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IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is about information processing may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

Luis M. Camarinha-Matos
Raimar J. Scherer (Eds.)

Collaborative Systems for Reindustrialization

14th IFIP WG 5.5 Working Conference
on Virtual Enterprises, PRO-VE 2013
Dresden, Germany, September 30 – October 2, 2013
Proceedings



Springer

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Preface

Collaborative Systems for Reindustrialization

The ongoing economic crisis, which is affecting many world regions, especially Europe, has led to an intensification of discussions around the needs for reindustrialization. After decades of industrial decline, due to deliberate policies that advocated an exclusive move toward a service-oriented society while neglecting the production of tradable goods, many countries are struggling with public and private belt-tightening measures that only accelerate the crisis spiral. Reindustrialization is the economic, social, and political process of organizing resources for the purpose of re-establishing / revitalizing industries in order to reinvigorate the economy.

What is the role of collaborative networks in this process? Collaboration is essential especially to small and medium enterprises in order to acquire critical mass, reach new markets, and leverage skills. But reindustrialization cannot simply follow the steps of the last century. New perspectives of industry are needed, as exemplified by current trends such as:

- Focusing on service-enhanced products
- Addressing the full life cycle of products, including refurbishing / retrofitting and recycling
- Taking on board the serious concerns of energy saving and reduction of ecological footprint
- Having a *glocal* perspective, and relying on co-innovation and co-evolution

Sustainability issues are clearly in the front row of these trends. Any effective solution in such direction imposes collaboration of multiple stakeholders organized in combinations of dynamic value chain networks. New collaborative systems need to be developed under a well-integrated sociotechnical perspective.

The extensive body of empiric knowledge and the size of the involved research community in collaborative networks provide the basis for leveraging the potential of new concepts and mechanisms in addressing big societal challenges and consolidating the scientific discipline on “collaborative networks.” This discipline is strongly multidisciplinary and thus the PRO-VE Working Conference is designed to offer a major opportunity to mix contributions from computer science, manufacturing, engineering, economics, management, or sociohuman communities. The selected theme for PRO-VE 2013 thus focused on crucial aspects to empower collaborative networks – an important contributor to a new generation of industrial systems.

PRO-VE 2013, held in Dresden, Germany, was the 14th event in a series of successful conferences, including PRO-VE 1999 (Porto, Portugal), PRO-VE 2000 (Florianopolis, Brazil), PRO-VE 2002 (Sesimbra, Portugal), PRO-VE 2003 (Lugano, Switzerland), PRO-VE 2004 (Toulouse, France), PRO-VE 2005

(Valencia, Spain), PRO-VE 2006 (Helsinki, Finland), PRO-VE 2007 (Guimarães, Portugal), PRO-VE 2008 (Poznan, Poland), PRO-VE 2009 (Thessaloniki, Greece), PRO-VE 2010 (St. Etienne, France), PRO-VE 2011 (São Paulo, Brazil), and PRO-VE 2012 (Bournemouth, UK).

This book includes a number of selected papers from the PRO-VE 2013 Conference, providing a comprehensive overview of identified challenges and recent advances in various collaborative network domains and their applications, with a particular focus on the support for reindustrialization. With this focus, this edition of the conference specifically emphasized collaborative network topics related to:

- Product-service ecosystems
- Innovation in networks
- Strategies to build collaborative networks
- Collaboration related processes and performance
- Models and meta-models of collaboration
- Cloud-based support to collaborative networks
- Collaboration platforms
- Services and service design
- Sustainable collaborative networks
- Event-driven collaborative networks
- Social-semantic enterprise
- Risks and trust

We would like to thank all the authors both from academia/research and industry for their contributions. We hope this collection of papers represents a valuable tool for those interested in research advances, emerging applications, and future challenges for R&D in collaborative networks. We also appreciate the dedication of the PRO-VE Program Committee members who helped with the selection of articles and contributed with their valuable comments to help authors in improving the quality of their work.

July 2013

Luis M. Camarinha-Matos
Raimar J. Scherer

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