

Integrated Data Management and Digital System in Well Intervention Program Business Process. An Implementation Case Study from Mahakam Indonesia

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Abstract. In order to maintain the production rate in Mahakam, every year more than 4000 well intervention workloads are carried out as outlined in the Well Intervention Program. This work program goes through several stages starting from request, costing, workload determination, making program details up to approval from the engineering, operation, and economic value to ensure the work is carried out safely, efficiently and profitably. This process involves multiple entities and also multi-layer approval. This paper will explain the utilization of data management applications and digital systems in the Mahakam Well Intervention Business process and the various benefits provided.

A system was developed to assist the process of creating, implementing, recording and reporting well intervention workload using a web based application. This application is proven to provide enormous benefits in well intervention activities in Mahakam. Shorten the program creation time so that the entire process, which initially took 3 days, can be completed in less than 1 day. Increase the speed and accuracy of statistical operation calculations, more objective and measurable HSE Performance assessment to help provide early warnings of potential incidents, facilitate control and monitoring of budgets and contract expenditures as the basis of calculation cost efficiency, and facilitate the creation of external reports with valid data.

Keyword(s): Digitalization, Well Intervention Program, Optimization, Reporting

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1 Introduction

Natural decline in Mahakam is quite high at 50% every year, to withstand the rate of production decline, it needs massive new well drilling and aggressive well intervention activities. This results in a high well intervention workload every year which is more than 4000 workloads.

On the other hand, the company also conducts a cost cutting program to reduce expenditure and maintain profitability operations in Mahakam. This requires efficiency in well intervention operations ranging from cost expenditure, job duration, manpower setting and lean organization. This raises some problems including:





- 1. Cost and duration job statistics are still not available, so it still does not have a fixed baseline in determining optimization.
- 2. There is still a lot of work done manually, so it requires manpower and a greater duration of work.
- 3. Reduction in the number of personnel that is not followed by a reduction in the number of jobs, causing an increase in job load in available personnel.
- 4. There is no integrated method for viewing the entire operation performance.
- 5. Data sources are scattered and involve a variety of functions, causing high probability of differences and data inconsistency.

These problems encourage the acceleration of digitalization development to solve problems that arise. The development of digitalization is carried out to be able to monitor performance and control the achievements of KPIs in Well Intervention in terms of workload, cost, safety and others.

2 Application Clustering

In order to support operating needs, various digital applications are developed inhouse by internal developers on the Drilling and Well Intervention team. The application has been developed since 2006 and is grouped in several large application clusters as shown in Figure 1. This paper only focused on the discussion of applications on two main clusters: (1) cluster operation, engineering & planning and (2) cluster monitoring & reporting.



Figure 1. Application Clusters

In cluster operation, engineering & planning consist of several sub-applications such as the applications to organize the creation of well intervention programs from requests to approval processes, then application for job planning, and well intervention work activity reporting applications. While in the monitoring and reporting section there is a daily report application, well chronology & well diagram, barge performance report and well intervention dashboard.



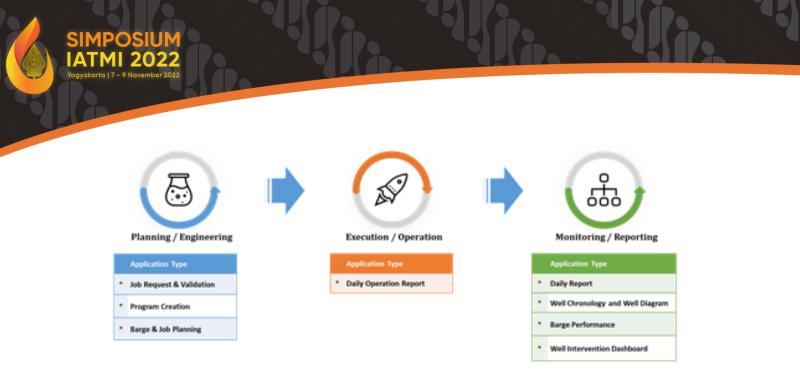


Figure 2. Simplified Application Workflow

3 Digitization Initiatives

In the early stage, the well intervention business process started from the job request from the subsurface team in the form of paper based request, then the request was reviewed by the team well performance to be further forwarded with the costing process and the creation of a well intervention program by well intervention engineers. Furthermore, the program was reviewed by the Head of Engineering, Head of Operation and Head of Asset. The process was done manually, and paper based, so that in the initial initiation process, it takes approximately 3-5 days in the creation of the program.

The Well Intervention Program is sent to the field by fax and then the paper program sent to each barge by seatruck. After the work is done, the job report of the work is sent back to the site base and then to Balikpapan (headquarter). Many efforts are needed to produce one complete report per barge per day, it requires transportation from well site to barge by sea truck as main transportation means in Delta. In this configuration, there are several inefficiencies observed,

- 1. Transportation costs needed to deliver programs and reports every day,
- 2. Data is stored in hardcopy form, so it is very difficult to do digital integration with reporting, and not easily accessible to all parties.
- 3. Data cannot be used in real time by concerned parties



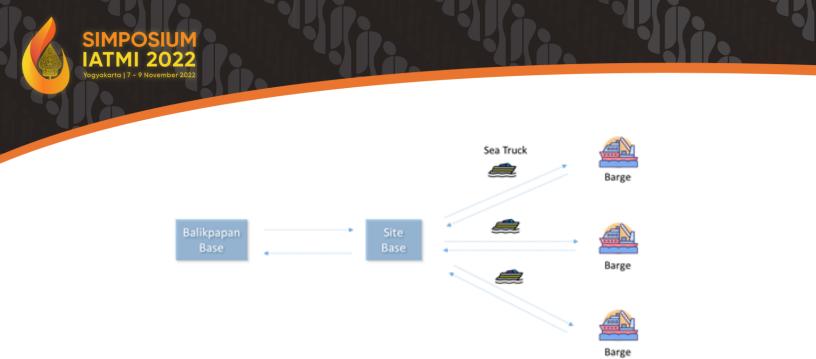


Figure 3. Initial reporting process illustration

The digitization process in the Well Intervention Business process began to be developed to increase efficiency, control in performance and overcome some of the problems encountered in the previous system. Development process is starting from Operation, HSSE, Performance, Contractual, and finally Dashboard and Reporting.

In terms of operation, development starts from the creation of a digital system for well intervention request, well intervention program, offline daily report, and data storage system well diagram and well chronology (a collection of operation reports of work done on the well). In general, the process is divided into the following:

- 1. Well Intervention Request creation and approval
- 2. Well Intervention Program creation and approval
- 3. Offline Daily Report
- 4. Well Diagram and Well Chronology Report
- 5. Reporting
- 6. Job History and Statistics
- 7. Other Apps

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Figure 4. Well Intervention Program Business Process

4 Well Intervention Request

Well Intervention Request is a formal request from a particular function to the Well Intervention team to perform certain Well Intervention work. Well Intervention Requests can be issued by subsurface teams, drilling teams, well integrity teams or other teams that require well intervention work. This request is made through the web based application. The view of the well intervention request is shown in Figure 5. Some of the main data in the well intervention request are as follows:

- 1. Present Status: describes the current well condition
- 2. Intervention Main line: an overview of desired intervention needs
- 3. Reservoir Data
- 4. Type of operation budget and workload
- 5. Success ratio
- 6. Expected gain and estimated stakes
- 7. Cost and Duration Estimation
- 8. Review surface data and specific concern from Well Performance Team
- 9. Attachment: Completion log, Cement Log, another related data

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Well intervention request is also connected with the well integrity application to see the well integrity status of the well and determine whether it is safe to do intervention activities or not. In the example below, the green Well Color indicates that the integrity well status is in good condition.

WIR No	WIR163239	Originator	Reservoir	Dat	te of issue	01-0:0:019		* T)	pe of Opera	tions (1	Norkload) - [Fille	d up by	WLI Engineer]				
Field		Well name			ell Color	Green			enditure : Al	0 - 101 1	(OBEX)						
Priority	Urgent							_		0 - WLI							
	ELECTRIC LINE:Additional Perfo	oration						No		-	Job Title			Workload			Well Integrity
Main Job	Is the proposed perforation in a n								Slick Line Slick Line		ruction removal		essibility (Tubing clear,tag TC sediment, debris, scale¿etc))S,etc)			No
Request Status	WIR Ready, WIR has been Cost	ed by WLI Engin	ter						Coil Tubing		ruction removal		diment washing				null
• Type of ope									Slick Line		Change / Plugging		(anti collision or temporary	zone isolation	0		No
• Type of ope	radons								Electric Line		ration		al Perforation				No
Production Wor ~ Perforation ~ Additiona		1394 [1394 - 1398	.12]					6	Testing	Clear test	n up and Production	Post per	foration or any well intervent	tion (WSO, sta	art up,)		No
~ Casing	perforation ~ Top depth: 1394 ~ Bottom depth: 1396																
	~ UB: 100								iccess Ratio								
L									d up by WLI Eng								
• Present Sta	tus							No	Well Profile		DLS > 1.0, <= 2 / 1		escription		Success Ra Medium		
1.	was drilled on June 2018. Complete	ed with GP comple	tion consist of 5 z	tones.					Well History		No particular history		(= 06A <= 00		High	•	
 Currently all Add Perfo on 	GP zones were closed and 2 reservoir Res. performed on 22 Sep 2	rs at rat hole which	h are and ing clean up this p	d v	was isolated v	vith plug. fting issue problem, no liquid	to surface).		inci in acci y		no particular matori	,					
	well, another perforation is needed.																
								▼ Fi	lled up by O	iginato	or Engineer						
Co-Slot:	Delpot: 568 Bopd (prepare L	ALL prior add pe	rto)					No			Ca	ategory			Success Ra	atio	
								1	Reservoir stak	es/poten	tial estimate				Medium		
 Intervention 	n Main Lines																
0. Safety First. 1. Tubing clear.	tag TOS, record WHSIP, tag FL prior	perfo (mandatory)						▼ P	otential				 Cost & Duration Tin 	ne Estimat	ion		
2. Retrieved PO	plug at depth 1450m, re-set PO plug ervoir 10-5a50 (gas reservoir) in saf	at depth 1406m	(to temporary iso	late res	ift if required)).		Cu	rent		0 mmscf/d or bbl/	ъ	USD				
Target : Res	servoir (1394-1396mMD), 2 meter, est.	deg 0.9-0.95	>				Exp	ected		2 mmscf/d or bbl/	ъ	Duration	84 hour(s)		
3. Record WHSI	IP & tag Fluid level after perforation.							Ga	n (gas)		2 mmscf/d		Remarks (Not Nes6, wate	r to deep) Co	ntine Bailling/Sa	and washing.	
	otential test by barge as per WPT por	cedure.						Ga	n (oil)		0 bbl/d						
Next action will	be depend on potential test results.							Sta	kes	0.	1 Bcf		25-Oct-2019 09:	07			
• Reservoir In	oformation								ared by				Keyword 1				
								Dep	irtment GSR/TU	N							
Res	Net pay: 2.4m, por: 19%, Sw: 10	%, est. deq: 0.9-	0.95, est mob: 5	500-1000	то/ср			Geol	ogist _				Keyword 2				
								- A	tachments								
								No	Attachmen	Туре			File Name			Description	Size
								1	Completion lo	9	HM_Cpllog	_TMD_Fin	al_200scale-layout.cgm			Completion Log	1 MB
								2	Reservoir data		1_AddPerf	6_2019-1	0.xlsx			Reservoir Data	796 KB
									Preparations		Originator Visa		WPT Comment		PT Visa	WIT	Costing
									GSR Engineer		GSR Head of Servi		WPT Engineer		ad of Service		Engineer
								1	Submitted 2019-10-01 08:51:	53]	Approved [2019-10-02 11:38:0	12]	Submitted [2019-10-21 16:01:41]		oproved 0-21 17:36:23]	Sub [2019-10-	mitted 25 09:07:48]

Figure 5. Well Intervention Request

The process continued with a review by the Well Performance Team. The team will assess the risk of short fall, overall impact on production performance, sand issue, or specific surface facilities issue. After going through a review from the team, well performance then well intervention request will go through the initial review process in terms of cost, engineering, and operation by well intervention engineer. In this step, the well intervention engineer will determine the details of the operation step, determine the budget and job duration estimates, look at the feasibility operation from the engineering side, and see job readiness from the operation side (barge allocation, material availability, platform accessibility etc.). In this stage we will be able to determine whether this work is economical and feasible to do or not. If it is not economical and not feasible, then the well intervention request will be delayed or even canceled, but if the work can be done, it will be continued with the next step, which is the creation of the Well Intervention Program.





5 Well Intervention Program

In this stage, the well intervention engineer will make details of the well intervention program including the following:

1) Program introduction,

- The objective tab contains an objective of well intervention program, general well intervention sequence, estimated stakes, expected Gain.
- The Introduction tab contains an overview of well conditions consisting of Well status, Highlight well history related to well accessibility, Current well production, Reservoir category, and some important job-related data that need to be considered by the team in the field.

2) Workload and budget type,

- This tab contains the details of the workload used and budget allocation. These data will be used in the calculation of job realization statistics and also cost expenditure.
- Type expenditure is divided into Opex (operational expenditure), Capex (capital expenditure), and Capex new well (capital expenditure which includes the cost of a new well job).

3) Program detail including workload, estimated duration and estimated cost.

• This section contains details of step well intervention operation, the work unit used, workload related to the step, as well as the estimated duration and budget of each step.

4) Well Information

• Well information contains maximum depth of operation, well deviation, maximum bottom hole temperature, well status, current production and expected production after well intervention. These data provide an initial picture of the limitations of well intervention activities as well as the economic value of well intervention work to be done.

5) Attachment

• Some data related to well intervention programs is included to make it easier for the field team to get important data related to operations while ensuring that it has the same reference in the implementation of the program. One of them is the GBUC (Gun Blown Up Calculation) document which calculates the maximum safe underbalance in perforation activities



WIP No Field	WIP163239 HANDL	WIR Originator Well name	Reservoir	Date of issue Well Color	25-Oct			* Program	am Detail Attachments																			
	FLECTRIC LINE : Additional			Well Color	UN	een.		Step 1: SB	lick Line											Attachmer		Name						
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Request Status	WIP approved by WLI Hd. C	Df Dept						MOCK	12 28 May 2020										2	Well trajector	Tajec	ryxlax	null				1	23 KB
· Objective								0.0	k Tubino Cleara	un Prine Endi	mand Washings								3	Other			well drawing				5	49 KB
Objective was drilled on June 2016. Completed with GP completion consist of 5 zones. Add Perfs on Res 10-6x50 performed on 22 Sep 2019. Inserver during clean up this reservoir were no flow (Offing issue problem, no liquid to surface).																4	Other	Sediment Washi	8HA.png	nozzle BHA				1	10 KB			
					0. Prior	or rig up:										5	Other	LCM Formula jp		LCM Formula				6	IS KB			
3. To revive the	3. To revise the well, another perforation is needed. Res 10-5a50						- check WHSI - perform UM			ine.							6	Other	GBUC 19 1053.stex	WIP163239 - 25-Oc	a- rull					17 KB		
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MOCK2 28 Ma	ry 2020							2.RH	light toolstring	to check TRS	V flapper fully	open																
	ng to clear access to 1406 mBRT ((f unsuccessfull, perform :	sediment washing)					3. RH	3. RH 278° GC to check tubing clear and tag TOS								W	- Preparations	Preparations			WLI - Visa 2 (Ops)	W	LI - Visa Hd. of A	laset			
- Continue retr - Set PO Plug a																WLI Engineer		WU Engineer	ngineer W			WU Head of Service Dos.		IU Head of Departm	writ			
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Figure 6. Well Intervention Program

6 **Offline Daily Report**

Once the program gets full approval, then the work can be done in the field. Operation team in the barge can create reports through the offline daily report application. This allows all teams to be able to create reports even though it is not connected to the company's intranet network due to signal limitation caused by geographical location and tide.

The report creation process starts by downloading the OCF (ODR Config list. File) which contains programs that have completed the approval process. So that reporting can only be done on approved programs, and avoid the execution of operations on programs that are still in the approval process, or still not validated. Furthermore, the field team selects the corresponding program and workload and then fills out the details of the job report based on the specific order of time and work code. The selection of work codes becomes something critical because it is related to statistical calculations.

In ODR, in addition to data time-log operation, the field team also fills in barge summary data, well summary, and POB data. After completing all the data, then the data is uploaded in the system and will be stored in data reporting and well chronology.



ODR Application	- 0	×	Timelog Editor - ODR Operation date: 27-Dec-		Barpe				×				
Offline Daily Report - M	ell Intervention Division -		Means Name	9,21	Status			Set Step Status	Well Data			Select means	(EL)
			(t)		OK OK			Set Step Status	Well Data and Su	mary			
Vers	ion: 2016.005		04)		OK				List of WSP:		Remarks (not r	mandatory)	
Select means	group and operation date		wed wsp	5760	Means	Start	End Cod	Description	WIP 165501 :		-		î
Select OOF C:\Lisers\L0394455\Desktop\00R\6	0CF_202112281014.h2.db		103P26 103P26 103P26	901 1 901 1 901 1	0 (1) (1)	L) 00:00 L) 02:00 L) 02:30	02:00 WEA 03:30 R35 0 04:00 TUBE	Weather concern due to heavy ran. One working on barge Rg up Sickine PCE and pressure test PCE at UP 500 ps/5 mins and . CO RDH light tool string to 190 millt, Confirmed TRDH flapper fully open.					
This OCF is applicable for: 2021-1	2-27 until 2022-01-04		809-26 10.27-26 10.39-26 10.39-26	901 1 901 1 901 2	04 (14) (14) (14) (14) (14) (14) (14) (14	L) 05:30 L) 06:30 L) 09:00	06:30 WEA 09:00 TLEE 11:00 NPT 0		S1Status	Initial Last	t utin v	Event	0
Means group -Barge	Open Report View Report (Read Only)		102°26 102°36 102°36 102°36	901 2 901 2	888	L) 15:00 L) 16:30	16:30 LOGO	NG, S., RDH nenory BHPT aurvey (GR-CCU,P-T)CAP/Spriner) shut in mode. NG, S., Venfed logging data. Result: VM-SD/11 S17 pol 37 degC-Has BHP. NG, S., Open well to production network. Start at 1924' choke poming, sm. NG, S. RDH nenory BHPT aurvey (GR-CCU,P-T)CAP/Spriner) flowing mode.	WHIPP (ps	•		2. Nb. of fish dropped in hole: 3. Nb. of surface equipment failure:	0
									WHFT (dep C WHSP (ps		0	4. Nb. of ol spil: 5. Estimated volume in bbis:	0
Operation Date and Means List Date : 27-Dec-2021	Operation Data		New	Descript		the Po hear	V 7418. (74	working on barge	S2 Status	Initial Last	t .	5. Estimated volume in obis: 6. Nb. of gas flaring:	0
Group : Nesitor3 - Barge	Timelog Incomplete.		Insetbefore						Statu		~	7. Estimated volume in cft:	0
Group ID: 8912			New Step						WHPP (ps	9		r Gas Release	
Means : Barge	Barge Summary Incomplete.		No WSP	Jub Cod	a Jub Code	Description			WHFT (deg C	o [
(EL)				7,94	300 Code	Description			WHSIP (ps	0		1. WHE size in inches:	4
(SL)	Wel Data Incomplete.		Delete									2. WHE length in feet (including BOP):	35
			Start 00 - 00 -						Casing Pressur	re (psi) Initial Last		3. Nb. of WHE bleed off to atmosphere:	0
			End 02 - 00 -						Ann	A 150 150	2	4. Avg WHE pressure before bleed off ((eq): 0
			Save						Anni	8 100 100		5. Gas released (cft): [Calculated] 0.0	0
	Extract to Excel		Cancel								Sæ	ve	

Figure 7. Offline Daily Report

7 Barge Planning

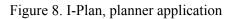
Setting and scheduling the implementation of work by barge is set by WLI Planner in Balikpapan and in the field using a planner application created by the DWI digitization team. In this application, not only being able to schedule barge job sequence, but can also monitor some data, as follows:

- Well Intervention Program status: this status as indication of WIP step
 - Job in progress: the work has been going on
 - WIP ready: Well Intervention Program is ready but work is not started yet
 - WIR ready: Well Intervention Request has been validated but not reviewed yet by well intervention engineer
 - WIR commenting: WIR awaits review process from subsurface team
- Jobs sequence from this series of jobs
- Expected gain
- Estimated duration of work

In view, views can be selected based on the area of operation and filters of 5 or 10 nearby jobs. This application is accessed by the planner team in Balikpapan, wellsite planner and also barge team. In addition, this application can also be accessed by the Well Performance team and subsurface team as subjects in determining work priorities.



WSR	WPR							ter			
Area:	All (Delta)		✓ Start Date	: 17-Dec-2021 📰	Filter: Display top 5 🛛 🗸 Display 📓 Export to Excel						
Servio	e Operation				17-Dec-2021 - 14-Jan-2022	Gain					
	nit Group	WSR No	Status	Main Job	Remarks	Gas Oi		ASSET			
	Well Name					MMScf bp	1				
Slick L											
								18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2			
1 TM	N	WIR169315	Job In Progress	SL: Zone Change / Plugging	(Tide ok) Close Z2. Open Z4. DPOP	1 0	1				
2 TI	N-	WIR161812	WIP Ready	SL: DHSV Replacement	(Tide 1.34 m)	0 0	1 -1				
3 TM	N-	WIR169401	WIP Ready	SL: DHSV Replacement	Tide 0.89 m) 0 0 1 0						
4 TI	N-	WIR169375	WIP Ready	SL: Zone Change / Plugging	(Tide ok)						
5 Th	N-	WIR165358	WIR Commenting	SL: DHSV Replacement	Tide 0 m)	0 0	1 0				
₹	Barge						17	18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2			
1 H-	1	WIR169352	Job In Progress	SL: Zone Change / Plugging	[NW Preparation - Coslot] Plugging	0 0	1				
2 H-		WIR169169	Job In Progress	SL: Zone Change / Plugging	(Before CST) LALLI. Unplugging	0 0	1 0				
3 H-	4	WIR169266	Job In Progress	SL: Zone Change / Plugging	(Tide 7) LALLI. (Before CST) Unplugging	0 0	1 0				
4 H-	4	WIR169306	Job In Progress	EL: Re-Perforation	[NW] Sand bailing. PBMS survey. Set screen	1.5 0	6 0				
5 H-		WIR168349		SL: Support LWO	(Tide 2.6 m, 18-22 Dec) (LALL) Set screen. Set K Valve. Support with TBRG	0 100					



8 Well Chronology and Well Diagram

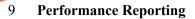
Well chronology contains a collection of reports of all work done in the well since initial intervention job until abandonment. Well chronology is a series of time logs of work taken from the daily report. The well diagram is visual data related to the condition of the latest well after the well intervention activity. Data well chronology and well diagrams are essential for designing the next intervention activity.

Some data that must be updated after doing well intervention activities include:

- 1. TOS (Top of Sediments): Last TOS depth conditions
- 2. Open Reservoir: especially after perforation activities
- 3. Changes in completion conditions: Installation of flow control equipment, SSD configuration, gas lift configuration, gas lift deepening installation, installation of bridge plug and casing patch, tubing leak
- 4. Cement interval: especially after annulus cementing
- 5. Fish: fish components, and their dimensions
- 6. Restrictions: if there is a reduction in diameter due to scale, tubing deformation, or even broken tubing

Visual data displayed in well diagrams and operating data recorded in well chronology will be used as a source of data in determining further well intervention activities to increase production, restore integrity, or other work.





Work implementation data will be processed further to produce statistical data used in performance measurements, produce reports to relevant parties, and display KPI Dashboards that provide overall visualization of achievements. Some of the performances measured and recorded in this reporting are:

1) HSE Performance

It shows the summary of HSE achievement during the year. HSE dashboard contains some data as follows:

- Overall HSE Performance
- Pie chart unsafe condition and situation filtered by Company live saving rules
- Hazard observation card quantity per contractors
- Hazard observation card filtered by detail activity
- Closure status of hazard observation card

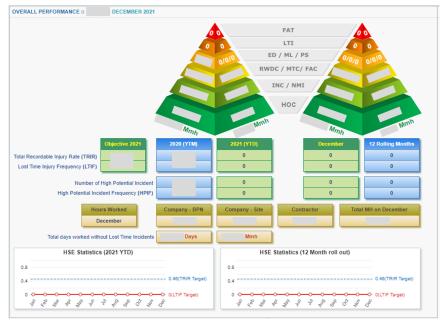


Figure 9. HSSE Dashboard

2) Operation Performance

Summary of operation performance is recorded and reported through the Well Intervention Dashboard. This data retrieved automatically from ODR, HSE report, and morning summary report. These data contain several information as follows:

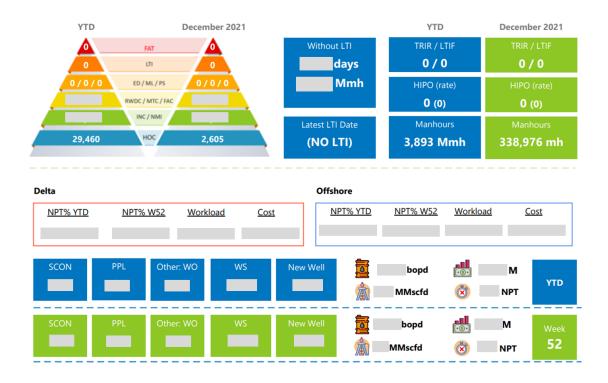
- Summary
- Workload Realization
- Budget Expenditure
- NPT (Non Productive Time) Trend

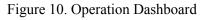
Sekretariat IATMI Pusat Komplek Perkantoran PPTMGB Lemigas. Gedung Penunjang Lt 2 JI. Ciledug Raya Kav 109, Cipulir, Kebayoran Lama, Jakarta 12230



- Instantaneous Gain
- Well Integrity

HSE Performance and Well Integrity Performance will be discussed in more detail in separate papers. Some papers related to HSE and Well Integrity applications can be found in attachments.





10 Result

Digitalization in business process well intervention is proven to provide a variety of significant benefits, including:

- 1. Improve the efficiency of the creation of well intervention programs. Program creation can be completed in just a single day.
- 2. Optimization in reporting. Because to submit a report there is no need to use a sea truck in sending the report to the base, but simply by using ODR and uploading to the database system.
- 3. Data reports can be accessed in real time by concerned parties
- 4. Data is centralized and synchronized so as to prevent data errors and data versioning differences.
- 5. Means of collaboration of various functions and departments so as to avoid silos of knowledge and data
- 6. There is a monitoring system to see the achievement of KPIs and measure performance





7. Various conveniences in generating reports because of data that has been centralized and structured

These benefits encourage the improvement of overall well intervention performance ranging from safety, operation performance, budget and expenditure, and contractual aspects.

11 Conclusion

The Digital System developed in well intervention activities in Mahakam is a robust system in supporting operating activities and also monitoring performance achievements and reporting. Currently, digitalization development opportunities are in the utilization of machine learning and artificial intelligence to maximize support in operations, especially to help decision making process, as well as in maximizing the efficiency potential from the barge planning side by integrating weather factors, water tide, shortfall associations, moving time optimization and work areas.

The potential for digitalization development in well intervention activities is still wide open. It is hoped that these small steps can help maintain the sustainability of Mahakam production and provide support in the provision of national energy.

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Nomenclature

DWI	: Drilling and Well Intervention
WLI	: Well Intervention
ODR	: Offline Daily Report
OCF	: ODR Config. List File
AWB	: Accommodation Working Barge
HWU	: Hydraulic Workover Unit
WIP	: Well Intervention Program
WIR	: Well Intervention Request
AFE	: Authorization for Expenditure
COR	: Close Out Report
KPI	: Key Performance Indicators
POB	: Personnel On Board
SSD	: Sliding Side Door
GBUC	: Gun Blown Up Calculation

