

# Third Generation of TA: Concept and Practice

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## Three Generations of TA

	<b>First Generation</b>	<b>Second Generation</b>	<b>Third Generation</b>
Time	Since 1970s	Since 1990s	Since 2000s (emerging)
Institution	Parliament-centred (Government)	Parliament-related (Governance)	Collaborative (Distributed governance)
Key participants	Experts	Selected citizens and key stakeholders	Intermediate actors as well as general public
Guarantee of legitimacy and credibility	Expertise	Democratic process	Societal verification
Approach	Early warning to strategic	Precautionary to constructive	Real-time and communicative
Methods	Technical/Analytic	Social/Deliberative	Mixed (with information and network technologies)
Resources	Expert	Local	Existing

# 3rd Generation TA (3G-TA)

- Agenda-setting and outreach process may often be more committed than assessment itself
- Distributed governance: strategic distribution of intelligence and actors most of which are already embedded in society
  - Network activities: outreach, intelligence collection, collaboration, outsource, fund-raise, institutionalisation
  - Network functions: legitimacy and credibility, resilience and timeliness
  - Connection to other strategic intelligence (SI) tools (Kuhlmann et al. 1999) - to be strategic intelligence in the true sense

## Network technologies : ex. GoodGuide

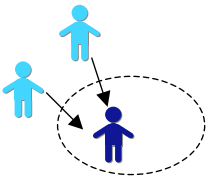
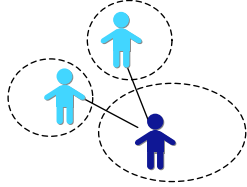
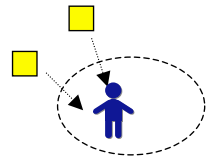
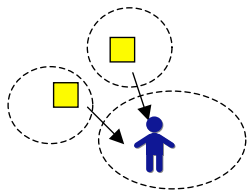
The screenshot shows the GoodGuide website interface. The main heading is "Evaluation of environmental, health and societal performance". Below this, there is a list of "Highest-Rated 1st Baby Foods" with their respective user ratings and prices. A callout box on the right lists specific performance metrics: Environmental emissions, Natural resources impact, Labour and human rights practice, and Working conditions. A text box at the bottom left provides information on ingredients, cancer risks, reproductive health hazards, skin and eye irritation, and comparison to other similar products.

Product	Price	User Rating
Gerber 1st Foods – Carrots	\$1.45	7.6
Healthy Times Country Vegetables, Organic	\$4.76	7.3
Beech-Nut Stage 1 – Natural Cereal Rice	\$2.75	7.2
Earth's Best First Carrots (Organic)		7.2

Information on ingredients, cancer risks, reproductive health hazards, skin and eye irritation, comparison to other similar products

- Environmental emissions
- Natural resources impact
- Labour and human rights practice
- Working conditions

# Typology of 3G-TA

	Method	Institution
Actor	<b>Panel-based</b> <i>Responsibility</i> 	<b>Agent-based</b> <i>Field</i> 
Intelligence	<b>Systematic Review</b> <i>Information</i> 	<b>Per-Issue Commission</b> <i>Practice</i> 

## I2TA Project

- “Innovation and Institutionalisation of Technology Assessment in Japan: Dealing with Nanotechnologies” (2007-11)
- 0.2 million pounds per annum funded by Research Institute for Science and Technology for Society (RISTEX)
- Historical and institutional analysis, methodological and process analysis, TA exercises, and outreach activities
- Subsequent embedding of the project in the society is strongly demanded

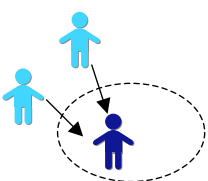
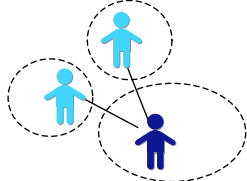
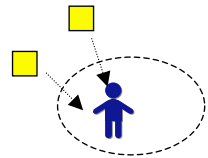
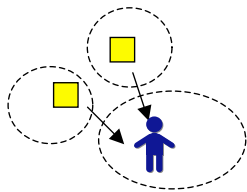
# Main TA Exercises in I2TA

	<b>Medicine</b>	<b>Food</b>	<b>Energy</b>
Issue	Nanoscale drug delivery systems (Nano-DDS)	Applications of nanotechnologies for food	Nanotechnologies related to energy use in future housing
Hypothetical clients	Centre for NanoBio Integration (Univ. Tokyo)	Food Safety Commission (Cabinet Office)	Urban Design Centre Kashiwa (UDCK)
Methodology for agenda setting	Wide-ranging expert and stakeholder interviews	Workshop involving experts and consumer leaders	Q workshops on social demands and responsive nanotechnologies
Methodology for TA	Stakeholder round-table meetings on collaborations, clinical evidence, and public involvement	Panel meetings for establishing interpretive criteria involving experts	Detailed surveys and public workshop in Kashiwa city

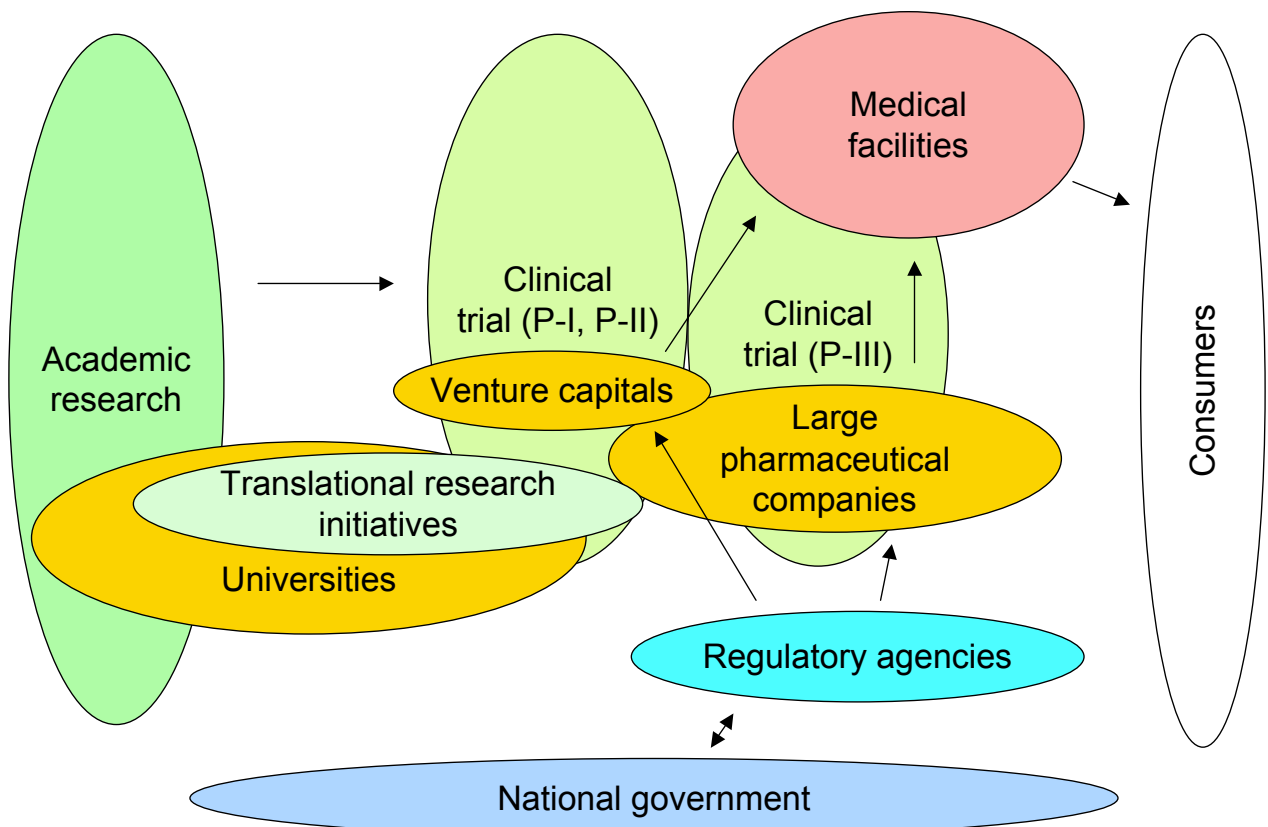
# Main TA Exercises in I2TA

	<b>Medicine</b>	<b>Food</b>	<b>Energy</b>
Authors	Round-table participants	I2TA	I2TA
Collaborators / Advisors	Science journalist, University academicians	Strategy division of funding agency, public research institute	Civil society organisation, architects
Prospective outcomes	Voluntary collaboration between stakeholders	A set of interpretive criteria for policymakers and consumers	Stakeholder decision-making based on future images of nanotech-houses in Kashiwa
Possible outreach activities	Media involvement	General public via web-based systems or through Food Safety Commission	Public involvement through environmental CSOs, developers and local governments

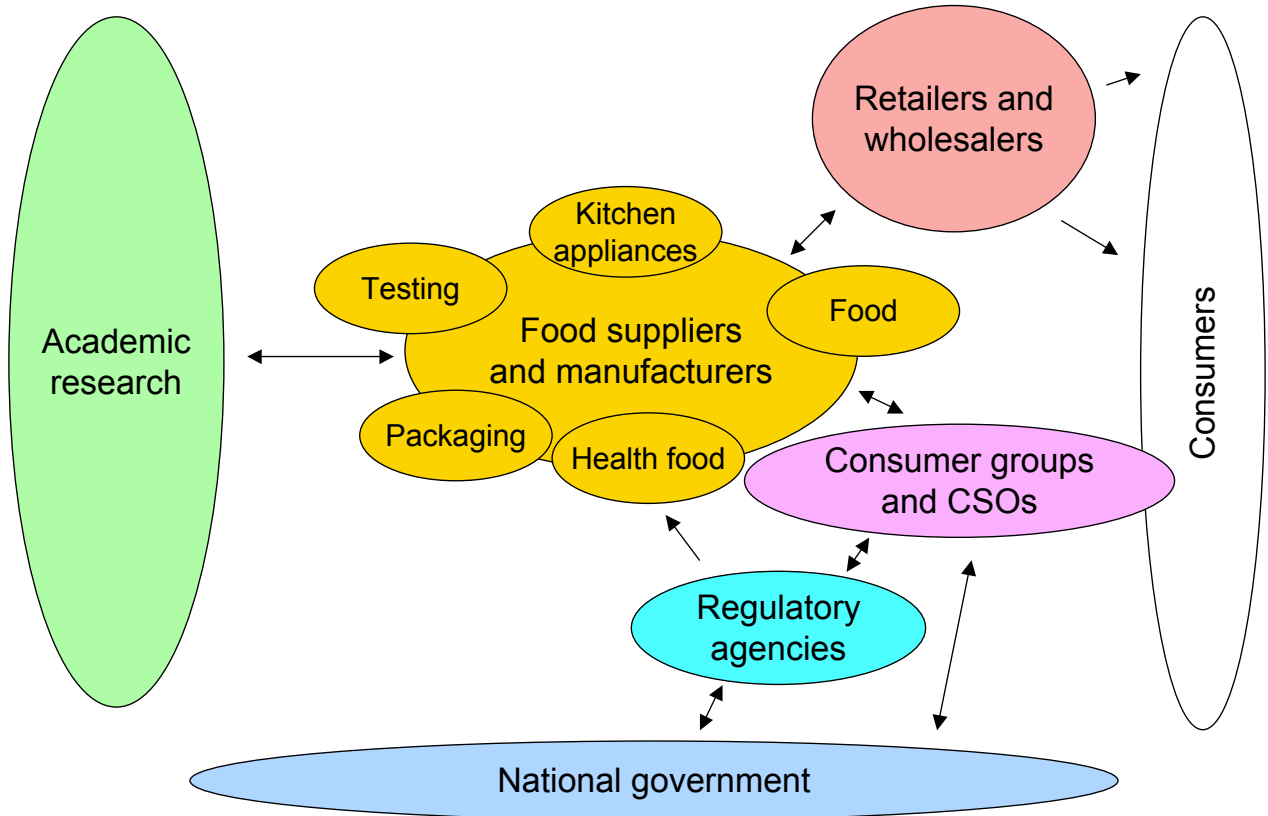
# Typology of 3G-TA

	Method	Institution
Actor	<b>Panel System</b> Medicine 	<b>Agent-based</b> 
Intelligence	<b>Systematic Review</b> MWCNT 	<b>Per-Issue Commission</b> Energy, HPV 

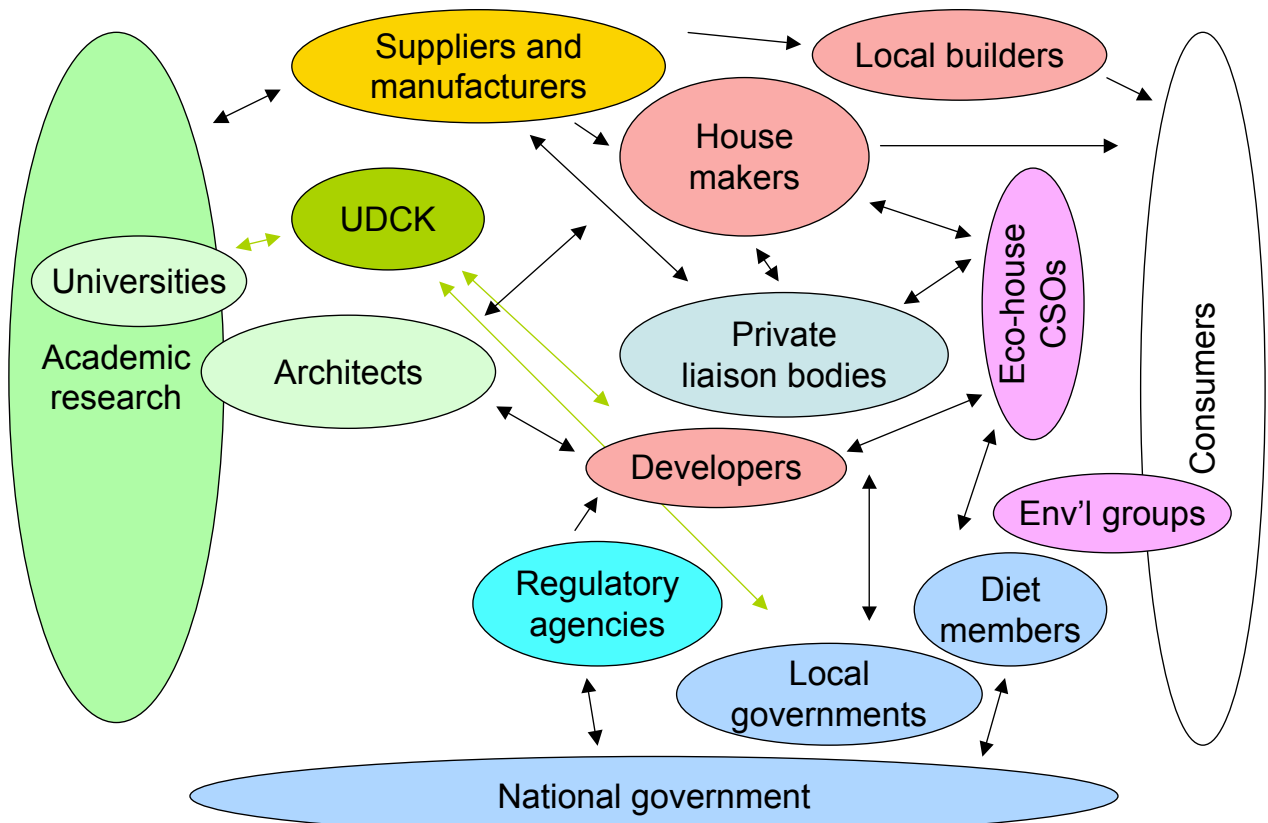
# Medicine (Nano-DDS)



# Food (Food Nanotechnology)



# Energy (Nanotechnologies in Housing)



# Discussion

- **Medicine:** holding key stakeholders as panel members accountable for distributed innovation
- **Food:** flexibility in application leaves a wider public unaware and requires interpretive criteria to discuss in a common language
- **Energy:** nanotech TA may enhance and extend an emerging collaboration between university, industry and local government