

Business from technology



VTT Technical Research Centre of Finland

5th November 2012

VTT Technical Research Centre of Finland

VTT IS

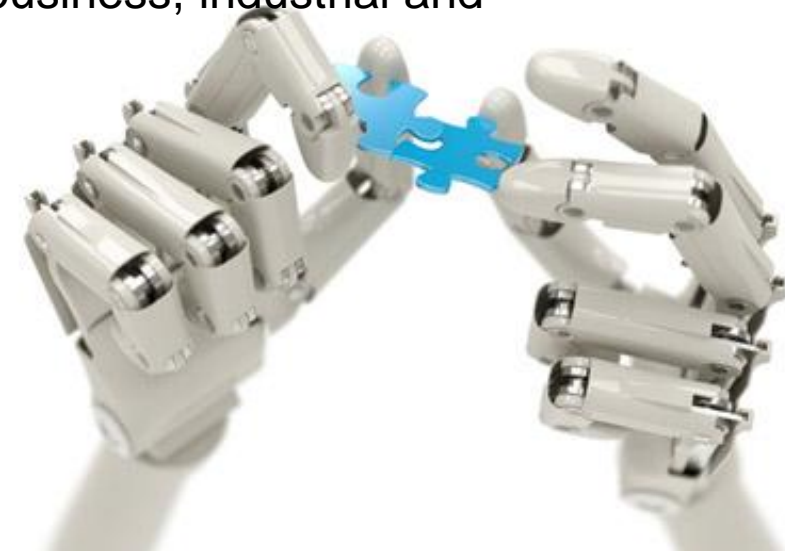
- a globally networked multitechnological applied research organisation
- a not-for-profit and impartial research centre

VTT HAS

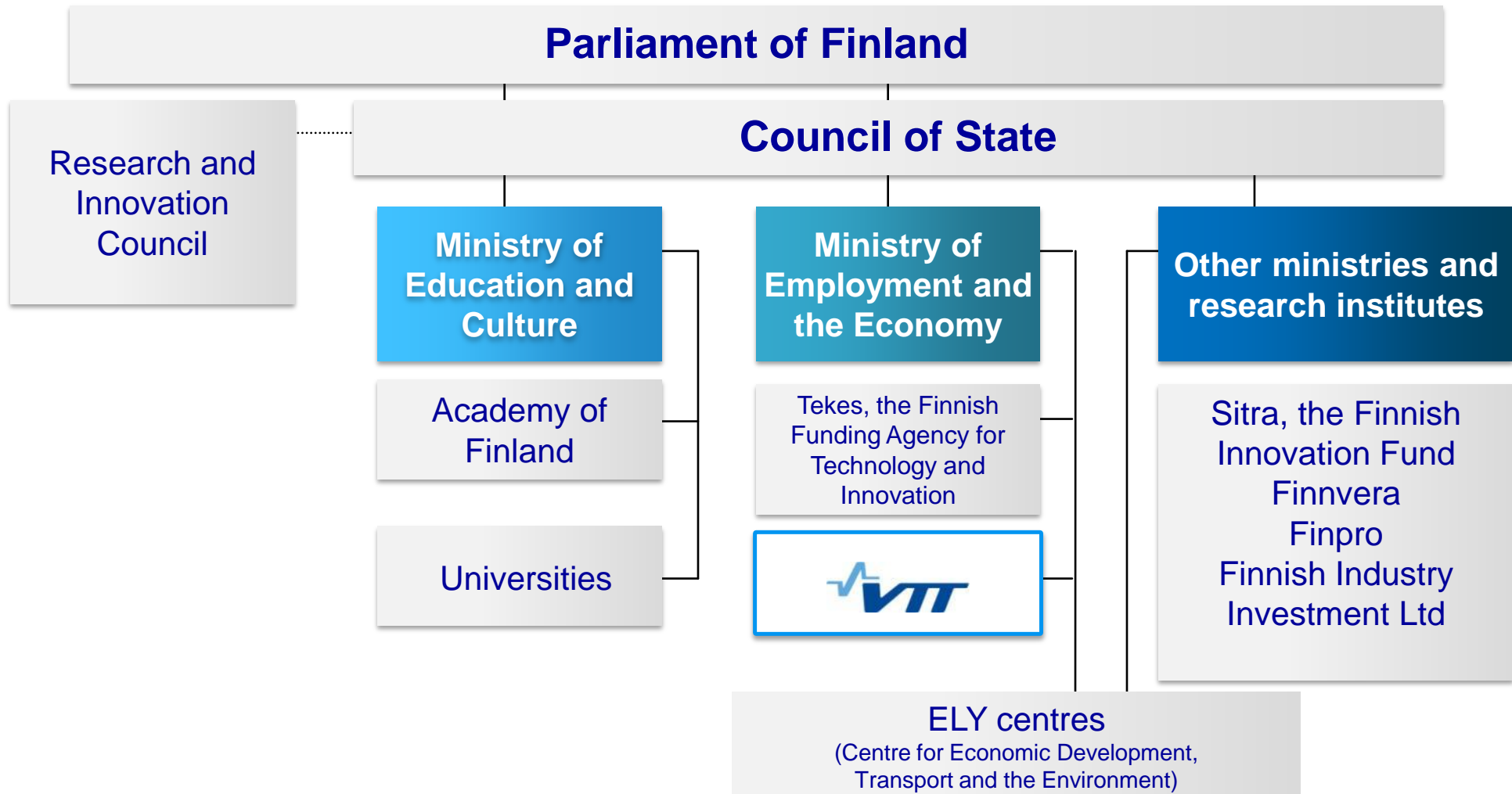
- extensive cross-disciplinary technological and business expertise
- unique research infrastructure
- comprehensive global partnership networks in business, industrial and research communities

VTT CREATES

- new technology and science-based innovations in co-operation with domestic and foreign partners



Public decision makers, financiers and R&D performers



VTT's mission

- VTT produces **research and innovation services** that **enhance the international competitiveness** of companies, society and other customers.
- VTT creates the **prerequisites for society's sustainable development, employment and wellbeing.**



VTT Group in brief

Turnover 307 M€ (2011) • Personnel 3,187 (31.12.2011)



Customer sectors

- Biotechnology, pharmaceutical and food industries
- Chemical industry and environment
- Electronics
- Energy
- Forest industry
- ICT
- Machine, vehicle and metal industries
- Real estate and construction
- Services and logistics



Focus areas of research

- Applied materials
- Bio- and chemical processes
- Energy
- Information and communication technologies
- Industrial systems management
- Microtechnologies and electronics
- Services and the built environment
- Business research



VTT's operations

- Research and Development
- Strategic Research
- Business Solutions
- Business Development
- Group Services

VTT's companies

- VTT Expert Services Ltd (incl. Labtium Ltd, Enas Ltd)
- VTT Ventures Ltd
- VTT International Ltd (incl. VTT Brasil LTDA)
- VTT Memsfab Ltd

Services



VTT's strategic research portfolio

Bioeconomy transformation

- Sustainable use and refining of bio-based raw materials
- Industrial biotechnology and green chemistry
- Process and manufacturing technologies
- Bioeconomy business ecosystems



Low-carbon economy

- Energy efficient solutions for industry, built environment, and transport
- Renewable energy sources
- Nuclear energy: safety and waste management
- Energy systems and modelling



Clean environment

- Clean water cycles on demand
- Industrial ecology and life cycle design
- Waste refineries, material recovery, and recycling
- Substitute material solutions



Horizontal research

Business and services – Innovation methods and policies – Safety and security – User and customer understanding

Digital world

- High-performance microsystems and sensing solutions
- Printed intelligence
- Scalable digital service economy
- Internet of Things (IoT)



Resource efficient production systems

- Eco-efficient machines
- Resource efficient processes
- Simulation based design
- Global production and services



Health and wellbeing solutions

- System biology and diagnostics
- Food products and health
- ICT for health
- User-driven spaces and environments



VTT's spearhead and innovation programmes

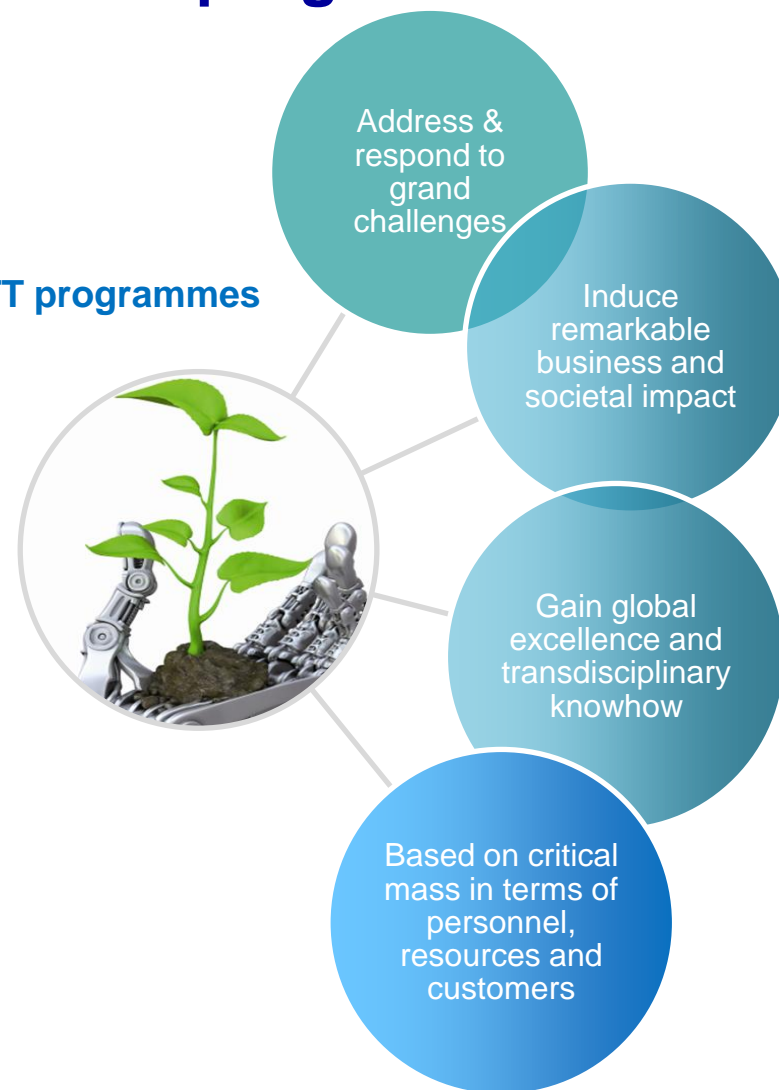
Spearhead programmes

- Green Solutions for Water and Waste
- Bioeconomy Transformation
- Productivity Leap with Internet of Things
- Low Carbon and Smart Mobility

Innovation Programmes

- Intelligent Energy Grids
- High-performance Microsystems
- Multiscale Design
- Arctic and Cold Climate Solutions
- Cognitive Communications for Critical Infrastructures
- Personalised Health & Wellbeing
- Human Driven Design – “Design for Life”
- Safe and Sustainable Nuclear Energy
- Sensing Solutions
- Service Economy and Dynamic Value Networks

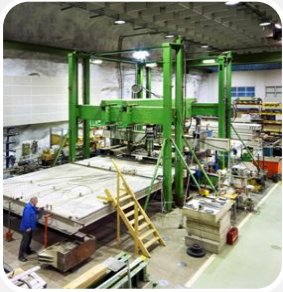
VTT programmes



Research infrastructure

Opportunity to utilise VTT's unique testing and research equipment.

Examples of research equipment:



Research hall for demanding experimental studies



Laboratory facilities for drug development



Micronova cleanroom



Fermentor (food pilot) hall



PrintoCent

- Centre for business development in the area of Printed Intelligence



ROViR

- Remote Operation and Virtual Reality Centre

- Unique testing facilities and equipment
- Equipment for test production
- Facilities for field measurements

International in all aspects

- Research units in Brazil, South Korea, and Silicon Valley (USA)
- Operating in all continents
- Actively involved in building the European innovation ecosystem
- 10% of Global Fortune 500 - companies are VTT's customers
- VTT's professionals represent 49 different nationalities



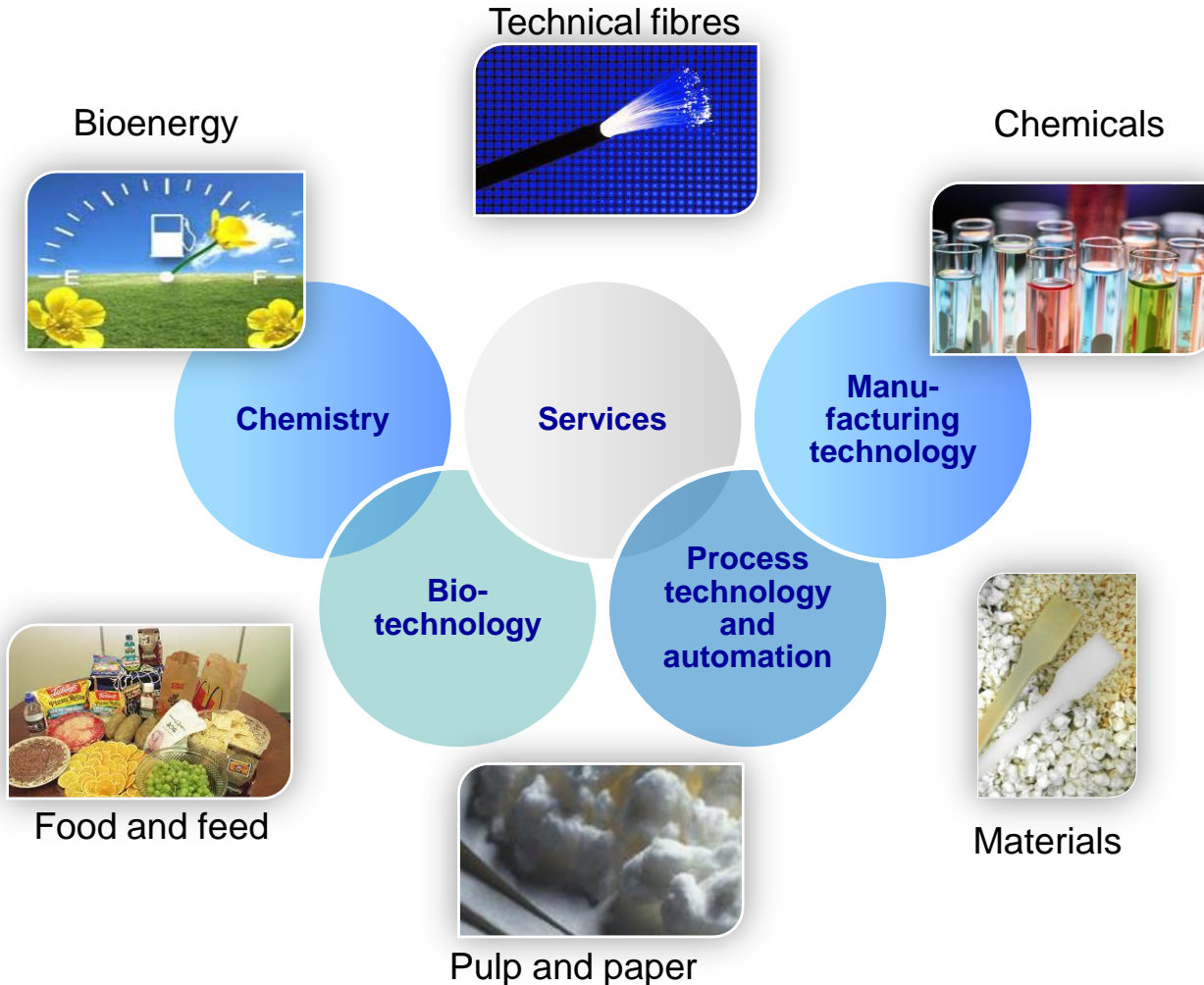
VTT is a globally networked



VTT Group on the map



VTT's focus in bioeconomy



- VTT as a key provider of bioeconomy related research globally
- Multidisciplinary offering by developing and combining key enabling technologies to pulp & paper, food, energy, chemical and material production technologies
- Conversion toolbox enabling production of various products from biomass
- Development of new concepts based on market and consumer needs as well as sustainability
- Role in glueing different industrial value-chains together
- Business generation by actively thriving for bioeconomy spin-offs



VTT - 70 years of
**technology for business
and society**