

**Search for a Spanish Partner for a  
Bilateral R&D Project (this document will be shared with potential Spanish  
companies)**

<b>Organization</b>	
<b>Date of Request:</b>	17-2-2021
<b>Company name:</b>	National Research Center
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**SECTION 1: Your Company Profile**

*(Please give brief / to the point explanations. For more explanation on any point below, you may add a short paragraph as an annexure, with this document.)*

Business Sector	National Research Center, Dokki
Company mission or core functions	The NRC mission is to conduct basic and applied research within the major fields of interest in order to develop production and services sectors.
Date of establishment	NRC was established as an independent public organization in 1956, with the aim "to foster basic and applied scientific research, particularly in industry, agriculture, public health and other sectors of national economy"
Ownership (if public and traded, add stock exchange and ticker symbol)	
Total number of employees	The NRC is the largest institution affiliated with the ministry of Scientific Research. It has a research staff of 4847 scientists and is headed by a president with two vice presidents for research and technical affairs.
Number of employees in R&D	NRC Is the largest multidisciplinary R&D centre in Egypt devoted to basic and applied ... technological infrastructure and manpower resources of 4735 research staff.
Key products sold or services provided	NRC provides different services in both research and community <ul style="list-style-type: none"> <li>1- since 2003 has a well-structured system for medical research ethics</li> <li>2- NRC has an office and a library for medical research ethics.</li> <li>3- Develop the proficiency of researchers to manage formatting scientific content of projects for submission to foreign funding establishments.</li> <li>4- Perform collaboration with governmental organizations, universities, embassies and scholarships agencies in the world for experience and training exchange.</li> </ul>

	<p>5- The NRC collaborates with Egyptian universities to provide summer courses for university students.</p> <p>6- Participates in the national program for training of graduate students.</p> <p>7- Performs caravans all over the country for community awareness and human and animal diseases.</p> <p>8- Supports patent accreditation.</p> <p>Provides different contracting and integrated services for all customers including governmental sector, general business sector and private business sector</p>
Company core technical competences	<p>1- Conference unit</p> <p>2- Accreditation-and-quality-assurance-bureau</p> <p>3- Project Formulation Committee</p> <p>4- Medical Research Ethics Committee</p> <p>5- Central Unit for Analysis and Scientific Services</p> <p>6- Training Centre</p> <p>The international Relations Office</p>
Key R&D programs and activities	<p>-TICO board in NRC helps the connection between the innovative applied research and the industrial companies to achieve their application providing community benefits.</p> <p>-In the near future, the National Research Center intends to establish a permanent exhibition of research outputs to ensure the identification of the most important achievements, the establishment of a network of experimental units, including the existing as well as those that will be established in the future, and the establishment of a museum of scientific instruments that have done well.</p>
Examples of accomplishments	<p><b>A- Research Products:</b></p> <ul style="list-style-type: none"> <li>-Thermal insulating bricks from local raw materials (1600 m)</li> <li>- Production of bird flu vaccines</li> <li>- High quality canned juice and long storage capacity</li> <li>- Fertilizer for fruits and vegetables</li> <li>- Special polymers for strategic purposes</li> <li>- Feed concentrates prepared in natural extract</li> <li>- Designing a device for testing of reinforced earth structures</li> <li>- Oxidized cellulose gauze bandages for wound healing.</li> </ul> <p><b>B. Applied Services</b></p> <ul style="list-style-type: none"> <li>- Expanding the cultivation, improvement and development of transport trees in Sinai.</li> <li>-Publishing brochures to raise awareness for the prevention of C virus.</li> <li>- Educational tools and publicity materials to increase social awareness.</li> <li>- Development of small agricultural projects in North Sinai Governorate</li> <li>- Production of potassium sulfate fertilizer with the development of fertilizer recommendations for its use</li> <li>- Neonatal Genetic Survey</li> <li>- Egyptian Patient Database</li> </ul> <p><b>In the field of research projects ready for application:</b></p> <ul style="list-style-type: none"> <li>- 86 research products that have not been contracted so far</li> <li>-19 application services ready for use, as well as 3 research products with a service feature, in various fields of the Egyptian national economy.</li> <li>- Obtaining 28 patents, some of them Egyptian and some from foreign countries, in various fields.</li> <li>-Sale of a patent for the first time in the National Research Center and other research centers, and it may be for the first time in Egypt.</li> </ul>

Company strategic orientation	<p>-The implementation of a group of strategic national projects, in the forefront of which are the water desalination project - the gold molecule cancer treatment project - the serum production project against viral hepatitis C - the solar cell production project, all of which are among the top priorities of the state in the field of scientific research.</p> <p>- Achieving large numbers of research outputs that are immediately applicable in the fields of engineering, textiles, chemical industries, food industries, genetic engineering, environment, pharmaceutical and pharmaceutical industries, the medical field, and the field of agriculture and animal health.</p>
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## SECTION 2: Partner of Interest

(Please provide a brief summary of the prospective partner company or organization. This summary may address some or all of the points below)

Profile of ideal technology partner	<p>Finding a partner with that can create new, optimized.</p> <p><input type="checkbox"/> Understand our research goals</p> <p><input type="checkbox"/> Have a solid technical expertise.</p> <p><input type="checkbox"/> Communicate transparently and offer a wide range of services.</p> <p><input type="checkbox"/> Interested in our research subject and succeeding and provide continual support</p>
Core technological competencies and expertise	<p>Finding a partner with a solid background and great experience in <b>Management of animal manure wastes and generation a renewable energy from local farm Livestock particles.</b></p> <p>Also a great experiences in <b>implementation and installing of a biodigester which can be</b> charged with a slurry of animal wastes. The waste will be anaerobically digested under batch mode for a duration determined by the level of the measured microbial count</p>
Other essential qualifications (e.g.: ownership, track records etc.)	
If you have a list of companies with whom you are in contact or interested in contacting, please provide contact details	-non
If you are interested in collaboration: please specify details and other important information you want to share with a potential company	<p><b>Significance of the study</b></p> <p>Fossil fuels e.g. coal, oil and natural gas are the conventional sources of energy that have provided the power for developing and maintaining the technologically advanced modern world. Yet, these resources are finite and their continued recovery and use appreciably impact our environment and affect the global climate. Shortening of oil and gas are predicted to occur within our lifetimes or those of our children. In addition, disposal of biomass waste resulting from intense agricultural activities in developing countries (especially in the rural areas) poses threats both to the environment and humans as these wastes can be a source of antibiotic resistant pathogens. Consequently, in order to salvage these situations biogas production by anaerobic digestion of the organic matter of animal manure (cow, poultry, swine &amp; sheep) employed singly or co-digested has been viewed as a way to expand the domestic energy supply and help mitigate growing dependence on fossil fuels and alleviate</p>

	<p>environmental hazards in many developing and developed countries.</p> <p>Anaerobic digestion of these wastes in biodigester is an eminent biological process carried out by diverse communities of micro-organisms (acidogens and methanogens) that would not only help to produce sustainable biogas which could be used for cooking, lighting, heating but the process will also aid in the decontamination of the wastes thereby reducing the number of pathogens to a safety level proper for human handling. Furthermore, it improves sanitation, reduces greenhouse gas emission and demand for wood and charcoal for cooking thus helps to preserve forested areas and natural vegetation. Moreover, it provides a high-quality organic fertilizer and can also help to alleviate a very serious health problem: poor indoor air quality.</p> <p>Biogas production in biodigester can be influenced by differences in environmental conditions, chemical factors and digester operating conditions which have been reported to affect the composition and metabolic activities of bacterial and archaeal communities required at the various stages of digestion. Therefore, monitoring and controlling of microbiological, chemical and operational parameters e.g. pH of the system, slurry and ambient temperature, feedstock composition, volatile fatty acids, ammonia concentrations and microbial population levels becomes crucial. In the same way, the combined use of traditional culture-based and microscopic techniques, chemical analyses, and the emerging molecular techniques should serve to better link microbial structure and function.</p>
Interested areas of collaboration	Microbiology , Biogas production in biodigester
Specific R&D contribution you are seeking/offering	

\_\_\_\_Prof .Sohier Syame\_\_\_\_\_

**Signature**

**Name: Prof .Sohier Syame**

**Date: 18-2-2021**