Feeding the soil to FEED the planete



## THE JOURNEY TO SHAPE MAINTENANCE AND RELIABILITY EXCELLENCE AT OCP GROUP

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## I. Safety moment

- **II.** Reasons Behind transforming Maintenance at OCP
- **III. OCP Maintenance History**
- **IV. Assessment Results Summary**
- V. Deployment of an innovative approach to lead this Program
- **VI. Archived Results**

## **RELIABILITY AND SAFETY RELATIONSHIP : «A RELIABLE PLANT IS A SAFE PLANT»**



The More Disciplined Your Maintenance, the Fewer Injuries you have a base number) 5 R = 0.95 R<sup>2</sup>=.90 4 3 Injury Rate (normalized to a 2 0 70 90 60 80 100 Maintenance Schedule Compliance Source: Large Industrial Manufacturer- B

- DuPont reported that the most likely person to be injured is a maintenance technician, with less than two years' experience, doing reactive work.
- In ≈66% of companies, ≈60% of injuries occurs while doing reactive maintenance.
- ExxonMobil reported that accidents are five (5) times more likely in maintenance when doing breakdown work than when doing planned and scheduled work.

## "WORLD-CLASS" MAINTENANCE, A MAJOR LEVER TO ACHIEVE THE OPERATIONAL EXCELLENCE ...



## MAINTENANCE REPRESENT ON AVERAGE 60% OF OUR POTENTIAL COST GAIN IN BOTH MINE AND CHEMICAL PLANTS

**COST DEPLOYEMENT 2016** 



#### **02 KEYS LEVERS TO ACHIEVE THE OPERATIONAL EXCELLENCE ...**

- "The **professionalization of maintenance**" with the deployment of an innovative approach, to deal with the complexity of the project :
- Process function deployment : to ensure that operations are carried out in accordance with all the criteria of safety, performance and quality. Its aims to improve and optimize industrial processes.

## MAINTENANCE, A STORY THAT BEGAN IN 2006 AND CONTINUES OVER TIME



### JOURNEY TOWARD A «WORLD CLASS MAINTENANCE»



## GLOBAL MAINTENANCE ASSESSMENT : OBJECTIVES, SCOPE, APPROACH & TIMELINE

#### **Approach and Timeline**

The multi-site diagnostic deployment leveraged independent teams :

- 05 industrial sites 34 Business Unit)
- Site teams were comprised of 4 6
   JESA and OCP individuals



#### Diagnosis Axes

- 1. Strategy & Standards
- 2. Organization & Competencies
- 3. Preparation & Planning
- 4. CMMS
- 5. Reliability
- 6. Preventive Maintenance
- 7. Spare Parts & Inventory
- 8. Maintenance Execution
- 9. Performance Management
- Systems
- 10.Continuous Improvement
- 11.Asset Management
- 12. Autonomous Maintenance



## **ASSESSMENT END PRODUCT**





HIGH 1 2 IMPACT 2 **1**<sup>3</sup> <sup>1</sup> 5 6 LOW LOW EFFORT HIGH Lanent 🕠 B O JACOBS Short Terre (3 - 6 ma) Mid Terre (6 - 12 ma) Long Terre (12 - 12 ma)

ID	Opportunity
Al	Cross-functional communications
A2	Work request prioritization
A3	Routine work planning
A4	Routine work scheduling
AS	Work history & information tracking
A6	Bad Actor program - Continuous Improvement
A7	Performance management process
AB	Lubrication program
81	Shutdown planning & scheduling
B2	Equipment strategy definition
83	Work execution productivity
84	Contractor management
85	Organizational structure / responsibilities
B6	General Resources support
C1	Spare parts and material supply
C2	GMAO use / process support
C3	Skill building
- 64	Operator care
66	Morihanical integrity

## WHERE WE BEGAN IN 2016, ALMOST ALL LAGGING AND LEADING **KPI'S ARE UNDER THE TARGET**

KPI's	OCP Values in 2016 (%)	Leading Practice (%)
Production loss breakdowns	3-8	<1,5-3
PM+PdM % to total maintenance	30-40	75-80
PM compliance	50-60	90-95
Planned work orders	<60	90-95
Unplanned Work Orders	30-40	5-15
CMMS Use	40	100

	Keys Takeaways
•	Lack of AM Strategy and Alignment
•	Necessity to Effective work management /

#### standardization

- Lack of Equipment strategies and performance • history
- CMMS not fully used in all sites •
- Spare parts: procurement process not flexible, •
- Lack of coordination Maintenance Execution VS • BdM
- Reliability function not captured by • organization
- Maintenance is perceived as a cost center not a • profit center
- KPI's not captured via CMMS •
- Lack of a standardized maintenance dashboard • common in all sites

## WE HAVE ADOPTED AN INNOVATIVE APPROACH TO LEAD THE MAINTENANCE TRANSFORMATION PROGRAM



## **CONNECT AND SCAN PHASE**









## TEAM PHASE : SHARED VISION IN SHORT, MEDIUM AND LONG TERM ESTABLISHED BY A MULTIDISCIPLINARY TEAM



## TEAM PHASE : 18 TOPICS CONSTITUTE THE BACKBONE OF THIS TRANSFORMATION

Sub-Team 1	Governance	<ul> <li>Develop a maintenance policy &amp; strategy</li> <li>Design and implement an agile maintenance organization model</li> <li>Staffing of technical and Method</li> <li>Maintenance performance Management process</li> </ul>	ASIAS-BOIS MAINTENAM MAINTENAAKE DHHEAMMASTER PLAN Constant C
Sub-Team 2	Process	<ul> <li>Establish a standardized process (simple and efficient)</li> <li>Asset Management process</li> <li>Purchasing spare part &amp; Inventory Management process</li> <li>Subcontractor Management process</li> <li>Maintenance Set up Excellence</li> <li>Maintenance execution excellence</li> <li>Reliability process (MEL, Criticality, RCFA, Defect elimination,)</li> <li>Multi-year budget process</li> </ul>	
Sub-Team 3	Capability	<ul> <li>Development of technical and managerial skills/Competencies</li> <li>Create Reliability Excellence Community of Practice</li> </ul>	
Sub-Team 4	Management Change	<ul> <li>Plan and manage change and communication</li> <li>Set up a management committee to ensure Sites are committed</li> </ul>	
Sub-Team 5	Digitalization	<ul> <li>Use of CMMS as an exclusive tool to manage Maintenance</li> <li>Transformation of digitalization opportunities into maintenance performance</li> </ul>	

## TEAM PHASE : AN OPPORTUNITY TO EMBARK ALL STAKEHOLDERS AND CREATE SENSE OF OWNERSHIP

































## BUILD : DEFINE THE DESIRED OUTPUT AND GET AN INDIVIDUAL ENGAGEMENT FROM EACH ACTOR



150 4.1 Renouvimt de 50		34 4.1 Renouvimt de 200	
Le matériel nécessaire par rapport au bateau « de base » en construction est listé		Le dossier d'investissement Orange s'ouvre	
• 0 • 0 30/06/2016 H.PLANTET		€ 0 0 31/12/2016 RLECONTE	
149 4.1 Renouvimt de 50	166 4.1 Renouvimt de 200	33 4.1 Renouvimt de 200	
Le matériel nécessaire à mettre sur un bateau offshore est listé (définir le SPRED)	Le Spread est défini	Une étude des outils nécessaire est réalisée (engins, charrues, ROV,	
● 0 ● 0 30/06/2016 H.PLANTET	• 0 • 0 30/09/2016 H.M OGUEROU	€ 0 € 0 31/12/2016 B.GENTY	
148 4.1 Renouvimt de 50	165 4.1 Renouvimt de 200	167 4.1 Renouvimt de 200	
Certains éléments EMR sont éclaircis (uniquement installation ou installation et	Les re-négociations sur l'organisation des navires sont ouvertes	Le dossier d'investissement est ouvert	
⊕ 0 <b>©</b> 0 31/05/2016 C.LEMAGUER	0 0 0 30/09/2016 RLECONTE	• 0 • 0 31/12/2016 J.BOUCHER	
134 4.1 Renouvimt de 50	164 4.1 Renouvimt de 200	32 4.1 Renouvimt de 200	168 4.1 Renouvimt de 200
Les tendances des marchés "autres diversification" sont suivies pour déceler les	Le groupe est élargi, Thulasine Pavilupilai est intégrée	Les besoins du marché sont définis pour préciser les besoins sur le nouveau navire	Le type de navire est choisi par le CODIR
€ 0 € 0 30/06/2016 H.PLANTET	€ 0 € 0 30/09/2016 T.PAVILUPI	• 0 • 0 29/12/2016 H.PLANTET	€ 0 € 0 30/06/2017 RLECONTE
T2 2016	T3 2016	T4 2016	S1 2017
30/06/2016	30/09/2016	31/12/2016	30/06/2017



## MANAGEMENT SYSTEM : SETTING UP A REGULAR TOUCH BASE MEETINGS



#### **MASTER PLAN : A POWERFUL PROJECT MANAGEMENT TOOL**



## CURRENT STATE: BY THE END OF 2018 WE HAVE ACHIEVED A TREMENDOUS IMPROVEMENT

KPI's	OCP Values in 2016 (%)	OCP Values by End of	Leading Practice (%)	Keys insights	
		2018 (%)		KPI's Values near from benchmark	
Production loss breakdowns	3-8	1-4	<1,5-3	<ul> <li>Shift from reactive to proactive maintenance</li> <li>Change in maintenance perception : shift from</li> </ul>	
PM+PdM % to total maintenance	30-40	65-80	75-80	<ul> <li>Maintenance policy and strategy defined, shared and deployed in all sites</li> </ul>	
PM compliance	50-60	75-90	90-95	<ul> <li>Best Practice sharing, adoption, and application</li> <li>CMMS fully used in all sites and KPI's measured</li> </ul>	
Planned work orders	<60	80-95	90-95	<ul><li>via CMMS</li><li>All Maintenance processes are standardized and</li></ul>	
Unplanned Work Orders	30-40	5-20	5-15	<ul> <li>used by all sites</li> <li>Spare parts: procurement process is simplified</li> <li>Best alignment and coordination between Maintenance Execution and BdM</li> <li>Reliability function captured by organization</li> </ul>	
CMMS Use	40	85-95	100		



# Thank you

