

# Horizon Scanning: A Practitioner's Guide

Produced by the Innovation Special Interest Group of the  
Institute of Risk Management

The logo for the Institute of Risk Management (IRM) consists of the lowercase letters 'irm' in a bold, blue, sans-serif font. The letters are positioned on a white rectangular background that has rounded corners on the bottom right.

Developing risk professionals

# About the IRM and the Innovation SIG

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The Institute of Risk Management (IRM) is the world's leading enterprise-wide risk management education Institute. We are independent, well-respected advocates of the risk profession, owned by our members who are practising risk professionals. IRM passionately believes in the importance of risk management and that investment in education and continuing professional development leads to more effective risk management.

We provide qualifications, short courses and events at a range of levels from introductory to expert. IRM supports its members and the wider risk community by providing the skills and tools needed to put theory into practice in order to deal with the demands of a constantly changing, sophisticated and challenging business environment.

We operate internationally with members and students in over 100 countries, drawn from all risk-related disciplines and a wide range of industries in the private, third and public sectors.

A not-for profit organisation, IRM reinvests any surplus from its activities in the development of international qualifications, short courses and events.

This particular document has been created by the Innovation SIG of the IRM. This group of international professional risk managers undertakes a variety of projects each year in order to provoke and support thought leadership amongst the risk management professional community. The group is open to all IRM members, and welcomes contributions from anyone interested in advancing the profession or is willing to support their various projects.

Contact details for the Innovation SIG can be obtained from the IRM at: [enquiries@theirm.org](mailto:enquiries@theirm.org)

# Preface

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Despite the efforts of witches and mages throughout the ages, the future can never be accurately foretold. In our modern world, our organisations turn to risk management as the latter day shaman to divine the potential pitfalls and opportunities lurking in the mist of tomorrow.

In order to achieve such foresight, a number of tools and techniques have been developed over the years with which a skilled practitioner can attempt to reduce uncertainty. These tools include trend analysis to project the past into the future, scenario planning to understand the world given a particular set of parameters, and stress testing to better identifies the weak links within our systems.

However, it is horizon scanning which has become the buzz word of the modern organisation, and this document sets out to explain what horizon scanning means, how it fits in with the other tools in the risk manager's toolbox, and how it can be practically employed to help organisations better prepare for the future.

In order to develop this document, the Innovation SIG held two workshops in November 2017 at the IRM Risk Leaders conference. These workshops were attended by around 80 risk professionals who provided a wealth of insight into the means by which horizon scanning is being conducted within their organisations and how the subsequent results are being communicated.

A sub group of the Innovation SIG was formed to examine and follow up on the output from the workshops, investigate the existing literature and also contribute their personal experiences of the subject in order to create the main body of this text.

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# Introduction

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Horizon scanning can be a good technique for people to look at complexity, challenge assumptions and review multiple ways that events could unfurl, in order to increase the resilience and reliability of their organisations.

It is not about trying to predict the future but rather to review options so that evidence-based decisions can be made. There are many definitions of horizon scanning, for instance:

- An organised and formal process of gathering, analysing and disseminating value-added information to support decision making
- A systematic examination of information to identify potential threats, risks, emerging issues, and opportunities allowing for better preparedness and the incorporation of mitigation and exploitation into the policy-making process
- Exploration of what the future might look like to understand uncertainties better and to analyse whether the organisation is adequately prepared for potential opportunities and threats

## Staying still means you get run down

If organisations manage their operations on the basis that previous success will ensure the future success of their business or operation they are building-in failure through an inability to adapt to the changing environment. The world today is increasingly subjected to disruptive change. Present and future conditions are changing increasingly quickly due to interconnected activities and events, and decision making has become more complex as a result.

Horizon scanning works as an “alerting and creative activity” to identify emerging issues to pick up early warning signals, and to provide insights into how to organise and explore weak signals. In our research we observed the importance of expert input and of keeping the evidence continually updated.

## Challenging the status quo

During the course of our research, risk leaders asserted that testing established ideas was a process that requires a clear and consistent language coupled with persistence and collaboration among individuals. It is considered essential to engage a multiplicity of stakeholders across disciplines and departments to think through and discuss disruptive change. Our research indicated a requirement for the strategic management levels of an organisation to be open to challenge in a constructive way.

## Using the process

In this paper we refer to the UK Government paper on *Futures* which, in the opinion of the SIG, comprises best practice to follow if undertaking a detailed horizon-scanning exercise.

We have abbreviated this process to provide a practical quick guide in the first section of this document; further sections provide deeper analysis of the issues we highlight.

Our research has suggested the following uses of a horizon scanning process:

1. To deepen the understanding of the driving forces affecting future development of a policy or strategy area
2. To identify gaps in understanding and bring into focus new areas of research required to understand driving forces better
3. To build consensus amongst a range of stakeholders about the issues and how to tackle them
4. To identify and make explicit some of the difficult policy choices and trade-offs that may need to be made in the future
5. To create a new strategy that is resilient because it is adaptable to changing external conditions
6. To mobilise stakeholders to action

Further reading can be found in the Appendix.

# The Quick Guide to Horizon Scanning

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Horizon scanning is a systematic method for:

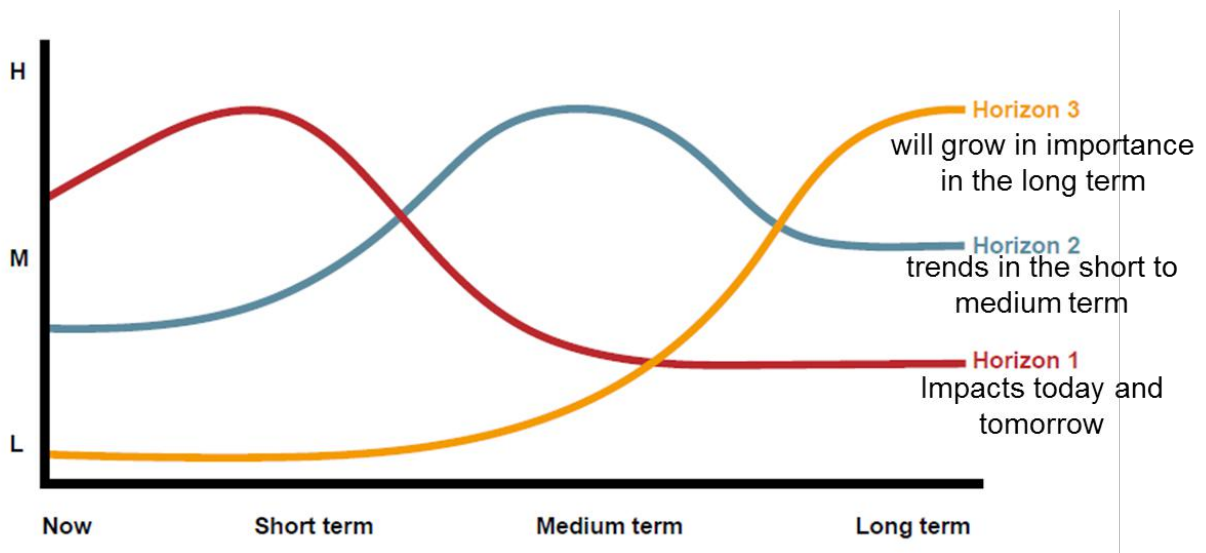
- spotting potential causes of uncertainty
- ensuring adequate preparation
- exploiting opportunities and
- surviving threats

It is NOT about predicting the future.

Horizon scanning supports the process of building organisational resilience and is one part of a suite of tools which can help practitioners understand and prepare for future risks. Other tools include:

<b>Forecasting</b>	using qualitative and quantitative techniques, including: historical data and statistics; individual and collective judgement; and environmental monitoring
<b>Driver mapping</b>	using an analytical tool such as STEEPLE (societal, technological, economic, environmental, political, legal, ethical) or PESTLE (political, economic, societal, technological and legal) to consider a wide range of potential sources of future risk
<b>Trend analysis</b>	using mathematical techniques on historical data to predict potential trends
<b>Scenario planning</b>	looking at possible future states on the basis of different starting states
<b>Stress testing</b>	testing how the organisation copes in the face of a range of potential situations

The *UK Futures* document describes a Three Horizons Model typically shown below:



- Horizon 1: Where you are currently taking action
- Horizon 2: Visible trends for strategic consideration
- Horizon 3: Little trend information today but planning needed

## Making It Happen: A step by step process

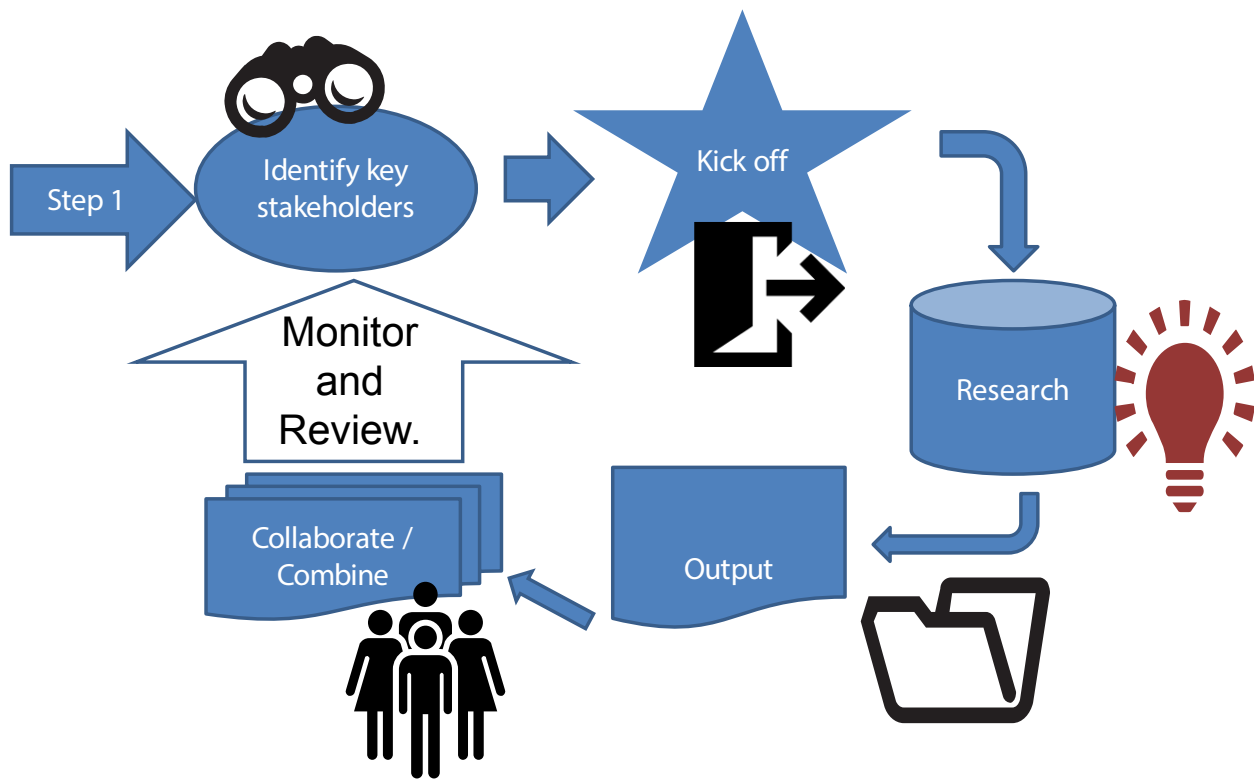
The model below shows the key steps you might consider when conducting a horizon-scanning process:

Step	Process
Identify key stakeholders	Gather relevant people to work with, keeping in mind need for diversity and open minds.
Kick Off	Explain what horizon scanning means, how it is to be conducted, and how the results will be utilised.
Research	Working to a timeframe, assign single issues to stakeholders to research (professional journals, online content, etc.) to identify potential risks – see Section 3 of this paper.
Output	Stakeholders to document their research (submit one short report each week).
Collaborate / Combine	Collate the reports and present them back to the group for discussion. Visualise the risks where possible.
Monitor and review	Decide which key risks you wish to look into further, conduct in-depth analysis using “Futures” tools as described in the UK Government paper (see Appendix).



## How horizon scanning can look

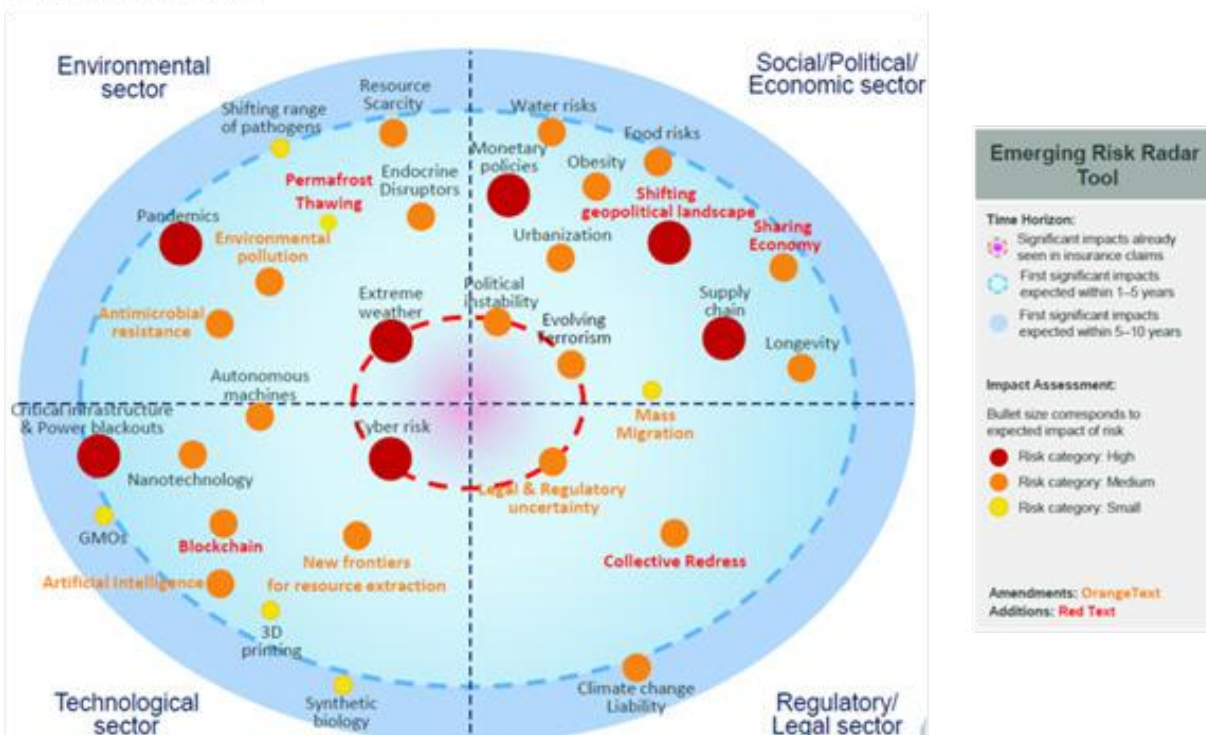
The operationalization of the process above may take the shape illustrated in the following graphic:



## Visualisation

In addition, a risk radar may also be used to illustrate emerging risks' time horizon and assessment. This risk radar presents an analysis of several risk sources categorised in a manner which is appropriate for the organisation and indicating the near, mid and long range risks which may be impacting society as a whole.

## Risk Radar



Overall, you can adopt similar representation for your organisation. Use different size blobs to indicate impact severity, use different colours to represent likelihood: the closer to the centre, the more imminent the impact (and the less you can do about it!)

## Where to now?

Having undertaken your horizon scan it needs to be used to inform strategy and feed into future planning by leaders. Keeping the output relevant and updated is key to this.

# Looking to the future: The problem with time

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Risk assessment and rating is a critical element of the horizon-scanning process as it helps to determine the key risks and opportunities which need focussed attention.

It should be appreciated that horizon scanning embraces not only the identification of potential threats but, importantly, it should also cover opportunities, challenges and likely future developments that are at the margins of current thinking and planning.

The standard risk assessment methodology laid out in ISO 31000 and by corporate risk management procedures are readily and largely applicable. However, the process has to be modified to cater for the additional complexity and uncertainty introduced by the longer horizon scanning time-frames and the availability of risk management information.

## Management information availability (risk clockspeed)

Risk can only be managed when the information needed for 'management' is available; explicit consideration of this requirement is an important part of the process. As the detail of the risk becomes clearer, the relationship between the possible risk event and the timing of usable management information also becomes clearer.

Where the rate of information needed to manage a risk (either a threat or an opportunity) is available in good time before the event is expected, detailed management steps can be put in place using plans and process. This is typically the kind of risk with detailed information and associated plans found in risk registers.

This early availability of management information is termed slow risk clockspeed, as it is an 'information rate' issue being addressed. It means organisations have processing time on their side, discussion can take place and plans may be implemented as a project.

Risks such as insufficient water depth for a docking ship are good examples of such a risk. While the ship may not arrive until some months in the future, the tidal pattern is known well in advance and so we can manage the risk that the ship may run aground with process and planning.

On the other hand, the management information for other risks can come in quick succession, at or close to real time and these are termed fast risk clockspeed risks. Staying with our ship analogy, actually docking the ship at the quayside on the day, assessing the flow of water, giving due account for wind and allowing for other vessels in the locality, can only be managed in real time.

No degree of investigation or planning will make up for the real time availability of the information. Fast risk clockspeed risks such as that described above require a different management style and duly qualified experts (the Captain and the port pilot) must be on hand to assess and manage the risks by making the critical decisions and using their expertise in real time.

Considering the rate of information availability (i.e. risk clockspeed) is far more useful from a risk management perspective than just considering the velocity of the risk. Tides, to build on the example, cycle every few hours, meaning the risk of the ship grounding appears and disappears quickly, but the fast dynamics of this risk is not a problem as the pattern is known. Without knowledge of this pattern, tides would be seen as a fast velocity and difficult to manage risk as the water disappearing could be a surprise.

Compare this to when a ship will arrive at port being known well in advance. This is slow velocity, but knowing this arrival time far in advance will not remove the need to have the Captain and pilot on hand to assess the real time conditions. Risk managers should therefore focus on the information availability more than the risk velocity.

## Opportunity knocks

Risk managers must be aware that there is scope for an organisation to turn a threat into an opportunity. Some companies experience digitisation as a disruptor and principally as a threat to their core business, yet they are being innovative in their use of the digital world to turn that threat into opportunity.

For instance, BMW has recently shifted its business model and included an increasing focus on being a niche software supplier as opposed to solely a vehicle manufacturer. Thus, having spent vast sums on their own software and technology services to improve the customer experience, it is now marketing those same services to their overseas peers.

## Some issues to consider in horizon scanning

However, the long-term benefits of horizon scanning do not come from ordinary risk management practices.

In the table on the next page we outline some of the issues that need to be factored into considering when undertaking horizon-scanning assessments, as against an ordinary risk management activity:

Issue	Implications
Longer timeframes	Greater uncertainty on both the impact and the likelihood of the risk/ opportunity
Over-focus on trends analysis	Can lead to missing out on unforeseen innovation
Over reliance on previous assessments	Weaker signal may be under-rated or ignored
Mis-rating of risk	Over-rating of standard knowable / understandable risks, under-rating of complex and difficult to understand risks
Hysteria and fads / Groupthink	Keep calm and remain vigilant

## Interconnectedness

We have seen through various events that the connected world affects people and locations in different ways than was hitherto anticipated. Take, for example, the WannaCry cyber-attacks that affected 200,000 victims across 150 nations and demonstrates how risk can spread rapidly and cut across all sections of an organisation.

We can use “near miss” events in our horizon scans, for example Hurricane Harvey that hit Houston in 2017, which would have crippled the US economy had it continued on its predicted path.

## An opportunity for risk managers

In our research, it became apparent that there is greater need for horizon scanning as the world we live in grapples with the impact of technological and demographic changes. The risk manager should have an enhanced role therefore as the owner of this technique.

It is important when advising senior management or the Board (see Section 4) to focus not just on threats but also on opportunities which may arise from likely future scenarios. For that reason, we list in the following section different sources of information that may be used in the horizon-scanning process.

# Scanning the landscape: using different sources of information

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An important element of horizon scanning which sets it apart from normal risk-assessment work is that it considers information which cannot normally be sourced from within the organisation (i.e. from internal data sources and in-house management).

Seeking out information outside of your organisation is vital: it may reveal that the industry you are in is moving in another direction and that you need to change the course for your business to survive.

Therefore, when conducting a horizon-scanning exercise, it is vital to identify where to go to get information which cannot be sourced internally.

The following sources are worthy of consideration. In all cases consider:

- Threats** what is coming over the horizon which could adversely affect your future commercial or other success?
- Opportunities** what does the information gathered suggest might be a new direction for you to take which would give you an advantage in the future market place?

## Publications and professional websites

This principally covers publications and websites relevant to your industry, but also includes the general press and other media outlets. It is important to seek out articles by experts in your area of business.

You should consider, with an open mind, articles written by futurists. It is necessary to think out of the box and keep a look out for information on innovations and new developments, e.g. new technologies that might impact on your business.

## Professional bodies

Professional bodies both at the centre of your industry and linked to your industry are an important source of material, especially when considering the extended enterprise. They are likely to have early indication of changes in the industry.

## Industry leaders

There are likely to be industry leaders for your core business who will have opinions to source, but it is important to break down your business into constituent parts and look at leaders and innovators for different elements: for example, how are others approaching delivery logistics, office design, meeting practices, communication routes, etc.

Innovations in other sectors could impact future success in your core business, and changes in the marketplace could leave an organisation behind if it does not react early enough.

## Competitors

Be aware of what competitors are doing and how they are changing. It may be possible to seek input from trade bodies to share and stimulate learning on what lies over the horizon.

## Customers

Find out what customer expectations are, to ascertain if your business is moving in the right direction. Consider all customer groups according to each one's dynamics.

Today's communication sources enable you to listen to current customers and potential future customers by tapping into the media they use to communicate and by monitoring social media. Looking to the future requires you to tap into the "youthquake" and take account of the shift in cultural norms influenced by the values, tastes, and morals of young people. It is important though to be wary of short term trends.

## View from the ground floor

Although this is an internal source, it can often be overlooked, especially in hierarchical organisations, often an indicator of a risk itself. The need for diverse opinion requires you to ask the people on the ground floor their view on the future, ways to improve and if anything is going wrong with things currently in place?

## Technology and global perspectives

The connectedness of the world today requires constant monitoring, e.g. technology such as AI, digitalisation, big data, high performance computing (HPC), political and economic changes, and changes to resources.

Consider how these might impact on your business, what all the interdependencies are and how you will adapt.

### In summary

- Think about your specific circumstances to decide where to start
- Think about what is easily available to you or could easily be researched
- Think outside the box – don't just think about your core business and your industry
- Map change drivers to help inform your organisation's future policy strategy and delivery
- Don't be afraid to work with others - set up peer groups of people in the same industry



# Communication of results to stakeholders: Being believed and instigating action

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Effective communication and consultation are essential to ensure that those responsible for managing risk, and key stakeholders, understand the basis on which decisions are made, why particular options for action are selected or what reasons for accepting risk have changed.

In capturing emerging risks on the horizon it is important to:

- develop a framework for categorising them in order to develop a system of review, and
- assess their potential impact on the business in the context of the risk appetite of the organisation (and time to impact) to determine the need to respond and the timeframe in which a response is required

Risk managers need to clearly articulate the importance of assessing the risks on the horizon against the organisational risk appetite. Overall, the process should promote awareness of a risk-based culture and encourage a balance between risk optimisation and reward for acceptable risks.

## It may be on the horizon but we still need to do something!

When communicating to the Board it is important to articulate clearly what resources are needed or actions required. Management focus should be on organisational resilience but will also need to take account of risk aggregation and post loss-planning.

Our Risk Leaders attendees advised that we should escalate risks to the Board if resources are needed.

Attendees suggested risk managers “need to be persistent as it may not be attractive to the Board”.

Some attendees pointed out that there is potential for some “political” implications which need to be managed through socialising the discussion ahead of time.

Horizon scanning may reveal opportunities at the strategic level, as has been discussed, and the Board will need these issues to be fleshed out.

## Importance of data and process

What level of detail the audience requires to make the necessary decisions will need to be decided. For Board communications, it can be destructive to offer granular levels of detail and there will be a need to deliver the information quickly and concisely with clear recommendations, backed up by high level detail.

Credible sources of data can be a challenge but through using an established toolkit you will be able to validate the process. In preparing for the Board presentation it is good practice to ensure you have answers for more detailed questions and anticipate what queries will arise. It is important to translate trend data into solid risks or opportunities, always being aware that if you use trends to project possible futures, you could miss innovations because they disrupt and do not follow a trend: The past may not always predict the future.

Before presenting any information to key stakeholders, risk managers need to capture and model the horizon risk in the context of specific opportunities, threats or scenarios of concern. Some threats and scenarios may be difficult to model but still important to contextualise: for example, for some organisations a 10 hour disruption to services from, say, a cyber-attack or a blackout may constitute a catastrophic event. Other organisations may find catastrophic issues arise more slowly, such as the reputational damage which has hit Oxfam through poor safeguarding.

The use of expert knowledge to provide an external validation is invaluable. This will arise from your process and needs to be available if required (perhaps in back-up material).

## Reporting to the Board

The role of the risk manager is to notify the Board of any new material or significant changes to existing risks. As we have discussed, possibly the best way to do this is through stress-testing and scenario-planning to assess the robustness of the balance sheet.

With respect to risk appetite, it typically makes sense to report risk exposures, including emerging risks, against risk appetite in a one page high-level summary. The summary should include a primary set of strategic risk metrics that the company has adapted in line with both best practice and with stakeholder expectations.

Organisation size will impact the way in which the output is communicated. In this sense, it is easier to raise issues in smaller entities, as large entities have more formal governance. To prepare prior to raising ideas, participants asserted that “the ideas may need to be tested with smaller and less formal groups before escalation to the Board”.

The composition of the Board will be another factor to be aware of. Younger individuals may be more open to “tech savvy” visualisation.

The methods of risk visualisation have advanced in recent years. There are many methods, some of which have been shown earlier in this document, but consist of:

- Visual data: Pie chart / bulls eye / risk radar
- Probability / impact to characterise & explain
- Scenarios, likelihoods etc.
- PESTLE / SWOT reporting
- Top 5 emerging risks

In communicating the results, it is vital to distinguish between the potential impact and likelihood. The horizon effectively adds another dimension by capturing when the event will happen on the horizon that is chosen typically in respect to set periods, i.e. short, medium and long term. One form of visualisation that we like is shown below from Swiss Re, mapping risks against business impacts

## Overview

### Emerging risk themes by potential impact and timeframe

#### 0–3 years



#### > 3 years



# Conclusion: A look at successes and lessons learned

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Today, one thing we know for sure is that the next 20 years will not look like the past. Present and future conditions are changing increasingly quickly due to interconnected activities and events, and decision-making has become more complex as a result. Given that, horizon scanning can be a good technique for people to look at complexity, challenge assumptions and review multiple ways that events could unfurl, in order to try to increase resilience and predictability.

Horizon scanning is used in different sectors and organisations as a response to change, and to make systems and organisations more adaptable to the uncertainty, volatility, complexity, and the dynamism of modern adaptive ecosystems [1]. This forecasting tool provides organisations with the ability to think through and anticipate future challenges and opportunities and to agree responses and resilience plans [2,3]. Nonetheless, it should be noted that horizon scanning is not about trying to predict the future; it is about reviewing options so that good decisions can be made. To achieve this, an organisation's strategic vision must be clearly and effectively communicated and developed in consultation with appropriate stakeholders.

Various successful examples of horizon scanning can be found in governments around the world. Indeed, the three programmes at the forefront of this area are: the UK Foresight Programme (for example, refer to their "Ten Commandments" blog article [4]); Singapore's Risk Assessment and Horizon Scanning System [5]; and The Netherlands Horizon Scan Project. These programmes have shown value to organisations through the following ways:

- Supporting horizon scanning across departments
- Creating a network amongst professional communities
- Guaranteeing the inflow of expert knowledge
- Securing broad political support
- Ensuring policy impact (in government departments) through mutual understanding among stakeholders
- Establishing horizon scanning as a permanent process that is regularly conducted

Horizon scanning also seems to be a good technique for corporations looking for enhancing their business and organisational resilience. The Business Continuity

Institute (BCI), for example, published an annual horizon-scan survey on resilience threats to the business environment [6].

Yet, most of the evidence of private companies' practices is restricted to consulting reports, which theoretically demonstrate the value of horizons scanning for businesses [7].

Risk leaders in the IRM workshop provided insightful examples of the current challenges and opportunities presented by horizon scanning, demonstrating how they were using this technique to successfully communicate risks and trends to Boards. Risk leaders asserted that this was a process that requires a clear and consistent language spiced with persistence and collaboration among individuals.

They also emphasised that it is paramount to acknowledge that different organisations may have different strengths and Boards' composition and lifetime may influence in the acceptance of weak signals as relevant for business continuity.

An important tangible benefit of this technique is how it improves the cognitive agility of decision makers, by embedding long-term thinking and a capacity to think differently [8]. This is a key aspect of the psychology of risk management, and a key reason why horizon scanning bears relevance to risk practitioners.

As we have covered earlier, horizon scanning leads to the early detection of emerging issues and weak signals and helps towards ensuring there is a rapid, systematic process of pattern recognition to understand positive and negative signs by applying, for instance, scenario analysis [9,10]. It does not seek to predict events, rather to identify emerging patterns and trends related to, for example, stakeholder engagement; potential changes and future developments in commerce and government [11,12].

The impact of change is often highly unpredictable, and the design of effective horizon scanning interventions is grounded in principles and foundations that assert the importance of mapping the landscape, monitoring change, using future techniques and validating findings. However, this is not to be seen as a technical process; it is a mind-set that helps people to think through options and risks they face. For horizon scanning to work well, it is essential to engage multiple stakeholders across disciplines and departments to think through and discuss disruptive change [13].

This means that the strategic management levels of an organisation must be open to challenge [14], as the risk of having a 'silo approach' to horizon scanning has been shown to be a bigger issue than any lack of requisite skills or resources [15].

For risk professionals, a key question to address is: what is the specific value that horizon scanning can bring to me, the people I liaise and work with and the organisations that we serve to better take and manage risk? The answer to this question can be framed around how horizon scanning helps people to question, challenge and continually think about future planning to help people quantify the risks that they face

## Footnotes

1. [https://www.forumforthefuture.org/sites/default/files/The\\_Report.pdf](https://www.forumforthefuture.org/sites/default/files/The_Report.pdf), p.8.
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13. [https://www.forumforthefuture.org/sites/default/files/The\\_Report.pdf](https://www.forumforthefuture.org/sites/default/files/The_Report.pdf), p.8.
14. Cabinet Office, Review of cross-government horizon scanning, January, 2013, para 6.
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# Appendices

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## Further reading

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- [https://www.forumforthefuture.org/sites/default/files/The\\_Report.pdf](https://www.forumforthefuture.org/sites/default/files/The_Report.pdf)
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