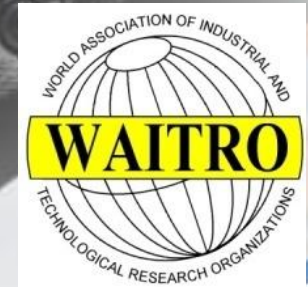




Public-Private Partnerships (PPP) – Towards Sustainable Industrial Growth

*Key issues in the Implementation of PPPs
In the context of the Promotion of Sustainable
Industrial Growth*

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1.0 CONTEXTUAL FRAMEWORK

- Public-Private Partnerships: Voluntary and collaborative relationships among various actors in both public (State) and private (Non-State) sectors, in which all participants agree to work together to achieve a common goal or undertake specific tasks.
- Distinction made between “policy-based” or “programme-based” PPPs and “project-based” or “contract-based” PPPs (Yescombe, 2007). The former, more common in the international development field, refers to joint Government, aid agency and private sector initiatives to combat diseases such as AIDS and malaria or promote economic development generally.

- Key sectors in which PPPs have traditionally been used include Public Utilities (Transportation, Water/Wastewater), Education, Urban Development, Energy, Finance (Financial Management), and Environment.
- The issue of PPPs is one that has been gaining widespread currency in the economic developmental arena within recent times; accentuated by the evolving dynamics in the international economic arena stemming from the global financial crisis and consequent economic downturn which has impacted, and continues to impact, output, employment levels and, of course, Government revenues.

- Faced with diminished revenue streams and the imperative of meeting critical socio-economic challenges such as the achievement of the United Nations Millennium Development Goals (MDGs), including poverty alleviation, and environmental issues, such as climate change, many countries are actively pursuing PPPs as a viable tool in the mix of requisite policy prescriptions to advance their developmental agendas.



2.0 FOCUS OF THE PAPER

- The paper focuses primarily on PPPs in the context of RTOs in developing countries, in particular Small Island Developing States (SIDS), being an integral part of such arrangements and playing a major role in facilitating sustainable industrial development via this medium.
- At the core of this approach are the following strategic considerations:



- Pertinent resources are finite, especially in regard to Small Island Developing States (SIDS)
- Industrial development today is driven primarily by knowledge/ technology, skills, networking and information
- A considerable quantum of new knowledge is generated by Universities and commercialized by firms
- Long term sustainable industrial growth can only be achieved in conditions of continuous innovation, i.e. the creation of new products, processes, services and companies, which means that such activity, which is driven primarily by R&D, must be a central part of the developmental matrix

- The SME sector is the main driver of economic growth and development in developed and developing countries alike, constituting the mainstay of the company base in both cases
- PPPs involving RTOs and SMEs could boost the innovative potential of the latter and assist innovative enterprises to access finance in particular early stage finance for start-ups, combining pertinent Human Resources from both the public and private sectors
- Business R&D Strategies have changed
- The new model of open innovation caters for the use of public private partnerships

3.0 ROLE OF RTOs IN THE PPP MATRIX

- The European Association of Research and Technology Organizations (EARTO) in its response to the Public Consultation on European Community Innovation Policy, provides a noteworthy appreciation of the role of RTOs; which is consistent with that embraced by WAITRO. In this context, the role of RTOs is viewed as follows:



- RTOs perform essential functions in research and innovation systems that other R&D players (Enterprises and Universities) cannot reliably be expected to perform in sufficient quantity and quality, and with sufficient reliability, stability and accountability.
- RTOs build bridges between basic research and industrial applications and are innovative and competitive problem solvers for all sectors of industry and services.



- RTOs are key partners of enterprises, especially SMEs, and provide R&D and technology services which help them grow and become more competitive.
- The skills of RTOs and Universities are also complementary and their long term relationships are highly beneficial for both parties, which in turn put RTOs at the heart of the Knowledge Triangle and the innovation eco-system.



4.0 STRENGTHS AND WEAKNESSES OF THE RTO/SME FOCUSED PPP

- A baseline assessment of the strengths and weaknesses of the respective sectors is necessary to fully appreciate the contextual framework and development potential inherent in RTO/SME focused PPPs in developing market economies. This is illustrated in the Table and Diagram hereunder.



PRIVATE SECTOR (SMEs)

Strengths

- ♦ Market orientation - knowledge of the market
- ♦ Profit motivation/Financial viability
- ♦ Access to finance
- ♦ Personnel Development
- ♦ Management Efficiency
- ♦ Workplace efficiencies

Weaknesses

- ♦ Limited/low levels of investment in RDI
- ♦ Low level of individual Research and Development capability
- ♦ Stymied innovative potential as reflected in an insufficiently diversified product/service base
- ♦ General aversion to risk
- ♦ Competitiveness Constraints/Issues
- ♦ Low levels of technological sophistication
- ♦ Deficient quality standards/QMS



PUBLIC SECTOR (RTOs)

Strengths

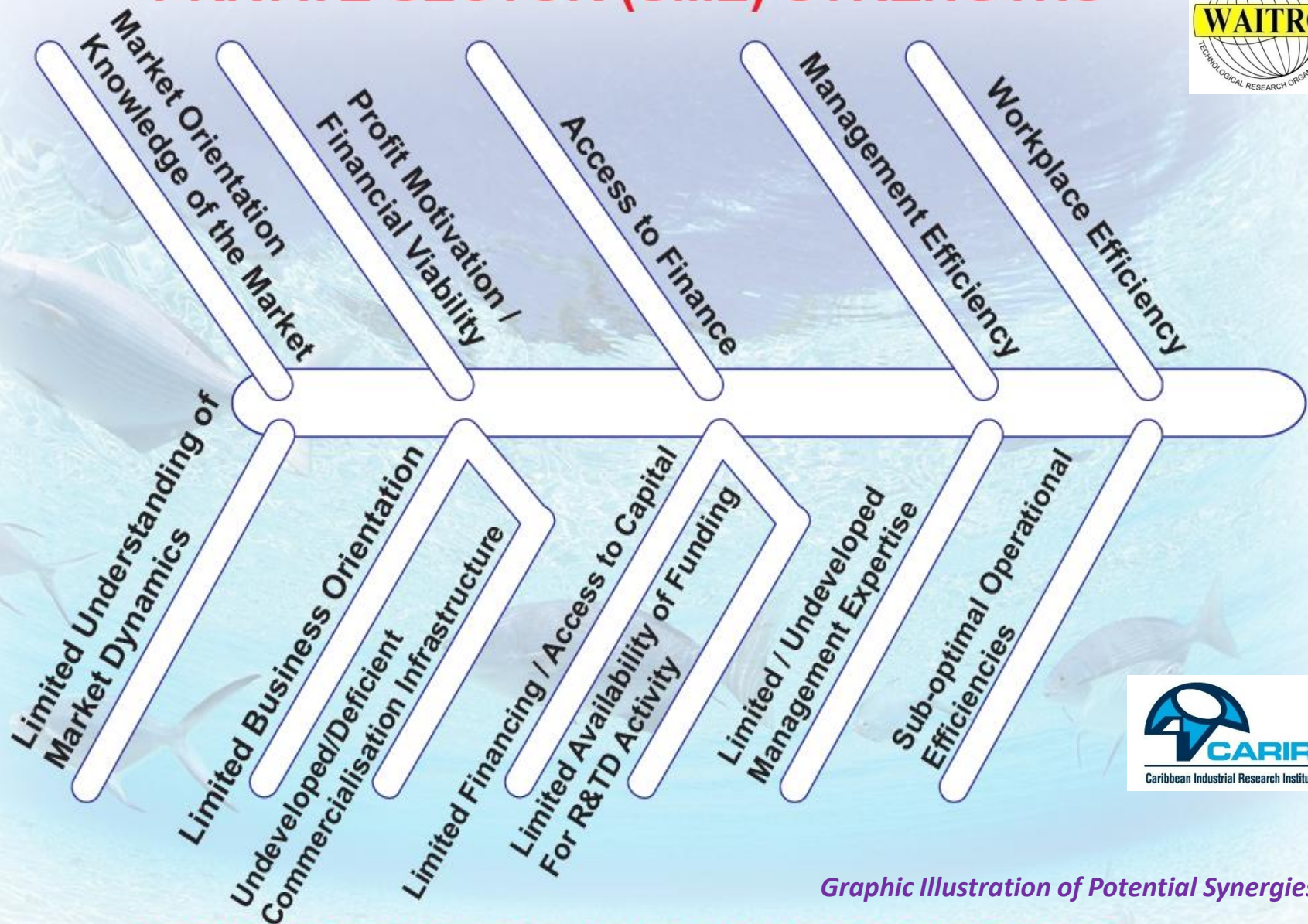
- ♦ Technology Orientation
- ♦ RDI capability
- ♦ Technology development and transfer capability
- ♦ Technical/Technological Expertise / Skilled human resources
- ♦ Some level of technological sophistication
- ♦ Quality Standards/Internationally recognized Quality Management Systems (QMS)

Weaknesses

- ♦ Limited/undeveloped management expertise
- ♦ Sub-optimal Operational Efficiencies
- ♦ Limited financing/access to capital
- ♦ Limited availability of funding for R&TD activity
- ♦ Limited business orientation
- ♦ Limited knowledge/understanding of market dynamics
- ♦ Undeveloped/Deficient Commercialization infrastructure



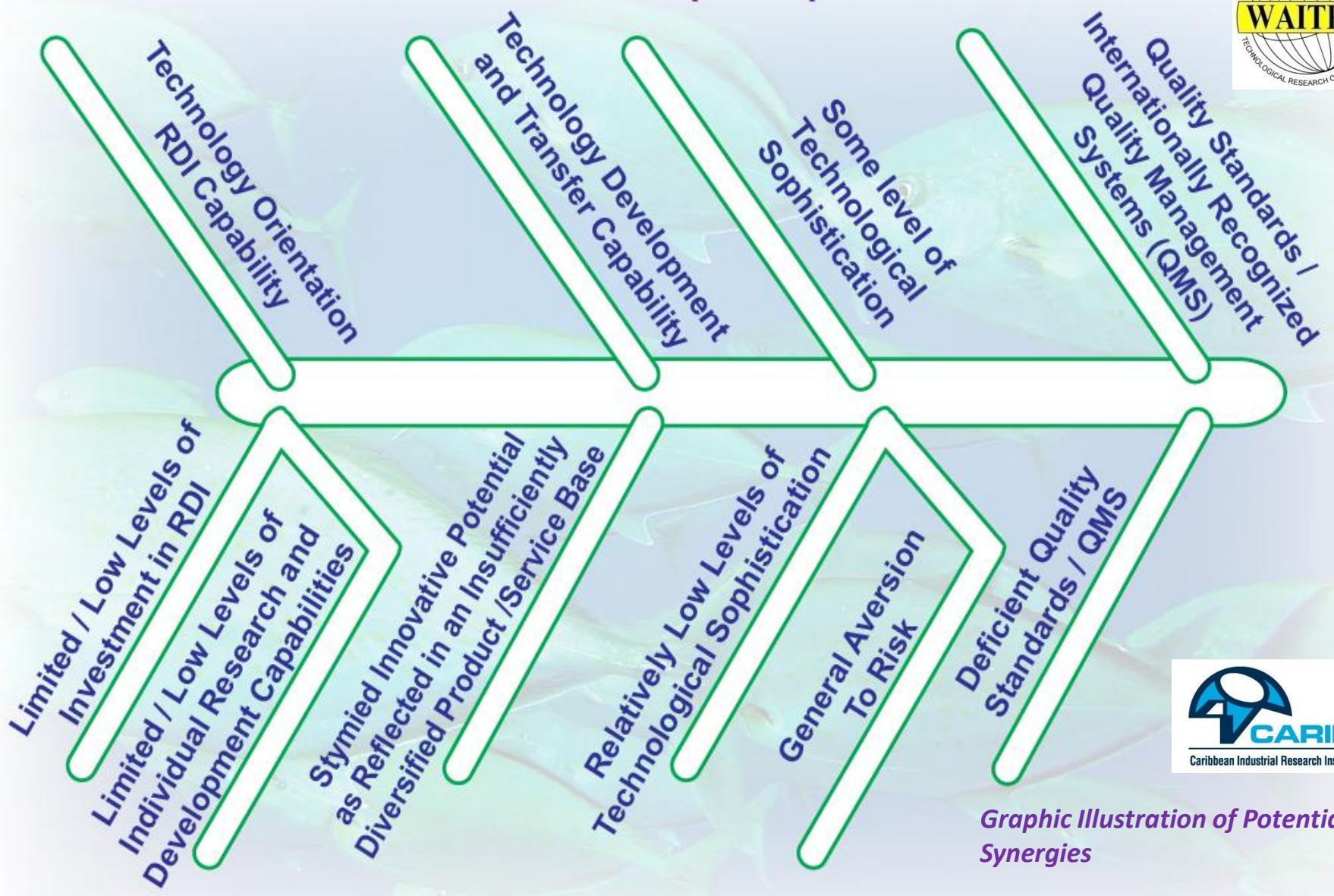
PRIVATE SECTOR (SME) STRENGTHS



Graphic Illustration of Potential Synergies

PUBLIC SECTOR (RTO) WEAKNESSES

PUBLIC SECTOR (RTO) STRENGTHS



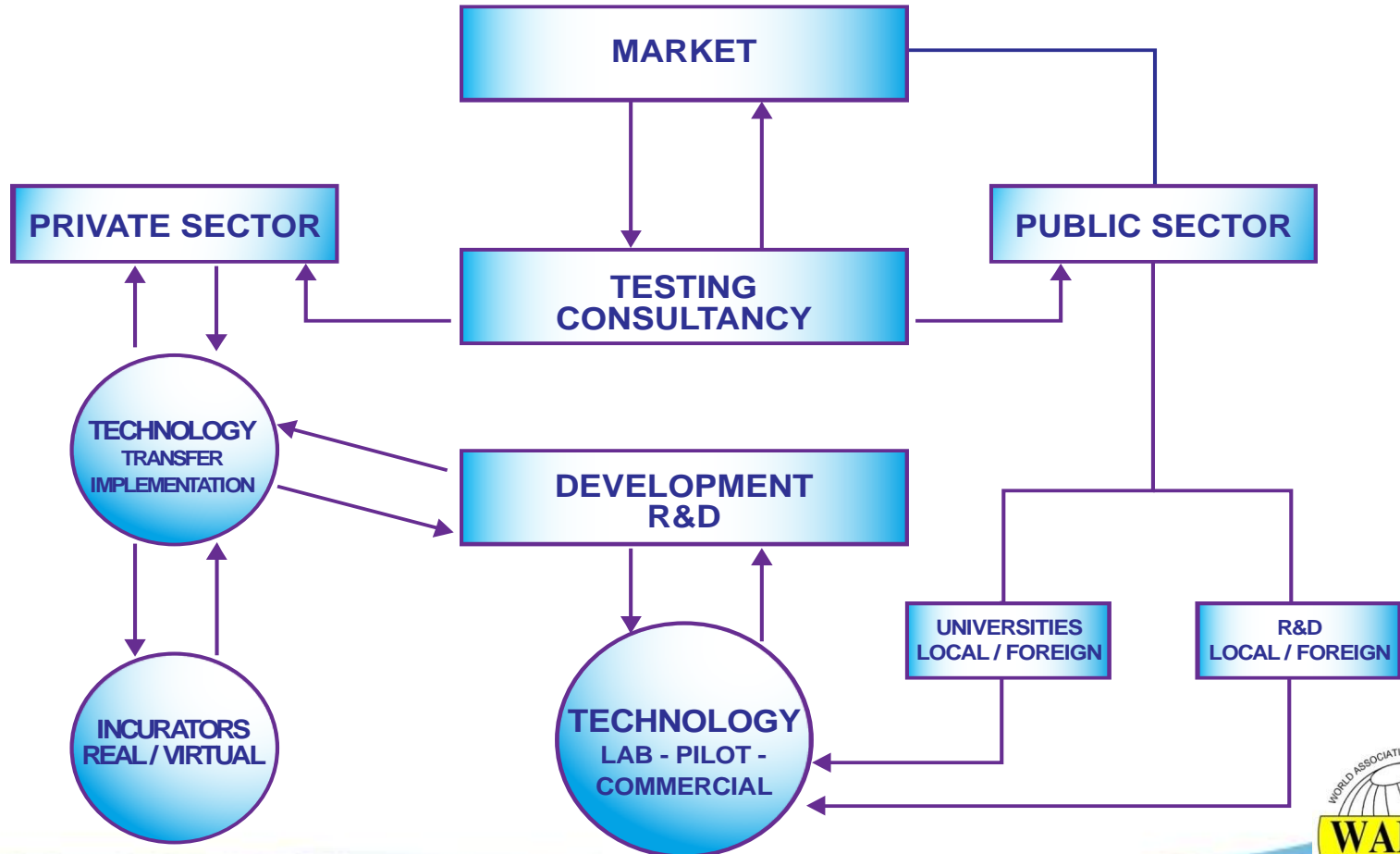
Graphic Illustration of Potential Synergies

PRIVATE SECTOR (SME) WEAKNESSES

- An examination of the aforementioned clearly demonstrates the synergies to be derived from such Partnership arrangements, synergies that can serve to unleash the innovative potential of SMEs and contribute significantly to the development of the SME sector and fostering of sustainable economic development via leveraging each sector's resources
- The following Diagrams are illustrative of:
 - The Technology Generation Potential inherent in PPPs
 - Technology Cost: Risk equation in relation to laboratory, pilot plant & commercial scale operations






TECHNOLOGY GENERATION PATHWAYS



PRICE OF TECHNOLOGY

<p>HIGH PRICE OF TECHNOLOGY</p> <p>LOW RISK OF OPERATION</p>	<p>HIGH PRICE OF TECHNOLOGY</p> <p>MEDIUM RISK OF OPERATION</p>	<p>HIGH PRICE OF TECHNOLOGY</p> <p>HIGH RISK OF OPERATION</p>
<p>MEDIUM PRICE OF TECHNOLOGY</p> <p>LOW RISK OF OPERATION</p>	<p>MEDIUM PRICE OF TECHNOLOGY</p> <p>MEDIUM RISK OF OPERATION</p>	<p>MEDIUM PRICE OF TECHNOLOGY</p> <p>HIGH RISK OF OPERATION</p>
<p>LOW PRICE OF TECHNOLOGY</p> <p>LOW RISK OF OPERATION</p>	<p>LOW PRICE OF TECHNOLOGY</p> <p>MEDIUM RISK OF OPERATION</p>	<p>LOW PRICE OF TECHNOLOGY</p> <p>HIGH RISK OF OPERATION</p>

-  **LABORATORY SCALE**
-  **PILOT PLANT**
-  **COMMERCIAL SCALE**

RISK OF OPERATION

5.0 POTENTIALLY VIABLE RTO/SME FOCUSED PPP FORMATS

- Strategic Research Partnerships (SRPs) and Pre-Commercial Partnerships provide potentially viable formats for RTO/SME focused PPPs
- SRPs in essence refer to collaborative R&D arrangements involving at least one industrial firm and a Research and Technology Organization. SRPs encompass a wide range of collaborative relationships, including Joint Research Ventures, Co-operative Research Agreements and Research Consortia, e.g. Cluster-based R&D initiatives
- Collaborative R&D / Technology Acquisition should constitute the mainstay of the applied research conducted, involving, in the main, Industry and Research Institutes/University (S&T) linkages.

- **Potential benefits of SRPs include the following:**
 - Provides benefit of scale economies of research
 - Speed the adoption and commercialisation of new technologies
 - Facilitate transfer of knowledge/technology from RTO to industry
 - Provide access to the capabilities of modern state of the art laboratory facilities
 - Sharing of costs and uncertainty



- An RTO nightmare is usually the challenge of Commercialization. Pre-commercial Partnerships arise in the context of commercialization of R&D output generated by RTOs. This represents a major challenge largely as a result of the high risk perceived by Investors in the absence of the successful demonstration of the technical and commercial feasibility of the new product(s).
- Pre-commercial Partnership is a market-driven approach which helps to initiate market penetration strategies early in the product/process development. It also places the private sector, which has more knowledge of the market place than a government organization, at the forefront of the commercialisation thrust.

6.0 IMPLEMENTATION ISSUES

- **Key Success Factors***
 - Political commitment and leadership, with the will to embrace PPPs at the national level as a strategic component in the mix of applicable policy prescriptions for promoting sustainable industrial growth.
 - Private sector commitment to working with the Government to support the PPP thrust, underpinned by an appropriate incentive regime.

* UNECE Guidebook on promoting good governance in Public-Private Partnership (2008)

- A coherent PPP policy providing clear direction and leadership
- Adequate public sector institutional capability, with skills in identifying, instigating, and delivering and monitoring projects (similar to private sector mode)
- Legal and regulatory framework that offers clarity, simplicity and predictability in legal processes, with particular focus on governance and licensing arrangements



- Transparency, openness and fairness in selecting the best partners, which will enhance confidence between the partners
- Accountability to citizens and other stakeholders for performance and delivery
- Sustainable development, ensuring the outcomes have the maximum developmental impact and respect for the environment

■ **Governance***

- Issues of Governance of PPP relate mainly to the areas of Policy, Capacity Building, Legal Framework and Risk Sharing.

a) ***Policy***

- As regards Policy, it is significant to note that most Governments do not have an overall PPP policy. Clear goals and the objectives are required.

* UNECE Guidebook on promoting good governance in Public-Private Partnership (2008)

b) *Capacity Building*

- Given the high level of complexity of PPP in terms of the financial, legal and administrative issues to be dealt with, a specialized skills base is required. This is deficient in many countries, particularly developing nations.
- It falls to Governments to address this deficiency by building the necessary skills to develop PPPs. A critical dimension of such capacity building is the creation of a PPP Unit.
- There is a strong correlation between having a PPP Unit and PPP success. Countries which have established PPP Units tend to have a more extensive PPP programme and a larger number of projects. Thus, a PPP Unit is a part of the PPP 'governance system' and is a key factor in a successful programme.

c) *Legal Framework*

- The legal framework need to be adequately defined and take cognizance of the beneficiaries, empowering them to participate in legal processes protecting their rights and guaranteeing them access in decision making. The lack of definition of this framework had led to many projects being started without competitive tenders and with clear conflict of interests.



d) ***Risk Sharing***

- Many PPP projects often fail to come to fruition because the parties have failed to agree on the allocation of risks, which could be difficult to calculate in conditions of economic uncertainty.



▪ **Challenges Specific to RTOs in Developing Countries**

Some of the major challenges to the promotion of PPPs involving RTOs in many developing States, including SIDS are as follows :

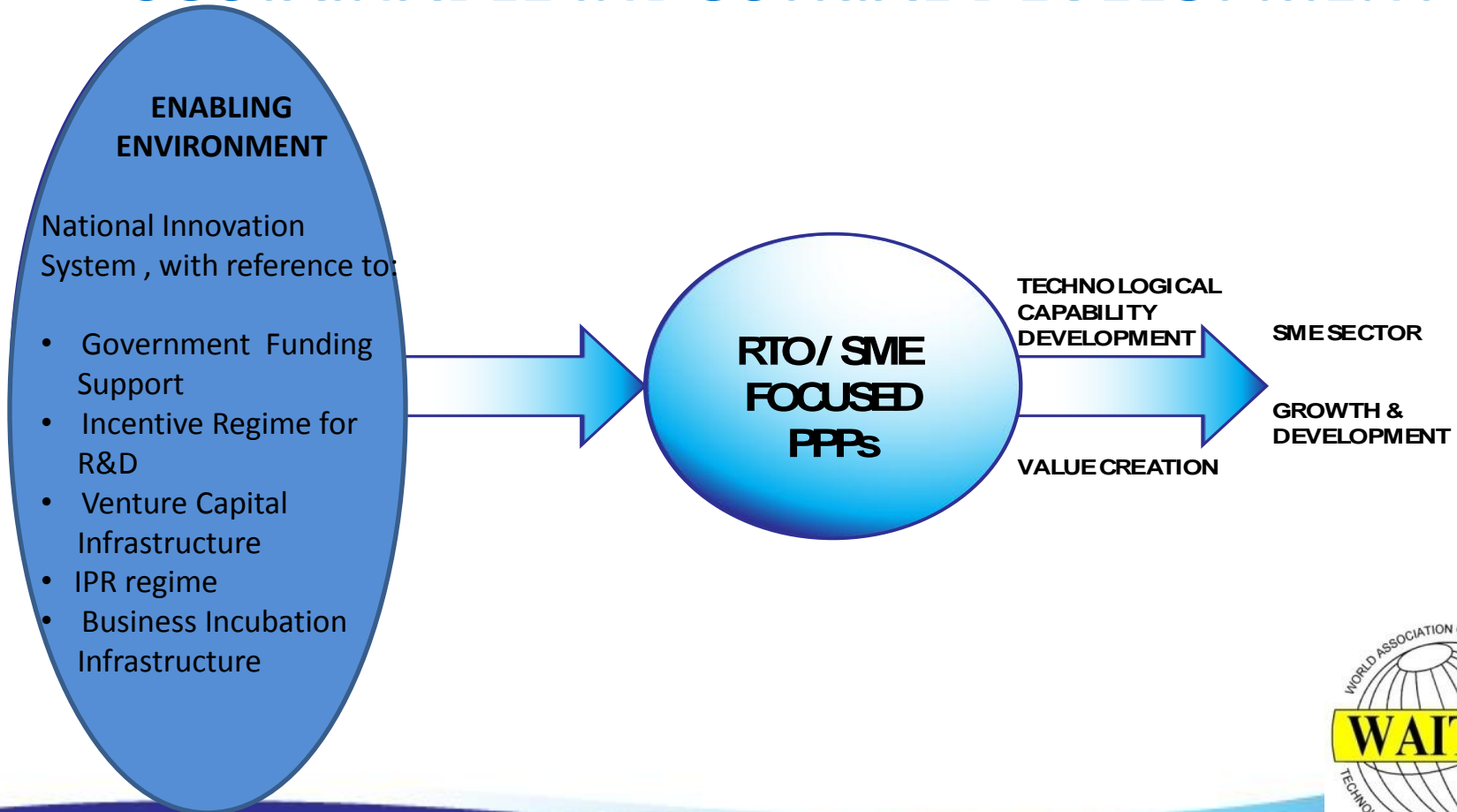
- Lack of a National Innovation System (NIS) which is critical to the enabling environment for Technological Development; such NIS comprised of:
 - an adequate incentive regime for R&D
 - Government funding support for RDI
 - Venture Capital Infrastructure
 - IPR Regime
 - Business Incubation Infrastructure

- Lack of a culture of such Partnerships in the developmental process
- Differing ethos between the sector and a general distrust of each other's operating modalities
- Relatively low levels of entrepreneurial activity and general risk aversion of the private sector

The following Diagram illustrates a strategic approach to sustainable industrial development encompassing the central role of a National Innovation System as the primary facilitator of RTO/SMEs



STRATEGIC APPROACH TO SUSTAINABLE INDUSTRIAL DEVELOPMENT



7.0 SOME THOUGHTS ON THE WAY FORWARD

- In light of the continuing turbulence in the global economic arena and forecasts for limited improvements, with many countries facing serious resource constraints, PPPs clearly have a significant role to play, as a key policy instrument/developmental tool, in assisting Governments to meet critical socio-economic needs
- In the context of the pursuit of sustainable industrial growth by developing countries, including SIDS, RTO/SME focused PPPs constitute an essential part of the enabling environment in terms of stimulating technological development and the growth of SMEs

- RTO/SME focused PPPs should be an integral part of the National Innovation System (NIS) in developing countries, given the symbiotic relationship which exists between both entities; such PPPs in essence having the potential to positively impact the overall efficiency of the NIS
- Governments of developing countries should seek to institutionalize PPP by instituting the requisite regulatory and legal framework which would include an appropriate incentive regime; such regime to be comprised of both tax and non tax incentives, with the tax incentives catering for the granting of tax credits

- WAITRO could play a major role in advancing the PPP agenda by establishing a PPP Resource Base aimed at strengthening the capacities of developing member institutions, and by extension their respective Governments, through training and sharing of experiences/knowledge transfer
- WAITRO could also establish, and facilitate the promotion of, a network of RTOs specific to PPPs.

Thank You !

