student's practice and master theses in vibroacoustics)
5. Strengthening partnership and cooperation between local communities and other partners (industry, scientific, educational and professional institutions, non-governmental sector...)
6. Raising public awareness and informing citizens more on the subject
7. Institutional linking and strengthening of cooperation between sectors in charge of noise and vibration (environment, industry, traffic...)
8. Strengthening partnership and cooperation between local communities
9. Defining, analyzing and solving local issues in the field of noise and vibration



10. Realization of joint projects in the field of noise and vibration (academic and non-academic sector)

32. If You are interested in the partnership through SENVIBE platform, please identify which of the above mentioned forms of cooperation you are most interested in:

1 2 3 4 5 6 7 8 9 10

Note: It is possible to choose more than one answer

Your proposal for other forms of cooperation through SENVIBE platform:

33. Would You open the door of Your LSGU to the practice and master theses of students?

- Yes
- No

If your answer is YES, would it be necessary to sign a special agreement on the confidentiality of certain information and the definition of intellectual property rights during the realization of student residence and / or work with data related to LSGU?

- Yes
- No

Thank You for taking the time for filling out the survey and for the submitted data!

"This project has been funded with the support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein".



8.2 Questionnaire for professional organizations (POs)

Erasmus + Project No 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering S E N V I B E

Dear Madam/Sir,

The Provincial Secretariat for Urban Planning and Environmental Protection is a partner at Erasmus + SENVIBE project -" **(Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering)**, financed by the European Commission (No. 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP) - <https://senvibe.uns.ac.rs/>

The project has the global goal of **improving capacities in the field of noise and vibration**.

SENVIBE project consortium gathers 11 partner institutions from the country and abroad, and the leading institution is the University of Novi Sad. The project will last three years (2018-2021).

This project introduces, for the first time in Serbia, a new master vibroacoustics program, and it is envisaged to modernize study programs for the education of future engineers of different departments, as well as to introduce **lifelong learning courses** in the field of noise and vibration that will be implemented throughout the country for all interested subjects. The project will also contribute to the development of **SENVIBE noise and vibration platform / No&Vib Hub** - a unique central unit for networking academic and non-academic institutions in the field of noise and vibration in Serbia. In addition to improving and exchanging expertise, No&Vib Hub aims at improving the work and networking of business and higher education in this field, and jointly contributing to raising awareness of the wider community on noise and vibration in the living and working environment. The platform will be developed at the University of Novi Sad at the end of 2019.

As noise reduction is of a great strategic importance in Europe and Serbia, bearing in mind Your activities in this area, as well as the need for long-term sustainability of **SENVIBE** project, Your involvement in the Platform is of the utmost importance. We will send You a questionnaire aiming at understanding the situation and needs in the field of noise and vibration, which is implemented by the Provincial Secretariat for Urban Planning and Environmental Protection together with the Union of Employers of Vojvodina, for the purpose of implementing the **SENVIBE project (Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering)** (activity 1.6). Any contribution to this study is of exceptional importance.

Please fill in the questionnaire in electronic form **no later than 31.1.2019**.

You will be informed about the results of the survey and project realization activities through media, on the websites of SENVIBE project <http://senvibe.uns.ac.rs> and project partners.

For further information, please contact MSc Zorana Georgijev(phone: 021/487 4499, E – mail: zorana.georgijev@vojvodina.gov.rs).

Questionnaire for professional organizations for noise measurement - SENVIBE project

GENERAL PART

COMPANY NAME	
ADDRESS	
website	
E-mail	



**Strengthening Educational Capacities by Building Competences and Cooperation
in the Field of Noise and Vibration Engineering**



www.senvibe.uns.ac.rs



senvibe@uns.ac.rs

Phone/fax	
Contact person	
Function	
Accreditation status	
Suspension status	
Date of the first accreditation	
Date of the last accreditation	
Date of expiration/ abolition of accreditation	
Date of authorization for noise measurement issued by the Ministry of Environmental Protection	
Issue date of the first authorization for noise measurement issued by the Ministry of Environmental Protection	

EXAMINATION FIELD

FIELD OF NOISE TESTING*	TYPE OF EXAMINATION and/or Characteristic that is measured (examination technique) **	MEASUREMENT RANGE (where applicable)***	REFERENCE DOCUMENT(STANDARD)****
1.			
2.			
3.			
4.			

***examination field** - state which field of examination you have accreditation for (working environment, environment, sources of noise, etc.).

** **Type of examination and / or characteristic that is measured** Determining exposure to noise; Determining noise level; Determining acoustic power level based on sound pressure

*** **Measurement range** 20 dB – 130 dB (31 Hz – 8 kHz); 20 dB – 130 dB (50 Hz – 10 kHz); LW (25 dB – 130dB)

**** **SRPS EN ISO 9612:2012**; SRPS ISO 1996-1: 2010; SRPS ISO 1996-2: 2010; SRPS EN ISO 3744:2011, T.8.2 and other reference documents

PERSONNEL CAPACITY

NAMES OF AUTHORIZED PERSONS	TYPE OF AUTHORIZATION	PROFESSIONAL QUALIFICATION/ VOCATION	WORKING EXPERIENCE IN THIS FIELD
1.	Person authorized for noise measurement		
2.	Person authorized for signing a report on measurement		



3.	Person authorized for signing a report on measurement		
4.	Person authorized for signing a report on measurement		
5.	Person authorized for signing a report on measurement		
6.	Person authorized for signing a report on measurement		

TECHNICAL EQUIPMENT

1. 1. Number of measuring equipment sets

O.n.	Name of equipment	Manufacturer name	Type of instrument	Serial number	Year of manufacture	Date of calibration	In accordance with the standard*	Ownership of equipment

*sound meter-according to the standard IEC 61672-1; class 1 filter according to the standard IEC 61260; class 1 acoustic calibrator according to standard IEC 60942

REFERENCES

1. How many acts of environmental noise monitoring in Local Self-Government Units (hereinafter LSGUs) in the territory of the Republic of Serbia have been conducted by your company since 2010 (in 2010, the current Law on Environmental Noise Protection was adopted (Official Gazette of RS 36/2009,88/2010)?

P.6p	Name of company	Year of conducting monitoring	Type of measurement*	Number of measuring sites
			Continuously during 24 hours with reference time	
			Continuously during 24 hours with reference time	
			Continuously during 24 hours with reference time	
			Continuously during 24 hours with reference time	
			Continuously during 24 hours with reference time	

* a) continuously during 24 hours with reference time of 15 minutes

b) in several daily, evening and night periods with reference time of 15 minutes

b) other method, state how the measurement was carried out

2. How many projects of acoustic zoning for municipalities in the territory of the Republic of Serbia have been implemented by your company since 2010?



O.n.	Name of company	Year of conducting acoustic zoning

3. How many noise measurement projects were conducted upon inspection order?

O.n.	Name of the company/facility	Year of measurement	Type of measurement

4. Does your company conduct noise measurement in the work environment?
Yes
5. Is the testing of exposure to noise in the working environment carried out in accordance with SRPS EN ISO 1996:2016?
YES
6. List projects in the field of noise measurement in which your company participated independently or in cooperation with other companies, which are not covered by previous questions

O.n.	Project title	Independently /consortium	Year	Type of measurement

LEGISLATION

1. Are you familiar with a relevant national legislation in the field of noise and vibration?

2. • Yes. We are fully familiar with it

If Your answer is NO, go to question number 6!

3. Do you think that regulations regarding the field of noise and vibration are clear?

Yes

4. Do you think that competences in the field of noise and vibration are clearly and uniquely defined?

Yes

5. What are the disadvantages of the current legislation?

- ☐ Inapplicability of legislation in practice
- ☐ Inadequate division of competences
- ☐ Unclear formulation of competences
- ☐ Unclear legislation

Other

Note: It is possible to choose more than one answer

6. In Your opinion, what should be changed regarding legislation?

7. Are you familiar with the relevant EU legislation?

Yes. We are fully familiar with it.



8. Do you think that employees in the field of noise and vibration have adequate knowledge and training for the implementation of competences?

Yes

9. Do you regularly provide additional trainings to your employees?

Yes

9.1. If the answer is „yes“, where and when were trainings conducted?

10. Do you inform your employees on their rights and obligations in this field?

No

11. Do you think there is a need for education/ trainings of employees in the field of noise and vibration?

NO

12. If the answer is Yes please state the number of employees that need education/training, as well as regarding which of the following fields there is a need for training:

Number of employees

- Application of legislation in practice
- EU legislation and practice
- Theoretical bases of noise and vibration
- Designing noise and vibration monitoring
- Development of the Local Action Plan
- Acoustic zoning
- Preparation of bases and data for the development of SNM
- Other _____

Note: It is possible to choose more than one answer

13. If Your answer is YES , which method of training would You prefer?:

- In-house training in the company
- Organizing seminars
- Development of manuals– educational material (printed, video)
- Other _____

14. Do you think that an adequate access to information and data regarding the field of noise and vibration has been provided to public?

YES

If the answer is Yes please explain how (through website, media...)

PARTICIPATION IN THE PARTNERSHIP- PLATFORM FOR NOISE AND VIBRATION/No&Vib Hub

One of four specific objectives of SENVIBE project is the development of No&Vib Hub - a central unit that will initiate and facilitate strategic cooperation between stakeholders in this field: academic communities, local and regional businesses, local and national governing bodies, as well as wider civil society.

1. Is Your company interested in participating in the partnership through SENVIBE platform for noise and vibration /No&Vib Hub?

YES

- If the answer is NO please explain

Partnership brings:

- 34. Strengthening Your capacities in the field of noise and vibration through education/ trainings of Your professional personnel
- 35. Availability and exchange of information, knowledge and practical experience in the field of noise and vibration
- 36. Better access to different sources of funding



37. Realization of the practical work of students of various engineering departments on solving problems in Your company in the field of noise and vibration (student's practice and master theses in vibroacoustics)
38. Strengthening partnership and cooperation among local communities and other partners (industry, scientific, educational and professional institutions, non-governmental sector...)
39. Raising public awareness and better informing of citizens

If You are interested in the partnership through SENVIBE platform, please identify which of the above mentioned forms of cooperation you are most interested in:

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

Note: It is possible to choose more than one answer Напомена:

Your proposal for other forms of cooperation through SENVIBE platform:

Would You open the door of Your company to practice and master theses of students?

YES

If your answer is YES, would it be necessary to sign a Non-Disclosure Agreement and the definition of intellectual property rights during the realization of students' residence and / or work with data related to your company?

YES

Thank You for taking the time for filling out the survey and for the submitted data!

"This project has been funded with the support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein".



8.3 Questionnaire for industrial sector (IS)

Erasmus + Project No 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering S E N V I B E

Dear Madam/Sir,

The Provincial Secretariat for Urban Planning and Environmental Protection is a partner at Erasmus + SENVIBE project -" **(Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering)**, financed by the European Commission (No. 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP) - <https://senvibe.uns.ac.rs/>
The project has the global goal of **improving capacities in the field of noise and vibration** SENVIBE project consortium gathers 11 partner institutions from the country and abroad, and the leading institution is the University of Novi Sad. The project will last three years (2018-2021).
This project introduces, for the first time in Serbia, a new master vibroacoustics program, and it is envisaged to modernize study programs for the education of future engineers of different departments, as well as to introduce **lifelong learning courses** in the field of noise and vibration that will be implemented throughout the country for all interested subjects. The project will also contribute to the development of **SENVIBE noise and vibration platform / No&Vib Hub** - a unique central unit for networking academic and non-academic institutions in the field of noise and vibration in Serbia. In addition to improving and exchanging expertise, No&Vib Hub aims at improving the work and networking of business and higher education in this field, and jointly contributing to raising awareness of the wider community on noise and vibration in the living and working environment. The platform will be developed at the University of Novi Sad at the end of 2019.

As noise reduction is of a great strategic importance in Europe and Serbia, bearing in mind Your activities in this field, as well as the need for long-term sustainability of **SENVIBE** project, Your involvement in the Platform is of the utmost importance. We will send You a questionnaire aiming at understanding the situation and needs in the field of noise and vibration, which is implemented by the Provincial Secretariat for Urban Planning and Environmental Protection together with the Union of Employers of Vojvodina, for the purpose of implementing the **SENVIBE project (Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering)** (activity 1.6). Any contribution to this study is of exceptional importance.

Please fill in the questionnaire in electronic form **no later than 31.1.2019.**

You will be informed about the results of the survey and project realization activities through media, on the websites of SENVIBE project <http://senvibe.uns.ac.rs> project partners.
For further information, please contact Tamara Orlović (phone: 021/487 4484, E – mail: tamara.orlovic@vojvodina.gov.rs).



Strengthening Educational Capacities by Building Competences and Cooperation
in the Field of Noise and Vibration Engineering



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Questionnaire on noise protection measures in plants for which an IPPC permit is issued - SENVIBE nproject

1 BASIC INFORMATION

Full name:	
Address	
Identification number	
Business activity code	
Type of industrial activity for which IPPC permit was issued	
Responsible person	
Function	
Accreditation status	
Website:	
Contact person	
Name and surname	
Phone	
Fax	
E-mail	

7. Data on the number of employees

SHIFT	TOTAL NUMBER OF EMPLOYEES PER SHIFT
I	
II	
III	

8. Data on the number of working hours and days for carrying out activities

TOTAL NUMBER OF WORKING HOURS	TOTAL NUMBER OF WORKING DAYS

9. Data on production capacity and planned volume of annual production

PRODUCTION CAPACITY	PLANNED VOLUME OF ANNUAL PRODUCTION

10. Does the operator have all necessary working permits?
YES/NO

11. Comment



2 NOISE AND VIBRATIONS

1. Data on sources of noise

O.n.	Name of the device- source of noise	Manufacturer name	Technical specifications relevant for noise				
			Power of the device	Speed of the device	Manufacturer	Type	Serial number

2. State the number of sources of noise (state the number of same devices, as many as there are, one or more)

3. Data on reference noise intensity in dB

Reference noise intensity in dB*	Noise intensity level per octave band**								Description***		
	63	125	250	500	1000	2000	4000	8000	Imp	Ton	Info

* value is added as Leg at a standard length

** state octave band noise intensity levels linearly (without A-ponderation)

*** according to national regulations reference noise intensity is calculated by correcting measured value depending on the occurrence of impulse, tone components and sound information

4. Data on operating mode of the device

Operating mode of the device Measuring interval Interval of integration Reference interval



5. Do you have the Environmental Monitoring Plan?
YES/NO
6. How often has environmental monitoring been conducted in accordance with the Environmental Monitoring Plan?
7. At how many measuring sites has noise measurement been carried out?
8. Have any exceedances of prescribed limit values been registered?
YES/NO
9. Have measures for reducing noise exceedance been taken?
YES/NO

Comment:

3 PARTICIPATION IN THE PARTNERSHIP- PLATFORM FOR NOISE AND VIBRATION/No&Vib Hub

One of four specific objectives of SENVIBE project is the development of No&Vib Hub - a central unit that will initiate and facilitate strategic cooperation between stakeholders in this field: academic communities, local and regional businesses, local and national governing bodies, as well as wider civil society.

1. **Is Your company interested in participating in the partnership through SENVIBE platform for noise and vibration /No&Vib Hub?**

YES/NO

- If the answer is NO please explain

Partnership brings:

1. Strengthening Your capacities in the field of noise and vibration through education/ trainings of Your professional personnel
2. Availability and exchange of information, knowledge and practical experience in the field of noise and vibration
3. Better access to different sources of funding
4. Realization of the practical work of students of various engineering departments on solving problems in Your company in the field of noise and vibration (student's practice and master theses in vibroacoustics)
5. Strengthening partnership and cooperation among local communities and other partners(industry, scientific, educational and professional institutions, non-governmental sector...)
6. Raising public awareness and better informing of citizens



If You are interested in the partnership through SENVIBE platform, please identify which of the above mentioned forms of cooperation you are most interested in:

1 ☐

2 ☐

3 ☐

4 ☐

5 ☐

6 ☐

Note: It is possible to choose more than one answer.

Your proposal for other forms of cooperation through SENVIBE platform:

Would You open the door of Your company to practice and master theses of students?

Yes/no

If your answer is YES, would it be necessary to sign the Non-Disclosure Agreement and to define intellectual property rights during the realization of students' residence and / or work with data related to your company?

Yes/no

Thank You for taking the time for filling out the survey and for the submitted data!

"This project has been funded with the support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein".



**Strengthening Educational Capacities by Building Competences and Cooperation
in the Field of Noise and Vibration Engineering**



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8.4 Questionnaire for business sector (BS)

Erasmus + Project No 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering S E N V I B E

Dear Madam/Sir,

The Union of Employers of Vojvodina is a partner in the Erasmus + project **SENvibe** – "Strengthening Educational Capacities by Building Competences and Cooperation in the Field of Noise and Vibration Engineering", financed by the European Commission (number 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP) - <https://senvibe.uns.ac.rs/>

The project has the global goal of **improving capacities in the field of noise and vibration**.

SENvibe project consortium gathers 11 partner institutions from the country and abroad, and the leading institution is the University of Novi Sad. The project will last three years (2018-2021).

This project introduces, for the first time in Serbia, a new master vibroacoustics program, and it is envisaged to modernize study programs for the education of future engineers of different departments, as well as to introduce **lifelong learning courses** in the field of noise and vibration that will be implemented throughout the country for all interested subjects. The project will also contribute to the development of **SENvibe noise and vibrations platform / No&Vib Hub** - a unique central unit for networking academic and non-academic institutions in the field of noise and vibration in Serbia. In addition to improving and exchanging expertise, No&Vib Hub aims at improving the work and networking of business and higher education in this field, and jointly contributing to raising awareness of the wider community on noise and vibration in the living and working environment. The platform will be developed at the University of Novi Sad at the end of 2019.

As noise reduction is of great strategic importance in Europe and Serbia, bearing in mind the production activity of your company, we are sending you a survey questionnaire <http://upv.org.rs/upitnik/form.php>. The results of the survey will be used for the purposes of the realization of the SENvibe project (activity 1.6) and the understanding of the situation and needs in the field of noise and vibration, thus any contribution to this study is of exceptional importance.

You will be informed about the results of the survey and project realization activities through the media, on the website of the SENvibe project <http://senvibe.uns.ac.rs> and the project partner.

For any additional information you can contact the professional service of the Union of Employers of Vojvodina.



Questionnaire for business entities - **SeNViBe** project:

GENERAL PART

NAME OF the company / entrepreneur	
address	
website	
E-mail	
phone / fax	
Contact person	
position in the company	
activity of the company	

LEGISLATION

1. Are you familiar with the relevant national legislation regarding the field of noise and vibration?

- Yes. We are fully familiar.
- Partially.
- We are not familiar.

If your answer is **NO**, go to question number 6!

2. Do you think that regulations regarding the field of noise and vibration are clear?

- yes
- no
- they mostly are
- they are mostly not

3. Do you think that responsibilities regarding the field of noise and vibration are clearly and unambiguously defined?

- yes
- no
- they mostly are
- they are mostly not

4. What are disadvantages of the existing legislation?

- Inapplicability of legislation in practice
- Inadequate division of responsibilities
- Unclear formulation of competences
- Unclear legislation
- Other

Note: it is possible to choose more than one answer

5. In your opinion, what should be changed regarding legislation?

6. Are you familiar with relevant EU legislation?



- Yes. We are fully familiar.
- Partially.
- We are not familiar.

7. Are you familiar with your responsibilities regarding the field of noise and vibration?

- Yes
- No

8. Have you carried out noise level measurement in your company?

- Yes
- No

9. Has an estimated noise level been stated in the Risk Assessment Act?

- Yes
- No

10. Do you inform your employees on their rights and obligations regarding this field?

- Yes
- No

11. Do you think that You and Your employees need education / trainings in the field of noise and vibrations?

- Yes
- No

12. If Your answer is YES, what kind of training would You prefer?

- In-house training in the company
- Organizing seminars
- Developing a manual - educational material (printed, video)
- Other

13. Do you think that an adequate access to information and data regarding the field of noise and vibration has been available to public?

- Yes
- No

If the answer is YES please explain how (website, media ...)



PARTICIPATION IN THE PARTNERSHIP - NOISE AND VIBRATION PLATFORM / No&Vib Hub

One of four specific objectives of SENVIBE project is the development of No&Vib Hub - a central unit that will initiate and facilitate strategic cooperation between stakeholders in this field: academic communities, local and regional businesses, local and national governing bodies, as well as wider civil society.

14. Is your company interested in participating in the partnership through SENVIBE platform for noise and vibration /No&Vib Hub?

- Yes
- No

The partnership brings:

1. Strengthening your capacity in the field of noise and vibration through education / trainings of your professional personnel
2. Availability and exchange of information, knowledge and practical experience in the field of noise and vibration
3. Better access to different sources of funding
4. Realization of the practical work of students of various engineering departments on solving problems in Your company in the field of noise and vibration (student's practice and master theses in vibroacoustics)
5. Strengthening partnership and cooperation among local communities and other partners (industry, scientific, educational and professional institutions, non-governmental sector ...)
6. Raising public awareness and better informing of citizens

If you are interested in the partnership through SENVIBE platform, please indicate which of the above mentioned forms of cooperation you are most interested in:

1 2 3 4 5 6

Note: It is possible to choose more than one answer

Your proposal for other forms of cooperation through SENVIBE platform:

15. Would you open your company's door for practice and master theses of students?

- Yes
- No

16. If your answer is YES, would it be necessary to sign the Non-Disclosure Agreement and to define intellectual property rights during the realization of students' residence and / or work with data related to the company?

- Yes
- No

Thank You for taking the time for filling out the survey and for the submitted data!



8.5 Competences of LSGUs regarding the field of environmental noise protection

Competencies of LSGUs in the field of environment are defined by the Law on Local Self-Government ("Official Gazette of the Republic of Serbia", No. 129/2007, 83/2014 – st. law, 101/2016 – st. law and 47/2018), Environmental Umbrella Law, Law on Environmental Protection (Official Gazette of the Republic of Serbia, No. 135/2004, 36/2009, 36/2009 – st. law, 72/2009 – st. law, 43/2011 - decision of CC, 14 / 2016, 76/2018, 95/2018 – st. law and 95/2018 – st. law), laws implementing Aarhus Convention, as well as special sectoral laws related to waste management, air protection, environmental noise protection, etc. The system of regulations is rounded up by laws.

The most important instrument for financing environmental protection at the local level is a compensation for the protection and improvement of the environment, introduced in 1991. It has been regulated by Law as an optional source of local self-government revenue/income for the purpose of forming independent funds for financing activities and environmental protection measures. The condition for introducing a compensation is that funds derived from it must be used for a particular purpose.

Competences of LSGU in the field of environmental noise, defined by the Law on Protection against Noise in the Environment, Official Gazette of the Republic of Serbia no. 36/2009, 88/2010) are:

1. It determines measures and conditions for the protection against noise, that is sound protection in plans, programs and projects, including those which it agreed on in the process of strategic environmental assessment, environmental impact assessment, that is in the process of issuing an integrated permit for the operation of installations and activities;
2. It performs acoustic zoning in its territory, determining prohibitive measures and restrictions in accordance with the law;
3. It adopts the local environmental protection action plan for agglomerations in its territory and installations and activities for which it issues an integrated permit (it provides conditions and takes care of the implementation);
4. It provides funding for environmental noise monitoring in the territory of LSGU;
5. It provides assessment, monitoring and control of noise level in the environment, in accordance with the law regulating environmental noise protection and the law regulating the environmental protection;
6. It provides necessary data for the development of strategic noise maps;
7. It performs supervision and control of the application of environmental noise protection measures in the territory of LSGU – it performs inspection supervision over the performance of tasks entrusted by the law through environmental inspector
8. It provides public access to information and data from strategic noise maps and action plans for environmental noise protection, in accordance with the law regulating environmental noise protection and the law regulating environmental protection;
9. It determining noise protection measures for public gatherings and activities (entertainment and sporting events and other outdoor and indoor activities).



8.6 Applied methodology in survey questionnaires

Objective of the methodology	<ul style="list-style-type: none"> On-line research in order to obtain information on institutional / professional capacities (administrative, financial and technical) of LSGUs-APV, POs, IS & BS in the field of noise and vibration in the environment, their view on clarity and applicability of national & EU regulations in this field. The survey also examined the interest of defined stakeholders to participate in the partnership through SENVIBE noise and vibration platform / No&Vib Hub. The information will serve as the basis for initiatives and measures aimed at strengthening capacities of defined stakeholders, as well as for the development of SENVIBE platform.
Method of collecting data	<ul style="list-style-type: none"> On-line questionnaire adapted to the requirements of the SENVIBE project and the activities implemented by SUPEP & UPV
Sample size	<ul style="list-style-type: none"> 45 LSGUs in the territory of APV (LSGUs' authorities responsible for environmental protection) 34 POs in the territory of RS 37 IPPC installations in the territory of APV (IS) 2250 companies-members of UPV (BS)
Description of respondents	<ul style="list-style-type: none"> LSGUs: employees of the authorities responsible for environmental protection POs, IS & BS: employees responsible for the field of noise and vibration
Period of conducting the survey	<ul style="list-style-type: none"> 16-31 January, 2019.
Average duration of the survey	<ul style="list-style-type: none"> 20-30 minutes
Number of questions	<ul style="list-style-type: none"> LSGUs: 33 (+general part) POs: 26 (+general part) IS: 17 (+general part) BS: 16 (+general part)
Type of questions	<ul style="list-style-type: none"> Combination of closed-ended and open-ended type, with the prevalence of closed-ended type
Type of survey	<ul style="list-style-type: none"> Public
Availability of the survey	<ul style="list-style-type: none"> Website of the SENVIBE project Websites of SUPEP & UPV



8.7 List of LSGUs respondents in AP Vojvodina⁶

1	Ada	16.093	16	Kovačica	24.054	31	Senta	22.100
2	Alibunar	18.771	17	Kovin	31.761	32	Sombor	80.400
3	Apatin	27.107	18	Kula	40.055	33	Srbobran	15.584
4	Bač	13.439	19	M. Iđoš	11.386	34	Subotica	137.753
5	B. Palanka	52.792	20	N. Bečej	22.762	35	S. Karlovci	8.431
6	B. Petrovac	12.864	21	N. Crnja	9.421	36	S. Mitrovica	76.499
7	B. Topola	31.210	22	N. Kneževac	10.461	37	S. Pazova	65.033
8	B. Crkva	16.297	23	N. Sad	356.126	38	Šid	31.901
9	Beočin	15.155	24	Odžaci	27.785	39	Temerin	27.757
10	Bečej	35.567	25	Opovo	9.826	40	Titel	15.089
11	Čoka	10.407	26	Pančevo	120.361	41	Vrbas	39.821
12	Indija	46.119	27	Pećinci	19.283	42	Vršac	49.704
13	Irig	10.218	28	Plandište	10.429	43	Zrenjanin	117.735
14	Kanjiža	23.992	29	Ruma	51.935	44	Žabalj	25.324
15	Kikinda	55.318	30	Sečanj	12.021	45	Žitište	15.369

⁶ Surveyed LSGUs in AP Vojvodina according to the number of citizens (Evaluation of the population, Statistical Office of the Republic of Serbia, 2018.)



8.8 List of POs that the questionnaire was sent to

O.n.	Name of PO	address	e-mail
1	Institute of Public Health Subotica	Zmaj Jovina Subotica	centar.higijena@gmail.com
2	Institute of Public Health Kikinda	Kralja Petra Prvog 70, Kikinda	info@zavodki.org.rs ; higijena@zavodki.org.rs
3	Institute of Public Health Zrenjanin	dr Emila Gavrilica 15, Zrenjanin	bojan.vojin@zastitazdravlja.rs
4	PUC "Beogradske elektrane" Center for testing, quality and environmental protection	Савски насип 11, Нови Београд	centartae@bgdel.rs
5	Faculty of Mechanical Engineering and Construction in Kraljevo, University of Kragujevac	Dositejeva 19, Kraljevo	ctt@mfkv.kg.ac.rs
6	Institute of Public Health of Vojvodina, Novi Sad	Futoška 121, Novi Sad	higijena@izizv.org.rs
7	Institute of Public Health Pančevo	Pasterova 2, Pančevo	info@zizpa.org.rs
8	Institute of Public Health Kragujevac	Nikole Pašić 1, Kragujevac	higijena@izizka.org.rs
9	Institute of Public Health Kruševac	Vojvode Putnika 2, Kruševac	ekologija@zavodks.rs
10	Institute of Public Health Čačak	Veselina Milikića 7, Čačak	zdravlje@zdravljecacak.org
11	Institute for Public Health Belgrade	Bulevar despota Stefana 54a	info@zdravlje.org.rs
12	Institute for Safety and Security at Work Ltd	Koste Racina 19, Novi Sad	ibsns@sbb.rs
13	Institute IMS JSC	Bulevar vojvode Mišića 43, Beograd	office@institutims.rs
14	Institute for Security and Preventive Engineering Ltd	Vojvode Šupljikca 48, Novi Sad	srdjan.ridanovic@bpi.rs
15	Ltd Institute for Prevention Novi Sad	Kraljevića Marka 11, Novi Sad	institut@izp.rs
16	Institute for Occupational Safety JSC Novi Sad	Marka Miljanova 9 i 9A, Novi Sad	institut@institut.co.rs
17	Miphem Ltd Beograd	Matice srpske 57e, Beograd	office@miphem.rs
18	Mont-R Ltd	Dubrovska 2d, 11426 Meljak	zminjovic@mont-r.rs
19	Mining institute Ltd	Batajnički put 2, Zemun	office@ribeograd.rs
20	Occupational Safety and Environmental Protection "Beograd" Ltd	Deskaševa 7, Beograd	office@zastitabeograd.com
21	Ministry of Defence, The Serbian Armed Forces General Staff, Directorate for Planning and Development (J-5)	Vojvode Stepe 445, Beograd	toc@toc.rs



	Technical Test Center, Belgrade		
22	Institute of Transportation CIP Ltd, Sector for Laboratory Testing and Environmental protection	Nemanjina 6/IV, Beograd	aleksicg@sicip-trg.com ; aleksicgorica@gmail.com
23	MD Projekt institute Ltd.	Trg kralja Aleksandra 2/5, Niš	maja.ljubic@mdinstitut.co.rs
24	Institute of Public Health Šabac	Jovana Cvijića 1	zjsabac@gmail.com
25	Jugoinspekt Beograd JSC, Laboratory for technical testing and safety	Teodora Drajzera 11, Beograd	headoffice@jugoinspekt.com
26	Institute for Safety and Humanization of Work, Laboratory Testing Service	Novi Sad, Bulevar oslobođenja 30	hib@Nspoint.net
27	Institute of Public Health Sremska Mitrovica	Stari Šor 47, Sremska Mitrovica	jadranka.kostić@zdravlje-sm.org.rs
28	Anahem Ltd.	Mocartova 10, Beograd	buka@anahem.org
29	Institute of Public Health Vranje	Jovana Jovanovića Lunge 1, Vranje	higijenazzizvrnje@gmail.com
30	Institute of Public Health Timok	Sremska 13, Zaječar	timok@zavodzajecar.rs
31	Installation-Engineering, Belgrade, Laboratory Testing Service	Vajara Ž. Lukića 58a, Beograd	instainz@gmail.com
32	Faculty of Occupational Safety, University of Niš	Čarnojevića 10a, Niš	ivan.krstic@znrfak.ni.ac.rs
33	Institute of Public Health Požarevac	Jovana Šerbanovića 14, Požarevac	dejan.vitomirovic@zzjzpo.rs
34	Institute Vatrogas Ltd.	Novi Sad, Bulevar vojvode Štepe 66	laboratorija@institutvatrogas.co.rs



8.9 List of IPPC plants that the questionnaire was sent to

<i>Plant</i>	<i>IPPC permit status</i>
1. PC „Pannonian power plants “, Novi Sad, TE-TO	in the procedure of issuing
2. Heating plant Subotica	in the procedure of issuing
3. Heating plant Novi Sad	in the procedure of issuing
4. Foundry Kikinda, Car industry LTD.	in the procedure of issuing
5. Le Belier Ltd., Kikinda	in the procedure of issuing
6. Radiator Ltd. Zrenjanin	in the procedure of issuing
7. Metalfer Steel Mill Ltd., Indija	issued
8. Monbat PLC Ltd., Indija	issued
9. Building materials industry Fit Ltd. Bečej	in the procedure of issuing
10. JSC „Polet“ Industry of construction ceramics, Novi Bečej	in the procedure of issuing
11. IBM Stražilovo, Sremski Karlovci	in the procedure of issuing
12. JSC „Polet“, Industry of construction ceramics, Novi Bečej	in the procedure of issuing
13. JSC Toza Marković, Kikinda	in the procedure of issuing
14. „Lafarge“ Beočin cement factory Ltd. Beočin	issued
15. „Potisje Kanjiža“ JSC for the production of building materials, Kanjiža	issued
16. IMG Neimar JSC, Zrenjanin	in the procedure of issuing
17. IGM „Jugobanat“ JSC, Banatski Karlovac	in the procedure of issuing
18. JSC for the production of building materials out of clay Naša Sloga, Kovin	in the procedure of issuing
19. The factory for the production of synthetic rubber Elemir	in the procedure of issuing
20. JSC for the production of petrochemicals, raw material and chemicals HIP Petrohemija, Pančevo	in the procedure of issuing
21. JSC „Metanolsko-sirćetni kompleks“, Kikinda - MSK	in the procedure of issuing
22. JSC Hipol Odžaci	in the procedure of issuing
23. HIP Azotara Ltd., Pančevo	in the procedure of issuing



24. Duochem Ltd., Nova Pazova	issued
25. FSS Eko Kikinda Ltd.	in the procedure of issuing
26. JSC Carnex meat industry Vrbas	in the procedure of issuing
27. JSC Neoplanta meat industry Novi Sad	in the procedure of issuing
28. MI Matijević LTD. Novi Sad	in the procedure of issuing
29. Apatin brewery	in the procedure of issuing
30. JSC Dijamant, Zrenjanin	in the procedure of issuing
31. JSC Sojaprotein, Bečej	issued
32. Metal-cinkara Ltd. Inđija	issued
33. JSC Vital, Oil and vegetable fats factory, Vrbas	issued
34. PE Electric power industry of Serbia	in the procedure of issuing
35. Ceramics of Kanjiža	issued
36. JSC Victorioil., Šid	in the procedure of issuing
37. Carlsberg Serbia Ltd., Čelarevo	in the procedure of issuing

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Approved by the Quality Assurance Group Leader, Name and Surname
Place, Date in the format XX/YY/YYYY

Approved by Project Coordinator
Place, Date in the format XX/YY/YYYY

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