National Institute of Research and Development on Labour Protection "Alexandru Darabont" Bucharest – INCDPM

Self-Assessment Report
Period 2007-2011

December 2011

2. SELF ASSESMENT REPORT FOR THE PREVIOUS 4 YEARS

2.1 Administrative structure diagram of the institution

2.1.1 History

The institute has developed a continuous activity for more than 60 years, dedicated to studies and researches in occupational risks prevention area, in substantiation of legal framework of labor protection and development of training system in this field, as well as in practical solutions and technical assistance provided to undertakings in order to improve the work environment.

The development framework:

It was set up in 1951, as Institute of Hygiene and Labor Protection by Decision of Romanian Academy Board and Executive Committee of General Confederation of Labor, having as goal the research and scientific solutions for issues in the labor protection and technical safety area existing in undertakings and institutions.

Reorganized by HCM (Decision of the Council of Ministers) no. 75 of 5 February 1970 as Institute of Scientific Researches for Labor Protection.

Reorganized on the principle of self-financing, by Order of Labor Ministry no. 40 of 27 February 1970.

The HG (Government Decision) no. 406 of 20 July 1998, reorganizes it as national institute and becomes the National Institute of Research-Development on Labor Protection, coordinated by Ministry of Labor, Social Solidarity and Family, thus representing the only national institute of research and development in safety and health at work area in Romania.

The HG no. 1772 of 21 October 2004, settles the National Institute of Research-Development on Labor Protection "Alexandru Darabont", coordinated by Ministry of Labor, Social Solidarity and Family, with an extended area of services, studies, application researches and good practices in safety and health at work field.

The Institute developed its activity in the building situated in Bucharest, 15 Budisteanu Street, sector 1, according to provisions in art. 2 of the Government Decision no. 1772/2004.

In 2007, the Government Decision no.547/2007 approves the transfer of a state owned building from the Ministry of Labour, Family and Equal Opportunities – Office of Workforce Migration to the Institute. Consequently, starting from 11 June 2007 the Institute has developed its activity in the building situated in Bucharest, 35A Bd. Ghencea, sector 6, according to the provisions of the Government Decision no. 1112/2008.

On the 24 September 2008 the Institute quarter is enlarged with a part of a building situated in Bucharest, 35A Bd. Ghencea, sector 6, according to provisions in the Government Decision no. 1112/2008. In 2008, the Order of the Ministry of Labour, Family and Equal Opportunities no. 509/13.08.2008 approves the INCDPM organization structure. At the same date the provisions of the Order no. 345/09.05.2006 are cancelled. The novelty of the new organization structure consists in the research and development activity being run on departments.

In 2010 the Order of the Ministry of Labour, Family and Social Protection no. 986/11.08.2010 approves a new INCDPM organization structure. At the same date the provision of the Order no. 509/13.08.2008 are cancelled. The changes make reference to the names of several organization entities within the institute.

In 2011 the Order of the Ministry of Labour, Family and Social Protection no. 1085/07.03.2011 approves a new INCDPM organization structure. At the same date the

provision of the Order no. 986/11.08.2010 are cancelled. The novelty consists in a new entity added, namely, the Unit of Project Implementation.

2.1.2 Mission

The vision and mission of the National Institute of Research and Development on Labour Protection "Alexandru Darabont" Bucharest – INCDPM **are reflected in the values promoted by the management.**

INCDPM vision is to become a modern national institute able to respond to any challenges generated by the evolution of the society**.**

Mission

INCDPM promotes and develops applicable research in the benefit of private and public companies within the national and international framework of safety and health at work. Developing the technological innovation for its beneficiaries, INCDPM increases their competitiveness both in Romania and abroad. The research activity promotes the economic development of the society for its social wellbeing in compatibility with the environment.

INCDPM provides professional training giving access to responsibility positions at the level of the institute, industry and other scientific areas.

The institute strategy is meant to lead INCDPM towards a maximum "market quote" in a fast changing world. Applying such strategy has in view the employees' abilities and competence, organization structure (which is flexible but allows planning) and the possibilities to monitor the performances and intervene in correcting deviations. The management main aim is to act in order to achieve the objectives of the strategic plan and carry out possible changes.

INCDPM values: professionalism, team, dynamics

2.1.3 INCDPM activities

2.1.3.1 Activities of fundamental scientific research:

scientific substantiation of the development strategy in the safety and health at work area;

- methodological coordination of research activity in the safety and health at work area at national level;
- development of theoretical and concept basis of safety and health at work;
- substantiation of national regulation system in the safety and health at wok area;
- study of occupational risks and their impact on the workers' health and safety;
- elaboration of identification analysis and assessment instruments for occupational risks;
- elaboration of auditing instruments for work systems;
- elaboration of assessment instruments for costs of work accidents and occupational diseases;
- substantiation of the assessment system for conformity of safety/protection quality for work equipment (WE) and personal protective equipment (PPE);
- elaboration of assessment instruments of protection/safety quality conformity, inspection and technical diagnosis for WE and PPE;
- elaboration of safety and health at work management systems integrated in the general management of companies;
- ergonomic optimization of activities and work places;
- substantiation and elaboration of psycho-physiological criteria for the selection and professional training related to occupational risks and demands;

- optimization of the national system for personnel training and retraining in the safety and health at work area;

2.1.3.2 Activities of applicable research and development (R-D)

- applicable studies and researches for the risk prevention and control of work accidents and occupational diseases (chemical, mechanical, electrical, thermal risks, noise, vibrations, ultrasound, lighting, microclimate, non-ionizing radiation, lasers, plasma, ergonomic and psycho-social risks);
- applicable studies and researches in order to carry out:industrial ventilation plants;chemical contaminants neutralization plants;lighting equipment;protective equipment against electrocution and fire;protective devices to reduce mechanical risks;
- devices against noise and vibrations;personal protective equipment;protective creams,
- studies and researches on drawing up the national regulation system in the safety and health at work area for the harmonization with the EU one:draw up safety and health at work norms;draw up safety at work standards;draw up safety and health at work instructions;draw up product safety sheets;
- studies and researches on drawing up support material for personnel training and retraining (text books, courses, guides, tests);
- study of risk factor effects on the health state and work behavior;
- development of software for risk computerized assessment and management;
- development of software for assessment of work accident costs;
- development of expert systems for training-testing assisted by computer;
- development of IT systems for promoting and disseminating the information in safety and health at work area.

2.1.3.3 Methodological activities of legislation implementation:

- certification of protection/safety quality of work equipment and personal protective equipment, their inspection and technical diagnosis;
- assessment of occupational risks at work places;
- audit of companies as for safety and health at work;
- expertise of work places in order to identify particular or special work environments;
- implementation of safety and health at work management systems at company level;
- issue of information materials and dissemination of information in the safety and health at work area.

2.1.3.4 Training and retraining of specialists in the safety and health at work area:

- courses of graduate level;
- courses of university level;
- courses of post-university level.
- Edit instruction and training material and disseminate information on safety and health at work (text books, books, brochures, guides, courses, norms, instructions, posters, tests).

2.1.3.5 Technical assistance for:

- development of plants, equipment or devices for the prevention and control of occupational risks;
- development of analysis, measurements and assessments of risk factor levels;

- psycho-physiological testing for several categories of workers;
- development of personal protective means;
- development of protective creams;
- dissemination of information in the safety and health at work area.

2.1.3.6 Technical assistance and consulting provided to the undertakings for:

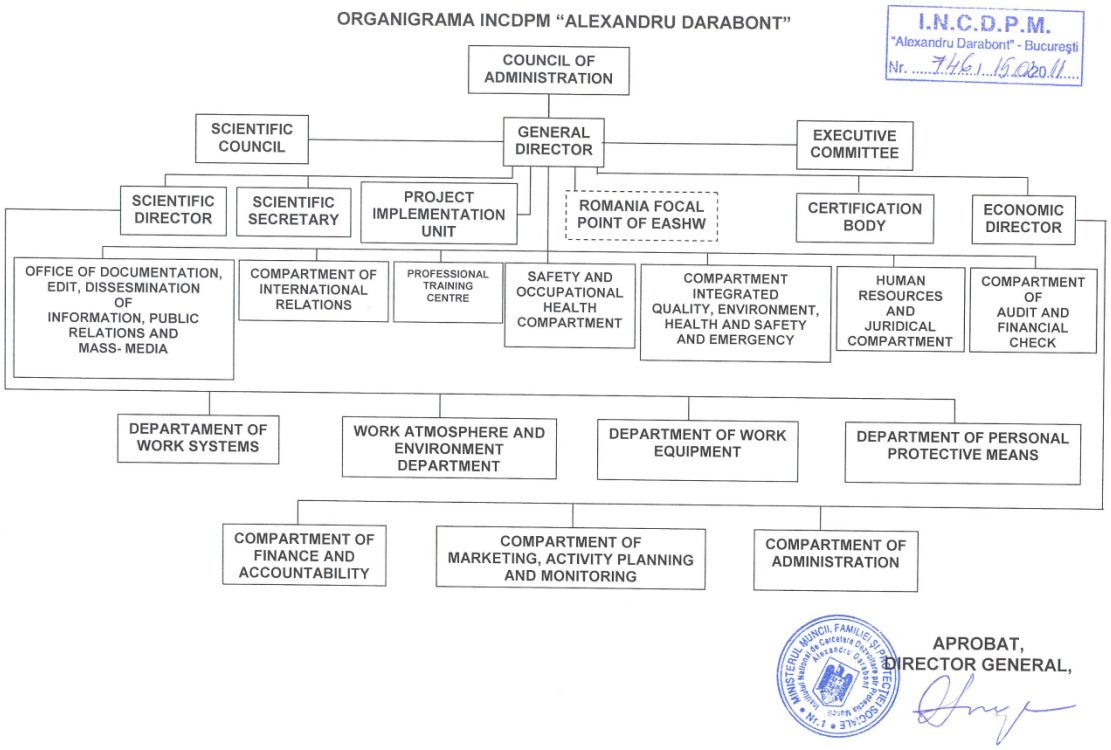
- meeting the provisions of the legislation in force;
- organizing the activity of labor protection;
- implementing the management of safety and health at work;
- manufacturing the plants, equipment and devices for the prevention and control of occupational risks;
- developing labor protection instructions;
- selecting the personal protective equipment;
- performing expertise of wok places in order to identify particular and special work environments;
- assessing the conformity, inspection and technical diagnosis of work equipment and personal protective equipment;
- developing the products which meet the safety and health at work essential requirements in order to be competitive on the market;
- designing ergonomic work places;
- developing technical and organization solutions to improve the work conditions;
- developing measurements and laboratory analysis on risk factors.
- Participation in the development of technological transfer by direct contracts with undertakings in order to put into practice the findings of researches in the labor protection area
- Development of prototypes and small series for products resulted from researches

2.1.4 Main directions of research in areas of activity (specialty):

- Study of occupational risks, impact on safety and health at work – technical solutions for prevention of work accidents and occupational diseases
- Prevention of risks generated by work equipment
- Design and development of personal protective means
- Ergonomic studies and researches
- Studies and researches for scientific fundamentation of regulation acts in order to support the policy application of adapting the national legislation to European acquis, to develop and improve the regulation framework of labor protection
- Instruments, methods of assessment and audit, management systems in the safety and health at work area
- Training and retraining in the safety and health at work area
- Information and dissemination of information in the safety and health at work area.

2.1.5 Organizational structure

2.1.5.1 Administrative structure diagram



2.1.5.2 R&D Departments structure

The R&D activity area is sustained by four departments. Within these departmens exists 4 reasearch teams.
Department of Work Systems is hosting the E1 research team and includes the following laboratories: E1

- Laboratory of safety and health at work management
- Laboratory of work systems ergonomics
- Laboratory of safety at work synthesis

Department of Work Atmosphere and Environment is hosting the E2 research team and includes the following laboratories

- Laboratory of chemical and biological risks
- Chemical risks team
- Biological and carcinogens agents team
- Laboratory of Noise and vibrations
- Laboratory of Environmental Physics

Department of Technical Work Equipment is hosting the E3 research team and includes the following laboratories and

- Laboratory of mechanical risks
- Laboratory of electrical risks

Department of Personal Protective Means the E4 research team and includes the following laboratories: E4

- Laboratory of personal protective equipment
- Laboratory of protective creams

2.1.5.3.Management structure

Council of Administration

INCDPM management is ensured by a Council of Administration that develops its activity based on its own regulation of organization and functioning, notified by the Ministry of Labour, Social Solidarity and Family. The council decides on INCDPM "Alexandru Darabont"- Bucharest activities, except for those which, according to law are in the competence of other bodies.

The members of the Council of Administration are appointed by order by the head of the Ministry of Labour, Family and social Protection, MMFPS for short, with the notification of the National Authority for Research at the proposal of the authority management they are part of. Recalling the members of the Council of Administration is the duty of the same bodies that appointed them in case of deviations or fail to reach their objectives that are assigned to them.

The Council of Administration is composed by 7 members appointed for a mandate of 4 years that can be renewed only once.The council configuration must include

a) INCDPM "Alexandru Darabont" - Bucharest General Director as the president of the Council of Administration;

b) president of the INCDPM "Alexandru Darabont" - Bucharest scientific council;

c) one representative of the state authority for research and development ;

d) one representative of the Ministry of Public Finance;

e) one representative of the Ministry of Labour, Social Solidarity and Family.

The other members of the Council are specialists proposed by the coordinating ministry.

The council of Administration is run by a president who is the INCDPM "Alexandru Darabont" - Bucharest General Director and a deputy president elected by vote out of the members of the Council of Administration.

The Council of Administration meets once a month as a general rule or whenever necessary or whenever the president, deputy president or a third members demands it.

The Council of Administration has the following main duties:

a) approves, at the proposal of the Scientific Council, the actual INCDPM development strategy and programs, introduction of high technologies and updates of the existing ones in accordance with the general strategy in the area;
b) notifies the proposal of the General Director to change the INCDPM organizational and functioning structure, set up, cancel or merge its subunits;
c) analyses and notifies the budget draft of revenues and expenses which is presented to the coordinating ministry for approval according to regulations in force;
d) analyses and notifies the financial situation and the profit and loss account submitted by the institute to the coordinating ministry for approval and approves the administrative report on the activity developed by INCDPM during the previous year;
e) analyses the completion of the performance criteria and the three month report on the activity developed by INCDPM and also approves the measures for its development in conditions of budgetary balance between revenues and expenses;
f) analyses or, if the case, proposes to be approved, according to regulations in force, the investments which are to be carried out in INCDPM ;
g) proposes to be approved the increase or decrease of assets, as well as leasing or renting a number of INCDPM assets according to law;
h) approves the Institute aquisitions to registred to proper account according to law;
i) approves the amount of bank loans and settles the reimbursement method; whenever the INCDPM financial resources are insufficient bank loans can be contracted in an amount representing no more than 20% of the gross revenue of the previous year;
j) approves the use of available currency;
k) approves the mandate of work contract collective bargaining;
l) approves the employment criteria and commissions for vacant positions in INCDPM;
m) notifies, at the proposal of the General Director the mandate of INCDPM representative in relation to departments of the institute structure as well as in relation to third parties;
n) notifies the appointment/revocation of directors and heads of the organization entities within INCDPM;
o) approves the duties, competences and responsibilities of the directing Committee, at the proposal of the General Director, as well as the organization and functioning regulation of the managing Committee set up at the level of the Institute subunits;
p) approves the organization and functioning regulation of the Scientific Council;
r) approves, according to the specificity of some activities and by decision of the General Director, specialized teams or interdisciplinary teams within the institute or in collaboration with other units in Romania or abroad.
The Council of Administration exerts any other duties laid down in the regulation in force.

Scientific Council

The Scientific Council coordinates the research and development activity within INCDPM and has the mission to contribute through its activity to develop and promote and value the scientific research activity.The Scientific council is organized and functions in accordance with its own regulation approved by the Council of Administration.
The Scientific Council is composed by 15 members representing the main INCDPM departments involved in R&D activities.
The members of the Scientific Council are researchers with outstanding achievements in the area, employed in INCDPM, elected by secret vote by the higher education employees working in INCDPM research and development departments. The Scientific Council rightfully includes INCDPM General Director and Scientific Director.

The Scientific Council exerts duties and has responsibilities within the limits of the competences approved by the Council of Administration.Its main duties are:

a) participates in drawing up the strategy of the research and
b) development activity in the safety and health at work area, as well as the research and development plans;
c) analyses and notifies the research works in the notification commission;
d) submits the INCDPM annual research-development and innovation program to the Council of Administration for approval;
e) notifies the decisions of the Council of Administration referring to INCDPM research policy in the area;
f) proposes measures for professional training and positions for the research staff;
g) organizes and coordinates scientific events;
h) notifies the internal and international cooperation activities with a scientific aim;
i) notifies scholarships, grants and internships in Romania and abroad;
j) approves the competition commissions;
k) analyses and approves the results of the organized competitions;
l) other duties implying research and development activity.

The Scientific Council encourages the Research and Development activity which can result in:

a)doctoral thesis, chapters of the doctoral thesis;
b) published books;
c) articles, studies published in magazines;
d) technical studies, feasibility studies, scientific memos, solutions, formulas, methods, information products, procedures, etc. to generate new ideas through which the objectives of the scientific research ca be attained;
e) documentation of model or prototype, plans, diagrams, etc. to make a product or develop a process;
f) conferences, synthesis presented at various events ;
g)e works published in the national and/or international conference volumes;
h) homologated patents;
i) scientific awards (for works);
j) grants and contracts to apply the scientific research.

The Scientific Council meets every three months or whenever necessary in the interest of the institute or when the president or a third of the members of the Scientific Council demand it.

2.2 General activity report of the institution

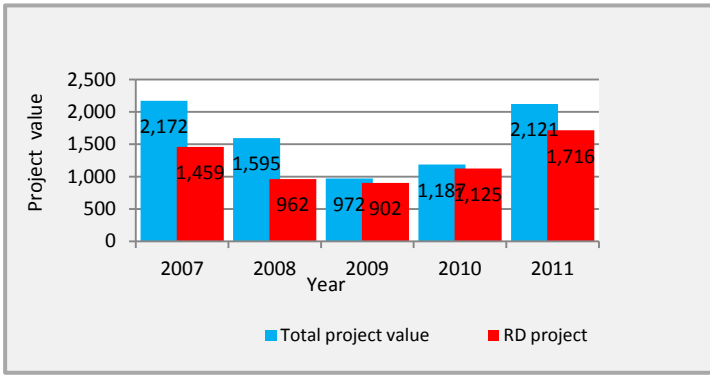
2.2.1. Research Activity.

At the time of reporting INCDPM is involved in research projects with funding from international sources, including from the EU research programmes.
The evolution of the contracts value per time are presented in the table no. 1 and chart no. 1:
Table 1 Project Value INCDPM 2007-2011

Tip project/ year	project value (euro)				
	2007	2008	2009	2010	2011
National public funding	1.703.925	1.218.240	484346	327147	835470
FP7,TC-OSH, POSDRU POSCEE	20.745	21.873	41.184	300303	1030203
National private funds	447.182	355.199	446583	559443	255200
Total project value	2.171.852	1.595.312	972.113	1.186893	2.120.873
RD project value	1.459.168	962.239	901828	1124764	1715891
Share CD,%	67	60	92	94	81

Figure 1 highlights the outcomes of theR&D contracts related to the total value of the projects completed in the reported period. The share of the research projects value in 2009 and 2011 is significantly higher because of the acces to a higher number of FP7, TC-OSH, POSDRU POSCEE projects. In 2010 there was a decrease in the value of R&D projects as a consequence of the economic crisis and lack of competitions at national level.

Fig. 1 **Project Value INCDPM 2007-2011**



2.2.2 Major achievements

In the last five years INCDPM has been involved in 42 national projects, 2 FP7 projects , 22 TC-OSH projects, 3 POSDRU projects, 8 Sector Projects in collaboration with research institutes, universities and industrial partners to develop knowledge in strategic areas of occupational health and safety and over 400 contracts with private companies. Table 2 shows a selection of projects that contribute to maajor achievements.
Table 2 major achievements

Year	Portofolio of competences	Related achievements	Beneficiaries/ Income generated by exploitation of the project result (euro)	
2007	Applicative research for treating of hazardous waste using other types of wastes	Treatmentof wastes containig toxic heavy metals Patent of invention no. 119592/2006	Aker Yards Tulcea, ProFini,	45.000
2007	System for the evaluation of the quality of public on-line services for citizens and the business environment (e-ServEval)	Dezvoltarea sistemului de evaluare a calităţii serviciilor publice de informare a persoanelor şi mediului de afaceri în domeniul SSM	Specialisti in domeniul SSM Agenti economici	7.000

2008 - 2013	Early recognition, monitoring and integrated management of emerging risks related to new technologies IntegRisk FP-7;	5 articles in ISI ranked journals	SMEs	48.000
2009	Equipment For Controlling The Pollutants At Gas Cutting Of Big Top Ends	Study and design of ventilation equipment for collecting and retaining the contaminants at cutting the top heads brevet A00890/2009	KVAERNER – IMGB	50.000
2011 - 2013	PROMISLingua - PeRformance Operational and Multilingual Interactive Services to support Compliance for SMEs in Europe FP-7 IntegRisk	Interactive Services to support for SMEs	SMEs	85.000
2011	A chance for future archives: disinfection by treatment with ionizing radiation	1 brevet A2010 00225 2011 and 1 article ISI with impact factor 1.132/2011, 1.i53/5 year http://www.journals.elsevier.com/radiation-physics-and-chemistry	Museum Brailei Central University Library Bucharest	45.000

A few examples of TC-OSH Projects with INCDPM participation are as follows: "case studies on OHP among the young workers'; case studies on a 'whole-school approach' combining staff/pupil health and safety and risk education; 'Summary, discussion and conclusions of cases to mainstream OSH into teacher training'; **'**Case study collection on leadership and OSH'; 'A state of the art review of social innovation and OSH performance'; 'case studies on prevention of risks in the agriculture and fishing sectors'; 'case studies on mainstreaming gender into OSH'

2.2.3 Significant investments in research infrastructure

The total amount invested in the development of research infrastructures in the framework INCDPM in the period 2007-2011 was **26, 150 Euro** in technical equipment and **75,600 Euros** in IT infrastructure.

In infrastructure development, investment activity was carried out on two directions one through upgrading a network IT level Institute and existing research laboratories by purchasing modern equipment at european level, namely:

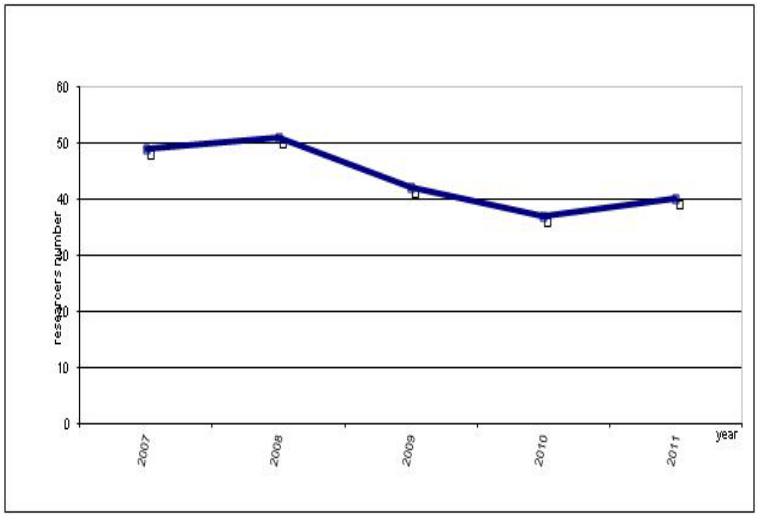
Table 3. Significant investments in research infrastructure

Scientific direction addressed	Equipments	Average usage
studies and scientific researches regarding the substantiation of the conformity assessment system of personal protective equipment quality, elaboration, implementation and dissemination of information on conformity assessment, inspection and diagnostic technique tools for PPE in accordance with the safety requirements and technical and social progress development in order to support and improve the competitiveness of Romanian companies.	**Device to determine a non-slip surfaces on ceramics, steel, ice**	50 %
	Climatic chamber -750 with artificial hand System with electronic circuits and sensors for measurement of thermal insulation from the cold by THERMAL MANIKIN convection-HAND;	75 %
	Convection heat transmission device to flame X 637	50%
	Heat radiating apparatus determining L-RAD	50%

2.2.4 Human resource development

In 2011, the total number of research staff with university studies is 40, out of wich 33 are certified staff.

The structure of the R&D staff for the period 2007-2011 is presented bellow



During the period 2008 – 2010 the number of researchers has decreased as a consequence of the retirement of 15 certified researchers, of whom: 2 CSI and 13 CSII

In 2011, the number of researchers has increased as 2 CS2 and 1 CS3 have been promoted and certified personnel has been attracted in running the structural projects.

During the same period 8 researchers graduated PhD and 5 entered PhD; 1 researcher was promoted CS1 (senior researcher of first degree), 2 were promoted CS2 , 9 CS3 and 3 CS. The average age of research staff with university studies is 45, of whom 53% are women.

Training or research studies abroad:

For the period April 2010 to Jan 2013, one of the researchers was hosted by a partner, Kooperationsstelle Hamburg IFE Institute, Germany in international project LIFE 08ENV/D/000027

For the period, 01.11.2011-01.03.3012, one of the researchers was taken on POS DRU ID 76909 project for doctoral training in the town Kosice, Slovakia

The researchers having CS I ***are members in*** doctoral committees.

The researchers having CSI: CS II, CSIII are contributors as lecturers in universities of Bucharest, Iasi, Timisoara, Sibiu, Brasov, Petrosani in the field of quality management systems, security and health at work

2.2.5. Technology-transfer activities

During the period 2007-2011 INCDPM applied for 3 patents which were accepted and out of which 1 was grated in 2009 and 2 published in 2011. Revenues of technology transfer for various categories of research outcomes are highlighted in the table bellow:

Technology Transfer/year	Venituri realizate din transfer tehnologic, euro				
	2007	2008	2009	2010	2011
Patent deployment	45.490	184.000	50.000	77.287	45.000
Training courses in OSH	277 .013	183 992	1058542	107344	59419
Making ointments over protection	46.498	40614	20528	9014	12529
Direct specific tests (excluding certification)	5.141	6.605	5.449	6.692	3.085

The revenues of technology transfer, although had various values during the analyzed period, represented between 19 and 33% of the total income.

2.2.6.Dissemination activities

Although the research lines generally do not include in the topics of the prestigious magazines of ISI quotation, through interdisciplinary approaches a ***number of 9 articles of ISI*** quotation was published (The Proceedings of Safety and Security Engineering, in XXI Hazard, Romanian Report of Physic, Metalurgia International), and ***14 books*** in well known publishing houses (Ed Rubin Galati Agora Publishing House Bucharest, Universitaria Publishing House, ***60 presentations*** within Conferences of prestige as "International Conference on prevention of occupational risks, La Coruna Spain" and **8 presentations** in international congresses in the field "XVIIth World Congress on Safety and Health at Work, Seoul, South Korea," "XIXth World Congress on Health and Safety at Work", Istanbul, Turkey, "International Disaster and Risk Conference" IDRC, Davos, Elveția, "IMRP", Montreal, Canada, "26th Miller Conference", Keszthely, Hungary

During the reporting period INCDPM teams obtained diplomas/certificates and **5 gold medals, 6 silver medals, 2 bronze medals for innovations** at exhibitions in Brussels, Geneva, Nurenberg, Seoul, Zagreb, Bucharest

2.2.7 Efficient management and environmental quality research

INCDPM has the integrated management system implemented and certified by SRAC **– partner of IQNet** – in accordance with ISO 9001/2008 for quality with the certificate **RO-4674, in** accordance with ISO 14001:2004 for environment with Certificate **RO-2877, in accordance with** OHSAS 18001:2008 for OSH Certificate **RO-1909**

Within the integrated management system there are drawn up system and operational procedures for the system to work in good conditions. Their efficiency is assessed in internal audits and audits of the certification body.

The administrative procedures are compatible with the procedures of the integrated management, environment and health and safety at work system and are in the documentation stage to be in accordance with the provisions of Law 234/2010 to modify and complete the Government Ordinance OG 119/1999 on the internal control and preventive financial control, as well as the provisions of the Order of the Minister of Public Finance no. 1649/2011 on modifying and completing the Order of the Ministry of Public Finance no.946/2005 for the approval of the internal control Code including the management/internal control standards at public entities and development of managerial control systems.

The settled procedures are developed on the Institute IT infrastructure and several programs that provide contract registration and revenues as well as management software of documents and work flows specific to the activity of research, validation and supervision of the custom material and human resources.

Within the quality management system exists a ***transparent mechanism of annual assessment of R&D staff that leads to promotions and efficient stimulating financial policies*** for performance staff focused on merits and real professional achievements. Unfortunately in the present conditions of crisis the the financial part of stimulating policies was suspended and increase in wages were made only for promotions of scientific degrees.

The management analysis also includes the analysis of the employees satisfaction degree related to the support offered by the administrative, auxiliary and technical staff, as well as the working conditions, task load and plan of improvements. Each employee has a Medlife health card provided by the institute.

Reporting of research projects is made within the time limit stipulated in the contract of financing, payment of wages is done without delays or penalties; purchase of materials and supplies is made less than 30 days, taking into account the funds available; reimbursement of costs (generally less than 15 days); financing of the employment relationship shall be completed within a reasonable period of time of the application project leader; availability, for

each contract, of a contact with the contracting authority for the implementation of administrative tasks in connection with contracts; time commitment required, on average, to gather the opinions required for the submission of a proposal for funding to a national or international competition; carry out acquisitions or other expenditures of grant funding or institutional funding under the legislation; in Institute there is a services functional documentation.
The level of transparency in decision making when allocation of funds is concerned is demonstrated by the presence of the employees' representative who is present at the meetings of the Council of Administration.
The R&D staff is implied in the decision making process through the Scientific Council at institutional level. There have been no problems of professional ethics and good behavior: plagiarism, unduly co-authorship, forgery of data in publications or reports, conflict of interest or nepotism within the institute.

2.2.8 Other relevant aspects:

Starting from 1966 INDCPM "Alexandru Darabont" is the centre of the International Information Centre in the OSH area (ILO-CIS) body belonging to the International Labor Organization.
Starting from 1999 the Focal Point of the European Agency for Safety and Health at Work which administrates the permanent service of information in the OSH area and provides implementation of Agency projects and activities in Romania.
The institute includes the Certification Body (identification number 1805) notified by the European Commission for implementing the certification procedures in accordance with the directives 89/686/EEC- Personal Protective Equipment and 98/37/EC- Machines with no.077C/22.01.2007 on Directive 73/23/CE and other work equipment used in the work process. The PPE Laboratory has an accreditation certificate LI 341/18.05.2009, RENAR, and during the period 10-12 November 2010 developed the surveillance S1 and laboratory assessment following the change of premises and restrain of accreditation domain.
INCDPM is a member of ASRO and has 6 Technical Committees of Standardization and is member of other 14 technical committees of standardization.
The institute is notified by the Ministry of Environment to develop environment balances and impact studies and is registered in the National Register of study elaborators for environment protection at number 161.
In 2010 the following training courses were accredited: " auditor of management system for occupational health and safety " code N.C./COR 242317 and "Manager of the management system for health and safety at work" code N.C./COR 242315
Since 2008, INCDPM has been partner in the Consortium coordinated by FIOH (the Finnish Institute on Occupational Health) to carry out a series of research projects upon the request of the European Agency for Safety and Health at Work. The Consortium was set up in late 2008, for a 4-year period, i.e. 2009 – 2012, renewable for each of these four years of participation.
From 2007, INCDPM coordinates The Romanian Technology Platform on Industrial Safety RTPIS, affiliated The European Technology Platform on Industrial Safety
Since 2001, INCDPM has hosted the Romanian Focal Point of the EU OSHA Focal Point Network corresponding to the 27 EU Member States.
The FOP activity is based on the tripartite principle residing in a close collaboration among the social partners e.g. governmental institutions, employers' organizations, trade – unions' organizations.
The Romanian FOP is engaged in the collection and dissemination of OSH related information at national level and equally with the other EU Focal Points of the EU OSHA Network. This activity aims at promoting a preventive culture within all the Member States and sharing the OSH research outcomes among the EU R&D main entities.

2.3 Activity report by team

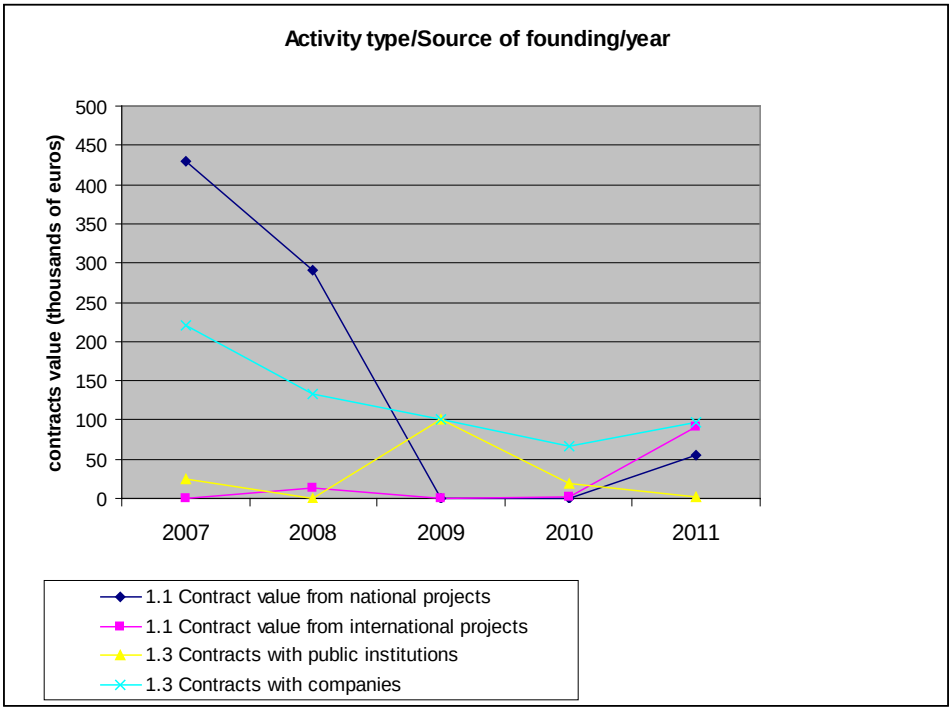
Activitatea de cercetare se desfasoara in cadrul a 4 echipe numite in continuare E1-E4,

2.3.1 Team E1: Department of work systems

2.3.1.1 Activity description

The major objective of the team is to undertake scientific studies and research aimed at prevention and control of occupational risks by implementing a performant management system at companies' level and scientific basis for regulating systems in occupational health and safety. (1.1-scientific research, 1.2-laborator tests, 1.3-technological services)

Year	Activity Type	Contract value of national projects euro	Contract value of international projects EURO	Contracts with companies	Contracts with public institutions
2007	1.1	430.284			
	1.3			219.970	25.508
2008	1.1	290.970	48.000		
	1.3			133.292	893
2009	1.1		710		
	1.3			101.147	708
2010	1.1		1.315		
	1.3			66.983	18.314
2011	1.1	54.651	91.617		
	1.3			96.981	1.875
Total	A1	775.906	141.642		
	A3			618.375	47.297
Total Team		775.906	141.642	618.375	47.297



Activity in national research projects declined in 2009-2010 due to lower activity level of national research funding

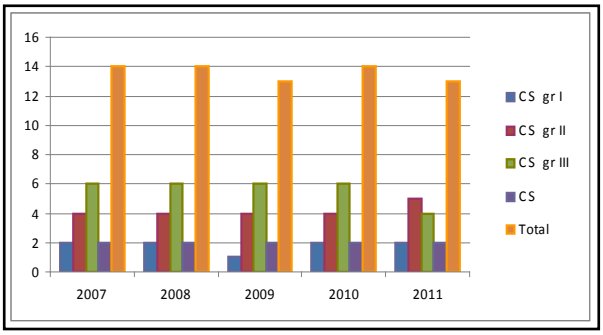
2.3.1.2 Research directions addressed

a)Develop methods and procedures for risk assessment of occupational accident and work systems within companies from national economy.
b)Documentation and implementation of occupational health and safety management systems.
c)Study summarizing the economic and social impact of workplace accidents and occupational diseases, accidents cost, effective implementation of preventive measures.
d)Substantiation of OSH regulatory system at national level (Government's decisions) and at the companies level (instructions, guidelines, codes of good practice)
e)Substantiation of training system, training and development in OSH (manual, course materials)
f)Development of methods and analysis tools for ergonomic diagnostic of work systems.
g)Analysis of the effects of harmful work environment and behavior on staff health
h)Methods of expertise for job with special conditions.
i)Studies and research on the development of methods of identification, analysis and evaluation of new and emerging risks: ergonomic and psychosocial.

2.3.1.3 Human resources dynamic

The team was selected to ensure multidisciplinarity for addressing occupational health and safety issues from different perspectives (of an engineer, of a chemist, of a doctor, of a mechanic, of a psychologist). The team consists of 18 people of which 5 doctors of science, 3 with master degree, with the following specializations: engineers (mechanics, construction, chemists, energetics), economists, psychologists, sociologists, occupational medicine physician. The team has the needed experience (2 CSI, 5 CSII, 4 CS III, 2 CS, 5 technical) and adequate expertise in key areas, in order to achieve its objectives. All researchers are graduates of postgraduate courses in occupational health and safety area and had completed the continuous improvement courses for acquiring the skills (competences) to be trainer.

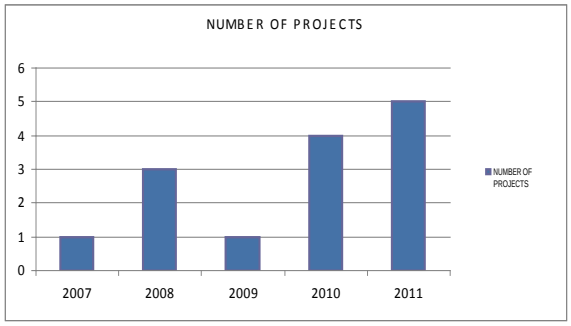
Type/ year	**2007**	**2008**	**2009**	**2010**	**2011**
CS gr I	2	2	1	2	2
CS gr II	4	4	4	4	5
CS gr III	6	6	6	6	4
CS	2	2	2	2	2

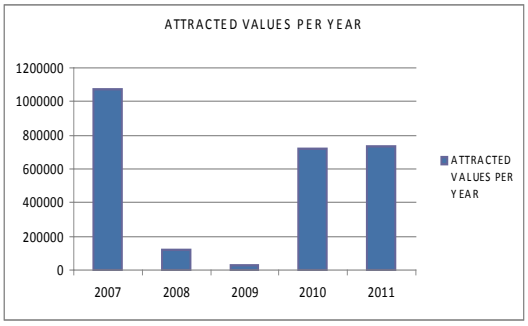


2.3.1.4 Major Achievements :

Year	Research projects	Value	Beneficiaries
2008-2013	Early recognition, monitoring and integrated management of emerging risks related to new technologies IntegRisk FP-7; 5 articles in ISI ranked journals	48.000	Smalls and Medium Entreprises
2008	Assessing the risks of accidents and professional diseases and develop their own health and safety instructions at work	3.586	ALSTOM POWER Bucureşti
2009	Develop modules and health security for specific jobs transport infrastructure and energy	7.992	TRAPEC S.A.Bucureşti
2010	Researches regarding the definition of a complex cognitive structure regarding the definition of referential for major risks in various economic activities	85.778	OVM-ICCPET

2010	Study on wear work capacity of workers in SC. Electrica SA, which operates plants live or work at height	36.579	SC. Electrica S.A.
2011	System based on semantic knowledge and protection against major risks specific occupational-Risk Expert	135.869	CNMP-ICI
2011	Identify how to structure and content of instructions corresponding framework, specification and description of development stages and requirements to meet	21.377	MMFPS
2011-2013	PROMISLingua - PeRformance Operational and Multilingual Interactive Services to support Compliance for SMEs in Europe FP-7 IntegRisk	85.000	European Union





Activity in national research projects declined in 2009-2010 due to lower activity level of national research funding

2.3.1.5 Interdisciplinary Initiatives

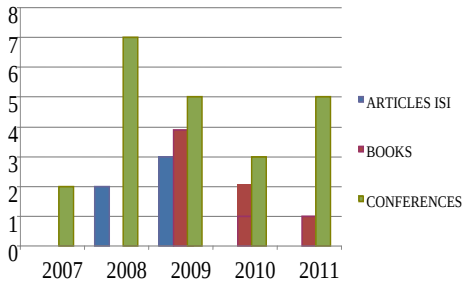
Initiatives Different, but complementary, specialization, required in order to approach some complex topics of research, enabled the team to develop national and international partnerships in integrated risk management.

2.3.1.6 Dissemination activities

The team has published ***35 articles*** of which 5 in ISI ranked journals (The Proceedings of Safety and Security Engineering, in XXI Hazard). The team also published seven books in well known publishing houses (Ed Rubin Galati Agora Publishing House Bucharest, Universitaria Publishing House).

Over nine presentations within Conferences of prestige as "International Conference on prevention of occupational risks, La Coruna Spain" and 8 presentations at international congresses in the field "XVIIth World Congress on Safety and Health at Work, Seoul, South Korea," "XIXth World Congress on Health and Safety at Work", Istanbul, Turkey

YEAR	ARTICLES ISI	BOOKS	CONFERENCES
2007	-	-	2
2008	2	-	7
2009	3	4	5
2010		2	3
2011		1	5



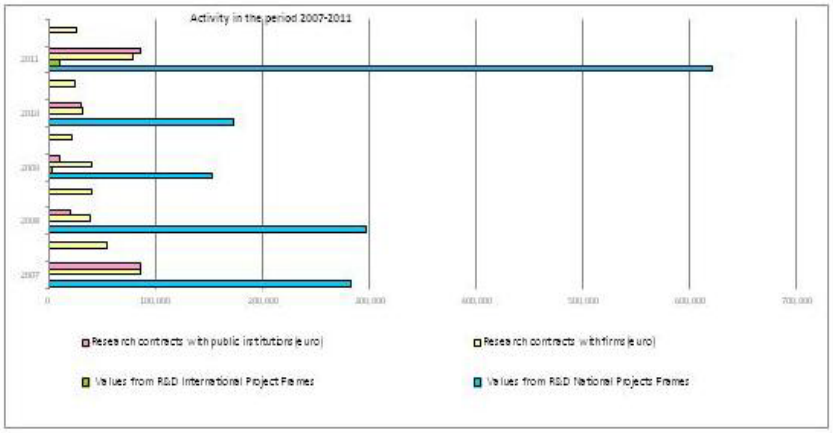
2.3.2 Team E2: Work Atmosphere and Environment Department

2.3.2.1 Activity description

The major objective of the team is conducting **scientific studies and research** aimed at identifying and evaluating the physical, chemical and biological risk factors specific to the work environment and general environment, as well as obtaining technical and scientific solutions for work systems in accordance with the safety requirements and technical and social development to support sustainable development and increase competitiveness of Romanian enterprises.

The main results of activity in the period 2007-2011 are presented in the table bellow

Year	Activity Type scientific research 1.3 technology services	R&D National Projects Frames (euro)	R&D International Project Frames (euro)	Research contracts with firms (euro)	Research contracts with public institutions (euro)
2007	1.1	282.657		86.300	86.560
	1.3			55.126	
2008	1.1	296.703		39.200	19.632
	1.3			39.940	
2009	1.1	152.286	3.000	39.950	10.071
	1.3			21.489	
2010	1.1	172.221		30.943	29.770
	1.3			24.424	
2011	1.1	621.162	9.831	78.113	85.563
	1.3			26.078	
Total	1.1	1.525.029	12.831	274.506	231.596
	1.3			167.057	
Total Team		1.525.029	12.831	441.563	231.596



Thus, the work activity:

- was developed within the research contracts and met the planned budget during the entire period
- was developed in a percentage of 70 % out of research activities of the national and European funds, in a percentage of 20 % out of research contracts with Romanian organizations and 10 % out of research contracts with public institutions.

The activity within the national research programmes was diminished during 2009-2010 as a consequence of the cuts of funds for the national research activity and lack of new competitions.

There have been permanently concerns to diversify the activity, set competences, extend the expertise area and partnerships on long term with private organizations (UPETROM, Romtelecom, Zaharul Oradea, ISAF, ICME, Hidroelectrica, Agricover, Feral), apply for projects of European Funds (POSDRU: 1- project manager, 1 –partner). POPSDRU projects started in December 2010 and February 2011, respectively.

2.3.2.2 Research directions addressed:

a) Studies and research for the development of new methods and setting up of new technologies for the control of physical, chemical and biological contaminants at the workplace and in the environment, patents and publication of articles in specific magazines.
b) Support large companies but also the SMEs in Romania by carrying out various research applicative works to reduce the sources of pollution and innovative solution for recovery of wastes.
c) Risk assessment of the workplace and environment in order to reduce exposure to physical and chemical hazard;
d) Expert advice and assistance granted to economical agents in order to support them in finding the optimal solutions for prevention and protection of employees.
e)Involvement in national and international research programmes through cooperation with parteners whose activities develop in related areas for the development of interdisciplinary fields.
f) Continuous improvement of specific training programmes organized by the INCDPM, and the accreditation of new courses: Management of OSH, OSH Internal Auditors, Risk Management and Social Responsibility

2.3.2.3 Human resources dynamic

The team is composed by: 5 doctors, 4 post-graduate students, 1 graduate master, and 2 master student, with interdisciplinary training: chemistry, physics, biology, chemical engineering, engineering sciences, economics, 7 of them are lecturers at the postgraduate courses in the OSH area.
Scientific evolution of degrees in the period 2007-2011 is presented in Figure 2 and 3. The average age of the team is 39.

Fig. 2

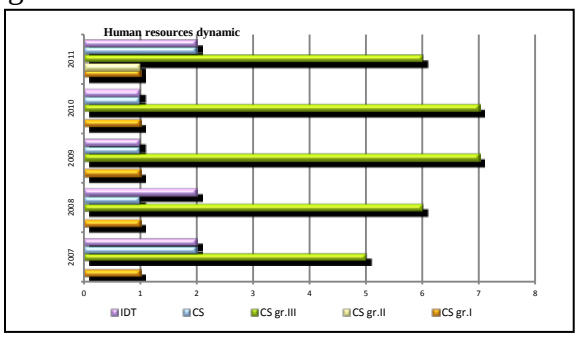
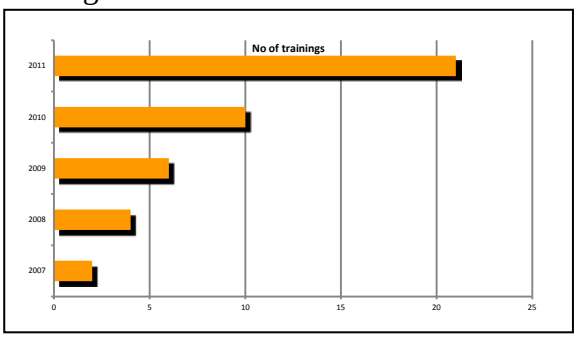


Fig. 3



In the analyzed period the number of certified researchers was maintained (a CSIII promotion in CSII),
Increased annual number of training courses due to the desire of being prepared to do we deal with new and interdisciplinary areas.
The mobility of resources was provided through two preparation stages:
-during the period April 2010 to Jan 2013, one researcher had a scholarship in a partner organization, Kooperationsstelle Hamburg IFE Institute, Germany in the project LIFE 08ENV/D/000027
-during the period, 01.11.2011-01.03.3012, one researcher participated in POS DRU ID 76909 project for doctoral training in the town of Kosice , Slovakia

2.3.2.4 Major Achievements:

In the last five years the team has been involved in over 21 projects of which 6 national projects, 10 nucleus projects, 5 international projects in collaboration with research

institutes, universities and industrial partners to develop knowledge in strategic areas of occupational health and safety and 225 contracts with Romanian companies.
The representative projects are shown are presented bellow, the results including a patent in 2009 and publication of two patents in 2011, which can be accessed at the links below, as well as an innovation on insolubility of waste with heavy metal content patented in 2006 which has been applied at 5 companies in Romania.

The application of patents has continued, representing 10% of the technological service revenues.The team participation in the invention fairs resulted in 5 gold medals, 6 silver medals, 2 bronze medals and 4 special awards.A new invention was patented in 2009 and 2 new patents were published and already awarded.

Year	Project Title	Funding source	Value euro	Related achievements	Beneficiaries
2007	Applicative research for treating of hazardous waste using other types of wastes	Private funding	45.490	Treatmentof wastes containig toxic heavy metals *Patent of invention no. 119 592/2006*	Aker Yards Tulcea, ProFini SRL, Ketis Company SRL
2008	Researches and studies for developing methods and solutions of controlling noise and vibrations in work environment	CEEX	184.000	Protective measures and solutions against industrial noise exposure	National Economy; Oil and Gas industry
2009	Equipment For Controlling The Polluants At Gas Cutting Of Big Top Ends	privat	50.000	Study and design of ventilation equipment for collecting and retaining the contaminants at cutting the top heads *Patent of invention no. A00890/2009*	KVAERNER – IMGB
2010	Researches and studies for developing method and software to classify the chemicals in hazard classes	Nucleu	77.287	Chemisafe –Method and software to classify the chemicals in hazard classes *Patent of invention no. A2010 00225*	Sivi Crom, Comexprod
2011	A chance for future archives: disinfection by treatment with ionizing radiation	PNII	132.698	*1 Patent* A2010 00225 2011 and 1 article ISI with impact factor 1.132/2011, 1.i53/5 year http://www.journals.elsevier.com/radiation-physics-and-chemistry	Braila Museum

2.3.2.5. Interdisciplinary Initiatives

Besides the base activity we have been permanently concerned with creating competences approaching new areas, such as: social responsibility, performance assessing of OSH management systems and risk management to develop national and international partnerships in integrated management, with the strong belief that a true performance in OSH area integrates the management systems of quality, environment, social responsibility and risk management.

2.3.2.6 Dissemination activities

The team published 4 article ISI, 2 books and we attended at 25 prestigious conference
The dissemination activity has increased annually in number of organized events, number of publications and participation in the international conferences in the area and invention fairs.

2.3.3 Team E3 : Department of Certification Body and Department of Work Equipment

(Laboratory of Electrical Risks and Laboratory of Mechanical Risks)

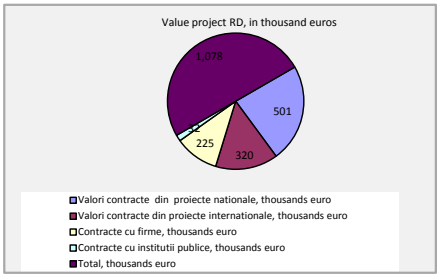
2.3.3.1 Activity description

The team major objective is managing scientific studies and researches aiming at substantiating the assessment system of quality conformity of work equipment, instruments of assessing conformity, certification, inspection, technical diagnosis and putting into conformity of machines and work equipment in accordance with safety and health at work requirements and level of technical progress; safety and health at work provisions for activities and industries of Romanian economy not covered by the European Directives; guides of good practice in order to provide a high level of safety at the work place.

Specific team objectives are targeting studies and research on the development of new methods and elaboration of new technologies for the mitigation of electrical and mechanical risks with a potential of manifestation; assessment of risks within "the work system" in view of reducing the workers' exposure; technical studies for economic agents in view of supporting the latter in their effort to find the best prevention solutions and increase security performance; involvement in the national and international research programs by enhancing the cooperation with Romanian and foreign partners with activities in similar domains in view of developing interdisciplinary domains.

Main outcomes during 2007-2011 (1.1 scientific research and 1.2 tests, expertise, certification) are shown in the following Table:

Year	Type of activity	Contracted revenues in national projects, Euros	Contracted revenues in international projects, Euros	Contracts with companies, Euros	Contracts with public institutions, Euros	Total, Euros
2007	1.1	89.436	0	0	0	209.519
	1.2	0	20.000	92.442	7.641	
2008	1.1	141.224	0	0	0	200.528
	1.2	0	0	51.967	7.337	
2009	1.1	96.199	0	0	0	114.670
	1.2	0	0	17.528	943	
2010	1.1	49.051	0	0	0	87.561
	1.2	0	0	36.029	2.481	
2011	1.1	125.045	299.682	0	0	465.342
	1.2	0	0	27.275	13.340	
Total	1.1	500.955	0	0	0	1.077.620
	1.2	0	319.682	225.241	31.742	
Total Team		500.955	319.682	225.241	31.742	1.077.620



In the reported period the share of expertise, test, conformity assessment and certification activities increased despite the cuts in public funds. The economic crisis has resulted in a decrease of contracts on work equipment testing and certification although the infrastructure of research and testing has already been developed out of public and private funds.

The share of projects in the reported period is shown in the next diagram.The team research activity includes the services of the

Certification Body for Technical Equipments.

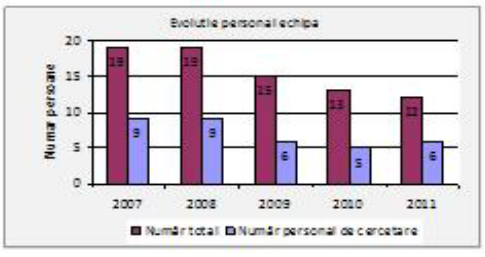
2.3.3.2 Research directions addressed:

During 2007-2010 the activity of the work equipment safety followed the following lines:
a)Substantiation of the assessment system of quality conformity for machines, low and high voltage electric equipment and other WE; development of the assessment instruments for machines and WE conformity, inspection and technical diagnosis as well as putting them into conformity;
b)Activities of applicative R&D consisting of studies and researches on drawing up the national system of regulations and standards in the OSH area (machines, lighting and electric equipment in constructions) harmonized with the EU one.
c)Development of the team certification body and research laboratory infrastructure with testing and measuring equipment of high performance necessary to extend the set of tests and certification in the area regulated in the European Directive 2006/42/EC and product general safety, respectively.
d)Methodological activities to implement regulations by assessing conformity and certifying machines, low voltage electric equipment and other WE, their inspection and technical diagnosis, putting in conformity, as well as disseminating the results of studies and researches.
e)Studies and scientific research with the aim to identify and evaluate the physical, mechanical and electrical risks specific to operating work equipment and its maintenance, find technical and organization solutions for the work systems in accordance with safety requirements and technical and social development for the support of sustainable development and increase of the competitiveness of Romanian enterprises

2.3.3.3 Human Resources Dynamic

The team was selected to provide the multidisciplinary training as it was made up mainly of engineers specialised in machine construction: 5 mechanical engineers, 2 electro-energetic engineers and 6 technicians. The team includes 13 persons, of whom 7 researchers (1CS1, 2 CS2, 3 CS3, 1 ACS), of whom 3 PhDs in the area of technical mechanics and technical vibrations, electric engineering and industrial engineering, 1 PhD candidate in machine construction, 3 master graduates in the area of energy and machine construction, 1 master candidate in the safety and health at work area. All researchers are graduates of postgraduate courses in occupational health and safety area and had completed the continuous improvement courses for acquiring the skills (competences) to be trainer. The team average age is 44.2 according to statistics in 2011.
Evolution of R&D staff within the team:

Year	Total number	Number of R&D staff
2007	20	10
2008	20	9
2009	16	7
2010	14	6
2011	13	7



Evolution of certified R&D staff in the reported period:

Year	2007	2008	2009	2010	2011
Total number of certified R&D staff	11	9	7	7	7
CS1	1	1	1	1	1

In the last 5 years there has been a decrease in the number of researchers due to their leaving the system

CS2	7	5	3	3	2
CS3	-	3	3	3	3
CS	3	-	-	-	-
ACS	-	-	-	-	1
PhDs	3	3	2	3	3
Candidates for PhD	2	2	2	1	1
Master	2	3	3	3	4
Notified courses	1	6	7	8	6

(retirement and/or death). During the period of the report there has been an increase of the post university professional training of staff together with an improvement of the researchers' scientific degree.

Six researchers were trained in CNFPA authorized courses for trainers, 1 researcher had a course of auditor for the quality management system, 5 researchers graduated courses of OSH coordinators on mobile construction sites, 6 researchers graduated a course of risk assessor, 4 researchers had a course of OSH management auditor, 1 researcher was trained in a first aid course in case of emergency (paramedic) and 9 researchers are trained as product assessors / auditors.

2.3.3.4 Major Achievements

An	Area of competence	Research Project	Value EURO	Significant achievements	Beneficiaries
2007	Development of conformity assessment, tests and certification on machines and work equipment	private	78.106	Certificates of conformity	Companies
2008	Institutional development of information in the safety and health at work area	international	20.000	Development of the national network of information and dissemination of information in the OSH area	EASHW Bilbao. Competent authorities. Social partners
	Development of conformity assessment, tests and certification on machines and work equipment	private	36.750	Certificates of conformity	Companies
2009	Norms and regulations for the machines and installations for forestry industry in view of meeting the essential security and health requirements imposed upon usage, for the certification of the products in integrated system- quality, security, environment	public	8.323	Norms and regulations for the machines and installations for forestry industry	Economic agents in the forestry industry
	Assessment of risks of occupational hazards and diseases	private	4.235	Assessment of risks	CNTEE - TRANSELECTRICA SA – ST Timişoara
	Development of conformity assessments, tests, and certifications on machines and work equipment	private	7.177	Certificates of conformity	Companies
2010	Verification of efficiency of safety measures against electric shock by using earthing devices"	private	6.557	Technical expertise	CEZ DISTRIBUŢIE SA
	Expertise services on technical specifications on personal protective equipment and work equipment for the company ENEL Distributie Muntenia	private	41.335	Technical expertise	SC ENEL Distributie Muntenia Sud
	Development of conformity assessment, tests and certification on	private	11.190	Certificates of conformity	Companies

	machines and work equipment				
	Safety and health at work- premises for competitiveness	public	299.682	Development of information related to OSH - HORECA and Construction	MMFPS. AMPOSDRU
	Technical expertise regarding the evaluation of working condition from electrical installation of ELECTRICA SA , corresponding with period from 1969 to 2001, required to establish the workers' placement in the first work group	private	13.351	Technical expertise regarding the evaluation of working condition	ENERGIA TRADE UNION
2011	Study on elaboration of instruments and technical measures related to conformity assessment and product certification, necessary to check and approve the system of machine and PPE design and manufacturing quality in accordance with the provisions of Directives 2006/42/EC and 89/686/EEC	public	20.979	Identification of infrastructure development measures for the conformity assessment activity in the machine and PPE areas	MMFPS Certification bodies
	Study on setting the safety and health at work measures necessary to implement the national regulation which transposes the European Directives in the area of "Social policies and work force employment"	public	17.483	Identification of concrete methods of implementing the good practices on regulation in the area of social policies and workforce employment	MMFPS Companies Inspection and control bodies
	Study on assessing and preventing the electric hazards	public	6.993	Elaboration of measures and specific methods to assess and prevent electric risks	MMFPS Companies Inspection and control bodies

Scientific Performances :Extended accreditation of the INCDPM certification body by RENAR, according to SR EN 45011:2001 and notification to the European Commission according to the European Directive 2006/42/EC for 28 groups of machines, certification made under its own licence of CST.

2.3.3.5 Interdisciplinary Initiatives

The specializations of the team members and their professional competences obtained along their career has allowed the team to develop partnerships at national level in research and development programs, sector programs in the areas of work force employment and safety and health at work in aspects related to management of quality and safety and health at work, equal opportunities. The team includes the position of chairman, secretariat and member of the standardization committee CT 223 "Machine safety", CT 240 "Lightening" and CT 136 "Electric plants in construction", having members in other 42 ASRO technical committees.

2.3.3.6 Dissemination activities

Year	2007	2008	2009	2010	2011
Articles in ISSN magazines	3	2	0	5	5
Books	0	1	1	4	5
Conferences	3	2	1	10	12

2.3.4 Team E4: Personal Protection Means

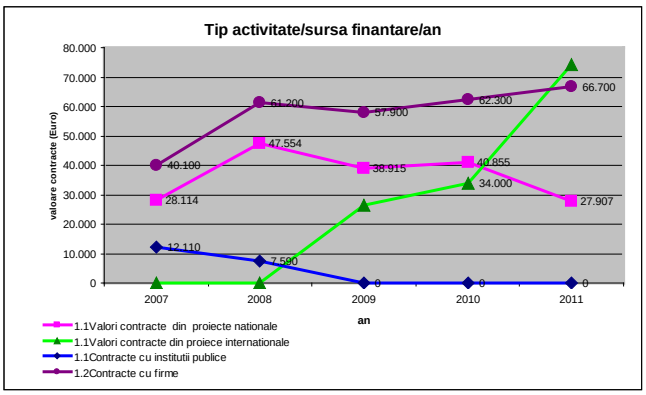
2.3.4.1 Activity description

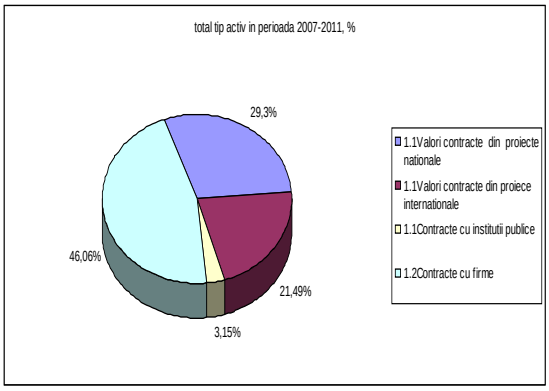
The major objective of the team is conducting studies and scientific researches regarding the substantiation of the conformity assessment system of personal protective equipment quality, elaboration, implementation and dissemination of information on conformity assessment, inspection and diagnostic technique tools for PPE in accordance with the safety requirements and technical and social progress development in order to support and improve the competitiveness of Romanian companies.

The most significant results between 2007-2011 (1.1 and 1.2 testing research, expertise, certifications) are presented in the table bellow

Year	Type of activity	Contract value of national projects, euro	Contract value of international projects, euro	Contract value of projects with private companies, euro	Contract value of projects with public authorities, euro	Total, euro
2007	1.1	28.114			12.110	80.324
	1.2			40.100		
2008	1.1	47.554			7.590	116.344
	1.2			61.200		
2009	1.1	38.915	26.300			123.115
	1.2			57.900		
2010	1.1	40.855	34.000			137.155
	1.2			62.300		
2011	1.1	27.907	74200			168.807
	1.2			66.700		
Total	1.1	183.345	134.500	0	19.700	625.745
	1.2	0	0	288.200	0	
Total Team		183.345	134.500	288.200	19.700	625.745

Reduced public funds and the economic crisis could be partly offset by increasing the activities of expertise, testing, conformity assessment and certification (due to the improvement of the infrastructure) and the involvement in European projects, as seen in the left chart below.





The team reported increased participation in international projects.Share participation in projects is presented in the above right chart. The team research activity includes the services of the Certification Body for Personal Protective Means

2.3.4.2 Research directions addressed:

a)Substantiation of conformity assessment system of the personal protective equipment quality and development conformity assessment, inspection and diagnostic technique tools for PPE;
b) Carrying out applied research and development activities, consisting of studies and researches on the development of national system of legislation, regulations and standards in health and safety in work and personal protective equipment, harmonized with the EU directives - development of standards for testing methods and requirements, development of guides on the implementation of legislation.
c) Development of the laboratory infrastructure with high performance test equipment and improvement of the laboratory quality system management in order to cover a greater range of products covered by the European Directive 89/686/EEC;
d)Realization of methodological activities for law enforcement through personal protective equipment certification, inspection and technical diagnosis, as well as by dissemination of the results of studies and research;
e) Increasing the visibility of the organization by strengthening international relations with European safety and health organisations, and other similar institutions.

2.3.4.3 Dynamics of Human Resources

The team was selected to provide multidisciplinary training, consisting mainly of engineers specialized in manufacturing technologies and quality control of personal protective equipment: 1 textile engineer, 1 leather – technology engineer, 2 chemical engineers, 1 bio-chemist and a lawyer .The team consists of 10 people, including five researchers (3 CS 2, 2 CS 3), 2 doctors, 1 PhD, 2 graduate degree in occupational safety and health.

Table -Evolution of certified research and development staff

	2007	2008	2009	2010	2011
Total certified research and development staff	9	9	7	7	5
CS1	-	-	-	-	-
CS2	6	6	4	4	3
CS3	2	3	3	3	2
CS	1				
Doctors	0	2	2	2	2
PhD	2	1	1	1	1
Master	1	1	1	2	2
Approved courses	1	1	5	1	3

In the last five years has been observed a decrease in the number of researcher, following the retirement of some ones. Due to the reduced national or sectoral fundings for research and the decrease of applications for research studies of the national private companies, no new long term hirings have been made in the last two years, being preferred the alternative of fixed-term employment or part-time employment.
In the reviewed period, can be observed an increase in post-graduate training of the staff, together with an increase of the scientifical grade of the researchers.
In the same period, the staff followed approved formation courses as trainers and assessors, taking into account the laboratory politics to develop activities aimed to dissemination of information on legislation and on the results of studies and preparation of Romanian manufacturers to compete to EU internal market. Thus, a total of five researchers attended CNFPA courses obtaining diplomas as authorized "trainers", a researcher followed a course of OHS management system auditor, three researchers have graduated OHS coordinators for mobile sites, one researcher has completed a risk assessor course. Alongside, the staff training continued by internal or external courses on qualitative aspects of testing laboratories and certification bodies.

2.3.4.4 Major Achievements

Year	Competence	Tape of project	Value EURO	Significant achievements	Beneficiaries
2007	Transposition of European standards on PPE and ergonomics as Romanian standards	public	10.000	Development of 52 Romanian standards in the field of PPE	RSAM of PPE Testing Laboratories
2008	Development of testing range for safety shoes in order to establish compliance with the essential safety requirements covered by EU directives	CEEX	107.000	- test stands unique in Romania - conducting tests according harmonized European standards - comparative studies on the behavior of materials -accreditation of laboratory for conducting 5 new tests	- Certification Bodies - PPE manufacturers-Market surveillance authorities
2009	Conducting compliance assessments, testing and certification of PPE	privat		- Over 600 issued CE type examination certification - over 100 testing reports for - no complaints	- PPE manufacturers - PPE manufacturers
2010	Applied research - centers Topic 2010 (7 collaboration)	internaţi onale	34016	-5 OSH Wiki articles -2 case studies	On line dissemination
2011	Establishment of the measures to implement the Directives 2006/42/EC Development (machinery) and 89/686/EEC (personal protective equipment) and the national legislation harmonized	publice		PPE Guide 2010 - Romanian edition Guidelines for assessing compliance with the requirements of PPE	Certification Bodies PPE manufacturers and users surveillance authorities

Performance research and development activities involving development of the infrastructure and quality system of test laboratory were confirmed by INCDPM PPE laboratory accreditation and extension of accreditation in accordance with EN ISO/CEI 17025:2005, by the national accreditation body RENAR. PPE laboratory is the only accredited laboratory in Romania for over 50 tests on PPE and is also the laboratory with the largest range of accredited tests.

The competence of staff and the conformity of the procedures and quality system of the conformity assessment activities have been confirmed by accreditation by RENAR in 2007 of INCDPM Certification Body against EN 45011. INCDPM certification body has been designated by Romanian authorities and notified to European Commission to apply all the procedures for conformity assessment and certification according to European directive 89/686/EEC.The notification is granted for a total of 35 groups of PPE, for some of them INCDPM being the only notified body in Romania (eg clothing and footwear against cold).

The scientific competence of the team has also been recognized at the national level by members of the team as president, vice-president and secretary of designation of INCDPM

2.3.4.5 Interdisciplinary Initiatives

Complementary specializations allowed the team to develop international partnerships in the TC-OSH on issues related to integrated management, equal opportunities, preserving the parchments, impact studies in textile industry, participation at the activities of Technical Committee on Standardization “Electrical equipments”.

2.3.4.6 Dissemination activities

	2007	2008	2009	2010	2011
Articles in magazines	1		2		1
Books					2
Conferences	14	3	0	1	2

2.4 Representative project

Title of the project: DEVELOP INCDPM INFRASTRUCTURE TO PERFORM RESEACH ACTIVITIES

2.4.1 Concept

The general targeted objective consisted in the development of the INCDPM RD infrastructure in order to be able to approach new areas of research and increase efficiency of the developed activity.
The specific objectives of the project were:
O1. – Development of the RD infrastructure to determine the safety and health characteristics of technical equipment, personal protective equipment and environment equipment so that INCDPM can be able to carry out the measurements and assessment of each qualitative characteristic included in the regulations or standards for at least 3 types of products and 3 environment factors.
O2 – Improvement of the Institute administrative and management performance by updating its disseminating infrastructure .
Another subsidiary objective was to increase the organization visibility by making its outputs known, getting accreditations and notifications of its laboratories.
The project started from the analysis of the exiting situation within the organization and in the national and regional context.

-INDCPM had testing equipment to determine the protection/safety characteristics of several groups of personal protective equipment and work equipment, but such equipment did not cover completely the characteristics included in the requirement standards for products or characteristics of environment factors;

- Regulation provisions on the CE marking and the demands of the market put pressure on the Romanian manufacturers to develop market competitive products;

- INCDPM already had testing equipments to determine some environment factors, but such equipment was morally worn out and did not provide the expected efficiency;

- Although INCDPM has a good visibility at national level in the safety and health at work area, publication of support materials and dissemination of information depend largely on external organizations;

- IT equipment was acquired at different moments in time so that there is no unitary system and the efficiency and effectiveness of the management measures are disturbed.

Taking into account all mentioned above specific objectives and priorities were settled for each department.
Reaching the specific O1 and O2 objectives of the project was planned to:

- participate in auctions of national research and development programs so that to develop projects which can attain the specific objectives;

-attract other non-refundable funds to develop infrastructure;

- acquire equipment financed out of INCDPM investment plan and its coordinating authority.

Reaching the subsidiary objective of the project was planned to:

- finance out of its own resources the certification of the management systems, as well as the accreditation of the testing laboratories and certification body;
- participate in conferences, symposiums and publish articles, works;

2.4.2 Planning the developed activity

Objective	2007	2008	2009	2010	2011

O1					
O2					

O1 objective represents an organization objective which has been permanently updated. The O2 objective included in its plan the provision of the infrastructure for multiplication and subsequently the improvement if its IT system.

2.4.3 Elaboration

Achieving the objectives implied the development of 20 projects out of which 13 were completed.

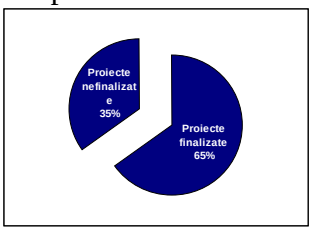


Figure 1 – Share of completed projects

The projects which had budget funding have developed conditions to attain specific objectives of infrastructure in the area of personal protective equipment and IT. Taking into account such situation, INCDPM acted so as to find other sources of financing the specific objectives of its infrastructure development for work equipment and multiplication equipment.

2.4.4 Performance

Each project develops a complete cycle of design, development, performance, completion and implementation to attain its objectives, consequently:

- infrastructure requirements have been identified taking into account the specifications of the requirement standards and methods applicable to the approached product group, organization requirements and necessities and the level of the existing technique. There have been identified both the methods described ***in extenso*** to determine the characteristics of the complete products which formed the basis for the conformity assessment and the methods to determine other characteristics of some components. All this has been taken into account at equipment design and device acquisition so that they result operational.
- testing and measuring equipment or stands have been designed, acquired and/or developed and put into operation.
- testing operational procedures and data administration programs for the Institute activity have been elaborated;
- specialists of the Institute have attended internal or external training courses on the use of the infrastructure and, if the case, application of the testing methods;
- specific tests and records have been made;
- documents specific to the quality system related to the development of the testing and assessing area have been elaborated;
- for certain tests carried out on specific equipment the accreditation of the national body has been financed out of the Institute own resources according to the standard applicable to the testing laboratories.

Table 1 shows briefly the main performance indicators of the developed activity.

	2007	2008	2009	2010	2011
Total number of running projects. NOTE : projects running on several years were taken into account with their yearly phases	7	5	2	3	5
Total value of developed or acquired infrastructure in Euros	164.323	99.227	6.026	87.677	54.178
Total value of developed or acquired infrastructure out of public funds, in EUROS	117.571	66.069	401	33.467	48.694

Total value of developed or acquired infrastructure out of investments, in EUROS	46.752	0	0	54.210	5.625
Total value of developed or acquired infrastructure out of other funds, in EUROS	0	33.310	1.953	0	0
Total value of developed or acquired infrastructure for O1 objective, in EUROS	117.571	99.227	5.625	8.393	8.393
Total value of developed or acquired infrastructure for O2 objective, in EUROS	46.752	0	401	33.467	45.785
Number of acquired equipment, total	5	17	9	2	5
Number of acquired equipment for O1 objective	4	17	6	1	4
Number of acquired equipment for O2 objective	1	0	3	1	1
Total number of equipment having a value over 15,000 EURO	3	1	0	2	1
Number of equipment having a value between 1000 and 15,000EURO	1	8	2	0	3
Number of equipment having a value under 1000 EURO	1	8	7	0	1
Number of new operational procedures	4	1	2	3	1
Number of new or updated assessment procedures	4	1	1	2	1
Number of new accredited procedures	10	5		5	5 (under process of accreditation)

For O1 objective:

- 32 pieces of equipment were developed or acquired with a total value of **239,209** euros, out of which:14 units of equipment financed out of the national plan;11 units of equipment financed from other sources (private or authorities) ;7 units of equipment financed out of its own sources or coordinating authority;14 testing procedures were drawn up;20 tests were accredited; other tests are under the process of accreditation.

The main projects completed to reach the O1 objective are shown below:

a) Project: Development of the INCDPM accredited laboratory to perform tests of thermal insulation in accordance to harmonized European standards for PPE of lower limbs

Value: 270,000 lei (80,000 Euro)

Developed infrastructure: climatic chamber; System of artificial hand with sensors ; Device to determine the heat transfer at flame exposure (HTI)

Major outputs:

- 3 testing devices which are unique in Romania and can develop tests in accordance with the 4 main testing methods provided in the harmonized European standards specific to personal protective equipment in order to assess its conformity with the requirements of the European Directive 89/686/EEC: hot conditioning (up to $+180^0$C, cold down to $-75\ ^0$C), cold insulation of protective footwear according to SR EN ISO 20344:2004 + SR EN ISO 20345:2004/A1:2008, heat transfer at flame (convection heat), according to SR EN 367+AC:1999, protective gloves resistance to convection coldness according to EN SR EN 511: 2006;
- devices that can develop over 10 complementary testing methods aiming at checking the behaviour of materials and personal protective equipment;
- tests in standardized conditions carried on various materials of which PPEs are made and comparative studies of various material behaviour or models of equipment in testing conditions to estimate the measuring uncertainty- over 200 tests;
- 4 testing operational procedures and 4 conformity assessment procedures by "CE type examination" have been drawn up or revised;

- all the documents of the laboratory quality system and PPE laboratory accreditation have been updated for 4 main tests and 6 PPE main types; INCDPM has the unique laboratory in Romania accredited to develop tests according to the mentioned European standards;
- 6 groups of products are notified for conformity assessment to Directive 89/686/CEE.

b) Project: Develop the testing domain for protective footwear to assess the conformity to the essential safety requirements under incidence of EU Directives

- **Value**: 263,000 lei (78,066 Euro)

Developed infrastructure: Device determining the slipping resistance; 1operational testing procedure.

Major achievements:

- unique testing equipment that performs tests in accordance with 2 main testing methods provided in the harmonized European Standards specific to protective footwear in order to assess the conformity with the requirements of the European Directive 89/686/EEC: slipping resistance on ceramic surfaces with detergent and steel surfaces with glycerin in accordance with SR EN ISO 13287:2008 (EN 13287:2007);
- equipment that can perform other complementary testing methods to check the slipping soles behaviour on different types of surfaces with different types of liquids, including ice;
- tests made in standardized condition on different sole types and comparative studies of sole behaviour or footwear models in testing conditions to estimate the measuring uncertainty- more than 40 tests;
- elaboration of a testing operational procedure and a conformity assessment procedure by "CE type examination";
- all documents for the quality system and accreditation of the PPE laboratory have been updated for testing on 2 types of surface, for any type of protective footwear; INCDPM has the only laboratory in Romania accredited to perform tests according to the mentioned European Standards;
-notification of conformity assessment to Directive 89/686/EEC for any type of protective footwear.

<u>For O2 objective:</u>

IT equipment was acquired in a project financed out of public funds and projects financed out of private funds and the institute own investments;

Two IT managerial structures have been developed and implemented in the institute by means of an intranet wireless network specially set up for this aim.

The main project is: Strengthen the management capacity by investing in IT infrastructure (POSCEE project).

- **Value:** *375,000 lei (*88,000 EURO)
- **Developed infrastructure**: IT system on the development of managerial capacity made up of work stations (hardware) Apple i Mac 21,5", Notebook Sony Vaio VGN – NW320 F/T Smartphone HTC Touch Pro 2 + software equipment.
- Major achievements:
- management INTRANET network developed in wireless system that will increase the efficiency of the management process with at least 20% and the INCDPM output quality of research and development works;
- 2 IT management systems:
-1 system meant for future estimated activites and direct management;
-1 system meant to develop the managerial capacities by improving the quality, traceability transmissibility of documents resulted from the research work and dissemination of institute research outputs on a large scale by WWW ;

-development of a common coherent and unitary template (specific template) for all INCDPM works;
-implementation and use of such template at INCDPM level;
-implementation of the modern managerial IT system in INCDPM management.

2.4.5 Completion

The projects of infrastructure development for tests on personal protective equipment have been completed with accreditation of test laboratories by RENAR. At present tests to determine the environment characteristics are under process of accreditation.

The entire developed or acquired infrastructure has been used in the certification and research activity. Consequently, after the infrastructure was put in place more than 200 certification contracts were signed and completed.

The following table shows the national and international impact of the project at the organization level.

	Impact on short term	Impact on long term
At national level	- Reduce the impact of economic crisis on INCDPM by increase of added value; - Increase INCDPM capability to perform new tests; - Laboratory accredited by RENAR for the highest number of tests (109 tests) specific to personal protective equipment; - The unique testing laboratory in Romania accredited for performing over 80 tests; - Possibility to develop communication managerial quality among members of the research teams; - Increase the safety of information stored in IT infrastructure; - Facilitate interoperability of the development centers and access to information; -Increase the mobility degree and possibility of use of IT equipment on location during the researches made on site: the data collection and experiment stages need IT mobile equipment; - Improve access to information ... - Improve access to internet and possibility to store and process data with IT and modern communication equipment, having the possibility to run performant programs used in research; - Improve the monitoring process of acquisition and running contracts.	- Increase INCDPM visibility; - Possibility to approach new interdisciplinary topics (e.g. health domain) ; - Facilitate the possibility that Romanian manufactures develop competitive products on European Union market; - Possibility to quickly check if the products put on the market are in accordance with the safety and health essential requirements; - Increase productivity at the organization level; - Improve management at the organization level; - Implement the system of institutional quality and increase the quality of the developed works; - Quality traceability of works from initial stages to final completion.
At international level	-Notification for applying the procedures.	- Increase the competitiveness degree of products made in Romania on European market; - Increase the safety level of the work place ; - Intensify international collaborations.