



TRADITION AND PERFORMANCE IN OIL AND GAS ACADEMICAL EDUCATION SYSTEM FROM ROMANIA

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Abstract: *Abstract of 50-120 words (9 pt, italic) Academicals education system in petroleum has an essential importance for the development of petroleum and gas industry from Romania, but also for many other countries for which highly educated specialists have been trained in this area. This paper wants to present the tradition and most important performance from the history of Romanian academicals education system in petroleum. The paper is dedicated to all the teachers that have dedicated their lives to develop Romanian academicals education system in petroleum and to all 49365 graduate specialists that worked and still work all around the world.*

Key words: *education, university, petroleum, gas, tradition*

1. INTRODUCTION

The year 1857 represents the beginning of the crude oil production industry in Romania when three outstanding world performances took place:

1. Romania is recorded in the national and international statistics as the first country in the world having a national crude petroleum production. Romanian and foreign magazines, among which the remarkable "Science of Petroleum" (Volume I, Oxford University Press, London-New York-Toronto, 1938) certifies the following: "The first recorded production of crude petroleum was in 1857, when Romania had an output of 275 metric tons. In 1859 the United States of America first produced petroleum on a commercial basis, the production for that year being 274 metric tons. The next country to yield petroleum in quantities sufficient to be recorded was Italy, which first produced in 1860, although the total quantity obtained that year until 1880 was only about 6,000 metric tons. In 1862 Canada commenced to give a yield of crude petroleum and in 1863 Russia entered the field.

2. The second world performance is recorded in 1857 when the first industrial oil refinery started to work in Ploiesti. At that moment, it had a great handling capacity, with a thorough technological process, totally different from the old distilleries, the kerosene obtained in the primary cracking was subjected to refining. Thus, the year 1857 officially marks the setting of the petroleum processing industry.

3. On the first of April 1857, the central streets of Bucharest, public institutions and notabilities had a kerosene lighting system. Owing to this event, Bucharest becomes the first city in the world characterised by such technique.

The year 1857 remains a moment of reference in the Romanian and universal history of petroleum. It was the year when the stage of fuel oil ended and the kerosene stage was initiated.

2. CONTENT

Starting from the necessity to prepare specialists in petroleum industry field, in 1904 is founded in Campina the "FOREMEN" school for drilling and refining supervisors. This school, first in the world of this type, educated with very good

results a lot of drilling and refining supervisors, very well qualified and appreciated in Romania and abroad.

In this context 1904 is considered to be the year of start for the middle level education system in petroleum area from Romania.

In 1914 in the "National School for Bridges and Roads" from Bucharest is founded a section for "Petroleum and Mines", this year being considered to be the date of birth for the high level education system in petroleum area in Romania.

In 1921 the "National School for Bridges and Roads" is transformed in "Polytechnic School from Bucharest", high level education section in petroleum, being part of it till 1948.

Considering the importance of petroleum industry as part of the Romanian economy and also the short and long term future, it appeared the necessity of creating a high level education institution to prepare qualified engineers so wanted in petroleum and gas industry from Romania. So in 1948 is founded "The National Petroleum and Gas Institute from Bucharest" with five different specializations:

- The Faculty of Geology and Exploration of Oil and Gas Reservoirs,
- The Faculty of Exploitation of Oil and Gas Reservoirs,
- The Faculty of Technology of Oil and Gas,
- The Faculty of Petroleum Machines and Equipment,
- The Faculty of Economics and Organisation for Oil and Gas Industry.

The main purpose of the institute was to prepare qualified engineers for all branches of Petroleum and Gas Industry. Founding this school, was based on Romanian petroleum and gas industry's history, tradition, scientific and technical level.

In 1957 by reorganisation of the technical schools, The National Petroleum and Gas Institute becomes the "Institute for Petroleum, Gas and Geology from Bucharest" (IPGG). So, it becomes a high level education institution, recognized in the international educational and scientific environment. and searches by high-school graduated from Romania and other countries in cooperation relation with Romania.

Also in this years started the activity for doctoral studies, which was organised in the following six specialities:

- Petroleum and Gas Deposits Geology,
- Well drilling,
- Petroleum and Gas Deposits Exploitation,
- Petroleum Chemistry,
- Petroleum Technology, Processes and Equipment for Petroleum Industrialization.

Starting from 1965 in the Institute for Petroleum, Gas and Geology from Bucharest were organized, with UNESCO, post-graduate courses for Petroleum Geology-in French and for Petrochemistry-in English.

In 1967 the Institute for Petroleum, Gas and Geology from Bucharest started to be moved in Ploiesti, process that ended in 1975. So due to that, the Institute for Petroleum, Gas and Geology from Bucharest was shut down (Faculty of Geology was included in the University of Bucharest) and the new

Petroleum and Gas Institute from Ploiesti continued its activity, with three specializations:

- Machines and Oil Industry Equipment,
- Petroleum Refining and Petrochemistry,
- Drilling and Petroleum and Gas Deposits Exploitation.

In this structure, with some unessential modifications, The Petroleum and Gas Institute from Ploiesti continued its activity till 1992.

Following the results of some studies made in the labour market, starting with 1992 the educational activity by including a new faculty (Faculty of Letters and Sciences) with Economic and Humanistic specializations.

Starting with 1992, also the name of the Institute has been changed into Ploiesti University and in 1994 again into Petroleum-Gas University from Ploiesti, the name that was preserved till today.

In 1995 due to a Romanian-French Governmental agreement started in cooperation with The National Institute for Economic Development, Economics Studies Academy from Bucharest and C.N.A.M. from Paris, master courses "I.N.D.E." have been started. From 2002, these courses were extended together with "Paris XII University" offering students MBA degree in "Economic Development of Companies".

In 2000, in cooperation with "Free European School of Economics" from Switzerland and other universities from Greece and Germany was founded "The Post-graduate College" (F.E.S.E.) which rewards its students with "Master of Science" in "Management of Economic Disputes".

Following the continuous growing request of specialists in economic area, in 2002 the activity in this field has been extended by creating the Faculty of Economic Sciences, formed by separation from the original Faculty of Letters and Sciences.

In 2003, based on a PHARE project The Management and Technology Petroleum Center (CEMATEP) was created for continuous training of all engineers from Petroleum and Gas Industry.

Also in 2004, in Petroleum-Gas University from Ploiesti, as part of International Well Control Forum (Monrose, Scotland), started its activity "International Centre for Training and Accreditation in Drilling and Extraction".

Starting with 2005, educational process from the University has been reorganized in courses of study according to BOLOGNA program.

In academic year 2007-2008 The Petroleum-Gas University Was subjected to external institutional assessment by the National Agency for Quality Assurance in Academic Education System (ARACIS) receiving "Highly reliable" qualification, which confirms the high quality of all didactic, scientific and managerial activities.

Also the Petroleum-Gas University has implemented and certified the Quality Management System from 2007. The recognition has been made by AEROQ S.A. Bucharest, a company qualified in this area.

After a series of transformations, changes, additions and developments The Petroleum-Gas University is today a complex and integrated, modern and dynamic academic education institution with a high level of scientific and professional activity. It is considered to be unique and representative in preparing high educated specialists for petroleum industry, covering necessities of Romanian and international companies and other countries that have petroleum and gas industries.

In the actual structure, The Petroleum-Gas University has the following sections and departments:

- Faculty of Petroleum and Gas Engineering,
- Faculty of Mechanical and Electrical Engineering,
- Faculty of Petroleum Refining and Petrochemistry
- Faculty of Letters and Sciences,
- Faculty of Economic Sciences,
- The department for Distance Learning and Reduced Frequency, which coordinates the activity of all sections, organized in this form of education.

-Training department for teaching personal, which ensure the initial formation for students and continuous training for teachers from pre-university education system.

From 1948 till now, The Petroleum-Gas University from Ploiesti, formed more than 49365 specialists (Romanian and foreign citizens), from which:

- 25,062 diplomat engineers and 2,016 sub-engineers. (1724 are foreign citizens from 90 countries all over the world).

-14,389 graduated in non-engineering specializations, which were started after 1989 at the Faculty of Letters and Sciences and Faculty of Economic Sciences.

- 7,220 people from post-graduate courses (MA, MBA, UNESCO or INDE courses) in petroleum industry area. More than 1,000 are foreign citizens.

- 678 PhD's in engineering, from them 148 are foreign citizens.

Also there are six areas:

- Chemistry,
- Chemical Engineering,
- Mines, Petroleum and Gas,
- Mechanical Engineering,
- Industrial Engineering,
- Systems Engineering,

for doctoral studies with 32 PhD supervisors.

An important evidence for recognition of the special value of The Petroleum-Gas University from Ploiesti and of its educators consists of the fact that they were invited for teaching courses and for other scientific cooperation in Canada, France, Germany, China, Italy, Poland, Greece, Russia, and Bulgaria. Also teachers from The Petroleum-Gas University from Ploiesti were invited to be part in starting activity at other faculties (in petroleum area) in countries like: Algeria, Syria, Egypt, Albania, etc.

An important contribution in international promotion of the Petroleum-Gas University from Ploiesti is given by teachers which are specialized through international training programs (Fulbright, DAD) in countries like Germany, USA, Italy, Great Britain, etc.

The Petroleum-Gas University from Ploiesti developed in this period student and teachers exchange programs that have been made through international cooperation programs (TEMPUS, SOCRATES, PHARE, LEONARDO, etc) or as a consequence of different intergovernmental protocols with more than 50 countries.

3. CONCLUSION

The authors wanted to present in this paper a synthesis of the university education historical evolution in petroleum area.

Romanian and foreign specialists formed and trained in The Petroleum-Gas University from Ploiesti are in the top of Petroleum and gas industry, some of the best Romanian ambassadors, having a big contribution in increasing the prestige and trust capital of our country.

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