

WEAK SIGNALS FROM THE FUTURE

Guide to detection and
interpretation

Lilli Poussa & Terhi Ylikoski



Sitra's guide

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Weak signals from the future

Guide to detection and interpretation

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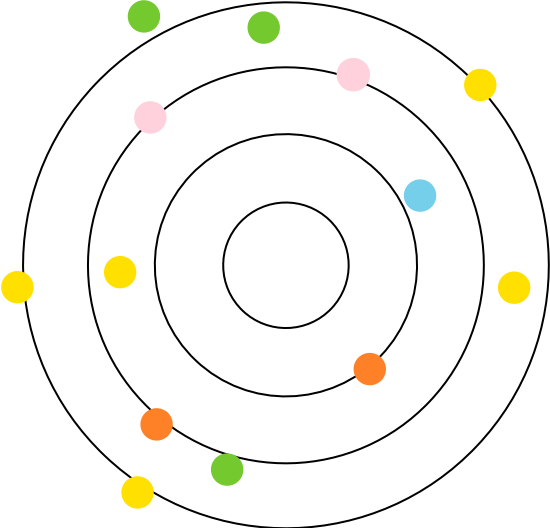
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Sitra' guides are intended for the use of future knowledge. They are concrete tools for your future-oriented work.

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Weak signals from the future

What?

You are reading a guide on how to detect and interpret weak signals. With the guide, you can build your own process for working with weak signals or just use its individual tips or tools.

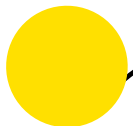
For whom?

This guide is intended for anyone interested in detecting and interpreting weak signals. Previous experience about foresight is not necessary. You might work on a company strategy, think about the future of your hobby group or practise foresight in the public sector. Detecting and interpreting weak signals can be useful in a wide range of roles and situations.

What weak signal?

A weak signal is the first symptom of change or a sign of an emerging phenomenon that may be significant in the future (Hiltunen 2010). It is something that has actually already happened, but that seems strange, surprising, ridiculous or outrageous to the observer and can be interpreted as a sign of a bigger potential change.

Source: [Hiltunen, Elina \(2010\): Weak Signals in Organizational Futures](#)

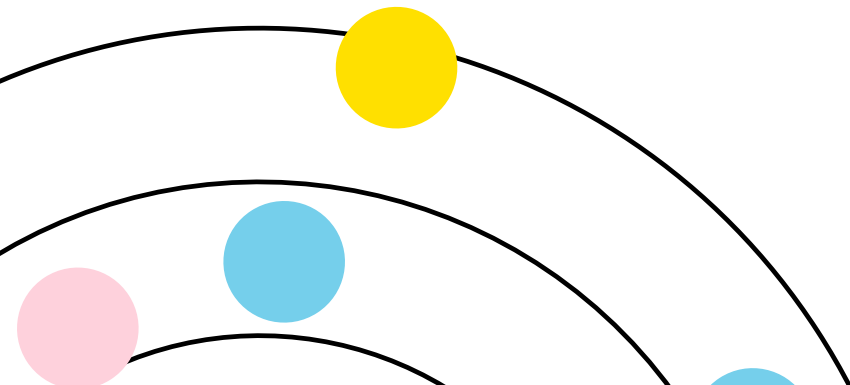


Why?

The future is often surprisingly surprising. We are constantly faced with things and phenomena that we could not foresee or expect. That is why we need the ability to broaden our thoughts about what may lie ahead in the future.

Weak signals provide one way to do this. They help to identify emerging changes, prepare for surprises and challenge assumptions about the future. Weak signals can also help us evaluate our current choices and actions. In addition, they also encourage us to innovate when we identify phenomena that we have not encountered before.

Weak signals can be utilised in many different ways: when building a strategy, brainstorming for a new kind of action or introducing preparedness measures. They can be employed in environmental scanning, while analysing current changes and considering the effects of signals on society, our own organisation or the industry. Weak signals should also be used to challenge assumptions about the future. They help us imagine alternative futures and stretch our thinking about what the future could be.



Weak signals are useful in many respects

Identify the first signs of change

Weak signals provide a tool to look at current changes from a new kind of perspective. This is because they are basically things that surprise and confuse us, prompting us to reflect on what is changing or different from before. In addition, they challenge our assumptions about what is “true” or “normal.”

Imagine alternative futures

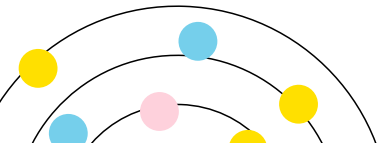
Weak signals provide material for speculating on different futures, i.e. boldly imagining alternative developments. For each interesting signal, it is worth asking the question: what alternative futures do the signals open? Among others, one can ask what the world, its structures, environment and people would look like. What would change if the signal became more common? It is especially useful to consider several different trends that the same signal could trigger when it becomes common.

Supplementing the trend analysis

Trends tell about phenomena that we already see around us and that are mostly measurable. If you focus on trends only, you can get stuck in current changes and fail to notice emerging phenomena. Therefore, it is worth supplementing the trend analysis with weak signals. Sometimes it is useful to identify weak signals associated with a particular trend and consider how they affect the trend. Signals can give an indication of possible counter-trends, or they can be used to identify new features in trends. For example, perfume for babies launched by a luxury brand as a weak signal challenges the trend of people's growing desire to avoid unnecessary chemicals. At the same time, it can be seen as bringing new features to the trend of commercialising childhood.

Challenge the strategy or plans

Strategy work is often built on megatrends and an analysis of the operating environment. In that case, there may be a risk that we fail to notice some emerging changes. One value of weak signals lies in that they challenge our thinking about what we consider likely or possible in the future. With regard to interesting signals, it is worth asking: what if the identified weak signal became mainstream? How would it challenge our organisation, its strategy and plans? Or what kind of opportunities could arise from them?



Convince your friends about the benefits of observing weak signals:

Identify creeping changes

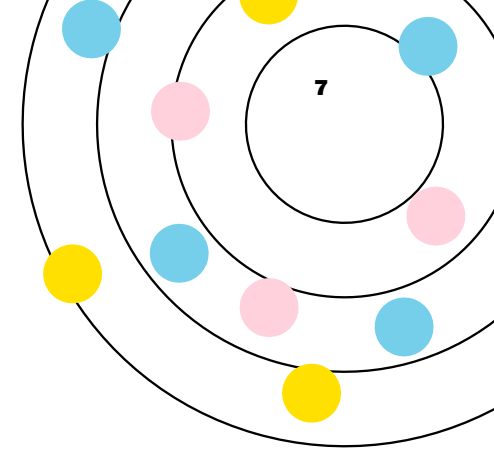
Weak signals can be identified precisely at the stage when changes are developing. That is why they help identify emerging changes, prepare for surprises and seize new opportunities – sometimes even before others.

Expand your thinking

The future is often surprisingly surprising. We need the ability to challenge ideas about all that can happen in the future, so that we can also better assess current choices and actions.

Innovate

Foresight is fuel for innovation. Weak signals provide ingredients to identify emerging challenges or detect new types of solutions to innovate on.



How?

The guide is divided into three parts: preparation, scanning of weak signals and interpretation of signals.

1) Preparation

Scope definition and identification of participants, as well as the choice of documentation method.

2) Scanning

Scanning signals from different sources.

3) Interpretation

Interpretation of signals: what do signals tell us about the present and the future?

1. Preparation

Define your scope

Weak signals can be scanned without any particular scope, on any topic, or you can choose a specific theme to focus on. Suitably sized topics include the future of civil society or the future of Finland's energy policy.

However, if you decide to narrow down the topic, do look for signals broadly around the topic – even surprising things will affect the future of the topic you choose. By limiting the topic too strictly, interesting signals are easily excluded from the observations.

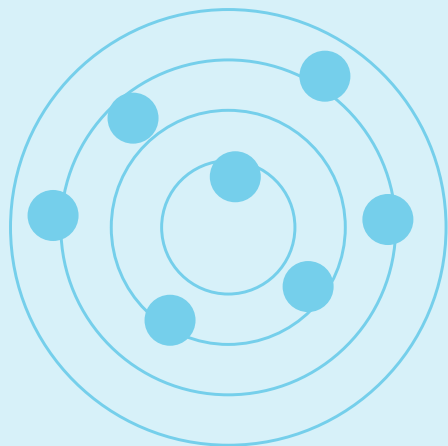
Signals about technological trends, for example, may be relevant for the future of civil society, and signals about changes in human interaction may in turn be reflected in the national energy policy.

Invite others to join

In the search for weak signals, you can get going even alone. However, crowdsourcing the scanning is worthwhile, as a larger group of observers guarantees more diverse perspectives on the world. The more diverse the group making observations, the more diverse the set of signals.

You can agree on a two-week or one-month period, for example, when you scan signals together. You can also make the process ongoing.

The observation of signals can also be done in joint workshops, though it should be noted that scanning takes time and may not succeed right away.



Set up a place for signals

Weak signals can be stored in different ways. As a documentation platform, you should choose an app familiar to the participants, which everyone can easily also access on mobile devices. This way, signals can be documented as soon as they are spotted, regardless of place. Padlet, Teams or any free online app like Google Docs, for example, can be a viable solution.

When scanning signals, there is no need to think too much about what kind of futures they could lead to, as the observation and interpretation of signals are two different work phases. It is also a good idea not to make the documentation of signals too complicated: often it is enough to write down the title, a short description and the source of the signal, such as a link to a piece of news. You can also use the [PESTE](#) classification in the signal documentation phase, which guides you to look at the operating environment from different perspectives, such as economic, environmental and political.

A SNAPPY TITLE DESCRIBING THE SIGNAL

A slightly longer text describing the signal, in which you explain the main idea of the signal: why is it interesting?

Source: photo, link to the news or social post, etc.

An example of documentation



Examples

APOCALYPSE FOOD KIT

Costco, an American super-market chain, launched an emergency kit with single-packed meals with a 25-year shelf life. The kit became a viral hit that quickly sold out.

Source: <https://abcnews.go.com/amp/GMA/Food/costco-apocalypse-food-bucket-viral-emergency-preparedness-experts/story?id=112162331>

NEW EXPRESSION: “FAST TRAVEL”

The aim of the expression “fast travel” is to create a stigma for air travel. It accounts for air travel as a means for quick weekend trips and compares it to fast fashion as a form of consumption.

Source: heard in a workshop discussion

CHINA'S PUBLIC TOILETS PROVIDE A QUICK URINE ANALYSIS SERVICE

In China, public toilet urinal services, where you can get an analysis of your state of health based on a urine test for less than \$3, are becoming more common.

Source: https://x.com/chris__pc/status/1782245409857102262



2. Scanning signals

Detecting and interpreting weak signals requires expanding thinking and reaching beyond the familiar ground – constant curiosity, looking where we do not usually look. The idea is to identify small symptoms of change that easily go unnoticed.

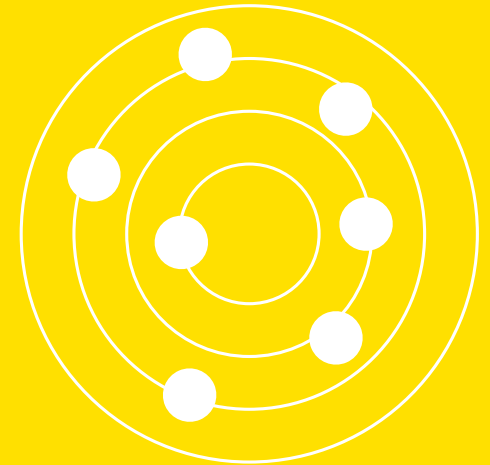
Where can weak signals be found?

When looking for weak signals, it is advisable to follow a wide range of different media and social media channels. It is a good idea to familiarise yourself with what people around you – artists, researchers, activists, entrepreneurs – are talking about right now. Sometimes a weak signal can be found nearby if you take a break from your mobile phone.

What can weak signals be?

Weak signals can be concrete things like legislation, technology, natural phenomena, products, services or events. But they can also be new values, opinions, ideas, gestures, world views. New and surprising phenomena that make you stop and ask yourself or a friend: what did I just see?

The signal can also take many forms. It can be a post on social media, newspaper news, a seminar speech, a friend's comment, a colleague's new title or even people's behaviour in a public place. Or something entirely else.



A weak signal can be for example:

- Technology
- Daily habit
- Behaviour
- Gesture
- Opinion
- Idea, innovation
- Proposal
- Word, term, concept
- Business model
- Art, culture
- Research
- Natural phenomenon
- Activism
- Pilot
- Statute, policy measure
- Expression
- Value, ideal, world view
- Product
- Service
- Event

TIP

How to introduce weak signals in your team's everyday life

At Sitra's foresight team, we present a weak signal of the week at a weekly team meeting. The concept is simple: each week one of us identifies a weak signal, creates a "what if" question based on it, and gently speculates on what the world would look like if the signal were mainstream. Even though this only takes about five minutes, the method ensures that everyone keeps their sensors on, and the threshold for sharing observations remains low.

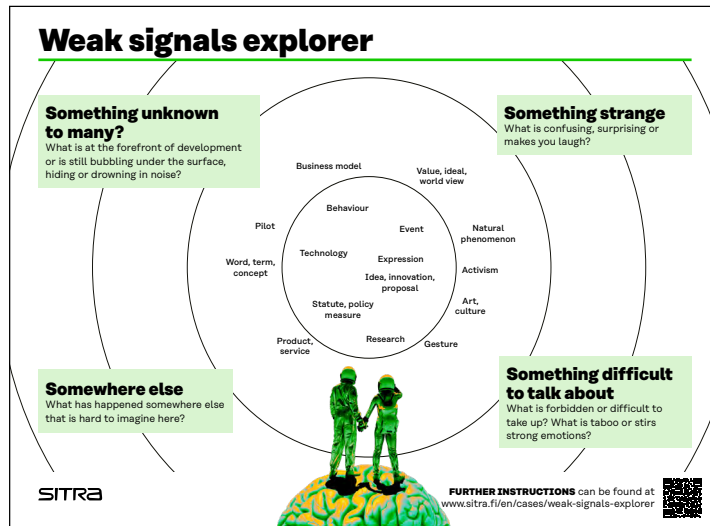


Practical tips for finding weak signals

- Get a magazine you do not normally read and read it from cover to cover.
- Choose a radio station you would not normally choose and listen curiously to conversations, advertisements, etc.
- Search online for a foreign media website and read the news of the day.
- Talk to a person with whom you usually have no contact and whose everyday reality is different from your own (e.g. a different life situation, profession, special field, etc.).
- Talk to a person of different age and ask what things are topical in their social media feed.
- Actively seek out of your own bubble on social media. Follow new topics, conversations, groups or people.
- Get acquainted with the latest research projects or results in a discipline you are not familiar with.
- Read science fiction literature and identify images of the future that surprise you.
- Look at the media you normally follow with futures lens. Do you find weak signals in a familiar newsfeed?

Weak signals explorer

The explorer for observing weak signals consists of four questions that figuratively direct thinking to new orbits, further away from the areas of our everyday observation. The idea behind the questions is to guide us to look for topics and areas that we may not necessarily contemplate on daily and thus identify weak signals. The explorer directs you to look further, beneath the surface, into oddities and taboos. In the middle of the explorer are examples of what weak signals can be.



- 1. SOMEWHERE ELSE:** What has happened somewhere else that is hard to imagine here?
- 2. SOMETHING UNKNOWN TO MANY:** What is at the forefront of development or is still bubbling under the surface?
- 3. SOMETHING STRANGE:** What is confusing, surprising or makes you laugh?
- 4. SOMETHING THAT IS DIFFICULT TO TALK ABOUT:** What is forbidden or difficult to take up? What is taboo or stirs strong emotions?

The explorer can be used to support one's own observation, but also in workshops. However, it is good to remember that sometimes the observation of signals takes time and may not succeed right way as a task assigned in the workshop but may require some warming up.

Read more about the explorer and download the template: www.sitra.fi/en/cases/weak-signals-explorer



SCANNING

Weak signals explorer

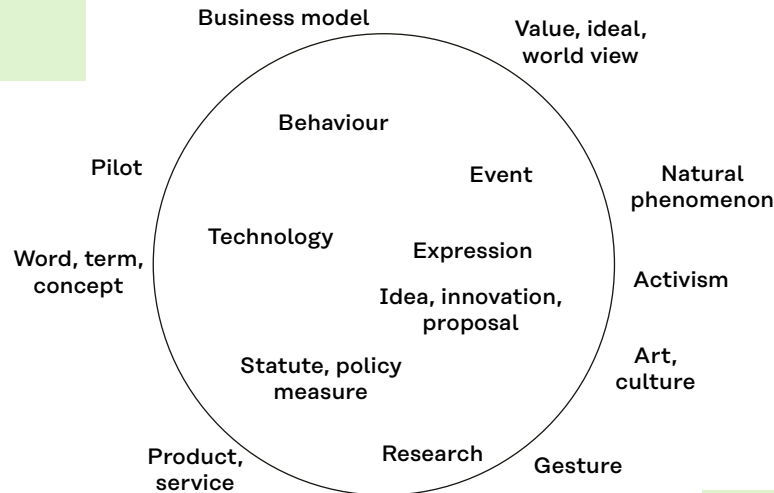
TOOL

Something unknown to many?

What is at the forefront of development or is still bubbling under the surface, hiding or drowning in noise?

Something strange

What is confusing, surprising or makes you laugh?



Somewhere else

What has happened somewhere else that is hard to imagine here?

Something difficult to talk about

What is forbidden or difficult to take up? What is taboo or stirs strong emotions?



How to identify a weak signal?

The surprising nature or weirdness of a weak signal always depends on the observer – one person's weak signal is another person's mainstream. The focus of the search, the methods of observation, as well as the observer's world view, values, attitudes, perspectives and interests affect the kinds of weak signals we identify around us.

If you think that you have detected a weak signal, show it to a friend. If they also find it surprising, interesting or thought-provoking, it has earned its place in the signal collection.

If more weak signals on the same topic are found, it can be concluded at the interpretation stage that the phenomenon is significant or a new trend is emerging.

Example of the subjectiveness of a weak signal

Foresight experts in Japan have identified as a weak signal that people want to go swimming in cold water after sauna. In Finland, hardly anyone would consider this hobby a weak signal. Similarly, when the first insect protein products were produced in Finland, they were seen as a weak signal of a change in our eating habits, even though eating crickets has centuries-old traditions in other cultures. The same phenomenon can therefore be a weak signal or a strong trend, depending on the interpreter and the situation or location.



Weak signal observation is affected by

SEARCH FOCUS

How do you look for signals?

METHODS OF OBSERVATION

How do you look for signals?

OBSERVER

Through what kind of lenses does the observer look at the world?
What are their values, attitudes and interests?



SCANNING



3. Interpretation of signals

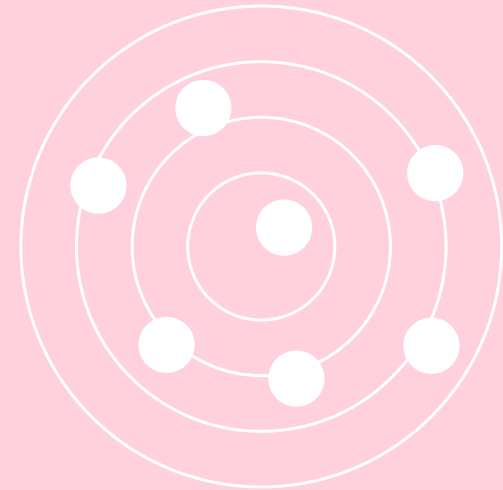
After the preparation and gathering of the signals, one reaches perhaps the most interesting phase, i.e. the interpretation of the signals: what do they tell us about the future and how should we respond to them?

It is a good idea to start the interpretation of signals by grouping them together. What kind of larger groupings or phenomena do the signals form? An individual signal can potentially only be a coincidence, but by grouping the signals, it is possible to get to grips with social phenomena and the initial symptoms of change. Multiple signals from the same phenomenon validate the existence of the phenomenon.

At that point, you should be creative and avoid the most obvious categories. For example: if you resist the temptation to bundle a signal related to technology together with other technology related signals, and instead look for linkages with signals related to e.g. values or behaviour, you might identify completely new phenomena.

If the scanning of signals has been done within a specific scope (for example, the future of civil society or the future of Finnish energy policy), the interpretation will focus on what these signals mean from the point of view of the chosen scope.

In this guide, we present two tools for interpreting weak signals. The first focuses on looking at the first symptoms of change, while the second speculates on alternative futures based on signals. The tools work as independently, but they can also be used together. In that case, you should start with the First Symptoms of Change tool and only then move on to speculation.



First symptoms of change

This tool can be used to identify the first symptoms of changes and analyse what phenomenon the signal tells about. In addition, the tool can be used to complement trend analysis.

First, select the signal or a related set of signals that you want to analyse. After that, proceed in accordance with the questions in the template, discussing together and documenting the most important highlights of the discussion to the template. In the “What this means for us” section, decide whether you will look at individuals, your own organisation, your industry or society as a whole, for example.


After the work, summarise, identify the necessary measures or responsible persons as appropriate. You can also have a reflection discussion using the questions on page 24.

First symptoms of change

Selected signal:

<p>Identifying the phenomenon What current phenomena does the signal tell about? What is different from before?</p>	<p>Effects of the phenomenon What current values, attitudes, world views or perceived “normal” does the signal challenge?</p>
<p>What does this mean for us?</p>	
Challenges	Opportunities

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FURTHER INSTRUCTIONS can be found at www.sitra.fi/en/cases/first-symptoms-of-change




Download the tool here:

www.sitra.fi/en/cases/first-symptoms-of-change

First symptoms of change

TOOL

Selected signal: *A French village banned the use of mobile phones in public places.*

Identifying the phenomenon

What current phenomena does the signal tell about?
What is different from before?

- Counter-reaction to the ubiquity of phones.
- Criticism of digitalisation increases.
- Phones are seen as eroding human interaction.
- Behaviour in public space is to be regulated.
- Desire to go back to a time that no longer exists.

Effects of the phenomenon

What current values, attitudes, world views or perceived “normal” does the signal challenge?

- The mobile phone is personal property, the use of which can be regulated in a public space.
- Using the phone can be socially reprehensible in certain places and situations.
- Since the individual is not able to limit the use of the phone, the city regulates it.
- Running errands that could be taken care of with a phone may no longer be possible in public places.
- People ask each other for advice and help in situations where they would have previously turned to their phone.

Example

Challenges

What does this mean for us?

Opportunities

- Is it possible that, as a result of the restriction, certain areas would be differentiated according to whether they allow the use of mobile phones or not?
- How can we contact our loved ones in emergencies?
- Can the quantity and quality of leisure time be impaired if we can no longer handle meta-tasks (e.g. answering messages, making appointments, taking care of banking matters) by phone while moving around the city.

- Increased wellbeing of people with increased face-to-face encounters?
- Improved concentration with reduced screen time?
- Enlivened public space?



Speculation on signals

As its name suggests, this tool can be used to speculate on alternative futures: what would the world look like if some signals were mainstream?

First, select the signal or a related set of signals that you want to analyse. After that, proceed in accordance with the questions in the template, discussing together and documenting the most important highlights of the discussion to the template.

After the work, summarise as appropriate, identify the necessary measures or responsible persons. You can also have a reflection discussion using the questions on page 24.

Speculation: what if the signal became mainstream?

Selected signal:


On the surface
If the signal became mainstream, how would the world change? What kind of structures, organisations, services, professions, objects, etc. would there be?

Feels like this
If the signal became mainstream, what kind of feelings would it evoke?

Under the surface
If the signal became mainstream, how would people's values, attitudes, world views and thinking patterns change?

Sounds like this
If the signal became mainstream, what would people say? The speaker could be anyone: a neighbour in the street, a decision-maker giving a speech, a journalist on the radio, etc.

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FURTHER INSTRUCTIONS can be found at www.sitra.fi/en/cases/speculate-on-futures 



Download the tool here:

www.sitra.fi/en/cases/speculate-on-futures

INTERPRETATION

Speculation: what if the signal became mainstream?

TOOL

Selected signal: *Walmart trains its store managers in compassion.*

On the surface

If the signal became mainstream, how would the world change? What kind of structures, organisations, services, professions, objects, etc. would there be?

- Compassion is a spoken skill that is learned at school and in courses.
- Mediation and simulations about putting oneself in the victim's place are emphasised in criminal convictions.
- Compassion skills have become a new core product for management consultants.
- Compassion directive, compassion reporting
- World's most compassionate country index

Under the surface

If the signal became mainstream, how would people's values, attitudes, world views and thinking patterns change?

- People's well-being increases as their understanding of their fellow human beings' different situations increases.
- Equality and diversity as shared values of society are strengthened.
- A counter-movement is created that perceives compassion as nonsense

Feels like this

If the signal became mainstream, what kind of feelings would it evoke?

- Hopeful, confident, restful
- Stressed

Sounds like this

If the signal became mainstream, what would people say? The speaker could be anyone: a neighbour in the street, a decision-maker giving a speech, a journalist on the radio, etc.

"The lack of compassion is completely uncivilised"
– Youth parliament chairperson



What then?

After interpreting the signals, the question arises: what then? The final step is in fact to consider whether the scanned and interpreted signals require some kind of action. It is impossible to give a single correct answer, because both the perception, interpretation and significance of signals always depend on the situation and the observer.

It may be that working with weak signals will result in the need for immediate action. For example, the company's business is immediately directed to a new market area, the educational institution updates its degree programme or the agency prepares for new types of risks. It may also be that when working with weak signals, we have identified a phenomenon that we want to investigate further or at least want it to be monitored. On the other hand, it may also be that the weak signals observed are not interpreted as relevant, at least not for the time being, and no action is taken.

Whatever the outcome, working together on future issues is significant in itself. It will improve foresight expertise and culture, as well as broaden thinking about possible different futures.

Questions to consider:

- What new things do you understand about your operating environment?
- How should you change or develop activities in the light of the signals?
- How do you prepare for the challenges indicated by the signals, and how do you seize new opportunities?
- What did you learn about the scanning, interpretation and use of weak signals?
- If you have also worked with trends or megatrends, do the signals challenge the conclusions you have drawn from them?

Glossary

Foresight

Identifying factors influencing the future, exploring alternative futures and defining measures to achieve the desired future. Foresight supports decision-making about the future, which inevitably involves uncertainty. Foresight does not aim to accurately predict the future.

Weak signal

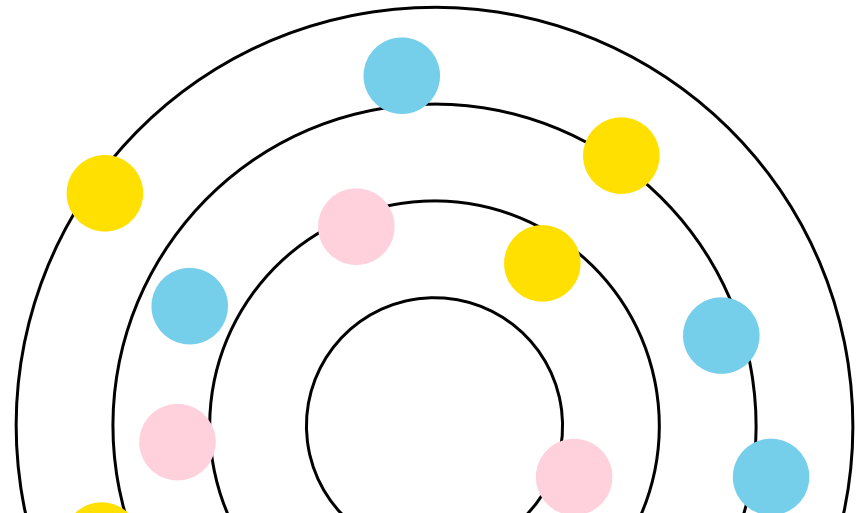
The first symptom of change or a sign of an emerging phenomenon that may be significant in the future (Hiltunen 2020). A weak signal is surprising to the interpreter, forcing them to challenge assumptions about the present, and therefore being often difficult to notice or easy to ignore. It prompts one to ask: “What if?”

Megatrend

A long-term, slowly evolving and often interconnected major phenomenon that do not change overnight, a broad arc of change, such as an ecological sustainability crisis. Megatrends are often seen as happening on a global level and the trend is often believed to continue in the same direction.

Trend

A trend, a currently visible direction of change. Trends can vary by region and change even in the short term. It prompts one to ask: “What’s next?”



About the authors

LILLI POUSSA works as a specialist in Sitra's foresight team that produces forward-looking foresight information. In her work, she anticipates phenomena that affect the future, from megatrends to weak signals. Lilli specialises in developing various tools and methods for supporting future-oriented thinking. Lilli is a Master of Political Science and a service designer.

TERHI YLIKOSKI works as a specialist in Sitra's foresight team. She wants to accelerate societal change towards a sustainable future. In her work, she aims to inspire people to boldly imagine alternative futures and participate in the discussion about the future. She holds master's degrees in intercultural communication and service design.

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