

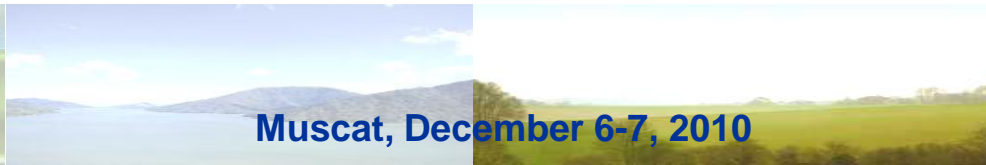


Science, Technology and Innovation Governance

The Research Council, INCONET-GCC Workshop
Muscat, December 6-7, 2010



Prof. Costas Kiparissides



Muscat, December 6-7, 2010



CERTH
THE CENTRE FOR
RESEARCH & TECHNOLOGY
HELLAS
ΚΕΝΤΡΟΝ ΕΡΕΥΝΑΣ & ΤΕΧΝΟΛΟΓΙΑΣ



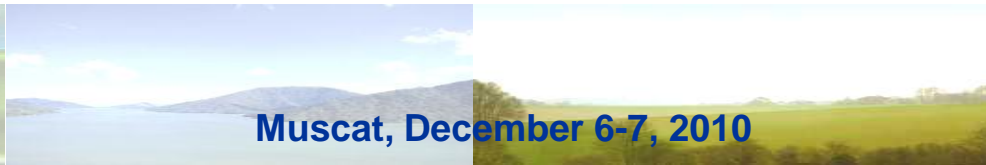
Participants



- Prof. Costas Kiparissides, Center for Research & Technology Hellas & Aristotle University
- Mr. Mohamed Al-Maskarii, DG KOM, Oman
- Dr. Salha Issan, SQU
- Mr. Ahmed Nawaz, University of Nizwa
- Dr. Rifaat Al-MjenjShell, Technology Oman
- Prof. Robert Craig, Ministry of Higher Education
- Mr. Abdelouahid Ezzarfi
- Mr. Abdelkader Djeflat



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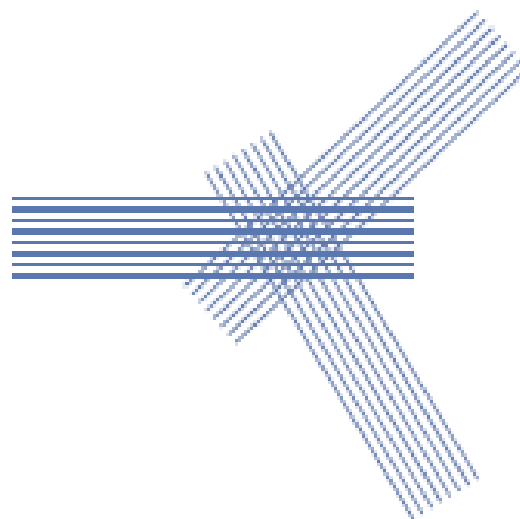
Research as a Strategic Opportunity



- Participants argue either for the one perspective they consider most important of the three, or they argue that all three should be combined into an effective common agenda that offers the most potential benefit to society at large.

Society's needs

- Government policies & responsibilities
e.g. energy supply, environment, health
- Public sector services



Academic disciplines

- Deeper knowledge and understanding

Industrial development

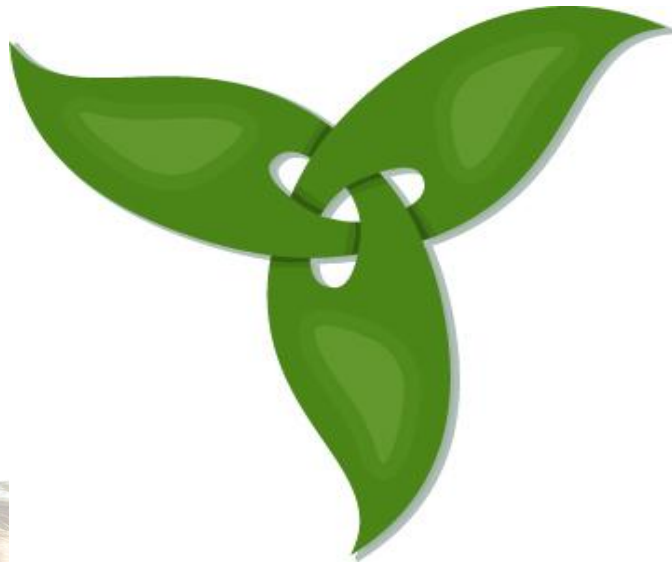
- Business opportunities
- Demand



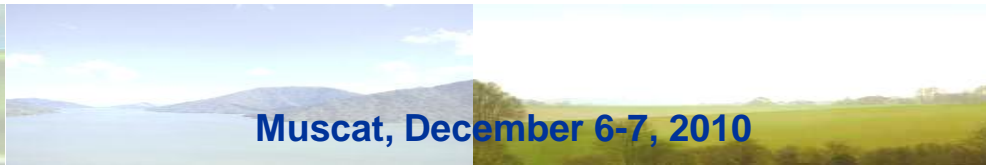


The Triple Helix

Sustainable growth requires interaction between business, research, and policy/the public sector – Triple Helix. The interaction results in new products, services, and processes.

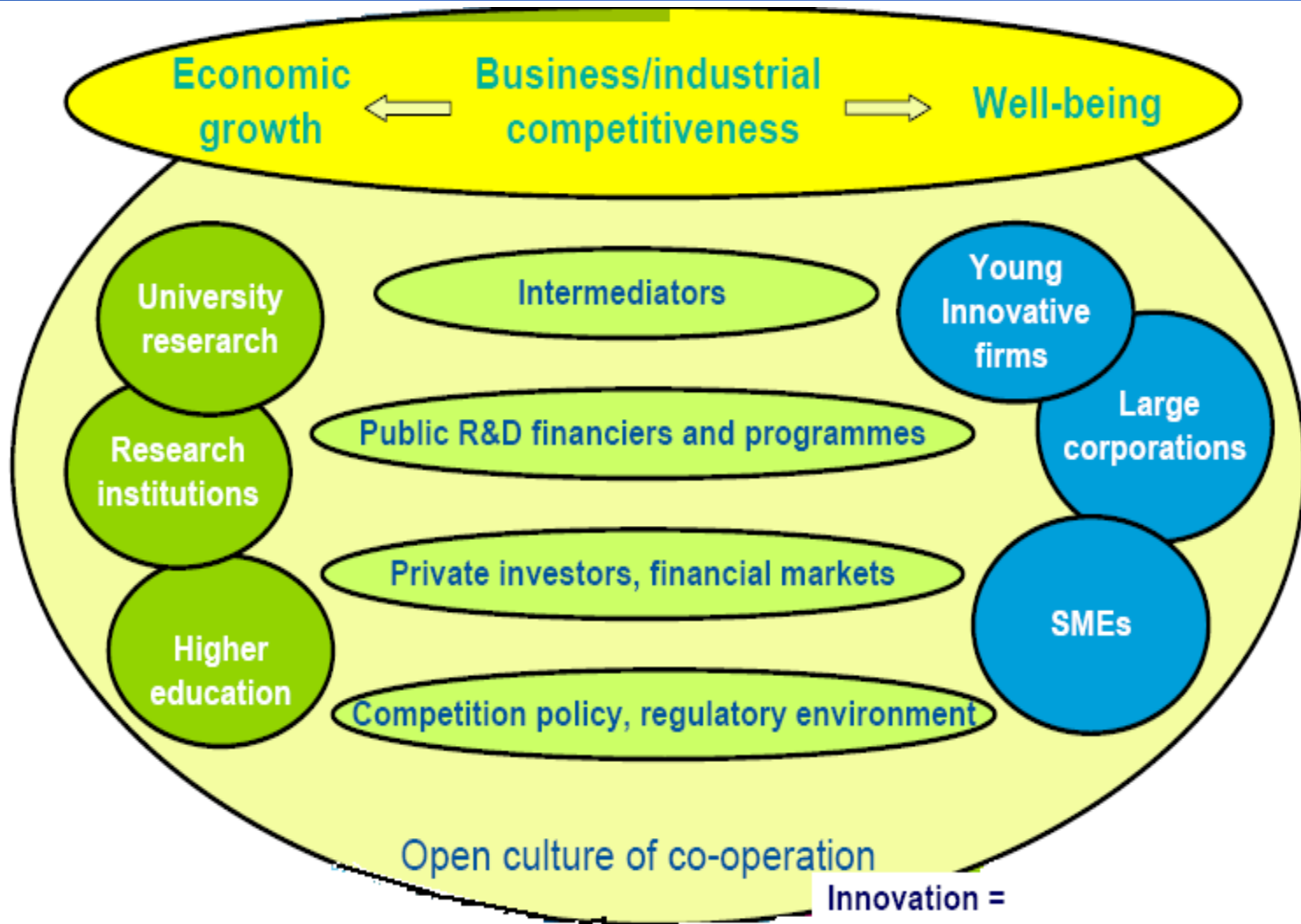


- Business
- Research
- Policy/Public
 - ✓ Media
 - ✓ Private Capital





Creating an Innovation Environment

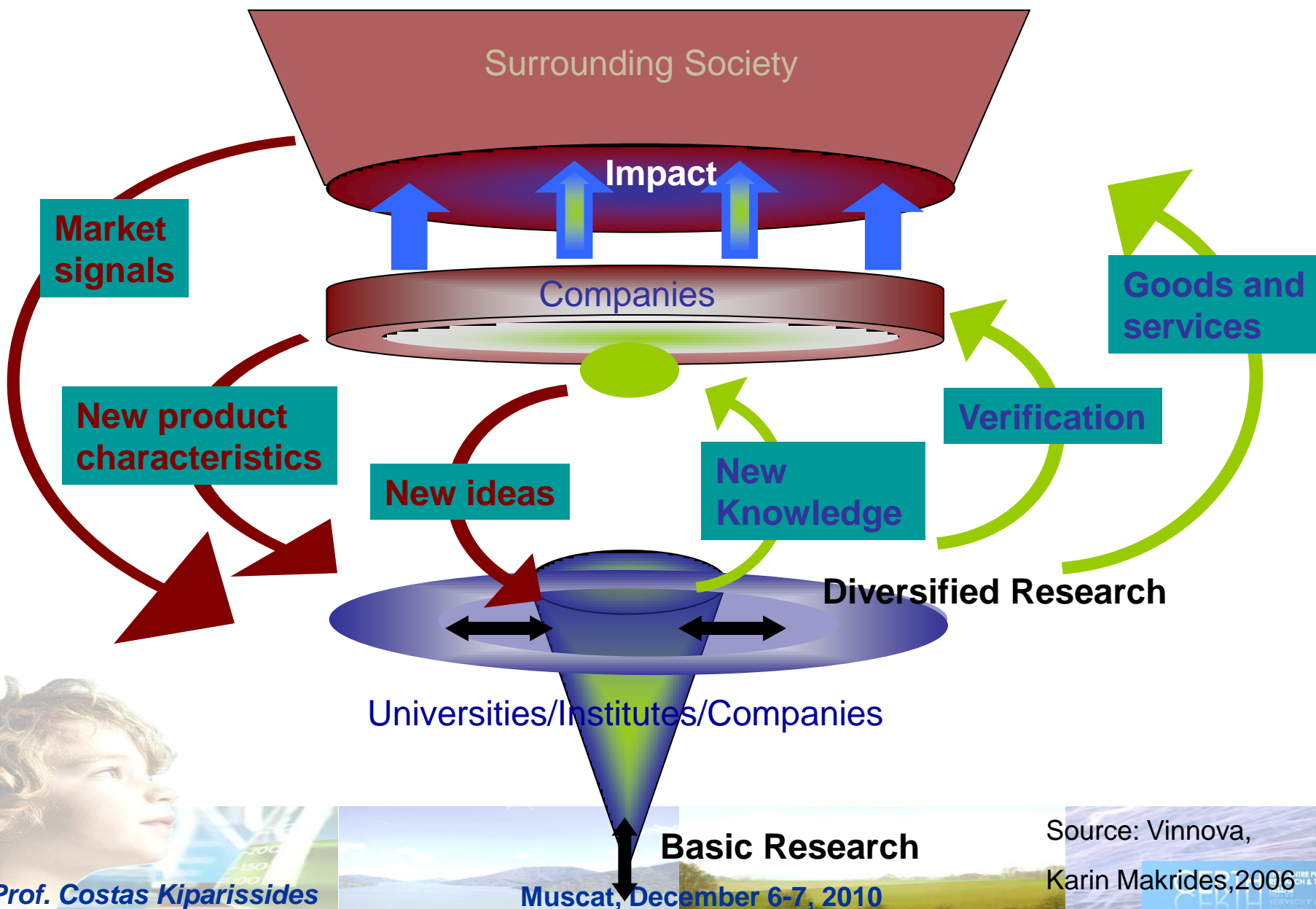


Innovation =

- new product, technical solution
- new production process
- new (industrial) service



Non-linear Innovation System

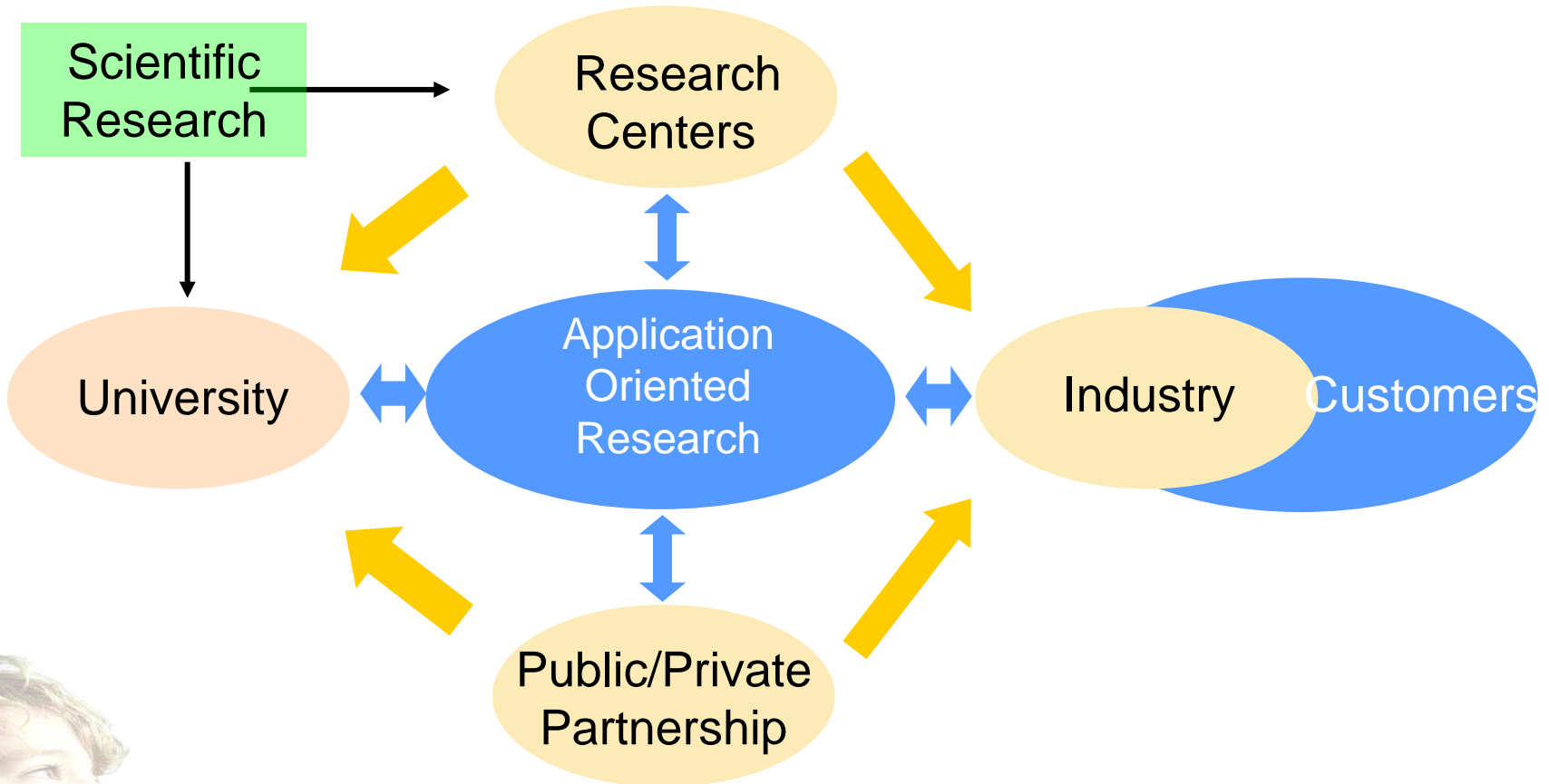




Infrastructure, Education & Networking



Model of interactive, networked cooperative research between stakeholders

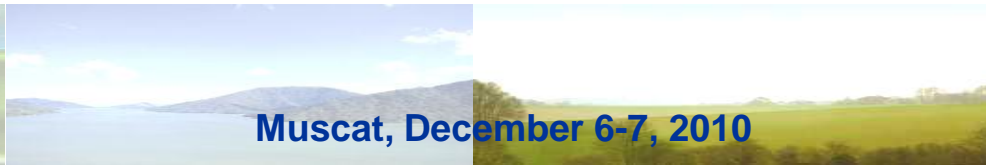




NIS Key Directions



- 1) Strengthening knowledge base
- 2) Broad-based promotion of innovations (tech & non-tech)
- 3) Internationalization and borderless global environment
- 4) Strong and networked innovations hubs
- 5) Internationally competitive education and university system
- 6) Strengthening growth ventures
- 7) Strengthening demand and user driven innovation
- 8) Government corporate steering and systemic operation
- 9) Increasing public funding for STI
- 10) International evaluation of region's innovation system





Environment for Enterprise Dynamism



- Financing availability
 - Bank financing to start-ups
 - Venture Capital (VC) for high tech start-ups
 - Informal Investors/Business Angels
- Social & Cultural Attitudes towards Entrepreneurship
 - Perception of Social Status of Entrepreneurs
 - Attitudes towards risk-taking, fear of failure
- Government Policies and Programmes
 - Public policies facilitating new entrants and start-ups (e.g. anti-trust, competition policy)
 - Public assistance programs for SMEs and start-ups
- Entrepreneurship Education and Training
 - Entrepreneurship education for science and engineering students in tertiary institutes
 - Business skills training for working professionals
- Ease of technology transfer from public research institutes/universities
 - Cost of Doing Business Compliance costs (e.g. Number of procedures for business registration)
 - Corruption, Bureaucratic Inefficiencies, infrastructure costs etc.



Recommendations



- Remove bottlenecks in R&D policies
- Building collaborative activities between public and private partnerships within GCC region
- Design, implement and monitor an STI framework program in response to society needs for economic growth , sustainability and welfare of citizens.
- Establish specific tools for implementation of STI FP

@ Education and training , graduate scholarships , post doctoral programs

@ Industrial collaborative R&D programs

@ Universities and research institutes R&D programs

@ Infrastructure programs for equipment and buildings, large national research facilities, tech parks

@ Promoting Networking of the GCC Stakeholders and with EU





Recommendations



- Establishment of networks of excellence in selective areas within GCC countries
- Benchmarking and STI performance indicators
- Follow a combined top down\ bottom up approach for establishing an STI policy (foresight studies , international best practice , state of the art developments).
- Ensure transparency and access to information by all stakeholders
- STI FP monitoring and response to actual demands of stakeholders in a transparent and open way
- Establishment of an independent program assessment mechanism
- Establishment of STI mechanism to pull market demands through incentives for higher added value products , processes and services





Recommendations



- Establish strategies for improving academic research output and student education and human capital
- Initiate policies for the establishment of selective technology clusters in the following areas : (i) Food , (ii) Water , (iii) Climate and environment change (iv) Renewable energy , (v) Sustainable production systems, (vi) ICT
- Provide sufficient initiatives for the main stakeholders (Universities, Research institutes, industry, SMEs) in the form of awards, research funding, IP royalties patent exploitation rights, fiscal policies , etc.
- Support the creation of spin-off and spin-out companies
- Internationalization and networking
- Joint ventures with foreign companies





Recommendations



- Recognize the role of researchers in the society
- Intellectual property rights
- Trust and cooperation , communication issues
- Dissemination of R&D results and information
- Industry-academia exchange programs
- Academic curricula in response to industrial needs
- Communication issues
- Reconciliation of academic – business objectives in relation to STI

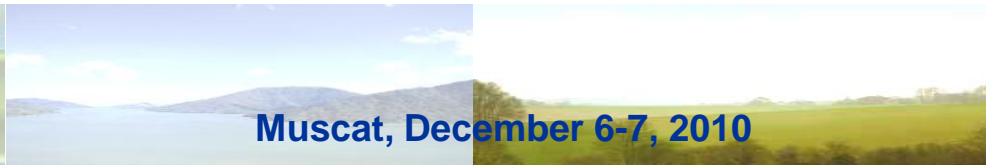




Issues with GCC-EU Collaboration



- Mutual understanding , common interests
- Win –win situation
- Long term relationships
- Exchange programs
- Knowledge sharing
- Joint ventures
- Secure sustainable growth





Public Policy to Support Innovation



Developed countries seem to agree on five broad policy areas to ease constraints on the incentives of private firms to innovate:

- ✓ Direct public fiscal policies to stimulate innovation, whether through *grants or the tax system*;
- ✓ Funding of *public research organizations* and measures to improve linkages with the private sector;
- ✓ *Intellectual property and competition* regulation;
- ✓ Availability of *finance* for innovation expenditures;
- ✓ *Availability of human resources* for science, technology, innovation (entrepreneurship).





Future Policy Challenges



- Increasing R&D Investment intensity: target of GERD/GDP ratio to reach 3% .
- Greater shift from applied R&D towards basic & IP-creating R&D
- Global benchmarking of R, I and E performance
- Reinforcing positive dynamic interactions among R, I and E through public policies & programs
- Assessing the causal impact and effectiveness of public policy/programs on R, I and E
- Scanning for future R, I and E opportunities
- Growing new high tech clusters to capitalize on these opportunities

