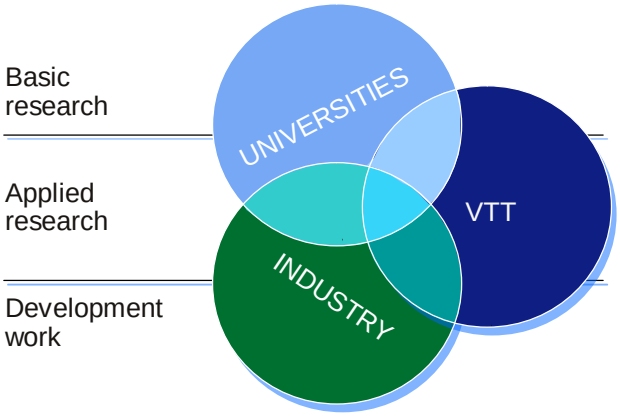
Innovation Partnerships -
China Hubei Trade & Investment Seminar
October 30 2006 Helsinki

Jorma Rytkönen, Vice-President, Transport & Logistics

Content

VTT'S STATUS AS PERFORMER OF R&D WORK



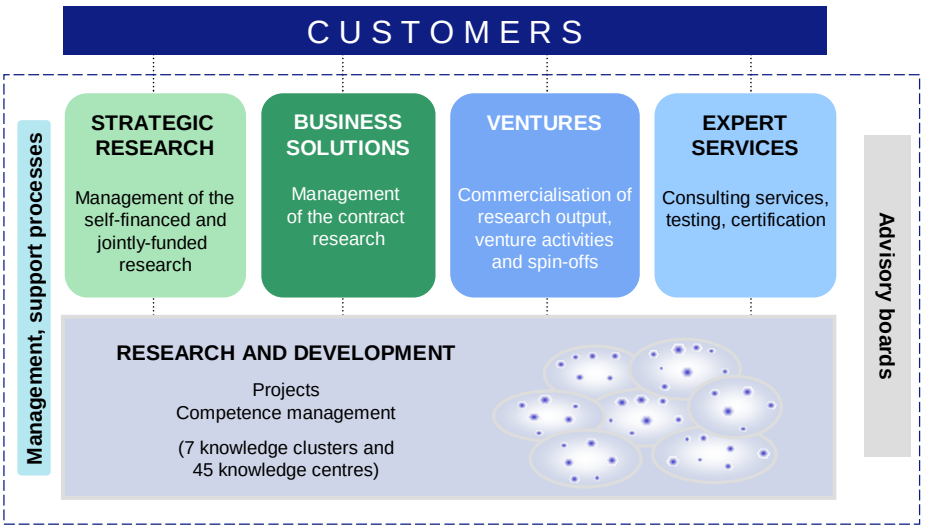
VTT IN BRIEF 2006

45 Knowledge Centres
2 700 employees
233 M€ turnover (est. 2006)

7 Knowledge Clusters
§ Digital Information Systems
§ Telecommunications
§ Microtechnologies and Sensors
§ Materials and Building
§ Industrial Systems
§ Biotechnology
§ Energy and Pulp&Paper

9 Key Customer Sectors
§ Biotechnology, pharmaceuticals and foods
§ Electronics
§ Energy
§ ICT
§ Real estate and construction
§ Machines and vehicles
§ Transport and logistics
§ Pulp and paper
§ Process industry and environment

THE OPERATING MODEL AND THE STRUCTURE



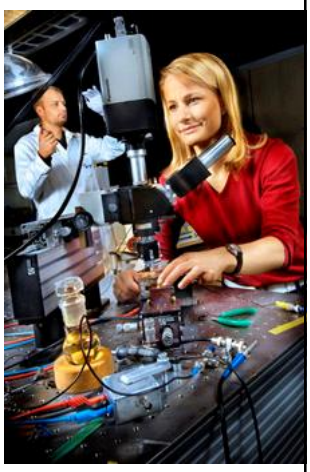
VTT'S SERVICE PORTFOLIO

- Extensive R&D services for the most important stages of the customer's innovation process:
  - Strategic research and new business opportunities
  - Planning of new concepts to create new opportunities and innovations
  - Transfer of best know-how and practices and commercialisation in co-operation with the customer.
- Integration of VTT and partner resources to meet customer needs.
- Business Solutions: content, financing models and commercial applications.

CO-OPERATION WITH VTT

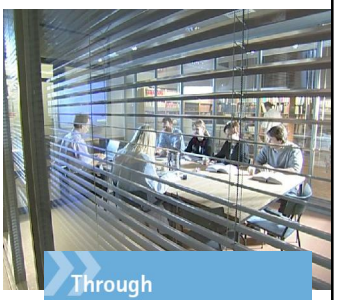
§ VTT carries out three types of activities: commercial activities, joint projects and self-financed projects.
- Commercial activities are performed according to direct demand from customers.
- Joint projects are initiated on the basis of need and typically jointly funded by VTT, companies, research financers ( ) and/or other research parties.
- Self-financed research consists of technology-based strategic research projects aimed at developing competitiveness and acquiring knowledge and expertise to meet the future needs of customers.

§ TEKES (The National Technology Agency)
§ EU Programmes



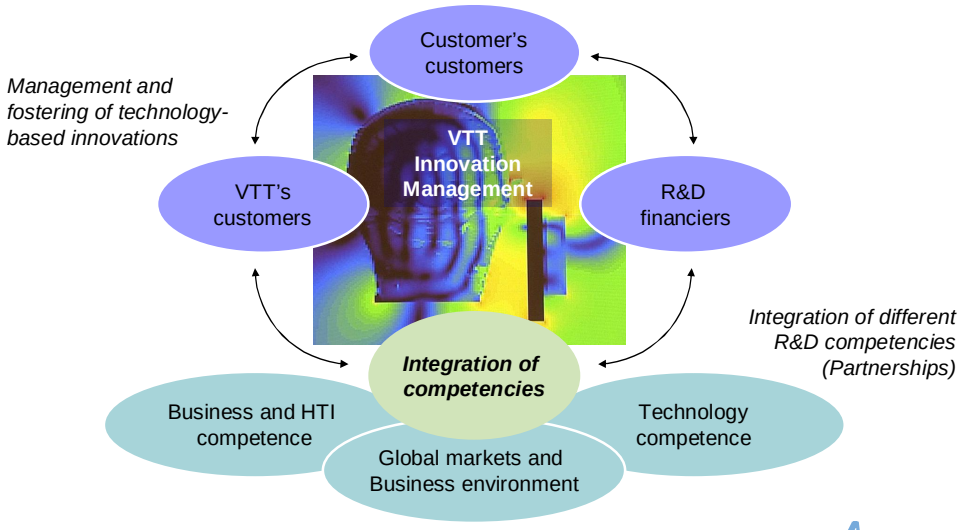
CONTRACT RESEARCH

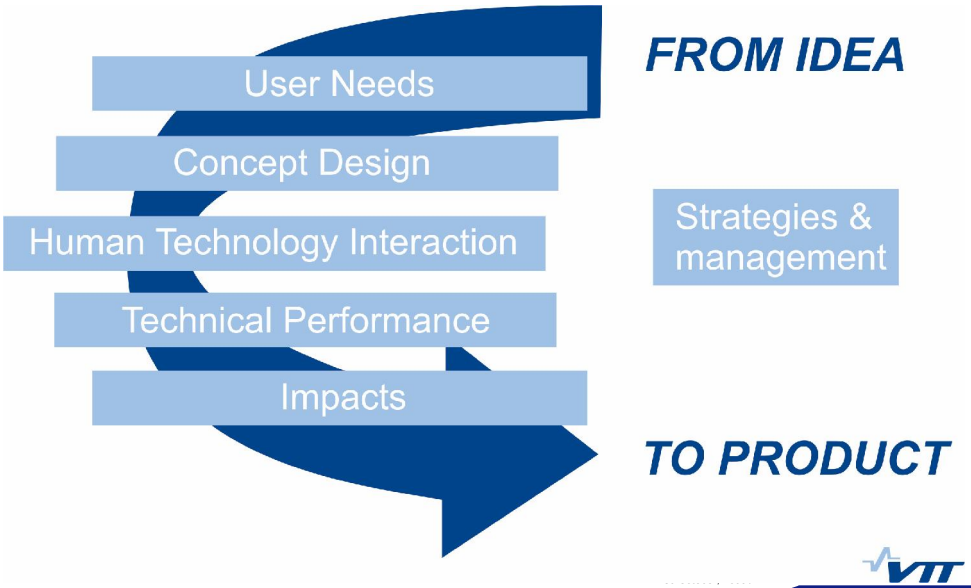
§ All results of contract research are the customer's property.
§ A matter of essential importance in our contract R&D is commitment to strict confidentiality. We have no right to reveal the assignment nor the results to a third party without the written permission of the customer.
§ Contracts are processed by lawyers and include e.g. schedule, cost, payment, confidentiality, ownership, right of use, documents and test materials, rights and obligations of VTT/the customer, publication of results, VTT's liabilities, termination of contract
§ All details of the assingment are usually agreed upon in a separate commission contract and its annexes composed of VTT's general terms of contract and the project plan.



Through innovations VTT wants to turn R&D into a new opportunity.

VTT'S INNOVATION PARTNERSHIP MODEL

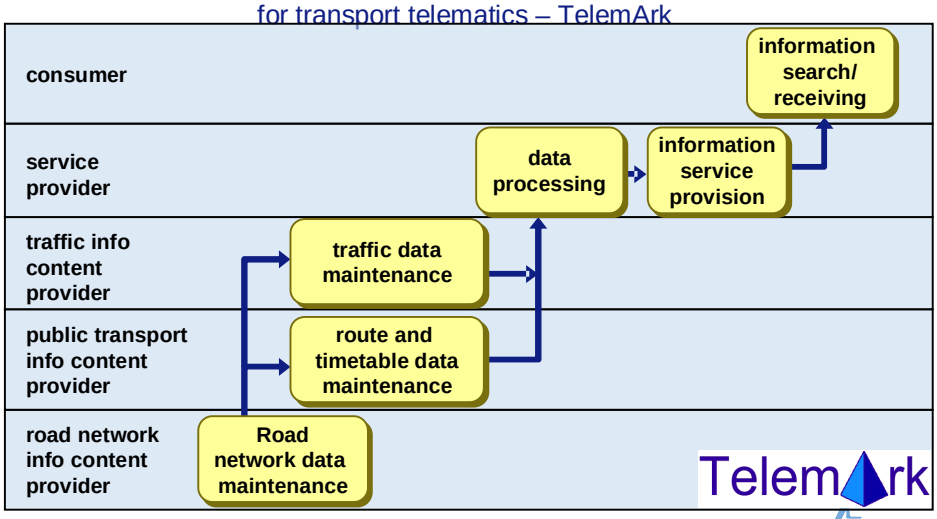




Transport information in digital television

Study commissioned by Finnish Ministry of Transport and Communications, Digita Ltd. and VTT

The Finnish national system architecture for transport telematics – TelemArk



Study commissioned by Ministry of Transport and Communications Finland

Data Contents of Electronic Waybill

Needs, priorities and possibilities for electronic transport documents and their implementation, using electronic waybill as use case.

The Standardised Transport Label

National recommendations for the standard form and content of transport labels.


KOLLIOSOITELAPPU

Mistä – Från - From
Lappeenrannan Kemikaalituonti Oy
Teollisuuskemikaalit
Saimaankatu 12
53300 LAPPEENRANTA

Puh. - Tel. (05) 555 666 777
Lauri Lähettäjä

Läh.pv - Avs-dat - Desp.Date
7.11.2003

Minne – Till - To
Varsinais-Suomen Tuotetukku Oy
Kemikaaliosasto
Rautatehtaankatu 2
20200 TURKU

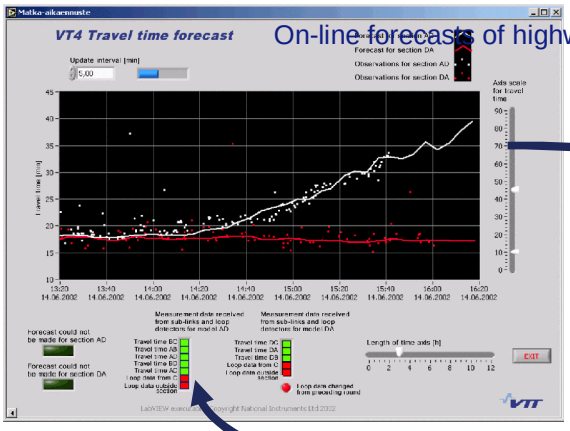
Puh. – Tel. (02) 888 999 000 Lars Larsson

Kuljetusohjeet – Transportinstruktioner - Transport Instructions
Kuljetus Oy
Puh./Tel. 09) 111 111 111

Lähetys – Sändnings - Shipment ID: **123456789**
Kolli - Item: **1 / 5**
Paino – Vikt - Weight: **20 / 100**

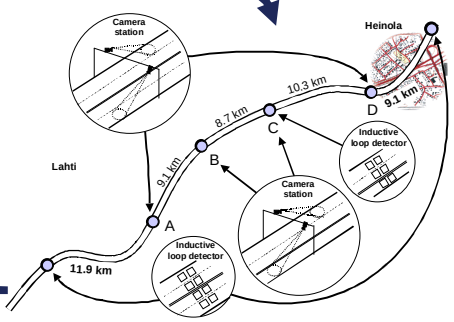
Kolli - Item ID (00) 373999991234567899

Studies commissioned by Ministry of Transport and Communications Finland and a group of Finnish logistics companies



On-line forecasts of highway travel time

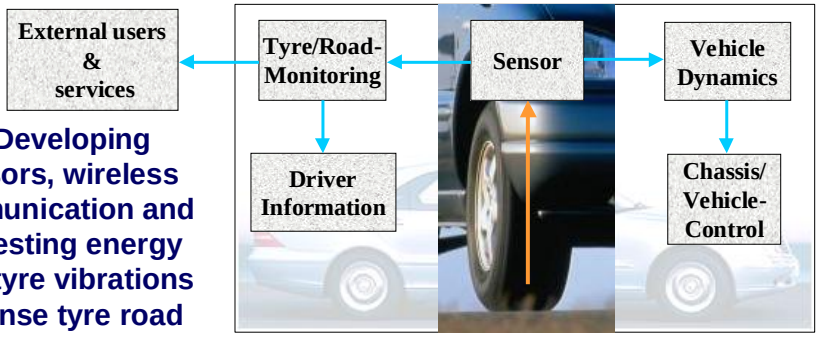
On-line forecasts of travel time



Real time information

Study commissioned by Finnish Road Administration and Ministry of Transport and Communications Finland

APOLLO - Intelligent Tyre for Accident-free traffic

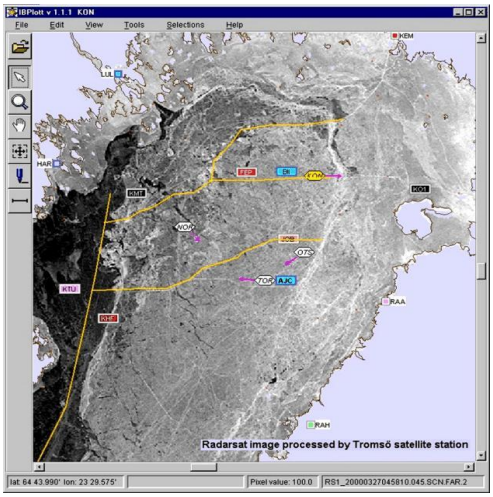


♦ **Developing sensors, wireless communication and harvesting energy from tyre vibrations to sense tyre road contact and feeding this information to vehicle control systems and the driver**

http://www.vtt.fi/tuo/projects/apollo/index.htm

Study commissioned by the EC IST 5 FP

Fleet management system for icebreakers



§ Map based distributed decision support system IBNet presenting ship traffic situation, ice condition and weather prognoses

§ Real-time positions from AIS (Automatic Identification System) data

§ Special version (ViewIce) available for merchant ships

Study commissioned jointly by the Finnish and Swedish Maritime Administrations

Wireless data transmission
improves efficiency in road construction

The system provides up-to-date data on what is going on at a site and greatly improves efficiency and productivity in road construction and civil engineering projects.

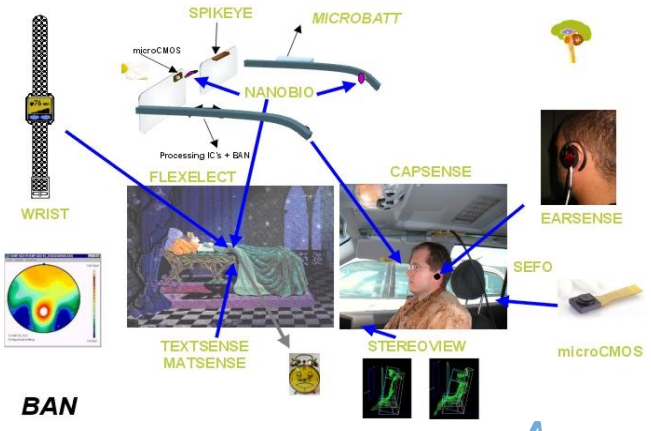
- Driver acknowledges loading and uploading operations either with a mobile phone or onboard PC
- Messages are transmitted over the public operator network and saved on the server
- The system enables online transaction monitoring (materials, quantities, kilometres, hours worked by individual, vehicle and task)

Lapin Kansa / Ilkka Koskinen

SENSATION

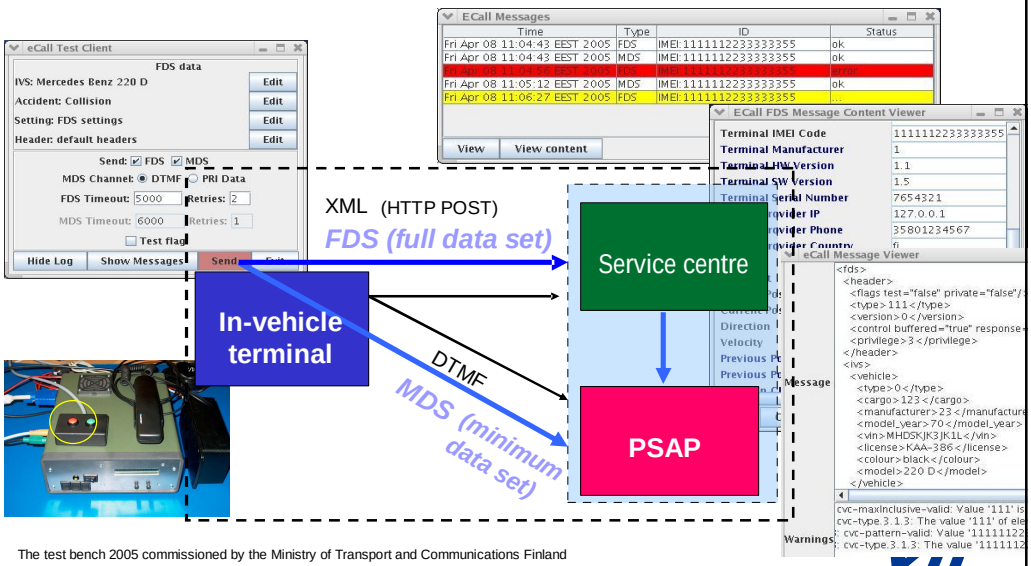
Advanced Sensor Development for
Attention, Stress, Vigilance &
Sleep/Wakefulness Monitoring

- Sensation IP funded under the EC IST 6
- health, safety and quality of life
- hypovigilance detection, prediction and management
- diagnosis, treatment and remote monitoring of sleep disorders



http://www.sensation-eu.org/index.html

eCall communications Test Bench



The test bench 2005 commissioned by the Ministry of Transport and Communications Finland

Automatic identification of vehicles

Passive RFID

8 different active RFID systems tested in laboratory and 2 in harsh harbour conditions, 1 passive system tested in railyard

Active RFID

Tag (Androdat)

Reader

Study commissioned by Ministry of Transport and Communications Finland, Tekes and a group of Finnish logistics companies

EXAMPLES OF RECENT RESEARCH RESULTS

Intelligent packages on a conventional printing machine

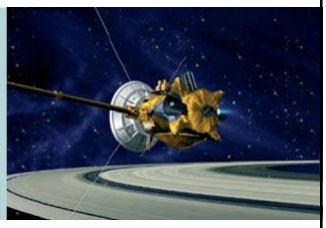
Environmentally-friendly wood-plastic composite materials

High-speed laser welding

Biotechnology for medicine production

Technology for decentralised production of bioethanol

Mobile technology and new services for mobile users



Sensor and detector technology for satellites

For more examples see: www.vtt.fi

IT'S ALL ABOUT THIS!

- Finland's future is in innovations (open networking - global markets - services).
- New competitiveness based on innovations is the key to our customers' success.
- VTT's objective is to boost continuously the competitiveness of the customer by utilising its expertise, innovations and networks.
- Our new operating model and new structure will help us to achieve this goal!

Business from technology!