1. INTRODUCTION

Globalisation as the process of creating a common, worldwide and open market is one of the key features of the external environment of business systems today.

Globalisation as the result of the rapid development of information and communication technologies (fast access to accurate, reliable and adequately structured data), transport systems and consideration of common standards (which provide the worldwide comparability and compatibility of the products) (Westkamper, 1997) also allows the fusion of local and national markets into a global one and is one reason for partnership and integration between customers and suppliers, and cooperation or even mergers of previous competitors.

Unpredictability and changeability in the internal and the external environment, is experienced by enterprises as turbulence (Warnecke, 1993), and requires responsiveness and flexibility in the organisation and in the execution of processes as well.

Customer orientation and time needed to turn an idea into a final product are increasingly important elements of competitiveness. Quality, technical sophistication and price competitiveness of a product is no longer sufficient on the market. The product must be able to fulfil individual customer demands as reflected in the increasing individualisation of the production (economy of scope).

Information and knowledge are becoming strategic resources in addition to traditional ones, such as raw materials, energy and food, which used to be the basis of
progress of national economies for decades (Warnecke, 1993). Therefore, information and communication technologies can be considered today as strategic technologies, and knowledge is considered as the key capital of enterprises.

The rapid changes and development in the area of new materials, methodologies, technologies, and techniques (deep integration of customers and suppliers in the product life-cycle, network and virtual enterprises, project management, concurrent engineering, modern information systems, various approaches in the product development and design, new production and logistic concepts, new production paradigms, etc.) have resulted in a rapid reduction of development time, rising complexity and functionality and reduction of cost even in the most demanding products.

All the above features of a contemporary business environment require a restructuring of business processes, achievement of their efficiency and effectiveness, improvement of their management, their higher-level integration and automation, and reusability and redeployment of knowledge integrated in processes. Therefore, there is a need for an adequate description (modelling) of business processes, their analysis and knowledge capturing and redeployment techniques, tools and methodologies.

This chapter presents business process modelling as the response to the aforementioned requirements. The chapter starts with the introduction of the theoretical background of business process modelling (BPM), its basic concepts and different applications in the business environment.

Section 2 gives a definition of ‘business process’ and ‘business process model’ and presents a simple abstract model of artificial systems, which can be used to define different types of business processes and categories of process models. The section also discusses the relationships between models, modelling languages and modelling tools as defined in the GERAM framework (IFIP-IFAC, 2003). Furthermore, the application of CIMOSA (Section 2.5) and of Workflow Modelling languages is presented, as well as Workflow Management as a special application of BPM and Business Process Management (Section 2.6).

Section 3 discusses ISO9000:2000 standard requirements related to business process, as well as general guidelines and an interpretation of standard requirements regarding:

- the definition of business process interactions,
- the identification and differentiation of product realisation and support processes, and
- organisational, resource- and information models of the business enterprise.

Sections 4 and 5 discuss the application of BPM in the field of business process reengineering (BPR), as the role of BPM in Knowledge Management (KM). The authors believe that BPM is an important tool for KM in the business environment, through capturing informal knowledge in a pragmatic, formalised and structured form that could be disseminated and shared throughout the organisation.