**Conception for the OIC Innovation Capacity Building**

General provisions:

1. At all times, everything new (be it music, painting, scientific or technologic discoveries, any inventions and innovations) was created only by particularly gifted, talented individuals. Talented people shape the development of any facets of civilization. Music is written by composers, poems are written by poets, pictures are painted by artists, songs are sung by singers, etc. In every domain, very talented people can create masterpieces that go to the treasury of the achievements of human civilization. But in order the composer to make his masterpiece to be performed for hundreds of years, it is necessary to give the opportunity to a small person who is endowed with the composer talent to study musical literacy, hear musical works created before him or her by great composers. And in this case only there is a probability that the talent will manifest and humanity will receive another beautiful melody. The same can be said about any kind of activity. To grow a talented person (composer, chess player, athlete, singer, artist), it is necessary to provide access to a wide a range of young children to developing their talents from an early age.Whereas in most developed countries such conditions are created for musicians, sportsmen, chess players, and singers, there are virtually no such conditions for searching, selecting and developing talented inventors and innovators. Therefore, the chance for a talented inventor to develop his talent and make a great discovery is just as small as if Bach or Mozart were not given the opportunity to play musical instruments and people would expect them to create musical masterpieces. And imagine how many such Bachs and Mozarts would not be found by the world only because they were born in poor families and had no access to music education. Just as the world would have hardly recognized Capablanca or Alekhin if they had not had access to chess as a child.
2. Today, many activities bring huge profits to talented people and their environment (managers, producers, coaches, administrators) owing to globalization since talented people gain access to a huge audiencevia television and the Internet. Who would have thought 30 years ago that a football player can earn 60 million euros a year like Lionel Messi? His story in general is very revealing in this sense. He was born in a poor family of a worker and a cleaner. But since five years he had played football in an amateur club under the guidance of his father. At the age of 11, he was diagnosed with an illness that required $900 a month for treatment. Neither the parents nor the children's club in which Messi played then had such money. At the urging of one of the shareholders of Barcelona club, Messi's father drove him to a show at this club where the game of 13-year-old Messi made such an impression on the club's leaders that they fully paid Messi's treatment in the amount of about 90 thousand euros per year as well as his relocation to and accommodation in Spain. In fact, only financial assistance to young Messi allowed him to realize his talent and become not only one of the most successful and highly paid football players in the world, but also bring huge profits to his club and shareholders who believed in his talent.

3. In this case, all the components of success are visible:

- a talented child;

- opportunity to play football in a children's club where he was able to demonstrate his talent;

- getting noticed in one of the world's clubs;

- financing of moving and living in Europe and expensive treatment by the shareholders of the club for possible future success;

- playing with talented teammates led by excellent coaches.

If we remove at least one of these components, the world is unlikely to see the game of Messi which he showed in Barcelona.

1. Similarly, real development of innovation in any country requires conditions for the search and development of talented inventors. Since no one can predict in advance which child from which family will become a genius inventor tomorrow, such selection system is needed that allows early search of talented inventors, providing them with access to modern knowledge and training under the guidance of experienced teachers.
2. To play football today, just like a hundred years ago, you need two teams, a football field, balls, uniforms, coaches, referees(since football is a game in the real world which cannot be played remotely). But, for example, to develop creative abilities in chess today, it is not necessary to go to a club and play on wooden boards with a rival face-to-face. Today you can play chess without leaving your house; it's enough to have access to a computer and the Internet. Recently, the world witnessed rapid development of computer games, with world championships with large prize pools being held where young talented players from different countries earn serious money, training at home and playing in teams whose members can be located in different parts of the world.
3. Invention is a kind of talent as well. It is rather like the talent of a composer who creates a melody that did not exist before. A talented composer creates talented hits, a genius composer creates genius works. Genius composers are born very rarely just as genius inventors, and it is very important to find and timely support young talent, since if any great composers were not given opportunity to play musical instruments in childhood and listen to the music of his predecessors, then they would have hardly realized their natural talent. Inventor (innovator) is a person whose brain is designed so that he or she finds patterns more easily than others and can combine them in new mechanisms or devices that humanity did not know yesterday. This is also a talent that is not given to everyone. But in today's world talented inventors cannot show themselves in childhood as they have practically no access to scientific and technical knowledge, since mankind has gone so far ahead in the development of technical knowledge that for learning already open knowledge only you need to painstakingly study for many years in school and university. However, successful study of knowledge already discovered by someone and ability to think and make discoveries and inventions are two different things.Creating a beautiful melody or playing a melody on a musical instrument written by someone is a different thing as well. That's why there are always more good musicians in the world than good composers. Creating a new melody is much more difficult than playing it. Therefore, today there are many excellent virtuoso musicians who can perfectly play the most complicated musical compositions of different composers, but they cannot write any beautiful melodies themselves. Conversely, there are composers who can compose a beautiful melody, but they cannot play it as well as a virtuoso musician or sing it as a good singer. That is, in the world of music on the one hand there are composers who compose melodies, and on the other hand there are singers and performers who sing or perform these tunes for the public. It is a very rare case that a singer is a good composer himself. The same thing happens in science and technology. Successful knowledge does not mean creative thinking. Therefore, there are so many engineers in the world who can work with already existing formulas or create mechanisms by already known principles, but few people who are able to create something fundamentally new and breakthrough. Therefore, training and developing creative people in the same pattern as regular engineers is a wrong thing, just as you cannot develop a composer forcing him to sing well other people's songs.So you can train a singer, but not a composer. Composer should be encouraged to compose new tunes, not to sing other people's songs. Let his songs be simple and inelaborate in the beginning, but they should be borne by the composer himself. Surely, there must be a system of selecting and listening to such melodies by leading composers who are able to detect great potential and talent in a simple melody. The same idea can apply to inventing. Mind-numbing longstanding memorization of already open formulas and theorems cripples a creative personality. What is more, today's test system virtually kills any pursuance of creativity as it leaves no room for creativity. You just have to guess one correct answer. And who said that it is a correct one? Who has proved this? Maybe in some cases it is wrong? Maybe it is correct only from the point of view of science and technology in 2017, and in five years it will be outdated and hence wrong?
4. For example, Lobachevsky created his "non-Euclidean geometry" in the 1830s and it was not recognized by contemporaries for almost forty years. His discovery was mocked and denied by most mathematicians of his time. Nevertheless, Lobachevsky despite everything continued to develop his theory as he was a creator by nature. It was only after his death when the world gradually matured to an understanding of his ideas. It was hundreds of professors-mathematicians who for almost forty years could not understand the novelty of his ideas while being considered good mathematicians, successfully defending their doctoral dissertations and knowing well the previously discovered formulas of Euclidean geometry. They could not even understand for a long time the new knowledge that contradicted their knowledge, being far from discovering something new. So today's education system brings up such professors who are experts in old truths and are good at counting and calculating by old formulas and theorems, but as a rule incapable of discovering fundamentally new knowledge which often contradicts the old one. Today's education system kills Lobachevskys and Einsteins and generates thousands of intelligent knowledgeable "scientists" who know a lot but, unfortunately, cannot discover anything new. These are a kind of singers in the music world who have rich repertoire and are good at singing old songs, but cannot create any new songs.
5. Proceeding from the foregoing, it is necessary to build such a system of selection and development of creative personalities that would be aimed at searching and encouraging not "singers" but "composers" in the world of technology. Therefore, we should look not for those who can learn much and quickly and it is good in answering a lesson of already known truths, but those who are inclined to creative unconventional independent thinking. To do this, we need to create a system similar to the old-time school olympiads in mathematics, physics, chemistry, but select winners not from among people with an ability to solve problems by previously known ways, but creative thinkers and problem solvers. Therefore, the tasks should not be so much knowledge-oriented, but rather focus on smart and unconventional thinking. And only those people who have enough such qualities - unconventional thinking and creative problem solving - can create such tasks and evaluate the beauty and originality of their solutions. It is just like a future genius composer can be taught only by another composer, maybe not as talented as the student, but the composer who is able to compose melodies and appreciate the beauty of the created new tunes.
6. After that, such creative gifted people need two important things: free access to scientific and technical information in their mother tongue and opportunity to take part in online lectures in seminars of leading experts in various fields. This will boost rapid growth of talented inventors at the highest possible speed, limited in this case only by their individual abilities.
7. Next, we need to build a system of cash incentives for success in this area. First, through grants and prizes for original ways of solving various problems judged not by "right-wrong" scale, but by "creatively different - patterned" scale.
8. Then, it is necessary to give the opportunity to creatively gifted people selected by this method to join creative teams of interests in various promising areas of science and technology that are recognized as priority for financing. For this, the principle must be laid that the team is selected individually for each task, at the discretion of the people themselves. If a problem is solved, then the entire team receives a prize equally, regardless of who contributed more to the problem solution. This will help to avoid unnecessary disputes. The whole team should be aimed at solving the problem, therefore all the members should be as open for discussion as possible.Otherwise, if there is a fear that someone's actions may seem more weighty, there may be rivalries between the team. There may accordingly appear hiding some of the guesswork or information by an individual from other team members to think through the idea and provide it in the most ready-made form, instead of immediately brainstorming it with the team for group discussion.
9. After a certain time, leaders will naturally stand out gathering research teams around them to solve certain tasks. In this case, the tasks for such teams will be problems in real economy, which require fresh non-standard solutions as a result of which a significant effect can be achieved in saving resources, reducing costs, and improving consumer properties of goods, etc.
10. In fact, we are talking about building an innovation building system by analogy with the system of music and football industry:

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| **Analogies** | **Music** | **Football** | **Innovation** |
| Individuals | Composers  | Footballers | Inventors |
| Organizationformat | Associationofcomposers | Footballclub | Innovationcenter |
| Goal | Composingmusic | Scoringgoals | Seeking technical solutions to problems |
| Trainingsystem | Music schools | Children'sfootballclubs | Internet Centers |
| Selectionsystem | Concerts of students of musical schools | Matches between children's teams | Internet competitions for students on non-standard technical problems |
| Teachers | Teachers, composers | Coach | Technicalspecialists-inventors |
| Sourcesofknowledge | Musical literature | Video archives of games | Technicalliterature |
| Seedfunding | The system of grants for gifted children musicians | The system of grants for gifted children-players | The system of grants for gifted children - inventors |
| Sourceofseedfunding | Owners of rights to music | Ownersofclubs | Owners of innovation centers |
| Corefunding | Fee for concerts | Feeformatches | Fee for inventions |
| Sourceofcorefunding | Owners of concert halls and recording studios (for concerts) | Owners of stadiums and TV channels (for matches) | Manufacturers (for solving technical problems) |
| Generationoffunding | Concerttickets | Tickets for matches | Soldgoods |
| Team | Orchestra | Club | Team |
| Personincharge | Banddirector | Coach | ProjectManager |
| Other team members recruited to solve problems | Musicians of the orchestra (violinists, trumpeters, cellists ... ..) | Administrators, doctors, massage therapists ... | Specialists of needed related knowledge areas (power engineers, mathematicians, chemists, ecologists ... ) |
| Supply | Musical instruments, music schools, concert halls  | Football fields, balls, sports uniforms | Computers, access to Internet resources with technical literature, innovation centers |

 **Action Plan for the Establishment of Innovation Centers of OIC Countries:**

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| **№** | **Activity** | **Performer** | **Funding** | **Notes** |
| 1 | Preparation of a project of the primary list of priority areas of innovation development | EFID together with the Islamic Foundation for Science, Technology and Development (IFSTAD) | At its own expense of EFID and IFSTAD | For consideration and approval at the OIC summit |
| 2 | Preparation of a standard project for the creation and operation of an innovation center | EFID together with the Islamic Centre for Vocational and Technical Training and Researches (ICVTTR) and the Islamic Foundation for Science, Technology and Development (IFSTAD) | At its own expense of EFID, ICVTTR and IFSTAD  | For consideration and approval at the OIC summit as recommendation for the OIC countries  |
| 3 | Approval of the primary list of priority areas of innovation development  | OIC Summit on Science and Technology | Not required | With the possibility to change and expand this list at the next OIC Summit on Science and Innovation |
| 4 | Approval of a standard project for the creation and operation of an innovation center  | OIC Summit on Science and Technology | Not required | With the possibility to adjust this mechanism of operation at the next OIC Summit on Science and Innovation |
| 5 | Establishment of a system of innovation centers in each OIC country according to a standard project. | Any OIC country interested in creating an innovation center according to a standard project in its country | At the expense of a corresponding country’s budget | With the possibility of attracting donations (sadaka) from individuals and organizations interested in the development of an innovation center in a particular OIC country to the organizational expenses for opening a center  |
| 6 | Coordination of the work of innovation centers established in different countries | Islamic Foundation for Science, Technology and Development (IFSTAD) | At the expense of IFSTAD | Within the ongoing activities of the IFSTAD |
| 7 | Involving the world’s leading experts in various fields for reading a series of lectures and conducting seminars on priority areas by a webcast system | Islamic Foundation for Science, Technology and Development (IFSTAD) | At the expense of IFSTAD | With the possibility of attracting the donations (sadaka) from individuals and organizations interested in the development of science in Islamic world to pay for lectures |
| 8 | Providing the translation of these lectures and seminars into the languages of OIC countries where innovation centers are opened and operating | Innovation center of a corresponding OIC country. | At the expense of a corresponding country’s budget | With the possibility of attracting donations (sadaka) from individuals and organizations, interested in the development of science in a specific OIC country, to pay for the work of translators |
| 9 | Search and translation of the latest information on priority areas into the languages of OIC countries, where innovation centers are opened | Innovation center of a corresponding OIC country together with the Islamic Foundation for Science, Technology and Development (IFSTAD) | At the expense of a corresponding country’s budget | With the possibility of attracting the donations (sadaka) from individuals and organizations, interested in fillingan innovation database of a particular OIC country in a local language, to pay for the work of search engines, patent experts, translators. |
| 10 | Preparation of non-standard tasks for inventors of different age and levels of technical training for holding contests on non-standard thinking on the basis of innovation centers in order to search for talented individuals prone to non-standard technical thinking | Innovation center of a corresponding OIC country together with the Islamic Foundation for Science, Technology and Development (IFSTAD) | At the expense of a corresponding country’s budget | With the possibility of attracting the donations (sadaka) from individuals and organizations interested in searching and development of talented inventors in a particular OIC country to pay for the preparation and holding of the contests with prize funds. |
| 11 | Providing the opportunity for development of talented young inventors of any age and social origin  | Innovation center of a corresponding OIC country together with the Islamic Foundation for Science, Technology and Development (IFSTAD) | At the expense of a corresponding country’s budget | With the possibility of attracting donations (sadaka) from individuals and organizations interested in development of talented inventors in a particular OIC country, to purchase the computers, to pay for Internet access and providing grants for talented children from needy families |
| 12 | Formation and financing of creative teams from selected people to solve specific problems in various fields of science and technology | Private invention centers | At the expense of the owners of these centers | The activities of the centers are based on the principles of obtaining profits from solution of innovative tasks for specific companies |
| 13 | Formation and maintenance of the database of innovations developed within the framework of this conception. | Innovation center of a corresponding OIC country | At the expense of a corresponding country’s budget  | In coordination with the Islamic Foundation for Science, Technology and Development (IFSTAD) |
| 14 | Preparation of analytical reporting materials, evaluation of the effectiveness of innovation centers in the framework of this Conception and preparation of proposals for improving their future work | Islamic Foundation for Science, Technology and Development (IFSTAD) | At its own expense of IFSTAD | With the periodicity defined at OIC Summit on Science and Technology |
| 15 | Review and approval of the evaluation of effectiveness of work and suggestions for improving further work | Next OIC Summits on Science and Technology | Not required | For prompt adjustment of the operation mechanisms of innovation centers in rapidly changing economic conditions |