4.5

This chapter will give a short description how the network was built up and has developed during the last 6 years. It will describe then the business model with concept and organization of the source network as also of the VF temporary organization for a specific customer demand. Then the VF temporary organization of a real business opportunity is shown in a more detailed manner with the internal order management system. At the end of the chapter an actual cluster project within of the source network will give some ideas about the source network development to the future. Success factors of the source network as also of the VF temporary organization are mentioned at the end of the article.

1. INTRODUCTION

The virtual factory (VF) in the north-western part of Switzerland is linking together of real companies for the purpose of entering new markets or realizing concrete projects that for the individual companies would not be possible in a profitable manner (Katzy, B. et al., 1996; Schuh G. et al., 1996). Co-operation is not new to industry, but in the past, companies were operating in a business environment of relatively stable markets. In recent time the economic pressure increased considerably and forced companies to establish cooperative structures. At the same time customers demand more complex products, enhanced services and the achievement of perfect logistic quality (Wiendahl, H.P. et al., 2002). Important competitive advantage in the network is the selection of appropriate partners and the efficient use of information technology in order to optimise inter-company communication (Plüss & Huber, 2003).

1 VO Breeding Environment
2. DEVELOPMENT OF THE VIRTUAL FACTORY

2.1 History
The VF Project was granted financial support by the Swiss CIM (Computer Integrated Manufacturing) Action Program (1997 to the end of 1998). In the starting phase, the project worked closely with the Institute for Technology Management (ITEM) at the University of St.Gallen. At the end of the two-year period, the network had developed its own dynamics to the extent that it was functioning independently and profitably. Since four years the network is a business network with no external financial support.

2.2 Products and services
Today the source network offers a broad spectrum of products and services and is therefore for customers more attractive than the individual SME (Plüss, A. & Huber, 2002). With its order orientation, the core competencies of the network partners are utilized efficiently and flexibly for a customer demand. At present, there are 37 companies in the network, employing a total of 3’000 employees. Their core competencies lie in the areas of design, engineering, mechanical processing, precision mechanics, sheet metal processing, metal working, surface treatments, heat treatments, fitting, welding techniques, plastics injection moulding, plastics working, electrical and electronic engineering. In the entire value chain, the VF offers total solutions and services for assemblies and sophisticated components and replacement parts. In future time the network want to offer more complex services.

3. DESCRIPTION OF THE SOURCE NETWORK

3.1 Relationship between Source network and VE temporary organization
Figure 1 describes the relationship between the Source network / Breeding environment of the Virtual Factory and the VE temporary organization of the Virtual Factory.

Figure 1 – Virtual Factory A) with the Source network / Breeding environment (B) and the VE temporary organization (C).