Technocity Project:

A Museum of Science and Technology In Morocco

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Purpose :

Creating a museum of science and technology in Morocco

Targeted Public :

- Primary, middle and high schools
- Academic students
- Teachers/trainers
- General public

Description :

This museum aims to educate the public to discover science and technology. It presents a set of experiences and learning objects to show and demonstrate some basic principles and basic knowledge in various scientific fields. The exhibitions are designed in a fun and accessible way to the uninitiated. Wherever possible, visitors will be invited to participate in experiments to make them actors and to allow improving their understanding and learning.

Like any other similar structure, this museum will also be a place to capitalize technological experiences and educational practices for dissemination to a wide public.

Through a watch and exchanges with other museums of this type worldwide, this museum will enrich its exhibitions and expertise. It will thus have a fund of materials and demonstrations that can be shared throughout Morocco, for example through a traveling exhibition.

Alongside the scientific and technological discoveries, the museum will make known Morocco's geography and its heritage as well as natural resources (minerals, flora, fauna, sea, ...) using modern technologies (google Earth, GPS, databases, ...).

This place is both a place of recreation and a place of discovery. It allows popularizing, encouraging vocations, educating, practicing, learning, understanding, creating, and innovating.

This museum will primarily offer:

- Permanent exhibitions covering many areas: Health, Energy (focus on solar), Environment (focus on water and air), biology and geology (focus on plants and minerals in Morocco), Geography (Morocco interactive), Optical-Photo-Video, Electricity, Mechanics, Chemistry, Mathematics, Transportation, Sea, ...
- Temporary exhibitions of special interest or theme or topical. These exposures can also come from technology projects within the framework of academic activities or industrial inventions.
- Traveling exhibitions to go to people who cannot move to the museum or for remote sites entertainment.

Indicative content:

- Health, Life and Earth Sciences: anatomy, blood pressure, audiometer, medicines, food, plants, fingerprint biometrics, reptiles, minerals, Aquarium, Botanical Garden ...
- Space: astrolabe, satellite, weather station, Google Earth, GPS, telescope, drone, balloon, airplane, helicopter, ...
- Physics-Chemistry: solar energy, sensors, air jet, car, electricity consumption, levitation, plasma, Newton disk, Optical, Infrared, Distillation, the lever effect, movement, sound, ...
- Technology: Images, cameras, Robot, Microscope, 3D sculpture, metal detector, light, washing machines, motor-generators, bike, motorcycle, train, ...
- multimedia room
- Documentary screening room including 3D
- FabLab

- Electronic workshop, mechanics, robotics ...
- training room.

The progress and advances of modern civilization are mainly due to scientific and technological discoveries. All fields are concerned, for example:
- Farming with tractors guided by satellite, optimized treatments systems and irrigation, biologically and genetically prepared seeds, ...
- Communication with smartphones integrating sophisticated components, the web that transcends borders, satellites and antennas that listen and transmit waves, radio and television stations everywhere and in all subjects, ...
- Medicine with surgical robots, Dopplers / Scanner / IRM, incubators,...
- Chemistry that pierces every day the secrets of materials and the biology the secret of life,
- Computers become pervasive in everyday life: banks, administration (police, customs, tax,…) databases of all kinds, logistics,...
- Space with planes that popularized and become almost sky taxis, satellites, drones used extensively by the military but soon to deliver packages..!
- Energy with biofuel, solar thermal, photovoltaic, geothermal, fuel cells,...
- Etc.

All these advances were allowed through discoveries and inventions that have been expressed in an environment where scientific and technological culture is part of the values of society, as is the case in Japan, Korea, the USA and Europe ... In these countries, this culture is institutionalized at an early age in primary schools and in colleges and high schools (museums, clubs and associations, national contests, caravans of science, science festival, ... - These museums are free in England). This culture naturally continues in business and working life through incentives, aid and subsidies, innovation prizes,... The whole society is concerned not just universities, research centres or large companies who have concerns and too specialized and limited skills.

Science and technology are not simple but require specific methods of learning. Thus in the mid-20th century was born 'HANDS ON' in the US, focusing on methods of learning by participation recommended by many Nobel Prize. If the theory can be learned on paper, the technology cannot be learned without practice and without putting HANDS ON.

Technocity has the ambition to illustrate technology in a simple fun and participatory way. Visitors of all ages are able to test the power consumption of some common devices create energy by spinning a wheel, measure pulse and tension, create optical effects, make a video or sound editing, ...

Technocity reserve a special place to technologies for rural areas by presenting current achievements, proven, inexpensive and easy to make: solar oven, biodigester/biogas, natural light, hydroelectric pump, pumping, sterilization of water, solar water heating, bio-toilet ... but also access to digital not to accentuate the divide.

Traveling museum:

It is intended to decline this project as a traveling bus called *TECHNOBUS* which presents many advantages:

- Modest and reasonable cost;
- Possibility of duplication to cover several regions and especially rural areas;
- Usable all the year round even during school holidays;
- Go to schools, avoiding tedious and expensive trips to the users;
- Greater flexibility in the experiences and entertainment.
- Enlargement of the target audience.

BUSINESS PLAN

Investment (excluding real estate)

Description	Amount in DHS
demonstration materials. Experiences. scientific and technological activities (150 to 200 exposures)	3 500 000
Furniture and furnishings	1 000 000
Materials labs and workshops	2 000 000
Bus traveling exhibition	1 250 000
Planning and bus equipment	1 250 000
working capital	1 000 000
Total	**10 000 000**

Total excluding property about 1 million Euros

Human resources
Employing ten people is projected to provide many functions, some of which are classic and some are dedicated and specific:
- Reception, information
- Guarding, monitoring
- Maintenance of facilities and premises
- Scientific and technical animation.
- Leadership, communication, management.

Technocity will also use many skills for installation and development of experiences for exhibitions. Other hires will be based on the development of activities (itinerant bus, technological caravans, public exhibitions ...).

Incomes
- Entrance fees
- Subscription to workshops
- Training
- Exhibitions
- Educational products

Promotion

The communication will be primarily done in schools but also in conventional media:
- media (newspapers, radio, television);
- large public fairs;
- Specific trade shows;
- brochures;
- public relations ;
- web site.

Location

It is desirable that this museum is located in a place allowing a clear view of its surroundings and easy access. It is planned:
- a green area with botanical gardens, outdoor and greenhouses
- a small artificial lake with fish and vegetation
- spaces to host exhibitions outdoor gear of a certain size (land vehicles (bicycles, cars, ...) marine or aerospace (drones, helicopters, aircraft cockpit, satellite, ship, ...), wind turbine, ...
- Pavilions with trays open space 'that can develop with flexible structures.
- A reception area / relaxation / reception
- Roof will serve to install a telescope, PV, solar water heater.

Example of museums

http://en.wikipedia.org/wiki/List_of_science_museums
http://www.childrensmuseum.org
www.exploratorium.com
http://www.unige.ch/communication/service/passerelle.html
http://www.exploratory.org.uk/
http://www.xplora.org
http://scienceduc.cienciaviva.pt/home/

http://www.sciencecenterberlin.com

http://www.cac.es/museo/