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IFIP was founded in 1960 under the auspices of UNESCO, following the first World Computer Congress held in Paris the previous year. A federation for societies working in information processing, IFIP's aim is two-fold: to support information processing in the countries of its members and to encourage technology transfer to developing nations. As its mission statement clearly states:

> *IFIP is the global non-profit federation of societies of ICT professionals that aims at achieving a worldwide professional and socially responsible development and application of information and communication technologies.*

IFIP is a non-profit-making organization, run almost solely by 2500 volunteers. It operates through a number of technical committees and working groups, which organize events and publications. IFIP's events range from large international open conferences to working conferences and local seminars.

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 generally smaller and occasionally 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.

IFIP distinguishes three types of institutional membership: Country Representative Members, Members at Large, and Associate Members. The type of organization that can apply for membership is a wide variety and includes national or international societies of individual computer scientists/ICT professionals, associations or federations of such societies, government institutions/government related organizations, national or international research institutes or consortia, universities, academies of sciences, companies, national or international associations or federations of companies.

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José Ríos · Alain Bernard
Abdelaziz Bouras · Sebti Foufou (Eds.)

Product Lifecycle Management and the Industry of the Future

14th IFIP WG 5.1 International Conference, PLM 2017
Seville, Spain, July 10–12, 2017
Revised Selected Papers

Springer

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Preface

Product lifecycle management, also known as PLM, is an integrated business approach to the collaborative creation, management, and dissemination of engineering data throughout the extended enterprises that create, manufacture, and operate engineered products and systems. PLM is widely recognized as a key enabler for the industry of the future, since it plays two fundamental roles. Firstly, in the digital integration of processes along the industrial value chain, and secondly, as a source of true product-related data across the product entire lifecycle.

IFIP PLM 2017 marked the 14th anniversary of the conference, which continues its progress at an excellent rate both in terms of quality and quantity. The topics covered in the program include ontologies, knowledge and data models, product service systems approaches, new product development, modular design and products, cyber-physical systems, building information modelling (BIM), educational approaches to PLM, production process simulation, digital factory, CAX tools, knowledge creation and management, and studies on PLM maturity, adoption, and implementation.

The IFIP International Conference on Product Lifecycle Management (www.plm-conference.org) started in 2003 and since then it has been held yearly around the world and has facilitated the exchange and discussion of the most up-to-date information on product lifecycle management among professionals from academia and industry. This is the official conference of the IFIP Working Group WG 5.1 "Global product development for the whole lifecycle" (www.ifip-wg51.org), and IFIP PLM 2017 was held in Seville, Spain, during July 10–12, 2017.

One of the objectives of the conference is to provide a platform for experts to discuss and share their success in applying advanced concepts in their respective fields. The IFIP PLM 2017 conference included an outstanding technical program, with distinguished keynote speeches on current developments and future vision, with a special focus on the industry of the future, from Eratos Filos (European Commission), Prof. Rainer Stark (TU Berlin), Fernando Valdés (MINECO), Verónica Pascual (ASTI Technologies Group), Domingo Ureña (M&M), Víctor de la Torre (Fujitsu Lab. of Europe), and Andy Clark (Airbus), as well as two insightful visits to manufacturing facilities, AIRBUS A400M Final Assembly Line and RENAULT gearbox production line. The conference also offered a great opportunity to young and aspiring researchers to present their research proposals and ongoing work during a dedicated PhD Workshop on the preconference day. This regular workshop is designed to support students in their networking activities and help them build their future community.

In line with the conference scientific sessions, IFIP PLM 2017 aimed at encouraging innovation and exchange with industry and digital service providers. A full day was dedicated to industry applications, highlighting some efforts and initiatives related to industry digitalization, in particular, in the SME context (ASTI Technologies Group, M&M, TECNATOM, Integral PLM, Everis, Marlo Tech, Soltel, and Servinform).

This book, organized in 11 chapters, is composed of selected enhanced papers presented at the IFIP PLM 2017 conference. Submissions followed a double-blind peer-review process. From a total of 78 submissions, 64 of them were accepted to be presented at the conference. This book is part of the IFIP *Advances in Information and Communication Technology* (AICT) series that publishes state-of-the-art results in the sciences and technologies of information and communication.

In addition to this conference, the *International Journal of Product Lifecycle Management* (IJPLM) is the official journal of the WG5.1 (www.inderscience.com/ijplm).

On behalf of the conference, we thank all the authors, sessions' chairs, reviewers, and keynote speakers for their help and support in achieving a great conference. Our gratitude goes to the University of Seville (US), the AIRBUS factory at San Pablo, the RENAULT factory of Seville, the Computer Science Engineering School at US, the Department of Languages and Computer Systems at US, and our sponsors FIDETIA, FUJITSU, EVERIS, PRODETUR, and EXTENDA for their great support.

We hope this book serves as a step forward in this exciting area of PLM and we look forward to meeting you at the next PLM conference in Turin, Italy, during July 2–4, 2018 (www.plm-conference.org).

September 2017

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Contents

Ontologies, Knowledge and Data Models