

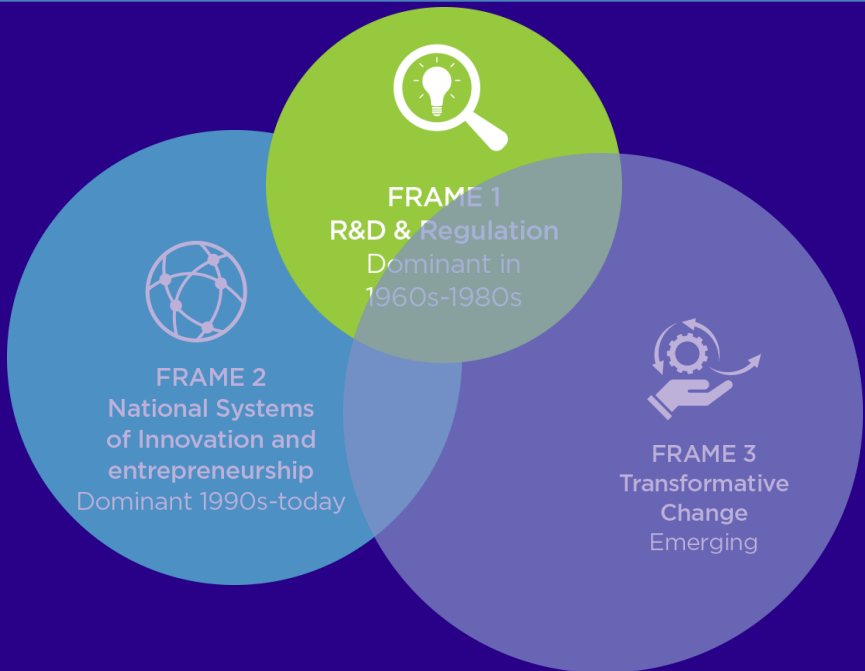
How can policymakers, funders and game-changers think differently about science, technology and innovation?"

Joint workshop on STI Policy for Transformative Change Meeting
18 November 2021

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R&D & Regulation: Frame 1

Dominant in 1960s-1980s and still influential

- Market Failures
- R&D produces economic growth, driven by productivity growth
- Policy instruments: Subsidies, IPR, Foresight, Education, Science for Society
- Markets lead to externalities & need regulation
- Emphasis on uncertainty, long-term public welfare gains and social & environmental missions

R&D & Regulation: Innovation Model for Frame

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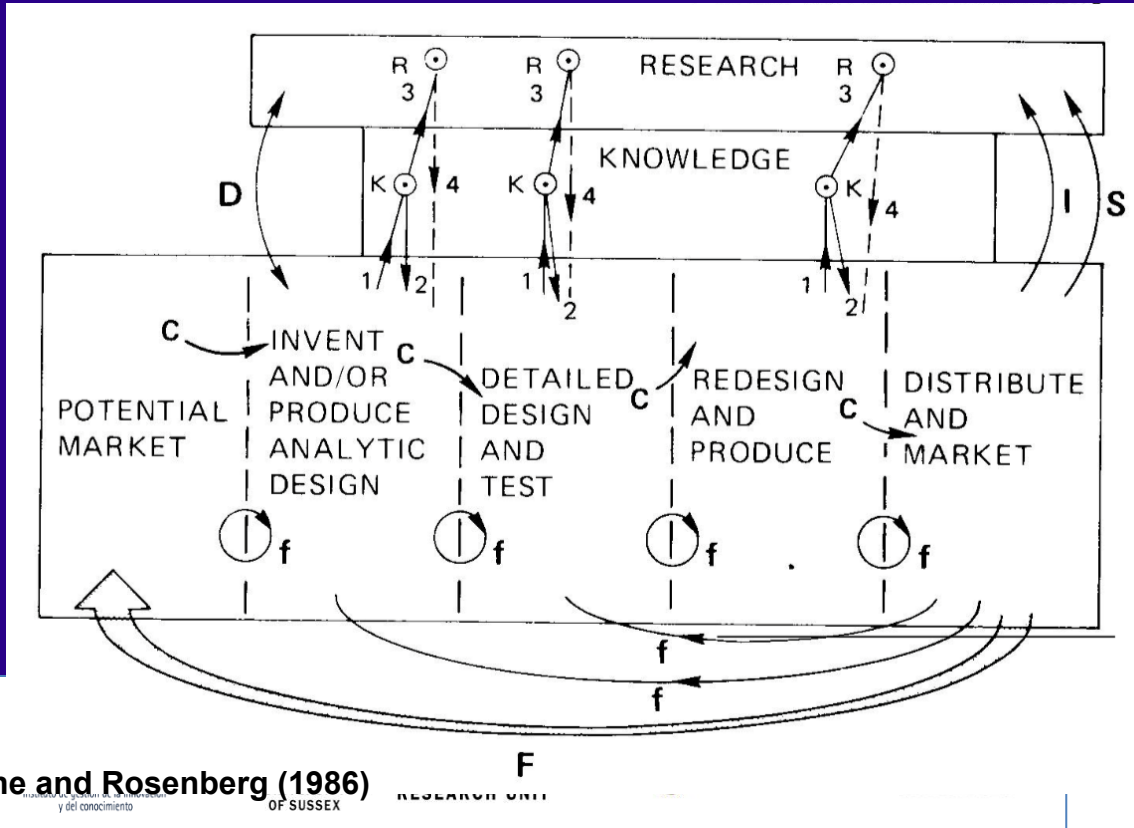


National Systems of Innovation: Frame 2

Dominant in 1980s – Present

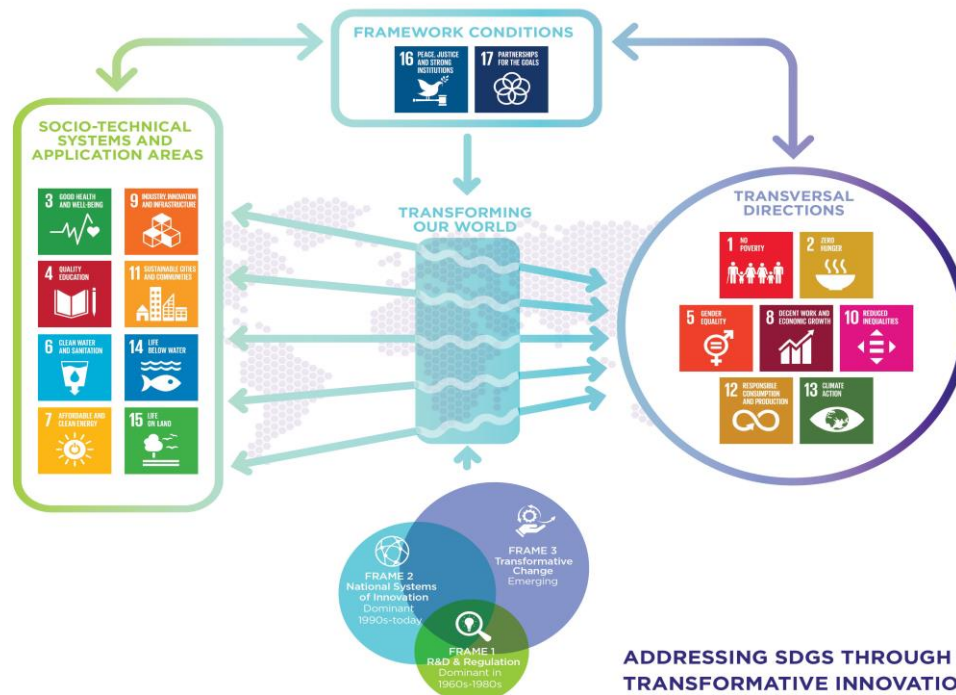
- System or institutional failure, lack of absorptive capacity
- R&D & learning
- National, Regional & Sectoral Systems of Innovation, ecosystems, clusters (building on related variety)
- Coordination between STI and sectoral research
- Technology platforms (public & private R&D/partnerships)
- Entrepreneurship/role of business
- Education, with focus on STEM Skills

National Systems of Innovation: Frame 2 Innovation model



Kline and Rosenberg (1986)
OF SUSSEX

Transformative Innovation & SDG Implementation



ADDRESSING SDGS THROUGH TRANSFORMATIVE INNOVATION POLICY
 Schot, Boni, Ramirez, Steward 2018

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Transformative Change: Frame 3

Emerging..

- Societal Challenges (SDGs) are the starting point
- Need for Transformative Change/Sustainability Transitions of socio-technical systems, introduction of notion of directionality & Missions
- Transition management, niche management/experimentation, living labs, inclusive innovation, social innovation, grassroots innovation, responsible research and innovation
- Policy facilitates/modulates ongoing change by making it more transformative (working with transformative outcomes)

Transformative Change: Frame 3

Emerging..

- Strong focus on local/regional as starting point for niche development and experimentation
- Selective coordination with other sectoral policies and developments, social policies, tax policies, agricultural, healthcare, energy and transport policies.

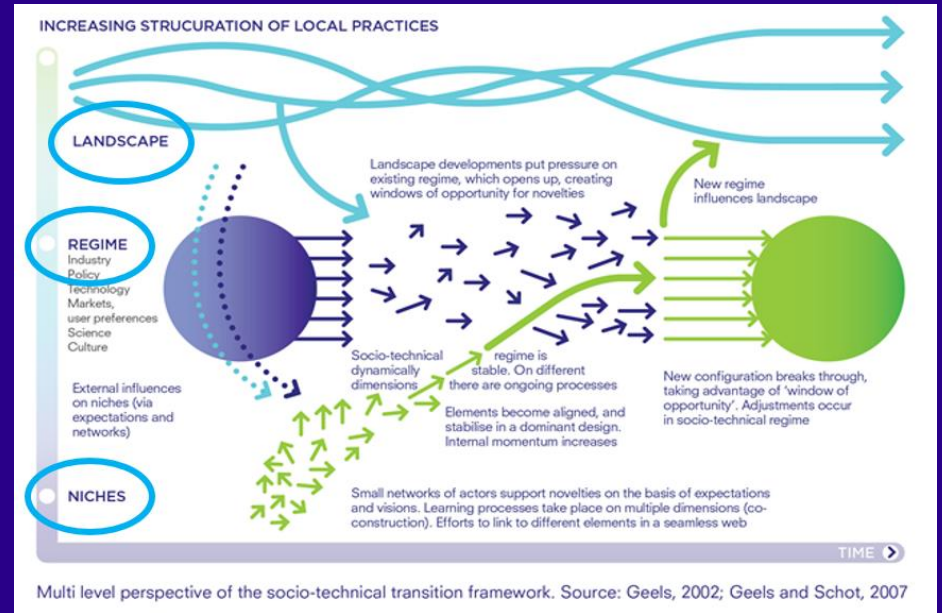
Aim: Contribute to opening up these policies for SDGs and transformation

Transformative Outcomes: The framework

Three general macro processes that can facilitate transformations:

- 1) building and nurturing niches
- 2) expanding and mainstreaming niches
- 3) opening up and unlocking regimes

Each macro process consists of four sub-processes = 12 transformative outcomes



How can STI agents facilitate transformation?

- They are not leading, but can modulate ongoing transformation through experimental policy engagements
- They can help to build & expand niches & open up regimes for change
- They can help to absorb shocks (such as COVID-19) and provide direction to recovery

Let's stay in touch!

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