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# *Gas Generation Division*

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*[www.full-point-concept.com](http://www.full-point-concept.com)*

# GENERATION BY SEPARATION

- **Gas Generation is achieved by:-**

- Selective separation of air:

- 78% N<sub>2</sub>,
- 21% O<sub>2</sub>,
- Remaining 1%:
  - Argon
  - other gases.



# SEPARATION TECHNOLOGIES

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- ADSORPTION
  - Or more specifically, Pressure Swing Adsorption (PSA), by putting the air molecules (mainly O<sub>2</sub> and N<sub>2</sub>) through pressurized towers/columns equipped with certain adsorbents such as carbon molecular sieves, the different size molecules will separate.
- MEMBRANES
  - Specially designed & manufactured modules of polymer fibers which is selectively permeable to N<sub>2</sub> and O<sub>2</sub> molecules.
  - Larger N<sub>2</sub> molecules will be retained where as smaller O<sub>2</sub> molecules will permeate through the membrane.

# *COMPLETE SYSTEM INTEGRATION*

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One Stop  
Solutions  
Provider

Design &  
Engineer

Operate  
&  
Maintain

Build &  
Install

# STEP 1

## PINPOINT THE PAIN POINTS:

Engage in early-stage consultation and support to determine pain points, which may include tight budget for nitrogen consumption, consistent supply required, require smaller footprint systems.

## SITE SURVEY AND/OR HEALTH CHECKS:

Site survey will be conducted, and information will be collected by FPC Engineers to find out if our solution is a good fit. Major factors that will be considered include Return of Investment (ROI), System integration into current site situation/layout, etc.

# STEP 4

## DELIVERING THE EPCIC:

Engineering to Procurement, Construction to Installation, and finally Commissioning of the entire system; making the solution into a turnkey

## BEST-FIT PROPOSALS:

Our team will consider all technical and commercial aspects to produce a comprehensive proposal which will detail the following: (1. Costs of Equipment & System Components, 2. Scope of Work, 3. Delivery Terms)

# STEP 2

# STEP 3



# MEMBRANE SYSTEM EXPERTS

*Local System Integrator for  
Evonik Membranes*

- **Sepuran Nitrogen Membranes**
- **Market Leading Efficiencies**
- **Up to 99.5% Purity**
- **Compact Design – Minimal Footprint**
- **Enormous ROI vs Gas Cylinders**
- **Stainless Steel Housing – Up to 16 Barg Pressure**
- **Low maintenance**
- **Low running cost**



# MEMBRANE SYSTEM EXPERTS

*Local System Integrator for  
Evonik Membranes*

- **Other Membranes within our Range of Offer:**
  - **Volatile Organic Compound (VOC) Recovery**
  - **Helium Recovery**
  - **Hydrogen Recovery & Purification**





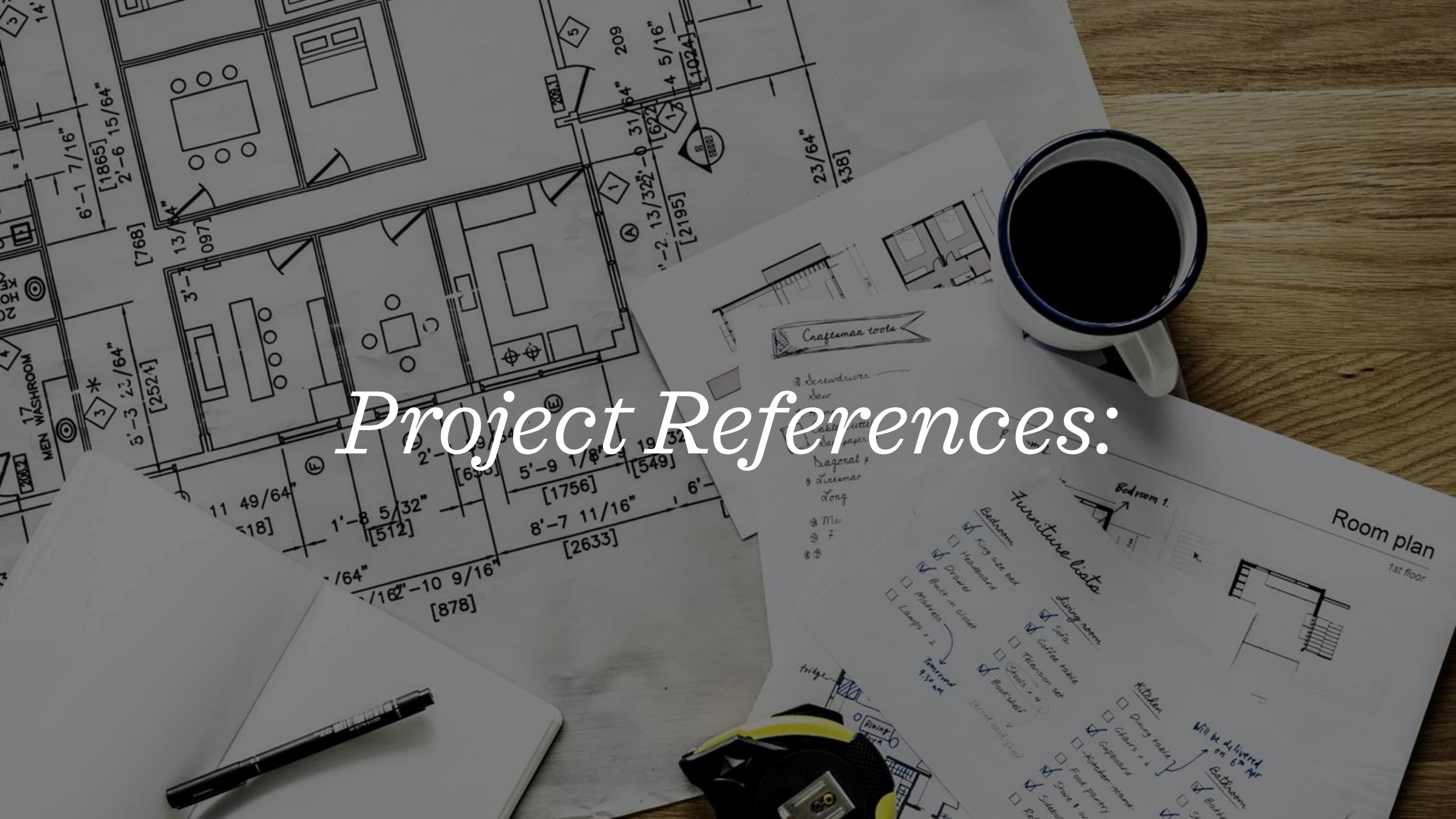
# *TURNKEY SOLUTIONS PROVIDER – GAS GENERATION PLANT*

- i) **Nitrogen Generator System**
- ii) **Provision Air System [compressors, dryers, filters]**
- iii) **Intermediate Receiver/Storage Tanks**
- iv) **Interconnecting Piping [M&E]**
- v) **Panels & Interconnecting Wiring [M&E]**
- vi) **Optional Smart Control System [E&I]**
- vii) **Engineering & Documentation [QUALITY]**
- viii) **Foundation & Roof [C&S]**

# Typical Setup - PSA



# Project References:



Craftsman tools

- 3 Screwdrivers
- Saw
- Cable ties
- Paper
- Diagonal
- Kissman
- Long
- Me
- 7

## Furniture lists

- Bedroom
  - King size bed
  - Headboard
  - Drawer
  - Built-in closet
  - Lamp

- Living room
  - Sofa
  - Coffee table
  - Television set
  - Stools
  - Bookshelf

## Kitchen

- Dining table
- Chairs
- Cupboard
- Kitchen island
- Food pantry
- Sauce
- Sutaba
- Bed

Will be delivered on 6th Apr

- Bathroom
- Bath
- Shower



# *From Skid Packages to Turnkey Solutions*

→ i) **Jerun-A CPP Nitrogen Generation Package (Membrane)**

→ **Inclusive of:**

- Structural Skid
- Piping & Supports
- Complete Electrical (PLC Panel, Wiring) & Instrumentation Works (Transmitters)
- Customised Automated Controls
- 97.4% Purity



# *From Skid Packages to Turnkey Solutions*

→ ii) **Complete Turnkey PSA Nitrogen Generator @ Topmark Petrochemical, Port Klang**

→ **Inclusive of:**

- Oil free air compressor (22kW)
- Refrigerant dryers
- Low Pressure Nitrogen Tanks
- High Pressure Nitrogen Tanks
- Wet Air Tank
- Dry Air Tank
- Nitrogen Booster Interlock system

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# *From Skid Packages to Turnkey Solutions*

- **iii) Complete Turnkey PSA Nitrogen Generator @ PT Apical Kao Chemicals, Sumatra, Indonesia.**
- Oil free air compressor (160kW)
- Refrigerant dryers
- Desiccant dryers
- Nitrogen Tanks
- Wet Air Tank
- Dry Air Tank
- Instrument Air Tank
- Electrical & Instrumentation (PLC SCADA)
- Customised Controls





# *THANK YOU*

- *For more information, visit us at:  
[www.full-point-concept.com](http://www.full-point-concept.com)*

