



Rejuvenating and Modernizing Energy Services in Indonesia

By TRIPATRA – Member of Indika Energy Group

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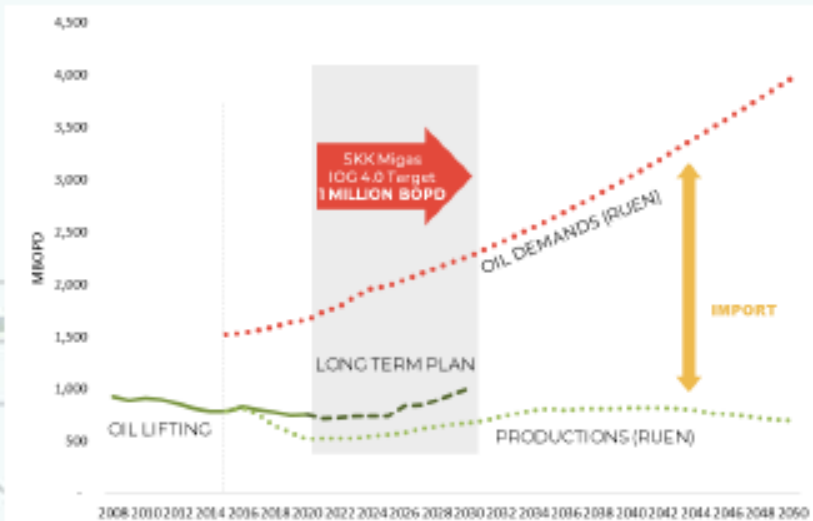
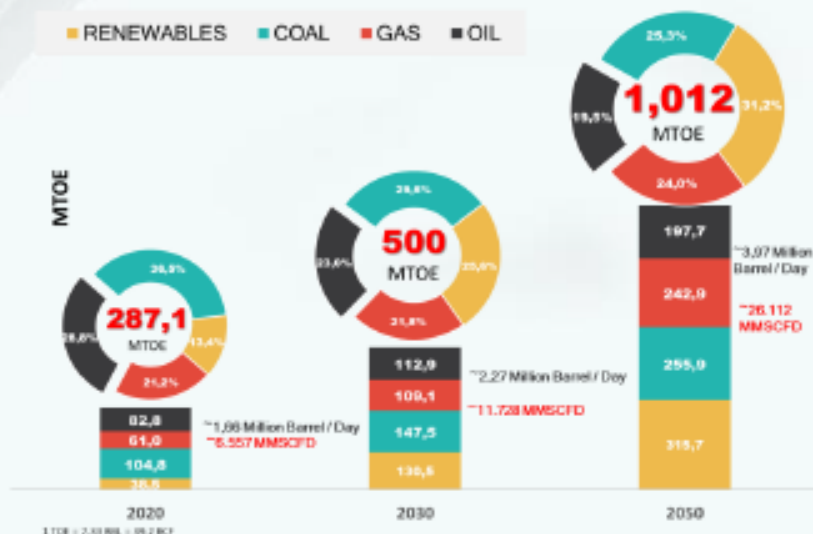
PPI Seventh Annual Symposium

December 2020



How is TRIPATRA addressing **Energy Demand** in Indonesia?

Setting New Production Target



- Indonesia economy is growing
- Energy demand is ever increasing to support it
- Energy transition will increase share of renewables but demand for oil will increase too.
- Consumption and production gap is widening which creates negative trade balance
- Oil sector still has a lot of resources and reserves.
- SKK Migas sets to produce 1 Million BOPD by 2030

Established in 1973, started with engineering services then engineering, procurement, construction, and commissioning (EPCC) services in, predominantly, Oil and Gas sector.

We are recently adding Asset management in our portfolio of services



Engineering

- Conceptual Design
- Feed / Basic Design
- Detail Engineering Design
- Engineering of EPC



Construction & Project Management

- Construction and Installation
- Pre - Comm and Commissioning
- Start-Up Operation and Maintenance
- Project Management Consultancy



Supply Chain Management

- Project Procurement
- Logistic
- Vendor and Subcontracting Management



Asset Management

- Operation and Maintenance

Why PPM and how did we find it?

Rationale

- EPC Maturity in Indonesia
- Project Execution complexities

Exploration

Attended 5th PPI Annual Symposium

Led to a new body of knowledge:
Project Production Management (PPM)
Solution Search

Fuel Terminal EPC Project

PPM Journey Started



1

TRIPATRA – PPM Journey

TRIPATRA - PPM Journey

We went through common internal situation:

1) Unaware 2) Resistant 3) Open to Exploration 4) Committed to The Efforts



Beginning - 2019

- Challenges in project implementations
- Proactively trying to improve our execution
- To become a **Contractor of Choice** in the Industry



Exploration

- Fuel Terminal Project – EPC
- New LNG Development–Construction (try briefly)
- Engineering Project – FEED (in-progress)

Project Production Control (PPC)

Through **PPC**, it allows to more effectively address the complexity of our work.

Now we can clearly understand **how variabilities impact our performance and can address them**



PPC Production Manager - Lookhead - Google Chrome

tripatra.sppinc.net/tripatra/lookhead.aspx

FILE EDIT INSERT VIEW REPORTS ANALYTICS HELP 2025 INDOSULPTA S&P

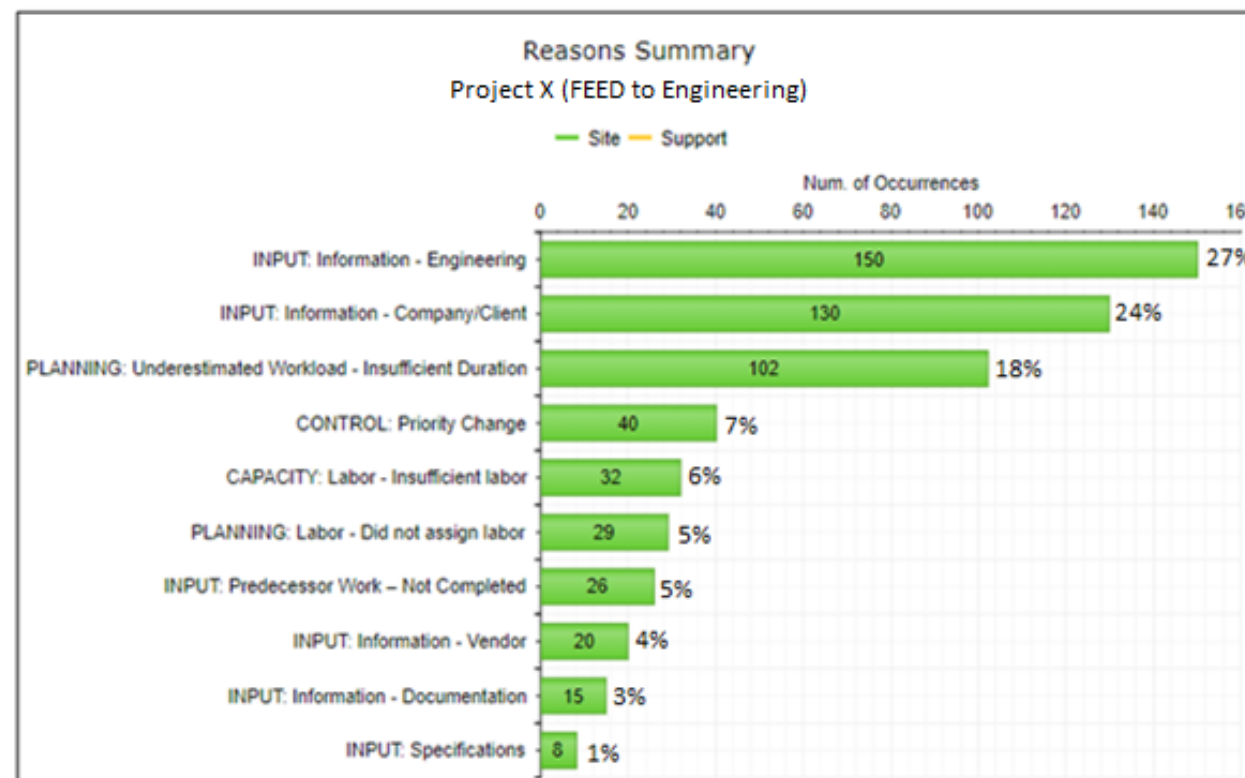
Lookhead

Legend: Performance Review Comments

ID	IS	OMS	Task	Due	On	Off	Start	End	Est.	Actual	Est. Cost	Actual Cost	US	Est.	Status	Prev
2.85 PROJECT MANAGEMENT / 3.04 CTR 004 - Cost Estimate for Execution / Cost Estimate Basis / 104 /																
7070	SAKABH00	Update IFA Consolidated Comment	HCA	1.000	1.000	1.000	22 Oct 20	22 Oct 20	(4)	18 Dec 20	x 18 Dec 20	Normal	Complete	2020		
7070	SAKABH00	Internal Review for IFA (by FE)	HCA	0.500	1.000	0.500	23 Oct 20	23 Oct 20	(4)	21 Dec 20	x 21 Dec 20	Normal	Complete	2020		
7069	SAKABH00	Estimate for Review	HCA	0.500	1.000	0.500	23 Oct 20	23 Oct 20	(4)	21 Dec 20	x 21 Dec 20	Normal	Complete	2020		
74867	SAKABH00	IFA Submission	HCA	0.000	0.000	0.000	23 Oct 20	23 Oct 20	(4)	21 Dec 20	x 21 Dec 20	Normal	Complete	2020		
2.85 PROJECT MANAGEMENT / 3.04 CTR 004 - Cost Estimate for Execution / Cost Estimate Basis / 104 /																
75104	SAKABH00	Document Reference Collecting	HCA	7.000	1.000	0.700	28 Sep 20	28 Sep 20	(5)	07 Dec 20	x 07 Dec 20	Normal	Complete	2020		
62706	SAKABH00	Draft Prepare for Review (S&P/SA, OF TASK 70102) = Draft cover and introduction. (Remaining Duration: 1.500)	HCA	0.500	1.000	0.500	28 Sep 20	28 Sep 20	(5)	08 Dec 20	x 08 Dec 20	Normal	Partial	2020		
75103	SAKABH00	Draft Prepare for Review	HCA	1.500	1.000	1.500	28 Sep 20	28 Sep 20	(5)	08 Dec 20	x 08 Dec 20	Normal	Partial	2020		
75104	SAKABH00	Internal Review for IFA (by FE)	HCA	1.000	1.000	1.000	20 Sep 20	20 Sep 20	(5)	08 Dec 20	x 08 Dec 20	Normal	Complete	2020		
75103	SAKABH00	Update IFA Consolidated Comment	HCA	1.000	1.000	1.000	16 Oct 20	16 Oct 20	(5)	11 Dec 20	x 11 Dec 20	Normal	Complete	2020		
75102	SAKABH00	Internal Review for IFA (by FE)	HCA	0.500	1.000	0.500	02 Oct 20	02 Oct 20	(5)	14 Dec 20	x 14 Dec 20	Normal	Complete	2020		
75101	SAKABH00	Estimate for Review	HCA	0.500	1.000	0.500	02 Oct 20	02 Oct 20	(5)	14 Dec 20	x 14 Dec 20	Normal	Complete	2020		
74866	SAKABH00	IFA Submission	HCA	0.000	0.000	0.000	02 Oct 20	02 Oct 20	(5)	14 Dec 20	x 14 Dec 20	Normal	Complete	2020		
2.85 PROJECT MANAGEMENT / 3.04 CTR 004 - Cost Estimate for Execution / Cost Estimate Basis / 104 /																
7070	SAKABH00	Review Draft Submission	HCA	3.000	1.000	3.000	28 Oct 20	28 Oct 20	(3)	23 Dec 20	x 23 Dec 20	Normal	Complete	2020		
7070	SAKABH00	Internal Review	HCA	1.000	1.000	1.000	03 Nov 20	03 Nov 20	(3)	28 Dec 20	x 28 Dec 20	Normal	Complete	2020		
7070	SAKABH00	Review and Routing to RPT	HCA	0.500	1.000	0.500	04 Nov 20	04 Nov 20	(3)	28 Dec 20	x 28 Dec 20	Normal	Complete	2020		
7070	SAKABH00	Submit to Client	HCA	1.000	1.000	1.000	04 Nov 20	04 Nov 20	(3)	28 Dec 20	x 28 Dec 20	Normal	Complete	2020		
74866	SAKABH00	IFA Submission	HCA	0.000	0.000	0.000	04 Nov 20	04 Nov 20	(3)	28 Dec 20	x 28 Dec 20	Normal	Complete	2020		
2.85 PROJECT MANAGEMENT / 3.04 CTR 004 - Cost Estimate for Execution / Cost Estimate Basis / 104 /																
8000	SAKABH00	Data from Project Database - 1. Design Version 2. Checklist 3. Previous Project Reference 4. Lesson Learn	HCA	2.000	1.000	0.222	11 Nov 20	11 Nov 20	(19)	08 Dec 20	x 08 Dec 20	Normal	Partial	2020		
8000	SAKABH00	Data from Project Requirements - 1. BIDD 2. Related Standard & Code 3. Local Regulation 4. Project Philosophy 5. Reference Company Specification 6. Project Specification	HCA	2.000	1.000	0.222	11 Nov 20	11 Nov 20	(19)	08 Dec 20	x 08 Dec 20	Normal	Partial	2020		
8000	SAKABH00	Document Reference Collecting	HCA	7.000	1.000	0.778	11 Nov 20	11 Nov 20	(24)	30 Dec 20	x 30 Dec 20	Normal	Complete	2020		

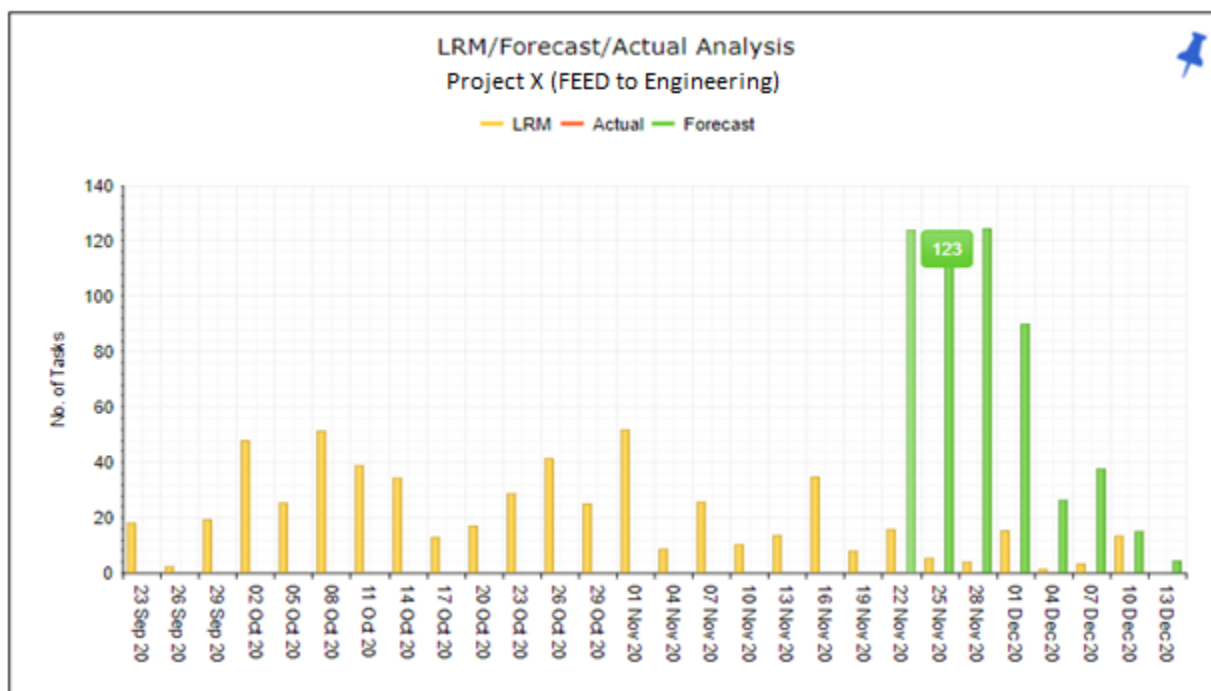
Total Number of Tasks: 6545

Total Man-Days: 4951.48 / Total Man-Hours: 44563.55



Project Production Control (PPC)

We can now understand the impact our decisions (or not) to objectives in real time



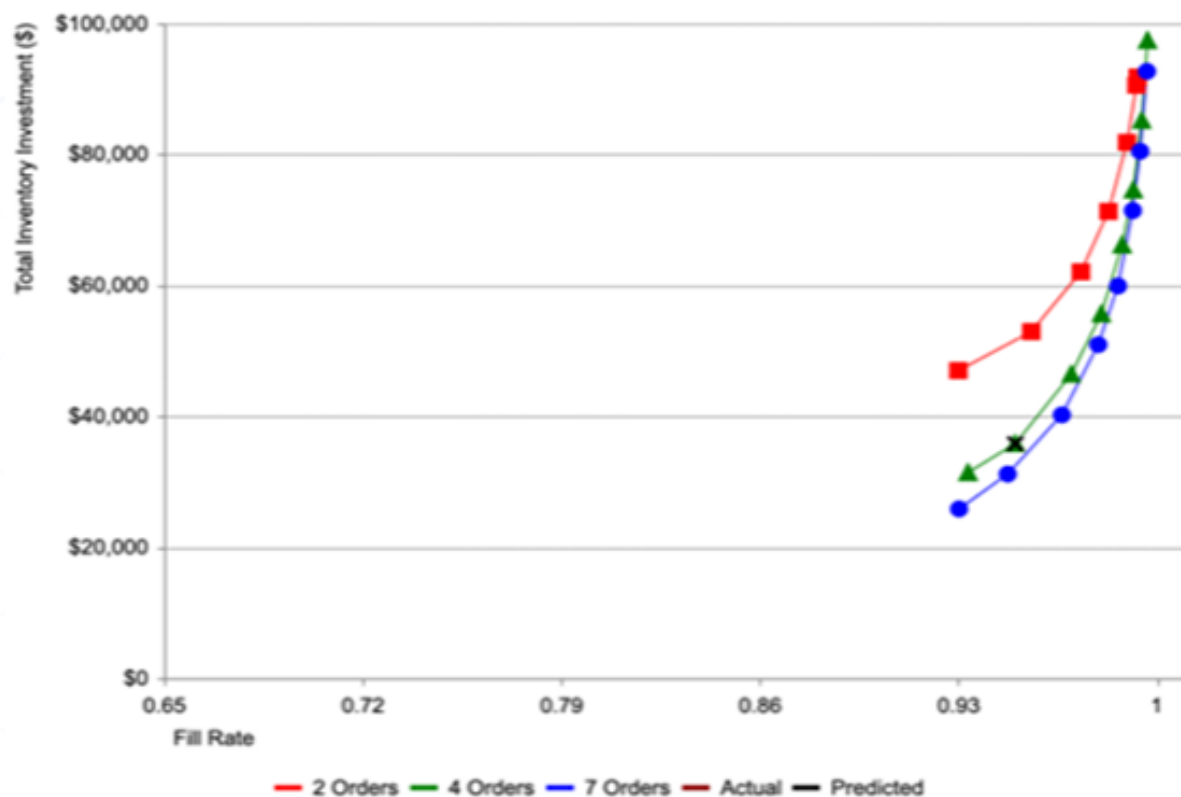
A sample Schedule Variance

ID	A1	A2	Desc	Member	Doc Title	LRM Finish	Forecast Finish	2020-11-23
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.15 CTR K100 - KBD Site Process Selection / KBD site Process Selection Report / IFA / -								
73831	SAKAKEMANG	02 WELLPAD AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-REP-10000	25-Sep-20	26-Nov-20	(44)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.16 CTR K101 - KBD Site Process Design / Block Flow Diagrams (BFD) / IFA / -								
73833	SAKAKEMANG	02 WELLPAD AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-PFD-10001	25-Sep-20	24-Nov-20	(42)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.16 CTR K101 - KBD Site Process Design / Equipment list / IFA / -								
73835	SAKAKEMANG	02 WELLPAD AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-LIS-10001	09-Oct-20	26-Nov-20	(34)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.16 CTR K101 - KBD Site Process Design / Heat and Material Balances / IFA / -								
76107	-	-	IFA Submission	IKadek Sukarta	SKA-D-D-PX-DIA-10001	02-Oct-20	26-Nov-20	(39)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.16 CTR K101 - KBD Site Process Design / HYSYS simulation Report / IFA / -								
76099	-	-	IFA Submission	IKadek Sukarta	SKA-D-D-PX-REP-10001	02-Oct-20	25-Nov-20	(38)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.16 CTR K101 - KBD Site Process Design / Line sizing calculation for Wellpad facility / IFA / -								
73839	SAKAKEMANG	02 WELLPAD AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-SHE-10000	23-Oct-20	26-Nov-20	(24)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.16 CTR K101 - KBD Site Process Design / Utilities consumption list / IFA / -								
70483	SAKAKEMANG	02 WELLPAD AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-LIS-10000	16-Oct-20	25-Nov-20	(28)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.18 CTR K103 - KBD Site Process Data Sheets / Process Data sheet for Ant-Hydrate Formation Injection Package / IFA / -								
76137	SAKAKEMANG	-	IFA Submission	IKadek Sukarta	SKA-D-D-PX-SHE-10002	23-Oct-20	30-Nov-20	(26)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.18 CTR K103 - KBD Site Process Data Sheets / Process Data sheet for Pig Launcher / IFA / -								
76168	SAKAKEMANG	-	IFA Submission	IKadek Sukarta	SKA-D-D-PX-SHE-10001	23-Oct-20	24-Nov-20	(22)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.19 CTR C100 - KBD Tie-In Design Optimization / Optimization report for corridor facility / IFA / -								
69380	-	-	IFA Submission	IKadek Sukarta	SKA-D-D-PX-REP-10002	25-Sep-20	25-Nov-20	(43)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.20 CTR C101 - KBD New Facilities at Grissik / Grissik greenfield modifications report / IFA / -								
70486	SAKAKEMANG	03 GRISSIK AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-REP-10003	02-Oct-20	26-Nov-20	(39)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.21 CTR C102 - Grissik Facilities Assessment and Modification / Grissik brownfield modifications report / IFA / -								
70489	SAKAKEMANG	03 GRISSIK AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-REP-10004	02-Oct-20	27-Nov-20	(40)
PROJECT TSK / 2.03 PROCESS ENGINEERING / 3.21 CTR C102 - Grissik Facilities Assessment and Modification / Grissik Plant Adequacy Check Report / IFA / -								
70492	SAKAKEMANG	03 GRISSIK AREA	IFA Submission	IKadek Sukarta	SKA-D-D-PX-REP-10005	02-Oct-20	30-Nov-20	(41)

Production System Optimization (PSO)

Through **PSO**, we are learning the impacts and cost of WIP to our performance

Cash tied up in unnecessary inventory is **NOT** free!



Inventory Tradeoff Plot - Piles

AVERAGE CASH TIED UP OVER DURATION		
ORIGINAL POLICY	PROPOSED POLICY	OPTIMAL POLICY
\$237,584	\$68,753	\$31,880

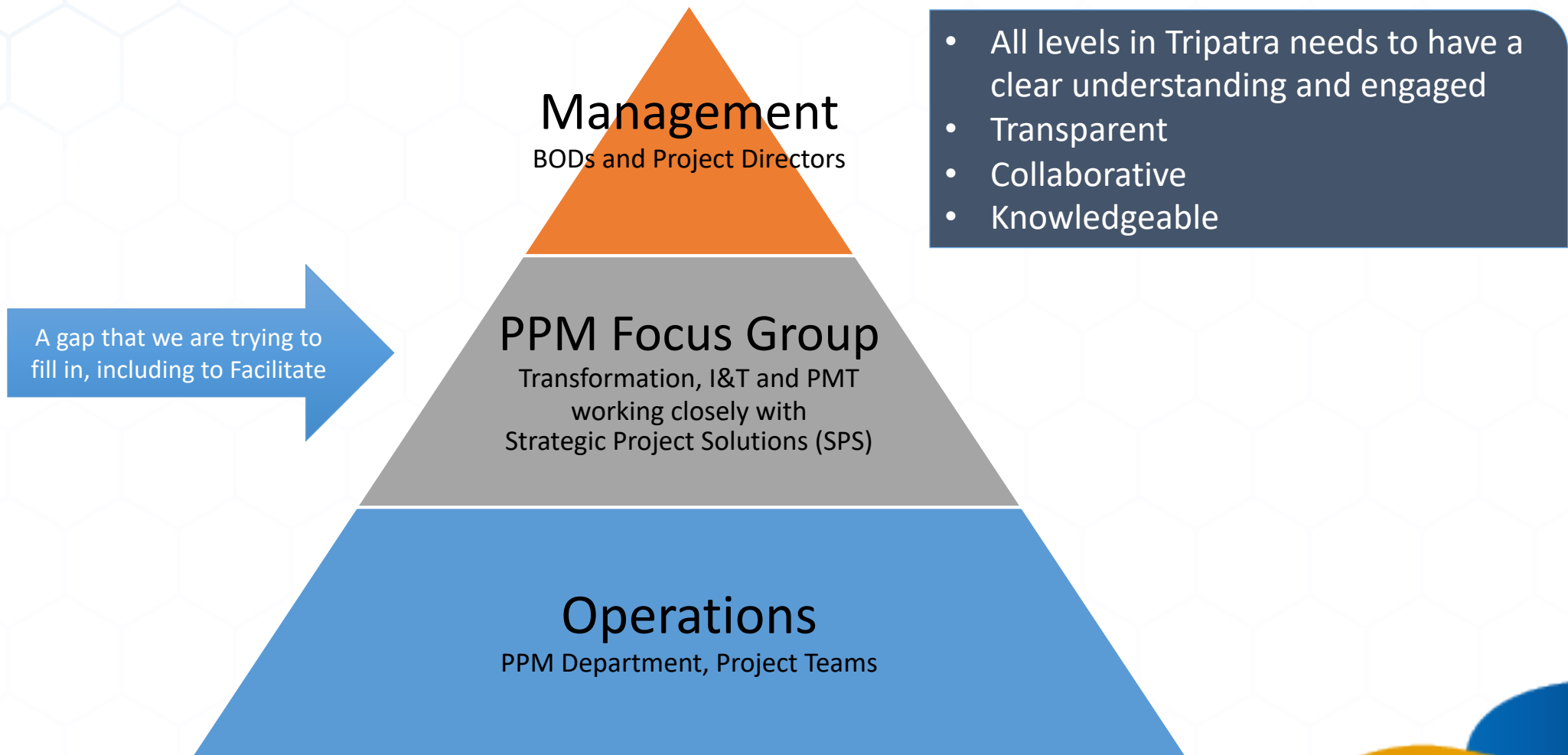
Piling - Cash Flow Benefits



2

Integrating PPM in the Way We Work

Our Approach – Focus Group



Our Approach – Focus Group

Objectives



- To understand the essence of PPM, applying Operational Science into EPC Project Management
- How we can practically and effectively apply PPM into TRIPATRA, knowing our contexts (strength and weakness), change management
- How we can assist the current projects in using PPM effectively
- We can also be the “devil’s advocate” to challenge the norm

Responsibilities



- Setting up high-level governance for PPM Adoption and Practical Implementation in Tripatra
- Oversight of relevant factors: overall strategy, change management, Investments, technology and risks
- Assist Managements and Operations to delivery PPM Program implementation successfully as a strategic New Way of Working

Step 1 – Discovery

Step 2 – Develop Foundation

Step 3 – Facilitate & Advice

3

What is Next for us?

What Committed and Scale-up looks like for TRIPATRA?



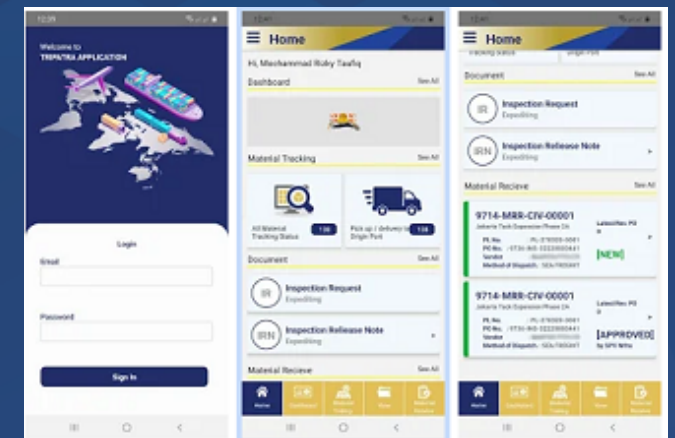
Continue Building
Our PPM Capabilities



More Collaborations
(Industry Stakeholders)



Complement with
Digital Transformation



Let's work – Together

Industry Challenges



McKinsey Global Institute (2017) Reinventing Construction: A Route to Higher Productivity

An EPC Company using PPM



Collaborate

Engineering & Construction

