

# Six Key Trends Shaping Future Society

Cornelia Daheim . Z\_punkt GmbH . The Foresight Company

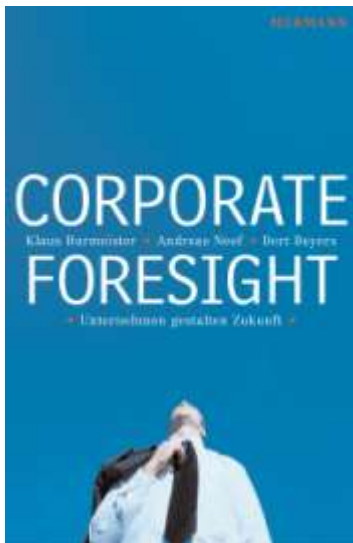
OECD: TIP Workshop on Future Orientations for STI Policy | 14th Dec. 2009, Paris



# Agenda

- Intro
- 6 Megatrends for STI Policy
- Conclusions

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# CONTENT: 20 MEGATRENDS – SIX KEYTRENDS



## SOCIETY

- Urbanisation & Demographic Change
- Women on the Rise
- Cultural Diversity
- New Patterns of Mobility



## TECHNOLOGY

- Digital Lifestyle
- Convergence of Technologies
- Learning from Nature
- Ubiquitous Intelligence



## CONSUMERS

- Next Level of Individualisation
- New Consumption Patterns
- Thriving Health Sector



## GLOBALISED WORLD

- Globalisation 2.0
- Urbanisation
- New Political World Order
- Increasing Security Threats



## BUSINESS

- Knowledge-Based Economy
- Change of the world of Work
- Business-Ecosystems



## ENVIRONMENT

- Energy and Resource Reversal
- Climate Change and other Environmental Impacts

# MEGATREND: CLIMATE CHANGE & ENERGY AND RESOURCE REVERSAL

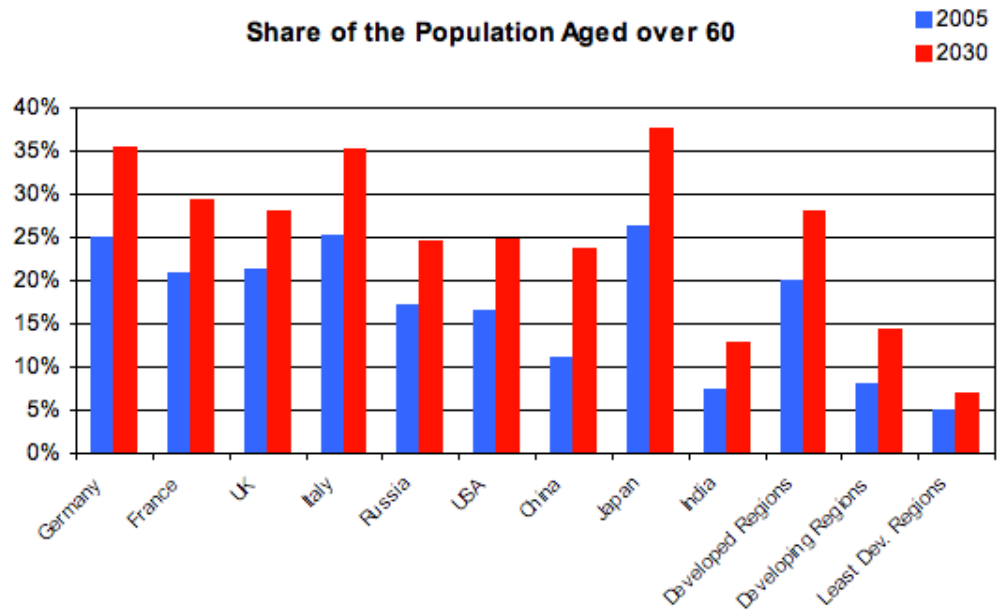


- **Rising CO<sub>2</sub> Emissions and Temperatures**
- **Environmental Problems in Emerging and Developing Countries a Risk Factor**
- **More Investment in Clean Technology**
- **Increasing Responsibilities for Companies**
  
- **Strategic Resources Become Scarce**
- **Use of Alternative Energy Sources and Renewable Fuels**
- **Energy Efficiency Revolution Continues**
- **Growing Importance of Decentralised Energy Production**

# MEGATREND: DEMOGRAPHIC CHANGE & URBANISATION



- Increase and Ageing of World Population



Source: UN 2006b

# MEGATREND: URBANISATION & DEMOGRAPHIC CHANGE



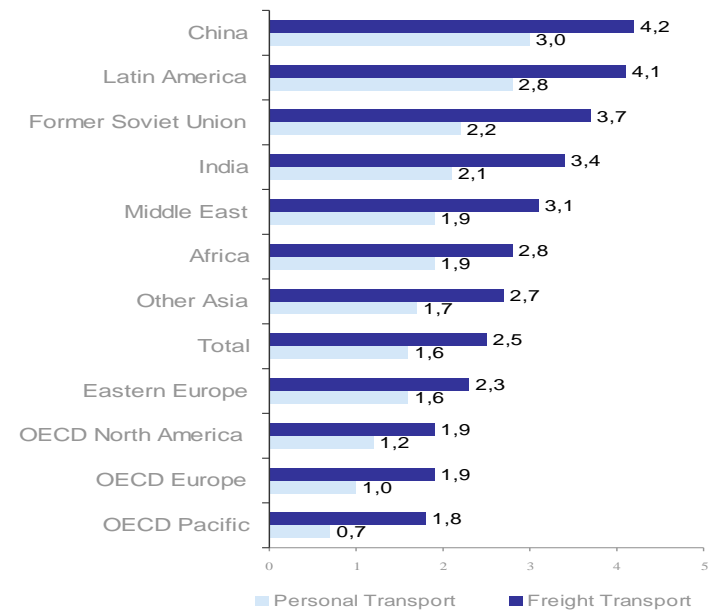
- **Growth and Ageing of the World Population**
- **Shrinking Society in the West and High Birth Rates in Developing Countries**
- **Increasing Migration**
- **Impact of Demographic Imbalances**
  
- **Urbanisation Mainly in Emerging Markets and Developing Countries**
- **Strong Growth of Metropolises and Megacities**
- **Development of Adapted Infrastructure Solutions**



# MEGATREND: NEW PATTERNS OF MOBILITY



- Increased Global Mobility
- Increasing Barriers to Mobility
- Construction of Traffic Infrastructures
- New Vehicle Concepts and Drive Technologies



- Globally Increasing Mobility
  - Passenger Transportation and Freight Traffic
  - In 2020 China displaces the USA as Country of the most Car Owners



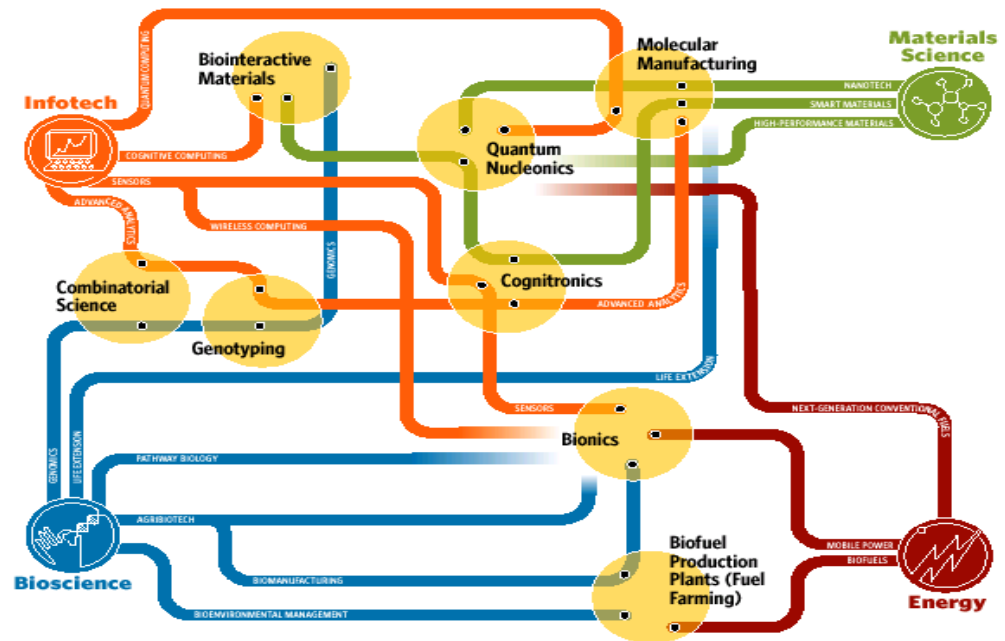
# MEGATREND: GLOBALISATION 2.0



- **Shift to Asia**
- **Creation of a Global Middle Class**
- **Global Strategies with Local or Regional Adaptations**
- **Innovation Blowback**
- **New Partner Structures**
- **Increasing Importance of Supra-National Institutions**

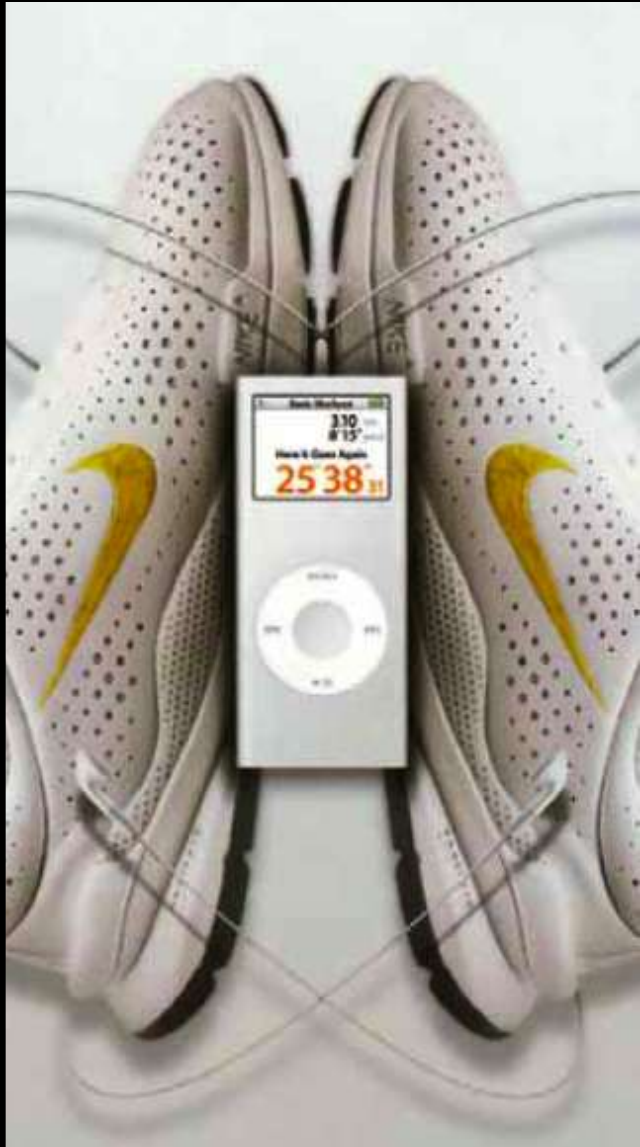
# MEGATREND: TECHNOLOGY CONVERGENCE

- NBIC Convergence
- Information and Nanotechnology as Central Convergence Driver
- Impetus into many Fields of Application
- Questions of “Limits to Innovation” Posed Specifically by Bioengineering “Design of the Human”

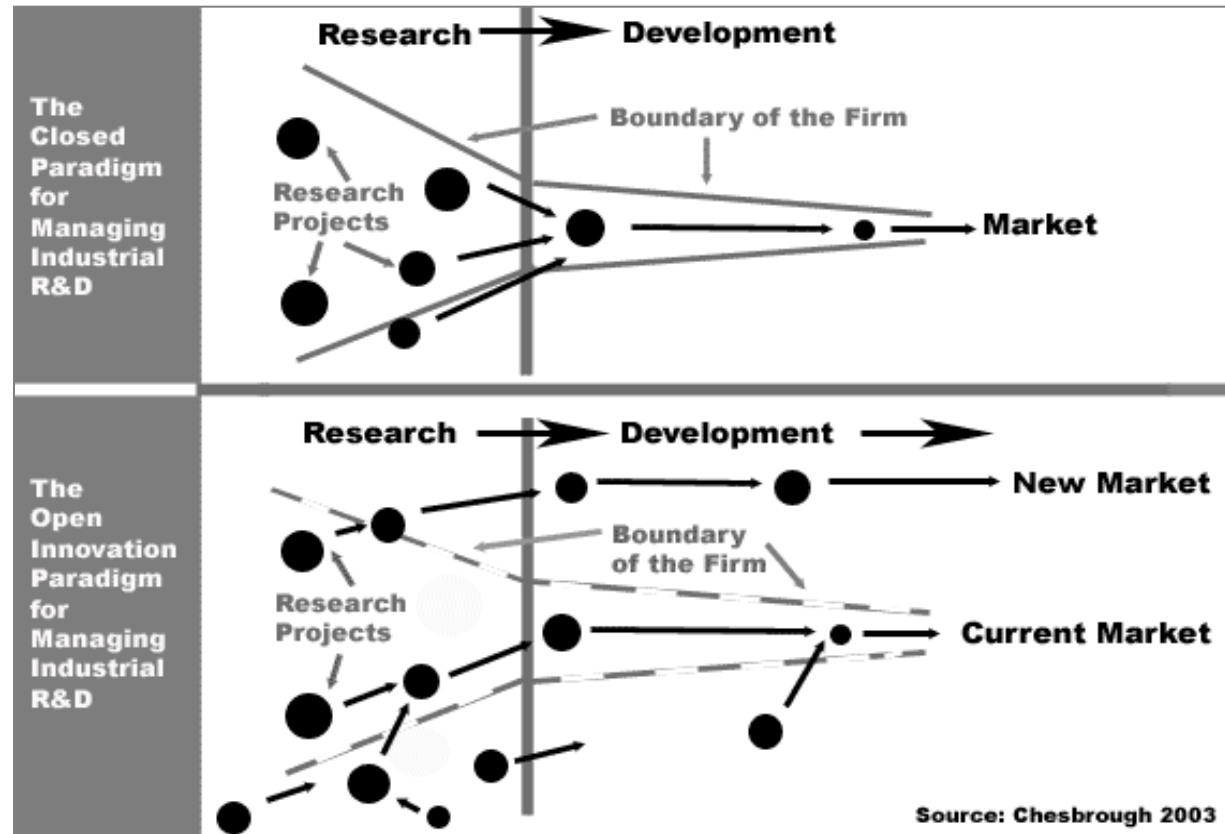


BANG-DESIGN - Disruptive Technologies & Applications through Convergence

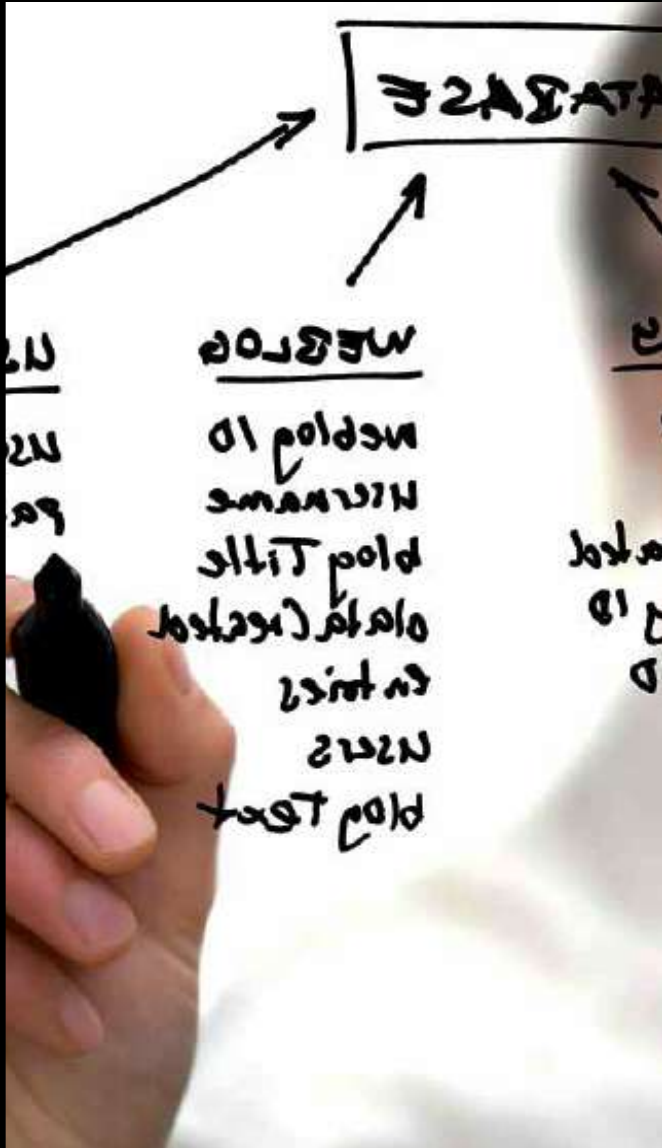
# MEGATREND: KNOWLEDGE-BASED ECONOMY AND BUSINESS-ECOSYSTEMS



## Change of Paradigm towards Open Innovation The End of „Not invented here“-Syndroms?



# MEGATREND: KNOWLEDGE-BASED ECONOMY & BUSINESS ECOSYSTEMS



- Education and Training as a Fundament
- Innovation as a Central Factor for Competition
- The Rise of the Creative Class
- Open Business/Innovation Systems & Networks and Business Mash-Ups
- More Diverse Work Structures, Patchwork Work Biographies
- New Value Added Networks
- Platform-Based Economy

# 6 MEGATRENDS: CONCLUSIONS

## Megatrends



- **Climate Change /Energy and Resource Reversal**
- **Demographic Change & Urbanisation**
- **New Patterns of Mobility**
- **Globalisation 2.0**
- **Technology Convergence**
- **Knowledge-Based Economy & Business-Ecosystems**

## Challenges for STI Policy

- **New Markets Energy / Environment; Infrastructure & Mobility; Health**
- **New Forms of Innovation**
- **Sustainability Drive**
- **Change of Means of Communication, Work, Value Creation, Modified Lifestyles, More Multi-Cultural Environments**

# ADDENDUM: MEGATRENDS

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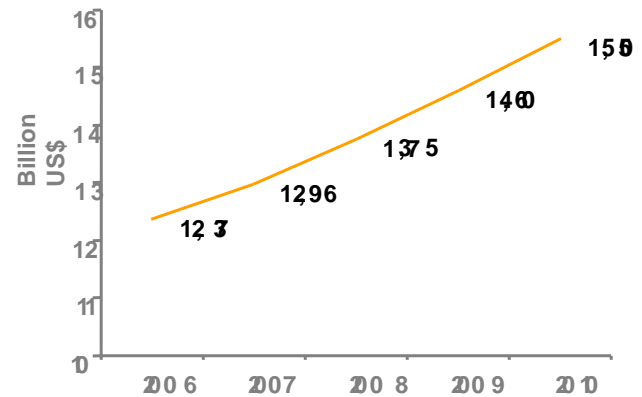


# MEGATREND: HEALTH THRIVES



- Rising Health Costs and Increasing Personal Responsibility
- From Keeping Well to Health Style
- Novel Food on the March
- Resulting Converging Markets

World Market for Nutraceuticals 2006-2010



# MEGATREND: CULTURAL DIVERSITY



- **Plural Ways of Life**
- **Globally Competing Value Systems**
- **Creation of Hybrid Cultures**
- **Changing Multiple Gender Roles**

# MEGATREND: BIOMIMICRY OR LEARNING FROM NATURE



- **Biology Becomes the Leading Science**
- **Renaissance of Bionics**
- **Sustainability as the Lead Paradigm**
- **Cradle-to-Cradle-Economy as a Vision and Innovation Driver**

# MEGATREND: UBIQUITOUS INTELLIGENCE



- **Progressive IT Revolution**
- **Investment in Ambient Intelligence and Cloud Computing**
- **Neuroscience, Artificial Intelligence and Robotics**
- **Towards the Transparent Society**

# MEGATREND: CHANGES IN THE WORK WORLD



- **Tertiarisation of (Post)-Industrial Economies**
- **Making Work more Dynamic and Flexible**
- **From Permanent Full-Time to Flexible and Self-Organised Work**

# MEGATREND: WOMEN ON THE RISE



- **Greater Integration of Women in Professional Life**
- **Participation as Market Stakeholders**
- **Increasing Importance of Work-Life Balance**

# MEGATREND: NEW POLITICAL WORLD ORDER



- **Balancing of Powers**
- **China and India Become World Powers**
- **A New Dawn in Africa**

# MEGATREND: GROWING THREATS TO INTERNATIONAL SECURITY

- **World Risk Society**
- **Privatisation of Security**
- **Terrorism and Asymmetrical Conflicts**





# MEGATREND: NEW CONSUMPTION PATTERNS



- **Increased Prosperity in the Third World**
- **Catching-Up on Luxury in China, India and Russia**
- **Sustainable Consumption Grows in the West**

# MEGATREND: INDIVIDUALISATION REACHES A NEW STAGE



- Individualism as a Global Phenomenon
- Different Biographical Trends & Changing Relationship Networks
- From Mass Market to Micro Markets

# MEGATREND: DIGITAL LIFESTYLE



- **Web 2.0: New Media Conquer Everyday Life**
- **Digital Lifestyle and Virtual Business Worlds**
- **Virtual Business**
- **Augmented Reality**