

Concept Note on

D-8 Network of pioneers for Research and Innovation (D-8NPRI)

1. Introduction

We are living in the era of digital technology characterized by the rapid changes in technology and the world economy. Hence, we are going through great transformations and we are getting more enmeshed in a globalized world. Innovation is a touchstone of the current global economy, exemplified by the rapid diffusion of successive new generations of information and communication technologies. For the past generation, these industries have played a disproportionate role in global business investment, personal consumption, and the growth rates of productivity and GDP.

D-8 Member States have made innumerable researches in various fields such as clinical medicine, plant and animal science, engineering, chemistry, agricultural science, environment ecology, material science, pharmacology & toxicology, biology & biochemistry, microbiology, mathematics and computer science. Scientific Production Reports of D-8 Member States during last 10 years is attached **as Annex I. However, despite huge research papers emanating from D-8 Member States annually, it has been observed that very few of them are translated into finished products.**

It is against this backdrop that D-8 Organization for Economic Cooperation decided to put strong emphasis on research and innovation policies and collaboration among the universities is seen as the most promising way to strengthening innovation in the economy as it increases the flow of knowledge across sectors and stimulate further research and development investments and activities. Leaders of the D-8 Member States at the 9th D-8 Summit held in October 2017 in Istanbul supported the idea to establish a D-8 Research Centre and established D-8 International University in Hamedan, Iran in order to promote research and innovation activities among the Member States.

2. The D-8 NPRI Platform

The idea behind the establishment of the D-8NPRI is to bring D-8 Member States researchers, government and semi-government research institutes, industrial research institutes and research in D-8 universities under one umbrella. Through this network, D-8 will expand the level of innovation in the D-8 Member States to enable the economic growth essential for sustainable development in D-8 region, identify research and development capabilities and exchange the research results with industries in Member States, extend laboratory facilities to the Member States researchers and students, conduct joint research projects on industrial areas, and institute research fellow exchange programme among universities in D-8 Member States and the D-8 International University.

Hence, the NPRI is an open concept that will penetrate the “Hard Shell” of Member States’ borders on research and development and thus benefit all.

D-8 is an intergovernmental Organization with a private sector arm (D-8 CCI) and highly regards the pivotal role of the private sector in attaining the sustainable development goals. Therefore, it has to create a favourable atmosphere and suitable climate that will engender growth and development in science, technology and innovation amongst its Member States. This will be done by bringing professionals- economists, scientists, inventors, intellectuals and entrepreneurs together with a view to supplying views, ideas and innovations and transforming heuristic research outcomes into end products. In other words, the universities under this network would be drivers of innovation and economic growth and development through the conduct of research and development in relevant fields of human endeavours.

Even though the D-8 has established a Research Centre as well as the D-8 Technology Transfer and Exchange Network (D-8 TTEN), not many companies under the auspices of the D-8 CCI make full use of them. We therefore need a special mechanism and platform in order to encourage Member-States to accord the deserved priority and focus to research and development so as to pave way for rapid indigenous technological advancement as well as entrepreneurship and business development.

To this end, the D-8 encourages Member-States to increase their national statutory allocations to research and development. In the same vein, it will engage universities and encourage them to tremendously build their capacities in science and technology where they do not exist and where they do exist, to improve them significantly. By doing this, the universities will also address the problem of talent shortage that is bedeviling the D-8 Member-States.

3. Aims and Objectives

Through this platform, the universities under the network will have a vibrant association with a befitting secretariat and they will take turn to arrange seminars, workshop, studies as well as other programmes on technology and innovation. They can also have an exchange programme and also share global best practices among themselves. They can also have a pool and engage with the private sector under D-8 CCI as well as the proposed D-8 industrial park. They can decide on what best to come up with so as to specialize and benefit one another and the society e.g. medical, biological, chemical, mechanical, etc. They can also collaborate with top ranked universities around the world. In this way, the universities will easily get accreditation, recognition and good ranking and thus emerge as high-quality institutions and key sources of greatness for the D-8 Member-States.

In the light of the foregoing, the D-8 NPRI will undertake the following activities:

- Expanding the level of innovation in D-8 Member States

- Identifying Research and Development capabilities of the D-8 Member States
- Conducting several research and study projects
- Conducting joint research projects in industrial and technical areas that can facilitate development of the D-8 Member States
- Strengthening the linkage among universities, research institutions, industry-related organizations and training institutes to develop collaborative research on common challenges and devise strategic discourse
- Helping the industries and SMEs in Member States by providing research results and technology to overcome the challenges and problems that they are facing
- Developing innovative technologies for the industries and SMEs
- Promoting collaboration and establishment of Joint Ventures (JVs) with leading companies of the D-8 CCI on technical and other materials;
- Promoting new technologies among SMEs in Member States
- Helping D-8 HSP by providing research materials and inventions to overcome the challenges and problems in the Health Sector of the Member States
- Initiating Research Fellow exchange programme among universities in D-8 Member States.

4. Proposed Structure of the D-8 NPRI:

4.1 Research entities and beneficiaries within D-8 Framework:

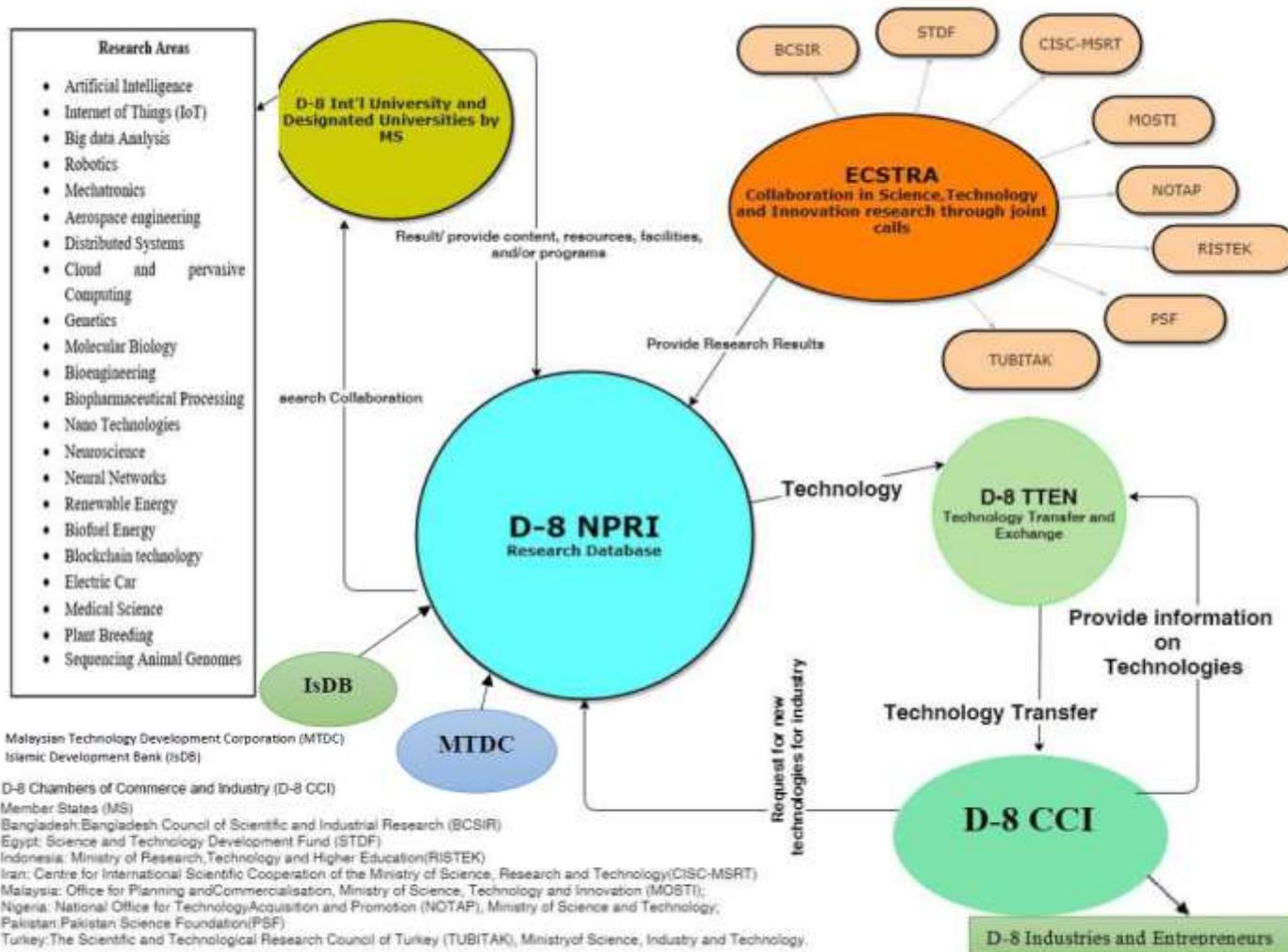
| Name of the Entity | Function |
|---|---|
| 1. Members States universities that are appointed for the D-8NPRI. The list is attached as Annex II. | Research collaboration in the following areas <ul style="list-style-type: none"> • Artificial Intelligence • Internet of Things (IoT) • Big data Analysis • Robotics • Mechatronics • Aerospace engineering • Distributed Systems • Cloud and pervasive Computing • Genetics • Molecular Biology • Bioengineering • Biopharmaceutical Processing • Nano Technologies • Neuroscience • Neural Networks • Renewable Energy • Biofuel Energy • Blockchain technology • Electric Car |

| | |
|---|---|
| | <ul style="list-style-type: none"> • Medical Science • Plant Breeding • Sequencing Animal Genomes |
| 2. D-8 International University | International University of D-8 Organization for Economic Cooperation (hereafter referred to as D-8 International University) is an intergovernmental university under the supervision of the D-8. With the overall aim of promoting university and student mobility among Member States and enforcing Para. (7) of Article (5) of D-8 Roadmap (2008-2018), which highlights the "strengthening of scientific cooperation and technology to institutionalize cooperation through the establishment of university/institutional research centers of the Group of Eight". |
| 3. D-8 Technology Transfer and Exchange Network (D-8 TTEN) | D-8 TTEN is an informative and transaction-enabled network set up among the Eight Developing Muslim Countries. It fulfills Technology market functions, pursue such missions as capacity building and information dissemination on technological capabilities, achievements |
| 4. Enhancing the Cooperation in Science, Technology and Research Among D-8 Countries (ECSTRA D-8) | ECSTRA D-8, is a flexible and informal platform for communication and coordination among STI agencies and governmental bodies of D-8 countries that are interested in cooperating together. |
| 5. D-8 Chambers of Commerce and Industry (D-8 CCI) | The Members of D-8 CCI are the National Chambers of Commerce of Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey. The main goal for which the D-8 CCI was established is to support cooperation among the private sectors in the D-8 countries through joint ventures and commercial exchanges among themselves in order to achieve industrial development, economic integration, high intra D-8 trade and social development. |
| 6. D-8 Research and Development Council | Proposed council is closely mirroring the D-8 NPRI relies on making use of the already research capabilities of the D-8 Member States. |
| 7. IsDB Islamic Development Bank | IsDB would be a partner for provide the funding of the Joint Projects initiated and Approved by the D-8 NPRI and the Member States |
| 8. D-8 Health and Social Protection Programme Office (D-8 HSP) | D-8 HSP Office situated in Abuja Nigeria is an Affiliated body the D-8 organization working on to establishing the common Health care and social protection system in the Member States. |
| 9. Malaysian Technology Development Corporation | MTDC has been the key player in technology commercialization in Malaysia and promoting the adoption of technologies by local companies. |

The following figure “D-8 NPRI Data Flow Diagram” will depict how the D-8 NPRI will keep synergy among the research entities in D-8 and it workflows among the entities and finally how the private sectors and industries in D-8 will receive the end results from the network.

Figure 1: D-8 NPRI Data Flow Diagram

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4.2 The D-8 NPRI modus operendi:

Firstly, The D-8 NPRI will act as a network of Research and innovation. It will collaborate in research with the universities and research institutes and organizations in Member States as depicted in the figure 1. The Universities and research bodies will send the outcomes of their researches to the D-8 NPRI. The D-8 NPRI will work in a very organized and coordinated manner and share these outcomes with the D-8 CCI with a view to turning them into finished products for the benefit of all.

Secondly, the D-8 CCI as well as industries and SMEs from Member State could send requests for a particular technology or research outcome to the D-8 NPRI. Then the network will check whether the requested research or technology is available in the network or not. If it is available, it will be transmitted through the High Council of D-8 TTEN (A D-8 affiliated body which is responsible for technology transfer and exchange network). If the technology is not available in the D-8 NPRI, then it will instruct the universities and research institutions to carry out research on the desired technology for the benefit of the entity that is requesting for it. Furthermore, if the industries in one of the D-8 Member States want to upgrade their existing technology, D-8 NPRI will also extends its helping hand by bringing in similar industries in other Member States who are pioneers or advanced in that area of technology.

Thirdly, the D-8 HSP will work together with the D-8 NPRI to come up the proposal of establishing and implementing the common Health Care and Social protection programme in all Member States, the D-8 NPRI partner universities and institutes will provide the support to the D-8 HSP on joint health care research projects and data collections.

Fourthly, the D-8 NPRI will promote collaboration and establishment of Joint Ventures (JVs) among the Research Institutes of the Member States for research and development projects in the research areas as depicted in figure 1.

Fifthly, D-8 encourages companies in Member States to transfer and exchange innovative technologies among themselves. Thus, D-8 introduced “D-8 Technology Transfer Award” which is given to the Best Technology Transfer Contract.

Sixthly, D-8 NPRI will also responsible to come up joint project proposals that would be attract funding by IsDB.

Seventhly, MTDC will help to connect with the international arena to commercialize and market the researches accomplished through the D-8 NPRI platform.

Finally, the D-8 NPRI will recognize and accredit any innovation from the Member States.

5. Conclusion

The D-8 NPRI will make a big difference in how research is organized and how its outcomes are disseminated among industries in Member States. It will work towards expanding the number and quality of research as well as scaling up the conduct of research and innovation and promote industrial development of the D-8 Member States. In other words, the D-8 NPRI represents a new approach to research and innovation that is predicated on collaboration and joint efforts among research institutions, cooperation between research institutions and D-8 CCI in order to translate the research outcomes into finished products, transformation of the production processes of Member States through technology transfer and exchanges and ultimately increasing the level of economic productivity and growth rates of the Member States. It is believed that these lofty objectives will be achieved in the fullness of time. All that is needed is full cooperation of the Member-institutions of the network.