

Agenda

- Futures in HSE
- Selected Topics
- HSE Scenarios 2017



Predictions

- “This ‘telephone’ has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no use to us.”
Memo in Western Union, 1878.
- “The Americans have need of the telephone. We do not. We have plenty of messenger boys.” Sir William Preece,
Chief Engineer, Post Office 1878.

Prediction

- “There is no way anyone would want a computer in their home.” – Ken Olsen, President, Chairman and founder of DEC 1977.

Horizon Scanning

‘Horizon scanning is defined as the systematic examination of potential threats, opportunities and likely future developments, including (but not restricted to) those at the margins of current thinking and planning. Horizon scanning may explore novel and unexpected issues as well as persistent problems or trends.’

Definition of Chief Scientific Adviser’s Committee, September 2004

HSE Scanning Categories

- Social
- Technical
- Economic
- Environmental
- Political

- NBIC (Nano, Bio, Info, Cognitive)
- Genomics, stem cells, regenerative technology, life extension
- Drugs, implants, bionics
- Therapeutic, augmentative, designed evolution
- Transhumanism
- Safety, side effects
- Inducement or compulsion?



HAL – Hybrid Assisted Limb



Pervasive Computing

- Embedding or integrating computers in the everyday environment
- Radio Frequency Identification (RFID)
- Increased exposure
- Potential for corruption, accidental or malicious
- Stress, Musculoskeletal disorders (MSDs) from tracking



Virtual Worlds

- Computer Game?
- Business environment
- Education
- Entertainment
- Haptic interfaces
- Cyber bullying

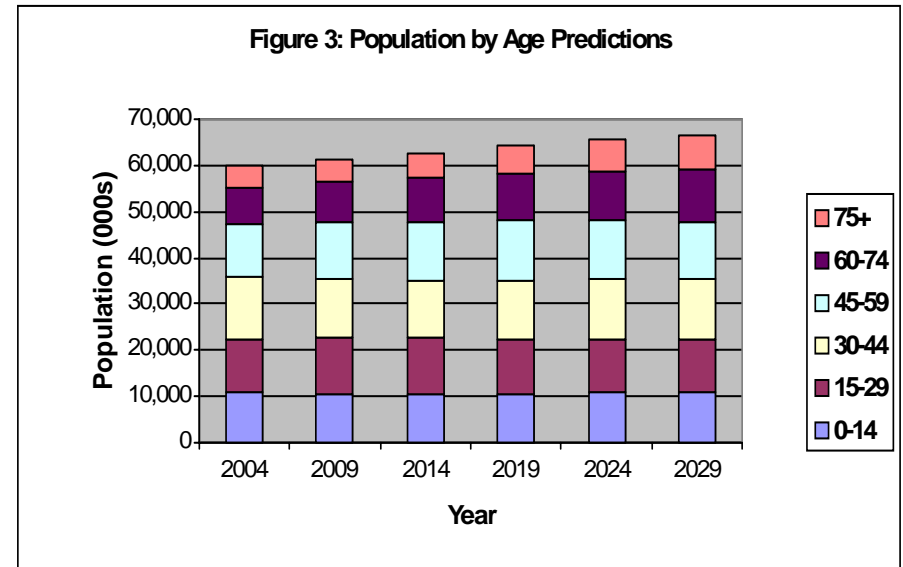


- Carbon capture and storage
- Natural gas storage
- Renewable energy
- Distributed generation
- Cleaner coal technology



Demographics

- 1.4 m new jobs by 2017
- Manufacturing declining, knowledge and service sectors increasing
- Growth in part-time and flexible working
- More women in work
- Older workers
- Migration
- More SMEs



Robots/AI



- Robots increasingly sophisticated, wide range of applications – food, healthcare, agriculture.
- Robots used in close proximity to workers – previously enclosed.
- AI currently limits autonomy, but Honda says ‘humanoid’ in 10 years. US working on autonomous battlefield robots.
- Possibility of malfunctions, collisions, etc

Scenarios

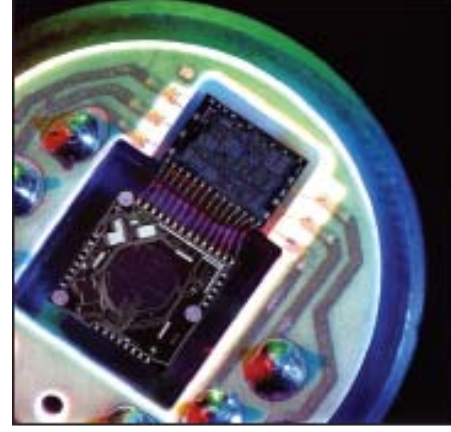
- Short stories or scenes – pictures of what the future might look like.
- Internally consistent - based on analysis of trends and drivers.
- Used to stimulate futures thinking, to test ideas, test the robustness of policies.

HSE Scenarios for H&S in 2017

**A Virtue of
Necessity**

*Personal responsibility, pro-active adoption
of technology, management of risk*

Digital Rose Garden



*Decreased UK global
competitiveness*

*Increased UK global
competitiveness*



Tough Choices

*Blame culture, resistance to new
technology, rejection of risk*

Boom and Blame

Futures Outputs

- Topic Reports (website)
- Commissioned reports
- Scenarios
- Inform science planning
- Scenario workshops
- Wind-tunnelling
- Presentations
- Ad hoc enquiries
- Alerts to staff

Summary

- HSE uses Futures techniques to identify emerging issues likely to have an impact on the health and safety system in order to inform strategic planning
- Key techniques are horizon scanning and scenarios building 'Future of Health and Safety in 2017'

www.hse.gov.uk/horizons/index.htm

Horizon.scanning@hsl.gov.uk

And Finally

- “Prediction is very difficult, especially about the future.” Niels Bohr
- “The best way to predict the future is to invent it.” – Alan Kay, Apple