

Assignment Letter/Surat Tugas

No. AL/ARCS/1846/II/2023
 Date February 21st, 2023
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 Doc. Type Main Document/*Dokumen Utama*

Name and Attached

Activity Assignment

Penugasan Kegiatan

Director of Academic Research and Community Services

Direktur Lembaga Penelitian Akademik dan Pengabdian kepada Masyarakat

In consideration of:

His appointment as Director of Academic Research and Community Services of Swiss German University under Decree nr. SK/020/HR/XI/19, dated November 18th, 2019

Mengingat:

Pengangkatannya sebagai Direktur Lembaga Penelitian Akademik dan Pengabdian kepada Masyarakat dengan SK pengangkatan no. SK/020/HR/XI/19, tertanggal 18 November 2019

Herewith gives the task to:

Name : **Attached**
 Position : **Attached**

Dengan ini menugaskan kepada:

Nama : **Terlampir**
 Posisi : **Terlampir**

To follow with the activity details below:

Untuk mengikuti aktivitas di bawah ini:

Nr.	Activity/ Kegiatan	Organizer/ Penyelenggara	Day & Date/ Hari & Tanggal	Venue/ Tempat
1.	Seminar : "Smart Factory, Optimization Design and Energy Conversion in Industry	PT. BES	Mon, 20 February 2023 09.00 – 16.00	Kawasan Industri Jababeka I Blok H No, Jl. Jababeka XI No.30-40, Harja Mekar, Kec. Cikarang Utara, Kabupaten Bekasi, Jawa Barat 17530

The appointed shall accomplish the task in responsible ways in line with the related guidelines and other regulations given by SGU.

Pihak yang bersangkutan harus melaksanakan tugas dan tanggung jawab sebaik-baiknya, sesuai dengan petunjuk dan peraturan dari SGU.

Assignor/ Pemberi Tugas:



Kholis Abdurachim Audah, M.Sc, Ph.D

Director of Academic Research and Community Services
Direktur Lembaga Penelitian dan Pengabdian kepada Masyarakat

Assignment Letter/Surat Tugas

No	Nama	Posisi
1	Dr. Maulahikmah Galinium, S.Kom., M.Sc	Dean of Faculty and Engineering and IT
2	Dena Hendriana, B.Sc., S.M., Sc.D	Head of Master Mechanical Engineering
3	Dr. Ir. Gembong Baskoro, M.Sc, IPU	Lecturer of Master Mechanical Engineering
4	Dr. Ir. Henry Nasution, M.T, IPP	Deputy Head of Master Mechanical Engineering
5	Somanudin, MM	Staff of PT. BES
6	Anis Choirunnisa, M.Kom	Staff of PT. BES



Crt/ARCS/161-1/II/2023

Certificate of Appreciation

This is to certify that

Dena Hendriana, B.Sc., S.M., Sc.D

HAS DELIVERED AN OUTSTANDING PRESENTATION ON SEMINAR

**"SMART FACTORY, OPTIMIZATION DESIGN AND ENERGY CONVERSION
IN INDUSTRY"**

Cikarang, 20 February 2023



SWISS GERMAN
UNIVERSITY
Academic Research
and Community
Service

Kholis Audah, M.Sc, Ph.D

Director of Academic Research and Community Service
Direktur Lembaga Penelitian dan Pengembangan kepada Masyarakat
Swiss German University




SEMINAR

“SMART FACTORY, OPTMIZATION DESIGN AND ENERGY CONVERSION IN INDUSTRY”

Speakers:

- Dena Hendriana, B.Sc., S.M., Sc.D.
- Dr. Ir. Gembong Baskoro, M.Sc
- Dr. Ir. Henry Nasution, S.T., M.T., Ph.D

 Monday, 20 February 2023

 09.00 – 16.00 WIB

 Gedung Serbaguna PATRIA (Ruang Spirit Patria 1 & 2)
Microsoft Teams (Online)



20 February 2023



Smart Manufacturing Industry 4.0

By:

Dena Hendriana, B.Sc., S.M., Sc.D

Head of Master of Mechanical Engineering (MME)

Swiss German University (SGU)



Biodata

Dena Hendriana

Education

- Bachelor of Science, Northeastern University, Boston, USA, 1992
- Master of Science, Massachusetts Institute of Technology, Cambridge, USA, 1994
- Doctor of Science, Massachusetts Institute of Technology, Cambridge, USA, 1998

Working Experience

- Swiss German University, Tangerang, 2015 - now
- Surya University, Tangerang, 2013 - 2015
- Ford Motor Company, Michigan, USA, 2011 - 2013
- EXA Corporation, Michigan, USA, 2005 - 2011
- PT. JSU, Depok, 2003 - 2005
- Chrysler, Michigan, USA, 2000 - 2003
- General Motors, Michigan, USA, 1998 - 2000

Military Education / Menwa

- Pemantapan Nilai-nilai Lemhannas 2022
- Diksar Menwa (Halilintar V), Dodiklatpur Rindam Jaya - TNI AD
- Provost Menwa SGU (2016 - 2017)
- Bid Org IARMI komsat SGU (2017 - 2020)
- Brevet: Hirbak Mahawarman, Scuba Lakespra TNI AU, HUET Lakespra TNI AU

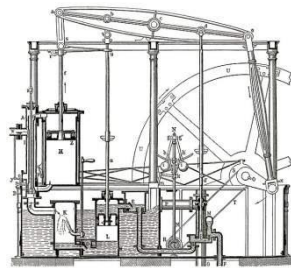
Smart Manufacturing is the Essence of Industry 4.0



[Wikipedia] The Industry 4.0 conceptualises rapid change to technology, industries, and societal patterns and processes in the 21st century due to increasing interconnectivity and smart automation.

Throughout this, fundamental shifts are taking place in how the global production and supply network operates through ongoing automation of traditional manufacturing and industrial practices, using modern smart technology, large-scale machine-to-machine communication (M2M), and the internet of things (IoT). This integration results in increasing automation, improving communication and self-monitoring, and the use of smart machines that can analyse and diagnose issues without the need for human intervention.

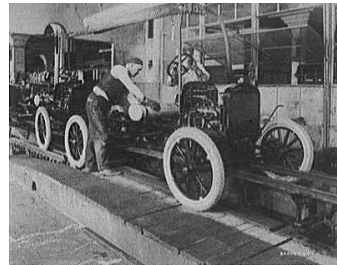
Industrial Evolution (1-4)



1. Industrial revolution
Introducing mechanical production machines powered by water and steam

Industry 1.0

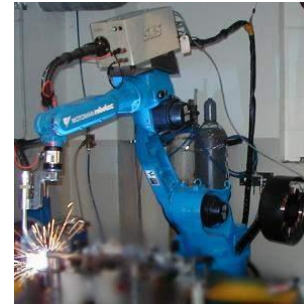
End of the 18th century.



2. Industrial revolution
Introducing mass production lines powered by electric energy

Industry 2.0

Beginning of the 20th century



3. Industrial revolution
Through the use of electronics and IT further progression in autonomous production

Industry 3.0

Beginning of the 70th



4. Industrial revolution
Based on cyber-physical-systems

Industry 4.0

Today

↑
Level of complexity



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