



AFRICA-aj- JAPAN Project
African Union - african innovation - JKUAT AND PAUSTI Network Project

Special Open Seminar towards African Innovation

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Presentation Outlines

- Background to Research
- Definition of innovation
- Innovation process stage
- Technological innovation model
- Challenges
- Opportunities
- Innovation in Civil Engineering

1

Development of Self-Compacting Translucent Concrete Incorporating Recycled Glass Aggregate for Sustainable Construction

- Reduce artificial lighting in buildings
- Solid waste disposal and management
- Natural resource conservation
- Avoid concrete vibration/reduce noise
- Cost optimization



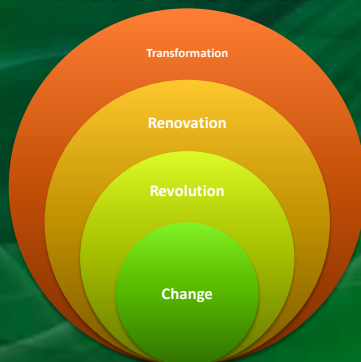
2

Application of Translucent Concrete

- Architectural walls of green buildings
- Underground stations
- Structural walls of banks, prisons and museums to increase security, and supervision as well as safety
- Airports, subways and road marks to add visibility

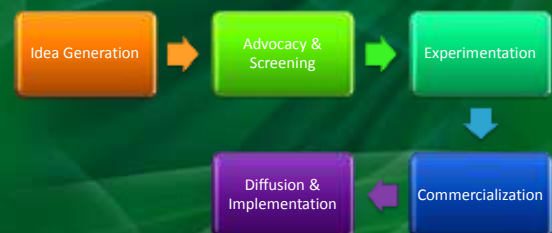
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What is innovation?



4

Innovation Process Stages



5

Technological Innovation Model

- Concept formation (market pull/technological push)
- Feasibility Analysis (economic, operational,..)
- Prototyping & testing
- Engineering & manufacturing
- Marketing promotion (channel selection,....)

6

Challenges *towards innovation*

- Find an idea
- Develop a solution
- Motivation
- Time and scope
- Fund
- Availability of equipment's
- Infrastructure

7

Opportunities



8

Innovation in Civil Engineering

- **Materials in Civil Construction**
 - Self-Healing Concrete
 - Self-Curing Concrete
 - Self-Compacting Concrete
 - Light Transmitting Concrete
 - Bendable Concrete
 - Kinetic Roads and Kinetic Footfall etc....
- **Construction Engineering**
 - Green Building
 - Earthquake Resistant Building Construction
 - Pavement Design etc....

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Thank You!!!

'The seed of innovation in Africa has been planted!'