The future of collaborative research partnerships between universities and industry:

PPP in action - FIMECC Ltd.

EUIMA-Collaborative Research
Workshop 2 – TUT, Tampere, Finland

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www.fimecc.com
FIMECC in SHOK* - network

Research institutes
Universities

Industry

Energy & environment
(CLEEN Ltd.)

Built environment
(RYM Ltd.)

Forest cluster
(Forest Cluster Ltd.)

Metal products & mechanical engineering
(FIMECC Ltd.)

Information & communication industry and services
(TIVIT Ltd.)

Health & well-being
(SalWe Ltd.)

Public funding

Shareholders

* Strategic Centre for Science, Technology, and Innovation

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Medium Term Research Horizon

FIMECC scope

Applied Research Company group 1
Applied Research Company group 2
Applied Research Company group 3

NPD Project Company X/Y
NPD Project Company Z
NPD Project Company X/Y
NPD Project Company Y
NPD Project Company X/Z
NPD Project Company X
NPD Project Company X/Y/Z

Strategic Research Platform
Broad FIMECC cooperation
FIM ECC in the research environment

FIM ECC shareholders
SRA & steering groups

Other SHOKs* and clusters

Public funding

Co-oper.
Support

Non-exclusive, royalty free, non-transferrable IPR
Spin-off consortium projects
Company-specific NPD projects
Start-up businesses
Scientific & public contribution

Non-shareholders

Programs
Project 1
Project 2
Project N

Initiate
Prepare & Join
FIMECC’s Premise

To survive the impending international economic turbulence, companies must have strategic growth plans that capitalize on their unique knowledge of customers’ and markets’ technology needs to quickly create high-value sustainable solutions. Further, companies must find a way to rapidly grow to become Companies of Scale in order to ensure their survival.

In order to do so, companies will need new breakthrough processes, next generation materials and revolutionary services that change the game for industrial production. With an increasingly global world there is a need to collaborate inter-organizationally and cross-disciplinary in search for breakthrough and sustainable innovations.
FIMECC Value Proposition

Technology companies who wish to survive and prosper in the coming years of economic uncertainty, continuing globalization and increased focus on sustainability must find innovative ways of collaborating with customers and world-class technology leaders.

FIMECC will openly and globally collaborate with technology research and development partners to produce breakthrough service concepts, user experience, network management, intelligent solutions, and materials using Innovation Best Practices.

Benefits for participants
- Partnering creates unique combination of best-in-class skills
- Synergy of open innovation: Joining high innovation volume with low investment
- Shared innovation process allows direct communication with potential customers
- Non-exclusive royalty-free IP, which is non-transferrable

What if not?
- Attempt to “go alone” and cease exploring technology collaborations restricts development to “what you already know” and does not provide opportunity for multiplicative outcomes from multiparty technology collaborations.
- Who wants to miss opportunity to work with a consortium of over 100 B€ business?
Our Vision - Create a World Class Platform for Science Based Competitiveness

- FIM ECC will create
  - Application-driven research
  - International research networks
  - World-class scientific results
  - Globally leading competences in selected focus areas

- FIM ECC research is based on
  - Customer needs - demand pull
  - Ambitious targets and objectives
  - Open dynamic international cooperation and co-creation
Shareholders: Open for those interested!

Institutions
- Hanken School of Economics
- Helsinki School of Economics
- Helsinki University of Technology
- Hermia
- Lappeenranta University of Technology
- Laurea Univ. of Applied Sciences
- Metropolia Univ. of Applied Sciences
- Tampere University of Technology
- University of Art and Design Helsinki
- University of Jyväskylä
- University of Oulu
- University of Vaasa
- VTT Technical Research Centre of Finland
- Åbo Akademi

Industry
- ABB (Switzerland)
- Andritz (Austria)
- Boliden (Sweden)
- Cargotec (Finland)
- FIMA ry (Finland)
- Finn-Power (Italy)
- Konecranes (Finland)
- KONE (Finland)
- Kumera (Finland)
- Metso (Finland)
- Outokumpu (Finland)
- Outotec (Finland)
- Rautaruukki (Finland)
- Raute (Finland)
- STX (Korea)
- Tieto (Sweden/Finland)
Volume data (February 2011)

- Current volume of the eight launched programs
  - 240 M€, ca. 2 200 person years
  - 105 companies (including 50% SMEs)
  - 16 universities & research institutes

- Objectives before 2012
  - 300 M€ program base
  - To double the R&D intensiveness of metals and engineering sector (until 2015)
  - To create international innovation platform
Strategic research themes & program coverage

Service Business
OPEN SYSTEMS & PROCESSES
FutIS: Future industrial services (service design & production)

User Experience
USABILITY & INDUSTRIAL DESIGN
UXUS: User experience and usability in complex systems

Global Networks
SUPPLY & DEM AND CHAIN MANAGEMENT
I&N: Project business & decentralized innovation
GP4Variants: Series production network management

Intelligent Solutions
PRODUCTS & PROCESSES
EFFIM A: Energy efficiency of machines
ELEM ET: Energy efficient metal processes
BAT: Future automation systems

Breakthrough Materials
MATERIALS & PROCESSING
LIGHT: Product structures and material properties
DEM APP: Wear, corrosion, high-low temperatures, friction
ACTIFUN: New functional materials

High performance service concepts
Outstanding user experience
Efficient and flexible network structures
Leading solutions to pioneering customers
New materials that create new markets

Launched
To be launched in 2011
Program idea
What is the change in the Finnish innovation system (why SHOK)?

- **International cooperation in research is brought into a higher level**
  - Significant research cluster is attractive partner for global researchers

- **Private sector is given more responsibility on research strategy definition**
  - FIMECC is responsible for launching research themes
  - Open and cross-disciplinary approach will create new settings

- **Large companies as well as SM Es obtain improved funding opportunities**
  - Tekes funding decisions are made in theme rather than project level

- **Research institutions obtain improved opportunities for long-term research**
  - FIMECC offers increased long-term funding for research which meets academically and commercially high standards

- **Companies and public research institutes are brought into deeper cooperation**
  - FIMECC makes it possible to flexibly change personnel between participating organizations
Organization

FIM ECC Ltd.
Annual General Meeting (Shareholders)
Board of Directors

CEO (Office: CTO + assistant)

Service Business
steering
group
PM 1-n

User Experience
steering
group
PM 1-n

Global Networks
steering
group
PM 1-n

Intelligent Solutions
steering
group
PM 1-n

Breakthrough Materials
steering
group
PM 1-n

R&D Council Chairman: CTO
Principles

- No project can be part of research program...
  - ...if all shareholders have had no information in any phase of preparations
  - ...if less than two companies participate
  - ...if SG/BoD does not accept it against the decision making criteria
  - ...if the participants cannot sign FIM ECC IPR principles and consortium agreement

See: www.fimecc.com
PPP-experiences after two years

Positive
- Industrial enthusiasm
  - Boosted and synergic company pipeline for innovations
  - Easy entry to research for SMEs
  - Value network covering perspective
- Widened data access for researchers
- Increased interaction between all parties
  - New connections, new opportunities, new set-ups
- Willingness to invest in FIM ECC activity development
- Management system and agreement signing process established

Challenges
- Showing the results (not business-as-usual)
- Sharing the results (competition & IPR)
- Bureaucracy (still nothing compared to EU-projects!)