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**ACTIVITY REPORT OF THE SCIENTIFIC
COUNCIL
For 2021**

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1. INTRODUCTION

The Scientific Council (SC) is the forum for guidance and coordination of technical-scientific activity in the NATIONAL INSTITUTE FOR AEROSPACE RESEARCH & DEVELOPMENT, consisting of researchers who are representative of the institute's research directions and have outstanding achievements in the field, high scientific training and extensive work experience. The Scientific Council is organized and operates in accordance with the Rules of Organization and Functioning of the SC as amended and approved by the INCAS Board of Directors in November 2021.

The Scientific Council consists of 18 members, according to the representation norm approved by Decision of the Scientific Council in practice, of which 9 members are elected by the senior staff of the national institute, by secret ballot, so that each research direction is represented. The General Manager and the Scientific Director are ex officio members of the Scientific Council. The Scientific Council of INCAS has the following attributions:

- ✓ participates in the elaboration of the R&D development strategy;
- ✓ endorses the Decisions of INCAS Governing Board involving the R&D policy of the Institute;
- ✓ organizes and coordinates scientific events;
- ✓ develops procedures and criteria for the certification of R&D staff for the grades of research scientist (RS) and research scientist 3 (RS3), as well as for the professional grades Technological development engineer (TDE) and Technological development engineer 3 (TDE 3);
- ✓ endorses the results of professional certification competitions;
- ✓ makes recommendations on the empowerment of project/grant managers and project officers as representatives of the Institute as project leader or partner institution in the execution of projects funded on the basis of research contracts;
- ✓ endorses the persons who may take over project management functions, in particular for international projects, and proposes selection criteria;
- ✓ elaborates procedures and criteria to assess the staff activity of the Sections, Sub-Departments, Collectives and Laboratories belonging to the R&D Department of INCAS;

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- ✓ endorses national and international scientific cooperation actions;
- ✓ proposes for approval to the Governing Board the annual research, development and innovation programme of the national institute;
- ✓ approves the granting of scholarships and internships in the country and abroad, if they are financially supported from the Institute's own sources;
- ✓ staff going on scholarships and internships in the country and abroad that are not financially supported from the Institute's own sources are obliged to inform the SC about the purpose and duration of the scholarship and potential benefits for the Institute;
- ✓ makes recommendations on highlighting and rewarding outstanding research staff in this field. The SC proposes measures for attracting, recruiting and retaining young graduates with aptitude and prospects as researchers in the R&D Department of the Institute;
- ✓ is involved in the examination and validation of the results of ongoing scientific and technical research projects under national and international programmes, through collaboration with the internal approval/reception committees (CASTI) appointed by the SC and approved by the INCAS Governing Board;
- ✓ endorses papers to be presented/published at conferences, especially international conferences;
- ✓ in accordance with Article 36(2) of Law 319/2003, annually approves the applications of grade I scientific researchers to continue in research and development positions after reaching the legal retirement age;

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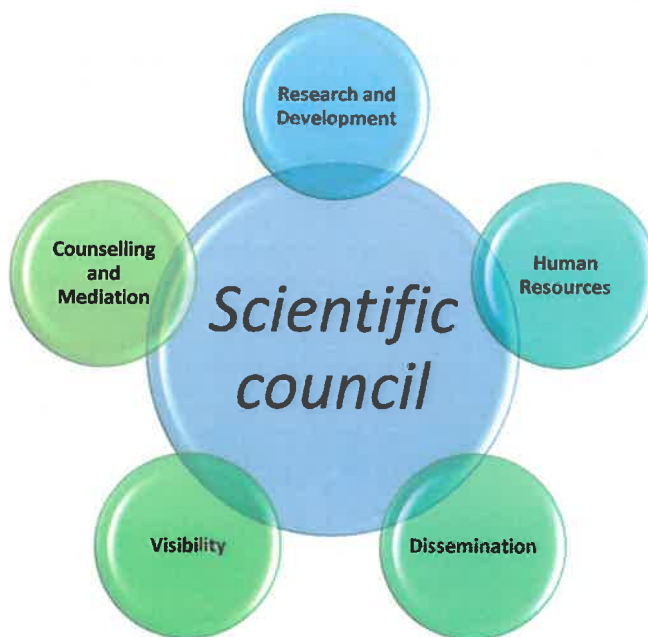
2. ACTIVITY OF THE SCIENTIFIC COUNCIL

In 2021 the Scientific Council of INCAS was composed of 9 voting members, representing all research directions and laboratories and research centres within the Institute, respectively, to which 9 advisory members were added.

The Scientific Council has carried out its work in compliance with the main responsibilities established in accordance with the provisions of GD 2115 of 24.11.2004, on the establishment of the Institute and its own Rules of Organization and Functioning.

The work of the Scientific Council in 2021 focused on the following directions:

- ***Research and Development activity***
- ***Human resources***
- ***Dissemination, visibility***



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3. RESEARCH AND DEVELOPMENT ACTIVITY

Members of the Scientific Council were involved in updating the strategy for reporting research results according to Order 6199/2020.

The Institute's annual R&D and innovation programme established for 2021 was implemented through the activities carried out under the AEROEXPERT Core Programme, through the activities of 43 national and international R&D projects, 3 direct research service contracts concluded with foreign private legal entities and 6 contracts concluded with private legal entities in Romania.

The SC, through the CASTI Approval Commission of scientific research works, has approved the results obtained in the framework of the research themes carried out by INCAS (NUCLEU Program, national projects, POC). The Approval Commission takes into account the following aspects: achievement of the objectives foreseen in the implementation plan for each contractual phase through result indicators (e.g. patent applications, papers published in ISI listed journals, participation in national and international conferences, TRL level (Technology Readiness Level).

The Board has also been actively involved in the review of national and international project/collaboration proposals, articles submitted for publication, papers submitted to scientific events and patent applications.

Result indicators, reported in 2021, consisting of technologies, methods or services generated revenues with a share of 40%:

Name	2021
Patent applications [no.]	8
Innovative technologies, methods, products or services introduced and marketed [no.]	17
Revenues from (thousand lei) [total]:	35,692
(a) exploitation of patents and other intellectual property titles;	1,168
(b) provision of prospective services or studies, policy strategy, etc. in the areas of strategic and policy responsibility;	2,003

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(c) European Union research and innovation programmes;	32,521
Share in total revenue of cumulative revenue from sources other than the national budget [%].	40,2%

The Council's tasks included managing the Institute's IPR portfolio by determining how INCAS values and protects these rights.

Collaborations with various universities to support Masters, PhD and internship programmes were discussed and endorsed by the Council.

4. HUMAN RESOURCES

4.1 Promotion and employment regulation

During 2021 The Scientific Council of INCAS updated the documents related to promotion and appointment of R&D staff, based on the requirements of the institution's field of expertise:

- Regulations for awarding professional grades and for job classification;
- The procedure for conducting the competition for granting professional grades;
- The procedure for conducting the examination of basic knowledge in the engineering fields of the R&D department.
- Methodology to evaluate the professional performance in order to assess the employee's work.

Based on the Human Resources Development Strategy, INCAS has the following dynamics of the R&D staff, referred to the year 2020:

Name	2020 (ref.)	2021
Total staff [no.]	252	253
Total RD staff *1 [nr.]	180	180
Share of RD staff in total staff [%]	71%	71%

^{*1} *Research and development staff and university teaching staff within the meaning of Law No 319/2003 on the status of research and development staff, as subsequently amended and supplemented.*

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The newly developed and revised regulations and procedures came into force in October 2021.

The Council considered and endorsed the proposals of the heads of laboratories and departments on the organisation of competitions for the employment of research and development staff and promotion to professional grades.

The Scientific Council approved the competition tests and their content, the members of the competition committee and the outcome of the competition for the positions advertised and for the promotion competition.

Prior to approval by the Governing Board, the results of these competitions were endorsed by the Board members.


Thus in 2021 the Scientific Council approved the opening to competition for 22 positions of SCIENTIFIC RESEARCH ASSISTANT(SRA), SCIENTIFIC RESEARCHER(SR), SCIENTIFIC RESEARCHER 3 (SR 3), TECHNOLOGICAL DEVELOPMENT ENGINEER(TDE), TECHNOLOGICAL DEVELOPMENT ENGINEER 3(TDE3) in INCAS.

The recruitment procedure has been completed for 10 young R&D applicants and 4 experienced researchers. It was also approved the recruitment of 8 students employed for 4 hours for SRA/ACS positions.

The SC has approved the competition for promotion to professional grades for the Systems, Fluid Flow , Structures and Materials sections : SRA, SR, SR 3, SR 2 and TDEA, TDE, TDE3, TDE2. 19 eligible employees for SR, SR 3, TDE, TDE 3 grades and 5 eligible employees for SR 2 and TDE 2 grades, respectively, registered for this professional promotion competition held in November 2021. 14 employees for SR, SR 3, TDE, TDE 3 and 2 employees for SR 2 and TDE2 were promoted to higher grades, for which the files were submitted to **The National Council for the Attestation of University Degrees, Diplomas and Certificates (CNATDCU)** and to **The National Authority for Scientific Research and Innovation (ANCSI)** - Technology Transfer Department for approval.

The SC endorsed the External Training Plan for research staff for 2021.

The SC approved that 5 researchers with the professional grade of CS I to continue their activity as CS I within INCAS according to Art. 36 paragraph (2) of Law 319/2003, taking into account the whole activity as well as the two proposed and successful projects (one as project director, the other as partner) in the PN II competition.

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5. DISSEMINATION, VISIBILITY

5.1 "Caius Jacob" Conference

The SC together with the General Manager organised and coordinated the participation of the Institute in The 39th "Caius Iacob" Conference on Fluid Mechanics and its Technical Applications 28 - 29 October 2021, Bucharest, Romania in partnership with ISMMA - Institute of Mathematical Statistics and Applied Mathematics of the Romanian Academy "Gheorghe Mihoc - Caius Iacob", University of Bucharest and 'The Politehnica' University of Bucharest.



During the virtual conference 36 papers were presented in 9 Sessions, with a total of 112 researchers participating.

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5.2 NUCLEU Programme endorsement activity

In 2021 the SC endorsed the Report on the development and implementation of the INCAS NUCLEU Programme (in particular the way to exploit the results).

A total of 28 reports related to the 9 ongoing sub-projects were endorsed.

5.3 Scientific publications

The Scientific Council of INCAS encourages the publication of articles in INCAS Bulletin (a journal that has become increasingly competitive over the 13 years of continuous publication) as well as the publication of articles in scientific journals with significant impact factor.

In 2021, the Scientific Council validated a number of 19 articles submitted for publication in WoS-listed journals and a number of 35 articles submitted for publication in BDI-listed journals.

Name	2021
Articles published in scientific journals indexed by Web of Science, [no.].	19
Articles published in scientific journals indexed by Scopus, BDI or European Reference Index for the Humanities (ERIH Plus) [no.]	35
Scientific communications presented at conferences with international participation and published in volumes indexed by Web of Science, Scopus or European Reference Index for the Humanities (ERIH Plus) in international databases [no.]	38

In the framework of the project proposal "Institutional Development Projects - Funding Projects for Excellence in R&D and Innovation" (PFE-CDI) for Subprogramme 1.2 - Institutional Performance within PNCDI III, with the title "Adapting to Climate Change through the

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Development of Airborne Operational Capacities" funded under PFE CDI, INCAS assumed the achievement of indicators in the publications category:

Name	2 022	2 023	20 24
Articles published in scientific journals indexed by Web of Science, Scopus, BDI or European Reference Index for the Humanities (ERIH Plus) [no.]	5 5	6 0	65
Scientific communications presented at conferences with international participation and published in volumes indexed by Web of Science, Scopus or European Reference Index for the Humanities (ERIH Plus) in international databases [no.]	4 0	5 0	60
Articles published in journals ranked in the first quarter of Web of Science [no.]	4	6	10

The Scientific Council will monitor the implementation of the project and the achievement of these indicators.

6. CONCLUSIONS AND RECOMMENDATIONS

On the basis of the above it is concluded that the proposed targets for 2021 have been reached.

The Scientific Council recommends the following:

- ✓ Motivation of the RD staff by identifying incentives for professional performance in relation to the fulfilment of the tasks assigned in the job description.
- ✓ Analysis and proposal of measures to achieve the milestones recommended by the INCAS activity evaluation committee.
- ✓ Proposal for an institutional framework for an efficient professional cooperation of the heads of sections/laboratories with the programme managers, on the directions of common interest.
- ✓ Annual analysis of the activity of the R&D research sections in relation to the criteria established by the Scientific Council.