

PROCEEDING

ICoIESE 2017

*2017 International Conference on
Industrial, Enterprise, and
System Engineering*

28 November 2017
The Trans Luxury Hotel Bandung, Indonesia

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WELCOME MESSAGE

It is our privilege to welcome all presenters, participants, delegates, experts and scholars to the 1st International Conference on Industrial, Enterprise, and System Engineering (ICoESE-2017).

The support of enterprise application software (EAS) for day to day activities within one organization becomes crucial to the success of an organization. Enterprise Application Software (EAS) is computer software used to satisfy the needs of an organization rather than individual users. Such organizations would include industries, services, interest-based user groups, charities, or governments. New application developments have allowed organizations to not only improve the processes effectiveness and efficiencies for greater productivity, but have also provided businesses in order to cut costs, plan for the future, and maintain competitive advantage in the information era.

The 1st International Conference on Industrial, Enterprise, and System Engineering (ICoESE-2017) aims to bring together researchers, engineers and practitioners interested in the advances and business applications of information systems. Eight simultaneous tracks will be held, covering different aspects of Soft Computing and Data Mining, Information System, Software Engineering, Enterprise Architecture, Manufacturing System, Industrial and Supply Chain Management, Ergonomics and Human Factors, and Engineering Management. The tracks covered in ICoESE-2017 are expected to facilitate and drive innovative ideas for attaining better quality as well as solving real-world problems in enterprise.

This ICoESE-2017 is an activity organized by School of Industrial Engineering, Telkom University, Bandung, Indonesia. The conference co-technical sponsored by IEEE Indonesia Chapter. ICoESE-2017 held in conjunction with The IEEE Asia Pacific Conference on Wireless and Mobile 2017 (APWiMob-2017), organized and sponsored by the IEEE Communications Society Chapter Indonesia. Indeed, we are honored to host this event and would like to express our gratitude to authors which contribute to the numbers of accepted papers, which indicates a support from researchers throughout the globe.

The conference has attracted many local and international participants. We have received 105 submissions from 9 countries (including Indonesia, Malaysia, Germany, Poland, Taiwan, India, Japan, Pakistan, and The Netherlands). The ICoESE-2017 conference also presented two special sessions:

1. Information Reduction Using Rough Set Theory and Conditional Entropy by Prof. Dr. Mustafa Mat. Deris from Universiti Tun Hussein Onn Malaysia and;
2. Born Global Innovation – Towards Sustainable, Collaborative Innovation Processes Across Borders by Prof. Dr. Jan Martin Pawlowski from Business Information Systems at the Ruhr West University of Applied Sciences and Research Professor at the University of Jyväskylä, Finland.

Each paper submitted was screened by the proceeding's chairs and carefully peer-reviewed by 3 experts from Program Committee. Finally, only 46 papers with the highest quality and merit were accepted for oral presentation in this ICoESE-2017 and will be submitted to IEEE.

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Finally, we would like to express my sincere gratitude to the IEEE Indonesia Section. My thanks also go to Dean of School of Industrial Engineering, Telkom University especially to all committees for their utmost and kind support in organizing our very First International Conference on Industrial, Enterprise, and System Engineering.

Lastly but not least, I would like to thank you all again for being here. I hope your experience at this event would be both beneficial and memorable.

I wish the conference will be a recurrent event and Enjoy to visit Bandung!

Chair of ICoESE-2017
Dr. Irfan Darmawan

PROGRAM AT A GLANCE

The 1st International Conference on Industrial, Enterprise, and System Engineering (ICoESE-2017) aims to bring together researchers, engineers and practitioners interested in the advances and business applications of information systems. Eight simultaneous tracks will be held, covering different aspects of Soft Computing and Data Mining, Information System, Software Engineering, Enterprise Architecture, Manufacturing System, Industrial and Supply Chain Management, Ergonomics and Human Factors, and Engineering Management.

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Secretariat of the conference is located at Jl. Telekomunikasi Terusan Buah Batu No.1, Gedung Karang, Bandung, Jawa Barat 40257 Indonesia. The information of the conference accessible through official website of the conference in <https://icoiese.org/web/>.

The conference was held on 28 November 2017 at The Trans Luxury Hotel Bandung, Jawa Barat, Indonesia. Located at Jl. Jendral Gatot Subroto No.289, Cibangkong, Batununggal, Bandung City, Jawa Barat 40273. The conference attended by 46 participants, which presented their manuscript in oral presentation. The parallel session divided into 3 sessions and each session conducted in 3 rooms. One room consist of 5-8 participants, each participant presented their paper within 15 minutes, including question and answer session.

Following is the rundown:

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08.45 AM	SAFETY CONDUCT
09.00 AM	OPENING CEREMONY
09.10 AM	CONFERENCE REPORT Dr. Irfan Darmawan, Chair of ICoESE-2017
09.20 AM	OPENING REMARKS Prof. Dr. Mochamad Ashari, Rector of Telkom University
09.30 AM	ART PERFORMANCE
09.50 AM	KEYNOTE SPEECH-1 Prof. Dr. Mustafa Mat Deris from Universiti Tun Hussein Onn Malaysia
10.15 PM	KEYNOTE SPEECH-2 Jan Martin Pawlowski from Business Information Systems at the Ruhr West University of Applied Sciences and Research Professor at the University of Jyväskylä, Finland
10.45 AM	PARALLEL SESSION ANNOUNCEMENT
11.00 AM	PARALLEL SESSION 1
12.30 PM	LUNCH
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PROPOSED DESIGNING MAINTENANCE POLICY JET DYEING MACHINE USING LIFE CYCLE COST (LCC) AND OVERALL EQUIPMENT EFFECTIVENESS (OEE) IN PT.XYZ

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Abstract— PT. XYZ is one of the textile companies located in Majalaya, Bandung Region, West Java Province established since 1976. In the production process, one of the important roles is the process of dyeing. The dyeing machine K has the highest frequency of damage compared to other jet dyeing machine in the dyeing unit. In this case it is required the Life Cycle Cost (LCC) method to determine the number of maintenance set crews and the optimal retirement age of a machine. Another method used is the Overall Equipment Effectiveness (OEE) method to determine the performance and the level of effectiveness of a machine. Another thing done on the method of OEE is the determination of six big losses to determine what factors caused the value of OEE are low. Based on the LCC method it is obtained the lowest total LCC which is IDR 12,675,632,621 with a five years retirement age of the machine and the amount of the maintenance crews as many as 4 peoples. Based on the calculation of OEE method it is obtained OEE value Jet Dyeing K machine of 84.59%. These results are still less in order to meet the standards set by JIPM amounted to 85%.

Keywords—*Life Cycle Cost, Overall Equipment Effectiveness, Six Big Losses*

I. INTRODUCTION

In production activities, PT. XYZ has several units of production namely texture unit, weaving unit, dyeing unit, and finishing unit. To support the dyeing process, there are 17 jet dyeing machines that are operated for 24 hours in a day. The dyeing process is dyeing the fabric evenly by immersion. Dyeing machine that cannot operate will disrupt production processes and cause losses. To reduce losses due to the length of downtime experienced by machines in the dyeing unit, then the company performs preventive maintenance and corrective maintenance activities. Although the maintenance activities are currently considered not effective because the maintenance of the company does not calculate the age of the machine that can be seen from the record failure of jet dyeing machine.

Figure 1 is a breakdown of the total number of downtime hours in the dyeing unit that occurred since January 2010 until November 2016. A non-operating Jet Dyeing machine will disrupt production processes and cause the losses. To reduce the losses due to the length of downtime experienced by machines in the dyeing unit, the company performs the preventive maintenance and the corrective maintenance activities.

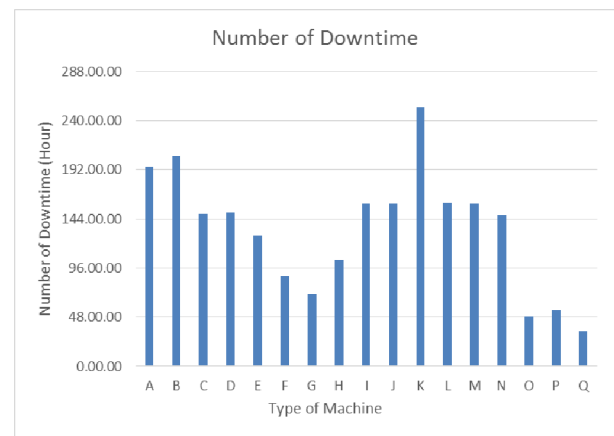


Figure 1. Downtime data of Jet Dyeing Machine in hours

In Figure 2 it can be concluded that the Jet Dyeing k machine has the highest frequency of damage when compared with other Jet Dyeing machines, that is 125 times, and then Jet Dyeing machine K is selected as the research object to be given solution regarding the maintenance policy. However, the maintenance activities are currently considered not effective because the maintenance of the company does not calculate the age of the machine that can be seen from the record failure of Jet Dyeing machine.

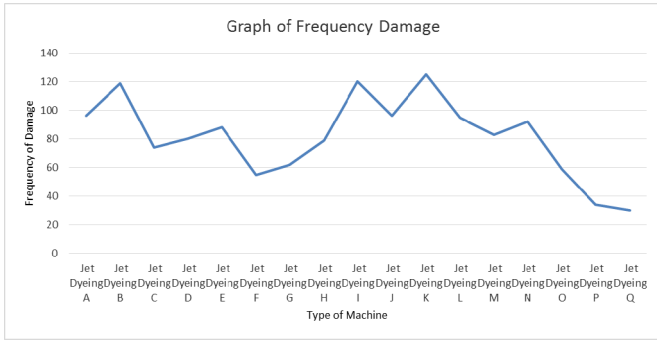


Figure 2. Frequency Graph of Jet Dyeing Machine Damage

Based on the problems which exist in PT. XYZ, the steps to prevent and overcome the problems are focused on the dyeing unit, Then an analysis will be conducted related to the cost approach, One of which is the Life Cycle Cost (LCC) method to determine the optimal machine life and the Overall Equipment Effectiveness (OEE) method to determine the level of effectiveness of the use of an equipment overall. Once machine effectiveness is known, the next step is to identify the problem causing the low productivity of equipment by looking at six big losses to find out what factors are most influential in decreasing the effectiveness of the machines that causes losses for the company.

II. LITERATURE REVIEW

A. Maintenance Management

Maintenance is defined as the activity that component or system defective will be returned/repaired under certain conditions at a certain period. In general, the maintenance system is classified as follows[1] :

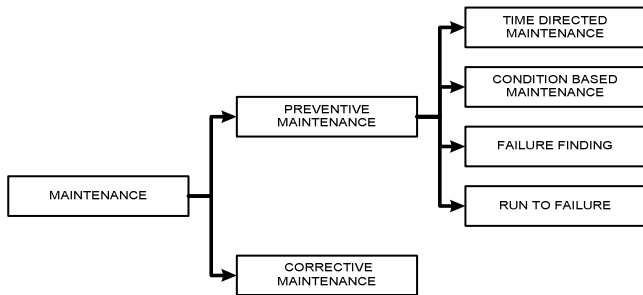


Figure 3. Classification of Maintenance activity[1]

B. Failure Rate Pattern

The basic pattern of decay rate function λ will change over time as a tool/machine operation. The curve rate of damage or called Bath tube-curve is a curve showing the rate of decay pattern that is common to a device. The rate of damage will follow a basic pattern as follows [2]:

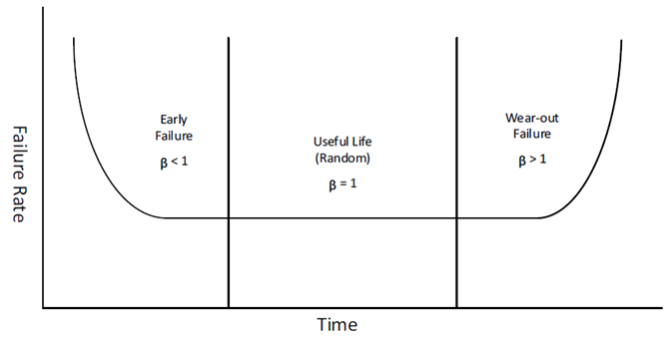


Figure 4. Reliability Bath Tub Curve[2]

From Figure 4 it is known that pattern of damage can be divided into three phases, namely:

- Phase Burn - In Period, at time $T_0 - T_1$: This phase describes the damage rate decreased with the addition of component operating time and has Weibull probability density function with a value of $\beta < 1$
- Phase Useful Life Period, at time $T_1 - T_2$: This phase illustrates the damage rate that is constant over time with the addition of the component operations and has exponential probability density function with a value of $\beta = 1$.
- Phase Wear - Out Period, at the time $T_2 - T_\infty$: This phase depicts the rate of damage increased with the addition of components operating time. This phase has a probability density function of the Normal and Weibull with a value of $\beta > 1$.

C. Life Cycle Cost

According to Blanchard and Fabricky et all [3], Life cycle cost is the sum of cost estimated from start to finish, both equipment and projects as determined by the analysis study and total expenditure estimates experienced during operated [5]. The purpose of the LCC analysis is to choose the most cost-effective approach for a series of alternatives that term cost of ownership (ownership) the shortest achieved. In this study, the problem is modeled through LCC approach, which is illustrated as follows:

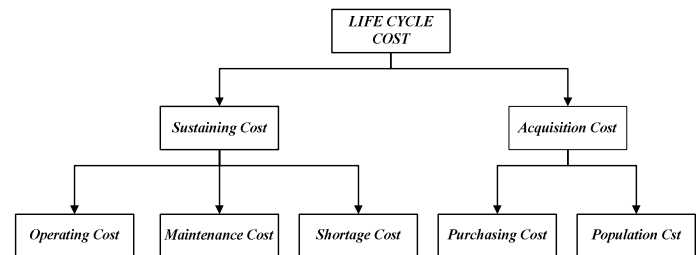


Figure 5. Life Cycle Cost Model [3]

D. Six big losses

Six Big Losses is the most common causes of equipment-based productivity loss in manufacturing. Measurements of machine/equipment effectiveness can be identified through the six big losses as follows[4]:

- Equipment failures**
Equipment failures are caused by equipment defects that require repair. Big losses include product opportunity loss, spare part loss, sporadic losses.
- Set-up and Adjustments**
Set-up and adjustments are caused by changes in operating conditions, such as product type turnover, change of working hours, adjustment of operating conditions.
- Idling and Minor Stoppages**
Idling and minor stoppages, due to sensor error or waiting for material/parts to come or be processed. Idling and minor stoppages are caused because the incident of the machine is stalled for a moment and idle.
- Reduced Speed Losses**
Reduced Speed Losses due to decreased engine speed, the engine does not work at its normal speed.
- Scrap and Re-work**
Scrap is caused because the resulting product is out of specification or defect during a normal production process, and the quality is bad.
- Start-up Losses**
Start-up Losses are caused by the length of time to adjust to normal conditions causing many rejects and scraps.

E. Overall equipment effectiveness (OEE)

Overall equipment effectiveness (OEE) is a product of six big losses in machinery / equipment [5]. The six factors in the six big losses as described above can be grouped into three main components in OEE to be used in measuring machine/equipment performance as follows, downtime losses, speed losses, and defect losses. OEE measures the overall effectiveness of the equipment by multiplying availability, performance rate, and rate of the quality product. The relationship among equipment, six big losses, and OEE calculations can be described as follows :

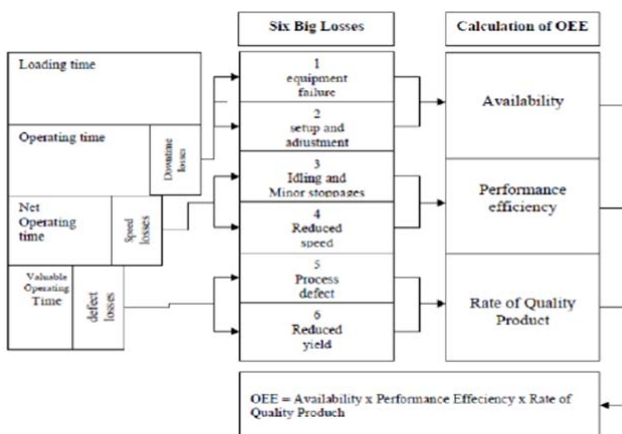


Figure 6. Equipment Relationships, Six Big Losses and OEE[5]

III. RESEARCH METHODOLOGY

Beginning with failure analysis of jet dyeing machine in dyeing unit, researching to get data time to repair (TTR) and time to failure (TTF). The next step is to determine the distribution parameters of the data and test the suitability of the distribution. After that, do the calculations to get Mean Time To Repair (MTTR) and Mean Time To Failure (MTTF). Calculate the total life-cycle cost so that it is obtained the proposed retirement age of the selected machine and maintenance crew optimal for doing maintenance. Overall Equipment Effectiveness (OEE) measures the overall effectiveness of the equipment by multiplying availability, performance rate, dan rate of the quality product. After getting the value of OEE will then do an analysis of six big losses for the company to know what factors of the six factors that have the greatest impact that resulted in a low level of effectiveness of the use of equipment or machine[6].

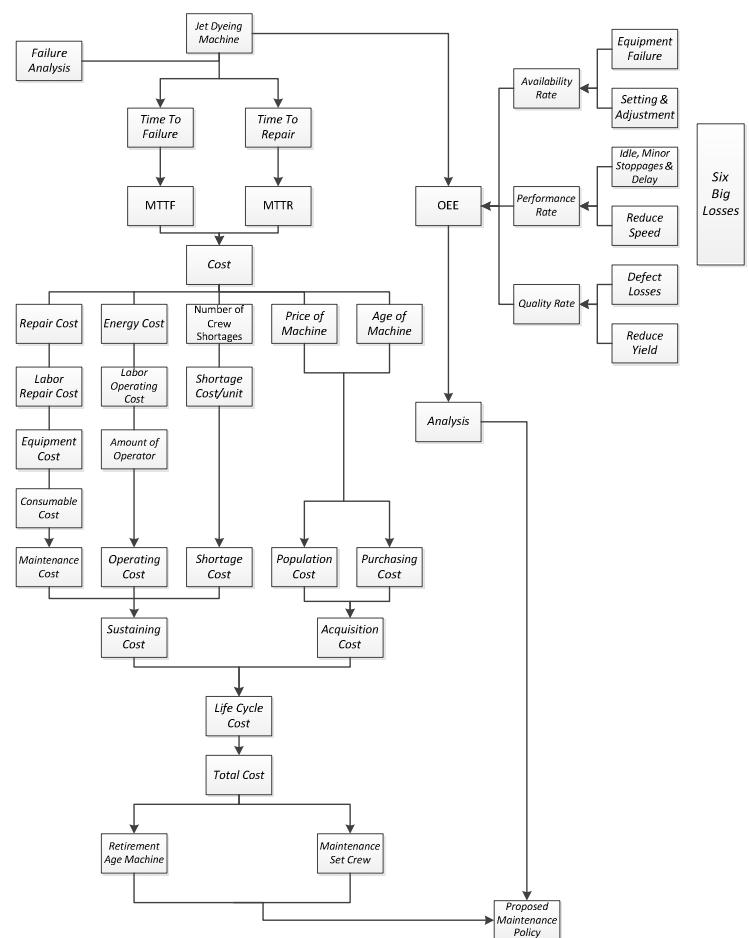


Figure 7. Conceptual Model

IV. RESULTS AND DISCUSSION

A. Life Cycle Cost

Life Cycle Cost calculation aims to determine the optimal maintenance crew and retirement age Jet dyeing machine that can be seen from the influence of the most cost-sensitive variables[7]. After performing calculations consisting of annual operating cost, annual maintenance cost, probability calculation of queue on each maintenance crew, determining the number of units less, annual shortage cost, annual sustaining cost, annual purchasing cost, book value, annual population cost, and annual acquisition cost then it is got the total life-cycle cost from Jet Dyeing K machine at PT. XYZ in which the lowest cost is IDR.12,675,632,621. In addition, the optimal retirement age for the Jet Dyeing K machine is 5 years, and the optimal number of crew maintenance sets is 1 set. Details 1 set of maintenance crew there are 4 people as mechanical staff.

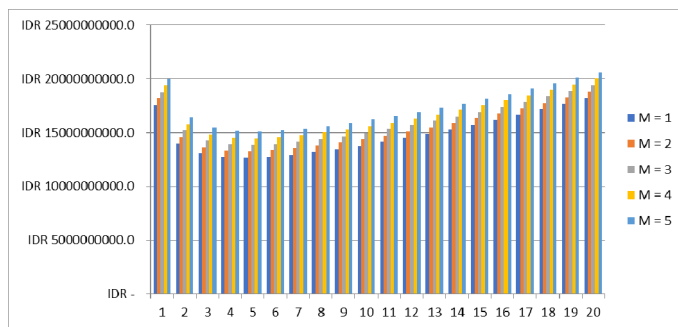


Figure 8. Life Cycle Cost

B. Overall Equipment Effectiveness (OEE)

Based on the OEE calculation of Jet Dyeing K machine in 2016, OEE value is 84,6%. The result is still less than 0.40% to meet the standard set by JIPM that is 85%. Details of the multiplication of the availability, performance rate, and rate of quality are as follows :

$$OEE = 99,25\% \times 86,97\% \times 98,01\% = 84,6\%$$

C. Six Big Losses

In six big losses, calculations such as downtime losses, speed losses, and quality losses are obtained. The percentage of total six big losses based on figure 9 is as follows :

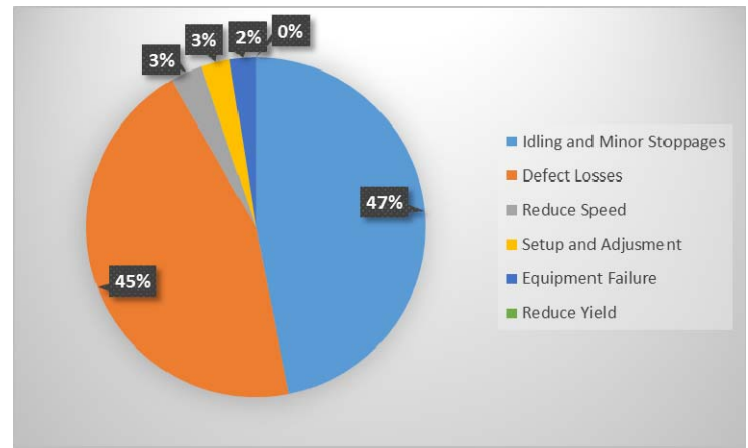


Figure 9. Six Big Losses

V. CONCLUSION

Based on the calculation, then it is got the total life-cycle cost from Jet Dyeing K machine at PT. XYZ with the lowest cost of Rp. 12,675,632,621. The calculation results use the life-cycle cost method, then the optimal retirement age of Jet Dyeing K machine is 5 years, and the number of optimal maintenance crew set is many as the 1 set. Detail 1 set of maintenance crew there are 4 people from mechanical staff. Based on the OEE calculation of Jet Dyeing K machine in 2016, the OEE value is 84.6%. The result is still less than 0.40% to meet the standard set by JIPM that is 85%. The cause of the problem of the dominant six big losses factor is that too many Jet Dyeing K machines stop repeatedly and too often the machines do not work due to idle and minor stoppages. In addition, the other cause has reduced speed, which means the actual production speed of the engine is reduced compared to the standard machine speed. Furthermore, in order to minimize losses, the company must perform more detailed and complete damage records for each component on the machine, Recording of costs associated with the repaired machine for more details, repair activities were undertaken and costs incurred and recording of machine history to be able to distinguish between downtime and repair time.

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This is to certify

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————— 28 NOVEMBER 2017 —————

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A stylized black ink signature of Dr. Irfan Darmawan is written over a large, light blue "ICoIESE" watermark.

Dr. Irfan Darmawan
Chair of ICoIESE 2017

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PREFACE

It is our privilege to welcome all presenters, participants, delegates, experts and scholars to the 1st International Conference on Industrial, Enterprise, and System Engineering (ICoESE-2017).

The support of enterprise application software (EAS) for day to day activities within one organization becomes crucial to the success of an organization. Enterprise Application Software (EAS) is computer software used to satisfy the needs of an organization rather than individual users. Such organizations would include industries, services, interest-based user groups, charities, or governments. New application developments have allowed organizations to not only improve the processes effectiveness and efficiencies for greater productivity, but have also provided businesses in order to cut costs, plan for the future, and maintain competitive advantage in the information era.

The 1st International Conference on Industrial, Enterprise, and System Engineering (ICoESE-2017) aims to bring together researchers, engineers and practitioners interested in the advances and business applications of information systems. Eight simultaneous tracks will be held, covering different aspects of Soft Computing and Data Mining, Information System, Software Engineering, Enterprise Architecture, Manufacturing System, Industrial and Supply Chain Management, Ergonomics and Human Factors, and Engineering Management. The tracks covered in ICoESE-2017 are expected to facilitate and drive innovative ideas for attaining better quality as well as solving real-world problems in enterprise.

This ICoESE-2017 is an activity organized by School of Industrial Engineering, Telkom University, Bandung, Indonesia. The conference co-technical sponsored by IEEE Indonesia Chapter. ICoESE-2017 held in conjunction with The IEEE Asia Pacific Conference on Wireless and Mobile 2017 (APWiMob-2017), organized and sponsored by the IEEE Communications Society Chapter Indonesia. Indeed, we are honored to host this event and would like to express our gratitude to authors which contribute to the numbers of accepted papers, which indicates a support from researchers throughout the globe.



The conference has attracted many local and international participants. We have received 105 submissions from 9 countries (including Indonesia, Malaysia, Germany, Poland, Taiwan, India, Japan, Pakistan, and The Netherlands). The ICoIESE-2017 conference also presented two special sessions:

1. Information Reduction Using Rough Set Theory and Conditional Entropy by Prof. Dr. Mustafa Mat. Deris from Universiti Tun Hussein Onn Malaysia and;
2. Born Global Innovation – Towards Sustainable, Collaborative Innovation Processes Across Borders by Prof. Dr. Jan Martin Pawlowski from Business Information Systems at the Ruhr West University of Applied Sciences and Research Professor at the University of Jyväskylä, Finland.

Each paper submitted was screened by the proceeding's chairs and carefully peer-reviewed by 3 experts from Program Committee. Finally, only 46 papers with the highest quality and merit were accepted for oral presentation in this ICoIESE-2017 and will be submitted to IEEE.

IEEE Conference Record Number : #41400

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XPLORE COMPLIANT	CFP17UWF-ART	978-1-5386-2979-6
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Finally, we would like to express my sincere gratitude to the IEEE Indonesia Section. My thanks also go to Dean of School of Industrial Engineering, Telkom University especially to all committees for their utmost and kind support in organizing our very First International Conference on Industrial, Enterprise, and System Engineering.

Lastly but not least, I would like to thank you all again for being here. I hope your experience at this event would be both beneficial and memorable.

I wish the conference will be a recurrent event and Enjoy to visit Bandung!

Chair of ICoIESE-2017
Dr. Irfan Darmawan



PROGRAM

Time	Activity
08.00 AM	REGISTRATION
08.45 AM	SAFETY CONDUCT
09.00 AM	OPENING CEREMONY
09.10 AM	CONFERENCE REPORT Dr. Irfan Darmawan, Chair of ICoESE-2017
09.20 AM	OPENING REMARKS Prof. Dr. Mochamad Ashari, Rector of Telkom University
09.30 AM	ART PERFORMANCE
09.50 AM	KEYNOTE SPEECH-1 Prof. Dr. Mustafa Mat Deris from Universiti Tun Hussein Onn Malaysia
10.15 PM	KEYNOTE SPEECH-2 Jan Martin Pawlowski from Business Information Systems at the Ruhr West University of Applied Sciences and Research Professor at the University of Jyväskylä, Finland
10.45 AM	PARALLEL SESSION ANNOUNCEMENT
11.00 AM	PARALLEL SESSION 1
12.30 PM	LUNCH
01.30 PM	PARALLEL SESSION 2
03.00 PM	COFFEE BREAK
03.30 PM	PARALLEL SESSION 3
07.00 PM	CLOSING Conference Gala Dinner, Best Paper Awards, Photo Session.



KEYNOTE SPEAKERS



Prof. Dr. Jan Martin Pawlowski
Institute of Computer Science
Ruhr West University of Applied Sciences
Mülheim an der Ruhr, Germany

**Title: Born Global Innovation – Towards Sustainable,
 Collaborative Innovation Processes Across Borders**

Prof. Dr. Jan Martin Pawlowski is Professor in "Business Information Systems", Institute of Computer Science, Ruhr West University of Applied Sciences, Germany. Born in 1971, originally from Essen, Germany. Masters' Degree and Doctorate in Business Information Systems (University of Duisburg-Essen).

Before joining Ruhr West University of Applied Sciences, he was joined as Professor in "Digital Media", Department of Computer Science and Information Systems, University of Jyväskylä, Finland since December 2009. His specialization on "Global Information Systems". This includes the research coordination of several national and European projects. Main research interests and activities are in the field of Global Information Systems, E-Learning, Modelling Learning-related Processes, Procedural Models, Learning Technology Standardization, Quality Management and Quality Assurance for Education, and Mobile / Ambient Learning. Actively involved in research organizations (AACE, GI, IEEE) and in standardization organizations (DIN, CEN, ISO/IEC JTC1 SC36).

**Abstract:**

How can we develop innovation in the global context? Can we find sustainable models for collaborative innovation across the globe? These are the key questions for researchers and practitioners in enterprises and universities. The presentation will shed light on current research trends and future challenges which can only be addressed on a global scale.

Innovation is a key to success of organizations and societies - different forms of innovation processes are suitable for different contexts such as frugal innovation for less developed countries. In most cases, researchers and product developers compete for new products and faster product lifecycles. However, innovation can be more fruitful for all, individuals, organizations and societies when executed in a collaborative way. As a starting point, the presentation proposes a new form of innovation: born-global innovation.

Born-global innovation describes a partly open innovation process which aims at parallel innovation processes in different countries and markets to increase time-to-market and outreach/scale of innovations. To successfully initiate these processes, trust building and idea creation is a key. The main barriers to born-global innovation as well as possible solutions and future research issues will be discussed.



Prof. Dr. Mustafa Bin Mat Deris
Faculty of Computer Science and IT
Universiti Tun Hussein Onn Malaysia (UTHM)
Johor, Malaysia

Title: Information Reduction Using Rough Set Theory and Conditional Entropy

Mustafa Mat Deris received PhD from University Putra Malaysia in 2002. He is a professor of computer science in the Faculty of Computer Science and Information Technology, UTHM, Malaysia. He has successfully supervised six PhD students and currently he is supervising nine PhD students and published more than 170 papers in journals and conference proceedings. He has appointed as editorial board member for Journal of Next Generation Information Technology, JNIT, Korea, and Encyclopedia on Mobile Computing and Commerce, Idea Group, USA, Guest editor of International Journal of BioMedical Soft Computing and Human Science for Special Issue on “Soft Computing Methodologies and Its Applications” a reviewer of several international journals such as IEEE Transaction on Parallel and Distributed Computing, Journal of Parallel and Distributed Databases, Journal of Future Generation on Computer Systems, Elsevier, Journal of Cluster Computing, Kluwer, and Journal of Computer Mathematics, Taylor & Francis, UK.

He has served as a program committee member and co-organizer for numerous international conferences/workshops including Grid and Peer-to-Peer Computing, (GP2P 2005, 2006), Autonomic Distributed Data and Storage Systems Management (ADSM 2005, 2006, 2007), and Grid Pervasive Computing Security, organizer for workshops on Rough and Soft Sets Theories and Applications (RSAA 2010), Fukuoka, Japan, and Soft Computing and Data Engineering (SCDE 2010, 2011), Korea.

His research interests include distributed databases, data grid, data mining and soft computing.

**Abstract:**

The growing size of data is a new challenge to discover knowledge in order to support the decision-making process. Another important reason is that, to find rules to support the process of data classification based on users' need is computationally intensive. With the growing of data the information size becomes growing elsewhere. However, some information comprises of redundant records/ elements that can be reduced in order to improve the efficiency of processing. Several techniques have been proposed to reduce records only but not both records and attributes. The classical rough set theory has been used in analyzing complete information systems, where all attribute values are available to all objects. With this capacity, the presentation would like to propose an approach by means of rough set theory for record reduction and conditional entropy for attribute reduction that can reduce the processing time, and at the same time does not jeopardize the accuracy of the decision process. Another important issue is that some information systems are incomplete where some attribute values are not available or missing. Subsequently, the attribute selection is one of the main problems in incomplete information systems. Only few studies were proposed for the attribute selection problem in incomplete information systems due to its complexities, specifically on attribute selection. Thus, this is another challenge in order to come out a new technique/approach that would be able to solve the issues.



PARALLEL SESSION 1
28 November 2017 – 11.00 AM

Chair : Amelia Kurniawati
Room : Room 1
Time : 11.00 AM – 12.30 PM
Track : Engineering Management
Manufacturing System

Time	Title and Author
11.00 AM	Applying An Overlapped Design Schedule Based Dependency Structure Matrix to Minimize Project Makespan <i>Chao Ou-Yang and Indy Cesara</i>
11.15 AM	An Analysis of Core Competencies and Business Performance in Software SMEs : A Conceptual Framework <i>Atya Nur Aisha, Iman Sudirman, Joko Siswanto, Yassierli</i>
11.30 AM	Performance Appraisal Design Using 360 Degree Feedback at University X <i>Deniar Yudithama, Fida Nugraha and Devi Pratami</i>
11.45 AM	On the Relationship of Travel Time and Energy Efficiency of Industrial Robots <i>Kai Eggers, Zygimantas Ziukas, Jens Kotlarski, and Tobias Ortmaier</i>
12.00 PM	Proposal of Maintenance Policy on Barmag FK6800 Machine in Yarn Company Using Reliability-Centered Maintenance and Risk-Based Maintenance Method <i>Irsalina Maharani, Fransiskus Tatas Dwi Atmaji, and Nopendri</i>



Chair : Augustina Asih Rumanti
Room : Room 2
Time : 11.00 AM – 12.30 PM
Track : Ergonomic and Human Factor
Industrial System and Supply Chain Management

Time	Title and Author
11.00 AM	Design of Teas Steering Stick At Milling Work Station Using User Centered Design Approach <i>Mira Rahayu</i>
11.15 AM	Design Tool for Tea Cutting Machine at PT Perkebunan Nusantara VIII to Reduce Musculoskeletal Disorders using Ergonomic Function Deployment (EFD) <i>Mira Rahayu and Muhamad Adhi Guna Dwyantoro</i>
11.30 AM	Behavior Proportion According to Merapi Volcano Eruption Evacuations in 2010 <i>Dwi Handayani, Bertha Maya Sopha, Budi Hartono, M. Kusumawan Herliansyah</i>
11.45 AM	Low Cost Electronic Seal for Tanker Truck in Indonesia <i>Ahmad Musnansyah and Bernando Arianto</i>
12.00 PM	S-ERP System: Sustainability Indicators Development <i>W.H. Wan Mahmood, Z. Ebrahim, M.S. Hasan, Z. Ebrahim, and M.N. Ab Rahman</i>



Chair : Wojciech Macyna
Room : Room 3
Time : 11.00 AM – 12.30 PM
Track : Information System

Time	Title and Author
11.00 AM	Information System Planning for Emerging Start-up Company: A Case from Software House <i>Rayinda Pramuditya Soesanto, Wawan Tripiawan, Afrin Fauzya Rizana, Amelia Kurniawati and Fadillah Ramadhan</i>
11.15 AM	Web Application Design Based on Single Page Application to Increase Website Performance on Rumantara <i>Ilham Farobi, Soni Fajar Surya Gumilang and Muhammad Hasibuan</i>
11.30 AM	Web-based Food Delivery Management System (Focus to User Admin and Financial Organization Division) <i>Soni Fajar Surya Gumilang, Nia Ambarsari, and Mei Dina Isti Nurmala</i>
11.45 AM	Application of Risk IT Based on ISO 31000 Standards Process Capability Assessment Model Case Study: Andalas University <i>Mohammad Hafiz Hersyah and Kridanto Surendro</i>
12.00 PM	Information System Strategy and Application Governance in Bandung Government District <i>Heru Nugroho and Soni Fajar Surya Gemilang</i>
12.15 PM	Theoretical Lenses in Information Communication Technology for Development Research <i>Luthfi Ramadani</i>



PARALLEL SESSION 2
28 November 2017 – 01.30 PM

Chair : Ahmad Musnansyah
Room : Room 1
Time : 01.30 PM – 03.00 PM
Track : Manufacturing System

Time	Title and Author
01.30 PM	Proposed Designing Maintenance Policy Jet Dyeing Machine Using Life Cycle Cost (lcc) And Overall Equipment Effectiveness (oeo) In PT.XYZ <i>Akbar Perwira Wibowo, Fransiskus Tatas Dwi Atmaji and Endang Budiasih</i>
01.45 PM	Design of Automation System for Ceramic Surface Quality Control Using Artificial Neural Network At Balai Besar Keramik Puspita Ayu Lestari, Haris Rachmat, Mohd. Rasidi Ibrahim, and Denny Sukma Eka Atmaja
02.00 PM	Integrating Entropy and Taguchi Loss function for Accessing Waste Risk in Modified FMEA <i>Agung Sutrisno, Iwan Vanany, Indra Gunawan, and Mohammad Asjad</i>
02.15 PM	Optimizing Woven Fabric Defect Detection Using Image Processing and Fuzzy Logic Method at PT. Buana Intan Gemilang <i>Ratna Safitri and Tatang Mulyana</i>
02.30 PM	Inventory Control Policy for Farm Out Part on Overhaul Worksopce at Cold Section Module CT 7 Engine with Periodic Review (R, s, S) and (R, S) <i>Pratya Suryadhini</i>
02.45 PM	Non-cooperative Solution on Government Subsidy Model for Public Transportation (Case Study Damri) <i>Yuza Bayuzetra and Hennie Husniah</i>



Chair : Norisma Idris
Room : Room 2
Time : 01.30 PM – 03.00 PM
Track : Soft Computing and Data Mining

Time	Title and Author
01.30 PM	Flash-aware Clustered Index for Mobile Databases <i>Wojciech Macyna and Michal Kukowski</i>
01.45 PM	Latent Dirichlet Allocation modeling for CPS patent topic discovery <i>Usharani Hareesh Govindarajan, Amy Trappey and Gopal Kumar</i>
02.00 PM	Decisive Criteria on Financial Literacy Using Rough-Regression Model for University Students <i>Riswan Efendi, Mustafa Mat Deris and Susnaningsih Muat</i>
02.15 PM	Self-Adaptive Cyber Security System <i>Aradea Aradea, Iping Suwardi, Kridanto Surendro, Husni Mubarak and Irfan Darmawan</i>
02.30 PM	Self-Adaptive Load Balancing System for Grid Computing <i>Irfan Darmawan and Aradea Aradea</i>
02.45 PM	Clustering of User Query in Search engine on Indonesian E-Commerce by used AD-OPTICS Algorithms <i>Ranita Windriani, Ibnu Asror and Dana Sulistyo Kusumo</i>



Chair : Fakroul Ridzuan hashim
Room : Room 3
Time : 01.30 PM – 03.00 PM
Track : Information System

Time	Title and Author
01.30 PM	Extending the UTAUT model to understand the citizens' acceptance and use of electronic government in Developing Country: A structural equation modeling approach <i>Deden Witarsyah Jacob and Irfan Darmawan</i>
01.45 PM	Group-centered framework toward a positive design of digital collaboration in global settings <i>Irawan Nurhas, Jan M Pawlowski, Stefan Geisler, Maria Kovtuneneko and Bayu Aditya</i>
02.00 PM	AcadEvent: Recommender System for Academic Events <i>Wan Siti Nur Aiza Wan Othman, Liyana Shuib, and Nur Baiti Afini Normadhi</i>
02.15 PM	Development of Project Document Management System based on Data Governance with DAMA International framework <i>Hanung Nindito Prasetyo, Regina Nathania Djepapu, Ferra Tridalestari, and Irman Hariman</i>
02.30 PM	Localized Island Model Genetic Algorithm in Population Diversity Preservation <i>Alfian Akbar Gozali and Shigeru Fujimura</i>
02.45 PM	Privacy Protection and Role of Technology: Citizen Perception on Electronic Voting Initiative <i>Muharman Lubis and Tien Fabrianti Kusumasari</i>



PARALLEL SESSION 3
28 November 2017 – 03.30 PM

Chair : Muhammad Azani Hasibuan
Room : Room 2
Time : 03.30 PM – 05.00 PM
Track : Soft Computing and Data Mining
Software Engineering

Time	Title and Author
03.30 PM	Heart Abnormality Prediction Using MLP based Logsig Activation Function <i>Yulni Januar, Fakroul Ridzuan hashim, Muhamad Hadzren Mat, Anis Shahida Niza Mokhtar, Khairol Amali Ahmad, and Masrullizam Mat Ibrahim</i>
03.45 PM	Explicit and Implicit Aspect Extraction using Whale Optimization Algorithm and Hybrid Approach <i>Mohammad Tubishat and Norisma Idris</i>
04.00 AM	Analysis Opinion Mining With Combining Lexicon Based Method and Multinomial Naive Bayes <i>Geriska Isabelle, Warih Maharani and Ibnu Asror</i>
04.15 AM	A Comparison of Naïve Bayes and Bayesian Network on the Classification of Hijaiyah Pronunciation with Punctuation Letters <i>A Adiwijaya, Annisa Riyani and Mohamad Syahrul Mubarak</i>
04.30 PM	Model Tree with Modified L1 Loss Function for Predicting Missing Attendance Data of Faculties <i>Mohammad Arif Rasyidi and Rachmadita Andreswari</i>
04.45 PM	Cost-Based Storage of the R-tree Aggregated Values over Flash Memory <i>Wojciech Macyna and Krzysztof Majcher</i>
05.00 PM	Face Recognition Using Local Binary Pattern (LBP) and Local Enhancement (LE) Methods At Night Period <i>Abdurrahman F.I, Muhammad Nasrun, and Casi Setianingsih</i>



Chair : Tien Fabrianti Kusumasari
Room : Room 3
Time : 03.30 PM – 05.00 PM
Track : Information System

Time	Title and Author
03.30 PM	Factors That Influence An Academic Institution's Intention To Accept CloudIoT: A Proposed Framework <i>Ali Ireda, Mohammed Awadh Ben- Mubarak, and Abudhahir</i>
03.45 PM	OLAP Cube Processing of Production Planning Real-life Event Log: A Case Study <i>Rachmadita Andreswari and Mohammad Arif Rasyidi</i>
04.00 AM	High Imperceptible Copyright Protection Adaptive Wavelet for Security <i>Irma Safitri</i>
04.15 AM	High Security Adaptive BCH Code Discrete Wavelet Transform Copyright Protection <i>Irma Safitri</i>
04.30 PM	Copyright Protection High Robustness Arnold Transform Wavelet Method <i>Bruguiera A. F. Agradiya, Irma Safitri, Ledya Novamizanti, and Muhammad Ainul Yaqin</i>



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VISITING BANDUNG

Bandung is the capital of West Java province in Indonesia and Indonesia's third largest city by population, with over 2.4 million, and Greater Bandung made up of 2 municipalities and 38 districts, making it the nation's 2nd largest metropolitan area with 6,965,655 inhabitants at the 2010 census. Located 768 metres (2,520 ft) above sea level, approximately 140 kilometres (87 miles) south east of Jakarta, Bandung has cooler temperatures year-round than most other Indonesian cities. This city is served by the Husein Sastranegara Airport. The city lies on a river basin surrounded by volcanic mountains. This topography provides a good natural defense system, which was the primary reason for the Dutch East Indies government's plan to move the colony capital from Batavia to Bandung.



Transport

Where are you come from? if you from several foreign country you can use airplane directly to Bandung's Hussein Sastranegara Airport or via Soekarno Hatta International Airport, Jakarta.

For land transport option, many way are available. Buses, trains, or by car. By land you can reach Bandung within 2 hours (estimated by 150kms direct highway) or faster from Jakarta.



Malaysia, Singapore, and several countries has regular flight to Bandung. Besides international flight, Bandung's airport serve flights to and from other major cities in Indonesia, like Jakarta, Surabaya, Semarang, Denpasar, Sampit.

To see train schedule to or from Bandung, try this useful link: <https://tiket.kereta-api.co.id/>.

Attraction

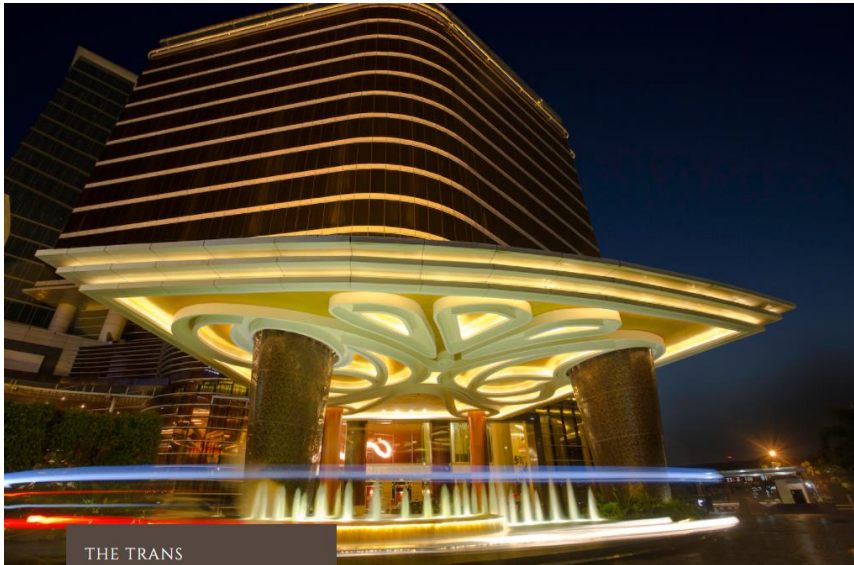
Courtesy of: Bandung Tourism. <http://www.bandungtourism.com/todo.html>

1. Amusement and Theme Park
Bandung Tree top, Kampung Gajah, Rumah Sosis, Taman Ade Irma Suryani (Taman Lalu Lintas), Trans Studio Bandung.
2. Art Culture
Angklung, Barongsai, Benjang, Calung, Celempungan, Cianjuran, Degung, Kacapian, Kasidahan, Pencak Silat, Reog, Saung Angklung Udjo, Wayang Golek
3. Mall And Shopping Center
Bandung Indah Plaza, Bandung Trade Center, Braga City Walk, Carrefour, Cihampelas Walk, Festival CityLink, Bandung Electronic Centre, Istana Plaza, Paris Van Java, Pasar Baru Trade Center, Trans Studio Mall
4. Museum, Education, & Historical Architecture
Bank Indonesia, Denis Bank Building, Gedung Sate Bandung, Gedung Tiga Warna, Gereja Katedral Santo Petrus, Jalan Braga, Kelenteng Satya Budhi, Mesjid Raya Bandung, Monumen Bandung Lautan Api, Monumen Perjuangan Rakyat Jawa Barat, Museum Barli, Museum Geologi, Museum Konferensi Asia Afrika, Museum Mandala Wangsit Siliwangi, Museum Pos, Museum Sri Baduga, Pura Agung Wira Loka NathaSundial, Villa Isola
5. Nature & Sightseeing
Caringin Tilu Ciater, Curug Dago, Curug Omas, Gelanggang Renang Karang Setra, Goa Belanda, Goa Jepang, Kampung Wisata Pasir Kunci, Kawah Domas, Kawah Putih, Kebun Bunga Cihideung, Objek Wisata Punclut, Situ Ciburuy, Situ Cileunca, Situ Patengan, Taman Hutan Raya Ir. H. Djuanda (Dago Pakar), Tangkuban Perahu.

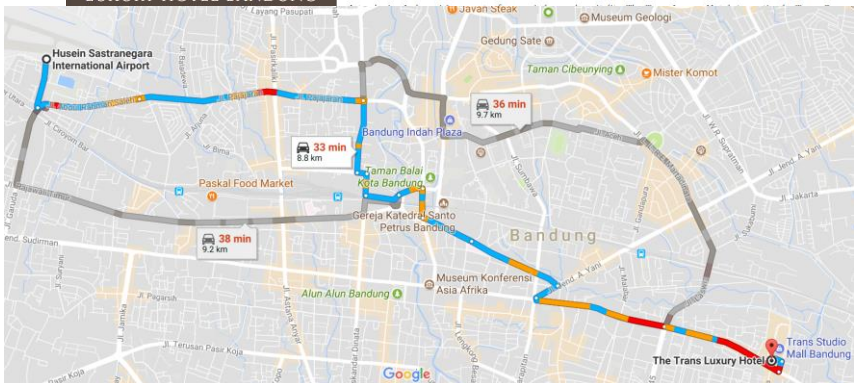
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Jl. Jendral Gatot Subroto No.289, Cibangkong, Batununggal,
Bandung City, West Java 40273



THE TRANS
LUXURY HOTEL BANDUNG





Introducing Indonesia's newest reference in luxury hospitality, The Trans Luxury Hotel, Bandung, Indonesia.



A creation by Trans Corporation, it is a sophisticated blend of Indonesian tradition with a refined contemporary interpretation, right in the heart of Bandung City.

All the facilities and services at The Trans Luxury Hotel have been designed to set the property in a class of its own. The panoramic restaurant and lounge on level 18 with sweeping views of the city, the open-air sandy beach pool with sun lounges, the elegant day spa, the high tech fitness centre, the luxurious room amenities, all ensure the most memorable stay for an extraordinary escape or at a successful, impeccable run event.

Facilities:

Premier Room, Premier Club Room, The Club Lounge, Celebrity Suite, Presidential Suite.

Swimming Pool, Kids Club, Arsa-100% Charity Shop, Spa, Fitness Centre, Trans Studi Bandung, Trans Studio Mall.

Alternative hotel near The Trans Luxury Hotel:

ibis Bandung Trans Studio, located next to The Trans Luxury Hotel.



VISA INFORMATION

Courtesy of Bandung Tourism

<http://www.bandungtourism.com/gethere.php>

Tourist visas are only intended for tourists who are visiting Indonesia, *not for expatriates intending to work and live for an extended period of time*. Tourist visas will be needed by friends or family coming to visit you during your stay in Indonesia. There are 3 categories of tourist visa system.

Pay-for-visa-on-arrival (VOA) system for citizens of 52 nations, this are the following:

Argentina, Australia, Austria, Bahrain, Belgium, Brazil, Bulgaria, Cambodia, Canada, Cyprus, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, iceland, India, Iran, Ireland, Italy, Japan, Kuwait, Laos, Liechtenstein, Luxembourg, Maldives, Malta, Mexico, Monaco, the Netherlands, New Zealand, Norway, Oman, People's Republic of China, Poland, Portugal, Qatar, Russia, Saudi Arabia, South Africa, South Korea, Spain, Switzerland, Sweden, Suriname, Taiwan, United Arab Emirates, United Kingdom, and the United States.

The cost of the 30-day (only) tourist visa is US\$25/person for a 30-day visa and US\$10/person for a 3-day visa.

Visitors from countries with visa-on-arrival facility will have to go to a special counter to have their passports stamped with the on-arrival visa before going to the immigration clearance desk. The VOA visa is NOT EXTENDABLE OR RENEWABLE. A visa issued on arrival can be extended only in extraordinary circumstances such as natural disasters, accident, or illness. If you want to stay in Indonesia longer than the 30 days you must exit and re-enter the country on a new tourist visa.

Visa purchasing takes 15-30 minutes per applicant, depending on the number of persons applying. Payment counters, a bank counter, and a money changer have been set up to process payments. Passport must be valid for at least six months from the date of arrival. Payment must be made on arrival. An onward or return trip ticket must be shown on arrival.



The visa on arrival facility is only available at the following international gateways:

Airports:

Medan, Pekanbaru, Padang, Jakarta, Surabaya, Bali, Manado, Halim Perdana Kusuma in Jakarta, Adisucipto in Yogyakarta, Adisumarmo in Solo, Selaparang in Mataram, Lombok, Sepinggan in Balikpapan, Kalimantan, Hasanudddin in Makassar, Sulawesi, and Eltari in Kupang, Timor.

Seaports:

Batam, Tanjung Uban (Bintan), Belawan (Medan), Sibolga (Sumatra), Dumai, Teluk Bayar (Padang, Sumatra), Padang Bai (Bali), and Jayapura (Papua), Teluk Bayar in (Padang, Sumatra), Bitung, Tanjung Balaikarimun, Tanjung Mas (Semarang), Tenau (Kupang), Pare Pare (Sulawesi), Bintang Pura (Tanjung Pinang), and Soekarno-Hatta (Makassar, Sulawesi)

Visa-free facility is granted to the citizens of 11 countries whose governments extend visa free facility to Indonesian nationals would continue to enjoy short visa-free stays.

Included in the 11 countries and administrative districts that are granted the 30-day visa-free facility are:

Brunei Darussalam, Chile, Hongkong Special Administrative Region, Macau Special Administrative Region, Malaysia, Morocco, Peru, the Philippines, Singapore, Thailand, and Vietnam.

Visitors with the visa-free facility will be able to proceed directly to the immigration clearance counter after deplaning. Passport must be valid for a minimum of six months from the date of arrival. Onward or return tickets must be shown on arrival.

Citizens of other countries not on the visa on arrival or visa free lists will be required to apply for a visa overseas (in their home country) before entering Indonesia.

Citizens of any country wishing to stay more than 30 days must also apply for an appropriate visa (cultural visit or business) at their nearest Indonesian Embassy or Consulate before traveling to Indonesia.

Tour Agents are able to arrange express handling for groups at no additional charge by presenting the completed immigration cards, passports and



applicable visa fee. Passengers who overstay their visa period for a short period of time can be processed immediately at the airport by paying US\$ 20 for every day they overstayed their 30-day visa. Airlines that experience technical difficulties or delayed flights can apply for their passengers to be exempted from paying any overstay penalties.

The current tourist visa policy cuts the length of stay for tourist visas from the previous 60 days to 30 days. It is NO LONGER possible to stay in Indonesia more than 30 days on a tourist visa.

(30-day counting)

The way they immigration officials count the 30-day period is: you arrive on the 1st day with, for instance, a 30-day visa, and you must leave on the 30th day (not the 31st or the first of the next month, as you might think). This is actually their policy for how to count the days. and, after getting burned once and learning my lesson, I see their point and follow their definition of 30 days. If you want to stay in Indonesia LONGER than 30 days, you must leave the country and re-enter on a new tourist visa. People commonly fly to Singapore or Timor for this. There is no stipulation on the time you must stay outside Indonesia, in fact, you can return the same day if you want and be issued a new visa upon your arrival in Indonesia.

Overstaying your Visa

Overstaying a tourist visa (or any visa) is a serious offense in Indonesia. You will be blacklisted (can not enter Indonesia again for a year or more) and fined \$20-30/day for every day you overstayed your visa and then deported once you have paid the fine. The maximum fine for overstaying a visa (more than 60 days) is Rp 25 million and 5 years in jail. You will be kept at the immigration quarantine until you have paid the fee and/or the decision has been made to deport you. Please take this seriously as this is not one of those problems that you can easily bribe your way out of.

To Prepared

Please pay attention for government rules of Indonesia. Get your visa and passport if you are from another country. For visa policy, you can see from link "visa policy to indonesia".



ADDITIONAL INFORMATION

Currency

The official currency in Indonesia is Rupiah. The currency code for Rupiah is IDR and the currency symbol is Rp.

Language

The official language for the conference is English.

Electricity & Plug

In Indonesia, electricity is supplied in 220 – 240 Volts, 50 Hz. The electrical outlet has two round holes, similar to those in continental Europe.



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