

A photograph of the UNESCO-IHE building in Delft, The Netherlands. The building is a modern, multi-story structure with a light-colored facade and large windows. A tall flagpole stands in front of the building, flying a blue flag with a white wave pattern. The sky is clear and blue. The text "UNESCO-IHE INSTITUTE FOR WATER EDUCATION" is visible on the building's facade.

The Need for Innovations in Water-Related Fields

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UNESCO-IHE INSTITUTE FOR WATER EDUCATION

Objectives

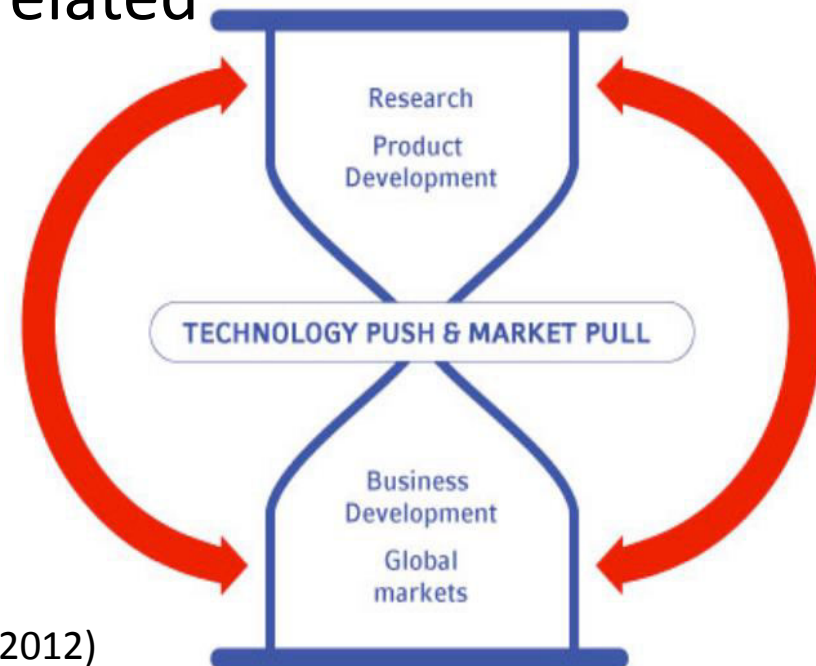
The Need for Innovations in Water-Related Fields

(for the Water Visions Lab Network for sustainable water solution)

1. Why, what innovations?
2. What are the obstacles?
3. An opportunity for the Global South?

Innovations (1/2)

1. Innovation := new or adapted product/service/method (*invention*) is introduced successfully to the market (*implementation*)
2. Broad concept: Technological, financial, methodological or management/governance related
3. Cyclic process not a chain:



(NWP/EIP Water, 2012)

Innovations (2/2)

4. Many stakeholders: researchers, public sector, private sector, multi-nationals, SMEs, NGOs, civil society, UN/intergovernmental organizations, networks etc.
 - > new partnerships, co-developers
 - > transdisciplinary approach
5. Increasing role of intermediaries, knowledge brokers to connect all players
6. Entrepreneurship is central, thus, SMEs etc.
7. Key objective economic development, job creation
8. Various national and EU programmes, networks, conferences, such as, European Innovation Platform Water, MVI Water, JPI etc.

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Past science assessment approach

- Number of (peer-reviewed) papers and citations
(= knowledge generation productivity)
- \$\$\$ or €€€ (earning capacity)

Future science assessment approach

In addition: Societal impact

- Impact on environmental strategies and policies
 - Impact on development pathways
 - Replication of demo sites, valorization etc.
- > *Need of new approaches and partnerships!*

THE IVORY TOWER



IF IT WEREN'T FOR THE
PESKY CONSUMER,
OUR BUSINESS WOULD
BE DOING GREAT

Obstacles of Innovations (1/2)

... it is not that easy!



1. Scientific isolation - lack of valorization support, parallel inventions and innovations
2. Challenge of integration - overcome disciplinary separation
3. Inadequate research funding for classical and non-classical knowledge generators (e.g. SMEs, NGOs)
4. Focus on low-hanging fruit is short cited
5. Technology/science push paradigm; lack of insights into market needs

Chas Madden

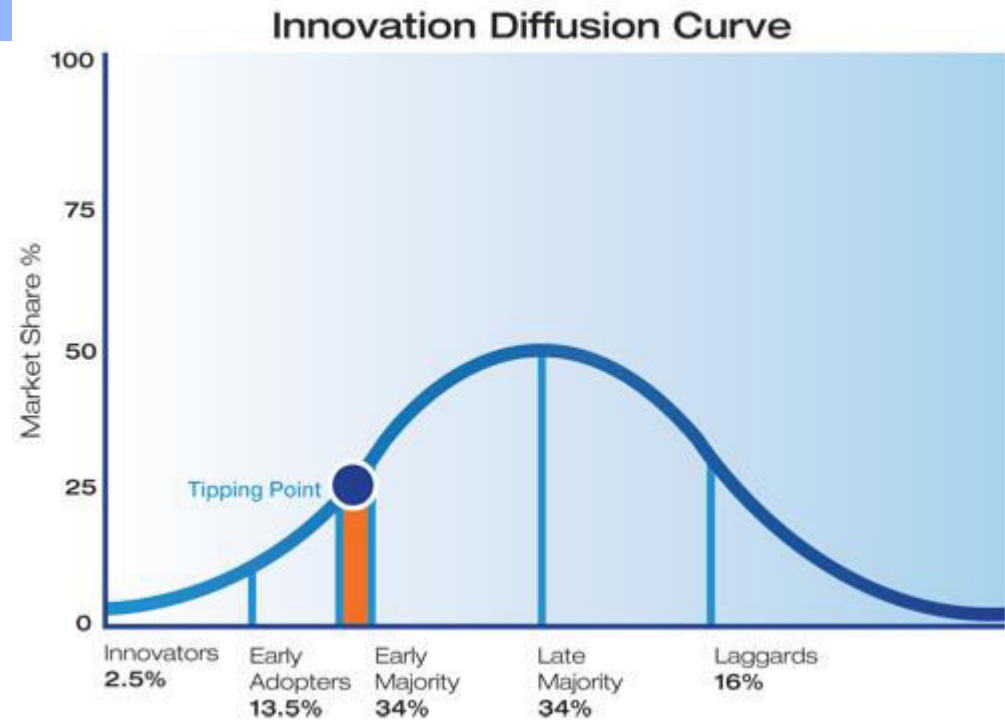


"I'm afraid the building next door might be undermining your foundations."

Obstacles of Innovations

... it is not that easy!

6. Long time needed for diffusion of innovations:



7. Inadequate entrepreneurship capabilities: too small players, too high risks, need of patience, inadequate financial resources

8. Public-Private Partnerships – potential conflict of interest

9. Need of enabling environment: finances and risk management, incentives, legislation, patents, certification, manageable bureaucracy etc.

10. Capacity development throughout the process (often forgotten ...)

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Innovations – An Opportunity for the South?



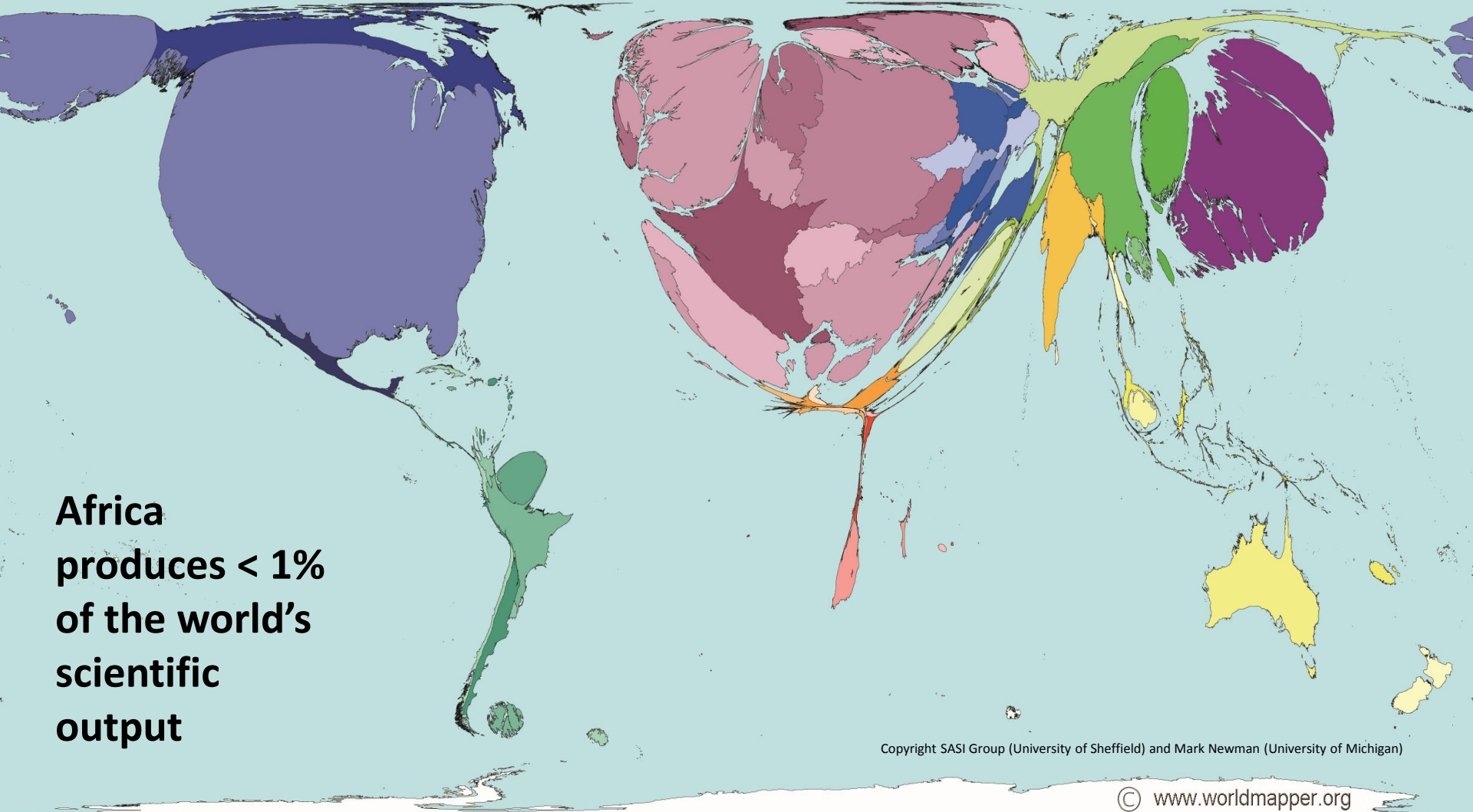
1. Tremendous needs!
2. Markets for innovations
3. Water – Energy –Food nexus: place to produce food, fuel, fodder, fiber, also for export
4. ‘Science diplomacy’; soft mechanism to build relationships
5. Develop talent, according to EC (2012):
EU has 7% of global population, but publishes 34% of high-impact papers and 32% of patents

Africa's Research Output

**Africa
produces < 1%
of the world's
scientific
output**

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Innovations – An Opportunity for the South?

6. Innovation is integral part of comprehensive package of N-S interactions including humanitarian aid, development policies and trade.

Address major challenges through water innovations, e.g. food security, energy security, peace, health, climate change, green economy etc.:

- from ‘technology transfer’ to ‘knowledge for development’ (complex process)
- from ‘project-based/ sectoral focus’ to ‘more integrated approach (nexus)’

7. Knowledge networks/partnerships can play key role

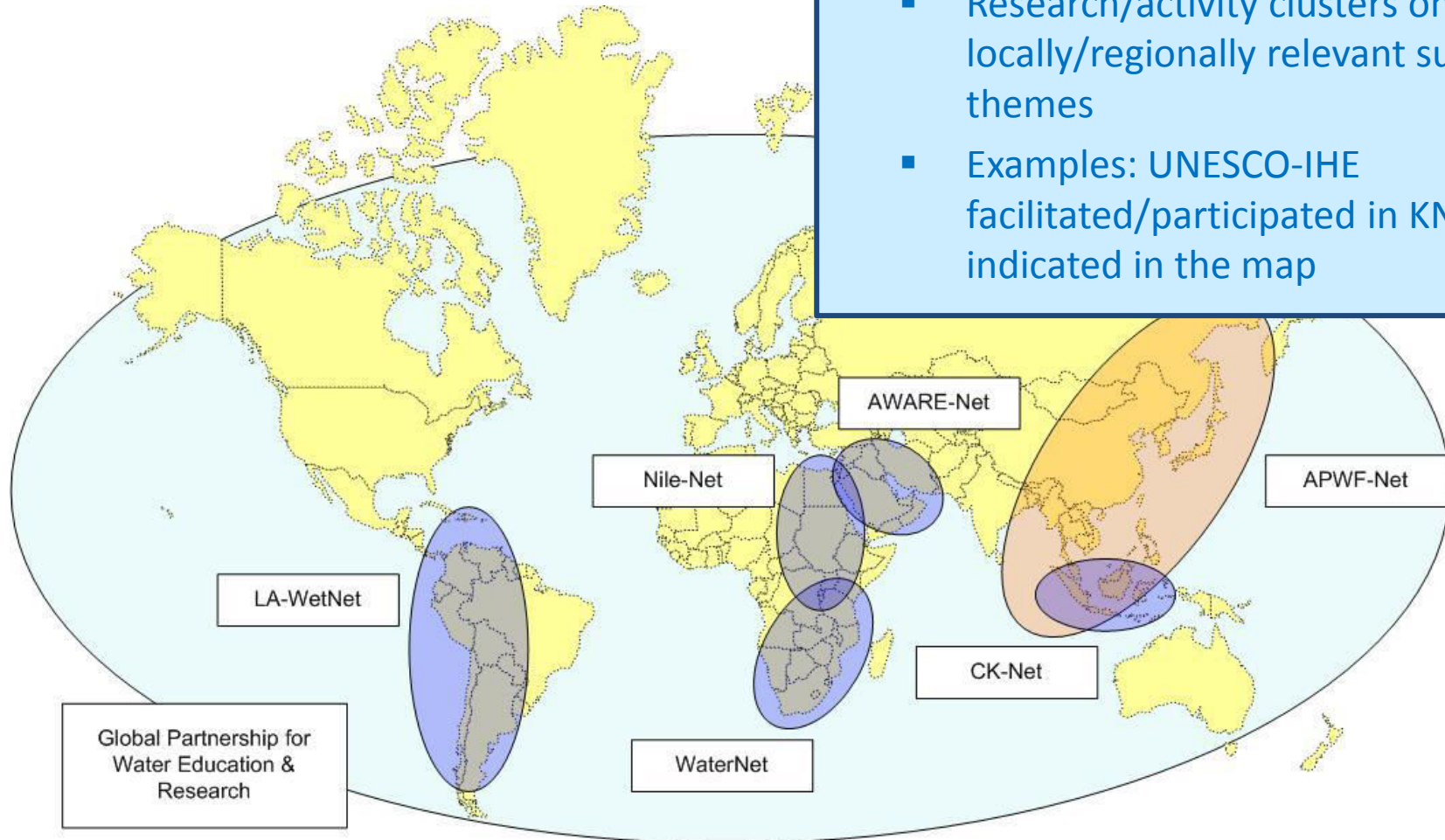
- demand driven developments
- adaptation of innovations
- social acceptability and assimilation
- access to the global (water) knowledge base, also via modern ICT

Knowledge Networks

Level the knowledge & capacity playing field (N-S / S-S / S-N-S networks):

- Usually include both scientists, private sector *and* policy makers
- Research/activity clusters on locally/regionally relevant sub-themes
- Examples: UNESCO-IHE facilitated/participated in KNs as indicated in the map

Examples for Partnerships & Networks



Concluding Remarks

1. Innovation: an invention gets introduced to the market
2. Cyclic process of technology/science push & market pull
3. Many (new) players and actors
4. Barriers for innovations are largely known
5. Universities, research institutes etc. will have to participate
6. An opportunity for the Global South?
Yes!

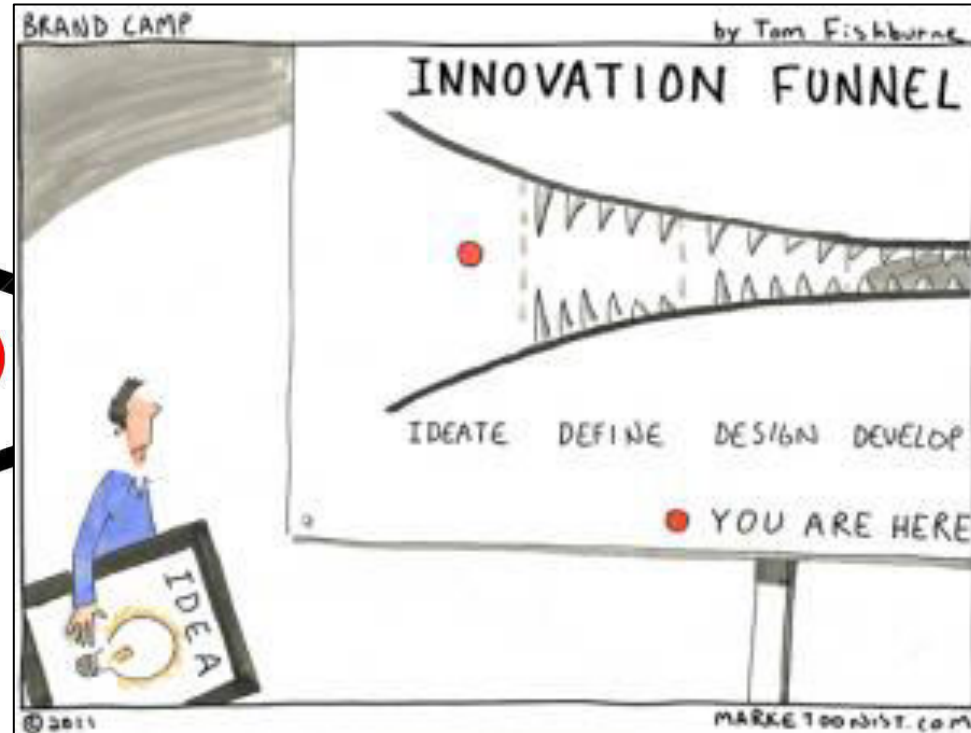
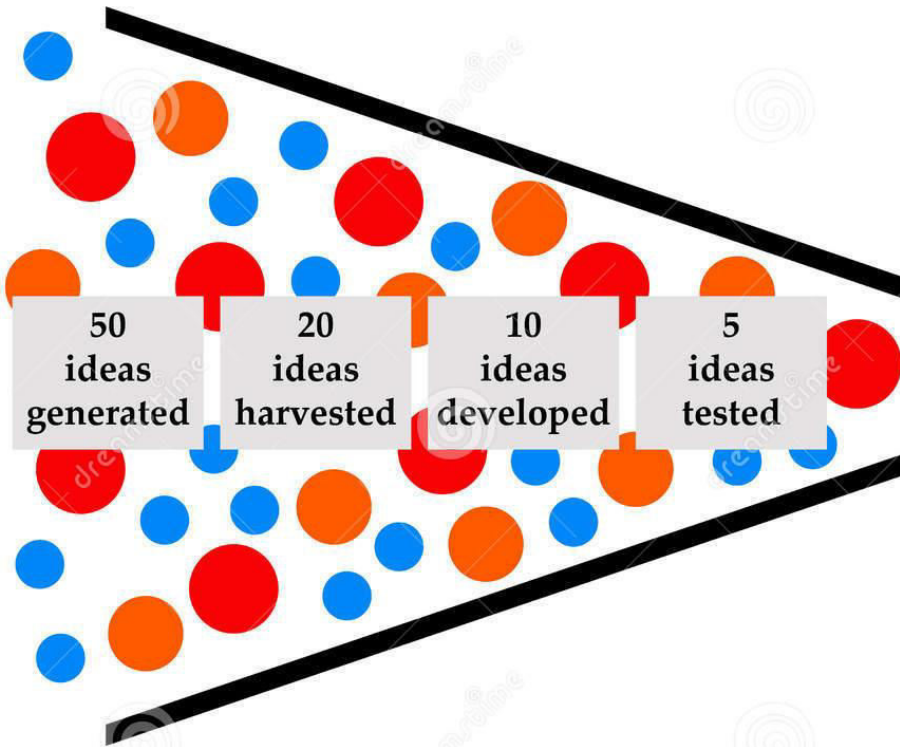




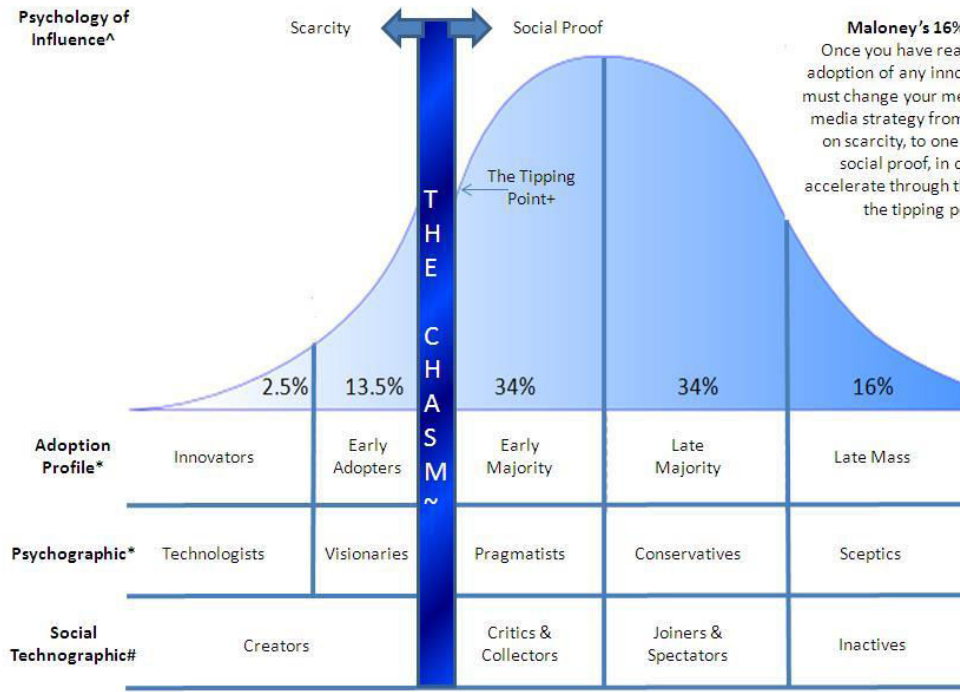
Thank you!

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The innovation Funnel



Accelerating Diffusion of Innovation: Maloney's 16% Rule



Maloney's 16% Rule
 Once you have reached the adoption of any innovation, you must change your marketing media strategy from one based on scarcity, to one based on social proof, in order to accelerate through the tipping point.

^ Robert Cialdini *Everett Rogers #Forrester ~Geoffrey Moore + Malcolm Gladwell