

Titan Petrochemicals

Change for the better

Titan Petrokimia Nusantara (TPN) was the first polyethylene (PE) producer in Indonesia; today the plant runs three Trains with a total capacity of 450,000 tonnes per annum, making it one of the larger High Density Polyethylene (HDPE) and Linear Low Density Polyethylene (LLDPE) producers in South East Asia. Used to making a variety of plastic products, from packaging film and containers, to components for a host of industries, PE is one of the world's most widely used polymers. Titan Kimia Nusantara (TKN) is the parent company of TPN, a producer of Biaxially Oriented Polypropylene (BOPP film). The factory produces a variety of products for industries using plastics as a main material for printing, adhesive tapes and packaging (cigarettes overwraps, bags, metalized film).

“Renoir has played an integral role in nurturing job ownership among all levels of employees. The corporate culture has already begun to change for the better and most employees are self-motivated to improve existing processes to create a more efficient work environment. Renoir's ability to drive the shop floor has been the key to success and sustainability in this exercise”

David Chao
President Director

Key Results

Cumulative Project benefits of
USD1.65 million

Annualised benefits on target to
exceed USD4.5 million across
both companies

In-project achievement of
behavioural change targets

TPN: >45% reduction in Unplanned
Downtime Losses (8.5% to 4.5%)

>40% reduction in Productivity
Losses (10.1% to 4.9%)

TKN: >40% reduction in Unplanned
Downtime Losses (35% to 20%)

>30% reduction in Productivity
Losses (21% to 13%)

ANALYSIS

Recent changes in the global economy have resulted in increasing challenges for the Petrochemical Industry. Fluctuating feedstock prices and unpredictable market cycles have added significant uncertainty to both production planning and sales & marketing. In order to remain relevant in the market, manufacturers need to be ever more productive and efficient to ensure unit costs are kept as low as possible.

FOCUS PROCESS™ & IMPLEMENTATION

The The MAJU project was based around three core pillars of improvement:

- **Profit Focus** – increased management and control of key revenue drivers
- **Operational Excellence** – improved Overall Equipment Effectiveness (OEE) performance from reduced production losses
- **Customer Intimacy** – value maximisation through enhanced customer satisfaction

The scope of the project revolved around 5 key areas of work across both companies (TKN & TPN): Production Planning, Quality Control, Maintenance, Finance, Sales & Marketing.

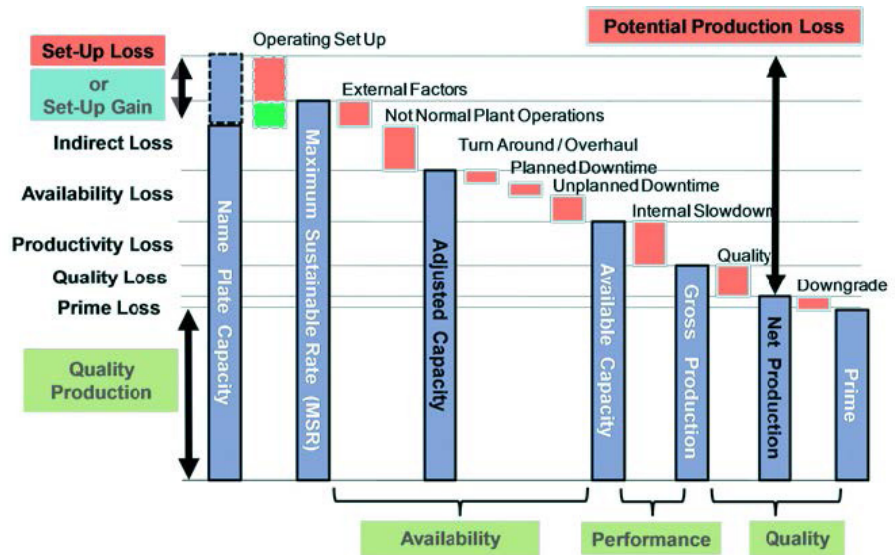
EXECUTION APPROACH

To improve plant throughput:

- Implemented customised production loss framework to increase transparency over OEE
- Introduced root cause coding to categorise MT of lost production from availability, performance and quality
- Improved focus on daily monitoring of production volume and identification of variance to targets
- Cascaded ownership for daily production targets down to the shop floor

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To reduce unplanned downtime:

- Installed an improved maintenance planning and execution system to ensure compliance to PM schedules
- Increased proactive shop floor supervision through Management By Walk About (MBWA)
- Created awareness among personnel to follow procedures when executing tasks and assigned accountability for failures
- Standardised the root cause analysis approach to ensure continuous improvement

To increase plant productivity (operating speed):

- Put in place a practical and sustainable Maximum Sustainable Daily Rate (MSDR)
- Ensured short interval control monitoring of daily flow rates
- Enhanced product transition planning to optimise train speeds
- Improved deviation reporting process

To reduce quality downgrades:

- Implemented Statistical Process Control (SPC) to ensure prompt action is taken to address process deviations
- Installed more stringent and frequent quality sampling checks in different areas of production process
- Implemented process constraint reporting to document process deviations, enable future analysis and improved quality planning
- Installed defect mitigation plans as part of a continuous improvement initiative to reduce defects from reoccurring

To change behaviours:

- Behaviours and mindset change were improved and monitored by Situational Auditing (SA)
- Systems and processes were monitored and compliance enforced
- Staff were coached in the class room and on the shop floor to create awareness, understanding and ownership for achievement of results

THE RENOIR GROUP

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