

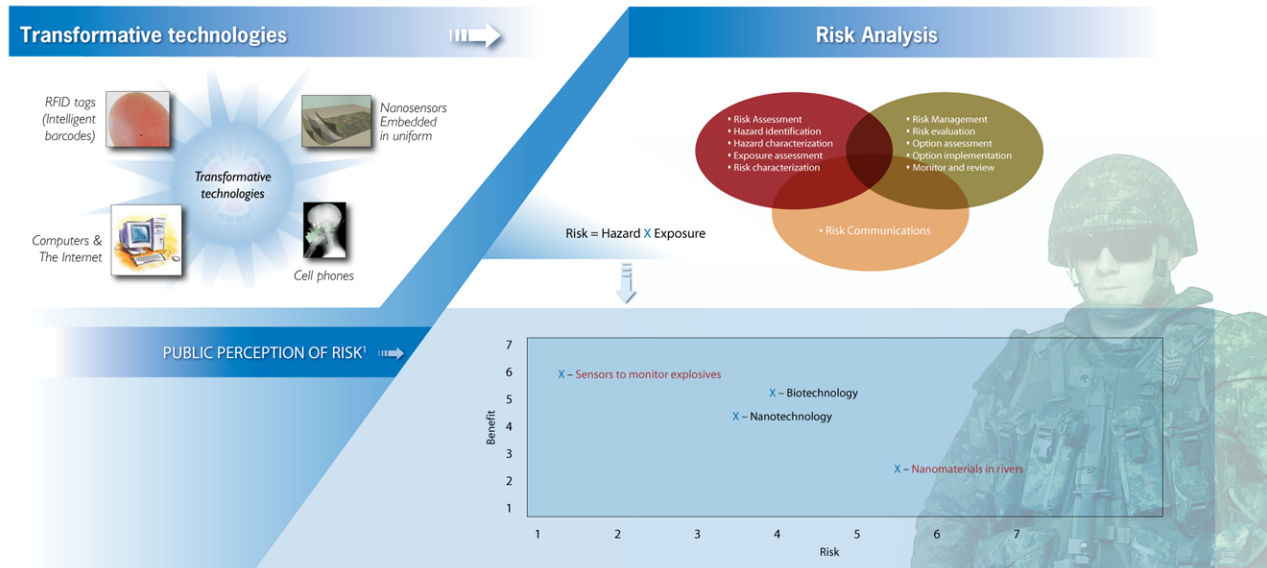
Technologies, their use and risk assessment

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Abstract

Interdisciplinary, transformative technologies such as nanotechnology, informatics and bionics are increasingly used to enhance soldier survivability. This is done through the development of unmanned vehicles, camouflage gear, liquid body armor or implantation of nanosensors into uniforms. Efforts to examine the ethical, legal and unintended long-term consequences of these technologies often lag behind the pace of technological progress. Our intent is to invite debate using two examples: the use of cloned animals as a source of food and the use of nanosensors embedded in the uniform

The use of the technology in the former is strongly influenced by public perception of risk rather than a scientific risk assessment. In the latter, the perceived possible erosion of individual privacy and civil liberties shifts the playing field from risk to ethical and legal considerations. We propose that in determining the risk of adopting potentially disruptive technologies, the ethical-legal dimension be an integral component of a multi-criteria decision tree and figure more prominently in the initial explorations of new and emerging technologies.



Case 1 – Cloned animals as a source of food



- Cloned animals as a source of food (late 1990's to 2005)
- Scientifically risk assessed to be minimal
- Public readiness level to consume meat from a cloned animal = VERY LOW ("high yuk factor")
- The U.S. granted approval = 15 January 2008

Case 2 – Traceability through sensors in uniform



- Remote surveillance
- Digital panopticon²
- RFID chips
- GPS



- Use of RFID chip to trace disease
- Links to remote databases, search engines
- Leads to indexing of profiles which in turn,
- Leads to HYPER users, web & communities

PUBLIC PERCEPTION

ETHICAL & LEGAL CONSIDERATIONS



MULTI-CRITERIA DECISION TREE³

Conclusions

- As a part of the S&T providers for the Department of National Defence, we have a role to play in both garnering maximum benefits of a technological application as well as protecting ourselves from harmful consequences.
- Inclusion of ethical and legal considerations in multi-criteria decision tree can assist in public acceptance of emerging technologies.

References

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