

KEN

2023-2027

# DOCTORAL SCHOOL

## EDUCATION QUALITY REPORT

Poznańska Szkoła Doktorska Instytutów Polskiej Akademii Nauk

Instytut Chemii Bioorganicznej Polskiej Akademii Nauk

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**Name and seat of the doctoral school**

Poznańska Szkoła Doktorska Instytutów Polskiej Akademii Nauk

**Evaluation period**

6/5/19–5/11/25

**Name and seat of the entity that is responsible for running the doctoral school**

Instytut Chemii Bioorganicznej Polskiej Akademii Nauk

**Entities that jointly run the doctoral school (when conducted jointly)**

Instytut Fizyki Molekularnej Polskiej Akademii Nauk

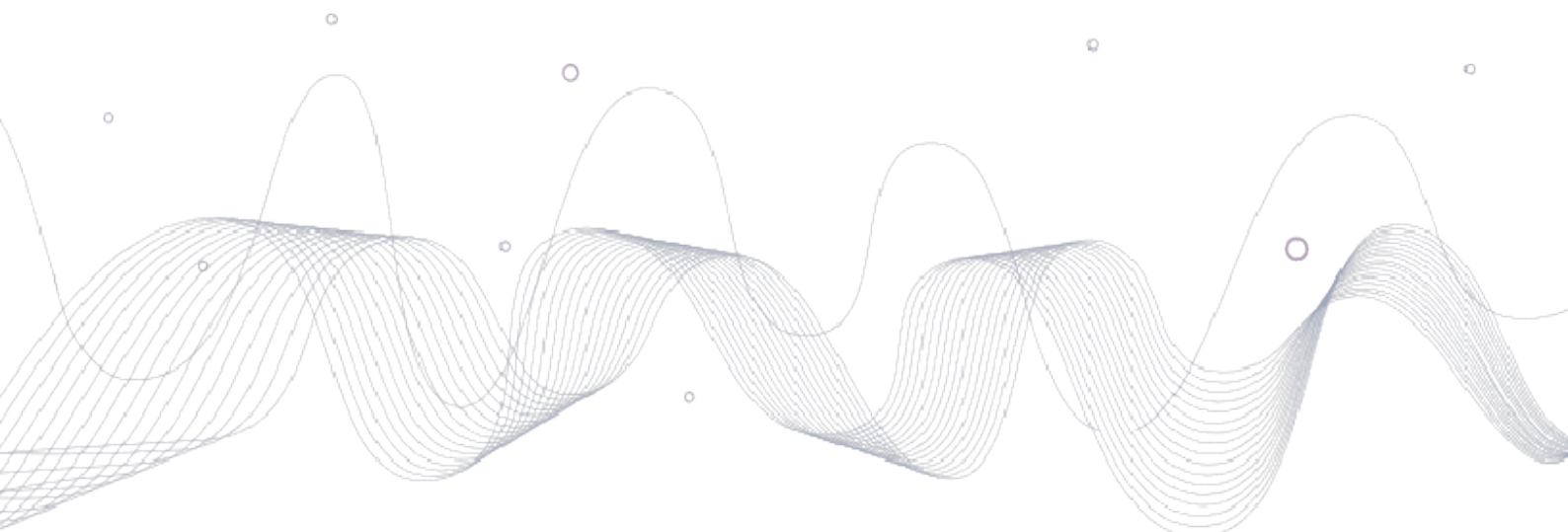
Instytut Dendrologii Polskiej Akademii Nauk

Instytut Genetyki Roślin Polskiej Akademii Nauk

Instytut Genetyki Człowieka Polskiej Akademii Nauk

**Date of report**

8/1/25



Composition of the evaluation team:

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Jarosław Socha

**Secretary:**

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# I. GENERAL INFORMATION ON THE DOCTORAL SCHOOL

Name of doctoral school	Poznańska Szkoła Doktorska Instytutów Polskiej Akademii Nauk
Date of establishment	2019
Date of commencement of education at doctoral school	10/1/19
Entity cooperating in the conduct of education (this does not refer to entities co-founding a doctoral school)	-
Domains of study	Natural sciences (from: 01-01-2018) Medical and health sciences (from: 01-01-2018) Agricultural sciences (from: 01-01-2018)
Discipline(s) of science or art in which training is provided	biological sciences (from: 01-01-2018) chemical sciences (from: 01-01-2018) physical sciences (from: 01-01-2018) medical sciences (from: 01-01-2018) agriculture and horticulture (from: 01-01-2018) forestry (from: 01-01-2018)
Name/scope of the education programme	Programme of Study featuring Physics Programme of Study featuring Agriculture Programme of Study featuring Chemistry Programme of Study featuring Medicine Programme of Study featuring Biology Programme of Study featuring Biology II Programme of Study featuring Forestry
Number of instructors	73
Number of doctoral students undergoing training at the doctoral school (as of 8/1/25)	118
Number of supervisors in terms of guidance in preparing doctoral dissertations (as of 8/1/25)	61
Number of auxiliary supervisors in terms of guidance in preparing doctoral dissertations (as of 8/1/25)	55

## II. INFORMATION ON THE INSPECTION AND ITS COURSE

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The evaluation visit to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PSD IPAN), which took place on October 21, 2025, was conducted in accordance with the standard visit schedule. The Evaluation Committee (KEN), convened in its full composition under the chairmanship of Prof. Jarosław Socha, participated in all scheduled meetings. The visit began with a morning meeting with the authorities of the doctoral school and the participating institutes, during which the school's educational objectives, profile, and structure were presented.

Subsequently, a meeting was held with the team that prepared the self-evaluation report, the administration, and the Doctoral School Council, during which all evaluation criteria were discussed, including the curriculum, individual research plans, faculty qualifications, recruitment procedures, academic supervision, mid-term doctoral assessments, internationalization, and the effectiveness of doctoral education. The Committee received all required documents, including certificates of learning outcomes, documentation confirming the qualifications of teaching staff, regulations, and data on international doctoral students. The discussion also covered the Addenda to the Self-Evaluation Report submitted by the evaluated entity through the SEDoK system. During the meetings, all doubts raised by the Committee based on the analysis of the Self-Evaluation Report were clarified. A detailed assessment and proposals for changes regarding each evaluation criterion of the quality of education at PSD IPAN are presented in separate sections of this report, in the descriptions relating to individual criteria.

It should be emphasized that the evaluated school has a unique character, as it finances doctoral education through funds obtained from research projects. This model results in a continuous recruitment process, which depends on the availability of grant funds. Doctoral students are employed within projects and work in research teams, which allows them to develop not only scientific skills but also social and collaborative competences in an interdisciplinary environment. Participation in larger research projects contributes to the high quality of conducted research and enables the production of results that can be published in prestigious international journals.

The subsequent stages of the visit included the evaluation of individual research plans, mid-term evaluation documentation, and other relevant materials, meetings with instructors, academic supervisors, and representatives of the Scientific Discipline Councils, as well as a meeting with doctoral students and representatives of the Doctoral Student Council. During this meeting, regulations, available funding, student opinions on the study programs, cooperation with supervisors, and available support staff were discussed. At the meeting with the teaching staff, a question was raised regarding the interpretation of the Act of July 20, 2018 – Law on Higher Education and Science (Art. 208, Vacation Leave; inclusion of the period of study in a doctoral

school in the employment period), specifying the doctoral student's right to vacation leave not exceeding 8 weeks per year. The question concerned whether the leave should be granted in weeks or in working days. The Committee confirmed that vacation leave should be granted in weeks, as indicated in the Act. At the same time, it should be emphasised that this provision is of a semi-imperative nature, which means that although the Act specifies the maximum duration of the rest period, it may not be reduced or excluded in an agreement with a doctoral candidate; however, the parties may supplement or modify the duration of the rest period, provided that the conditions for the doctoral candidate are more favourable than those set out in the statutory provision.

Based on all discussions and the documents presented, the Committee gained a comprehensive understanding of the School's functioning and was able to formulate further recommendations, which are described in detail in the assessed criteria.

Since PSD IPAN operates within five different Institutes of the Polish Academy of Sciences, the discussions revealed that the course of doctoral education in individual units exhibits partial variations, resulting from the different internal regulations in force at the respective institutes (e.g., regarding participation in conferences, submission of grant applications, publication funding, and procedures for changes in the curriculum). The Evaluation Committee noted that it is advisable to develop a coherent position for the Doctoral School in this regard, which would ensure that all doctoral students are subject to uniform educational standards and allow for operation within an integrated organizational system. Actions in this regard should include, in particular, the standardization of doctoral seminar formats, survey procedures, the structure of Individual Research Plans (IPB), the role of supervisors, and the rules regarding the form and frequency of contact with doctoral students.

The visit concluded with a summary meeting of the Committee and a final meeting with the School authorities, during which the next stages of the evaluation procedure were presented and the recommendations were explained. The entire visit was carried out according to plan and without any reservations.

### III. COLLABORATION BETWEEN THE ENTITY AND THE DOCTORAL STUDENT SELF-GOVERNMENT

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The Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PSD IPAN) demonstrates a high level of activity in collaboration with the Doctoral Student Council, and the School's Management consistently supports the Council's initiatives. At the same time, the multi-institute structure presents certain challenges in terms of standardization, as well as providing uniform infrastructural and financial support. To facilitate joint activities, the PSD IPAN Doctoral Students' College was established, with representatives of the Doctoral Student Councils from individual institutes participating on a voluntary basis. The Student Council is highly active, organizing numerous integration and academic support initiatives.

An example of effective cooperation between the Student Council and the Doctoral School includes the introduction of new courses into the curriculum, the incorporation of suggestions regarding the 2025 course schedule, the standardization of evaluation forms for doctoral students across different institutes, and the introduction of surveys evaluating doctoral student-supervisor cooperation, submitted together with annual reports. Representatives of the Doctoral Student Councils actively participate in meetings of the Institutes' Scientific Councils and Disciplinary Committees (both first-instance and appeals), as well as acting as observers in meetings of the Midterm Assessment Committee. Doctoral students generally evaluate communication between themselves and the Doctoral School as very good, highlighting timely information flow and effective delivery of emails to all students.

At the same time, the multi-institute structure of PSD IPAN creates challenges in terms of standardizing procedures, ensuring uniform infrastructural and financial support, and coordinating administrative processes. The key areas requiring improvement include:

- the lack of a formal and transparent procedure for resolving conflicts between doctoral students and supervisors, during the analysis of documentation and interviews, cases of doctoral candidates resigning from further studies were also noted;
- a non-uniform system of funding and support for the Doctoral Student Council across individual institutes, including the absence of guaranteed budgets for all units and the Doctoral Students' College;
- inconsistency in the system of evaluation surveys (so far, only some courses have been assessed);
- variation in additional benefits for doctoral students (financial allowances, sports cards, vacation benefits), dependent on the institute, indicating a lack of unified administrative coordination and standardized conditions for doctoral students.

In conclusion, PSD IPAN actively cooperates with the Doctoral Student Council, effectively taking into account doctoral students' recommendations in shaping programs and procedures, while also supporting their academic and social development. At the same time, it is crucial to

implement unified conflict resolution procedures, a consistent system of evaluation surveys, and equal financial and organizational conditions for all doctoral students across the five institutes, ensuring high-quality academic supervision and the coherent functioning of PSD IPAN.

## **IV. INFORMATION ON THE DOCTORAL SCHOOL TO WHICH THE STATUTORY CRITERIA APPLY**

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- **The adequacy of the education programmes and individual research plans with respect to the learning outcomes for qualifications at level 8 of the PQF and their implementation:**  
The *Self-Evaluation Report of the Doctoral School*, the *Supplementary Materials to the Report*, and the explanations provided during the site visit by the Poznań Doctoral School of Institutes of the Polish Academy of Sciences (PSD IPAN) allow for the conclusion that the Doctoral School meets Criterion 1 as defined in the Polish Qualifications Framework at level 8 (PQF 8). At the same time, it is indicated that further refinement, harmonization, and optimization of the curriculum, learning outcomes, and accompanying documentation are required to ensure full alignment with the standards of doctoral education.

In accordance with Article 201(3) of the *Law on Higher Education and Science (PSWiN)*, education in a doctoral school is conducted on the basis of a study programme and an individual research plan (IRP), within which the intended learning outcomes are achieved.

The learning outcomes at PSD IPAN are presented in *Annex No. 2 to the Study Programme* and in the document *Supplement to the PSD IPAN Study Programme: Specific Learning Outcomes Based on PQF Level 8 (P8S\_WG, P8S\_UK, P8S\_KK)*. These outcomes are generally adequate for qualifications at PQF level 8; however, they require further refinement, better organization, and consistent alignment with the methods of their implementation and verification.

In particular, it is recommended to:

Ensure the internal consistency of outcome descriptions and the balanced assignment of implementation and assessment methods to specific outcomes;  
Specify verification methods in greater detail (formulations such as “confirmed active participation” are too general);  
Correctly assign outcomes to PQF 8 categories (e.g., an outcome concerning research methods should be classified as P8S\_WG rather than P8S\_WK);  
More comprehensively include outcomes derived from courses on transferable competences;  
Clearly indicate the mandatory nature of selected competence courses to ensure the achievement of outcomes in the areas of P8S\_UU, P8S\_KO, and P8S\_KR.

The study programme is delivered in both Polish and English. It comprises a research component and an extensive coursework component. The structure of the programme includes compulsory, elective, and cross-disciplinary modules. However, not all learning outcomes have assigned verification methods, and some outcomes in the research component duplicate those from the coursework component.

The programme enables doctoral candidates to obtain the required number of ECTS credits but does not fully guarantee the achievement of all learning outcomes specified in the supplementary documentation. The overall structure of the programme requires optimization and further strengthening of the elements of individualization to better address the research and developmental needs of doctoral candidates.

Analysis indicates that the programme focuses primarily on the development of knowledge

and research skills (approximately 80% of outcomes). The dominant outcomes are:

- P8S\_UW – research skills (approx. 45%),
- P8S\_WG – discipline-specific knowledge (approx. 33%).

To a lesser extent, the following are addressed:

- P8S\_WK – interdisciplinarity (approx. 1.6%),
- P8S\_UK – scientific communication (approx. 3.4%).

Outcomes related to P8S\_UU, P8S\_KO, and P8S\_KR are covered only partially – partly through transferable skills courses and partly within individual research plans. It is recommended that social and soft skills be clearly and fully reflected in the program documentation and systematically developed through engaging forms of instruction, such as seminars, workshops, group projects, and discussions. While doctoral seminars are conducted regularly and are mandatory, it is also advisable to emphasize in the curriculum other course-based activities that foster the development of soft skills.

The programme includes courses aimed at developing universal skills (e.g., writing scientific articles, preparing grant applications, project management); however, it does not clearly indicate which of these courses are mandatory. To ensure consistent achievement of learning outcomes, it is recommended that doctoral candidates participate in these courses on a compulsory basis.

The program specifies that a doctoral candidate should earn at least 5 ECTS from these courses, which corresponds, for example, to three courses of 1.5–2 ECTS each or an equivalent combination. However, Criterion 1 evaluates the adequacy of the program based on learning outcomes, not ECTS credits. Clearly indicating mandatory courses will help ensure consistent attainment of outcomes, particularly in the area of social competencies.

While the implementation of the study programme requires improvement, the execution of the individual research plans (IRPs) deserves commendation. The programme is individualized through the elements incorporated into the IRP. The scientific activity of doctoral candidates, as defined in the IRP, and the methods of disseminating research results are appropriate for PQF level 8. The IRP template complies with the requirements of the *Law on Higher Education and Science*. However, the submitted IRPs vary in their level of detail – some include measurable outcomes and assessment methods, while others remain more general. It is recommended to develop a standardized IRP template consistent with the learning outcomes matrix, including specified outcomes and objective verification methods.

The assessed Doctoral School operates within the structure of the institutes of the Polish Academy of Sciences (PAN). Therefore, the implementation of doctoral research across institutes varies and is subject to internal regulations (e.g., regarding conference participation, grant applications, publication funding, or programme modifications). Consequently, comprehensive monitoring of doctoral candidates' activities is currently feasible only within one branch of the Doctoral School (typically within a selected PAN institute). It is therefore advisable to develop a unified approach to ensure that all doctoral candidates operate under consistent conditions – for example, by standardizing the structure of doctoral seminars, course evaluation procedures, IRP templates, the role of supervisors, and the format and

frequency of contact with doctoral candidates.

It should be emphasized that recruitment to PSD IPAN takes place primarily within the framework of larger research projects, enabling candidates to engage in team-based research from the outset. Through this model, individual institutes and the Doctoral School also provide substantial support for the implementation of IRPs. The conduct of doctoral research within grant-funded projects fosters the development of collaboration, communication, planning, problem-solving, time management, and teamwork skills in interdisciplinary environments. The development of these competences constitutes a significant strength of the programme and should be explicitly reflected in the documentation.

The programme aims to prepare doctoral candidates for research, research and development, and teaching activities (§1). The first two objectives are implemented effectively; however, there is no evidence of systematic preparation for teaching activities – the means of acquiring and verifying such competences have not been defined. As the PAN institutes do not conduct regular teaching activities, it is proposed to either:  
remove this component and limit the training to research and research and development activities, or  
introduce a course on teaching competences and define teaching practice requirements with a specified workload (as set out in the PSD IPAN Regulations).

The process of programme improvement requires enhancement, particularly in terms of formalization and systematization. There are currently no established guidelines for developing new course offerings, introducing innovative teaching methods, or defining procedures for implementing individual research plans. Academic oversight of the educational offer is exercised by programme coordinators and the Doctoral School's Programme Council, taking into account feedback from doctoral candidates. Supervisors also have the opportunity to influence the content of the curriculum. Annual evaluations of the coursework component and teaching staff selection are conducted. Traditional teaching methods remain predominant in the didactic process.

The structure of the Doctoral School, the study programme, and the individual research plans are interdisciplinary in nature. Interdisciplinarity is ensured through the inclusion of courses outside the main discipline and the conduct of research using methodologies characteristic of different scientific fields. The programme includes courses representing the disciplines covered by PSD IPAN, as well as modules aimed at developing cross-cutting competences. The educational offer is continuously improved by the Programme Council.

The overall structure of the study programme requires optimization and further enhancement of individualized learning elements to more effectively address the research and developmental needs of doctoral candidates. At the same time, it should be emphasized that the programme is distinguished by the high quality of research conducted by doctoral candidates, its interdisciplinary character, and the strong engagement of supervisors and institutes in supporting the process of doctoral research and dissertation preparation.

- **The method of assessing the learning outcomes for qualifications at level 8 of the PQF:**  
The evaluation of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences (PSD IPAN) with regard to **Criterion 2** was conducted on the basis of the provisions of the *Regulation of the Minister of Education and Science of 27 September 2021 on the evaluation of the quality of education in doctoral schools* (Journal of Laws 2021, item 1847), issued pursuant to Article 263 of the *Act of 20 July 2018 – Law on Higher Education and Science* (Journal of Laws 2021, items 478, 619, and 1630).  
The evaluation took into account the assumptions specified in §1(2) of the Regulation, including:
  - a) the accessibility and clarity of the rules for verifying learning outcomes,
  - b) the transparency and reliability of the verification process,
  - c) the reliability of the process for improving methods of verifying learning outcomes for qualifications at level 8 of the Polish Qualifications Framework (PQF).

Based on the submitted documentation and explanations provided during the site visit, it is concluded that **PSD IPAN meets the requirements under Criterion 2** concerning the evaluation of the quality of education in a doctoral school.

Verification of learning outcomes is carried out through elements of the educational programme implemented in the form of courses and seminars (Annex No. 2 to the PSD IPAN Education Programme) as well as individual research plans (IRPs). Both instruments are treated as equivalent and complementary components of the education process.

The currently approved framework curriculum does not include assigned learning outcomes corresponding to level 8 PQF qualifications. The course syllabi do not indicate learning outcomes, which makes it difficult to establish a clear connection between the content of instruction and the intended educational results. According to the Regulations of the Doctoral School, verification of doctoral students' progress is based on the European Credit Transfer System (ECTS). Completion of courses specified in the curriculum ensures the required number of ECTS credits. However, learning outcomes have not been explicitly assigned to the implementation of individual research plans. The list of courses and relevant documentation templates related to the education process are available on the School's website.

In addition to the core documentation, the School submitted a document entitled "*Supplement to the PSD IPAN Education Programme specifying learning outcomes based on PQF level 8 (P8S\_WG, P8S\_UK, P8S\_KK) and their assigned verification methods*", which is to be submitted for approval by the Scientific Councils of the PSD IPAN Institutes at least five months before the start of the next academic year. In response to the Committee's request, the School also provided a list of courses conducted for doctoral students with assigned learning outcomes consistent with the aforementioned document.

The analysis of documentation indicates that the School effectively implements learning outcomes related to knowledge and research skills (areas P8S\_WG and P8S\_UW –

approximately 78% of all outcomes), while outcomes related to interdisciplinarity and social competences (P8S\_WK, P8S\_UK, P8S\_KO, P8S\_KR, P8S\_UU) are represented to a lesser extent. It is noteworthy that PSD IPAN doctoral students are involved in research projects from the very beginning of their education, which supports the practical achievement of outcomes in the areas of teamwork, research planning, and scientific communication. However, it is recommended that these outcomes be systemically integrated into the education cycle and that clear methods of verification be established.

At present, the assessment of progress within the individual research plan is conducted regularly and with due diligence, based on annual reports submitted by doctoral students and decisions of the advisory committee. Annual reports are confirmed by supervisors and approved by the coordinators of the Doctoral School. The course-based component is implemented correctly, and the principles for completing individual classes are defined in the syllabi.

It is recommended to refine the verification process for learning outcomes in the following areas:

- standardisation of the format and level of detail of individual research plans, with particular emphasis on the clarity, reliability, and transparency of methods used to assess the achievement of intended learning outcomes;
- documentation of meetings between supervisors and doctoral students (e.g., short reports summarising monthly or quarterly progress);
- clarification of verification methods by replacing general expressions such as “*active participation*” with measurable criteria (e.g., preparing a publication chapter, delivering a conference presentation, or developing a research proposal);
- extension of the formal verification of learning outcomes – in line with the requirements of the

Regulation of the Minister of Education and Science of 27 September 2021 (Journal of Laws 2021, item 1847) – to include soft and didactic competences.

Regarding the preparation of doctoral students for teaching activities, there is no clear evidence confirming the achievement of this objective. This element of education requires supplementation with mandatory activities that enable verification of teaching competences (e.g., a course in didactics, teaching practice with a defined number of hours, or class observations), in accordance with current legal requirements.

In summary, the School effectively implements its intended educational goals in the areas of knowledge and research skills. However, further clarification and systematic enhancement are needed in the verification of outcomes related to social and didactic competences. Verification of academic progress – both in the course-based component and within the individual research plan – should be explicitly linked to the learning outcomes defined for PQF level 8.

Criterion 2 also covers the reliability of the process for improving methods of verifying learning outcomes. Responsibility for this area rests with the Programme Council of the Doctoral School, which has not yet developed detailed principles, procedures, or tools enabling comprehensive and consistent assessment of learning outcomes.

At the level of the entire School, there is an established system of ongoing communication and cooperation with the Doctoral Student Council, including regular consultations with the Head of the Doctoral School and the opportunity to submit written proposals. In 2025, the doctoral students submitted a written request accompanied by an official response from the School, confirming the transparency and partnership-oriented nature of the dialogue. Furthermore, at least once a year, the Doctoral Student Council is invited to present proposals for amendments to the regulations and education programme, thereby ensuring doctoral students' genuine participation in the enhancement of education quality.

Since 2025, a regular system of course and programme surveys has been introduced, serving as a tool for systematic monitoring of teaching quality and assessment of the effectiveness of measures undertaken by the School and its institutes.

At the level of individual institutes, several solutions have been implemented to support doctoral students and improve the organisation of education. In 2023, the Institute of Bioorganic Chemistry of the Polish Academy of Sciences (ICHB PAS) established advisory support teams, and in 2025 a designated first-contact person for doctoral students was appointed to facilitate the resolution of emerging issues. Additionally, a Project Support Office was created, which assumed part of the administrative responsibilities, thereby reducing the formal workload of doctoral students and researchers.

The actions undertaken demonstrate a consistent development of the quality assurance system at PSD IPAN, based on transparency, dialogue, and doctoral student support. At the same time, it is recommended to harmonise the solutions implemented across individual institutes to ensure that all doctoral students operate under uniform and equitable principles concerning communication, support, feedback collection, and participation in the continuous improvement of the education programme.

- **Qualification of academic teachers and academic staff employed at the doctoral school:** Criterion 3 at Level 8 of the Polish Qualifications Framework (PRK) refers to the qualifications of the teaching staff and their capacity to deliver doctoral-level education.

An analysis of the functioning of the Poznań Doctoral School of PAS Institutes (PDS IPAN) has demonstrated that the School meets the requirements of Criterion 3, employing an experienced and active teaching staff composed of highly qualified researchers from five institutes of the Polish Academy of Sciences. Between 2019 and 2024, 70 researchers were involved in the School's activities, of whom 61 conducted courses as part of the curriculum.

All instructors hold at least a habilitation degree or a professorship and have a significant scientific record, evidenced by publications in reputable international journals. Many serve as principal investigators or participants in projects funded by the National Science Centre (NCN), the National Centre for Research and Development (NCBR), the Foundation for Polish Science (FNP), and European Union programs (Horizon 2020, Horizon Europe). The teaching staff actively participates in internationally collaborative projects, which contributes to the internationalization of both research and doctoral training.

Members of the teaching staff have extensive supervisory and teaching experience, including supervisors and assistant supervisors with documented achievements in mentoring doctoral students and leading research teams. Many have undertaken scientific internships and research stays abroad. Courses are frequently conducted in English and involve international participants, promoting exchange of experience and development of doctoral students' language skills.

The curriculum, supported by an interdisciplinary teaching team, includes both compulsory and elective courses in fields such as genetics, biotechnology, physiology, and systems biology. The high quality and interdisciplinary nature of the educational offer constitute a major strength of the School.

The staff selection system is based on evaluation of scientific achievements, teaching experience, English language proficiency, and alignment of competencies with the intended learning outcomes. Qualifications are verified both at the recruitment stage and through regular quality assessments. The quality of teaching is monitored by the Doctoral School's Program Board and the educational committees of the cooperating institutes, including analysis of doctoral students' progress, supervisors' reports, and evaluation questionnaires.

The teaching staff actively participates in the enhancement of their scientific and pedagogical competencies. The cooperating institutes organize internal training, workshops, and mentoring, while instructors further develop their skills through participation in external conferences and training courses.

Despite the high quality of the teaching staff and well-functioning internal mechanisms, several areas for further development have been identified to strengthen professionalization and transparency of the educational process:

1. Formalization of academic staff selection criteria
  - o Currently, recruitment relies mainly on subject-matter expertise and recommendations within existing academic networks.
  - o Recommendation: develop a formal, transparent protocol for selecting teaching staff, defining scientific, pedagogical, and organizational criteria, and ensuring equal access and transparency of the process.
  - o Within the School's financial capacity, a dedicated annual budget for staff development is proposed to enable participation of external lecturers and gradual integration of early-career researchers, supporting generational continuity
  
2. Systematic and objective evaluation of teaching quality
  - o Although the School conducts surveys and monitors learning outcomes, a fully integrated, externally verifiable mechanism for teaching evaluation is lacking.
  - o Recommendation: implement a consistent system for evaluating courses and instructors, actively involving doctoral students and analyzing teaching quality using measurable indicators (attendance, student feedback, learning outcomes, research progress).
  
3. Increased use of quantitative data in reporting
  - o Previous self-assessment reports rely primarily on qualitative descriptions and positive generalizations.
  - o Recommendation: include quantitative data in future reports (e.g., number of courses, survey scores, internationalization metrics, number of staff-led projects) to allow more analytical and comparable assessment of progress.
  
4. Expansion of training in modern teaching methods and mentoring
  - o The School organizes workshops and training; however, the scope could better address the needs of modern academic pedagogy.
  - o Recommendation: expand training offerings to cover innovative teaching methods, mentoring, tutoring, and soft skills relevant to doctoral supervision.

To conclude, the teaching staff of PDS IPAN represents one of the School's strongest assets. Their high academic qualifications, international engagement, and experience in doctoral education ensure high-quality teaching and effective learning outcomes. Implementation of the recommended actions – particularly formalizing staff selection procedures, strengthening objective evaluation mechanisms, and expanding the use of quantitative data – will further enhance the quality of teaching, transparency, and institutional

sustainability of the Doctoral School.

- **The quality of the admission process:**

Criterion 4 covers the analysis of the correctness and transparency of the recruitment process, the assessment of candidates' predispositions, as well as the adequacy of the rules and procedures to the requirements of the Polish Qualifications Framework at level 8 (PQF8). Based on the submitted documents and the information obtained during the site visit, it was assessed that the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PSD IPAN) conducts the recruitment process in a properly designed and implemented manner, and thus meets Criterion 4 of the quality of education defined by PQF8.

PSD IPAN aims to provide each Institute with maximum autonomy in administrative and educational matters, which reflects respect for academic tradition, but may also create areas conducive to inequalities within a single doctoral school and therefore requires harmonisation. The common framework of the school's functioning consists of core documents regulating the education and recruitment processes: the PSD IPAN Regulations, the PSD IPAN Recruitment Regulations, and the general PSD IPAN Education Programme. These documents are adopted in identical form by the five scientific councils of the respective Institutes at least five months before the beginning of the academic year.

The recruitment regulations are clearly structured, transparent, publicly available on the school's website, and their subsequent amendments are of a clarifying nature, demonstrating efforts to improve the procedures. Such continuous refinement of the regulations should be recognised as an appropriate approach, reflecting the pursuit of enhancing the school's functioning. The school also applies a clearly defined appeal procedure.

Recruitment at PSD IPAN is continuous, which results from the dependency on the schedule for acquiring grants that fund doctoral scholarships. Therefore, the timeliness of publishing the recruitment rules cannot be directly assessed. Nevertheless, the regulations and recruitment principles are updated once a year, which can be considered timely publication. Each year, 20–50 calls for applications are announced, each published with at least 30 days' notice. Announcements are available on the websites of the Institutes, on the PSD IPAN website (in two languages), in English on Euraxess, and on notice boards. However, course syllabi are not publicly available and are provided upon request, which indicates a potential area for improvement regarding transparency of information for candidates.

The recruitment rules are non-discriminatory and open to candidates regardless of gender, origin, disability, or institution of graduation.

The school recognizes the need to support candidates with disabilities. The 2025 Recruitment Regulations declare the provision of necessary assistance, though they do not specify its scope. Introducing such detailed information is recommended. At the same time, none of the admitted doctoral candidates so far has had a certified disability, which makes it impossible to assess the practical implementation of these provisions. Another challenge remains the

process of obtaining residence permits in Poland by international candidates, which affects their recruitment and education process.

Selection committees are appointed separately for each competition, consisting of at least three individuals with verified qualifications (discipline coordinator, project leader – potential supervisor, and a person holding a postdoctoral degree or professorial title). In many cases, a representative of the doctoral candidates participates as an observer, which strengthens the transparency of the process. The doctoral school also pays attention to gender balance within recruitment committees.

The predispositions of candidates for doctoral studies are assessed properly and in alignment with PQF8 – considering academic achievements, knowledge, and the candidate's alignment with the project topic. Each competition is conducted in a transparent, merit-based, two-stage, and competitive manner.

Stage I – assessment of achievements (0–12 points) includes:

- academic grades,
- publications, awards, scholarships,
- scientific and professional experience,
- international mobility.

Candidates scoring at least 6 points qualify for Stage II.

Stage II – interview (0–18 points) – in some Institutes conducted in English – assesses:

- knowledge in the relevant discipline,
- understanding of the project topic.

The minimum score required for admission is 15 points. The results are public, published as ranking lists with the scores from both stages. The decision to admit a doctoral candidate is made by the Director of the Institute funding the candidate.

The recruitment process is systematically improved based on comments from recruitment committees, cooperation with the Doctoral Students' Council, and discussions of the Programme Council. Improvements to date have included, among others: increasing the number of interview points from 12 to 18, raising the admission threshold from 12 to 15, and clarifying the rules for assessing candidates' knowledge and thematic alignment. A place in the doctoral school is granted to the best candidate who meets the minimum competence criteria.

Candidates requesting feedback on the strengths and weaknesses of their applications received comprehensive responses. All appeals were reviewed – although none were upheld.

In summary, the recruitment process at PSD IPAN is transparent, merit-based, and compliant with PQF8. It is grounded in clear, accessible, and non-discriminatory rules, conducted by

competent committees, and continuously improved based on experience and data. Although some areas requiring improvement have been identified (harmonising rules across Institutes – e.g., language of the interview; support for persons with disabilities; challenges faced by international candidates; availability of syllabi), the overall recruitment process raises no concerns and merits a positive assessment.

- **The quality of scientific or artistic guidance, and support in research:**

The Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PSD IPAN) provides doctoral candidates with support in implementing their Individual Research Plans (IRPs), enables the development of scientific and professional competencies, ensures effective academic supervision by supervisors and a system for evaluating their work, and creates conditions for safe, ethical, and efficient scientific work, thereby meeting Criterion 5 of the quality of education corresponding to Level 8 of the Polish Qualifications Framework (PRK 8).

The School's regulations define the principles for appointing a supervisor and an assistant supervisor; however, detailed procedures apply at the level of individual Institutes, resulting in a lack of full standardization across the entire doctoral school. The educational model is based on recruitment linked to project funding—candidates are continuously admitted as project contributors, and the project leader automatically serves as their academic supervisor and subsequently as their supervisor or assistant supervisor, which constitutes a fundamental feature of PSD IPAN. This ensures intensive collaboration between the doctoral candidate and the supervisor but limits flexibility in the event of a change of supervisor, as such a change automatically entails a change in the dissertation topic, which may negatively affect the timely completion of doctoral studies. In cases of scholarship termination, Institutes seek to provide employment for doctoral candidates, minimizing the risk of interruption in their education.

Direct collaboration between doctoral candidates and supervisors functions properly, as evidenced by the low number of resignations (3) and supervisor changes (3) out of a total of 119 doctoral candidates. In the past, there were also cases of doctoral candidates being removed at the supervisor's request. Supervisors' work is evaluated during the doctoral candidate's mid-term assessment and through surveys regarding the quality of doctoral candidate–supervisor collaboration. Currently, the survey tool is used at IChB PAN, and from 2025 it will also be implemented in the remaining Institutes. The School demonstrates a strong awareness of the need to improve academic supervision; however, many of these solutions still function at the level of individual Institutes rather than as a unified system across the entire School.

The School operates a doctoral code of ethics as well as Institute-level anti-bullying, anti-discrimination, and equal opportunity procedures. Family-friendly solutions and flexible working arrangements for doctoral parents have been introduced. At the same time, the doctoral school applies non-standardized methods for resolving conflict situations, largely dependent on the internal procedures of the Institute where the doctoral work is conducted, which should be standardized across PSD IPAN. International doctoral candidates receive support from "Welcome Point" staff. Since 2023, support teams have been introduced for doctoral candidates, providing advisory and assistance functions in difficult situations.

The School maintains international collaboration, and foreign experts are invited to Institutes to deliver lectures and seminars. Additionally, the Institute of Bioorganic Chemistry hosts a

foreign advisory team. However, not all Institutes systematically involve foreign researchers in the activities of research teams.

Implementation of Individual Research Plans (IRPs) based on projects obtained by the supervisor carries a significant risk that doctoral candidates will be assigned additional tasks not directly related to the IRP, increasing their workload (30–75 hours per week, according to surveys conducted by the Doctoral Student Council) and not always fully aligning with the IRP. Moreover, doctoral candidates participate in supervising students, but this activity is not formalized in terms of scope or documentation.

PSD IPAN requires doctoral students to publish research results in peer-reviewed journals indexed in *Journal Citation Reports* (PSD IPAN Regulations). The Doctoral School does not provide standardized financial support for publications or conference participation. This lack of central funding is primarily due to the limited resources allocated to PAN units for doctoral education. The School should operate cohesively rather than as separate institutes. All doctoral students should have equal opportunities to publish in JCR-indexed journals, including access to funding for language editing and *Article Processing Charges* (APCs), regardless of their institute.

Currently, there are no doctoral candidates with disabilities; however, the Institutes declare the possibility of individual support and the availability of adapted infrastructure.

In summary, the strengths of the Doctoral School include: intensive doctoral candidate–supervisor collaboration; functioning ethics and safety systems; support for doctoral candidates in difficult situations, including flexible working hours, family-friendly initiatives, and assistance for international doctoral candidates via Welcome Point; international and scientific collaboration, including expert visits, lectures, seminars, and a functioning advisory team at IChB PAN; and the system for evaluating supervisors' work through mid-term assessments and surveys, gradually implemented across all Institutes.

The main challenges of the Doctoral School remain the lack of standardized mechanisms for conflict resolution and formal, unified supervisor evaluation, as well as the absence of central, systematic financial and infrastructural support for research at the school level rather than at the level of individual Institutes, which leads to disparities in opportunities and working conditions for doctoral candidates within the same institution (PSD IPAN) depending on the Institute and individual supervisor.

The following actions are proposed to improve the functioning of the Doctoral School:

Standardize procedures for appointing and changing supervisors, resolving conflicts, and

conducting anonymous supervisor evaluations.

Develop a mechanism to increase flexibility when changing supervisors, allowing the continuation of the doctoral dissertation without changing its topic.

Increase central financial and infrastructural support, including costs of publications, conference participation, and editorial and language support.

Standardize the implementation of Individual Research Plans (IRPs) and monitor the actual workload of doctoral candidates (30–75 h/week), ensuring that additional project tasks align with the IRP.

Expand the practice of establishing advisory teams (modeled on IGC PAN and IChB PAN) across all Institutes.

Formalize doctoral candidates' teaching activities by specifying their scope, workload, and method of documentation.

- **The reliability of the midterm evaluation:**

The Poznań Doctoral School of Institutes of the Polish Academy of Sciences (PSD IPAN) provides doctoral candidates with a transparent and reliable mid-term evaluation system that effectively verifies the implementation of Individual Research Plans (IRPs) and supports the monitoring of progress in doctoral training.

The procedures for the mid-term evaluation are defined in the School Regulations and include the preparation of a doctoral candidate's report on the implementation of the IRP, the supervisor's opinion, a written review by an external expert (Reviewer), and a report from the meeting of the Evaluation Committee. Clear and well-defined rules, along with substantively justified assessment criteria, enable doctoral candidates to prepare thoroughly for the mid-term evaluation. The review is made available to both the doctoral candidate and the supervisor, and the documentation, such as templates for reports and minutes, constitutes annexes to the PSD IPAN Regulations, ensuring uniform documentation standards. Furthermore, the documentation is available electronically in two languages on the website of the Doctoral School and in the Public Information Bulletin (BIP) of the Institutes.

The selection of committee members is well justified, with supervisors excluded from committee work and reviewers appointed from outside the Institutes forming the School. The Chair of the Committee is the coordinator of the relevant discipline or their deputy, who verifies the reviewer's qualifications and confirms the absence of conflicts of interest. Committee meetings are held in on-site, hybrid, or remote formats, with the possibility for a representative of the Doctoral Students' Council to attend as an observer. The outcome of the mid-term evaluation is public and published on the School's website, and doctoral candidates have the right to appeal within 14 days of receiving the decision.

The three-member Mid-Term Evaluation Committee consists of individuals employed and not employed within the Doctoral School. The Chair of the Committee is the coordinator of the relevant discipline or their deputy. Reviewers are appointed from outside the Institutes forming the School, and the Chair verifies their qualifications and confirms the absence of conflicts of interest. In 2021, the School clarified the Regulations, increasing the clarity and accessibility of the rules governing mid-term evaluation and discontinuing the participation of the supervisor or auxiliary supervisor in Committee meetings. These changes contributed to strengthening the independence of the evaluation process and constitute part of quality-enhancement measures aimed at improving internal procedures. Committee meetings are held in on-site, hybrid, or remote formats, with the possibility for a representative of the Doctoral Students' Council to attend as an observer. The outcome of the mid-term evaluation is public, published on the School's website, and doctoral candidates have the right to appeal within 14 days of delivery of the decision.

The mid-term evaluation is conducted halfway through the period of doctoral training. Due to the continuous admission system in force at the Doctoral School, evaluation dates are determined individually for each doctoral candidate, which requires consistent standards

across the entire School. The existing records and outcomes of mid-term evaluations demonstrate a high level of reliability and timeliness: all 74 evaluations conducted to date were positive, and doctoral candidates properly implemented their Individual Research Plans. Consequently, it has not been possible to assess the functioning of a potential appeals procedure.

At the same time, in the practical operation of the School, certain differences can be observed among Institutes with regard to the methods used to verify doctoral candidates' progress. The School Regulations provide for the possibility of ordering an additional evaluation (§ 7 point 22), while not providing for the participation of an external expert. The Regulations do not specify the circumstances under which such an evaluation may be applied, nor its consequences. This type of practice does not have a clear basis in the applicable legal provisions and may raise doubts as to its legitimacy and compliance with the principle of equal treatment of doctoral candidates. It would therefore be advisable to clarify the relevant provisions of the Regulations in order to ensure greater transparency of procedures and uniformity of applied practices.

In conclusion, PSD IPAN ensures an effective, reliable, and transparent mid-term evaluation of doctoral candidates, which constitutes a strong aspect of the School's operation, primarily due to: the clarity of procedures and assessment criteria precisely defined in the Regulations; reliability and timeliness; the independence of evaluation committees through the exclusion of supervisors and the inclusion of reviewers from outside the Institutes forming the School; and transparency and accessibility of documentation, as the minutes are available electronically in two languages on the School's website and in the Public Information Bulletin of the Institutes.

At the same time, the following improvement measures are proposed:

- Harmonisation of mid-term evaluation practices – introduction of consistent procedures for verifying doctoral candidates' progress across all Institutes.
- Selection of committee members – taking into account the thematic scope of the doctoral candidate's research output, and not only the scientific discipline, when appointing committee members.
- Standardisation of additional evaluation procedures – ensuring the participation of an external expert and consistent rules for conducting additional evaluations.

- **Internationalisation:**

Criterion 7, Level 8 of the Polish Qualifications Framework (PRK) concerns the internationalization of higher education institutions and its impact on doctoral education and research activities.

The presented Self-Assessment Report regarding Criterion 7 provides a comprehensive overview of the activities carried out by the PDS IPAN Doctoral School to support internationalization. It documents initiatives such as the recruitment of international doctoral students, opportunities for mobility, bilingual communication, and international research collaboration. The report reflects the institution's genuine commitment to the process of internationalization. However, it lacks analytical frameworks, measurable indicators, and a synthesis that would clearly define the School's current position and the direction of its strategy. During the on-site visit, the evaluation team was able to clarify several of these aspects, confirming both the School's achievements and identifying areas requiring improvement. Analysis of PDS IPAN's operations showed that the School fully meets the requirements of Criterion 7, implementing a range of measures that promote internationalization in doctoral education, research, and support for staff and students.

The staff of PDS IPAN demonstrates a very high level of internationalization. Among the lecturers are specialists from abroad, including India, Portugal, Kenya, and Ukraine, while the majority of the remaining staff have experience gained during long-term research stays at renowned research institutions worldwide.

Researchers conduct studies within international projects, publish in journals with global reach and high impact factors, and their activity in research networks and participation in conferences confirms the recognition and openness of the staff within the international scientific community.

Doctoral education at PDS IPAN is primarily conducted in English, which facilitates the integration of students from different countries. Between 27% and 32% of doctoral students come from abroad, representing Europe, Asia, Africa, and North America. Individual research plans include collaboration with foreign institutions, and the curriculum comprises lectures and seminars delivered by international staff.

Doctoral students participate in international internships and conferences, including in the United Kingdom, Germany, Spain, Belgium, and Sweden, and the results of their research are published in recognized international journals. The School supports academic mobility and applications for European grants, including EMBO fellowships and projects funded by the European Union.

The School also carries out comprehensive activities to support the adaptation of international

students. Most documents, regulations, forms, and recruitment announcements are available in both Polish and English. Administrative communication is conducted bilingually, and staff and supervisors assist international students with formal matters such as residence registration, work permits, and accommodation. Recruitment is conducted openly, including through the EURAXESS portal, ensuring broad international reach. At least one institute has established an International Advisory Board, effectively supporting high-quality research. Extending such a model of support to all institutes could strengthen strategic management of the School.

The School actively promotes itself internationally. It maintains an English-language website, recruitment announcements are published on internationally accessible platforms, and the constituent institutes promote the School on their websites and through participation in research consortia, including Horizon Europe.

The high proportion of international doctoral students (32%) demonstrates the effectiveness of the promotional strategy. Areas for development include increasing the School's presence on international social media and systematically building networks with alumni.

Key elements supporting internationalization at PDS IPAN include:

- International doctoral community – national diversity and a high proportion of international students.
- Bilingual teaching – courses and documentation in Polish and English.
- International faculty – participation of foreign lecturers and strong research networks among local staff.
- Academic mobility – international internships and conferences aligned with research topics.
- Administrative support – welcome center, dedicated assistance for international doctoral students.
- Integration and educational activities – introductory courses, mandatory training in communication, research funding, and bioethics standards.
- International research visibility – publications and participation in conferences.

The School demonstrates strong commitment to internationalization, supported by bilingual teaching, mobility, student support, and the international research activity of the staff. To consolidate and further develop these achievements, it is recommended to:

1. Develop measurable indicators and tools for assessing progress in internationalization.
2. Strengthen feedback systems from doctoral students through structured qualitative and quantitative evaluations.
3. Expand and strengthen the International Advisory Board to guide the strategic development of the School.
4. Institutionalize mediation mechanisms to transparently resolve conflicts between doctoral students and supervisors.

Implementation of these measures will strengthen the School's international profile and ensure sustainable excellence in both teaching and research.

- **The effectiveness of the doctoral education:**

Criterion 8 at level 8 of the Polish Qualifications Framework (PRK) concerns the effectiveness of the doctoral education process, including, among other aspects, the timeliness of program completion, obtaining the doctoral degree, doctoral students' scientific achievements, the assessment of education quality, and the monitoring of graduates' subsequent career paths. An analysis of the functioning of the Poznań Doctoral School of the PAN Institutes (PSD IPAN) has shown that the School fully meets the requirements of this criterion.

The Poznań Doctoral School of the PAN Institutes demonstrates a high level of effectiveness in doctoral education, with the teaching and research process conducted in accordance with individual research plans and the schedule set out in the School's program. The Doctoral School regulations contain clear rules regarding the extension of the study period, linked to the requirements for obtaining a doctoral degree, including the necessity to confirm authorship or co-authorship of at least one peer-reviewed article published or accepted for publication in a journal indexed in the Journal Citation Reports (JCR) database.

The proportion of doctoral students obtaining their degree is high – of all students completing their studies, 88% apply for the doctoral procedure, and over 40% obtain the degree within the scheduled time. Rigorous monitoring of progress and regular mid-term evaluations contribute to timely completion, and the substantive and organizational support provided by supervisors and the School's administration is considered effective.

Doctoral students' research achievements are at a very high level. PSD IPAN students conduct research within international projects, publish in prestigious high-impact journals such as Nature Communications, Frontiers in Chemistry, and Scientific Reports, and present their results at international conferences. During the evaluation period, doctoral students received prestigious grants and awards, and their achievements are directly linked to the topics of their individual research plans, demonstrating the effectiveness of the research process and the high quality of supervisory support. Strong integration of doctoral students into the scientific community and their participation in international teams further foster the development of research and scientific competencies.

The education quality assessment system operates both formally and practically. Annual surveys evaluating supervisors and lecturers are conducted, with the results analyzed by the School's management and the School Council. Needs identified by doctoral students, such as expanding elective courses or developing soft skills, result in tangible changes in the curriculum. The School undertakes actions to improve both the teaching process and administrative support in response to students' feedback.

To date, the School has not conducted formal monitoring of doctoral graduates' career paths; however, information on graduates' professional trajectories is obtained informally from the supervisors of those who have completed their doctoral degrees. These data indicate that the

majority of graduates continue their academic careers at national and international institutions, while some take up employment in the industry and innovation sectors. In this context, it is recommended to develop and implement systematic mechanisms that would allow for more comprehensive use of information on doctoral candidates' career paths.

In conclusion, PSD IPAN demonstrates a very high level of quality and effectiveness in doctoral education. Timely completion of studies, high scientific achievements of doctoral students, an active system of quality evaluation, and monitoring of graduates' career paths all indicate the School's organizational maturity and effectiveness. PSD IPAN fully meets KEN criteria and serves as a model of good practice in the quality and effectiveness of doctoral education.

## V. FINAL OPINION AND RECOMMENDATIONS

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The Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PSD IPAN) received a positive evaluation based on eight quality criteria referring to Level 8 of the Polish Qualifications Framework. The documents presented and data obtained during the visit confirm that the school operates in an organizationally mature, stable, and legally compliant manner, and that the quality of doctoral education is maintained at a high level. The educational, research, and organizational processes carried out by the school support the development of doctoral students' competencies in accordance with PQF Level 8, enabling them to conduct research with a high degree of independence, responsibility, and innovation.

PSD IPAN has a unique, nationally recognized model of a doctoral school that synergistically integrates five institutes of the Polish Academy of Sciences, representing diverse fields and disciplines. Interdisciplinarity is a key feature of the school's operation: doctoral students conduct research in laboratories with different profiles, participate in varied seminars, benefit from the support of specialists from multiple areas, and work in an environment that encourages the exchange of scientific ideas across disciplinary boundaries. This model—based on the collaboration of PAS institutes with strong scientific and international standing—provides a real competitive advantage for the school and naturally broadens doctoral students' research horizons.

It should also be emphasized that recruitment to PSD IPAN is conducted within the framework of research projects, which from the outset enables doctoral students to work in research teams. This allows the Doctoral School to effectively support the implementation of individual research plans while also providing funding for doctoral research. Participation in grant projects fosters the development of social competencies, such as teamwork, communication, planning, problem-solving, and time management. Moreover, conducting doctoral research within grant projects is often associated with high-quality research, access to modern infrastructure, and regular contact with international partners. Doctoral students work in an environment that promotes interdisciplinarity and international collaboration. Many participate in international mobility programs, co-author publications in international journals, and collaborate on projects with partners outside Poland. This enables them to quickly engage with current research trends and gain experience typical of mature research environments.

The highly competent and academically active faculty also deserves attention. Supervisors and lecturers are deeply involved in research, have a substantial publication record, and possess extensive project experience. Interaction with such faculty provides doctoral students with a high level of substantive support.

The high proportion of international doctoral students (approximately one-third) indicates that PSD IPAN is a globally recognized institution with a transparent recruitment process.

Recruitment rules are clear and based on well-defined criteria. Results are published comprehensively, and recruitment procedures are systematically improved.

During the evaluation, areas requiring refinement were also identified, the improvement of which could further enhance the quality of education at PSD IPAN. Detailed discussion of these issues is provided in sections corresponding to each evaluation criterion. The cross-cutting recommendations presented below were identified across most criteria; their implementation will enhance the coherence and stability of the education system and reduce differences arising from the previous autonomy of individual institutes.

1. Standardization of rules and procedures across all educational units (PAS Institutes) concerning the functioning of doctoral candidates, in particular:
  - Rules for academic supervision and evaluation of cooperation with the supervisor
  - Rules for preparing the Individual Research Plan (IPB) (one template including learning outcomes and their assessment)
  - System of evaluation surveys
  - Presentation of syllabi (one template including learning outcomes and their assessment)
  - Recruitment procedures (language of the interview)
2. Strengthening and clearly defining social competencies in the study program and IPB PQF Level 8 outcomes covering communication, organizational, and ethical competencies, as well as methods of assessment, should be consistently reflected in the study program.
3. Indicating a coherent and precise method for acquiring teaching competencies and measurable assessment of learning outcomes in this area, or alternatively, omitting this component and limiting education to research and research-development activities.
4. Consolidation of the quality assurance system.  
The quality system should be transformed into a unified, coherent model encompassing all institutes, with clear indicators, an action schedule, and procedures for continuous improvement.

PSD IPAN is a doctoral school with a strong position, extensive scientific resources, and a unique organizational structure that enables research at the highest level. The school stands out for its transparent recruitment, high-quality academic supervision, strong integration of education with research projects, and its interdisciplinary and internationalized scientific environment. All eight evaluation criteria were met, and the school deserves a positive assessment. Implementing the general recommendations presented will strengthen operational coherence, increase process transparency, and further enhance the quality of doctoral education.

## VI. ASSESSMENT AND REASON

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Final assessment  
positive

**Reason:**

The final evaluation of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences (PSD IPAN) is positive, because the School meets all quality criteria for doctoral education at level 8 of the Polish Qualifications Framework, and the documentation and site-visit evidence confirm organisational maturity and high quality of teaching and research. A major strength is the multi-institute model (five PAS institutes), which strengthens interdisciplinarity, ensures access to infrastructure and expert support, and supports high-quality research outputs. Education is offered in Polish and English, and the share of international doctoral candidates (around one third) confirms strong internationalisation.

Recruitment is transparent, competitive and non-discriminatory: calls are announced in advance, published bilingually (also through international channels), and results are presented as ranked lists with scores and an appeal path. The grant-based training model is another asset—doctoral candidates join research teams from the outset, which facilitates Individual Research Plans and develops collaboration and planning skills. Supervision is close and monitored through mid-term evaluation and surveys on the doctoral candidate–supervisor relationship. The mid-term evaluation is reliable and transparent (clear criteria, external reviewers, supervisors excluded from committees); all 74 evaluations conducted so far were positive, indicating high effectiveness.

Recommendations are developmental: harmonising procedures across institutes (IRP, surveys, standards of support and conflict resolution), clarifying learning outcomes and their verification (especially social competences and, where relevant, teaching competences), and strengthening systemic financial support for publications and conferences. Implementing them will increase coherence and comparability of training conditions while keeping the overall positive conclusion.

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