

Virtual Institutes

The Concept

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Outline

- COSTI
- Governance mechanism
- Concept of Virtual Institute(VI)
- Challenges connected to VIs

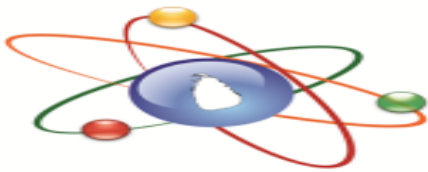


**Coordinate and monitor the
implementation of Science,
Technology & Innovation strategy**

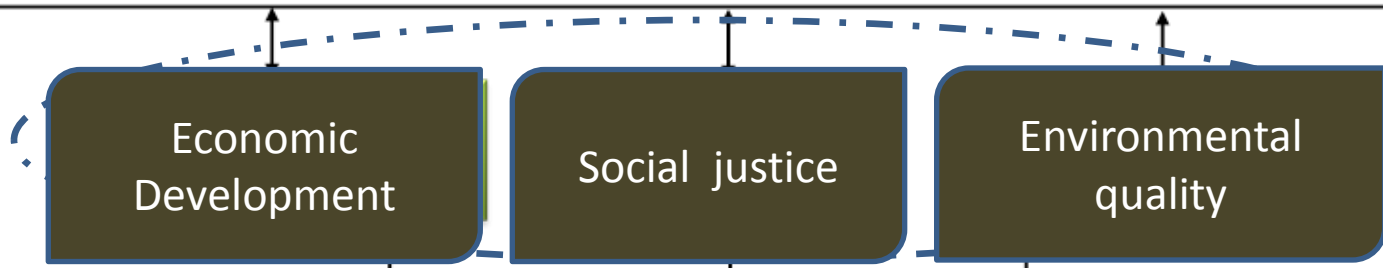
World class National Research and Innovation Eco-System



World class National Research and Innovation Eco-System



COSSTI
CONNECTING INNOVATION...



Virtual Institutes
Multi-disciplinary ,
multi-sectoral
Cross-cutting key
areas

VI on Climate Change and Future Earth

VI on Disaster Management & National Resilience

VI on Inclusive Connectivity

VI on Green Growth



VI for balanced provincial development

VI on Food Security

VI on Water Security

VI on Energy Security

VI on "Health for All"

VI on "Housing for All"



VI to Harness Ocean Resources

VI to Harness Mineral Resources

VI to Biological Resources

VI for Hightech value addition and Import

VI for Technologies for SMEs and rural enterprises



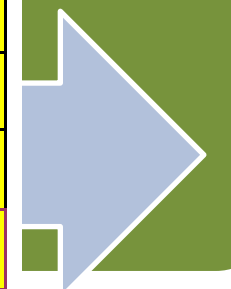
STI for Economic D
ational Coordinating

**Econo
Develop**



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I Institute

**mental
ity**



Virtual Institutes

The Concept

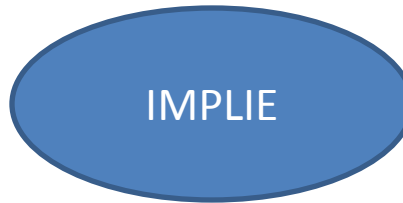


What is a Virtual Institute??

- No universal definition
- Two words:

'Virtual'

non-physical'



but

'Institute'

*fully functional and
capable entity that
promote generation
and use STI out comes*

Virtual Institute

- Serves as research & innovation hubs in which new ideas originate, multidisciplinary and multi-sectoral R&D is fostered, diversity is valued, and long-term professional networks are developed to create and share knowledge/ R&D and to commercialize.

Virtual Institute

- is a knowledge-based, market- oriented network designed to facilitate rapid exploitation of R&D results and know-how.

Why ???

Virtual Institutes – Rationale

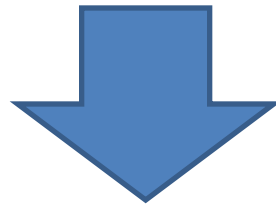
- Existing set up - National Research system
 - 19 Line Ministries: 32 Institutions , 15 Universities
 - Private Sector
- Leads to.....
 - Fragmented, isolated /compartmentalise R&D activities
 - Duplication of efforts,
 - Lack focus
 - Irrational use of resources

Difficulties encountered with coordinating and monitoring of national ST&I affairs

- Not realising the impact at the national level



**intends to enable
its mission of coordinating and
monitoring of implementation of
Science, Technology & Innovation
strategy**



Virtual Institutes set up in key areas

How does it work?



- **Key features**

- Consists of group of people with shared interests relying primarily on **e- forms of communication and** working together to realize national **goals and objectives**
- Link **geographically scattered** research and industry expertise and resources
- **More effective and more collaborative** R&D set up to address **multifaceted & diverse national & provincial** issues

Virtual Institutes -



- Bring together **complementary research** and **industrial expertise** with the ultimate aim of transferring R&D outcomes into business
- Partnership between the technology developer and the users from the beginning: Jointly involved in
Co-design, Co-implement R&D to Co-deliver the results

Users are not just being **passive recipients** **active partners** in the R&D cycle

- **Encourage demand-driven, solution oriented R&D**

Virtual Institutes -



- Enables partners to exchange experiences and look for possible synergies and to avoid duplication of effort
- Knowledge pool enhanced - Leverage complementary intellectual strengths among the partners

Virtual Institutes -



- Create **multi-stakeholder platform**
- Facilitate **regional, global connectivity**
- Build up **strong dynamic partnerships** among all relevant players in the R&D cycle from the point of knowledge creation, technology generation up to its commercialization and into marketing **along the complete value chain**



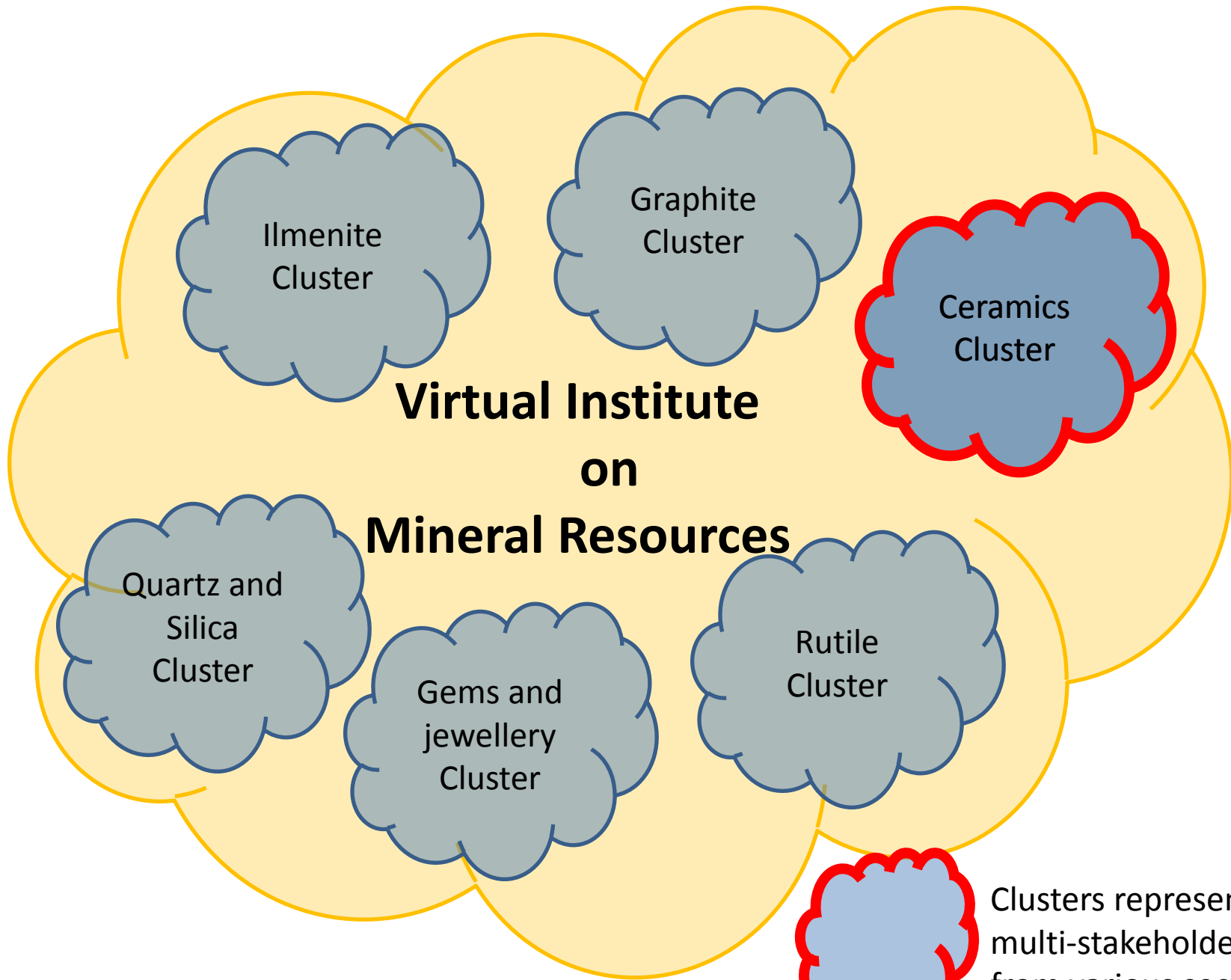
Virtual Institutes -

- Overcome geographical /spatial or temporal separations and bridge boundaries –avoid duplication of efforts
- Mobilizing resources – rational use/share unique research facilities

Establish functional mechanism for operationalizing VIs

Important components

- Define and establish the VI infrastructure, knowledge & resource management procedures
 - Create clusters
 - Identify key players relevant to the scope of the cluster & appropriate for the need
 - Populate with existing or new projects/R&D



Ilmenite
Cluster

Graphite
Cluster

Ceramics
Cluster

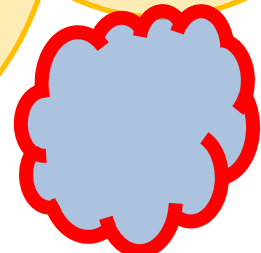
**Virtual Institute
on**

Mineral Resources

Quartz and
Silica
Cluster

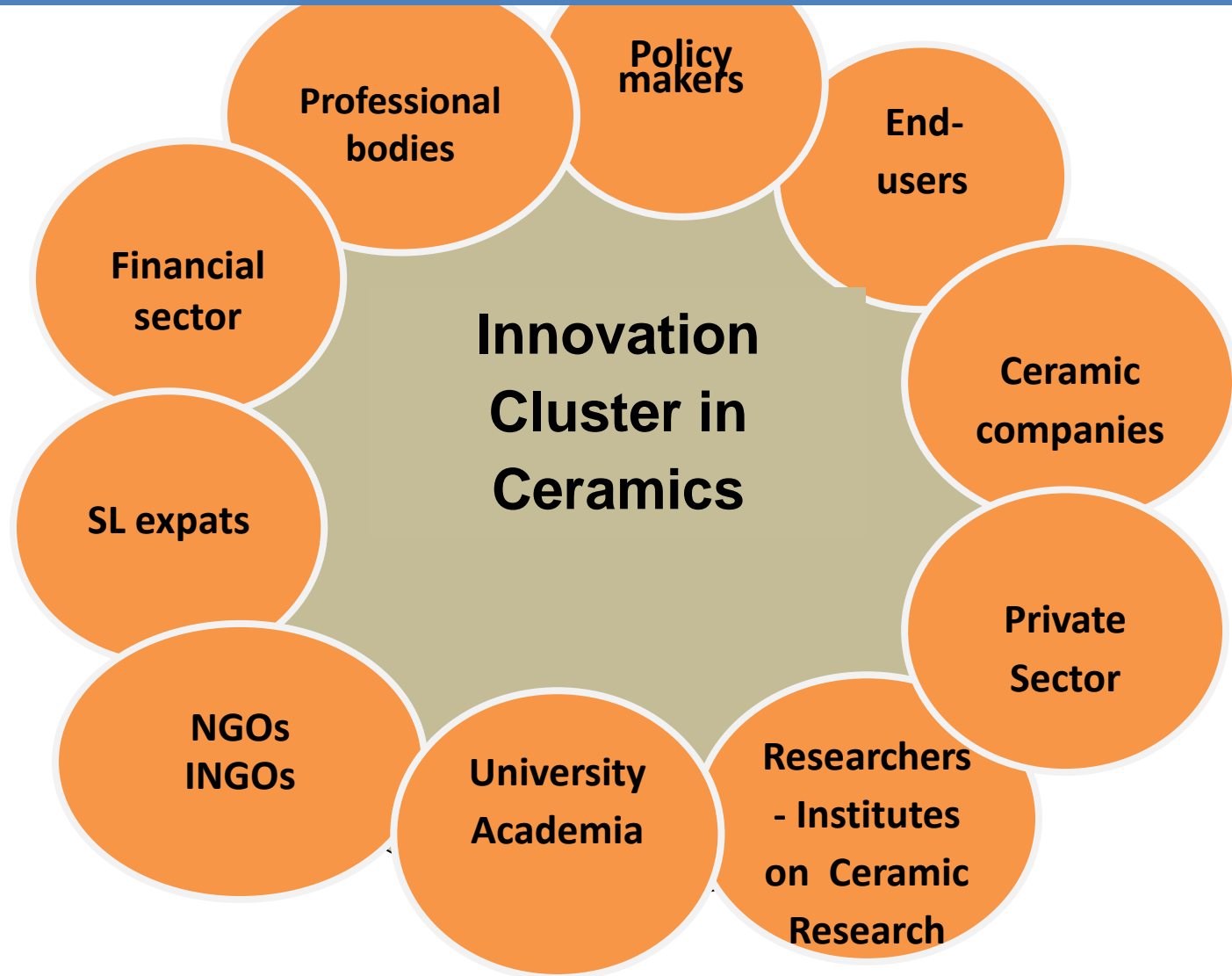
Gems and
jewellery
Cluster

Rutile
Cluster



Clusters represent
multi-stakeholders
from various sectors

Multi-stakeholders: Local , regional & global counterparts



Challenges – issues foreseen

Pre- requisites for functional VI:

- **Leadership:** who would lead the VI – To identify among the partners
- **Dynamic relationship:** building trust, confidence of the team members/partners - having diverse intellectuals - Create a climate to build trust amongst members
- **Changing the mind-sets: mono-disciplinary & – multi-disciplinary & towards multi-sectoral approach**
- **Infra-structure for ICT:** Cost of managing network, uninterrupted network facility - remote areas???

Challenges issues foreseen..... ...contd.

- **Legal framework:** IP management: protection of ideas, data privacy ; Regulatory aspects of networking, Cyber-security
- **Funding demarcation:** Decision making on the financial contribution
- **Incentives:** To encourage researchers to share the results of their work and receive adequate recognition for doing so,.
- **Benefit sharing:** arises from the outcomes of Research & Innovation (R&I)
- ...etc.....

Virtual Institute

- **Nurture collaborations to bring it to a new level in R&D for innovation**
- **Address national needs**
- **Establish a world class National Research and Innovation eco-system to win the**
“ECONOMIC WAR”

Thank you.

