



CO-OPERATION BEATS COMPETITION IN R&D

Small and medium-sized enterprises (SMEs) face a number of disadvantages in the international market place compared to their big brothers, particularly when it comes to researching and developing the new products that keep them competitive. While SMEs may not be short of ideas, they often lack the finance or manpower to bring these ideas to fruition. In EUREKA project E! 1799 - EUCOPET - collaboration between competing SMEs is proposed as a new way forward. In order to prove that such an idea is feasible, four SMEs from the European heating industry are working together to both develop new products and market each other's existing technology. If successful EUCOPET could herald a major new way

for SMEs across Europe to get better results from R&D.

From joint selling to joint R&D

The idea for EUCOPET came up in conversation between two brothers. Stefan Kaiser is an Assistant Scientist in the Department of Engineering at the University of Dortmund, while his brother Wolfgang is the General Manager of Friedrich Freek, a heating element manufacturer with nearly 50 years' experience. According to the more academic brother Stefan: "Independent research shows that while 60% of SMEs may be engaged in some form of collaboration over sales, fewer than 17% collaborate in R&D.

For example, Friedrich Freek already has a positive sales relationship with three SMEs in the same industry, so to build a working R&D relationship on this foundation made sense."

Essentially EUCOPET will be a co-operation model for research and development between SMEs, and will include guidelines, methods and tools. On their own, SMEs are isolated from many potential markets, but together they can create virtual company networks that can access new markets by pooling resources and combining strengths. They also benefit from the fact that the research and development itself is driven by strong common interests and technical know-how.

Getting the psychology right

Research has shown that successful co-operation between competitors is highly dependent on a positive working environment. It is also obvious that when working with competitors some element of suspicion and fear of betrayal is inevitable. However, this can be quantified to some extent, and the risks can be minimised by taking motivation and qualifications into account when selecting partners.

EUCOPET therefore concentrates on the social and psychological side of collaboration, providing guidelines for designing co-operative processes and composing effective R&D teams. Risk and potential analysis tools are provided for general management. In particular a Motivation and Qualification System (MQS) has been developed at the University of Dortmund that will enable companies to analyse, evaluate and regulate projects as they proceed. Finally an alert system will control the 'co-operation climate'.

The two other key parts of EUCOPET are related to organisation and technology. The model includes co-ordination and work methods, and information on contractual arrangements. The technology side highlights topics such as the need for good communication systems, including an intranet, between the partners.

Four companies work on two ideas

The development of the model finished at the end of 1998 and EUCOPET is now being used by the four SMEs from the original sales collaboration: Friedrich Freek and KSG Gerätetechnik of Germany, Ceramicx Ireland, and the Italian company Euroheat. Ceramicx specialises in infrared engineering, Euroheat has 20 years' experience in the plastic industry making cartridge heaters and coiled tube heaters, while KSG's speciality is in quartz infrared emitters and mini-tubular coil heaters. Although the SMEs already knew each other, they opted to work under EUREKA's FACTORY umbrella.

Stefan Kaiser says, "In many ways EUCOPET is a project within a project, and as such is quite unusual. The EUREKA office in Germany was extremely helpful in advising us on how to frame the proposal, and it also provided the individual partners with vital government contacts for finding funds."

Drawing on their common background, the SMEs identified two specific projects for development using EUCOPET's collaboration methodology. The first is the development of a new mini-tubular coil heater. The second concentrates on benchmarking and standardising the complete range of products available from four SMEs so that together they can become a 'virtual' supplier. Work on both projects is expected to continue until February 2000.

The next phase will be for three research institutes to analyse the results and refine the model if required. In addition to the University of Dortmund, these are Entercom Consulting and Innovationstechnik im RIF. If all goes to plan, EUCOPET will be offered for sale to SMEs interested in setting up their own collaborative research projects. The current idea is to produce a EUCOPET CD-ROM that will contain all the necessary information, models and tools by the spring of 2000.

The model should be applicable to any group of competitive SMEs willing to sign and honour a confirmed R&D co-operation agreement.

Project Profile

E! 1799	
Acronym:	FACTORY-EUCOPET
Title:	Development and utilisation of a model of European research and development between co-operation between competing SMEs
Participants:	<i>Germany:</i> Friedrich Freek GmbH / KSG Gerätetechnik GmbH / University of Dortmund / Entercom Consulting / Innovationstechnik im RIF <i>Ireland:</i> Ceramicx Ireland <i>Italy:</i> Euroheat
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Estimated Cost:	1.73 million euro
End Date:	February 2000