

Foresight Monday 11.6.2018

# Weak signals with Jerome Glenn

#fsightfriday @ennakointi @sitrafund

What is that?





***Weak Signals***  
***and the***  
***Global Futures Intelligence System***  
**for SITRA**

**Jerome C. Glenn, CEO**  
**The Millennium Project**

**June 11, 2018**

# Some related but different terms to Weak Signals



- Weak signals indicate the possibility of a new trend, development, event, condition, issue (individual use of synthetic biology indicates future-possible SIMAD)
- Low probability high impact event (9/11, extra terrestrial intelligence contact)
- Wild Cards/Black Swan – low predictability, but not necessarily high impact
- Weak Signals can indicate the approach of a Wild Card (as above: individuals using synthetic bio leads to SIMAD)

# Some Ways to identify Weak Signals



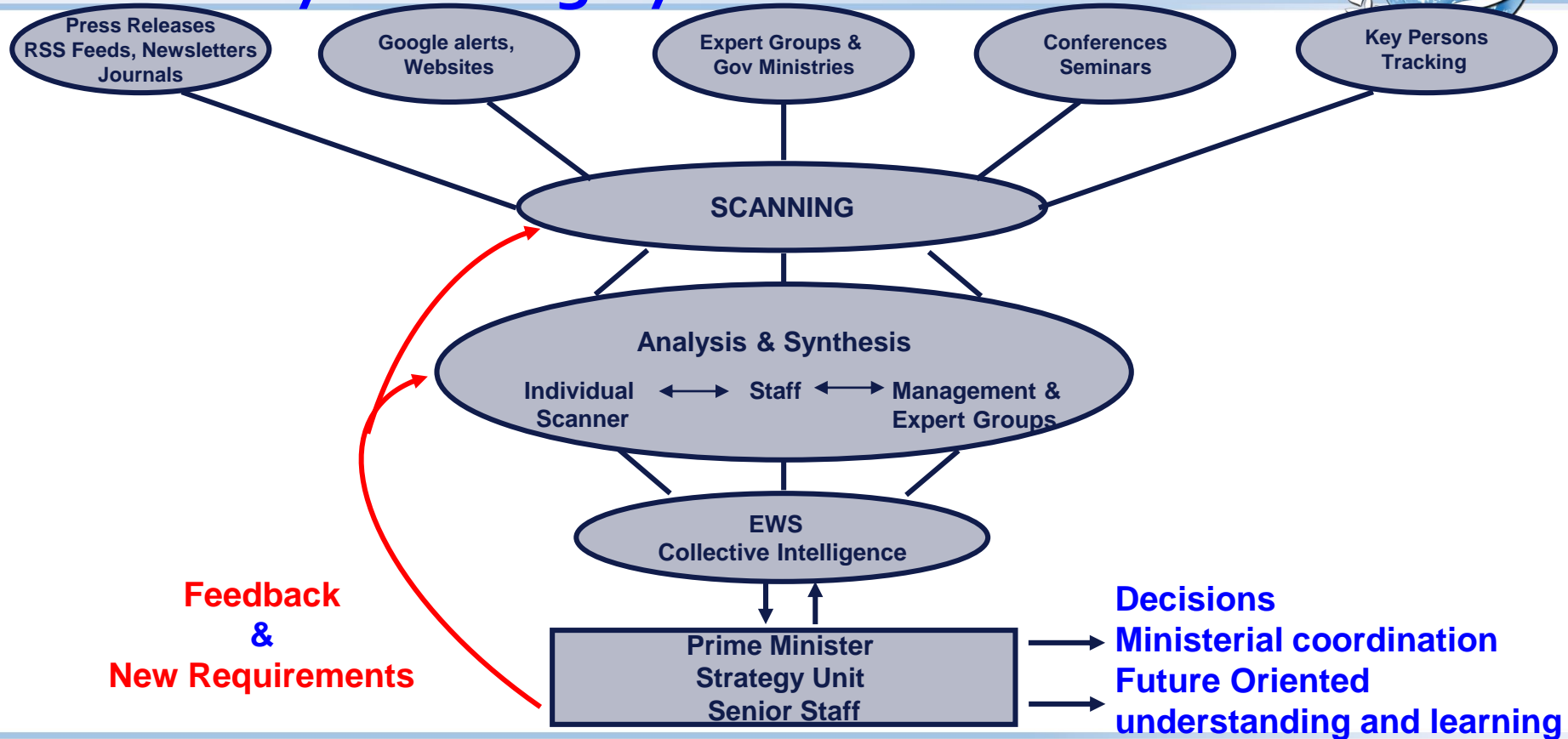
1. Find the most innovative people, who seem to be ahead of most people and listen to them, sign up for the social media, listserv, etc.
2. Find out what or whom they monitor
3. Delphi, crowd sourcing, brainstorming (what the best and worst possible?) and social media AI drawing on marketing automation platforms (MAPs), Social media management (SMM)
4. RSS Aggregator – many sources to one location then searched (GFIS)
5. Science Fiction can tell you what to look for – Her: now Little Ice In China
6. What do people think is important, who think differently than you, In US Tea Party (assisted by infowarfare, led to the Trump election).
7. Nesbitt used local news papers to find what was not yet in national media
8. Historical analogies: weak signals in the past can help us find signals in present.

# Some Ways to Process Weak Signals



- Use of the Futures Wheel to anticipate first, second, and tertiary consequences (used in groups or as an individual)
- Cross-impact several of the weak signals (after insights from Futures Wheels) to see future possibilities that could be weak signals as well
- Ranking by impact; on whom/what, and time to impact
- Ted Gordon's If/Then data base possible future events/headlines
- Test scenario completeness or strength of strategy

# General Conceptual Example: MP Early Warning System for PMO Kuwait



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Jerome.Glenn@Millennium-Project.org  
jglenn@igc.org  
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Created to improve humanity's prospects for building a better future.



# Definition of Collective Intelligence



It is an emergent property  
from the integration & synergies among

- data/info/knowledge
- software/hardware
- experts and others with insight

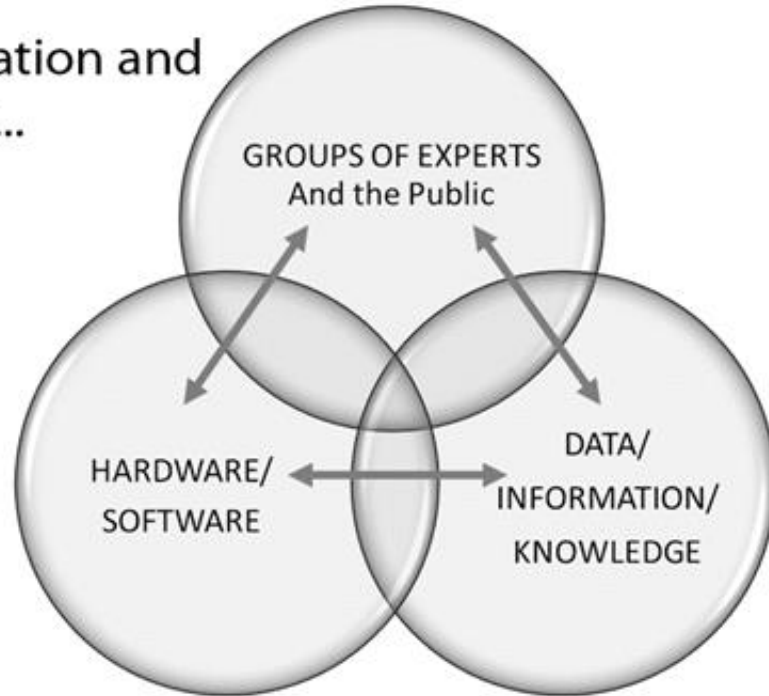
that continually learns from feedback  
to produce just in time intelligence  
for better decisions than these elements acting alone.



# General concept of Collective Intelligence



Improving integration and synergies among...



Producing Collective Intelligence

# General Steps to create a Collective Intelligence System



What are the key challenges, issues, opportunities?

Who are the most knowledgeable reviewers for each?

For each Challenge, what are the best

news sources, computer models, etc. that can feed new scanning items and weak signals into the CIS

Create Situation Chart for each Challenge: What is, What ought, and ways to address the gap

# One example of work flow:



Short-term  
Memory

Long-term  
Memory

Intelligence

News sources  
Internet Sources

Scanning Items

Situation Chart:  
What is; What ought  
How to address the gap

Short and Long-  
overviews

Feedback on Overviews, Situation Charts, Scanning items,  
and News Sources to constantly change.

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# Menu for each Challenge



1. **News items** (automatic news feeds – searchable)
2. **Scanning** (annotated, rated information)
3. **Situation Chart:** Current Situation; Desired Situation; and Policies
4. **Report** (detailed text)
5. **On-going Real-Time Delphi** questionnaires to collect expert judgments
6. **Public comments**
7. **Discussion groups**
8. **Computer models** (mathematical and rules-based), and conceptual models
9. **Resources:** websites, books, papers, videos
10. **Updates** – all edits
11. **Digests** – Recent scans, edits, discussions

## Challenge 1: Sustainable Development and Climate Change

How can sustainable development be achieved for all while addressing global climate change?

### Situation

[Report](#)[Digest](#)[RTDelphi](#)[Updates](#)[Scanning](#)[News](#)[Discussions](#)[Comments](#)[Models](#)[Resources](#)

### Current Situation

[Atmospheric CO2 400 ppm](#)[Greenhouse Gas Emissions](#)[Country Emission Pledges](#)[Ocean Acidity 30% Increase since Industrial Revolution](#)[Fossil Fuel Subsidies](#)[Arctic Ice Levels](#)[Global Temperature](#)[Current Forecasts](#)

### Desired Situation

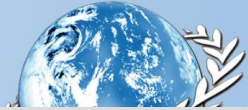
[Reduction in Atmospheric Carbon Dioxide Levels](#)[Adherence to pledged reduction targets](#)[Change in Perception](#)

### Policies To Address The Gap

[US-China 10-year Goal with NASA-like program to achieve it](#)[Carbon Tax](#)[Cap and Trade](#)[Communication by the media](#)[Equal Rights for Women Worldwide](#)[Green Growth Technologies To Address The Gap](#)[Adaptation To Address The Forecasts](#)



# Gather Expert Opinion with Dialogue



Question #1

**Degradation of urban coastal ecosystems of Africa and Asia**

(mouseover for details)  
[click here for details](#) [click here for reference](#)

**Details on the issue**

**Seriousness and trends**

**Which dimensions of these problems are becoming more serious?**

Please use the slider for rating from decreasing (far left) to not really a problem (middle) to central cause (far right).

Increasing size and density of coastal population	<input type="range" value="5"/>	5
Increasing dramatically		
Over-exploitation of coastal biodiversity	<input type="range" value="5"/>	5
Increasing dramatically		
Undervaluation of ecosystem services	<input type="range" value="5"/>	5
Increasing dramatically		
Loss of mangrove forests	<input type="range" value="4"/>	4
Increasing moderately		
Loss of coral reefs	<input type="range" value="4"/>	4
Increasing moderately		
Rising sea levels, erosion, and other consequences of climate change	<input type="range" value="5"/>	5
Increasing dramatically		
Pollution of coastal areas (e.g. garbage, oil, hazardous wastes)	<input type="range" value="5"/>	5
Increasing dramatically		
Lack of early warning and resilience systems	<input type="range" value="3"/>	3
Staying the same		

**Root causes**

**What are the most important root causes?**

Please rate the causes below and add others. (5=the essential cause; 4=very significant; 3=one among many; 2=not too significant; 1=not a cause at all)

Increasing size and density of coastal population	<input type="range" value="4"/>	3.85 (49)
Over-exploitation of coastal biodiversity	<input type="range" value="5"/>	3.92 (50)
Undervaluation of ecosystem services	<input type="range" value="5"/>	3.58 (50)
Loss of mangrove forests	<input type="range" value="4"/>	3.41 (48)
Loss of coral reefs	<input type="range" value="4"/>	3.45 (48)
Rising sea levels, erosion, and other consequences of climate change	<input type="range" value="4"/>	3.91 (47)
Pollution of coastal areas (e.g. garbage, oil, hazardous wastes)	<input type="range" value="5"/>	4.12 (49)
Lack of early warning and resilience systems	<input type="range" value="3"/>	3.28 (50)
Under-investment in natural ecosystems	<input type="range" value="5"/>	3.59 (47)

**Submit**

**Discussion**

**Answer:** click to see answer  
**Explanation:** Si la población se incrementa exige mayores servicios y produce mayor contaminación. Es necesario buscar un tamaño medio de ciudad, promoviendo para ello ciudades autosostenibles en las que se apliquen energías limpias basadas en el viento, las mareas o el sol.  
**Answer:** click to see answer  
**Explanation:** The exploitation of natural resources is made based on the benefit they represent without having

**Innovative solutions**

**What are some innovative solutions to address the most important root causes?**

General ratification and enforcement of international regulations such as the Law of the Sea (UNCLOS) and The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and

**Submit**

**Discussion**

we have to encourage people to protect coastal ecosystems. we can save ecosystems by trial things, for example, do not throw garbage to the sea.  
우리의 자연 파괴로 인해, 생태계가 변하고 그에 따라 다시 재앙 일게 된다.  
education  
Education, put in place the right personnel in government Minist or Departments. Where first degree is the highest qualification 95% of government staff, they cannot respond to innovative ideas as those who have spent 10 to 15 years on research on such subjects after Masters or PhD. This is why many governments engage in mere propaganda without doing anything tangible thing

**Group average and number of responses**

**Reasons**

# Collective Intelligence System



- Helps keep track and anticipate change
- Unite functions, foresight, strategy, investments, and operations
- Provide a common platform for a “Whole-of-organization” response to future challenges
- Identify organization’s future opportunities
- Invite experts and creative people to participate in building a “brain” for the future of the organization



# ... Acts like a *TransInstitution*



# 63 Nodes...and two regional networks in Europe and Latin America



*are groups of experts and institutions that connect global and local views in:*



Nodes identify participants, translate questionnaires and reports, and conduct interviews, special research, workshops, symposiums, and advanced training.

# MP Futures Research... so far



1. African Futures Scenarios 2025, and UNDP workshop at the UN (1994)
2. Millennium Project Feasibility Study final report (1995)
3. Global Issues/Strategies four-round Global Lookout (Delphi) study (1996)
4. Lessons of History (1997)
5. Global Opportunities and Strategies Delphi (1997)
6. Definitions of Environmental Security (1997)
7. Futures Research in Decisionmaking (and checklist) (1998-99)
8. Global Normative 2050 Scenario (1998)
9. Environmental Security Threats and Policy Leadership (1998)
10. Current/Potential UN military doctrine on Environmental Security (1999)
11. Six Alternative Year 3000 Scenarios (1999)
12. S&T Issues over the next 25 years (2000)
13. Future Technological Implications for Society and the UN System (2000)
14. Analysis of UN Summit Speeches (2001)
15. Military environmental crimes and the role of the ICC (2001)
16. Management Implications of Future S&T 2025 Issues (2001)
17. New Military Environmental Security Requirements 2010-2015 (2001)
18. Global Goals for the year 2050 (2002)
19. Future S&T Scenarios 2025 (2002)
20. Emerging Environmental Security Issues for Future UN Treaties (2002)
21. Monthly Reports: Emerging Environmental Security Issues (2002-2011)
22. Middle East Peace Scenarios (2002-04)
23. Early Warning System for Kuwait Oil Company (2003-04)
24. Nanotech Military R&D Health/Env Research Prevention Priorities 2004-05)
25. Future Ethical Issues (2004-05)
26. Global Energy Scenarios (2006-07)
27. South Korea SOFI (2006)
28. Future of Learning and Education 2030 (2007)
29. Global Climate Change Situation Room for Gimcheon, South Korea (2007-2008)
30. Conceptual design for global energy collective intelligence (GENIS) (2008)
31. Status of Government Future Strategy Units (2008)
32. RTDelphi for UNESCO World Water Report (2008)
33. WFUNA Human Rights (2008)
34. Decision Criteria Evaluation of Global Environment Facility (2008)
35. South Korea SOFI and South African SOFI (2008)
36. Early Warning System PMO Kuwait (2008-2009)
37. Potential Future Elements of the Next Economic System (2009)
38. UNESCO World Water Scenarios project (2009)
39. Future of Ontologists (2009)
40. Future Hopes and Fears: a Kuwait Perspective (2010-2011)
41. Latin America 2030 Scenarios (2009-2011)
42. Egypt 2020 (2010)
43. Changes to Gender Stereotypes (2011)
44. Azerbaijan SOFI (2011)
45. Future Arts, Media, and Entertainment: Seeds for 2020 (2011)
46. Cooperatives 2030: Factors Impacting Future of Cooperatives and Business (2012)
47. Egypt's national Synergetic Information System (ECISIS) (2013-16)
48. Hidden Hunger: Unhealthy Food Markets in the Developing World (2013)
49. Vulnerable Natural Infrastructure in Urban Coastal Zones (2013)
50. FUTURES Dictionary/Encyclopedia (English and Spanish) (2014)
51. SIMAD and Lone Wolf Terrorism Counter Strategies (2014)
52. Czech Rep., Hungary, Poland, Slovakia, Visegrad Region SOFIs (2014-2015)
53. Water-Energy-Food Nexus in the Context of Climate Change (2015-16)
54. Pre-Detection of Terrorism Strategies RTDelphi, NATO Workshop (2015-17)
55. Future Work/Technology 2050 Global Issues, Scenarios, Workshops (2015-17)

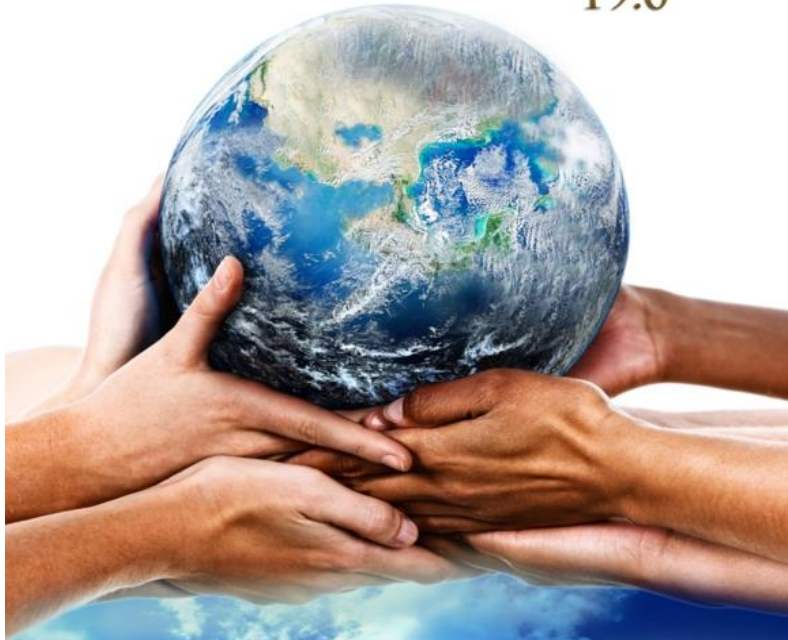
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- AGAHI Pakistan (2016-18)
- Alan F. Kay & Hazel Henderson Foundation (1996-2000)
- Amana Institute, São Paulo, Brazil (2004)
- Applied Materials, Santa Clara, California (2002-09)
- Argentina Ministry of Agriculture (2012)
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- Kuwait Petroleum Corp. (via Dar Almashora for Consulting) (2005-06)
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- Ministry of Educ. and Presidential Commission on Education, Republic of Korea (2007)
- Monsanto Company, St. Louis, Missouri (1996-98)
- Montenegro Ministry of Science and Technology (2012)
- Motorola Corporation, Schaumburg, Illinois (1997)
- NATO, Brussels, Belgium (2016)
- Pioneer Hi-Bred International, West Des Moines, Iowa (1997)
- Rockefeller Foundation (2008-11; 2013)
- Shell International (Royal Dutch Shell Petroleum Company), London, UK (1997)
- UNESCO, Paris, France (1995, 2008-10)
- United Nations Development Programme, New York, (1993-94)
- United Nations University, Tokyo, Japan (1992-95, 1999-2000)
- Universiti Sains Malaysia (2011)
- U.S. Army Environmental Policy Institute, Arlington, Virginia (1996-2011)
- U.S. Department of Energy, Washington, D.C. (2000-03)
- U.S. Environmental Protection Agency, Wash., D.C. (1992-93, 1996-97)
- U.S. Department of Defense, Off of the Secretary
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# STATE OF THE FUTURE

19.0



Jerome C. Glenn, Elizabeth Florescu,  
and The Millennium Project Team

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**The Millennium Project**

# **Futures Research Methodology**

**Editors Jerome C. Glenn and Theodore J. Gordon**  
**With support from the Rockefeller Foundation**

**Version 3.0**



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## ***State of the Future 19.1:***

<http://www.millennium-project.org/state-of-the-future-version-19-1/>

## ***Futures Research Methodology 3.0:***

<http://www.millennium-project.org/publications-2/#method>

## ***Global Futures Intelligence System:***

<http://www.millennium-project.org/projects/global-futures-intelligence-system/>

# **WEAK SIGNALS WORKSHOP**

Interpreting weak signals



**ANY USEFUL IDEA ABOUT THE FUTURES  
SHOULD APPEAR TO BE RIDICULOUS**

Jim Dator

# Postnormal times



***“We are entering an era where complexity, chaos and contradictions will become the dominant themes; and uncertainty and ignorance will increase drastically”***

Sardar, Z., 2015. Postnormal times revisited. *Futures*, 67, 26–39.

Sardar, Z., 2010. Welcome to postnormal times. *Futures*, 42(5), 435–444.

## **Weak signal:**

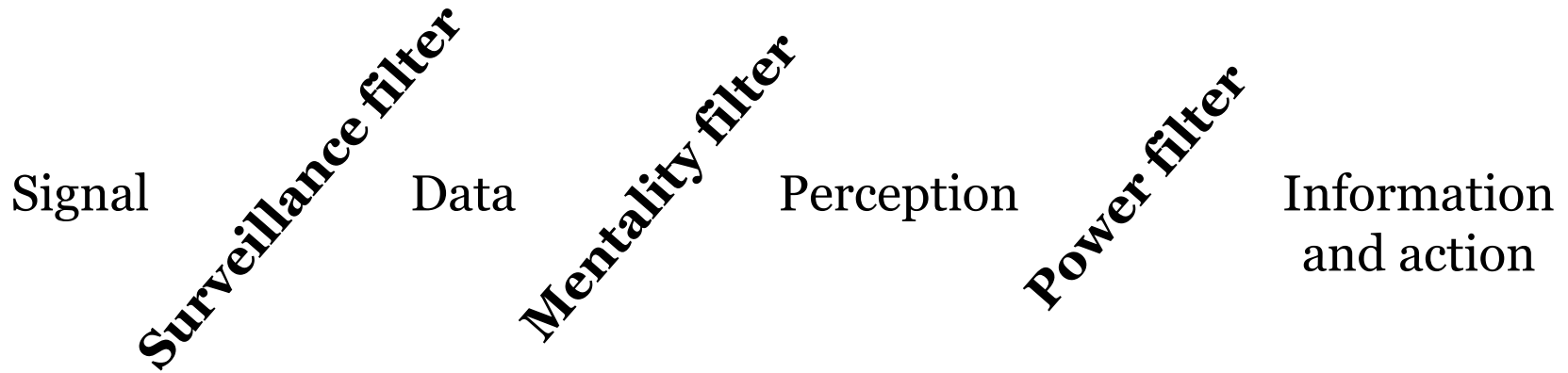
Sign of an emerging issue or  
the first symptom of change

*Hiltunen 2010: Weak signals in organizational futures learning*



What is that?

# Signal and its interpretation



*Modified from*

*Ilmola 2014: Increasing Flexibility by Environment Scanning of the Early Signs of Change in the Complex Environment*

*Ansoff 1984: Implanting strategic management*

**SITRA**

# Instructions

## 1. Select a signal

- You can use the one suggested in the template, or a signal that came to your mind during the talk and discussion

## 2. Think about the signal

- What is it about?
- What does it tell about possible futures?
- What would happen if the things it describes became mainstream or normal?

## 3. Write a short story about a person from the future

- Name, age
- One daily activity
- Include the things the signal describes in some way

## 4. Share your story with the person sitting next to you and discuss

- What kind of commonalities or tensions are there between the stories?
- What new ideas emerge from the futures the stories depict?

## **Pet cloning**

Barbra Streisand had her (now dead) dog named Samantha cloned — not once, but into two (living) dogs. Viagen Pets out of Texas charges about \$50,000 per cloned animal.

*Source: BigThink*

## **Instructions**

What is this signal about? What would happen if the things it describes became mainstream?

Write a short story about one moment in the everyday life of a person from the future. It can be about eating, travel, living, working etc. Include the signal above in the story in some way.

When ready, share your story with the person sitting next to you.

## **Person from the future**



Name:

Age:

Story:

# **REFLECTION**

What thoughts emerged from the discussion?



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