



PCMS Information Pack

PETRONAS Completions Management System

“Towards Smarter Project Completion and Handover”

Information Pack (External)

May 2021

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What is PCMS?

PCMS

PETRONAS Completions
Management System

A **PETRONAS-owned cloud-based system** accessible via:

- Web browsers at <https://pcms.petronas.com>
- Mobile applications for Windows, iOS, and Android devices will be made available soon

A digital system to manage processes and documentation related to project completion and commissioning activities, such as:

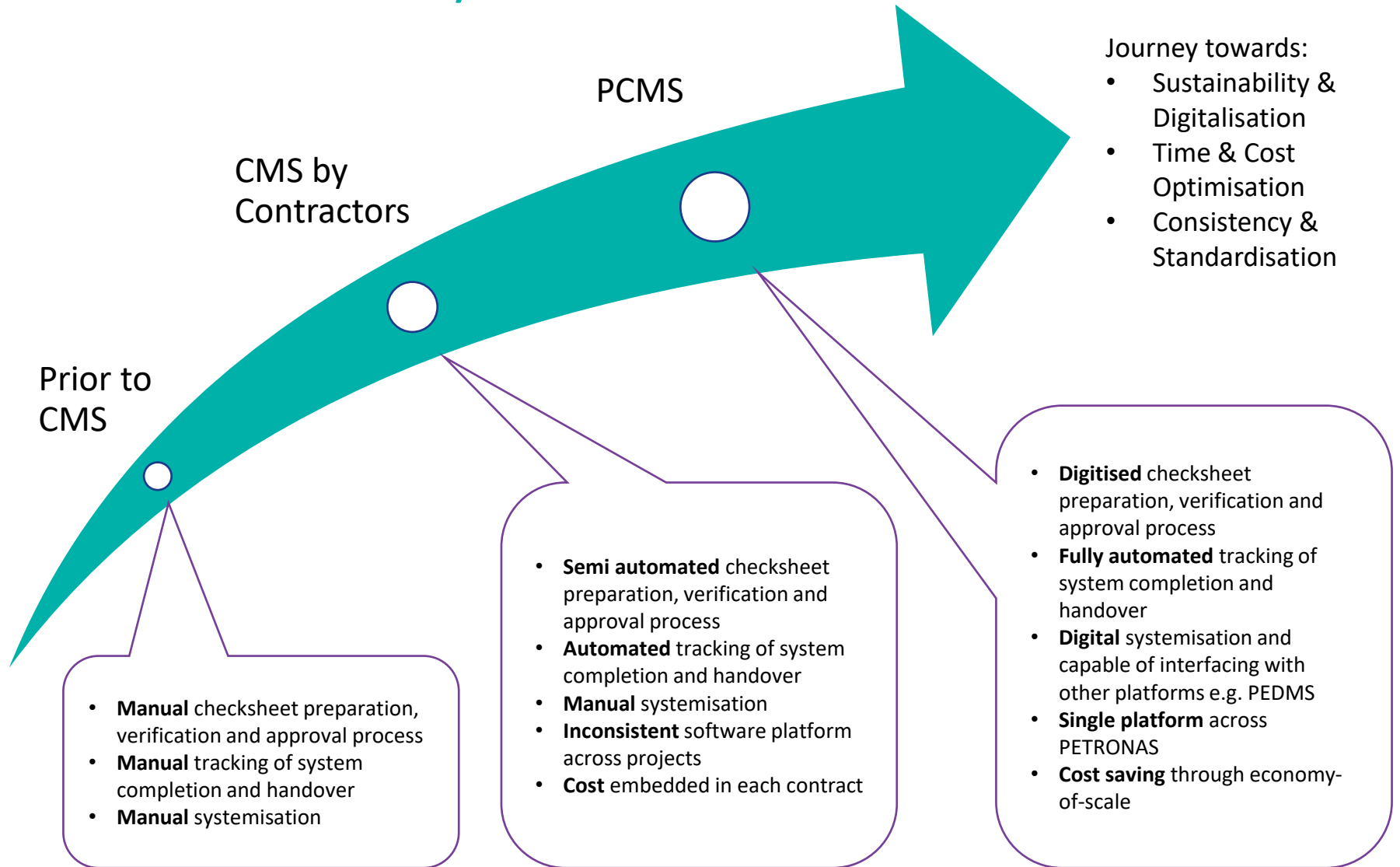
- Systemisation
- Inspection Test Records (ITR Checksheets)
- Phase Completion / Handover Certificates
- Punchlist

An enterprise-level platform, allowing:

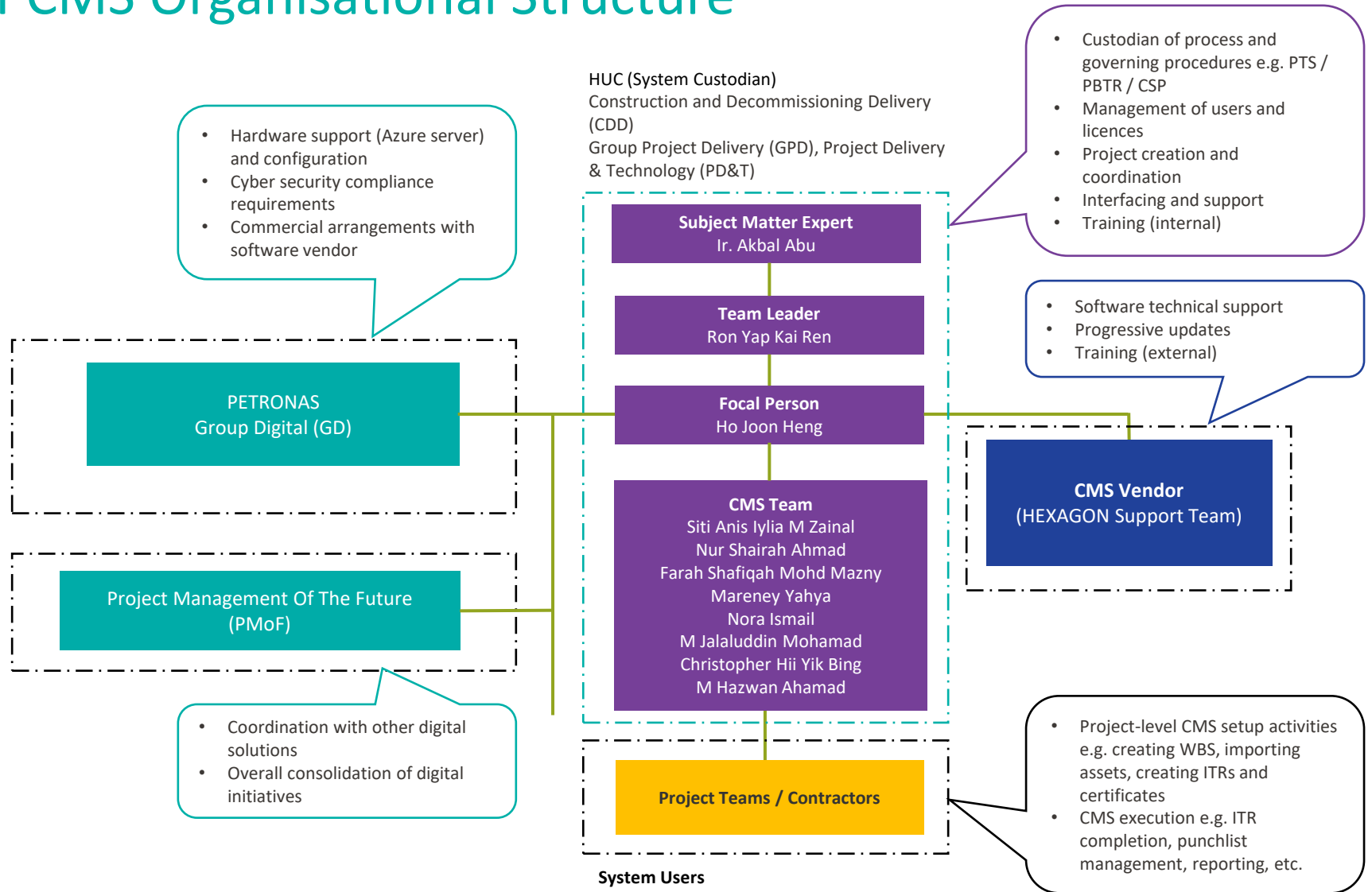
- Multiple project usage
- Access rights (licences) to be managed on project-by-project basis
- Long term consolidation and repository of data
- Centralised reporting of commissioning progress across all projects

PCMS Go-Live Date : 5 March 2021

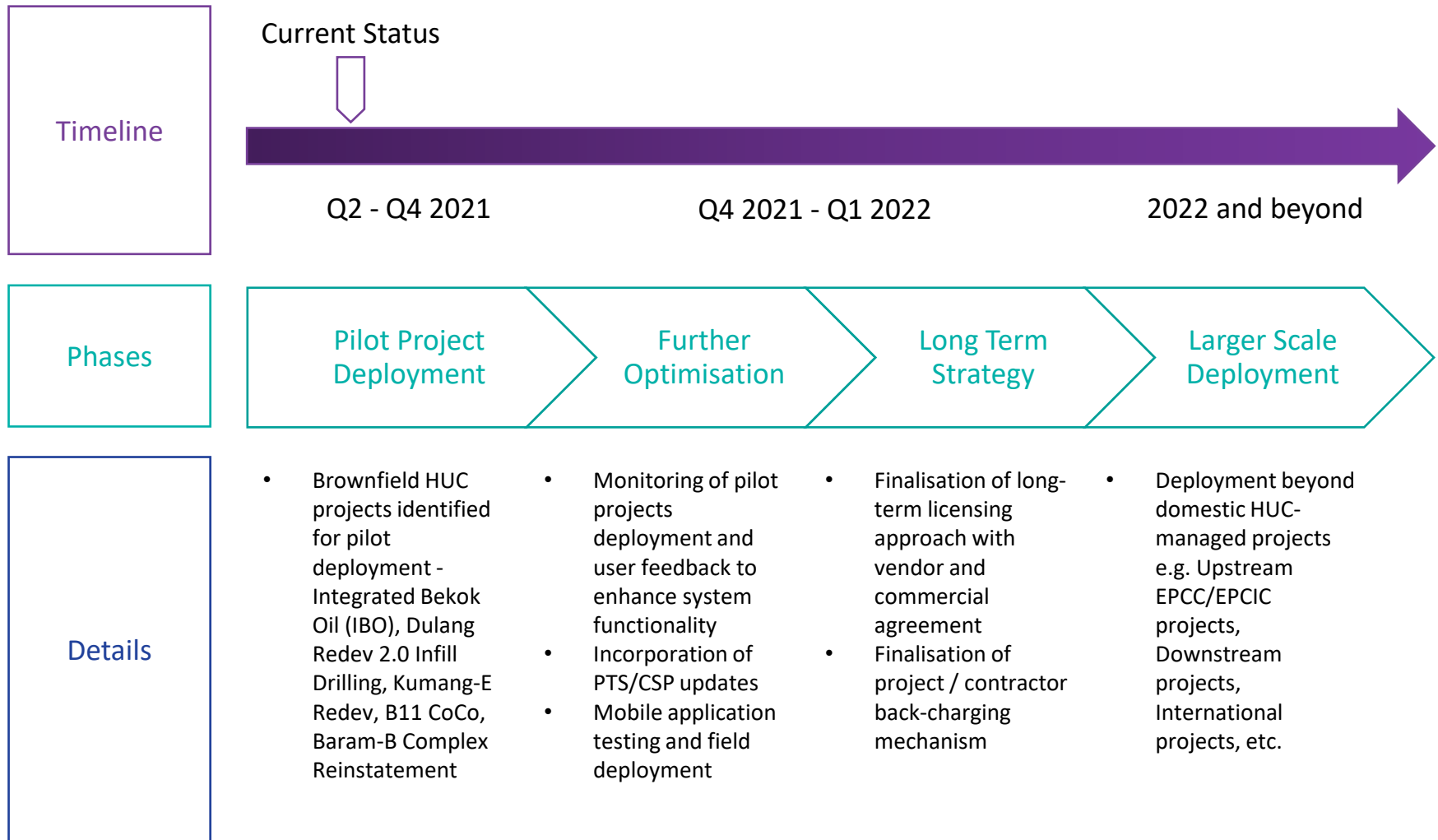
The PCMS Journey



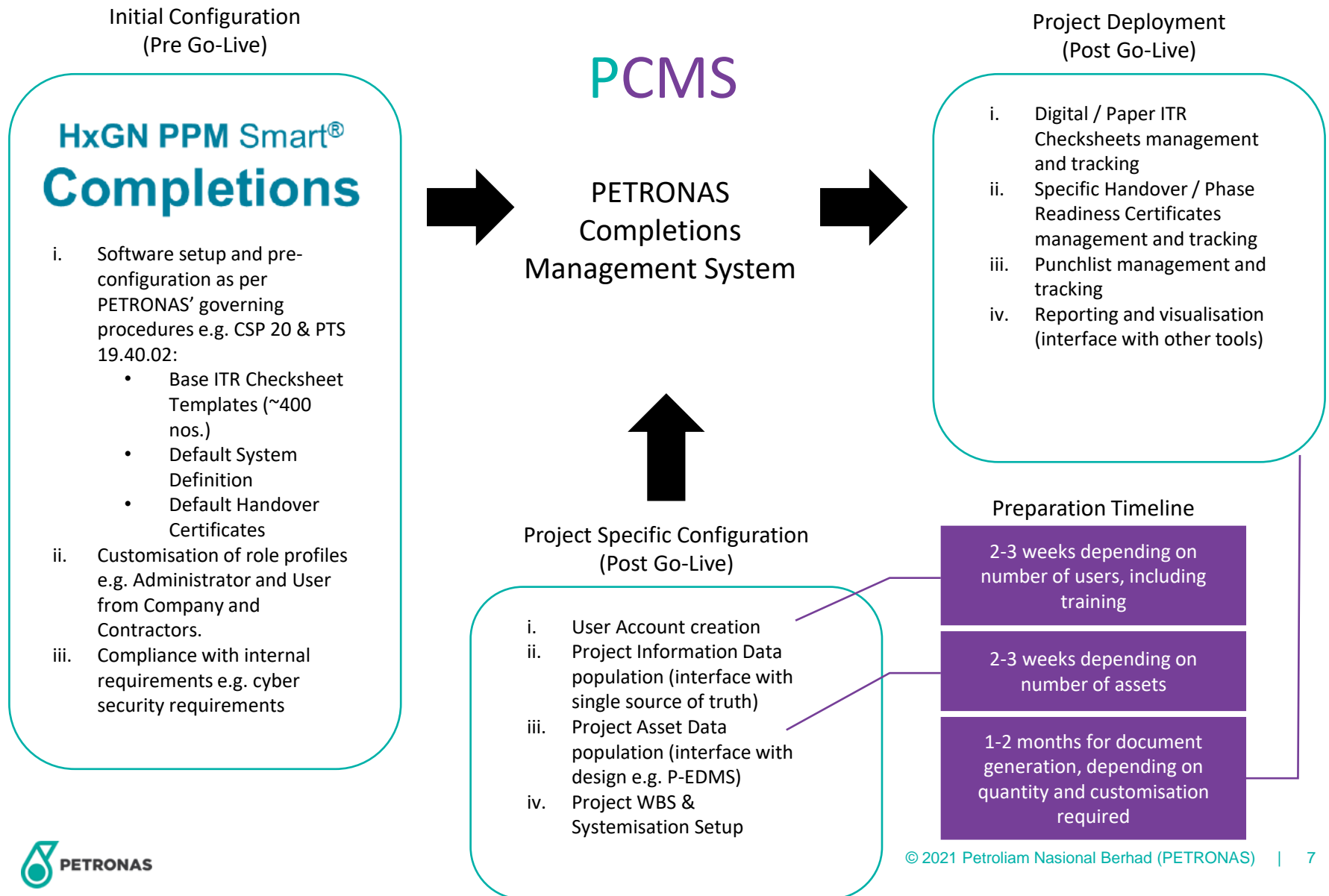
PCMS Organisational Structure



Way Forward beyond Go-Live (5 Mar 2021 Onwards)

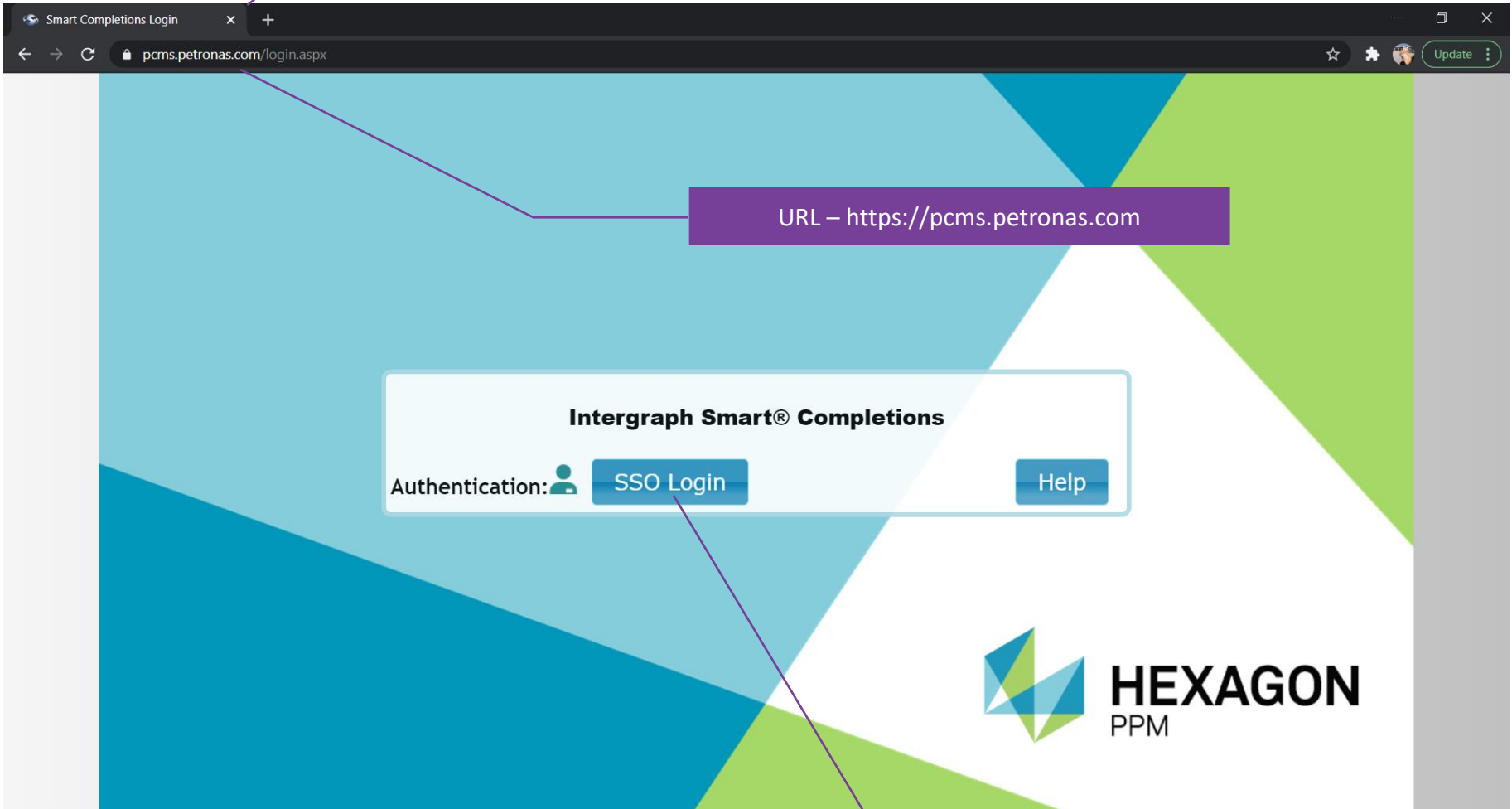


Overview of System Configuration



System Login

Web browser access



URL – https://pcms.petronas.com

SSO login (PETRONAS ID)

Main Interface

Different tabs

Project selection

The screenshot displays the 'Switchboard' interface for 'My Projects' with the user 'Ron Yap Kairen'. The interface features a top navigation bar with tabs: 'Workspace', 'Configuration', 'Engineering', 'Project Controls', 'Completions', and 'Reports'. The 'Completions' tab is currently active. Below the navigation bar, the main content area is organized into five columns of modules:

- Preservation:** Preservation, by Assets; Preservation, by Tasks; Non-Compliances.
- Planning:** Tasks, by Assets; Tasks, by Loops; Tasks, by Vendor Packs; Tasks, by Pipe Packs; Tasks, by Cable Packs; Hazardous Area Tasks; Hazardous Area Dossier.
- Preparation & Scheduling:** P6 Schedule Alignment; Work Packages; Job Cards; Job Hazard Analysis (JHA).
- Execution:** Task Manager (Master List); Punchlist & C.O.W.; Notice of Energization (NOE); Assurance Certificates; Asset Task Completion Audit.
- Closeout:** Systems Completion; Subsystems Completion; Handover Packages (Digital); Project Lessons Learned (PLL).

Annotations with purple boxes and lines point to the 'Completions' tab (labeled 'Different tabs'), the 'My Project...' dropdown menu (labeled 'Project selection'), and the 'Job Hazard Analysis (JHA)' module (labeled 'Available modules').

Available modules

Work Breakdown Structure (WBS)

Modules open in new tabs

Systemization Manager
Project: My Projects
User: Ron Yap Kairen

Logout Configuration Engineering Project Controls Completions Dashboards

Search

General
Advanced
Saved Searches

Save Reset Search AND OR

Systemization Reports

- 100 - PROCESS
 - 110 - FULL WELL STREAM
 - 120 - PROCESS LIQUID (PL)
 - 130 - PROCESS GAS (PG)
 - 140 - GAS COMPRESSION
 - 150 - GAS DEWPOINTING
 - 160 - WATER INJECTION
 - 170 - ACID GAS REMOVAL
 - 180 - CONTAMINANT REMOVAL
- 200 - PROCESS UTILITIES
 - 210 - UTILITY GAS
 - 220 - INERT GAS
 - 230 - VENTING
 - 240 - PRODUCED WATER
 - 250 - DRAIN
 - 260 - PROCESS HEATING
 - 270 - CHEMICAL (DOSING) INJECTION/TREATMENT
- 300 - GENERAL UTILITIES
 - 310 - FUEL AND LUBRICATION
 - 320 - COMPRESSED AIR
 - 330 - WATER
 - 340 - STEAM
 - 350 - HEATING, VENTILATION AND AIR-CONDITIONING
 - 360 - HYDRAULICS
 - 370 - MARINE SYSTEM

Reset Search New Edit Batch Purge/Restore Import Syst. Import Custody Create Tasks Export Custody Expand Select Search Criteria

Pre-Configured systemisation

- *WBS by system has been pre-configured according to CSP 20 definitions.*
- *WBS by physical location has to be defined according to the project*

Task Models (Inspection Test Record Templates)

Task Models Manager
Project: My Projects
User: Ron Yap Kairen

Logout Configuration Engineering Project Controls Completions Dashboards

Search

General
Advanced
Saved Searches

Save Reset Search AND OR

Browse by WBS

Task ID	Datasheet	Description	IS Active?	Task Category	Task Type	Executio...	Project	Phase	Stage	Dis
TM-00026		E27-A - ELECTRICAL SUBSTATION/SWITCH ROOM	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E
TM-00027		E28-A - AC UPS	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E
TM-00028		E28-B - AC UPS	<input checked="" type="checkbox"/>	PC - Precommissioning	ITR-B	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.02 - Pre-comm	E
TM-00029		E28-C - AC UPS	<input checked="" type="checkbox"/>	CO - Commissioning	ITR-C	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.03 - Commissioning	E
TM-00030		E29-A - DC CHARGER	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E
TM-00031		E29-B - DC CHARGER	<input checked="" type="checkbox"/>	PC - Precommissioning	ITR-B	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.02 - Pre-comm	E
TM-00032		E29-C - DC CHARGER	<input checked="" type="checkbox"/>	CO - Commissioning	ITR-C	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.03 - Commissioning	E
TM-00033		E30-A - ELECTRIC POWER UNIT (EPU)	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E
TM-00034		E30-B - ELECTRIC POWER UNIT (EPU)	<input checked="" type="checkbox"/>	PC - Precommissioning	ITR-B	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.02 - Pre-comm	E
TM-00035		E30-C - ELECTRIC POWER UNIT (EPU)	<input checked="" type="checkbox"/>	CO - Commissioning	ITR-C	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.03 - Commissioning	E
TM-00036		E31-A - BATTERY	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E
TM-00037		E31-B - BATTERY	<input checked="" type="checkbox"/>	PC - Precommissioning	ITR-B	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.02 - Pre-comm	E
TM-00038		E31-C - BATTERY	<input checked="" type="checkbox"/>	CO - Commissioning	ITR-C	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.03 - Commissioning	E
TM-00039		E32-A - LV DISTRIBUTION BOARD	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E
TM-00040		E32-B - LV DISTRIBUTION BOARD	<input checked="" type="checkbox"/>	PC - Precommissioning	ITR-B	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.02 - Pre-comm	E
TM-00041		E33-A - EARTHING AND LIGHTNING PROTECTION	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E
TM-00042		E33-B - EARTHING AND LIGHTNING PROTECTION	<input checked="" type="checkbox"/>	PC - Precommissioning	ITR-B	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.02 - Pre-comm	E
TM-00043		E34-A - NEUTRAL EARTHING RESISTOR	<input checked="" type="checkbox"/>	CS - Construction	ITR-A	Digital Execution	PCMS - Petronas Template Priert	01 - Execution	01.01 - Construction	E

Reset Search New Edit Del Copy Purge/Restore Datasheets Create Tasks Update Tasks Form

Pre-configured ITR base templates

- ITR base templates as per CSP 20, which can be further modified per project, and linked with project assets to generate the actual ITR checksheets

Task Models (Inspection Test Record Templates)

Edit Task Model (TM-00104) - Google Chrome
 pcms.petronas.com/ORMS/Tools/EditForm.aspx?ID=77&v=vTaskModels

Step 1 General | Step 2 Materials and Tools | Step 3 Resources | ... Forms & Checklist | **Inspection Points** | Step 4 Documents | Step 5 Custom | Step 6 Comments

Workflow: Originated | Submitted | Verified | Approved

Task Step Tool Bar: Select All | Select None | Steps Up | Steps Down | Show Headers | Show Labels | + Steps | - Steps | Search

Item No.	Sub Step	Required	Step Action	Instrument T	Service	Test Medium	Test Pressur	Test Duratio	Test Result -	Test Result -	Date Tested	wt%	cfg
17.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		text	text	text	text	text	text	text	text		

+ Dynamically Add Step

Item No.	Sub Step	Required	Equipment	Make	Model	Serial No.	Calibration Expiry	wt%	cfg
18	<input type="checkbox"/>	<input checked="" type="checkbox"/>							

Use Range:

+ Dynamically Add Step

Item No.	Sub Step	Reference Info
19.1	<input checked="" type="checkbox"/>	Instrument Location Plan

Submit | Save | Exit | Update Tasks | Email Task

ITR template customisation



ITR Digital Completion

Item No.	Step Action	OK	N/A	P/L No	Initials / Date	PL
1	Documents required: a) Solar Panel GA drawings b) Packing list c) Interconnection drawings (site wiring) d) Relevant portion of the cable schedule	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>
2	Verify and ensure that all construction / installation activities have been completed.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>
3	Check all nameplate data against data sheets, approved drawing and vendor documentation.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>
4	Check equipment for mechanical damages (dents/scratches, corrosion, broken handles etc.)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>
5	Verify the solar panel inclination/angle against the design documents.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>
6	Verify space heaters, instruments, indication lamps, control switches, protection relays and identification tags/ labels are installed as per approved drawings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
7	All associated E & I cables (vendor & project) JB's marshaling boxes identified, installed, glanded and terminated as shown on the approved vendor drawings / project specification.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
8	All labeling and warning signs correct and visible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
9	Earthing installed to project design and specification.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
10	Check battery and give commissioning charge / keep under float charging as necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		

Digital ITR task completion

- Digital ITR can be completed on a web browser or via application on a mobile device (future)

Digital ITR approval

- Digital ITR is verified and approved by the authorised parties

Item No.	SI. No	Item	OK	N/A	P/L No	Initials / Date	PL
16		Record any defects/shortcomings in the system punch-list.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>
17		Verify no dust inside Enclosure /Cabinet / Panel and insulation surfaces are clean.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>
18		Verify Instruments & its Accessories /Electrical equipment/Panel externally clean.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	<input type="checkbox"/>

Comments and Observations

Completed

I hereby confirm the work has been completed in accordance with contract specified drawings, specifications & standards.

COMPLETED BY Contractor Representative		VERIFIED BY PCSB Inspector (PETRONAS Carigali)		ACCEPTED BY Discipline Engineer (PETRONAS Carigali)	
Name:	Ron Yap Kai ren	Name:	Ron Yap Kai ren	Name:	Ron Yap Kai ren
Title:		Title:		Title:	
Company:	Petronas	Company:	Petronas	Company:	Petronas
Date:	19-Apr-2021 09:18	Date:	19-Apr-2021 09:18	Date:	19-Apr-2021 09:18

Revoke

Punchlist Management

Item No.	Step Action	OK	N/A	P/L No	Initials / Date	PL
1	Documents required: a) Solar Panel GA drawings b) Packing list c) Interconnection drawings (site wiring) d) Relevant portion of the cable schedule	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
2	Verify and ensure that all construction / installation activities have been completed.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
3	Check all nameplate data against data sheets, approved drawing and vendor documentation.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
4	Check equipment for mechanical damages (dents/scratches, corrosion, broken handles etc.)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
5	Verify the solar panel inclination/angle against the design documents.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
6	Verify space heaters, instruments, indication lamps, control switches, protection relays and identification tags/ labels are installed as per approved drawings.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	RK / 19-Apr-2021	PL-00002
7	All associated E & I cables (vendor & project) JB's marshalling boxes identified, installed, glanded and terminated as shown on the approved vendor drawings / project specification.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
8	All labeling and warning signs correct and visible.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
9	Earthing installed to project design and specification.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	
10	Check battery and give commissioning charge / keep under float charging as necessary	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	RK / 19-Apr-2021	

Punchlist capture during ITR

- Punchlist items can be captured manually or during ITR completion

Punchlist form

- Punchlist items are generated using this digital form, tied to the relevant ITR / system, and monitored.

As-Found Data

Punchlist ID: PL-00002
 Description: 6. Verify space heaters, instruments, indication lamps, control switches, protection relays and identification tags,
 Punchlist Category: E - Punchlist items shall be completed b...
 Punchlist Type: Item Damaged - Item Damaged
 Discipline: E - Electrical
 Priority: T: A-High
 Action Required: Protection relay is faulty

Work Breakdown Association

Project: PCMS - Petronas Template Project
 Stage: 01.01 - Construction
 Phase: 01 - Execution
 Activity:

Location Association

Systemization? Process Physical Location

Process Plant: P100 - TEMPLATE
 System: 100 - PROCESS
 Asset: Dummy_Asset
 Loop:
 Process Area: PA00 - PROCESS AREA
 Subsystem: 110 - FULL WELL STREAM
 Asset Pack:
 Task: T-00188-0001 - E07-A - Solar Panel

As-Left Data

Upload As-Left Images (0)

Scheduling Data

Responsible Workgroup:
 Responsible Company:
 Responsible Person:
 On Hold: YES NO

Buttons: Submit, Save, Exit, Email Punchlist, Reset Task

Semi-Automated ITR Forms (Paper Execution)

PDF checksheet for printing


QR code for bulk scanning

Auto-populated details


PETRONAS CARIGALI SDN - Google Chrome
 pcms.petronas.com/GetBlob.aspx?Mode=DocTypeLink&v=vTasksTestForms&ImgFileID=PDFFileID&I=3534&LinkID=TaskToTestFormID&LinkVal=4666&requestID=1618794464057



PETRONAS CARIGALI SDN | 1 / 2 | 63% |

1



2



	PETRONAS CARIGALI SDN. BHD. INSPECTION TEST RECORD (ITR) - C	 PETRONAS
SOLAR PANEL	E07-C T-00190-0001	

Project No.	PCMS		
Project Title	Petronas Template Project		
Facilities			
INFORMATION			
Tag no.	Dummy_Asset	System / Sub System no.	100 - PROCESS / 110 - FULL WELL STREAM
Frequency		Location	-
Manufacturer		Power Rating	
Ref. Drawing nos		Serial no.	
Type		Voltage	

INSPECTION / TEST	OK	N/A	P/L No
1 Documents required for verification. a. Solar panel Datasheet and manufacturer's operating manual b. Completed and signed-off pre-com check-sheet and punch list status c. FAT report / Routine test report			
2 Perform functional test of the solar panel and the charge controller system by simulating the fault conditions.			
3 Follow manufacturer instruction and start-up the solar panel system.			
4 If the battery is fully discharged, charge the same through a temporary power supply and energize the charge controller.			
5 Check the battery status and confirm state of charge is 100%. Perform battery discharge test. (Refer to battery commissioning check-sheet).			
6 After completing the discharge test, perform the charging of battery through the solar panel and record the charging current and duration. (Refer to battery commissioning check-sheet). Allow the battery to be charged by the solar panel for 3 days with the load still connected. Record the parameters. Start the test on a morning in order to allow the solar panel deliver the load current.			

Time	Output Voltage(A)	Load current(A)	Battery Voltage(V)	Battery current(A)	Remarks
0					
15 m.					
30 m.					
1 Hr.					
2 Hr.					

Page 1 of 2

4 Hr.

8 Hr.

12 Hr.

24 Hr.

36 Hr.

48 Hr.

60 Hr.

72 Hr.

7	Verify and confirm the correct operation of timers (if applicable) during discharge test and record the operation in remarks column.		
8	Verify and confirm correct operation of the battery MCCB at reaching the voltage threshold for low battery voltage.		
9	Record any defects/shortcomings in the system punch-list.		
10	Verify no dust inside Enclosure /Cabinet / Panel and insulation surfaces are clean.		
11	Verify instruments & its Accessories /Electrical equipment/Panel externally clean.		

COMPLETED BY			VERIFIED BY			ACCEPTED BY		
Designation	Contractor Representative		Commissioning Engineer		Operation			
Company			PETRONAS Carigali		PETRONAS Carigali			
Name								
Signature								
Date								

Page 2 of 2

COMMENT(S) AND ADDITIONAL INFORMATION
 This check-sheet shall always be used together with the battery commissioning check-sheet.

Reporting and Visualisation

Dashboard view

Configurable views which can be exported

