



**FEZ  
SMART  
FACTORY**



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

## **Fez Smart Factory**

**Specifications of the competition for the admission  
of project leaders into the Fez Smart Factory  
Ecosystem incubator**

## 1. Context

Since the announcement in 2011 of the German industrial strategy called Industry 4.0, signifying the advent of the 4th industrial revolution, other developed countries around the world have announced their own strategies in this area, setting targets for the years 2020-2030. Based on the national strategies, companies have developed their own strategies for transforming their industrial units into smart factories, which are currently being implemented.

Industry 4.0, whose implementation allows a forecast productivity gain of over 25%, as well as a substantial improvement in sustainability, constitutes a challenge for the factory that does not follow this trend and that risks disappearing due to a lack of competitiveness. The productivity gains and the improvement in sustainability of Industry 4.0 are due to the optimization of the consumption of human, material, energy resources, production time, and financial flows, with maximum customer satisfaction and respect for the environment and operational safety. To do this, Factory 4.0 exploits the Internet of Things to marry production machines with digital technologies creating information flows between machines, between machines and products, and between machines, products and humans. As a result, it becomes connected, and therefore transparent internally and externally, for personnel regardless of the level of responsibility, and for customers and suppliers.

The Fez Smart Factory project aims to contribute to improving the competitiveness of Moroccan industry by supporting manufacturers in developing their strategies for transforming their factories into smart factories and in implementing these strategies, on the one hand; and on the other hand, by supporting project leaders and startups to contribute to enriching the industrial fabric through the development of new industrial units, producing innovative products with high added value and competitive using Industry 4.0 concepts.

The "Fez Smart Factory" project is the result of a partnership between the EuroMed University of Fez, as leader, the Fez-Meknes Regional Council, the Ministry of Industry and Trade, the Fez-Meknes Branch of the General Confederation of Moroccan Enterprises (CGEM), the company Alten Delivery Center-Maroc, as well as the ADD (Digital Development Agency).

The "Fez Smart Factory" project was selected to benefit from the support of the Sustainable Industrial Zones Fund (FONZID) following a competitive call for projects launched jointly by the Millennium Challenge Account-Morocco Agency (MCA-Morocco) and the Ministry of Industry and Trade.

FONZID is part of the "Industrial Land" activity under the "Compact II" cooperation program, financed by the Millennium Challenge Corporation (MCC) and whose implementation has been entrusted to the MCA-Morocco Agency.

FONZID, set up jointly with the MIC and with a budget of 30 million dollars, aims to strengthen the model of sustainable industrial zones and contribute to

improving productivity and environmental and social performance of companies in industrial zones.

FONZID will expand the supply of industrial land that meets investors' needs in terms of location, quality of infrastructure, support services and competitive prices. It will thus contribute to increasing private investment and job creation.

## **2. Presentation of the Fez Smart Factory Ecosystem**

### **2.1. Objectives of the Fez Smart Factory Ecosystem**

The "FSF" Ecosystem is a support zone for innovative activities, aimed at developing a competitive industry, by improving its productivity through the implementation of the principles and methods of Industry 4.0. All activities in the FSF zone will be geared towards this objective, from raising awareness of the importance of Industry 4.0, to supporting manufacturers in transforming their industrial units into smart factories, to supporting project leaders and startups working to create new 4.0 factories. This is the first project of its kind in Morocco for this emerging industry in the world since the launch of this concept in Germany in 2011.

By creating an Industry 4.0 ecosystem, the project aims to:

- Establish a core of smart factories by supporting project leaders and startups benefiting from FSF engineering and R&D services, as well as a pilot model factory, to develop their 4.0 factories on a demonstration scale.
- Leverage the FSF ecosystem, through the company "FSF INDUSTRY" to support existing industrial units in the Fez-Meknes Region and Morocco to optimize their industrial, environmental and social performance by leveraging the concepts of Industry 4.0.

### **2.2. Components of the FSF Ecosystem**

The FSF Ecosystem includes the following components:

- **The incubator 4.0:** It is a body responsible for carrying out missions related to the incubation of projects for the development of intelligent industrial units for high added value and competitive products;
- **The 4.0 startup accelerator:** It is a space for welcoming startups with projects to develop intelligent industrial units for high added value and competitive products;
- **Engineering services for Industry 4.0:** Ten engineering companies will be established in the spaces dedicated to engineering services of the FSF ecosystem. They will be selected on the basis of transversal use cases: predictive maintenance, optimal energy management, supply chain, IoT and sensors, connectivity and cloud, virtual and augmented reality, automation (robotics & cobotics), mechanical manufacturing processes and chemical and (or) biological transformation processes, Data Analytics and AI.

- **R&D entities:** Five R&D entities will be established in the spaces dedicated to R&D services of the FSF ecosystem. By R&D entity we mean: an R&D company, an R&D structure of a university dedicated to industry 4.0 in the sector concerned, an R&D center not belonging to a university. The entity may be from Morocco or abroad. Only one entity will be selected per industrial sector among those covered by the FSF ecosystem: the agri-food, chemical and paracheical and biomedical and pharmaceutical industries; the metal, metallurgical and electromechanical industries; the renewable energy industry; the digital and artificial intelligence industry; and the textile and leather industry. Each R&D entity will develop innovative solutions for the vertical and horizontal integration of the industrial sector concerned. It will develop an approach to the global optimization of industrial companies in the sector as well as digital twins of all links in the value chain and their components. Through its mastery of the value chain, it will identify the main use cases that can contribute to this global optimization. It will develop a global architecture that can enable optimization and will define the specifications of the use cases compatible with this architecture and to be used by engineering companies for the development of these use cases.
- **The Rapid Prototyping Center (Additive Manufacturing):** including additive manufacturing machines in metal, plastic, ceramic and concrete materials. This center, owned by UEMF, will provide prototyping services to the Incubator's project leaders, the Accelerator's Startups, the FSF's engineering companies and R&D Laboratories and to industrial companies;
- **The Business Center 4.0:** These are working spaces for companies wishing to invest in Morocco in the field of industry 4.0;
- **The School-Pilot Model Factory 4.0:** This factory school, supported by the Digital Development Agency in partnership with the Ministry of Industry and Commerce and implemented by the UEMF by co-funding of the Initiative of KFW « Investing for Employments », has as its main mission training in the technologies and concepts of industry 4.0 and contributing to supporting FSF beneficiaries in the choice and implementation of technologies for smart factories;
- **Spaces dedicated to the establishment of innovative 4.0 industrial units on a demonstration scale developed by startups.**

### 2.3. Governance of the “FSF” Ecosystem

The “FSF” Ecosystem has three governance and management bodies whose missions are as follows.

**"FSF Foundation":** The main governing body, this association's mission is to ensure the smooth running of the zone, the promotion of industry 4.0 and the development of the zone, the support of project leaders and startups for the search for financing, and the overall supervision of their support by Fez Smart Factory. In addition to the members of the FSF consortium, its members include any organization or institution wishing to contribute to the development of the FSF Ecosystem and industry 4.0 in Morocco.

**"FSF Association"**: It brings together all the beneficiaries of the FSF zone and its object and mission is to develop a space conducive to work and cooperation between its members within the framework of the latter's activities.

**"FSF INDUSTRY"**:

"FSF INDUSTRY" is a subsidiary entity of the EuroMed University of Fez. It is responsible for the operating activities and asset management of the "Fez Smart Factory" (FSF) zone.

To this end, its missions are:

- To manage Industry 4.0 development activities in the FSF area.
- To directly manage or delegate the management of general services in this area to a management company. The management of general services common to all beneficiaries of the FSF area includes the management of assets, social services (restaurant, nursery, medical services and personnel transport, one-stop shop); water, electricity and telecommunications networks; the rainwater network, the wastewater screening and oil removal unit and the wastewater and sanitation networks; cleaning and maintenance services for spaces, security and guarding, parking areas and roads, purchasing and accounting.
- To organize awareness campaigns on the concept of Industry 4.0 for the benefit of industrialists at regional and national levels, as well as FSF promotion campaigns at international level.
- To identify the transformation needs of existing industries. It accordingly establishes and implements the corresponding support programs by involving engineering, R&D companies and startups established at FSF, as well as the pilot model plant, to which it provides services in terms of technological monitoring, business intelligence and intellectual property.
- To organize competitions or calls for expressions of interest for admission to the FSF Startup Accelerator, Engineering Services and R&D laboratories and to establish services contracts for the selected entities.
- To ensure, by leveraging the components of the FSF ecosystem, support for established start-ups.
- To organize awareness campaigns to detect innovative projects for incubation within the FSF Incubator.
- For project leaders in the field of industry 4.0:
  - To launch pre-incubation competitions
  - To organize training for the benefit of selected project leaders
  - To support them at the end of the pre-incubation training to put together files for seeking incubation funding from appropriate donors
  - To establish incubation agreements for project leaders who have successfully obtained funding for their incubation in the FSF Incubator.
  - To organize support activities for project leaders admitted to the Incubator through its network of experts that it manages.

- To organize technological monitoring and economic monitoring to identify foreign investors from the Euromed and sub-Saharan region who may be interested in setting up an industrial 4.0 activity in Morocco.
- To carry out marketing campaigns targeting investors.
- To establish services agreements at the FSF Business Center for interested investors.
- To manage the rapid prototyping services carried out at the rapid prototyping center shared between FSF and UEMF and located on the latter's premises.
- To manage communication for all components of FSF.

And, more generally, all operations, of whatever nature, legal, economic, financial, civil, commercial, movable, immovable or industrial, relating to the above-mentioned object or to any other similar or related objects, likely to promote, directly or indirectly, the goal pursued by the Company, its expansion or its development.

The missions related to project leaders and startups are carried out within the framework of an agreement with "FSF FOUNDATION", responsible for the general supervision of the support of these two segments of clients in the FSF zone.

### **3. Admission competition for project leaders in the FSF Ecosystem**

**This competition is open to any natural person with an eligible project aimed at developing a new innovative industrial unit for high added value and competitive product(s), using Industry 4.0 concepts and technologies. Project leaders whose applications are accepted will be supported within the FSF incubator for a maximum period of two years to create a startup based on a credible Business Plan developed during the incubation period. If this stage is successful, the startup created will be established in the FSF Ecosystem startup accelerator for a maximum of four years to develop the feasibility study of the industrial unit on a demonstration scale which, if this study is successful, will be installed in one of the spaces dedicated to this purpose within this ecosystem. After technological and economic validation on the industrial unit on a demonstration scale, the startup will set up the industrial-scale production unit in an industrial zone in Morocco, then other units anywhere in the world.**

#### **3.1. Objectives and framework of the competition**

The Fez Smart Factory Ecosystem supports project leaders aiming to create new innovative industrial units with high added value and competitiveness, using the concepts of Industry 4.0 in particular. Two FSF structures are involved in this support: The FSF-INDUSTRY entity through its incubator, and the FSF-FOUNDATION Foundation. The first is responsible for the services management and technical aspects of the support, and the second, for the general policy of the support and support for raising the funds necessary for the incubation.

Project leaders are selected through a two-phase competition. A pre-selection phase for pre-incubation training, and a second phase for selection for incubation based on the results of the pre-incubation training.

The innovative companies created at the end of the incubation phase will be established within the FSF-INDUSTRY Startup accelerator. Each of these companies will develop the feasibility study of its project during this support phase and would benefit, if the project is viable, from the support of the FSF-FOUNDATION Foundation to raise the funds necessary for the establishment of the industrial unit on a demonstration scale in a space dedicated to this purpose in the FSF ecosystem. Following the results of this technological and commercial demonstration stage on said unit, the company would implement the commercial industrial unit in an industrial zone of its choice, in Morocco or abroad.

### **3.2. The FSF-INDUSTRY Incubator**

It is an organ of FSF-INDUSTRY responsible for carrying out missions related to the incubation of innovative industrial projects using the concepts of industry 4.0. It launches awareness campaigns for the benefit of innovative industrial project leaders. It organizes pre-incubation competitions. It organizes pre-incubation training. It supports project leaders selected at the end of pre-incubation training to prepare incubation fundraising files from the appropriate donors financing the project leaders in incubation. It contributes to the creation of the network of experts supporting innovative project leaders and startups. It prepares incubation agreements for projects admitted to the incubator. It organizes the participation of project leaders in trade fairs and forums dedicated to the creation of innovative companies. It has the relevant FSF-INDUSTRY bodies carry out the services requested by innovative project leaders in terms of technological monitoring, business intelligence, intellectual property and rapid prototyping. It organizes support for project leaders until the end of their incubation period. The incubator welcomes project leaders until the creation of their startups for a maximum period of 2 years. Its capacity is 40 project leaders.

The innovative industrial projects targeted by the FSF-INDUSTRY incubator are those likely to contribute to improving Morocco's economic growth by creating high added value. This creation may be the result of a new or improved product, or an existing product on the market but whose commercial value has been improved by using a more efficient process and/or by optimizing the value chain through the use of industry 4.0 concepts in particular.

### **3.3. Phases and stages of the competition**

The industrial project idea holders will be supported by the FSF ecosystem, through the incubator, to establish a pre-feasibility study of the project with a preliminary version of the Business Plan. They will be pre-selected by competition for a pre-incubation phase. The latter, with a time volume of 30 hours and organized in five days of 6 hours spread over five weeks, consists of action training provided by FSF-INDUSTRY support experts. The training will make it possible to develop a preliminary version of the Business Plan

for each project, which will be used for the selection of project leaders to be established within the FSF-INDUSTRY incubator.

Thus, the competition takes place in two phases: the pre-selection phase and the selection phase.

### 3.3.1. Pre-selection phase

The pre-selection phase of the competition will take place in two stages: eligibility stage and pre-incubation admission stage.

#### a) Eligibility Step

This step will ensure the eligibility of the candidate's file to be evaluated by the evaluation committee. This step is based on the following criteria which must be met simultaneously:

- The industrial sector targeted by the project, which must be among the sectors covered by the FSF ecosystem: the agri-food industries, the metal, metallurgical and electromechanical industries, the renewable energy industries, the digital and artificial intelligence industries, the leather and textile industries, the chemical and parachechemical industries, and the biomedical and pharmaceutical industries.
- Project activities to take place during the incubation phase must have a TRL greater than 3.
- The minimum level of education of the project leader must correspond to a Bac+5 diploma, or Bac+3 with two years of professional experience.
- The investment budget of the industrial unit must be at least 10 MDH

#### b) Pre-incubation admission stage

Candidates who have passed the eligibility stage will have an interview with the evaluation committee according to the evaluation grid below.

Criteria	Grade/100
Commercial potential of the project	20
Technical and economic feasibility and legal of the project	20
Qualities of the project leader	20
Originality of the project	10
Forecast investment budget	05
Forecast turnover and financial feasibility	05
Sustainability and GIS* aspects of the project	20

\* Gender and Social Inclusion

The scoring grid below will be used to evaluate eligible applications. Candidates who obtain a score of 50 out of 100 or more will benefit from pre-incubation training for their projects within the limit of places available according to the score obtained.

Evaluation criteria	Grading scale	Documents used for the evaluation
<b>Commercial potential of the project (NT1) / Scored out of 20</b>		
<b>National</b>	Strong: 10 pts	Market study
	Medium: 05 pts	
	Low: 0pts	
<b>International</b>	Strong: 10pts	



	Medium: 05 pts	
	Low: 0pts	
<b>Technical, economic and legal feasibility of the project (NT2) / Scored out of 20</b>		
<b>Techno-economic feasibility</b>	Strong: 10pts	Technical and economic feasibility study
	Medium: 05 pts	
	Low: 0pts	
<b>Legal feasibility</b>	Strong: 10 pts	Legal feasibility study
	Medium: 05 pts	
	Low: 0pts	
<b>Qualities of the project leader (NT3) / Rated out of 20</b>		
<b>Academic training</b>	Strong: 5 points	Diplomas and transcripts
	Medium: 0 points	
<b>Professional experience</b>	Very good: 10 pts	CV and supporting documents
	Medium: 05 pts	
	Low: 0pts	
<b>Experience in innovation</b>	Very good: 05 pts	CV and supporting documents
	Medium: 02 pts	
	Low: 0pts	
	Good: 07 pts	
	Average: 03 pts	
	Low: 0pts	
<b>Originality of the project (NT4) / Noted out of 10</b>		
<b>Scientific</b>	Strong: 3pts	Scientific publications
	Medium: 1 pts	
	Low: 0pts	
<b>Technological</b>	Strong: 4pts	Patent(s), prototype
	Medium: 2 pts	
	Low: 0pts	
<b>Business model</b>	Strong: 3pts	Document presenting the Business model
	Medium: 1 pts	
	Low: 0pts	
<b>Forecast investment budget (NT5) / Rated out of 05</b>		
<b>Importance of investment</b>	Very good: 05 pts	Budget forecast investment and financial plan
	Average: 02 pts	
	Low: 0pts	
<b>Forecast turnover and financial feasibility (NT6) / Rated out of 05</b>		
<b>Importance of investment</b>	Strong: 5pts	Provisional investment budget and financing plan
	Average: 2 pts	
	Low: 0pts	
	Low: 0pts	
<b>Project sustainability and GIS (NT7) / Rated out of 20</b>		
<b>Economic sustainability</b>	Strong: 10pts	Document describing the economic sustainability (internal rate of return, number of direct and indirect jobs, etc.) based on the Business Plan
	Average: 05 pts	
	Low: 0pts	

<b>Environmental and Social Sustainability and GIS</b>	Strong: 10 pts	Document describing the environmental and social sustainability, GIS vision of the project
	Average: 05 pts	
	Low: 0pts	

### 3.3.2. Selection phase

The pre-incubation training will be sanctioned by the selection of projects on the basis of the improved preliminary version of their Business Plan obtained during the pre-incubation and using the same evaluation grid above. To be selected, the project must obtain a score greater than or equal to 70 out of one hundred and within the limit of places available according to its ranking. A waiting list will be established.

The selected projects will benefit from one month of support to prepare the search for funding necessary for their incubation. In the event of a project being withdrawn, it will be replaced by a project from the waiting list.

## 3.4 Application file

### 3.4.1 Application process

Applications will be evaluated in a two-stage process, as detailed below:

1. Initial evaluation based on the information provided in the Fez Smart Factory Competitions application form via the following link: <https://bit.ly/4dxTqcG>
2. Shortlisted applications will be contacted by Fez Smart Factory team for further assessments based on the eligibility criteria mentioned above. Candidates will also be required to submit the administrative and technical documents, mentioned below.

### 3.4.2 Contents of the application file

The application file must allow for the assessment relating to the pre-selection phase with its two stages of eligibility and admission to pre-incubation. To this end, the file must include the following elements:

- 1) Presentation of the project leader: CV, diploma(s) and transcripts corresponding to the diploma(s). The CV must be accompanied by supporting documents, in particular for professional and innovation experience;
- 2) Presentation of team members, if applicable: CV, diploma(s) and transcripts corresponding to the diploma(s) for each member of the project team.
- 3) Project description (3 pages): the project must aim at developing an innovative industrial unit producing one or more high value-added and competitive product(s), based on the concepts and technologies of Industry 4.0. The industrial sector concerned must be among the sectors covered by the FSF Ecosystem: the agri-food industries, the metal, metallurgical and electromechanical industries, the renewable energy industries, the digital and artificial intelligence industries, the leather and textile industries, the chemical and paracheical industries, and the biomedical and pharmaceutical industries.

The project description must present:

- THE) innovative character(s) of the product(s) and/or process of the targeted industrial unit, based on the state of the scientific and technological art;
- The schematic diagram of the production unit with a clear description of its operation;
- The use of Industry 4.0 concepts for the optimization of the industrial, environmental and social performances of said industrial unit;
- The scientific publication(s), patent(s) and prototype(s) of the project leader in

- relation to the project;
  - Market potential at national and international level;
  - Forecasts of the investment budget, annual turnover and internal rate of return;
  - The financing plan.
- 4) Presentation of the activities to be carried out during the project incubation period: these activities must be at a TRL (Technology Readiness Level) level greater than three; this assumes that level 3 has already been reached. The activities to be carried out must result in a credible Business Plan allowing the creation of a competitive startup with a high growth rate.
- 5) The project Business Plan including
- The business model of the project.
  - The technical and economic study of the project.
  - The market study relating to the project.
  - The technical and economic study of the project.
  - The legal feasibility study of the project.
  - A chapter describing the economic sustainability of the project based on the Business Plan.
  - A chapter describing the environmental and social sustainability and GIS vision of the project.

### **3.5 Incubation contract for project leaders**

Candidates selected for incubation within the FSF Ecosystem will sign an incubation contract with "FSF INDUSTRY" defining the commitments of each party during the incubation period. Project leaders are exempt from installation fees covering their share in the use of the premises and the general expenses of "FSF INDUSTRY". Other incubation costs carried out by entities external to "FSF INDUSTRY" will be paid by the project leaders from the incubation budget that they could have obtained with the support of "FSF FOUNDATION".

During this phase, each Project Holder will benefit from the following advantages :

- A 20 m<sup>2</sup> office equipped with office furniture ;
- Use, subject to reservation, of a meeting room, a conference room with a capacity of 250 people and an exhibition hall for 300 people ;
- One-stop-shop services ;
- Social services : catering and cafeteria ; medical, health and safety services ; nursery services ;
- Support services in entrepreneurship, industrial property and industrial development ;
- Help in putting you in contact with experts, donors, investors, industrialists, etc.
- Services of the rapid prototyping center shared with the UEMF, subject to invoicing at preferential rates ;
- Facilitation of access to other technological or other services subject to invoicing, which can be provided by the various components of the UEMF

### 3.6 Competition Schedule

Activity	Start date	End date
Competition launch and end date submission of applications	12/10/2024	15/12/2024
Eligibility assessment	16/12/2024	20/12/2024
Pre-incubation training	23/12/2024	37/12/2024
Selection phase	30/12/2024	03/01/2025
Preparation of files for research funding	06/01/2024	17/01/2024
Support in the search for funding	20/01/2024	31/01/2025
Signing of incubation contracts for project leaders	03/02/2025	03/02/2025

### 3.7 Submission of the application file

The candidates must send their application file by email to the following addresses:

[t.bounahmidi@ueuromed.org](mailto:t.bounahmidi@ueuromed.org)

[h.elkadiri@ueuromed.org](mailto:h.elkadiri@ueuromed.org)

by specifying in the subject line of the email "APPLICATION FOR PROJECT LEADERS".