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"Industrial Design and Technology Development
Towards Global Challenge"

Jayakarta Hotel, Lombok, Indonesia
December 1st - 4th, 2010



Universitas Al Azhar Indonesia



Organized by:

Industrial Engineering Department

- » Esa Unggul University
- » Trisakti University
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ISIEM 2010

Proceeding of The 4th International Seminar on
Industrial Engineering and Management
(4th ISIEM)

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FOREWORD

This issue is published in line with the Fourth International Seminar on Industrial Engineering and Management (4th ISIEM). The theme to this seminar is Industrial Design and Technology Development Towards Global Challenge. The articles cover a broad spectrum of topics including **Quality Engineering and Management, Supply Chain Management, Operation Research, Decision Support System and Artificial Intelligence, Production System, Industrial management, Ergonomics**. The articles provide an overview of critical research issues reflecting on past achievements and future challenges.

We accepted full papers about 100 titles from Indonesia and abroad. Full papers were reviewed by peer reviewers and finally we published 88 titles. This issue and seminar become special as more delegates come and join from various country as well as universities. We host 79 delegates both from abroad and local.

First and second ISIEM are hosted only with three universities, namely Trisakti, Esa Unggul and Gunadarma Universities. The third hosted by 6 universities, namely Gunadarma, Esa Unggul, Trisakti, Atma Jaya Jakarta Catholic, Bina Nusantara and Petra Christian Universities. This year event, it's hosted by **seven** universities, i.e. Esa Unggul University, Atma Jaya Jakarta Catholic University, Gunadarma University, Trisakti University, Pasundan University, Al-Azhar Indonesia University, Petra Christian University.

In this occasion, let us give special thank to Mr. Ajay Verma (Vice President AP-South Dassault Systems India, Pvt. Ltd), Mrs. Ass. Prof. Dr. Dzuraidah Abd. Wahab from University Kebangsaan Malaysia. Your contribution to this seminar as reviewer and as keynote speakers makes this event more valuable. Allow us to thank Prof Dr. I Nyoman Pujawan from Sepuluh Nopember Institute of Technology Surabaya, Indonesia, and Dr. rer. nat Siana Halim, S.Si, M.Sc from Petra Christian University, Indonesia, for their contribution in workshop "How to write in International and National Accredited Journal". We are also grateful to all reviewers, for their commitment, effort and dedication in undertaking the task of reviewing all of the abstracts and full paper. Without their help and dedication. It would not be possible to produce this proceeding in such a short time frame.

We want to thank all those who submitted papers for review and those whose papers were chosen for presentation at the seminar and those who submitted manuscripts to published in this proceeding. We highly appreciate all members of committee director, steering committee and organizing committee for mutual efforts and invaluable contributions for the success of the seminar.

Finally, have intensive discussion in this seminar and enjoyable stay in Lombok

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