

# HANDBOOK FOR EXPERTS AND EVALUATED ENTITIES ON THE IMPACT OF SCIENTIFIC ACTIVITY ON THE FUNCTIONING OF SOCIETY AND ECONOMY

Committee for Science Evaluation

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# HANDBOOK FOR EXPERTS AND EVALUATED ENTITIES ON THE IMPACT OF SCIENTIFIC ACTIVITY ON THE FUNCTIONING OF SOCIETY AND ECONOMY

## I INTRODUCTION

1. The aim of this document is to present the assumptions, definitions and principles of the evaluation of the impact of scientific activity on the functioning of society and economy (hereinafter: social impact evaluation), which will be conducted as part of the institutional qualitative evaluation of scientific activity 2022 by the Committee for Science Evaluation (hereinafter: KEN).
2. This document is addressed to:
  - a. management staff in HEIs responsible for the preparation of social impact descriptions,
  - b. experts appointed by the Minister of Science and Higher Education upon request of the Chair of KEN to evaluate the social impact description.
3. Social impact, i.e. impact of scientific activity on the functioning of society and economy allows for proving that scientific activity conducted in HEIs, and above all at universities, scientific institutions of the Polish Science Academy and international scientific institutions, not only does affect the scientific world, but also the social and economic environment, as well as it helps the society understand culture and history.
4. The aim of the social impact evaluation as part of the qualitative evaluation of scientific activity is to stress the importance and appreciation of the application of scientific knowledge both in local and in global social and economic environment. Social impact can be looked at in a similar way as the citations proving that the results of scientific research were inspiring for other researchers, who in their further research used what had been developed. A documented social impact proves that the conducted scientific activity was used to improve the surrounding world, and that it helped the society understand the surrounding reality.
5. Documentation of social impact is of great importance not only for the society, but also entities conducting scientific activity, as it allows for justification of the increase in financial outlays allocated for science.
6. The use of the effects of scientific activity is a complex, interactive, social process, involving various relationships between researchers, decision makers and addressees of those effects. Scientific activity, more and more frequently, pursues not only to generate knowledge, but also to implement the results obtained, with a strong impact on the context of the social impact of scientific activity and social engagement. The implementation of the research results very often is the source of researchers' satisfaction and an effective tool for scientific institutions to show the society that science contributes to social and economic growth.

7. The new element of science evaluation in the form of social impact evaluation will allow for the appreciation of those employees who pay a lot of attention to the interaction with the society and implementation of the results of their activity. At the same time, this type of evaluation will allow for the appreciation of scientific activity which very often only in the longer perspective proves to be of major significance for the society and solves important social and economic problems.

## II LEGAL REGULATIONS

8. The legal framework for the presented procedure and method of the impact evaluation are included in:
  - a. in the Act on science and higher education of 20 July 2018 (Journal of Laws of from 2021, item 478 and item 619), hereinafter: the Act.
  - b. Ordinance of the Minister of Science and Higher Education of 22 February 2019 on qualitative evaluation of jakości scientific activity (Journal of Laws of 2019 item 392 and from 2020, item 1352), hereinafter: Ordinance on evaluation.
  - c. Ordinance of the Minister of Science and Higher Education of 6 March 2019 on data processing in the Integrated System of Information on Science and Higher Education POL-on (Journal of Laws of 2019 item 496 and from 2021, item 71), hereinafter: Ordinance on POL-on.
  - d. Ordinance of the Minister of Science and Higher Education 20 September 2018 on the fields of science and scientific as well as artistic disciplines (Journal of Laws of 2018 item 1818), hereinafter: Ordinance on disciplines.
9. Pursuant to Article 4 Paragraph 1 of the Act, scientific activity shall comprise: (1) scientific research, (2) developmental works, (3) artistic works. In further part of the handbook, the term "scientific activity" shall apply to all three statutory scopes.
10. Pursuant to the Act (Article 265 Paragraph 4), qualitative evaluation of scientific activity shall be conducted under the disciplines specified in the Ordinance on disciplines.
11. Pursuant to the Act (Article 267 Paragraph 1), social impact is one of the three basic criteria of the evaluation.
12. Pursuant to the Ordinance on evaluation (§ 23 Paragraph 1), the evaluation of the scientific activity impact on the functioning of society and economy shall be conducted on the basis of the descriptions of the relationship between the results of the scientific research or developmental works or scientific activity within the scope of artistic work and economy, functioning of public administration, healthcare, culture and art, natural environment protection, state security and defence or other factors affecting the civilisational development of society, hereinafter the "descriptions of impact", prepared on the basis of the evidence of that impact, particularly in the form of reports, scientific publications and citations in other documents and publications.
13. Pursuant to § 23 Paragraph 2 of the Ordinance on evaluation, the evaluation of the scientific activity impact on the functioning of society and economy encompasses

scientific research, developmental work or scientific activity within the scope of artistic work, which were conducted in the period subject to evaluation or before that period, but completed not earlier than in the twentieth year preceding the first year subject to evaluation, if the evidence of that impact emerged in the evaluated period. This means that for the evaluation to be conducted in 2022, the scientific activity included in the impact description should be conducted after 1 January 1997 and not later than on 31 December 2021. The impact description may include such scientific activity which started on 1 January 1997 or will continue after 31 December 2021, on condition that that activity was conducted also in the indicated period. Whereas, the impact evidence can be included in the description only when they appeared in the period from 1 January 2017 to 31 December 2021.

14. Each social impact description shall be prepared in two language versions: Polish and English.

15. Pursuant to § 5 Paragraph 3 item 6 of the Ordinance on POL-on, social impact descriptions shall include:

- a. title of the of the impact description (maximum 150 characters with spaces for each language version, i.e. for the description in Polish and description in English),
- b. summary of the impact description (maximum 1000 characters with spaces for each language version),
- c. indication of the year in which the evaluation of the scientific activity to which the impact description refers is conducted,
- d. the discipline to which the impact description refers,
- e. information whether the impact description was submitted as:
  - i. required due to large number of people established pursuant to the regulations issued on the basis of Article 267 Paragraph 2 points 1 of the Act in the period subject to qualitative evaluation of scientific activity, whereas the order of inclusion in the qualitative evaluation of scientific activity shall be indicated,
  - ii. additional, due to conducting of scientific activity under a scientific discipline belonging to humanities, social sciences field or theological sciences field, related to outstanding scientific monographs, biographical dictionaries, bibliographic dictionaries or databases which are of special importance for the development of a given scientific field, whereas the order of inclusion in the qualitative evaluation of scientific activity shall be indicated,
  - iii. additional, due to conducting scientific activity under the disciplines of engineering and technical fields, related to architectural, urban designs or spatial development plans, whereas the order of inclusion in the qualitative evaluation of scientific activity shall be indicated,

- iv. additional, due to establishment of another entity for the purpose of commercialisation of the results of scientific research or developmental works or know-how related to those results, hereinafter referred to as “commercialisation”, related to the activity of the established entity, together with providing the name of that entity, whereas the order of inclusion in the qualitative evaluation of scientific activity shall be indicated,
- f. information about the effects of scientific activity being of importance for creating an impact, including:
  - i. the characteristics of the main conclusions of scientific research or developmental works or the effects of scientific activity in the scope of artistic activity (maximum 2500 characters with spaces for each language version),
  - ii. characteristics of the role of the entity in obtaining the effects of the scientific activity (maximum 1000 characters with spaces for each language version),
  - iii. bibliographic description and summary of not more than 5 scientific accomplishments: (1) scientific articles, (2) scientific monographs, (3) supervision of scientific monographs, (4) chapters in scientific monographs, (5) approved patents, being the results of the scientific research or developmental works, conducted in conducted in the period of conducting the qualitative evaluation of scientific activity or before that period, but completed not earlier than in the twentieth year preceding the first year subject to qualitative evaluation of the scientific activity, if the evidence of that activity emerged in the period subject to evaluation, with the indication of the main authors of those accomplishments, who are or were employed in the entity or were studying in that entity (maximum 500 characters with spaces for each accomplishment for each language version); description of not more than 5 artistic accomplishments (maximum 600 characters with spaces for each accomplishment for each language version); bibliographic description and the summary of a scientific accomplishment or artistic accomplishment may include the website address under which on the date of inclusion of the impact description in the POL-on System such an accomplishment is available,
- g. characteristics of the impact of the scientific activity, including whose results are subject to commercialisation, with the indication of the relationship between that scientific activity and that impact as well as the social group being the beneficiary of that impact and area on which the scientific activity has the biggest impact (maximum 5000 characters with spaces for each language version),
- h. detailed characteristics of not more than 5 proves of the impact of the scientific activity (maximum 500 characters with spaces for each language version), and for the description mentioned in letter e, fourth indent, not more than 5 proves of the impact being the result of the scientific activity of a different entity established by the entity for the purpose of commercialisation

(the characteristics may include the website address under which on the date of inclusion of the impact description in the POL-on System such a proof of impact is available),

- i. information whether the impact emerged as a result of interdisciplinary scientific research or developmental works, as well as characteristics of the significance of interdisciplinary nature of the scientific research or developmental works for the appearance of a given impact (maximum 1500 characters with spaces for each language version).
16. The number of the required social impact descriptions is from 2 to 5, depending on the number of employees conducting scientific activity under a given discipline – the so-called N number defined in the Ordinance on evaluation. The evaluated entity shall present in a given scientific or artistic discipline:
    - a. 2 impact descriptions – if N number in the discipline is not higher than 100.00;
    - b. 3 impact descriptions – if N number in this discipline is from 100.01 to 200.00;
    - c. 4 impact descriptions – if N number in this discipline is from 200.01 to 300.00;
    - d. 5 impact descriptions – if N number in this discipline is higher than 300.00.
  17. If a higher number of impact descriptions is presented, the evaluation shall take into account descriptions in a number resulting from item 16, according to their order indicated by the evaluated entity in the POL-on system.
  18. The evaluated entity may present for evaluation additional social impact descriptions in a discipline, if:
    - a. it conducts scientific activity under a scientific discipline belonging to humanities, social sciences field or theological sciences field – then it may present not more than 3 additional impact descriptions related to outstanding scientific monographs, biographical dictionaries, bibliographic dictionaries or databases which are of special importance for the development of a given scientific discipline
    - b. it conducts scientific activity under the field of engineering and technical sciences – then it may present not more than 2 additional impact descriptions related to architectural, urban projects, or spatial development plans;
    - c. it established another entity for the purpose of commercialisation of the results of research or developmental works or the know-how related to those results – then it may present not more than 2 additional impact descriptions related to the activity of the entity established for that purpose.
  19. Authorisations to present additional impact descriptions shall not cumulate.
  20. The impact descriptions included in the evaluation are assessed by experts appointed by the minister upon the request of the Chair of KEN.
  21. The Chair of KEN shall assign two experts to the evaluation of the impact description and indicates one of them as the leading expert.

22. The leading expert, in cooperation with the second expert, shall determine the score of the impact description.

23. As part of the evaluation of the impact description, points are awarded for:

a. Impact range:

- i. 50 points – for impact of international range,
- ii. 40 points – for impact of national range,
- iii. 30 points – for impact of regional range,
- iv. 20 points – for impact of local range,
- v. 0 points – for impact of marginal range or when the impact description was prepared on the basis of impact evidence which does not show any relationship between the results of the scientific research or developmental works or scientific activity in the scope of artistic activity and the economy, functioning of public administration, healthcare, culture and art, natural environment protection, state security and defence or other factors affecting the civilisational development of society;

b. Impact significance:

- i. 50 points – for impact of breakthrough significance,
- ii. 25 points – for impact of major significance,
- iii. 10 points – for impact of limited significance,
- iv. 0 points – for impact of minor significance or when the impact description was prepared on the basis of impact evidence which does not show any relationship between the results of the scientific research or developmental works or scientific activity in the scope of artistic activity and the economy, functioning of public administration, healthcare, culture and art, natural environment protection, state security and defence or other factors affecting the civilisational development of society.

24. Evaluation of impact description:

- a. is the sum of the number of points awarded to the impact description for the range of impact and for the impact significance;
- b. is 0 points – if the impact description was awarded 0 points for the range of impact and for the impact significance;
- c. is 0 points – if impact description does not show any relationship with the scientific research or developmental work conducted in the evaluated entity under a given scientific discipline;
- d. is 0 points for each missing impact description – if a smaller number of impact descriptions is presented for evaluation than the number resulting from item 16.

25. The score of the impact description is increased by 20% if the interdisciplinary nature of the scientific research or developmental works was of key importance for the appearance of a given impact.

26. The leading expert shall prepare a justification of the score of the impact description as well as of increasing or not increasing of the score. This justification may not be shorter than 800 characters with spaces.
27. The score of impact scientific activity on the functioning of society and economy shall be determined as the arithmetic mean of the assessments of the impact descriptions, with accuracy of two decimal places.

### **III LEGAL REGULATIONS ON THE DESCRIPTIONS OF THE IMPACT OF SCIENTIFIC ACTIVITY CONDUCTED FOR STATE DEFENCE AND SECURITY**

28. The evaluation of the impact descriptions of the scientific activity conducted for the purpose of state security and defence shall be made in 2 stages (§ 30–31 Ordinance on evaluation). At the first stage, scientific activity not being subject to protection of classified information shall be evaluated. At the second stage, scientific activity which is subject to protection of classified information shall be evaluated.
29. B number – Pursuant to § 4 Paragraph 2 point 1 of the Ordinance on evaluation – it means the contribution of the scientific research or developmental works for the purpose of state security and defence subject to protection of classified information in the scientific activity of the evaluated entity under particular scientific disciplines (the B number may not be higher than 0.5).
30. At the first stage, the number of impact descriptions included during the evaluation of the impact of the scientific activity on the functioning of society and economy shall be established pursuant to § 23 Paragraph 3 of the Ordinance on evaluation; and, subsequently, it is multiplied by the difference of the 1 number and B number, and it is rounded up to an integer.
31. At the second stage, the number of impact descriptions included during the evaluation of the impact of the scientific activity on the functioning of society and economy shall be established pursuant to § 23 Paragraph 3 of the Ordinance on evaluation; and, subsequently, it is multiplied by B number, and it is rounded up to an integer.
32. At the second stage, the evaluation is conducted in the seat of the evaluated entity by the team of experts appointed by the minister, in the composition of which there are experts holding a security clearance authorising access to classified information of the classification status equal to at least the highest classification status of scientific accomplishments which will be subject to evaluation, including experts indicated by the Minister of National Defence or the competent minister of internal affairs.
33. The evaluation of the impact of scientific activity on the functioning of society and economy within the scope of scientific research or developmental works for the purpose of state security and defence is the quotient of the sum of points awarded for the evaluation of given impact descriptions at the first and second stage of evaluation and the number of all evaluated impact descriptions.



## IV TIPS

34. The evaluated entity which was established after merging of other entities, may submit a social impact description including a scientific activity conducted also by entities from which it was created.
35. The social impact description should not include content which is of sensitive nature, e.g. medical data of patients, trade secrets of enterprises, classified information (except impact descriptions submitted under a special procedure for scientific activity conducted for the purpose of state security and defence).
36. In the fields of the POL-on module, it is not possible to include illustrations. In chosen fields of the module, there can be included links to external sources. In particular, in the section including the characteristics of the evidence of the impact of the scientific activity, it will be possible to include a link to the location of the file being a proof of the impact in the system for sharing the documentation of scientific and artistic activity.

## V CHARACTERISTICS OF SOCIAL IMPACT DESCRIPTION FIELDS IN THE POL-on SYSTEM

37. Impact descriptions are included by the entity in the Integrated System of Information on Science and Higher Education POL-on. The descriptions will be automatically uploaded from the module dedicated to impact descriptions in the main part of the POL-on system to the System of Scientific Accomplishments Evaluation, hereinafter: SEDN, which is a subordinate application to POL-on. SEDN will include separate modules for institutions and experts. The module for institutions will enable reading of impact descriptions, meanwhile the module for experts – reading and evaluation of impact descriptions.
38. Impact descriptions are included in the POL-on by the user from the evaluated institution with the role INST\_DZIALALNOSC\_NAUKOWA. The descriptions are included in the module *Institutions*, from the level of the bookmark: *Scientific activity>Descriptions of impact of scientific activity*.
39. On the bookmark *Scientific activity> Descriptions of impact of scientific activity* in the system POL-on there will be visible a list of all impact descriptions added for a given institution. The list will be filtrated according to the following criteria:
  - year of evaluation,
  - field of the impact description,
  - discipline of the impact description,
  - type of the impact description (required or additional),
  - title of the impact description.
40. From the level of the list described above, the user will be able to:
  - view the details of the selected impact description,
  - go to edition of the data of the selected impact description (only until the end of the period dedicated to introduction of data for the purposes of the evaluation. After this period ends, the data edition will no longer be possible),

- remove an impact description registered by mistake (only until the end of the period dedicated to introduction of data for the purposes of the evaluation. After this period ends, the data removal will no longer be possible),
- go to the form for adding the selected impact description (only until the end of the period dedicated to introduction of data for the purposes of the evaluation. After this period ends, the data addition will no longer be possible),
- changing order of impact descriptions for a given discipline and selected type of the impact description for the purpose of including it in the evaluation (required or additional). Order change will be possible only until the end of the period dedicated to introduction of data for the purposes of the evaluation. After this period ends, the data removal will no longer be possible.

41. The system will allow the user to introduce a draft version of the impact description until a moment the user decides that all the data of that description are complete and correct. After data introduction is completed, it will be required to approve them. Solely approved descriptions will be later presented in SEDN. Draft versions of e.g., impact descriptions will not be forwarded.

#### TITLE

42. The title of the impact description should inform the reader about the content of a given description. The system will not allow adding for the same year of evaluation and for the same discipline two impact descriptions of the same title in the Polish or English version.

#### SUMMARY

43. The summary of the impact description should have the structure and character as for the summary of a scientific article.

#### INDICATION OF THE YEAR IN WHICH THE QUALITATIVE EVALUATION OF SCIENTIFIC ACTIVITY IS CONDUCTED

44. For impact descriptions introduced for the purposes of the current evaluation, the system will automatically set the year 2022.

#### DISCIPLINE TO WHICH THE IMPACT DESCRIPTION REFERS

45. The discipline in which the entity submits the impact description for evaluation should be indicated. The system will allow for indicating solely such disciplines for which at least one employee of the evaluated institution has filed the declaration on the N number for the period of evaluation.

#### INFORMATION ON THE TYPE OF THE IMPACT DESCRIPTION

46. Suitable type of the impact description should be chosen, required or additional, and as part of the additional one – the option corresponding with the legal basis described in items ii-iv of letter e, item 15. As for the additional type, regarding

commercialisation, there should be inserted the name (Polish and English version) of the entity created for the purpose of commercialisation.

#### INFORMATION ON THE EFFECTS OF SCIENTIFIC ACTIVITY BEING OF IMPORTANCE FOR CREATING IMPACT

47. There should be characterised the main conclusions of the scientific research or developmental works, or the effects of scientific activity in the scope of artistic activity.
48. It should be characterised what the novelty or artistic accomplishment in the conducted scientific activity was and what the research or developmental work consisted in.
49. It should be formulated what the result of the scientific activity which was of fundamental significance for achieving of the social impact was.
50. There should be included all scientific or artistic accomplishments indicated in further part of the impact description.

#### CHARACTERISTICS OF THE ROLE OF THE ENTITY IN ACHIEVING THE EFFECTS OF SCIENTIFIC ACTIVITY

51. the scientific activity conducted in the evaluated entity as part of a given scientific or artistic discipline should be characterised.
52. There should be listed the most important employees of the evaluated entity or persons studying in the doctoral school, who participated in that scientific activity; there should be provided the scope of activity and the role of the evaluated entity in the event that multi-centre and interdisciplinary scientific activity is conducted.
53. Employment in the entity should refer to the period when scientific research being the basis of the social impact description was conducted.
54. In the event that the evaluated entity was transformed or changed the name, it is recommended to include a clarification on the inconsistency of the affiliation with the current name of the entity.
55. As for artistic accomplishments, one should describe the role of people who are or were employed in the entity or studied in the doctoral school in the creation of those accomplishments.

#### SCIENTIFIC OR ARTISTIC ACCOMPLISHMENTS

56. One should provide the bibliographic description and summary of from 1 to 5 scientific accomplishments (full names of scientific publications, patents) or artistic works presenting the results of the or artistic or scientific activity. As for artistic accomplishments, their description should be provided.

57. The authors or co-authors of all scientific accomplishments or artistic works must be the employees listed in the previous part of the registration form of the impact description. The co-authors of publications or artistic accomplishments may be persons from outside of the evaluated entity.
58. If there are affiliations of employees in the publications, they must indicate a given evaluated entity. The list may include only the publications or artistic works published in their final form in the years 1996–2021.
59. Attention should be paid to the fact that the credibility and quality of scientific accomplishments will be evaluated by experts. It may be assumed that scientific publications in journals and with publishers suitable for a given area of science will fulfil these requirements.
60. It is recommended that the scientific accomplishments regarding a publication be described with the use of the APA 7 bibliographic standard (American Psychological Association: 7th Edition).

#### CHARACTERISTICS OF SOCIAL IMPACT

61. A cause-and-effect relationship between the scientific activity conducted by the evaluated entity and the declared social impact should be shown. Information on the interactions between the employees of the evaluated entity and intermediaries (e.g. public offices, entrepreneurs, non-government organisations) and target social groups may be helpful in the evaluation process. Particular areas of impact should be listed, and for each of them, it should be indicated which scientific or artistic accomplishments contributed to the emergence of the social impact and what their significance was in achieving particular results of the impact (changes, social, economic or cultural for a wider community). Furthermore, for particular benefits, it is necessary to determine the range of social impact with reference to particular end-users or beneficiaries of the impact.
62. It is recommended to include in the characteristics one (leading) area of the social impact from among the ones indicated in § 23 Paragraph 1 of the Ordinance on evaluation:
  - a. economy,
  - b. functioning of public administration,
  - c. healthcare,
  - d. culture and art,
  - e. natural environment protection,
  - f. state security and defence,
  - g. other factors affecting the civilisational development of the society
63. Social impact is evaluated in two dimensions: range and significance. The characteristics of the social impact should refer to both these dimensions. Therefore, questions should be answered regarding the range of the social impact, i.e.: what are

e.g. the social, economic, environmental or cultural benefits of the scientific activity obtained by particular social groups, and what is the range of those benefits?

64. The most important statements should be supported with a reference to the evidence of the social impact, attached in the dedicated system, with the indication of their adequate fragment, e.g. page number or minute in a recording.
65. In the characteristics, one should rely on all of the proves of the social impact included in the subsequent part of the registration form for the impact description.
66. It is important to precisely specify the beneficiaries who obtained benefits or groups/organisations whose activity changed as a result of the research. In the social impact description, it should be precisely described what the impact consisted in, adding, if possible, the precise quantification of its results. General or exaggerated statements on the results of the impact should be avoided. The figures should be presented in the same units and, where it is possible, the absolute values should be provided.

#### SOCIAL IMPACT EVIDENCE

67. To the impact description there may be attached a maximum of 5 proves of impact. Each proof should be presented by means of only one (separate) file uploaded to a separate Scientific or Artistic Activity Documentation Sharing System (STUDNIA). The proves cannot be compressed, e.g. in the ZIP or RAR formats.
68. The social impact evidence can be any documents existing in a perpetuated form, e.g.: scientific articles presenting the results of research into phenomena related to the declared social impact, press articles, reports of different types of institutions or non-government organisations, audio and audio-video materials.
69. The evidence should clearly indicate the appearance of the social impact. The proves of the social impact not only should confirm the relationship between the scientific or artistic activity and the declared social impact, but also confirm the range and significance of the impact. Attention should be paid to the proves' credibility. Low credibility decreases the trustworthiness of the social impact achieved.
70. For each proof of impact, the date of its publication in the final form should be provided, whereas it should be included in the years 2017–2021. Social impact evidence exceeding that period will not be taken into consideration.
71. As for publications which comprise the evidence of the social impact, one should upload in the Scientific or Artistic Activity Documentation Sharing System (STUDNIA) a full text in PDF format, for audio materials – a full audio recording in mp3 format, and for audio-video materials – an mp4, mpeg4 lub avi recording.

In order to upload files in that system, one is required to have the INST\_DZIALANOSC\_NAUKOWA role in the POL-on system. Subsequently, from the impact description registration level in the POL-on system, the location of that file in the Scientific or Artistic Activity Documentation Sharing System should be indicated. When editing the data of the impact description, the POL-on system will enable searching of the files uploaded in the Scientific or Artistic Activity Documentation Sharing System according to the file name, date of uploading in the System, key words and the user that uploaded the file.

72. As for references, a copy of the print screen should be made for the materials posted on Internet sites, and information should be provided on the date it was made. The materials should be uploaded in the Scientific or Artistic Activity Documentation Sharing System.
73. Attention should be paid to the fact that the credibility and quality of the social impact evidence will be evaluated by experts. The proves which did not emerge as a result of the initiative of the evaluated entity will receive a better score. Moreover, the credibility of the entities which developed the proves are of importance.

#### JUSTIFICATION OF INTERDISCIPLINARY NATURE OF THE SCIENTIFIC ACTIVITY

74. It should be characterized what the interdisciplinary nature of the scientific activity consisted in. It should be explained what the input of the employees representing other scientific or artistic disciplines was and what benefits emerged from that cooperation. It should be clarified why the interdisciplinary nature was key to the appearance of the impact. For interdisciplinary nature should not be understood as the very cooperation of researchers representing various scientific or artistic disciplines. Interdisciplinary nature is when the methods applied in the research use the accomplishments of different disciplines, which is reflected in the use of tools, methodologies or instrumentation characteristic for each of these disciplines.

## **VI EVALUATION OF IMPACT DESCRIPTION**

#### REQUIREMENTS FOR EXPERTS

75. Each social impact description is evaluated jointly by two experts, including one leading expert.
76. The leading expert should be a person who does not represent the disciplines of the evaluated social impact. The second expert should be a person representing a discipline under which the social impact description was submitted.
77. The social impact description cannot be evaluated by a given expert when there appears a conflict of interest, i.e. the expert:
  - a. is or was in the last 5 years employed by the evaluated entity;

- b. has or in the last 5 years had professional or private relationships with the persons representing a given scientific or artistic discipline in the evaluated entity.
  - c. In the expert's opinion, there arise also other situations indicating the emergence of a conflict of interest.
78. The expert may not, in any way, contact the evaluated entity as regards the evaluated social impact description, both during the evaluation, and after it is completed.
79. Experts are selected according to the field of the social impact description subject to evaluation.
80. The experts' work is confidential. The expert should consult with persons who are not members or experts of KEN or share the information on which social impact descriptions he or she is evaluating, on the content of the social impact descriptions or on the evaluation result.
81. The experts cannot see the scores or justifications of the impact descriptions beyond their scope of evaluation.

#### GUIDELINES FOR EVALUATION

82. The expert may evaluate the social impact description solely on the basis of the information included therein. He or she should not use other information sources, except the scope necessary for verification of the reliability of the information included in the description.
83. The experts should not communicate with other experts who were not appointed by the Chair of the Committee for Science Evaluation to evaluate the same social impact description as regards the evaluated social impact descriptions.
84. Prior to starting the evaluation, the expert should make him- or herself acquainted with "Handbook for evaluated entities and experts".
85. During the evaluation, the expert should take into account the fact that there exist different ways leading to the emergence of the social impact. There is no one correct way and each of them should be treated equally if it led impact emergence. The social impact could be both planned in advance or be an unexpected result.
86. Activities thanks to which actions that could have unfavourable effects were abandoned should also be interpreted as social impact.
87. The expert should pay attention to the fact whether the scientific or artistic activity was conducted after 1 January 1997. It is acceptable that the start of the activity falls on an earlier period, but at least part of the activity must be conducted after 1 January 1997. Analogically, the activity does not have to finish before 31 December 2021 to be the basis of the social impact description.

88. The expert should pay attention to whether the social impact emerged within the period from 1 January 2017 to 31 December 2021. The social impact which appeared before 1 January 2017, cannot be included in the evaluation. Analogically, the potential or future social impact, i.e. one that has not emerged yet, but perhaps there is a chance it does in the future, should not be evaluated.
89. The expert should decide whether and to what extent the scientific activity contributed to the social impact emergence. This relationship may take different forms: stating that the scientific activity was essential for the social impact to emerge, stating that there is a direct link or only certain benefits can be related to the scientific activity, as well as, finally, stating that the conducted scientific activity is in no way related to the presented social impact description.
90. If it is stated that there is no relationship between the scientific activity conducted under the discipline in which the description was submitted with the emergence of the social impact, 0 points should be then awarded both for the range of the impact and the significance of the impact.
91. The expert should evaluate the role of the evaluated entity in the conducted scientific activity being the basis for the social impact description and whether the evaluated entity was the leading party in that scientific activity or whether perhaps their role was only auxiliary. For that purpose, proves of the scientific activity contribution should be used. The expert should state whether the scientific publications, developmental work or artistic works presented as proves are of key importance from the perspective of solving a scientific problem or from an artistic point of view. It should be stated whether the employees of the evaluated entity are significant authors of these publications (it should be analysed: if it is justified by the practices in a given discipline, the role of the leading and corresponding authors, as well as the percentage share of the authors from the evaluated entity among all the authors or artistic works).
92. The expert should identify the group of beneficiaries of the social impact (social groups, business entities, environment, etc.) as well as the social, economic or cultural benefits, including their range and significance.
93. The beneficiaries that the social impact may not include are the members of the academic environment or scientific environment who are professionally involved in conducting scientific activity.
94. The interpretation of the notion 'range' depends on the context of the social impact. This notion should be interpreted not solely in terms of geography or administrative division, but rather as completeness of encompassing the phenomenon to which it refers. It must be analysed whether the social impact affects all the representants of the society, economic entities existing in the world or the environment.
95. The interpretation of the notion of 'significance' also depends on the context of the social impact description. The expert should analyse whether the problem to which the social impact description refers is significant



for the society or economy, whether the emerged social impact changes the comfort of life, security, environment, competitive position of enterprises, etc. When evaluating the significance, the expert should take into consideration to what extent the solution is of long-term nature or solves a problem that for a longer time remained unsolved.

96. The impact of scientific activity on the functioning of the society and economy may be evaluated as one having a breakthrough significance, if the results of that activity affect at least one of the areas of social or economic life, particularly in the following ways:
- a. they lead to a fundamental change of practical solutions or fundamental change of the way of thinking about specific phenomena (e.g. historic phenomena) in a given area,
  - b. they introduce new practical solutions or create new way of thinking about specific phenomena, which lead to a fundamental change of the functioning of a given area,
  - c. they lead to the abandonment of application of the existing practical solutions or to the elimination of the way of thinking about specific phenomena which are of key importance for the functioning of a given area, or
  - d. they protect against practical solutions or the way of thinking about specific phenomena which could be of key or unfavourable significance for the functioning of a given area.
97. The impact of scientific activity on the functioning of society and economy may be evaluated as one being of major significance, if the results of that activity affect at least one of the areas of social or economic life, particularly in the following ways:
- a. they lead to a significant progress in the practical solutions or a significant progress in the way of thinking about specific phenomena, which, in the end, do not lead to a fundamental change of the functioning of a given area,
  - b. they lead to the abandonment of application of the existing practical solutions or to the elimination of the way of thinking about phenomena which are of great importance for the functioning of a given area, but do not lead to its fundamental change, or
  - c. they protect against practical solutions or the way of thinking about specific phenomena which could be of great or unfavourable significance for the functioning of a given area, but would not lead to its fundamental change.
98. The impact of scientific activity on the functioning of society and economy may be evaluated as one being of moderate significance, if the results of that activity affect at least one of the areas of social or economic life, particularly in the following ways:
- a. they lead to a moderate progress in the practical solutions or a moderate progress in the way of thinking about specific phenomena for the functioning of a given area,

- b. they lead to the abandonment of application of the existing practical solutions or to the elimination of the way of thinking about phenomena which are of limited significance for the functioning of a given area, or
  - c. they protect against practical solutions or the way of thinking about specific phenomena which could have a limited, but unfavourable significance for the functioning of a given area for the functioning of a given area.
99. The evaluation of impact description will be the sum of the points awarded for the impact range and significance. The values of the score thresholds were determined in such a way so that, on the one hand, they raise the value of the impact of the largest significance, and, on the other hand – award a relatively high score to such scientific activity whose impact has a local or regional range.
100. If for the impact description in one of the above-mentioned criteria there will be awarded 0 points, then, regardless of the number of points awarded in the second criterion, the impact description will be scored 0 points. It should be pointed out that in order that a given impact of the conducted scientific activity on the functioning of society and economy could receive a positive score, it should present a suitable value in both evaluated criteria simultaneously (range and significance). Expert's awarding the lowest score means that the impact which is the subject of the description does not influence the society or economy in an extent deserving the inclusion in the evaluation. This solution is justified with the need to ensure adequate evaluation of the results of the scientific activity conducted by the evaluated entities.
101. When evaluating the impact description, experts should also verify the relationship between a given impact with the evaluated scientific discipline. If the impact description has no relationship with the scientific research or developmental work conducted in the evaluated entity under a given scientific discipline, the description will be awarded 0 points. Furthermore, if the evaluated entity does not present for evaluation the required number of impact descriptions, then for each missing impact description it will receive 0 points – without the necessity to consult the experts in that scope.
102. The impact description should prove both the range and the significance of the social impact. The expert should pay equal attention to both dimensions.
103. The description should refer to the social impact at different stages of its development or its maturity. The expert should make the evaluation solely on the basis of the social impact achieved in the evaluation period, regardless of its degree of advancement. Future or potential impact or impact which emerged prior to the evaluation period (from 1 January 2017 to 31 December 2021) should not be taken into account.
104. During the evaluation, the expert should pay attention to whether the factors provided in the social impact description are adequate, objective and reliable.
105. The expert should evaluate the credibility of the social impact evidence, bearing in mind the fact that proves which emerged spontaneously, i.e. not from the initiative

the evaluated entity should be valued more. Moreover, the reliability of the entities which developed the impact evidence also plays a significant role.

106. The expert should evaluate whether and to what extent the social impact evidence confirms the statements included in the social impact description, i.e. whether the proves in a clear and direct way confirm the emergence of the social impact and the role of the evaluated entity in the emergence of the social impact.
107. Additional social impact descriptions listed in § 23 Paragraph 4 of the Ordinance on evaluation and social impact descriptions within the scope of scientific research or developmental works for the purpose of state security and defence are subject to evaluation under the same rules as the other social impact descriptions.
108. If the evaluated entity included information on interdisciplinary nature of the scientific activity, the expert should evaluate whether the declared interdisciplinary nature takes place, whether it was necessary and whether it brought in some added value for the scientific or artistic results. For interdisciplinary nature should not be understood as the very cooperation of researchers representing various scientific or artistic disciplines. Interdisciplinary nature is when the methods applied in the research uses the accomplishments of different disciplines, which is reflected in the use of tools, methodologies or instrumentation characteristic for each of these disciplines.
109. The score of the impact description is increased by 20% if the interdisciplinary nature of the scientific research or developmental work was of key importance for the emergence of a given impact.
110. The final score of the entity in the scope of the social impact of its scientific activity on the functioning of society and economy will be determined as the arithmetic mean of the number of points awarded by the experts for each of the descriptions, with accuracy of 2 decimal places.

#### PREPARATION OF EVALUATION JUSTIFICATION

111. Both experts who were assigned a given impact description for evaluation shall make a preliminary evaluation of the description with a justification to be provided in the SEDN module available for the experts. Subsequently, the experts will participate in a panel during which the evaluation results and justifications will be discussed. This will allow for calibration of the evaluation of the social impact descriptions after preliminary analysis of the social impact descriptions submitted for evaluation. On the basis of the panel results, the leading expert will introduce the final score and prepare the final justification of the description evaluation in the SEDN module.
112. The score awarded requires a justification of at least 800 characters with spaces.

113. The expert must refer to all the proves presented by the entity and justify which ones he or she regarded as reliable, which were rejected and why, as well as where the evaluation of the range and significance derives from (what it was based on and what was decisive when awarding a given number of points).
114. The justification of the evaluation should refer only to the facts established by the expert. The justification should be logically coherent and factual. Clear expressions should be used. The justification should be formulated in a merit-based and respectful manner.
115. The social impact description should not be cited or summarized in the justification of the evaluation.
116. It is unacceptable to include a personal evaluation of the employees of the evaluated entity and emotional evaluation of the social impact description.
117. Incomprehensible style, jargon, colloquialisms and disrespectful statements should be avoided.
118. Unjustified opinions should be avoided.
119. It should be remembered that the evaluation encompasses the range and significance of the impact and in some cases also the interdisciplinary nature. The quality of the conducted scientific activity is not a criterion here. Therefore, the use of bibliometric factors should be avoided and the prestige of the place of publication should not be assessed either.
120. The assessment of the interdisciplinary nature is a criterion that is evaluated separately, and it should not affect the evaluation regarding range and significance.
121. The experts should not show any preferences as regards the selected research methods, subdisciplines or scientific areas, and they should avoid the influence of irrelevant factors and the conflict of interest resulting from these preferences.
122. The content of the justification should not include comparison of the impact description with other social impact descriptions.
123. The expert should bear in mind the fact that the content of the justification will be made available to the evaluated entity.
124. The justification of the evaluation of the impact description should directly refer to the criteria of the evaluation of the social impact.