

Foresight Explorations

Directorate Future Force Development

CAPABILITY
BRANCH

Defence Industry Association Responses 2011

THE QUESTION: What are the megatrends that will shape the future?

You identified trends in economics, connectivity, and economics. As the world becomes more connected, New Zealand gets closer to its neighbours.

In your words:

- 'National identity and boundaries will become irrelevant'
- 'Increasing dependence on technology and the internet'
- 'Rapid changes in the relative availability of energy'
- 'Increasing economic colonialism creating vassal states to major consumers'
- 'The growth of emerging powers in the world especially in the Pacific region'
- 'Increased use of portable personnel communications technology'
- 'Higher population density – therefore greater risk in event of natural and unnatural disaster'
- 'Advances in blending technology and social perspectives'
- 'Increased globalisation has seen [New Zealand's] economics becoming more vulnerable to the ups and downs that other countries have'

THE QUESTION: Projecting these trends what situations or outcomes may arise?

You discussed trends in agriculture, population, and geopolitics.

In your words:

- 'GM foods improving yields supporting new population distributions'
- 'Value for money and innovative approaches will prevail'
- 'The development of these new powers and populations will also produce new markets and partnerships'
- 'Increasing instability in current sovereign states'
- 'Increased level of religion-based terrorism'
- 'Increasing urbanisation will create mega-cities with large populations'

- 'The growing economies/populations of India and China is changing the shape of Oceania/Asia with increasing pressure from that region on our resources'
- 'Nuclear war. Parts of the world becoming ungovernable or uninhabitable.'
- 'N. America and European countries less willing and able to act as the world's mediator/policemen'
- 'The expansion of what are small conflicts into regional issues resultant from a lack of intervention'

THE QUESTION: How will these trends impact New Zealand?

You talked about trade, distance, and the importance of New Zealand in contributing to stability in our geographic region.

In your words:

- 'Pressure to contribute to global events'
- 'Needing to do more with less'
- 'Slowly but surely'
- 'Bring NZ closer to the rest of the world and thereby expose it to a larger degree of threats'
- 'Role of NZ as contributor to stability in Asia Pacific'
- 'Potential for NZ to take lead on certain types of renewable energy'

THE QUESTION: How will these trends impact Defence?

Your comments centred around shifts in funding, and in relationships. You also spoke of the importance of New Zealand's role in our region.

In your words:

- 'Ongoing commitments to global security'
- 'Managing an organisation with little additional capability during times of increased demand'
- 'If it does not change it will be left behind the knowledge wave'
- 'Need to be innovative and use technology to get better bang for buck'
- 'Will increase need for maritime capability, protection of our complete EEZ'
- 'Continuing role contributing to security in Asia Pacific'
- 'Exploitation of space'
- 'Capability to support disaster relief'

THE QUESTION: Identify potential shocks, disruptions, or other wild cards that will impact the future?

Your comments focused on boundaries, allies, natural disasters, and technology.

In your words:

- 'Loss of GPS satellites as USA fails to replace them from lack of money and hardware'
- 'Infrastructure/green terrorism after domestically or internationally sourced, which would detract from our clean/green image and/or 'safe' image'
- 'Collapse of NATO'
- 'War between China and Taiwan'
- 'Rapid climate change resulting in reduced urban access and availability of water'
- 'Drawn into regional conflict over energy supply lines'
- 'Challenges to declared EEZ boundaries'
- 'More aggressive postures by emerging powers - Changes of government in hitherto 'friendly' states'
- 'Closure of access to our current trading markets'
- 'Food and natural resource constraints for 6 billion people'
- 'China-US conflict in Pacific'
- 'Bio-disaster, agricultural or human disease'

THE QUESTION: How will these shocks impact New Zealand?

You talked about New Zealand's strengths, and the importance of our country in our region.

In your words:

- 'Impact on Pacific Islands and greater demand for NZ resources'
- 'New partners will emerge that will assist the security of New Zealand'
- 'Multi-racial and cultural environments. NZ opportunities as provider of choice for high quality food'
- 'Food shortages elsewhere help exports – tourism improved if other holiday spots are unstable'
- 'Greater interest in NZ's (4th largest in the world) EEZ'
- 'Demand on NZ to take a stand on US-China conflict, both diplomatically and militarily'

THE QUESTION: How will these shocks impact the New Zealand Defence Force?

Your comments were about humanitarian and international demands on our Defence infrastructure, and the importance of New Zealand in the wider world.

In your words:

- 'Required to do more in terms of regional and peace keeping'
- 'More involvement in international military operations'
- 'Disasters and humanitarian aid projects can dilute NZDF's capacity'
- 'Greater load on Defence personnel to protect transport paths/sea lanes'
- 'Greater likelihood other nations try to claim NZ resources'
- 'Increased requirement to do more with less'
- 'Impact on NZ national interests around the world'
- 'Operations in Asia Pacific with Australian/US forces'

THE QUESTION: What research and development do you believe is important for the future?

You were interested in the cloud, data base mining, and a variety of other things in the IT realm. You stated that New Zealand should be both a follower, and a leader.

In your words:

- 'Socio-technical system design – multi-disciplinary approaches across technological and social sciences are required to solve major national and global challenges'
- 'Training a national cyber skills community'
- 'Commercialisation of niche innovations to strengthen economy'
- 'To be self-sufficient whilst deployed reducing need for logistical supply lines'
- 'Renewable energy development'
- 'NZ needs to be a follower, not a leader in R&D'
- 'Disease control'
- 'The ability to observe and effect any incursions into our EEZ'
- 'Bio-defence especially in support of NZ agricultural strengths'
- 'IT security to ensure resilience of NZ communications and information infrastructure'

THE QUESTION: Where will it be important to focus innovation resources?

You talked about computing, energy, and shifting alliances.

In your words:

- 'Cyber defence of New Zealand assets '
- 'Today's innovation is yesterday's news and technology evolves faster and faster'
- 'Thinking and collaboration skills - partnering/collaborating with NZ industry'
- 'Renewable energy resources. Food production. Biotech and health'
- 'A study of economical long range vessels to protect our EEZ and also to support the South Pacific Islands that NZ protects'
- 'Contingent self-sufficiency. What will happen if a major ally collapses or goes isolationist?'
- 'Economic and population security in South Pacific nations'
- 'Champion those innovations that offer real solutions, especially home-grown'
- 'Energy'
- 'Communication and technology systems – reduce reliance on current infrastructure system'
- 'Effects control and delivery within our EEZ and Antarctic Territories'
- 'Those areas where New Zealand has a natural advantage'

THE QUESTION: How can we improve productivity for Defence in the future?

You commented on the relationship between Industry and Defence, and made suggestions for improvements.

In your words:

- 'Streamline procurement processes without compromising quality and objectivity. Avoid the assumption that lowest procurement cost will provide best value for money. Try to build long-term strategic relationships that provide value rather than frequent re-tendering.'
- 'Make sure that all work is focussed on an output/outcome and reduce waste'
- 'Outsource processes that are not core. Work closer with industry partners to assist in developing and maintaining capability and capacity.'
- 'Revise tender process. Develop supply contracts with preferred and qualified service and product distributors'
- 'I think productivity is not a good metric for defence as they are contingency response force. Although maybe you could use the Swiss model where all males are the army and only the command structure is full time!'
- 'Don't re-invent the wheel on standard stuff; spend our fire [resources] on what absolutely must be done domestically'
- 'Improve Defence housing before it becomes too expensive to do so'
- 'Better information and higher skills gives greater leverage to human time and effort'
- 'Standardization of equipment'
- 'Reduce public sector resistance to industry-provided solutions. Productivity does not [mean] working harder. Improved productivity to public sector environments through: increased value for money technology – risk transfer to industry'
- 'Analysis of NZDF plans and capability requirements will dictate manning and equipment needs.'
- 'Reduce bureaucracy. Greater involvement of private industry in processes in a collaborative way'
- 'Get some more value for energy money'
- 'Use of technology'
- 'Integration of multiple systems'
- 'Gradual creep of classifications as less work is public domain. This will further specialize NZ Defence contractors'

