FORESIGHT AND POLICIES AND STRATEGIES DEVELOPMENT FOR VOCATIONAL EDUCATION AND TRAINING (VET): TOOLS AND ADDED VALUE IN THE CONTEXT OF TRANSITION AND DEVELOPING COUNTRIES

ETF, Turin, 8-9 March 2012

Horizon Scanning
Jennifer Harper Cassingena
Outline

- Definition of the tool
- Main functions and features
- Key considerations with HS activity
- Main types of HS
- Objectives and main uses of the tool
- Types of issues/problems addressed
- Time horizon of the tool.
- Complementarity/synergy with other tools.
- Expected results and benefits of using the tool
- Case studies
- Institutionalised HS
Definition

Horizon scanning may be defined as “the systematic examination of potential threats, opportunities and likely future developments which are at the margins of current thinking and planning.

Horizon scanning may explore novel and unexpected issues, as well as persistent problems or trends.

Overall, horizon scanning is intended to improve the robustness of Defra’s policies and evidence base”.

Source: Defra, UK

HS identifies possible changes in internal and external environments over a longer timescale, and explores the impact of these changes in the development context, e.g. in terms of what skills will be required.
Main Functions and Features

- HS focuses on current trends and challenges, whilst also flagging emerging issues and new approaches.
- HS helps to identify and define existing good practices in policy approaches whilst also exploring and suggesting creative and novel policy design and actions.
- The key elements of HS are focus, timeliness, accuracy, communication and presentation and it needs to be linked to practical user needs to be of real value.
Key Considerations with HS activity

- Defining main role/function of HS: early warning, risk management,..
- How broad or deep the HS activity – scope?
  Technology, industry, socio-economic, political and international trends as well as public attitudes
- Time horizons/continuous or one-off
- To what extent the HS process and outputs should be open and which stakeholders.
- The review and extent of uptake of the HS results in setting priorities and defining strategies
Main Types of HS

- HS is often linked to **environmental scanning**, an informal or formal process of monitoring change.

- **Technology scanning or S&T Scan** (ongoing UK activity) indicate a clear primary focus of the scanning activity on technologies or a particular technology or on S&T aspects.

- **Issues scanning**, i.e. the ongoing UK Sigma Scan which “is seeking to explore the future for evidence of new and emerging issues (or new and emerging aspects of existing issues) of potentially significant public policy impact (both risk and opportunity

- **Sectorial scanning** (scanning activity which focuses on a particular sector) can imply a particular definition, orientation and purpose to scanning activity, e.g. in the context of health and safety, the HSE UK defined scanning as: “Systematically anticipating, identifying and preparing for new or changing risks in workplaces, including those arising from socio-economic, workplace trends etc, to inform the delivery of strategic programmes.”
Objectives and main uses of the tool

Coates (1985) identifies the following objectives for HS:

- detecting scientific, technical, economic, social, and political trends and events important to the institution,
- defining the potential threats, opportunities, or changes for the institution implied by those trends and events,
- promoting a future orientation in the thinking of management and staff, and alerting management and staff to trends that are converging, diverging, speeding up, slowing down, or interacting.
Evolution of the Model

**Futures Methods e.g.**
- New Tools and Processes
- Complexity Management
- Futures Research Techniques

**Trends and Driving Forces e.g.**
- Environmental Footprints
- Environmental Technologies
- Population Migration

**Engagement e.g.**
- Presentation Media
- Policy Integration
- Learning Approaches

**Policy Challenges e.g.**
- Relevance to Strategic Themes
- Impact of CAP Reform
- Managing Medium to Long Term Risk
- Impact of Rapid Climate Change

**Impact**
Different Forms and Applications of HS

(i) HS as intelligence-gathering activity
    - Targeted Intelligence-gathering
    - Ongoing Watch
(ii) HS for priority setting of S&T research and innovation investments.
(iii) HS for benchmarking
(iv) HS for organisational learning
Types of Issues Addressed by HS

(i) Broad Policy Challenges
(ii) Sectoral Policy Challenges
   - sectoral policy concerns & under-utilised technologies
   - new technological breakthroughs: risks and opportunities
   - more rational use of resources
(iii) Societal challenges
   - concerns over new technologies /risks
   - potential areas of conflict between S&T and society
(iv) Technological challenges
   - TA and early warning
   - Programming of R&D portfolios
   - Support planning
The tool is generally used to address 10+ time horizons. However, time horizons may vary in accordance with context and the preferences of the sponsor and/or implementing agency. For example, the UK Horizon Scanning Centre is to identify future issues (and future aspects of current issues) of potentially significant impact or opportunity, over 10, 25, and 50-year timescales.
Complementarity/synergy with other tools

HS is used in synergy with other future tools at different phases of the foresight process, esp. pre-foresight and scoping phases.

HS employs these methods:

- Data Gathering, Analysis and Categorisation through STEEPV (Social, S&T, Environmental, Economic and Political)
- GAP Analysis: exploration of the essential components of a potential development to see if any are likely to be available at a target date. Identification of areas where further understanding is required or where the evidence has not been adequately scanned. It helps to identify areas of limited coverage where further HS work is needed.
- Trends Analysis – to identify major issues
- Participatory activity
Linked Methods

The information and intelligence generated through the horizon scanning often feeds into and links with the other methods used in the foresight activity:

- brain-storming and panel work
- SWOT Analysis, PESTLE, Issue and Delphi Surveys, and the Scenarios development - HS outputs are further filtered and refined.
- Weak signals analysis is a linked method which uses horizon and environmental scanning and issues management techniques. Regions often lack a systematic approach for determining where on the horizon they should be looking, how to interpret weak signals they pick up, and how to allocate limited resources for scanning activity. The combination of horizon scanning and weak signals analysis provides an important input to the scoping and focus of the foresight activity.
Constraining Factors

- Differing Contexts (socio-economic, cultural differences..)
- Different sponsors/clients
- Similar goals but different priorities
- Implementation styles vary
- Diverse foresight capacities/competencies
- Time constraints for learning activity
- Few examples of successful transnational foresight activity involving mutual learning
Typical outputs of HS activity

- Rapid insight studies - reports of 20-30 pages in length, completed in 6-12 week turnaround
- Mini briefings – rapid overviews of key topics - 2-4 page briefings completed within 5-10 days
- Point research – 2-4 hour turnaround for ad hoc enquiries
- Tailored services – workshops, training, ad hoc advice and assistance
- Networking - Identification of external resources and contacts

Source: Defra Horizon Scanning Centre
Typical outputs of HS activity

The reports generated through HS activity can feature different types of content depending on the agreed remit, including:

- basic planning data to help make plans more realistic and useful
- S&T information inputs on future science, technology and institutional environments
- situation assessments
- technology and market trend assessments or forecasts
- competitor profiles or evaluations
- best or worst case scenarios
- identification of good or bad practices and success stories
Key Steps in HS Process

- Defining the principles and objectives of the scanning activity
- For one-off scans, a time horizon and sectoral/issue scope is set
- Identifying different information needs and sources
- Start of information and intelligence gathering
- Collation and analysis of information and intelligence
- Presentation of intelligence in easy to understand format
- Review by a panel or panels to develop scenarios
- A prioritised list of issues is identified
- Recommendations for further work and follow-up scanning activity
Horizon Scanning for relevant trends and drivers

*Horizon scanning is*......

Looking ahead – *beyond usual timescales*
Looking across – *beyond usual sources*
Seeing things - *you don’t normally see*

Beyond a single future to Implications for today’s decisions

Source: Future Generation
The U-boat example
External Trends

Internal Trends

Movement

Past

Future

Global

Local

Trends

Issues

Gearing

Fabienne Goux-Baudiment
Namur, 01.06.18
How to get relevant evidence (3)

**Horizon 1:** Current and near future. Many of the drivers shaping the near future are already locked into place and are visible - even if we sometimes still have to make sense of them.

**Horizon 2:** Looking towards a further out future. Current trends are beginning to shape it, but its exact form is not yet clear. Early signals – and trends are beginning to emerge.

**Horizon 3:** The distant future. There are no discernable patterns and it is very difficult to separate signals from background noise.
Societal

- An empowered ageing population
- ...and an ageing crisis
- Under 20s declining in the UK
- Rising expectations
- Rising attainment
- A widening gender gap
- More single households
- Emergence of the ethical economy
- Global economic migration
- An increasing in developing economies
Technological

- Mobile computing
- Wireless cities
- Lots of information
- Rise of the technologically superior learner

- Changing work and work places
- Changing decision making
- Changing business models

- Skype
- Blogs
- MySpace
- AIM
- You Tube
- Second Life
- Skype
Technology Signals

- Discussions
- Grey Literature
- Scientific Papers
- R&D Alliances
- Joint Ventures
- Patents
- Process Development
- Product Announced
- Product Sales
CASE STUDY 1: Regional Foresight Information System of the Northern Ostrobothnia, Finland

The Project’s primary objectives were set by the Employment and Economic Development Centre for Northern Ostrobothnia within the European Social Fund criteria as follows:

- to develop a regional action model for foresight to be used in regional development organisations.
- to use information networks to anticipate, transmit and utilise foresight information.
- To develop and test electronic participation and interaction with citizens and different interest groups. The foresight information produced was to be shared mainly through the Regional Foresight Information System on the Internet.

Source: http://eennakointi.fi/english/project.htm
Objectives

- to anticipate labour market and business trends in Northern Ostrobothnia, to guarantee sufficient labour force in the future. Special attention was to be paid to the strategic branches of business. The results were to be used by different sectoral groups, with experts from various branches, in order to widen the knowledge base of foresight information and to promote its application in strategic planning and decision-making.

- to improve the exchange of information between regional organisations in order rationalise the roles of the different actors and allocation of foresight work.

- to build a supplementary digital network of the regional foresight information systems of different organisations. The network was also envisaged as a link to local and national foresight systems.
Partners and Duration

The partners in the project were:

- The Employment and Economic Development Centre for Northern Ostrobothnia
- The Regional Council of Northern Ostrobothnia
- The entrepreneurs of Northern Ostrobothnia
- The Oulu Chamber of Commerce
- The Employment Offices of Northern Ostrobothnia

Duration: More than 2 years (1998-)
The Results
Case Study 2: Promethee Wallonie, Belgium

The objectives of the Promethee (RIS) exercise:

- To better understand the innovation potential of the Wallonie region
- To facilitate partnerships and synergies to develop innovation clusters in priority sectors
- To set up a network of competencies adapted to the needs of enterprises and a support framework for innovation

Rationales for the exercise:

- Need for a tool for a better orientation of the public funds to industry and research
- No general perception of the strengths of the Walloon region
- Stimulating contacts between the different research groups in Wallonia
- Investigating which technologies will emerge in the near future, which are the strengths of the region and in which areas more support is needed
Steering Committee

President: CEO, SmithKline Beecham Biologicals

- Minister of Higher Education and Research; DGTRE (Regional Administration in charge of the Research and Development policies);
- **Regional Committees:** CPS (Regional Scientific Policy Committee) and CESRW (Regional Economic and Social Committee);
- **Regional Federations:** Fabrimetal Wallonie (Regional federation in metal industry); UWE (Regional federation of firms), UCM (Regional federation of SMEs);
- **Trade Unions:** CSC and IWERF (Trade Union Research Centre);
- Union des Centres de Recherche Collective;
- ADISIF (Association of industrial education institutes);
- **Universities:** UCL, FuSAG
- SRIW (Regional Investment Company)

4 international experts

- two experts from regions with similar experiences (D. Moers - Nord Pas de Calais and Prof. L. Soete – MERIT Maastricht)
- two experts involved in innovation politics: in Québec (vice-minister J. Brind’Amour); Italy (M. Causi, former advisor of the Italian PM)
Duration and Process

- The exercise was based on discussions with workgroups involving over 100 participants from all the groups concerned - regional administration, research organisations, financial services, support structures, unions and of course enterprises themselves.
- It produced a report detailing 40 key areas in which the region had particular potential, either because of high demand or because of specific regional strengths.
- On the basis of this exercise, the regional authorities have supported a series of pilot projects to promote the formation of technology 'clusters'.
Key Results – A New Dynamic in Wallonia

- Identification of 40 key technologies based on current/expected developments and strengths of the Walloon region
- Creation of 5 innovation clusters around one or several key technologies
- Creation of a tool for supporting the innovation process
- Better visibility of the competencies of the Walloon region
- The creation of networks through groups of experts
- Increase of professionalization of government agencies
- Setting up of true dialogue between the regional actors of the innovation (researchers, contractors, structures of support, investors) gathering them around objectives recognized by all;
- Obtaining the analytical tools necessary for developing and monitoring research and innovation policies;
- Defining with the whole spectrum of actors priority actions to stimulate the dynamics of innovation
UK OSI Horizon Scanning Centre

HS has become an institutionalised activity in the UK through the commitment made in the Science and Investment Framework 2004-2014 to set up a Centre of Excellence in HS, based in OSI Foresight directorate.

The Centre's aims are to:

- inform departmental and cross-departmental decision-making
- support HS carried out by others inside government
- spot implications of emerging S&T and enable others to act on them

by

- undertaking a regular strategic HS exercise (probably linked to spending review cycles) as well as selected project work with departments
- skills transfer and the provision of resources.
The Centre’s 3 work-streams focus on:

- Regular cross-Government strategy horizon scans, to underpin existing horizon scanning and inform cross-Government priorities
- Project work with stakeholders: demand-led opportunities for joint working on specific issues with stakeholders (departments or groups of departments)
- Provision of tools and support to spread good practice in departmental horizon scanning, including coaching, providing advice, brokering agreements and creating synergies that make the best use of resources and facilitate capacity-building.
The approach

- Data acquisition (scanning existing scans)
- Data categorisation and selection
- Gap analysis framework
- Trend analysis
- Issues identification
- Testing and presentation of major issues
- Effective communications strategy
- Participatory workshops
More information

- [http://www.efmn.info/kb/efmn-brief08.pdf](http://www.efmn.info/kb/efmn-brief08.pdf)
- [http://forlearn.jrc.es/guide/6_examples/index.htm](http://forlearn.jrc.es/guide/6_examples/index.htm)

E-mail: [jharper@vol.net.mt](mailto:jharper@vol.net.mt)