



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

Malaysia-Japan  
International  
Institute of Technology  
(MJIIT)



**TRANSWATER**  
*Engineers of Integrated Solutions*

# SMJG 3206 INDUSTRIAL TRAINING FINAL PRESENTATION

## TRANSWATER ENGINEERING CONSULTANCY SERVICES (TECS)

NAME	: NUR MAISARAH BINTI AZIZUL
PROGRAM	: BACHELOR OF CHEMICAL PROCESS ENGINEERING
TECS SUPERVISOR	: IR. HJ. AZIONN BIN ABD AZIZ
MJIIT SUPERVISOR	: DR NORHAYATI BINTI ABDULLAH

30<sup>TH</sup> SEPTEMBER 2020

10.00 A.M



# MY PRESENTATION AGENDA:

- ▶ Introduction to the company
- ▶ Internship tasks
- ▶ Trainings I attended
- ▶ What I've learned
- ▶ Conclusion





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# INTRODUCTION TO THE COMPANY

## CLIENT

- PETRONAS
- SHELL
- HESS **ExxonMobil**
- CORPORATION
- EXXONMOBIL
- REPSOL OIL & GAS



## CONTRACTOR

- Consultant
  - Transwater Engineering Consultant Service Sdn. Bhd. (TECS)
  - Petrofac RNZ
- Fabricator
  - EPCF Prima Sdn. Bhd.
- Installation
  - Petra Energy Berhad

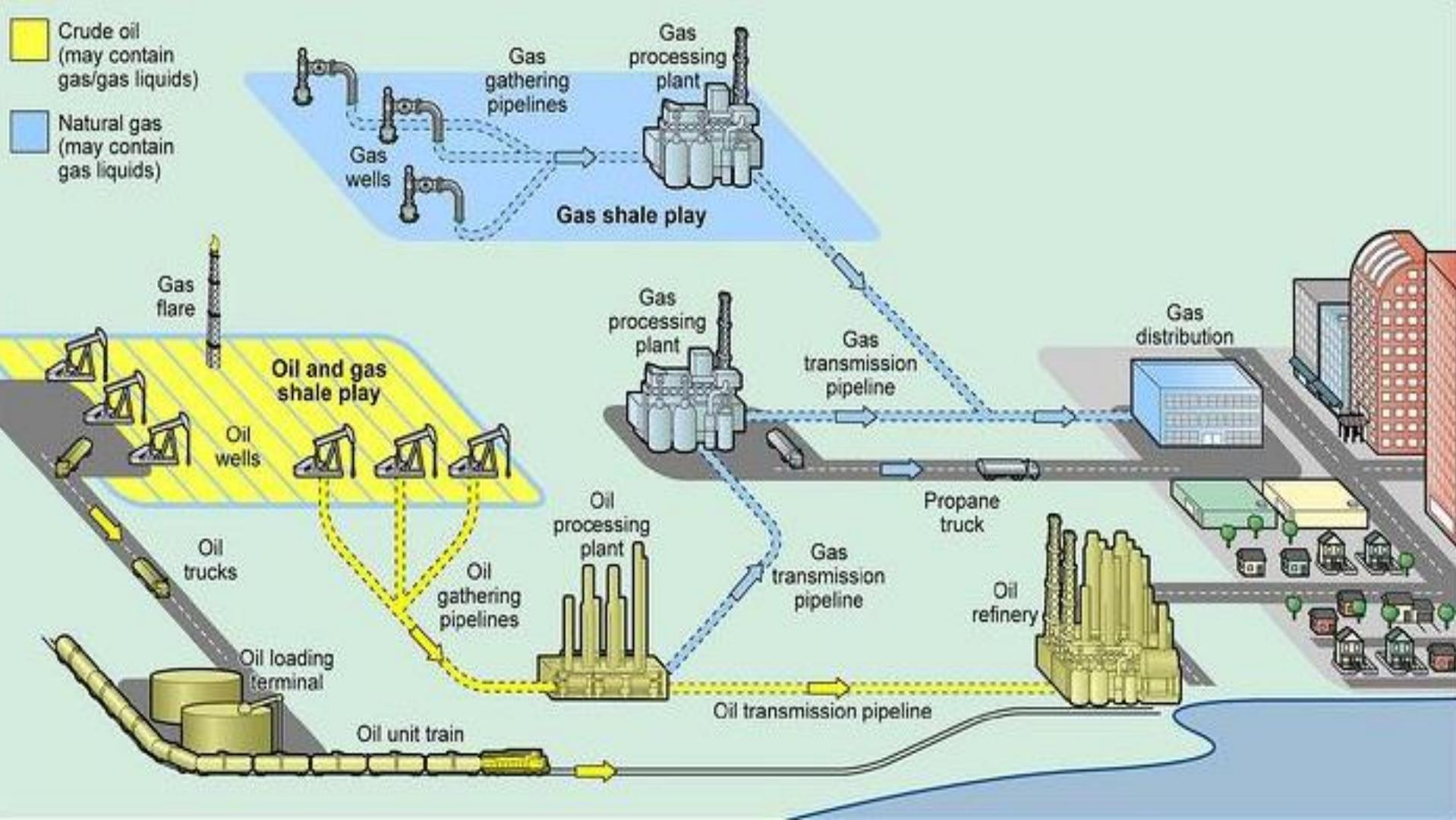
Petrofac  RNZ

  
**PETRA**

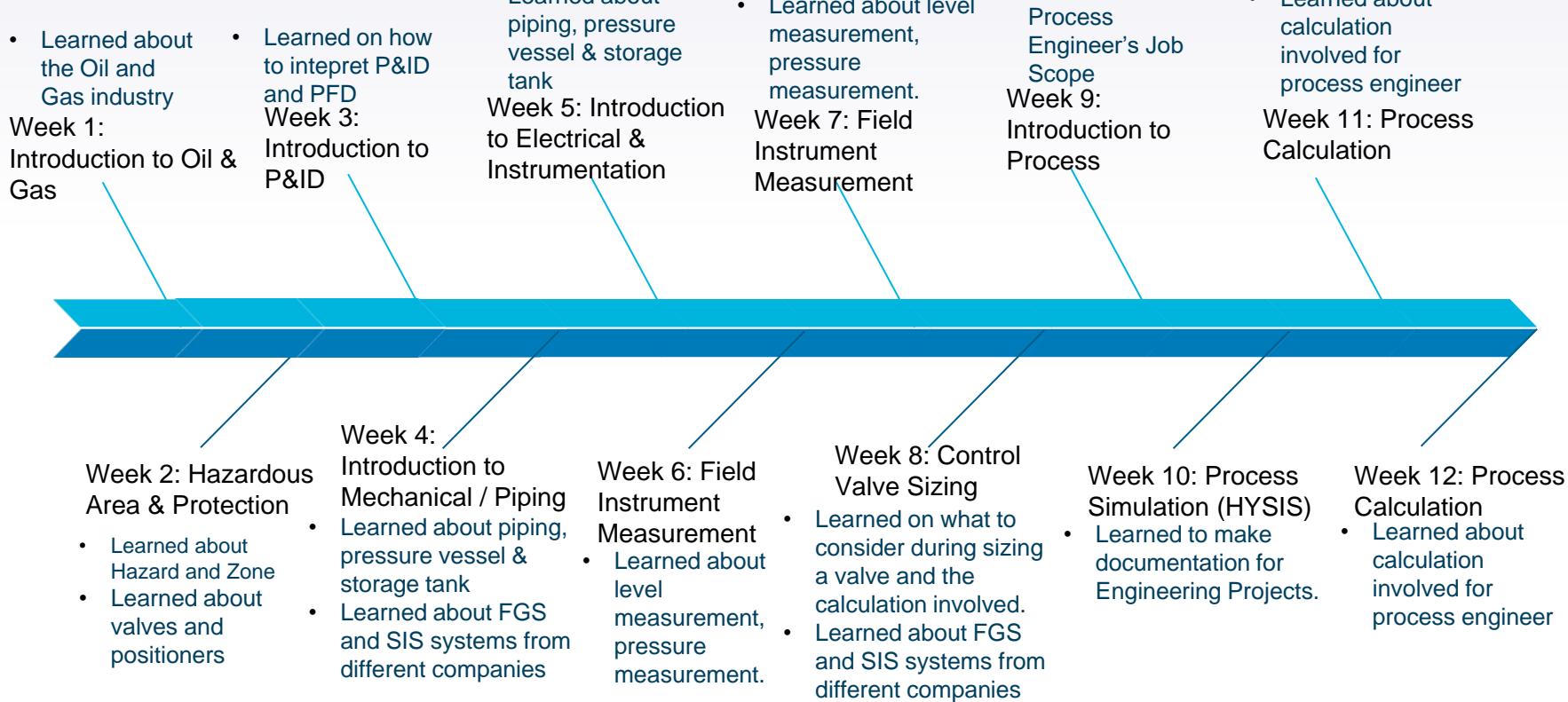
## VENDOR

- Product supplier
  - Transwater API Sdn Bhd
  - Mutiara Jayateknik Engineering Sdn Bhd
- Service
  - Transwater Process & Plant Service (PPS)
  - MKI Engineering

  
**MJIIT**  
ENGINEERING



# INTERNSHIP TASKS





# TRAININGS I ATTENDED:

## IN HOUSE TRAINING

- ✓ Introduction to Oil & Gas
- ✓ Hazardous Area Protection
- ✓ Introduction to P&ID
- ✓ Sliding stem valve
- ✓ Control Valve Sizing and Selection
- ✓ Pump Sizing and Selection
- ✓ Field Instrument measurement
- ✓ Process Hydraulic Calculation
- ✓ HYSYS
- ✓ Pressure Safety Valve Sizing

## HANDS ON TRAINING

- ✓ Delta V system training (Emerson)
- ✓ Trisystem SIS training (Trisystem)
- ✓ DVC calibration and installation
- ✓ Calibration of Anti-surge, Accessories
- ✓ Pressure Controller, Temperature Controller Theory and Practical
- ✓ Wireless system training (Emerson)



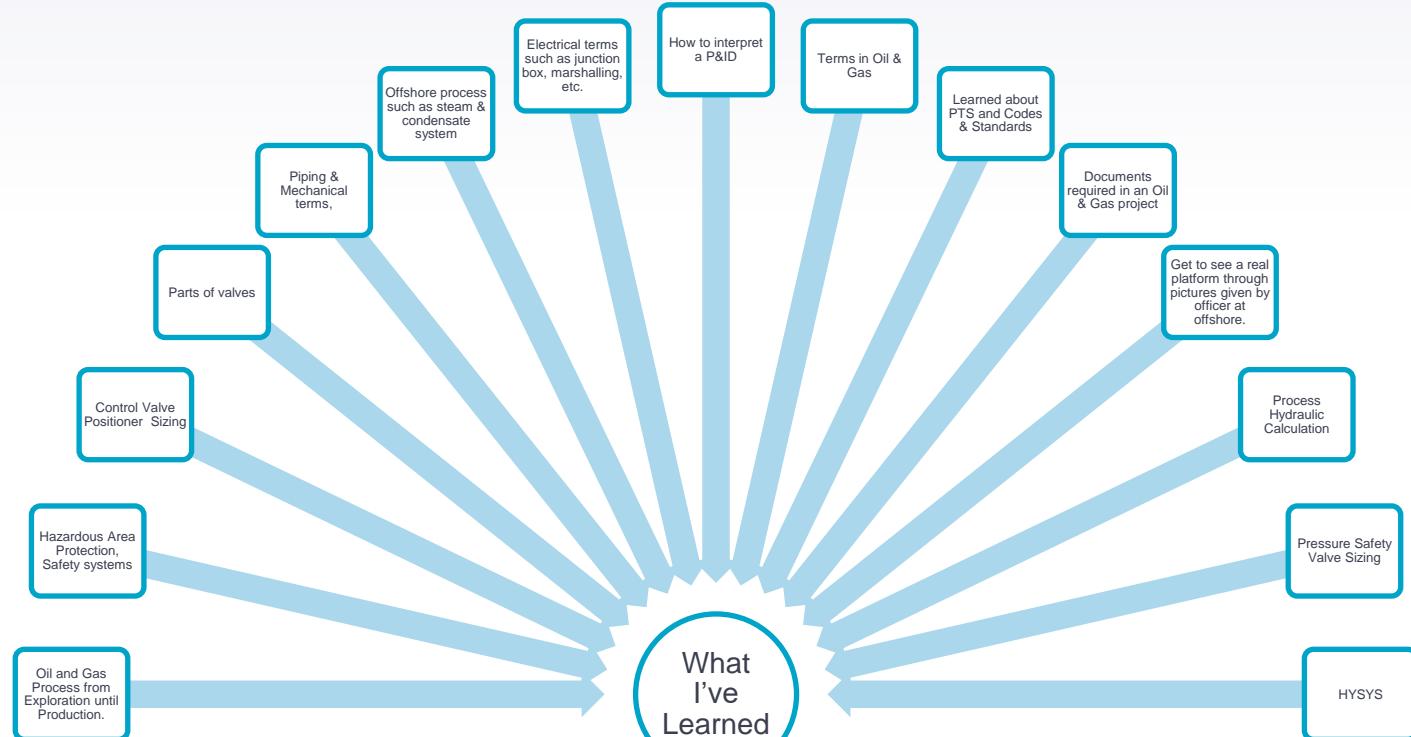
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# WHAT I HAVE LEARNED



## OIL & GAS PROCESSES

- ▶ Oil & Gas extraction process starting from exploration till abandonment
- ▶ Job description for each discipline
- ▶ Petronas Technical Standard (PTS)
- ▶ International Codes & Standard
  - ▶ API
  - ▶ ASME
  - ▶ IEC

## PROCESS

- ▶ Steam & Condensate System
- ▶ Flaring & Venting
- ▶ Cryogenic liquid
- ▶ Refrigeration Process
- ▶ Process Hydraulic Calculation

## HAZARDOUS AREA PROTECTION, SAFETY SYSTEMS

- ▶ Factors determining hazardous area
- ▶ IEC Standard for Hazardous Material Gas & Vapor (Zone 0, Zone 1, Zone 2)
- ▶ Methods of protection

## ELECTRICAL & INSTRUMENTATION

- ▶ Level measurement
  - ▶ Methods to measure liquid level
- ▶ Terms for electrical & instrumental
  - ▶ HART
  - ▶ Junction box
- ▶ Wireless Instrument

## MECHANICAL / PIPING

- ▶ Piping system
- ▶ Pressure vessel
- ▶ Pump

## CONTROL VALVE SIZING & POSITIONER

- ▶ Factors to be considered when sizing control valve
- ▶ Formula for control valve sizing
- ▶ Positioner
  - ▶ DCS
  - ▶ DVC
- ▶ Parts of valves

# CONCLUSION

- I learned a lot on Oil & Gas Industry which made me more interested to become a Process Engineer
- I have the opportunity to gain knowledge on topics other than my course (Chemical Process Engineering)
- A valuable experience for me.



# THANK YOU

