



◀ *Keynotes at SHOK Summit: Finnish Minister of Housing, Mr. Jan Vapaavuori (on left), encouraged towards energy efficiency, and Mr. Jorma Eloranta (on right), President & CEO of Metso, thanked FIMECC for speeding up strategic research.*

SHOK Summit boosts innovation

The 1st SHOK Summit was held in Helsinki April 20th 2010. The most important message for metals and engineering world was that industry strongly believes and significantly invests in innovation work carried out in FIMECC programs. Summit was joint-organized by all SHOKs and it gathered round 500 top level decision-makers from industry and research institutes.

The first SHOK Summit ever concentrated on the start-up of the new cross-industry and cross-disciplinary way to carry out industry driven applied research. The day was full

of interesting presentations and cross-industrial discussions. Encouraging examples of novel and increased collaboration between different industries and research institutions were heard. FIMECC has in only two years built up a public-private-partnership model, which is admired as a positive surprise all over Europe.

FIMECC's stand introduced the first outcomes from the on-going programs. The stand was a forum for discussions between participants from different businesses. It seems to be only the matter of time when the first breakthrough innovations will be delivered to the global market.

SHOK Summit will be a biannual event. In the future, Summit will focus on results.

Key facts:

Research portfolio's annual value is 42M€
(fully funded programs' 2nd year)

More than 100 organizations take part in FIMECC programs

FIMECC will propose programs to the Academy of Finland in 2011

SHOKs utilize joint & shared resources

New FIMECC outcomes available (see page 3)

FIMECC Ltd. is the strategic centre for science, technology, and innovation in metal products and mechanical engineering industries in Finland. FIMECC leads its' stakeholders to cross-disciplinary and cross-industry innovation through internationally open public-private research platform. FIMECC shortens time-to-market by joining the resources and innovativeness of globally leading companies and research institutes in precompetitive research. We boost strategic research – together.



“ There has been no criticism on relevance - this is a clear evidence of a right concept.”

growth from innovation, R&D, prototype/small series production and services more than before as traditional production growth takes place inside main markets.

I think SHOK concept was foresighted. This platform is needed now and in current circumstances it would be difficult to be created. The commitment of shareholders has been strong in hard times. Strategic research agendas are undoubtedly based on current strengths but doing this with completely new - better - way is already an achievement. Let me call it FIMECC 1.0.

EVOLUTION OR REVOLUTION?

As in any good strategy it is important to base it to current core. For FIMECC it means active and professional management of current programs in order to achieve tangible results. It is also important to get User Experience and Service Business programs to fly as they represent ideas which push beyond traditional technology research.

And then? Joint projects with other SHOKs, wider international participation, new finance instruments, demonstrations, spin-off company projects. All that but I feel it is still evolution of a good concept.

Companies or institutions don't do anything, people do. I hope that revolution happens in people. I hope that growing amount people see personally a new way for learning, sharing, and creating something meaningful. That's what I call FIMECC 2.0.

At last I would like to thank the previous board and its first two chairmen, **Heikki Leppänen** and **Markku Koljonen**, for leading FIMECC to a right path. It is a privilege to continue the journey.

Inspiration to all FIMECC friends!

Matti Sommarberg, Chairman of the board

FIMECC 2.0

RIGHT CONCEPT AND RIGHT TIMING
Strategic centres for science, technology and innovation (SHOK) entered planning phase in April 2005. FIMECC, a result of this process, runs now six programs, where 90 companies (about 50% SMEs), 15 universities and research institutes participate. About 1000 top individuals work in a new way together. Is this agile, new or relevant, depends on one's perspective.

In 2005, companies were enjoying relatively steady economic growth. Many of

current megatrends were already visible – rise of the East, climate change, availability of energy, urbanization etc. – but more as an evolution than discontinuity. In September 2008 Lehman Brothers filed for Chapter 11 triggering deep financial crisis, which is still not completely over as we have seen in Greece. Recovery has already shown a pattern which will accelerate shift in power – BRIC countries leading the development. Consequences are still unclear - scenario planning is having renaissance. Finland has to find its future

FIMECC, program portfolio
(as designed in August 2010)

SRA THEME	PROGRAM	STATUS	FOCUS
Service Business	FutIS	Start planned for 2011	Business-to-business services
User Experience	UXUS	Start planned for 2011	User experience and design as mindsets
Global Networks	GP4Variants I&N	On-going, 1st year On-going, 2nd year	Management of high variety production networks Innovation and management in project business networks
Intelligent Solutions	BAT FAMOUS EFFIMA ELEMET Manufacturing	Start planned for 2011 Start planned for 2011 On-going, 2nd year On-going, 2nd year Idea	Future automation systems Safe and efficient work site by autonomous machines Energy and life-cycle efficient machines Energy and life-cycle efficient metal processes Advanced and intelligent manufacturing systems
Breakthrough Materials	ACTIFUN DEMAPP LIGHT	Start planned for 2013 On-going, 2nd year On-going, 2nd year	New functional materials Wear, corrosion, extreme temperatures, and friction Light structures and materials

Involved in industry and research

"In some companies, service business already accounts for a large part of their turnover. Others are still weighing the pros and cons and taking the first steps," says **Miia Martinsuo**, Professor of Industrial Management at the Tampere University of Technology.

Martinsuo recommends careful consideration before expanding or switching to service business.

"Service business is much more than just offering maintenance service with the product. It requires in-depth understanding

of immaterial value creation and of the customer's processes. Companies have to network with supplier companies as well as within their own organisations."

While companies are hungry for information on service business, a wealth of research and academic knowledge on the subject already exists in Finland. As the Chair of FIMECC's Service Business steering group, Martinsuo wants to offer more opportunities for interaction between the industry and research groups. Martinsuo says both have much to learn from each other, and she is

speaking from personal experience as she has worked both as an university researcher and as a consultant and internal development manager in the industry sector, for instance at Nokia and Outokumpu.

"I find these career moves and the change of perspective rewarding. I think it's important that people who study and develop working life have first-hand knowledge of its processes and practices. Right now I am more drawn to research, but I want to make sure my projects also include co-operation with the industry sector," Martinsuo concludes.



Make our companies leading service business specialists

◀ **Miia Martinsuo**
Professor of Industrial Management,
Tampere University of Technology.

APPLICATION DRIVEN DEVELOPMENT IN DEMAPP

DEMAPP develops advanced materials and processing solutions for demanding applications - high temperatures, heavy cyclic loading and highly abrasive and corrosive environments. For example, in the project Wear resistant materials and solutions we combine materials testing, evaluation and validation of test methods and modeling work to create

new steel grades and coatings based on understanding of material performance and failure mechanisms. Recently we developed a new method for scratch testing with natural abrasives which corresponds better with real applications such as cone crushers than the standard methods using diamond or hard metal indenters.



EVENTS:

R&D COUNCIL FALL MEETING, SEPTEMBER 27TH, 2010

Design for FIMECC 2.0 - renewal of organization and activities, hosted by Metso in Tampere.

EXCURSION TO GERMANY AND ITALY, OCTOBER 24-30, 2010

Join the innovation tour and see Fiat Research Centre, COMAU and Ford factories, leading European universities in Aachen and Milan, and how public-private-partnership is carried out in EU programs.

3RD ANNUAL SEMINAR, NOVEMBER 24TH, 2010, TAMPERE

This year we focus on results. See the surprisingly wide collection of both practical and academic results in all FIMECC activity areas.

EFFIMA – TOGETHER TOWARDS ENERGY EFFICIENCY

The "research tree" of EFFIMA, planted last autumn, has wintered well and the first blossoms start to come out e.g. a prototype for compact-sized, fast acting valve with 70% increased flow density in project developing digital hydraulics. To further support this early blossoming by facilitating open discussion, EFFIMA arranged its 1st annual seminar by applying novel interactive working pattern called "program marketplace".



▲ *Networking at EFFIMA "marketplace". "Salesman" Antero Arkkio Aalto University, "purchase team" from left to right Joonas Nikunen Metso Automation Oy, Jori Poikola ABB Oy Ab, Heikki Mesikä Konecranes Oyj, Hannu Ryttilä KONE Oyj and Pirkka Tukeva VTT.*



Experience provider wins in the market

KONE – PEOPLE FLOW

“Learn to recognise the end user’s needs,” says Vice President **Timo Pakarinen** at KONE Oyj about the way the industrial sector has to change its thinking patterns in order to succeed in the current markets. KONE, a highly technology-oriented company, is becoming a solution provider; instead of manufacturing lifts and escalators, its focus will be on managing people flow. The company vision is to provide the best possible user experience for lifts and escalators everywhere: in apartment buildings, shopping centres as well as skyscrapers for thousands of employees.

“If you sell just the product, the challenge is that the price is ultimately the only competitive advantages available to you”, he explains. In KONE, the user experience involves features such as a front door that recognises you and calls the lift for you. Or lifts in an office tower that learn how people

move in the building and decrease waiting times by being on the right floor at the right time. According to Pakarinen, security will become even more important than before. Homes for elderly people, for example, cannot be made more secure by locking doors but by a recognition system that helps people to move in the building.

STX – EXPERIENCE AT SEA

Another company that understands the importance of end users’ needs is STX Finland Oy, the builder of the biggest cruise ships in the world. “The challenge for shipping companies is to attract passengers aboard and the shipyard must be involved in this. We will not succeed by simply building steel boxes,” says **Janne Andersson**, Architecture Design for the STX Turku yard.

In this field, the value-creation chain is long; it is technology at one end, new experiences at the other. Currently cruise ships offer

nearly a hundred different passenger activities, or areas with a particular theme and service. Examples of these are surf simulators and bars that can be lifted from one deck to another. The entire service format, or the operating system for ships, is going through a development process; an example of this is the innovation made two decades ago – the car ferry with a promenade and all-familiar services.

The ship technology is getting more environmentally-friendly and the number of digital services is growing, but Andersson thinks cultural issues are the real challenge. The cruise business is expanding from the Caribbean and Europe to seas all over the world. “But there are still challenges, even in Europe”, says Andersson. “I do not think that the Germans, English and French would enjoy a similar ship when travelling in local waters.”

STEERING GROUP CHAIRMAN:

Service business

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