
Testing Advisory Group #2

16 February 2022

Agenda

1. Welcome

Chris Welby

5 mins

2a. Minutes and actions review 2b. Relevant content highlights

Chris Welby

5 mins

3. TAG Terms of Reference Sign Off

Adrian Ackroyd

5 mins

4. Migration Update

Chris Welby

15 mins

5. E2E Testing Strategy

Kate Goodman/Adrian Ackroyd

50 mins

6. Test Data Strategy

Kate Goodman/Adrian Ackroyd

20 mins

7. Next Steps

Chris Welby

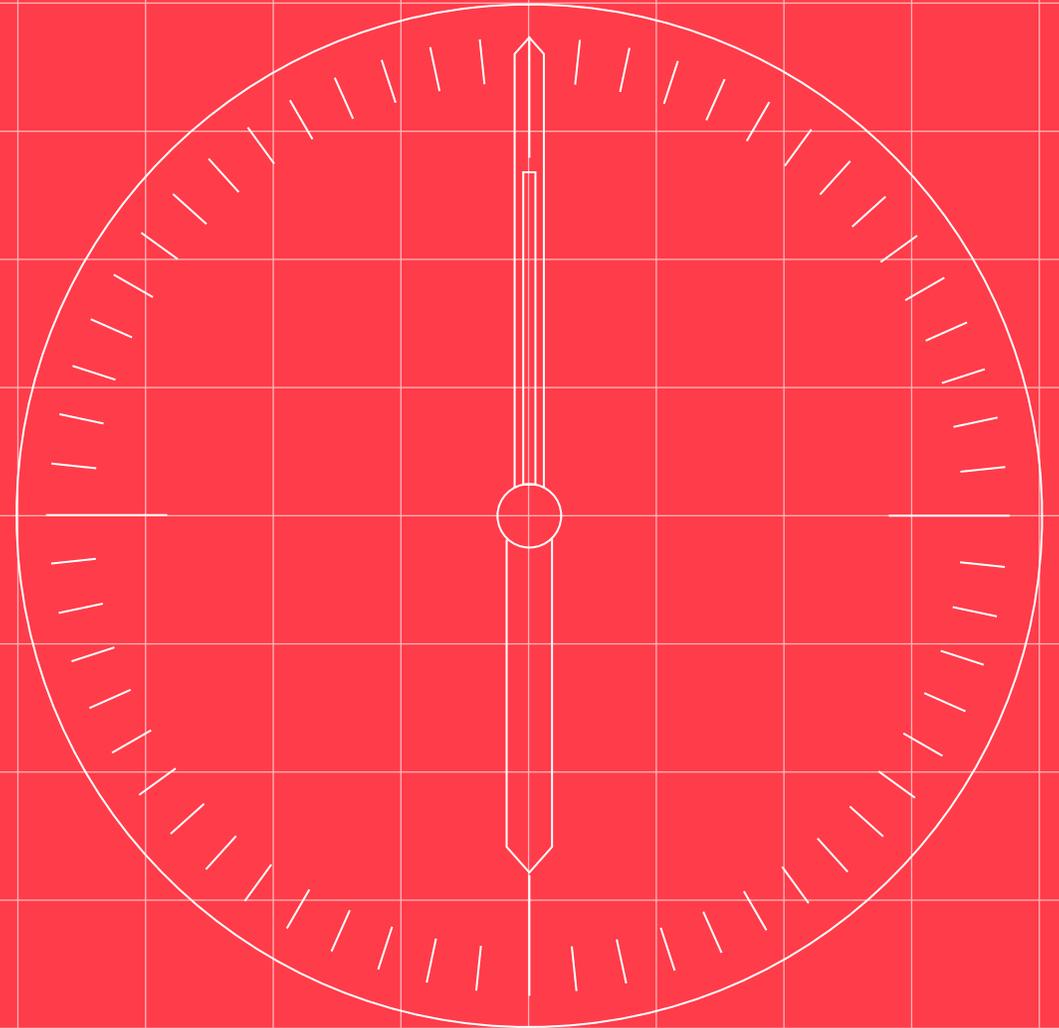
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a. Minutes and Actions Review

b. Relevant content highlights

Chris Welby

5 mins



Minutes and Actions Review. Deliverables Highlights

1. Approval of [Minutes from 26/01/22](#)

2. Open Actions and Actions from TAG 26/01

Ref	Date	Action	Owner	Due Date	Status
TAG01-01	26/01/2022	Respond to questions on Terms of Reference and share with all TAG members	Programme	16/02/2022	CLOSED – shared 07/02
TAG01-02	26/01/2022	Consider inputs and approach for the 3 M5 deliverables to be developed and owned by the TAG (as outlined in the meeting papers)	TAG members	16/02/2022	OPEN - For discussion today, agenda items 5 and 6
TAG01-03	26/01/2022	Propose an approach for TAG members to be able to access M5 deliverables of interest.	Programme	16/02/2022	OPEN – The Programme proposes a standing agenda item for each TAG to highlight and signpost any relevant content of interest for TAG (see below). Proposal to close action if TAG members agree with approach
TAG01-04	26/01/2022	Arrange the next TAG session for 16 February 2022	PMO	28/01/2022	CLOSED – ongoing TAG invites shared

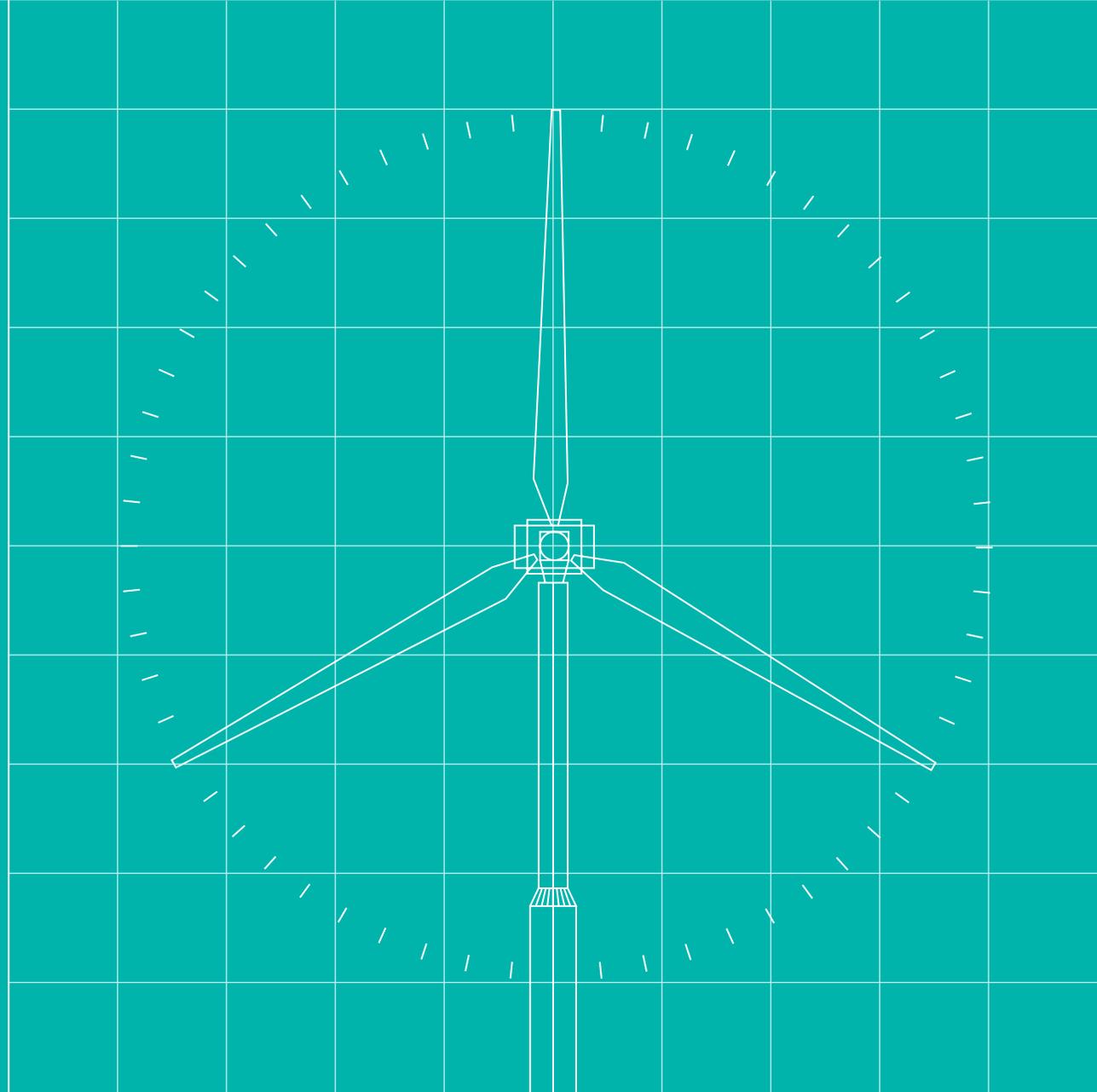
3. Relevant content of interest for TAG members, February 2022

- ‘101 guide’ to MHHS to be issued shortly
- Programme portal roll out in progress - please contact the PMO (pmo@mhhsprogramme.co.uk) for access
- Useful content on MHHS
 - [MHHS Governance Framework](#)
 - [Ofgem transition plan](#)
 - [MHHS Target Operating Model \(TOM\)](#)

TAG Terms of Reference Sign Off

Adrian Ackroyd

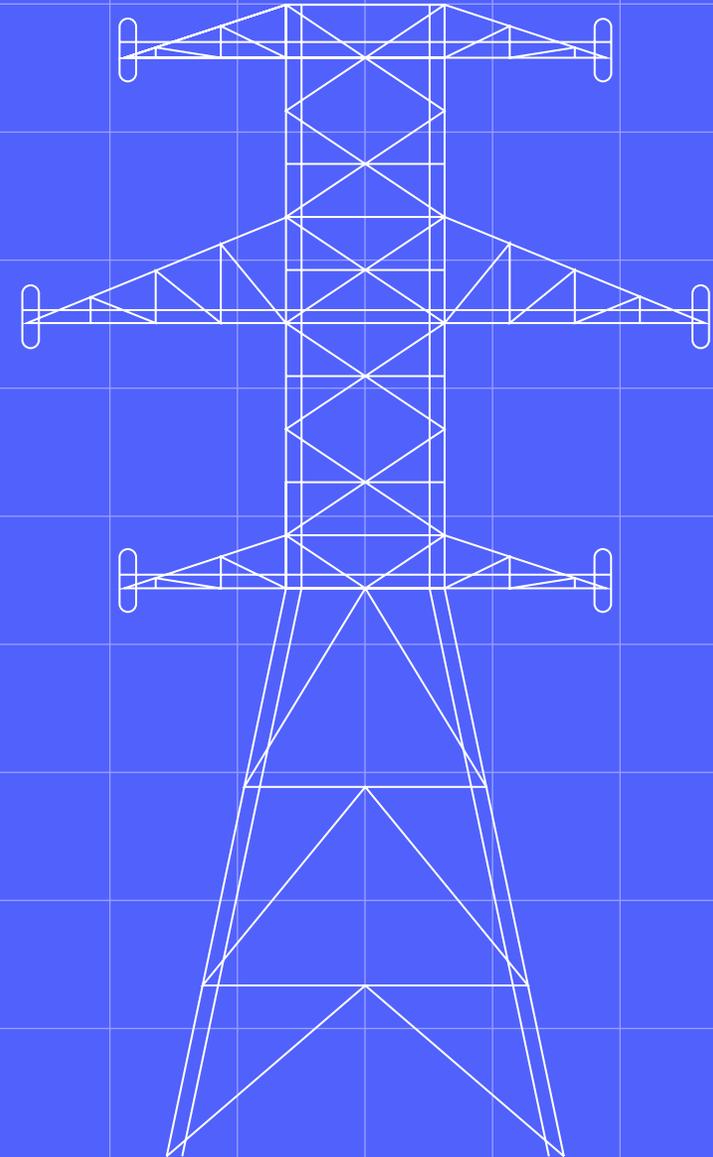
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Migration Update

Chris Welby

15 mins



Updates to the MHHS Governance Framework were discussed at [PSG 02 February 2022](#), with further discussion on Migration delegated to the TAG

PSG update

- At PSG it was agreed that:
 1. The Programme would expand TAG to become TMAG
 2. The Programme would create a Migration Working Group below TMAG
 3. Migration and Testing will separate from TMAG at suitable point in the future
- Queries were raised on the need for migration experts in the TMAG, to ensure appropriate representation on migration

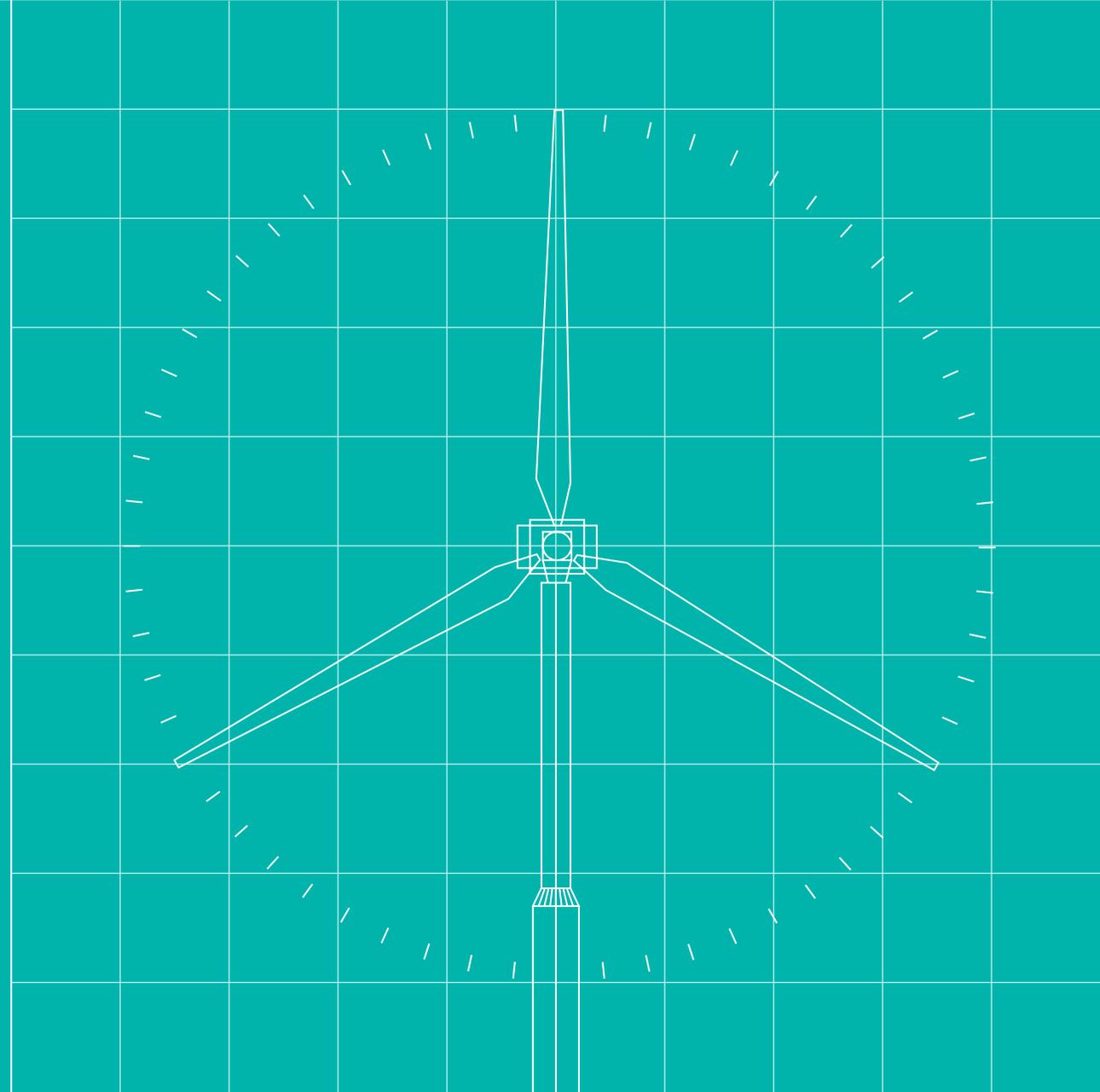
Migration proposal for discussion

- The Programme proposes that current TAG membership is not changed, but that current constituency reps either:
 1. **Ensure they are briefed** by their constituencies on matters relating to migration in advance of each TMAG
 2. **Nominate an alternate** to an individual TMAG, if meeting content requires it. This will require submission to the TMAG Chair for approval
 3. **Request additional attendance** to an individual TMAG, if meeting content requires it. Should reps request additional attendance, each constituency will still only have 'one voice'. Additional attendance will require submission to the TMAG Chair for approval
- This ensures our governance structure remains lean (with fewer groups and attendees) and reduces silos
- If approved, the Programme's next step will be to update the current TAG ToR to reflect the above

E2E Testing Strategy

Kate Goodman/Adrian Ackroyd

50 mins



We should like to have a discussion on three key areas. It would be much appreciated if TAG members could prepare for these by either making some notes yourself or by consulting within your organization/constituency ahead of the meeting.

1. Testing/Data lessons learned from SMIP & FSP

- What went well and what less well with respect to testing and test data on Smart Metering and Faster Switching? See slide 12 for some suggestions as a starter. To feed into our approach for MHHS.

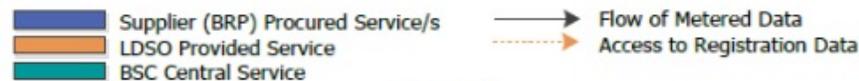
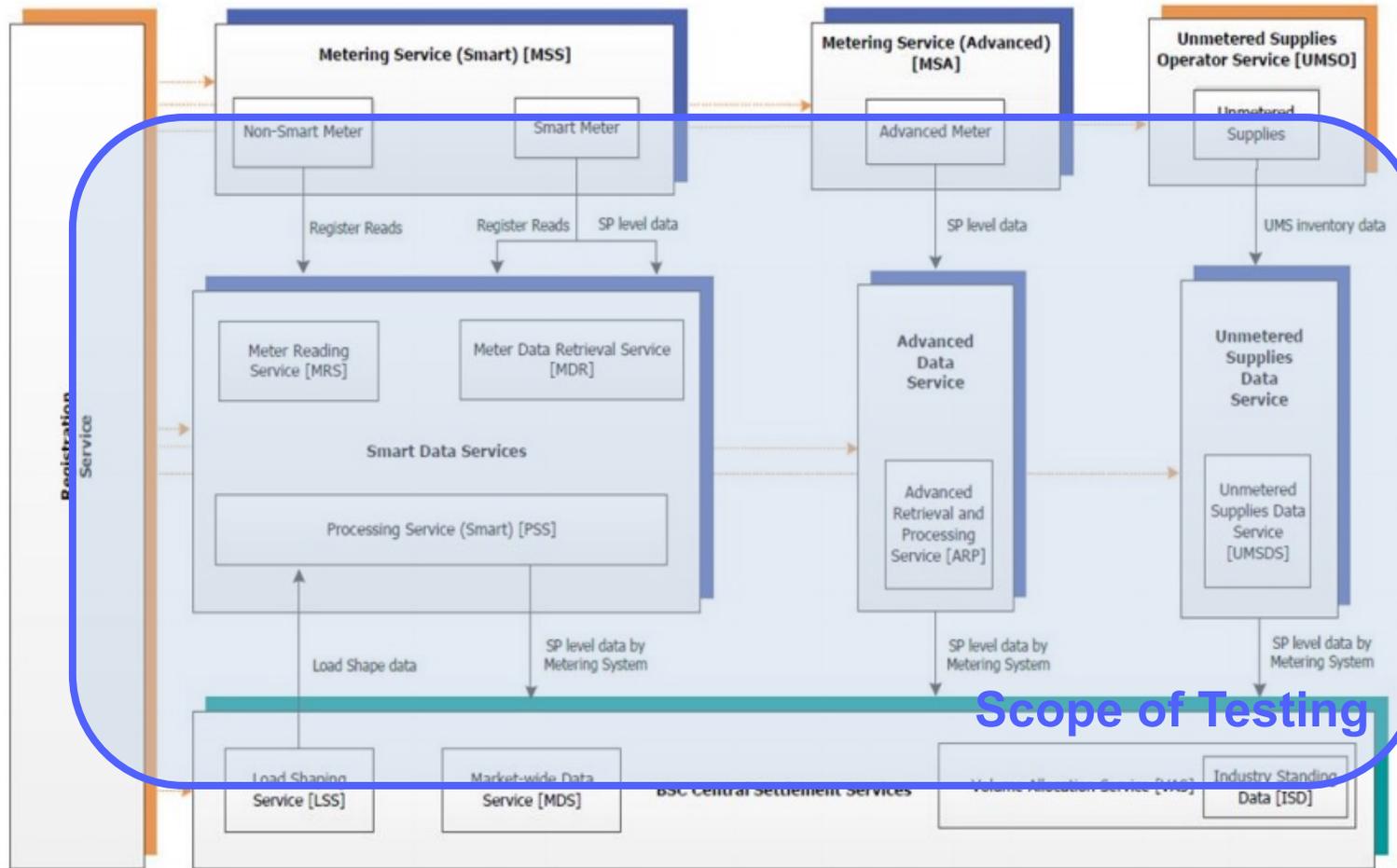
2. Structure of test stages for MHHS

- We are proposing some changes to the stages outlined in Ofgem's Transition Timetable. See slide 13. The main changes are:
 - addition of a Migration Testing stage to verify the migration strategy
 - Initial system integration organised on a progressive integration of each set of systems, rather than a Connectivity where all systems are connected in one activity

3. Test tools/harnesses

- We are proposing to develop various tools to aid the testing. For a brief explanation, see slides 14-16. We should like to discuss at a high level what you feel are the essential principles.

TOM Diagram



Ofgem's Current Transition Timetable

21					2022												2023												2024																							
Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb										
					DB1: Elexon central system design and build																																															
					DB2a: confirm costs and changes needed												DB2b: DCC Design and Build																																			
					DB3: Registration system changes design and build																																															
					DB4: Communication network changes / development																																															
					DB5: DNO/DNO system changes design and build																																															
					DB6: Supplier Agent - Advanced Segment design and build																																															
					DB7: Supplier Agent - Unmetered Supplies Segment design and build and data clear																																															
					DB8: Supplier Agent - Smart / Non Smart Segment design and build																																															
					DB9: Supplier System design and build												DB10: Supplier business readiness period																																			
					DB11: Late mover supplier design and build												DB12: Late mover supplier business readiness period																																			
					TE1: Pre-Integration Testing												TE2: System Integration Testing												TE3: System Proving																							
					TE4: Elexon Central System Pre-Integration																																															
					TE5: Registration S																																															
					TE6: DCC SIT												TE7: DCC UAT												TE8a: Go-live governance												TE8b: DCC system go live											
					TE9: Comms netwo																																															
					TE10: DNO/DNO P																																															
					TE11: SIT Participan																																															
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					TE14: Basic Message exchange (
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																													TE16: Operational Testing																							
																													TE17: Non-function																							
																																									TE18: Securit											
																																									TE19: E2E Testing Sandbox											
					TOM performance assurance regi																																															
					MT2: suppliers collect customer data sharing preferences under new MHHS data sharing framework.																																															
					MT3: Smart Data Service accede to the SEC and complete DCC entry (SREPT an																																															
																	MT4a: Supplier Agent Advanced Segment Pre-Qual												MT4b: Supplier Agent Advanced Segment Qualificati																							
																	MT5a: Supplier Agent UMS Segment Pre-Qual												MT5b: Supplier Agent UMS Segment Qualification																							
																	MT6a: Supplier Agent Smart / Non Smart Segment Pre-Qual												MT6b: Supplier Agent Smart / Non Smart Segment Qualification																							
																	MT7a: Supplier Pre-Qual												MT7b: Supplier Qualification																							
																													MT8: Supplier / Agent migration planning																							
																																									MT9: UMS/											
																																									MT10:											

SMIP

Worked well



- E2ET defined by each PP according to their needs
- Test data constructed from MPRS loads, anonymised & randomly allocated to PPs
- TAB gating, TAG challenge

FSP

- Test progress reporting done via single tool (Jira)
- Checking of UEPT and E2ET results was rigorous

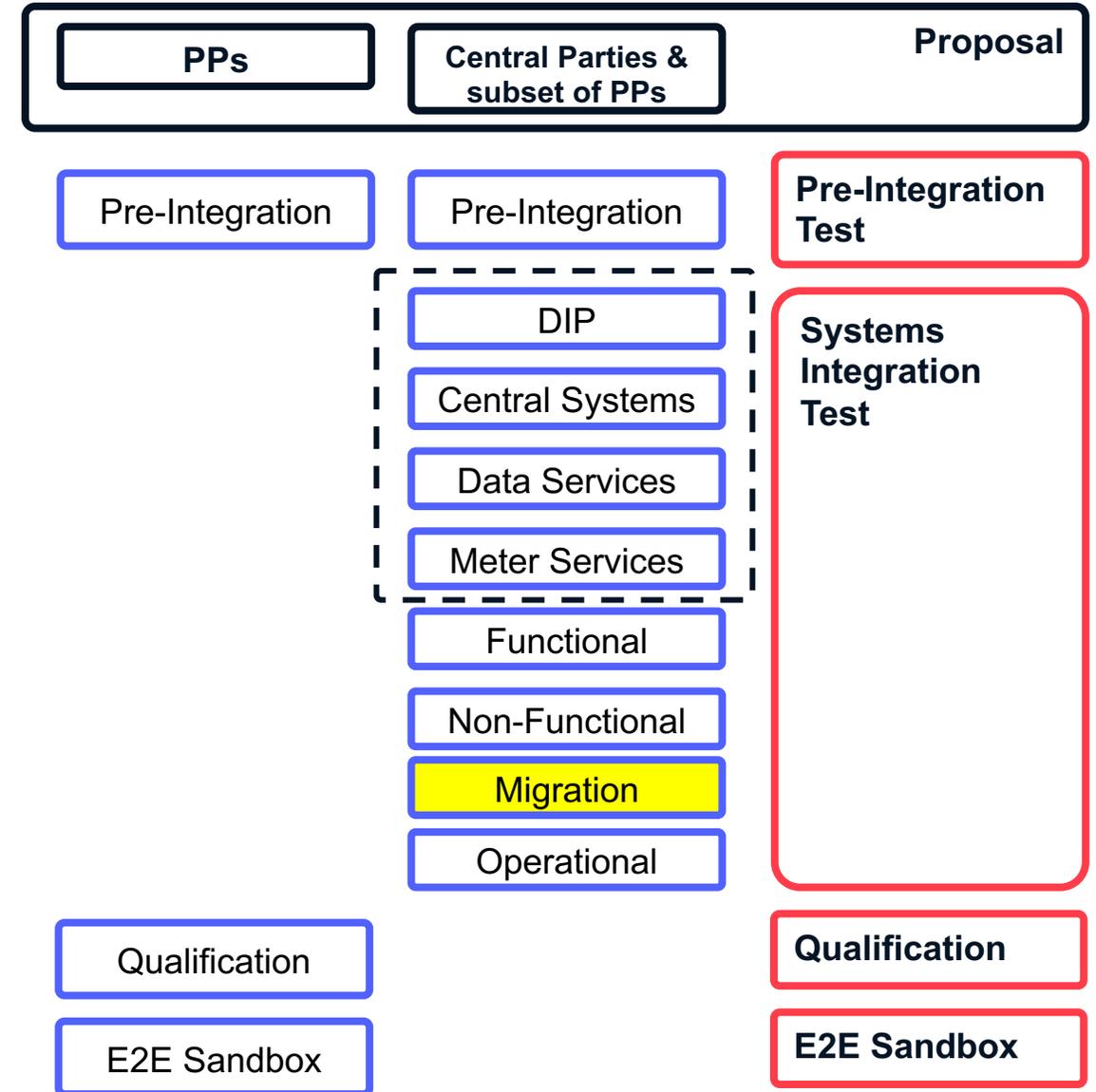
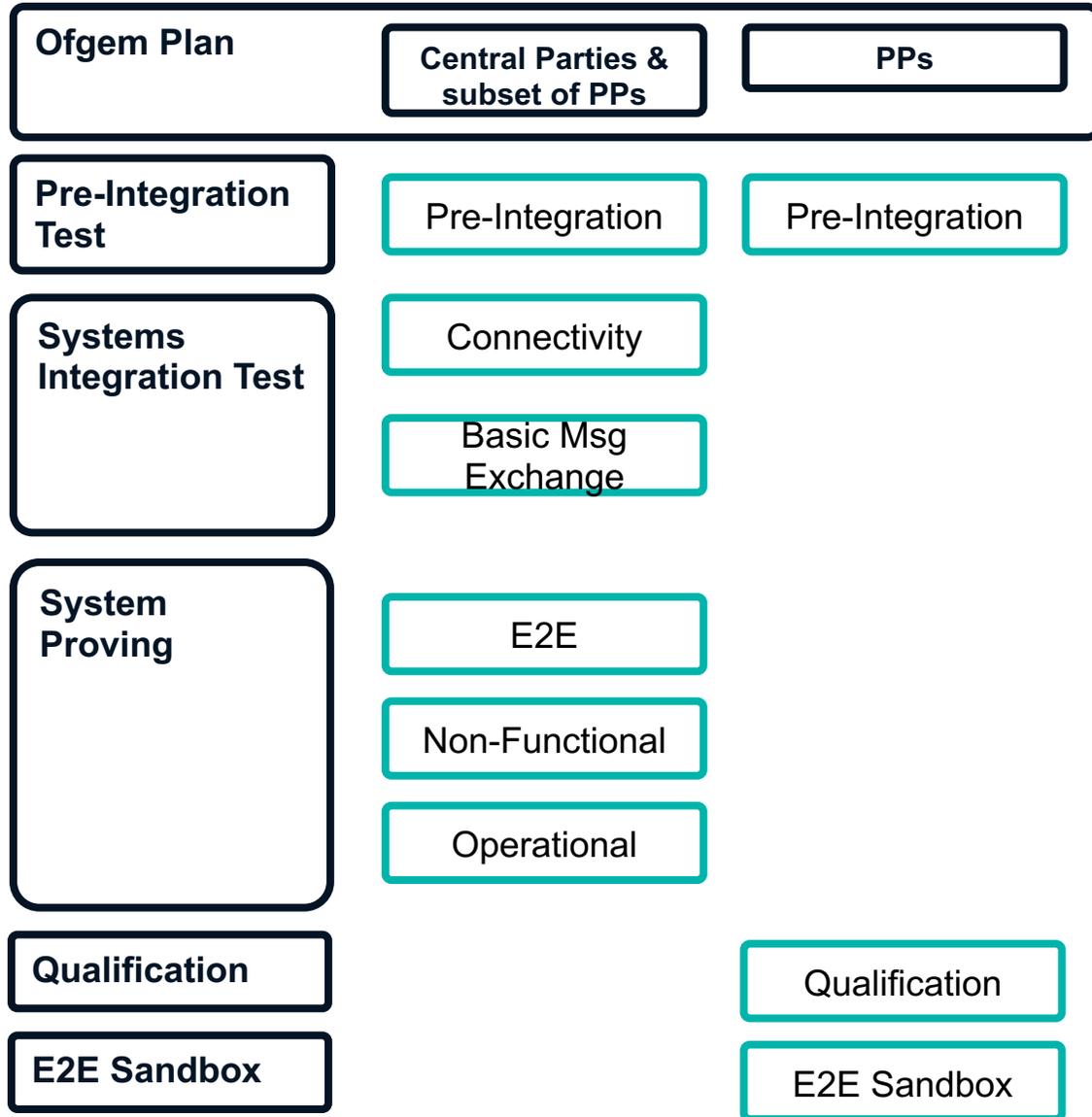
Worked less well



- RTMs fragmentary and after-the-event, lack of manageable coverage checking
- Integration of systems in SIT was not one-by-one
- Test progress reporting took some time to bed in

- True E2E perspective & coverage checking was lacking
- Manual nature of interaction with Jira caused overheads for PPs
- Test data construction was complex
- E2ET was overly prescriptive; did not encourage PPs to construct own tests (and they are people who really know their business & systems)
- Test tools provided to PPs were basic

Ofgem Plan & Proposal for Discussion



Explanation of test tools approach

The next-but-one slide (slide 16) illustrates some of the tools we intend to produce to aid the testing and in particular to help progressive integration of components. The items below the black line are tools we intend to produce. The black line indicates the progression of time showing the early testing on the left.

Testing of the Data Integration Platform (Core Platform in the diagram) will be the first activity. Once that is complete, then with the aid of software to simulate the activity of the data services, the Elexon Central Systems will be integrated onto the DIP. Following this, the Data Services themselves will be integrated one by one. The addition of the Metering Services and MPRS/CSS will happen last (not shown).

Description of test tools

Simulators for Pre-Integration Testing

- **LSS Simulator** (for standalone PIT use by PPs - when they are running tests independently on their own infrastructure; probably cloud-based and accessible to all PPs) creates and receives information in the right way but has no underlying business functionality (or very little); will be used in conjunction with the test facilities delivered by the supplier of the DIP solution

- **MDS Simulator** – as for LSS

Developed in time for the PPs to use in their own testing.

Data Generators (Functional and Non-Functional)

- **Meter Data Generator** – generates test data (suitable for consumption by SDS, ARP & UMSSDS) which the PPs can use in conjunction with their own existing simulators

- **Settlement Period Data Generator** – generates test data (suitable for consumption by the Elexon Central Systems); configurable for SDS, ARP or UMSSDS data provision

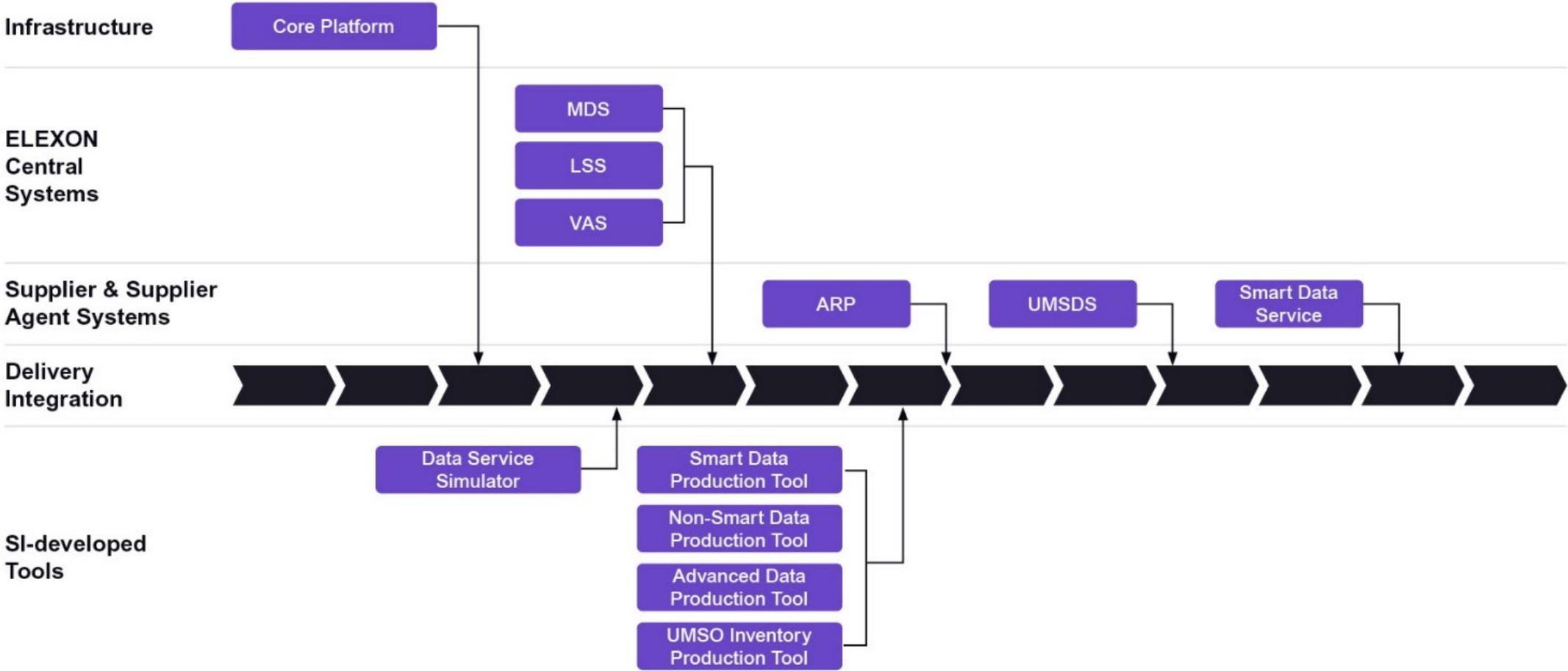
- **(Non-Functional Settlement Period Data Generator** if it is more appropriate to have a separate one
Meter and Settlement Period developed in time for PPs to use in their PIT (this is the Functional Data Generation).

Automated Test Results Generators

Developed in time for use in appropriate part of SIT.

- **SDS Emulator** - hosted by us on Azure Cloud; takes as input the test data which enters SDS and produces the result expected from SDS; then compares the actual SDS result with the result the emulator has calculated itself and reports on test success or failure; significant diagnostics will be needed to allow testers to determine the source of the error where the test results do not match
- **ARP Emulator** – as SDS, but for ARP
- **UMSSDS Emulator** – as SDS, but for UMSSDS

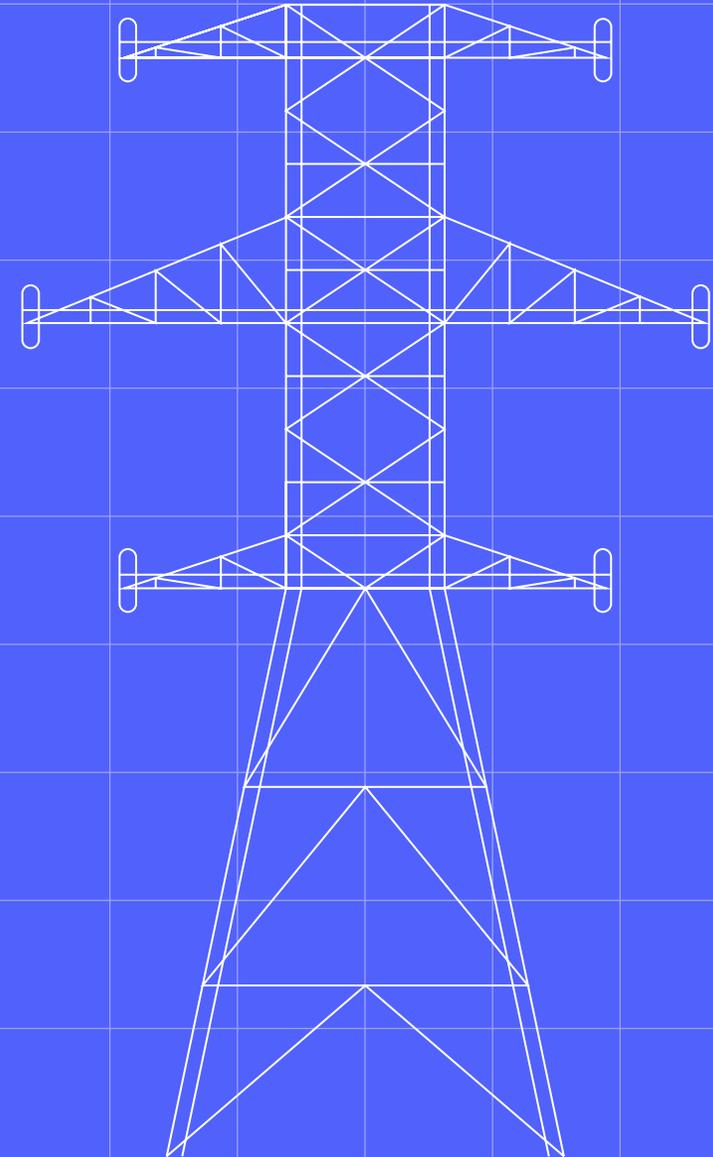
Progressive Integration of Components



Test Data Strategy

Kate Goodman/Adrian Ackroyd

20 mins



- **Test Data Strategy** will set out principles of the way data will be collected/generated, distributed and managed for the purposes of testing
- **Setting up Data Working Group** – first meeting proposed Thu 3 March; ToR will be drafted and discussed at first meeting and will be presented to TAG for sign-off at the March meeting
- **Questions to answer**
 - What are the lessons learned from SMIP and FSP?
 - How should data be generated?
 - How do we ensure adequate security and GDPR compliance?
 - How should it be controlled?
 - How do we ensure alignment across all of the test systems (eg MPRS, Smart Metering)

Next Steps

Chris Welby

5 mins

Next Steps

Next steps:

- Confirm Actions from meeting
- Date of next TAG: 16th March 2022

TAG Agenda Roadmap – a rolling six month view of upcoming TAG agenda items:

Meeting dates	16-Feb	16-Mar	20-Apr	18-May	22-Jun	27-Jul
Relevant milestone or activities				M5		M5+
Agenda items	<ul style="list-style-type: none"> • TAG TOR sign off • Migration update • E2E Test strategy principles • E2E Test Data strategy principles 	<ul style="list-style-type: none"> • Test tools principles • E2E Test strategy review • E2E Test Data strategy review 	<ul style="list-style-type: none"> • E2E Test strategy approval • E2E Test Data strategy approval • Data Plan for Ind-Wide test approval (as part of E2E strategies above) 	<ul style="list-style-type: none"> • Test tools strategy approval • Qualification principles • Migration strategy principles 	<ul style="list-style-type: none"> • Test tools design • Migration strategy review 	<ul style="list-style-type: none"> • Test tools design approval • Migration strategy approval
Standing items	<ul style="list-style-type: none"> • Minutes & actions • Agenda roadmap • Artefact sign-posting 	<ul style="list-style-type: none"> • Minutes & actions • Agenda roadmap • Artefact sign-posting 	<ul style="list-style-type: none"> • Minutes & actions • Agenda roadmap • Artefact sign-posting • Working group highlight report 	<ul style="list-style-type: none"> • Minutes & actions • Agenda roadmap • Artefact sign-posting • Working group highlight report 	<ul style="list-style-type: none"> • Minutes & actions • Agenda roadmap • Artefact sign-posting • Working group highlight report 	<ul style="list-style-type: none"> • Minutes & actions • Agenda roadmap • Artefact sign-posting • Working group highlight report

Thank you