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New Prospects, New Challenges

Since its creation, our center has greatly evolved. The laboratory of welding and nondestructive testing created in 1985 is the nucleus that gave birth to research entity of national dimension. In fact, in a decade, this laboratory was developed to set up as development unit of welding techniques and nondestructive testing which later became a research center.

During the year of two thousand and fifteen, our research center passed through an important step in its evolution. Thus, the center of scientific and technical research in welding and testing (csc) gave way to research center for industrial technology (CRTI). It is not a matter of simple change of denomination, but a real will to develop a major research center with new development prospects through opening new horizons after its creation, in partnership framework of new exchange gateways towards the economic and social sector.

This evolution is a part of the strategic vision, in the medium and long-term, which is set up by the general management of the center. It reflects the strategic orientations of scientific research and technological development in our country. All these base on the ground truth and anchor of the center in the industrial environment. The reasons which militated for changing the name of the center are the real needs which are increasing more and more in social-economic world particularly in national industry. So, this new denomination is imposed by social-economic environment.

In addition to that is the membership of our center in the international institution of welding (IIW) and its adhesion to the American association of non-destructive testing (ASNT), which enable the visibility of our research entity at the international level. Consequently, the valuation of our research results development at it. The international recognition of qualifying training which is

organized by the center. Therefore, the participation of our center in multinational research teams work.

Since then, we assist in strengthening and enlarging CRTI missions contained in the Executive Decree N°15_109 of May 3rd, 2015 amending the Executive Decree N°92.280 of July 6th 1992.

Taking into consideration this regulatory text, the center is responsible for:

- Carrying out necessary research projects to the development of industrial technologies namely in:
 - ✓ Welding and assembly techniques.
 - ✓ Nondestructive testing.
 - ✓ Corrosion.
 - ✓ Siderurgy and Metallurgy.
 - ✓ Mechatronics.
 - ✓ Materials, coating and thin films.
 - ✓ Industrial maintenance.
- Know-how transfer, supporting and upgrading of the industrial sector in the field of center's competence.

The center's missions are to open the way to our researchers and technical staff for a better support to our social-economic partners in collaboration agreement and partnership.

Furthermore, there are other parallel research structures derive from the center:

- 1) Research Unit for Steel Metallurgy situated in the ancient steel complex Arcelor –Mittal of El Hadjer Annaba, which is research pole for technical development related to steel and metallurgical process and their research programs development.
- 2) Advanced Materials Research Unit situated (URMA) in the campus of Badji Mokhtar University, which is also research pole, charged with elaborating, studying and implementing advanced materials.
- 3) Thin films development and applications unit situated in the industrial area of Setif, which is another research pole of massive materials, thin films, development of new materials training processes, mastery structural characterization techniques, and devices.
- 4) The technological platform situated in the industrial area of Bou Ismail /province of Tipaza is the interface between applied

research and social-economic sector. It is a location of qualifying training for industrial sector, and a space for students to demonstrate and practice at the end of each training cycle.

- 5) The subsidiary CSC expertise Spa situated in the industrial area of Bou Ismail province of Tipaza, realizes nondestructive inspection by using different techniques, expertise and qualifying training. This society employs about 150 inspectors, engineers and experts. The subsidiary CSC expertise evolves in a context of increased competition. It activates in the four corners of the country with a marked presence in the south. Also, it has a significant role in the technological transfer by transmitting research results of the center mother's research divisions. (CRTI) former (CSC) is in creative activities of wealth and employment. The multitude of contracts and agreements denotes the current and future intense activity. These structures are added to the six research divisions that our center counts.

To keep up the competitiveness through the quality of its benefits service, the center's management opted for quality approach with the aim of standardization all the structures that have a link with the industrial fabric. Thus its subsidiary company **CSC** Expertise Spa is accredited according to international standard ISO/**CEI** 17020 and the laboratories of mechanical tests, calibration, chemical analyzes and checking **NDT** are accredited according to the international standard ISO **CEI** 17025.

In order to adapt research to the needs of stakeholders, our center sets out in its development plan 2015-2019, the creation of new flexible economic structures of evaluation (platforms technological, subsidiary companies) throughout the national territory. The aim of this five-year plan is to position our center as an unavoidable actor of industrial technologies at the national scales.

Currently, our country crosses a difficult economic situation which is induced by the regression of the public revenue in currencies. This situation challenges us more than ever and invites us to count more on the knowledge and to transform it into

know-how to make, the aptitudes and the capacities of our national competencies, which do not have anything to envy the foreign consulting experts, to contribute effectively in solving many problems and technical constraints which are met by the national industry, in support of the national effort of development. Thus, the center must render assistance to the service of the nation by using its brainpower.

Indeed, the challenges are great. Our researchers are asked to work out new materials, to develop novel methods of analysis and characterization and to develop technologies allowing a blooming of the national socio-economic sector. Our priority actions in the five-year plan 2015-2019 are:

- Ghar Djebilet ore enriching for the needs of industrial sector iron and steel.
- The answer to the requests of expertise with great value which is often added and performed by foreign expertise offices.
- The further improvement of the projects which is launched by the center (example: drone, industrial machine, manufacture of laboratory equipment)
- The answer to the increasing demands of qualifying training and upgrading the national industrial sector staff.
- The creation of new structures of valorization and benefit to approach from the industrial sector.

Conscious that the applied research is an important lever of progress, it is necessary to reinforce its integration in the socio-economic environment in order to find solutions to the posed problems. Also, the adoption of the 3rd law of orientation on the scientific research and technological development will allow the sustainability of the financing research and create favorable environment for the relation seeks/industry. Thus, this law will support the integration of the researchers in the socio-economic sector by the means of collaborative research between the permanent applied research and the industrial world which will influence positively technological development in the future of our large country.