

## **THE ACADEMY OF MOROCCAN NATIONAL COMPANY FOR HIGHWAYS AN INNOVATIVE CORPORATE UNIVERSITY CONCEPT**

**Dr Abdelkrim DERRADJI and Fadoua ACHANDAIR**

Moroccan Highways Company

[derradji.abdelkrim@adm.co.ma](mailto:derradji.abdelkrim@adm.co.ma)

The Moroccan National Company for Highways is an important actor in the economic and social development of Morocco. It has built a 1,800 km motorway network linking East, West, North and South of Morocco. This realization necessitated the use of international know-how in the motorways construction and operation, know-how that the engineers of ADM, and for 27 years, capitalized, developed and adapted to the Moroccan context in particular and African in general

Today, the speed of technological progress, accelerated development of know-how and modes of asserting, requires ADM to adopt a forward-looking attitude and intelligent watch in relation to these changes, allowing it to occupy a special place in the international context

Indeed, ADM Has adopted new strategic measures confirming its positioning in its new growth path; these measures concern:

- safety, comfort and customer satisfaction as a top priority;
- industrialization of highway operation, technological upgrading and toll digitization;
- operating performance by business line in a logic of expertise and potential expansion to Africa ;
- financial performance to ensure the sustainability of the company.

In order to realize this new vision, the Moroccan National Company for Highways has adopted an innovative tool enabling it to implement business strategies in all their dimensions: human, economic, commercial, environmental, social, digital, technological, Communication. ADM therefore set up in 2015 its corporate academy called **ADM Académie**.

**ADM Académie** 's main missions are :

- Offering customized training programs focused on highway sector trades and in line with the new vision of ADM;
- Developing innovative research programs and transforming them into viable projects with high technological, economic and social value added;
- Capitalizing and exporting ADM expertise in motorways construction and operation.

Indeed, since its creation, ADM Académie has implemented a diversified training program for all categories of ADM staff, initiated an R&D program that responds to national and international concerns and has undertaken actions to capitalize ADM's expertise and transfer it to the international and especially to the Africans countries.

ADM Académie has also published several books and has set up an annual international meeting on sustainable mobility.

The actions implemented by ADM Académie are the result of partnerships with national and international organizations such as the French National Conservatory of Arts and Crafts (Cnam), Higher Institute of Trade and Administration (ISCAE), the French National School of Bridges and Roadways (ENPC), the Japanese International Cooperation (JICA), the Ministry of National Education, the Institute for Research in Solar Energy and New Energies (IRESEN), the Permanent International Association of Road Congresses (PIARC), the International Road Federation (IRF), etc.

### **TRAINING PROGRAM**

ADM Académie has designed training courses for each category of ADM staff, with the aim of accompanying the strategic orientations of the company and increasing its performance.

#### Cross Training “Mastery of motorway trade”:

It is a training course for technicians and employees. With a total volume of 30 days, it aims to provide them with the appropriate tools to master the profession of motorway operation and to adapt to the modernization of services offered to the client-user. This course will be followed by a specialization cycle offering participants a means of professional development or retraining through training.

➡ 108 technicians and employees have taken this training between 2015 and 2017, another 108 are expected by 2018.

#### Mini MBA “Manager 21st century motorway option”

Mini MBA “Manager 21<sup>st</sup> century motorway option” is a training course for ADM's future managers, enabling them to understand road management and exploitation issues and to acquire the key competences of a manager, either in the areas of strategy, organization, human and team development, finance and more broadly the steering of change.

➡ 44 ADM managers, divided into 2 promotions, have taken this training course between 2015 and 2017.

#### Manager Coach training:

The Manager Coach training is a training course for ADM managers and decision-makers to provide them with personal and professional development tools, enabling them to develop and develop autonomy, responsibility and creativity accountability for their staff, for more performance, competitiveness and adaptation to the various changes undertaken by ADM.

➡ 40 ADM managers, divided into 3 groups, benefited from this training cycle between 2015 and 2016.

#### Training in Management of Major Infrastructure Projects:

Training in management of major Infrastructure projects is a training that provides participants with the methods and tools in order to manage and lead their infrastructure projects effectively with the key behaviors in order to optimize the involvement and collaboration of the various actors according to the international PMI standard. This training course is intended for engineers who are to lead an infrastructure project, project supervisors and project managers and public sector officials working in territorial development.

Other more technical training has been deployed by ADM Académie to develop the skills of ADM staff and to respond to differences in position/skills.

### **TRADE REPOSITORY OF MOROCCAN NATIONAL COMPANY FOR HIGHWAYS**

For a capitalization and a better mastery of the business of ADM, ADM Académie initiated a project for the development of the trade repository; It is a project to divide the profession of highway operation (viability and toll) into sub-trades, to formalize them and to describe them in the form of training manuals and methodological guides.

### **ADM ACADEMIE TRAINING CENTERS**

For an efficient professional immersion and an extensive geographical presence, ADM Académie has set up training centers near the motorway and toll stations and covering all motorway axes.

Currently 3 training centers are available:

- Highway Trades School in Kénitra: two training rooms equipped with a capacity of 24 people each, next to the Kénitra operation center for professional insertion and fieldwork
- Green Sector school in Fès: two training rooms with a capacity of 30 people each and a workshop / laboratory for the development of projects related to the green trades
- Training center in Rabat: two training rooms with a capacity of 15 people each and a refectory for the restoration of trainees.

And by 2018:

- A training center in Moulay Bouselham: an amphitheater with a capacity of 200 people with apartments for the accommodation of foreign trainees;
- A training center in Marrakech near the southern axis

### **THE DIGITAL SCHOOL**

It is a question of adapting to the constraints of professionals and remote trainees by adopting a pedagogical approach based on digital. ADM Académie has launched a reflection to design a digital platform that can share the know-how of the Moroccan National Motorways Company in the form of MOOCs, LMS, SPOCs etc

### **RESEARCH AND DEVELOPMENT**

Aware of the importance of scientific research as a vector of innovation, ADM Académie is working on an ambitious research program that certainly responds to ADM's concerns but also to national and international concerns

Thus, and to accompany Morocco's reception of the COP 22, ADM Académie has developed a "Sustainable Development" roadmap, which is materialized by the development of major environmental projects related to water, energy, Vegetation and traffic fluidity :

1. Project of Flood control and landslide risk zoning P: 380 km of the network were identified and considered as "very exposed" and 3 watersheds considered "flooded" for which it put Protection and prevention projects to overcome these potential risks;

2. Al ARD project to combat soil erosion: Based on the increase of wild seeds by farmers along the motorways, it aims to plant up to 10000 hectares of land and thus create jobs;
3. Project "Tree for Climate": Currently, ADM has a plant heritage of about (03) million plant units and by its project "a tree for the climate". ADM will provide an opportunity for schoolchildren to plant 5000 palm trees at the service areas adjoining the city of Marrakech;
4. Development of dry compaction technology: Water is also a rare resource that must be preserved. It is in this sense that ADM, and thanks to the dry compaction technique, saved 4 billion Liters of water on an arid zone during the construction of the Skhour-Agadir motorway section;
5. Clean and Renewable Energy Project: Solar-powered electricity generation stations have been installed at the toll stations of the network; Which makes it possible to generalize and reinforce the energy efficiency of highways especially through the use of LEDs and affirming the ambition of a motorway self-producing energy;
6. Separate waste collection and recovery project: Approximately 3,000 tonnes of waste are disposed of each year along the motorway network. In order to reduce the impact of this phenomenon on the environment, a waste collection project has been undertaken to upgrade them to reusable products in the operation of motorways: cones, beacons, shock absorbers, Fence walls, etc.
7. Intelligent Transportation Systems Project (ITS), an essential tool to streamline traffic and improve highway safety and reduce GHG emissions.

In addition, in order to realize electric mobility in Morocco, ADM Académie is developing a second roadmap under the theme "Electrical Mobility" in order to implement practical actions aimed at decarbonisation of road infrastructure and Development of smart-grid solutions to better manage electrical resources

ADM Académie also develops a research program that addresses the different national and international concerns:

- Pavement: Control of rutting, monitoring of the behavior of motorway sections;
- La Road safety: A scientific investigation of driving drowsiness, a barometer of responsible driving, design and installation of a weighing system for vehicles in circulation;
- Geotechnical Risk Management: Improved understanding and prevention of landslide phenomena and development of a methodological guide for slope stability and monitoring;
- Adaptation to climate change: Prevention of the risk of soil water erosion in Morocco's watersheds for the planning of infrastructure protection measures - Highway cases;

#### **INNOVATION INCUBATOR**

In order to realize these projects and give birth to new products or new activities, ADM Académie has set up the "Innovation incubator".

The latter is a structure to assist in the emergence and support of innovative projects with strong added technological and social values.

The objective is to cultivate the development of entrepreneurship and innovation within ADM and Morocco, and on the other hand to create startups and accompany projects to pass from the idea stage or the research program to the definition of a product / market pair with a business plan and a solid financing plan.

The main objectives of the innovation incubator are :

- Personalized support for the project leader;
- Logistical support;
- Access to specific training;
- Finding suitable partners;
- The setting up of the Business Plan and the search for related financing.

#### **INTERNATIONAL TRANSFER OF ADM'S EXPERIENCE**

Today, the National Motorway Company of Morocco wishes, through ADM Académie, to share and transfer its experience and know-how in the construction and operation of the road and motorway infrastructure, to the outside and in particular African countries.

This is in line with Morocco's long-term vision of growing interest in the countries of sub-Saharan Africa, based on a win-win approach based on the transfer of Expertise and competence, human development, exchange and sharing.

In order to realize this transfer of expertise, ADM Académie is working with international funding agencies that support the capacity building of African countries through South-South cooperation.

As an example, ADM Académie joined the Japan International Cooperation Agency (JICA), which launched a new tripartite cooperation project (Japan-Morocco-African country) with the aim of helping African countries to develop the capacity of their human resources in the transport sector; ADM Académie will therefore offer the African candidates a high-quality training program based on the spirit of transfer of knowledge and know-how in order to contribute to the socio-economic development of the African continent.