

Preface

This volume set is a collection of the peer reviewed papers from the 3rd International Conference on Advances in Product Development and Reliability (PDR'2012), held during July 28-30, 2012, Wuhan, China. This conference series addresses the scientific and technological issues underlying increases in performance, reliability and life. Its remit embraces design and manufacturing aspects of product development and reliability, as well as operational life prediction and extension.

The development of innovative, reliable and material-efficient products is crucial to the survival and prosperity of modern corporations and societies in the increasingly integrated global economy. New methodologies, technologies and tools for product development and reliability are under active investigation, with especial attention focused on systemic, integrated and lifecycle perspectives. Alongside this, new materials with enhanced properties are being developed and the concept of intelligent structures is gaining ground. The attributes of such structures range across self-detection of damage to optimized material combination, properties and geometries that reflect multivariate design requirements at various positions and interfaces in the structure or product. PDR'2012 provided an international forum for academia and design, development and reliability practitioners to report and exchange leading-edge scientific knowledge and industrial experience in these areas.

The conference had a broad remit and focused on the development and reliability of consumer products as well as integrity, reliability and operation of engineering structures and systems. The conference papers cover several topics such as product development methodology; sustainable and green product development; system reliability; design optimization; reliability methodology and tools in design and manufacturing; collaboration theories and methodologies in product development; innovative product development processes and tools; product-service- systems; virtual and digital product development technique; product lifecycle management; structural reliability, safety, and integrity; supply chain management for product development; product operational reliability; product development policy and regulation; education and training in product development and reliability.

Delegates from academia, government and non-governmental organizations, research institutes and companies attended the conference and presented papers on the latest developments in research and application related to these areas.

The editors would like to express their deepest appreciation to professor P.G. Li, professor B.C. Wen, professor Z.T. Gao and professor Z.Y. Shen, the Honorary Advisory Committee and to the Scientific Committee for their help and support that were essential for making the conference a success. Special thanks are also due to members of the Conference Secretariat.

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Editors

L. Gao, W.D. Li, Y.X. Zhao, X.Y. Li

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