NANOMAT Conference 2004
Oslo 3 June 2004

State Secretary Helle Hammer
Norwegian Ministry of Trade and Industry
We face a broad set of challenges...

- Globalisation – opportunities and challenges at home and in foreign markets
- Reduced oil revenues and increased public expenses
- Innovation rates are too low
- R&D investments are too low
- Economic fundamentals differ from our trading partners
- A need for a skilled and competent labour force

Expected rate of return of the Petroleum Fund and expected expenses for retirement and disability pensions. Percentage of GDP. Source: The Norw. Ministry of Finance
The Government’s Vision

“Norway shall be one of the most innovative countries in the world, where resourceful and creative enterprises and people are given opportunities for developing profitable business.

Norway shall be in the lead internationally in important areas, in terms of knowledge, technology and wealth creation”
A Plan for a Comprehensive Innovation Policy

- General conditions for Trade and Industry
- Knowledge and Competence
- R&D and commercialisation
- Entrepreneurship
- Infrastructure
Nano gear wheel

Nano gear
Atoms and molecules as building stones
Nanotechnology

- Nanotechnology is “the mother of all sciences”, combining physics, chemistry, biology, medicine, electronics, ICT and materials science

- Illustrated by:

  - “The total societal impact of nanotechnology is expected to be much larger than that of the silicone integrated circuit, because it is applicable to many more fields than just electronics”

    The National Science Foundation, 2000
Nanotechnology in future everyday life

- Nano-particle paint to prevent corrosion
- Therma-chromic glass to regulate the influx of light
- Floor mats prevent annoying vibrations
- Hip joints made from bio-compatible materials
- The helmet maintains contact with the wearer
- Intelligent clothing measures pulse and respiration
- The Rocky-tab frame is as light as a feather, yet strong
- Fuel cells provide power for mobile phones and vehicles
- Magnetic layers for compact data memory