



ANPG DIGITAL JOURNEY

ARY DIAS

SOLUTIONS ARCHITECT

September 2022 | Luzern



ANPG
AGÊNCIA NACIONAL DE PETRÓLEO, GÁS
E BIOCOMBUSTÍVEIS



AGENDA

1

Introduction, Context & Vision

2

Phase 1: Discovery

3

Phase 2A: Quick Wins & POV

4

Phase 2B: Executing

5

Phase 3: Looking Ahead

INTRODUCTION



Sidney Roberto da Silva Webba

IT DIRECTOR AND CIO

Agência Nacional de Petróleo, Gás e Biocombustíveis

Key Areas:

Lead the IT strategy and Digital Services, including sourcing and the development of overall capabilities to deliver value.

Define policies, standards and propose architectures and best practices in the implementation of IT solutions

Advise top management in all areas related to IT investments

Ensure all the IT investments are delivering value

INTRODUCTION



Ary Bartolomeu Sicato de Almeida Dias

SOLUTIONS ARCHITECT

Agência Nacional de Petróleo, Gás e Biocombustíveis

Key Areas:

Application Architecture Management

Technology Landscape Orchestration

Service Creation to achieve Business Objectives

Deliver the Digital Transformation.

Manage the change towards a Digital Culture while increasing the overall organizations Digital Literacy.

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CONTEXT – THE VISION



To be an international reference, promoting a business environment of excellence and become the number 1 destination for investors.

CONTEXT - THE JOURNEY

- Pandemic
- ANPG as a Cloud First Company
- Manage minimal legacy infrastructure
- Planning the move to DELFI

- Create a Digital Culture
- Focus on delivering ANPG's Datacenter

2019



- ANPG Created by Presidential Decree
- Autonomy from Sonangol
- Definition of a Hybrid/Cloud Strategy

2020



- EKUMBI – Digital Transformation Programme
- Delivering DELFI on MS Azure
- Digital Literacy

2021



2022

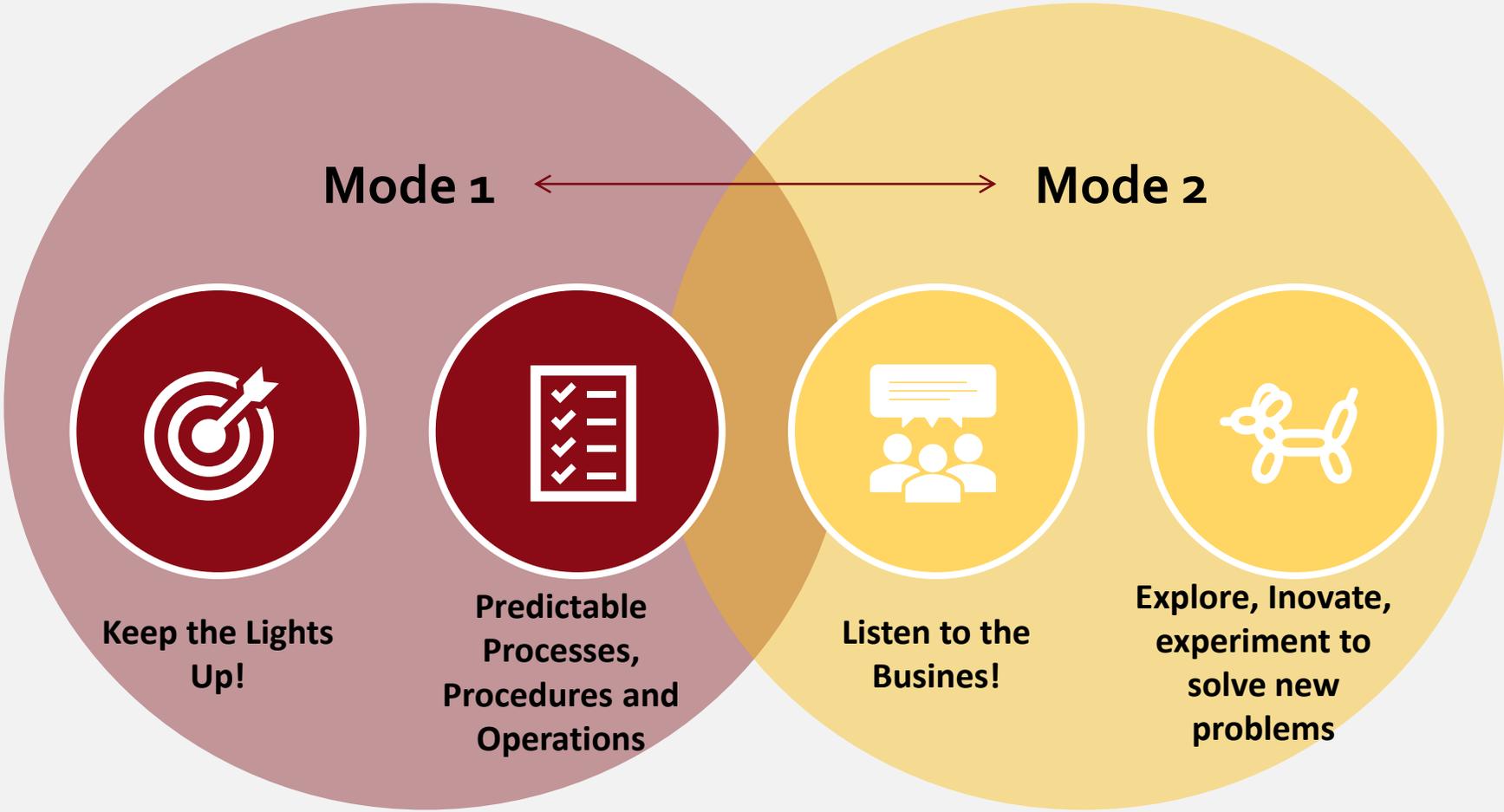


- Consolidate Hybrid Cloud Strategy
- AI and IOT
- Predictive Analysis and beyond...

2023

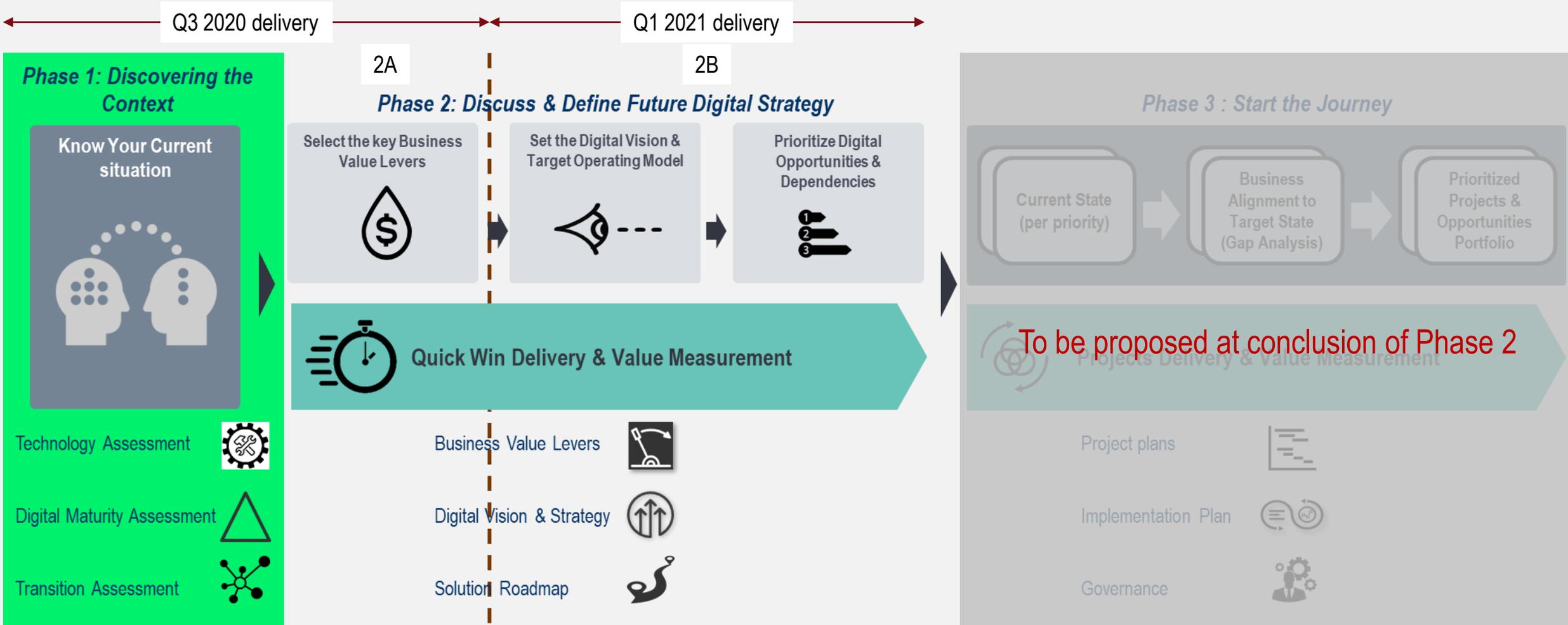


CONTEXT – BIMODAL IT



Build Smart
and
Run Simple!

CONTEXT & VISION – DX PROJECT PLAN



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Landscape Reviews

- **Purpose**

- Understand current environment
- E&P domains (Exp, Prod, IM)
 - Focus on Business Architecture
 - Key processes, tools & data
- IT domain
 - Focus on Technical Architecture
 - Implementation & Distribution

Maturity Assessment

- **Purpose**

- Assess organizational capability
- Key focus areas
 - Standards
 - Governance
 - Knowledge Management
 - Quality Control
 - Change Management

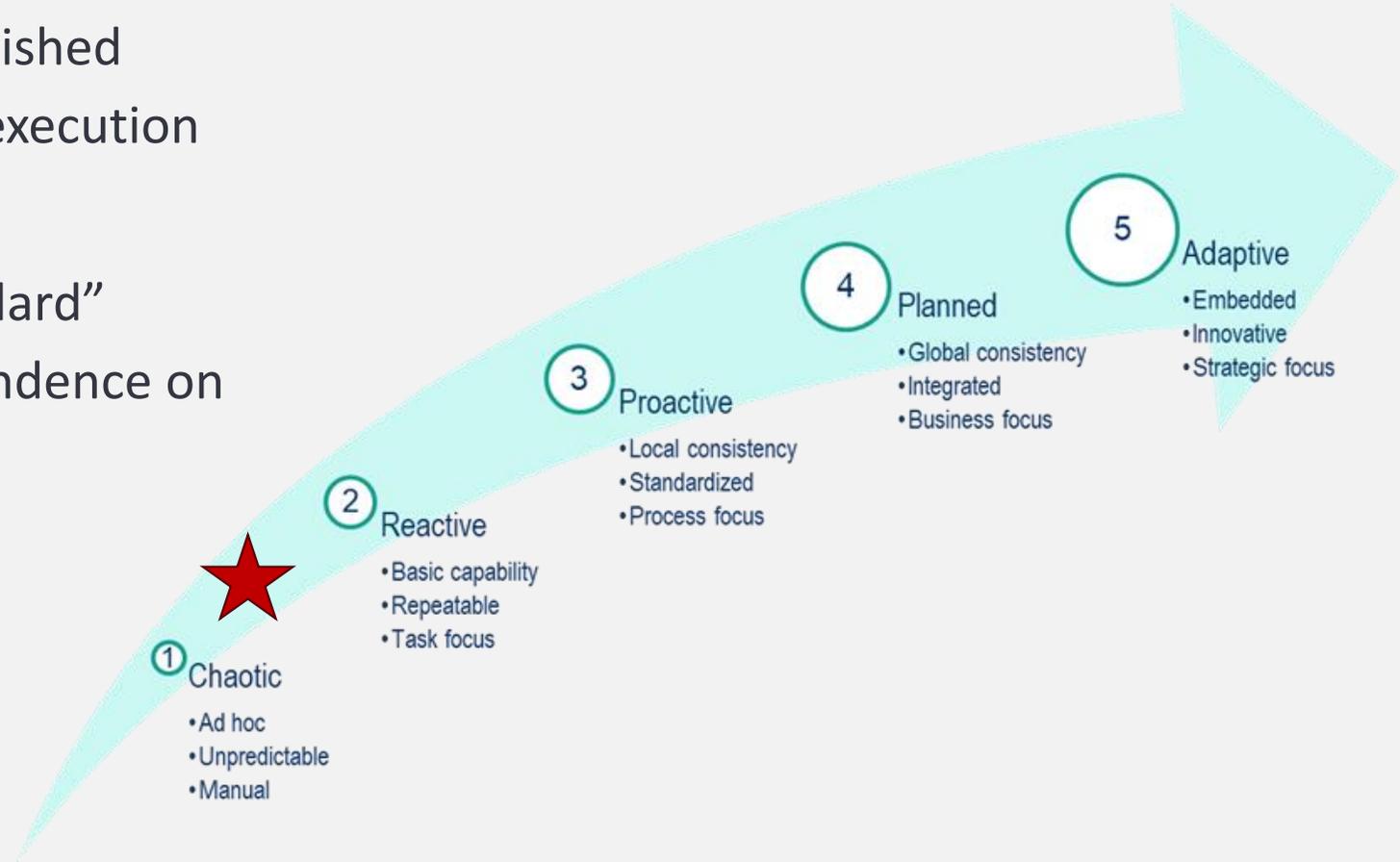
Transition Assessment

- **Purpose**

- Assess technical capability and technical requirements
- Key focus areas:
 - Network
 - Security
 - Data volumes

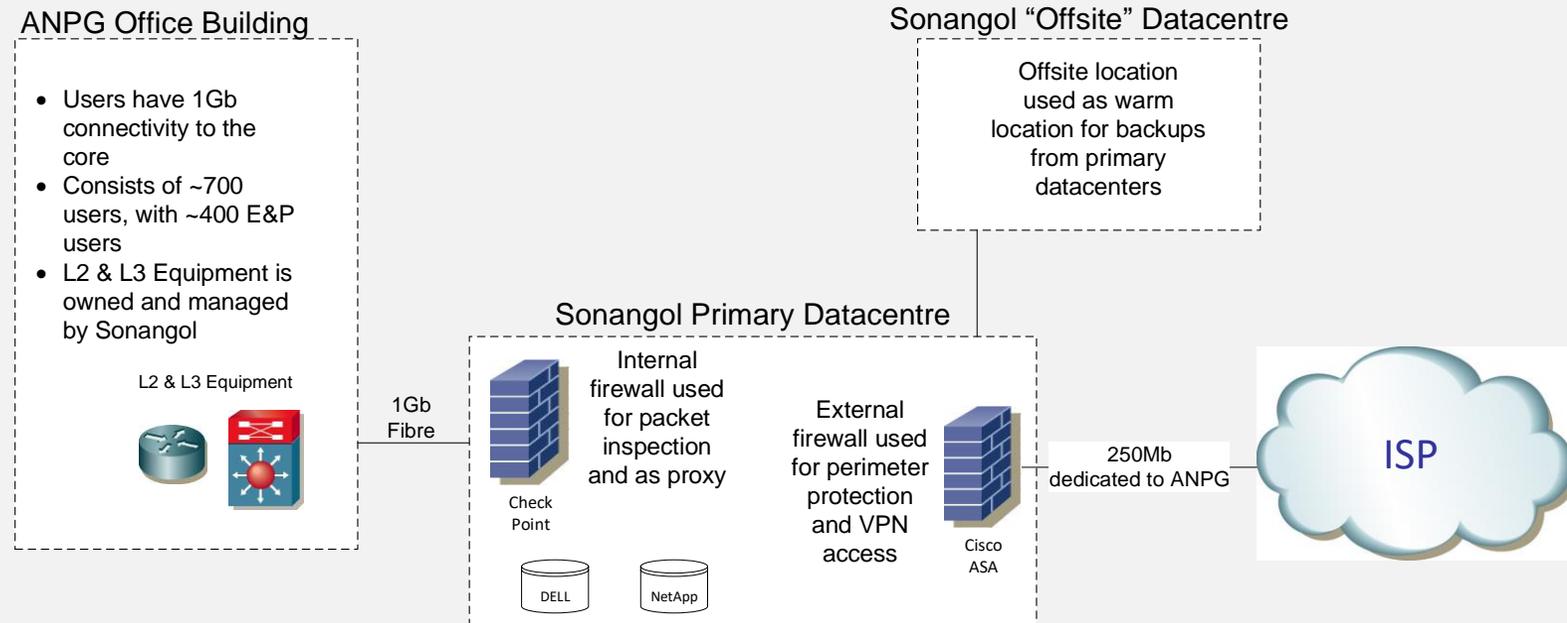
PHASE 1 - MATURITY ASSESSMENT – CURRENT STATE

- Processes
 - Process model not yet established
 - Inconsistent or unmanaged execution
- Technology
 - No definition of “ANPG standard”
 - Instabilities created by dependence on parent organization
- Data
 - No true data governance
 - Ownership not defined
 - Limited quality control



PHASE 1 - TRANSITION - FOCUS AREAS

- Infrastructure
 - Dependency on parent infrastructure
 - Starting to re-deploy ANPG systems into new Azure environment
- Network & Security
 - Dependency on parent AD environment
 - Limited & inadequate web access
- Data & Storage
 - Dependency on parent storage environment
 - Performance issues drive local storage on workstations
 - Significant issues with connectivity between primary & secondary sites



PHASE 1 – SUMMARY & CONCLUSIONS

Business Landscape

- Regulatory activities not yet part of process landscape
- Domain processes are disconnected, no end-to-end sequence
- Data processes highlighted as an immediate concern (manual, inefficient)

Application Landscape

- Applications are defined in Domains, not integrated across Domains
- Lack of integration between core tools limits data integration & impedes collaboration
- Multi-party application support with limited visibility of status & progress

Information Landscape

- Large amount of data being held on user workstations with little or no management
- Lack of an integrated data platform makes data access difficult for users
- Data governance, quality controls & lifecycle ownership not yet implemented

Technical Landscape

- Current infrastructure still dependent on parent organization
- Support, maintenance, monitoring & information issues (aging, non-ownership, etc.)
- General concerns for performance and ability to adopt new cloud technologies

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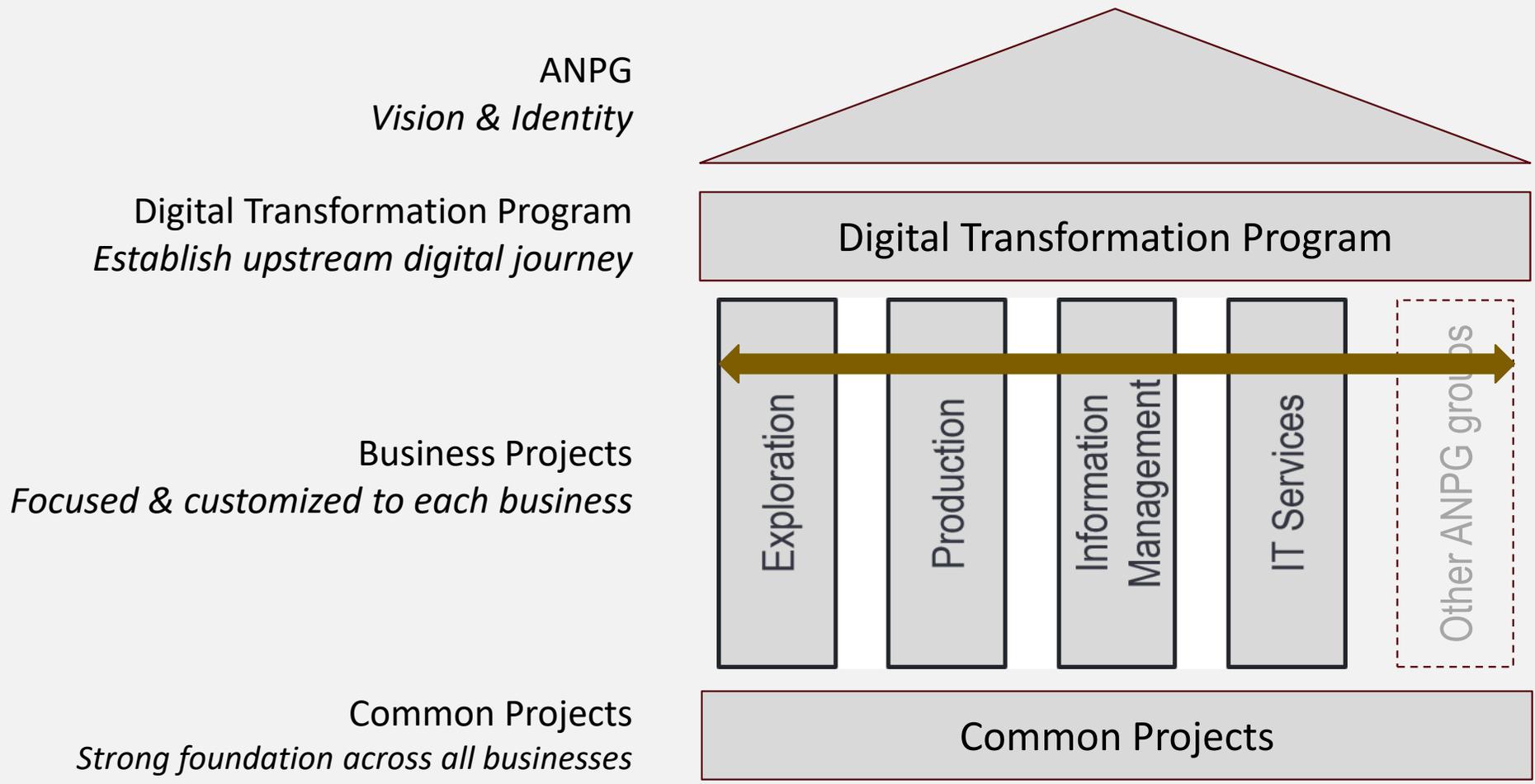
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Phase 2B: Executing

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Phase 3: Looking Ahead

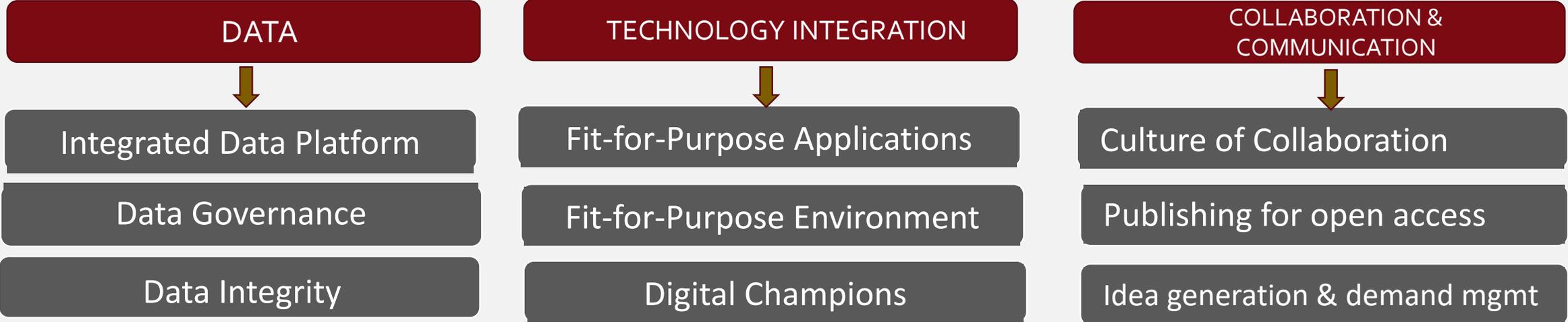
PHASE 2A – PROGRAM STRUCTURE



PROJECT LIST AND SELECTION

Info Mgmt		Production		IT Service	
Rank	Title	Rank	Title	Rank	Title
5.0	Reconfirm the Roadmap & how IM enables vision	5.0	Create Culture of Collaboration – Define ideal Collaborating & Data Sharing (suppliers, owners, receivers) within Production	5.0	Define fit for purpose Environment / Infrastructure for ANPG
5.0	Publish Process Landscape for IM '-•Status & timelines	5.0	Initiate Data Integrity Initiative for Production with focus on dynamic real-time data	5.0	Define fit for purpose - Applications for ANPG
4.5	Create Culture of Collaboration – Define ideal Collaborating & Data Sharing (suppliers, owners, receivers) across ANPG	5.0	Initiate Integrated Data Storage & Security for Production – shared data store, forecasting, analytics	5.0	Support Data Governance Initiative across ANPG
4.5	Define ideal Process for Automation of Data Integration & Interoperability '-•Data receipt & validation, loading, delivery '-•acquisition, extraction, transformation, movement, delivery, replication, federation, virtualization and operational support	4.0	Implement Data Governance for Production	5.0	Support Integrated Data Storage & Security across ANPG to facilitate data consolidation '-•Single source of truth '-•Simplify data sharing from/with Operators
4.5	Lead Data Governance Initiative across ANPG	4.0	Implement Enterprise Search (simplify finding data, Ingestion model for incoming operator data)	5.0	Designate Digital Transformation Champion for IT
4.5	Drive Data Integrity Initiative across ANPG	3.5	Publish Process Landscape for Production '-•Status & timelines '-•Cross-domain '-•External	4.5	Facilitate Culture of Collaboration – Sharing work & data across ANPG
4.0	Designate Digital Transformation Champion for IM	2.5	Define fit for purpose - Applications for Production & technology selection process	4.5	Develop an Agile IT organizational & foster ANPG Agile Business Model (Deploying resource on demand, Fast reaction to change)
4.0	Initiate Integrated Data Storage & Security across ANPG '-•Real Time Data (Pull production data into IM) '-•Domain Data (Deliver projects not data, Pull results back to IM) '-•Cross-domain data flows	1.0	Reconfirm the Roadmap & how Production enables vision	4.5	Define ideal Process for Agile IT organization
4.0	Define fit for purpose Environment / Infrastructure for IM	1.0	Designate Digital Transformation Champion for Production	4.0	Support Data Integrity Initiative across ANPG
4.0	Implement Enterprise Data Search Initiative (simplify finding data, integrated data store, well data search)	1.0	Define Benchmarking Exercise	4.0	Map current status & timelines for planned changes for environment & applications
3.5	Identify future Capability required for NDR (National Data Repository)	1.0	Define Standardization Exercise	3.0	Reconfirm the Roadmap & how IT Services enables vision
3.5	Define fit for purpose - Applications for IM	1.0	Sensitivity Analysis	1.0	Publish Process Landscape for IT '-•Status & timelines
		1.0	Define Reporting Initiatives – Operators, recommendations, models, etc.	1.0	Define process required to fulfill duties of a Concessionary (Data rooms for license rounds)
		1.0	Define fit for purpose Environment / Infrastructure for Production: (Hardware, Software Licenses, remote working)		

PHASE 2A - FOUNDATION PROJECTS



PHASE 2A – DOMAIN PROJECTS

ENTERPRISE SEARCH

- Enable search through all data for relevant information
- Identified by both Exploration & Production
- Improve users' ability to find the data & information they need
- Use technologies built into the new data platform

AUTOMATED DATA QUALITY CONTROL

- Use new technology to reduce/eliminate manual intervention
- Accelerate data receipt & validation and data loading processes
- Avoid accidents and identify data issues (linked with data integrity project)
- Use technologies built into the new data platform

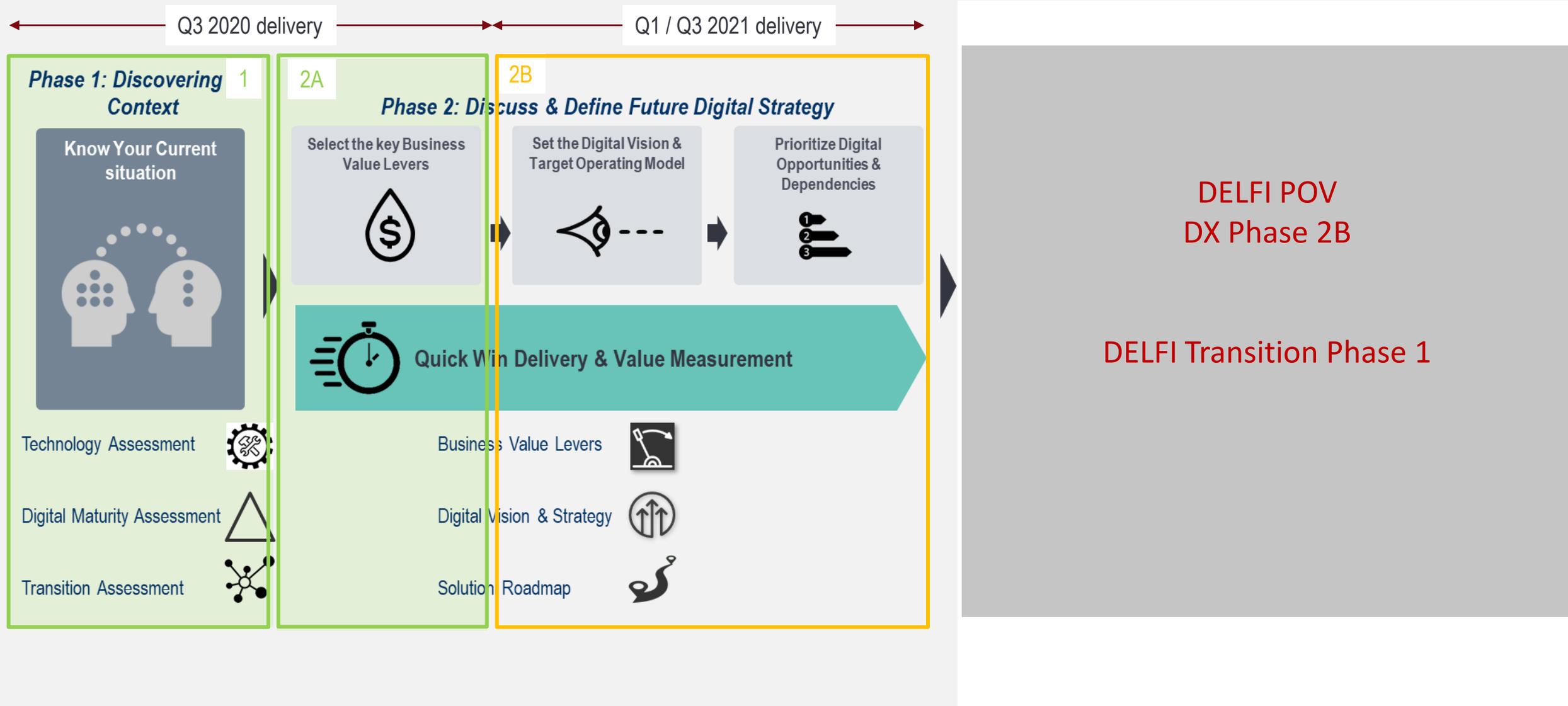
AGILE IT

- Use architecture management to improve IT Service
- Understand the impact of change to maintain end-to-end integration
- Accelerate technology identification, implementation & full adoption
- Enable rapid response to changing business requirements

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PHASE 2B – AGILE & ACCELERATED DIGITAL TRANSFORMATION



Activity Updates & Forward Planning

1. Major items
 - a) Champions – Names, Vacations, Travel – Availability
 - b) Connectivity – Permissions/Firewall/Network
 - c) Evaluation Checklist – discussed & info captured
 - d) POV Workflows - discussed & info captured
 - e) Data Release to DELFI
 - f) SSO (Single-Sign On)
 - g) Federation - ANPG domain w DELFI
 - h) Express Route

PHASE 2B – Integrated Data Platform - Project Elements

“As-Is”

- Total Volume
- Priority 1 Data
- Breakdown by Data Type
- Breakdown by Application
- Offline Data
- Backup & Business Continuity
- Governance

Migration POV

- High Level Strategy
 - Structure
 - Naming conventions
 - Centralization
 - Deduplication
 - Rationalization / cleanup activities
 - Prioritization
- Value Proof Points

Phase 1 Migration

- Transfer for P1 Data
- Lessons Learned
- Process improvement
- Check Value Proof Points

Data Synch

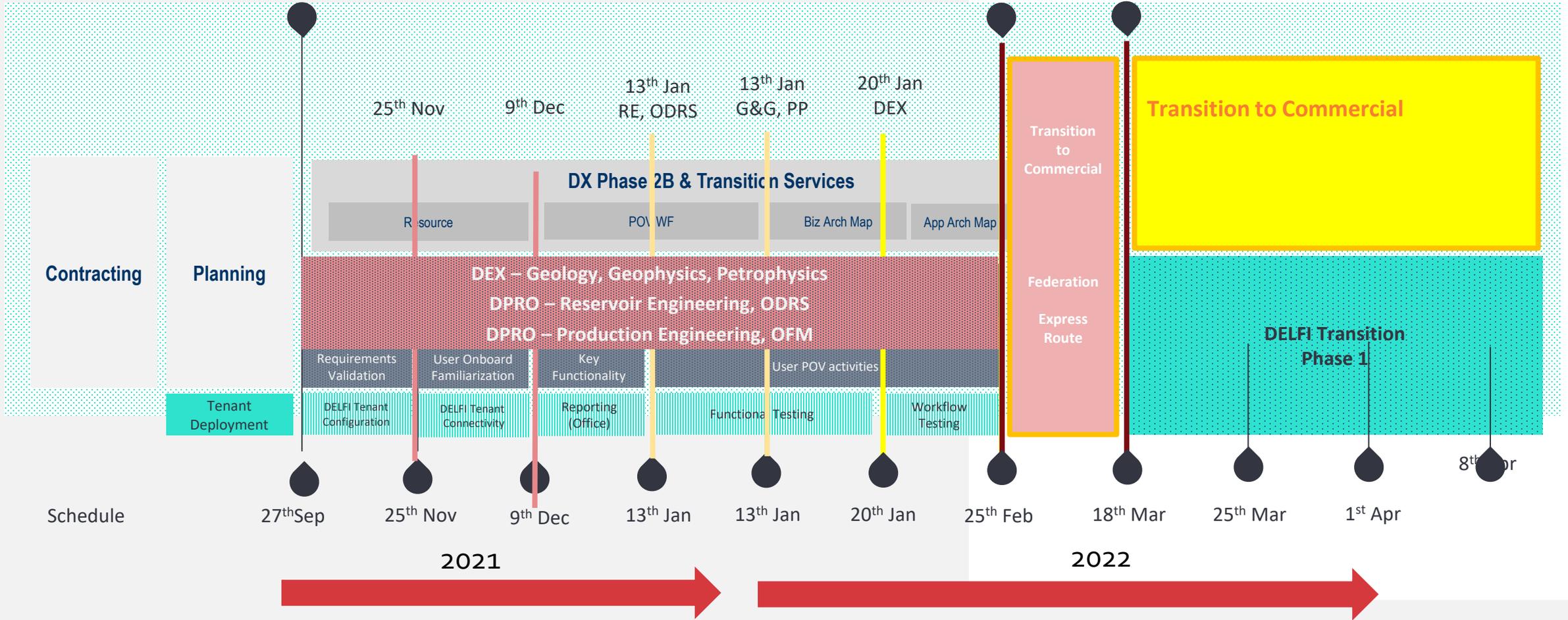
- Setting up Sync for results from DELFI to legacy environment
- Check Value Proof Points

PHASE 2B – Integrated Data Platform - Timelines



Kick-off Briefing
16th August

Kick-off Actual
23rd Sept



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PHASE 3 LOOKING AHEAD

- Process Optimization
- Data Management as a Service
- Native Cloud Apps Adoption
 - Field Development Plan
 - Explore Plan
 - Transition / Consulting Services
- Leverage OSDU technology to implement our National Data Repository

ACKNOWLEDGMENTS



SIDNEY WEBBA

Executive Sponsor - IT CIO



ADRIANO SEBASTIÃO

Sponsor – Exploration Director



ANA MIALA

Sponsor – Production Director



LÚMEN SEBASTIÃO

Sponsor – Information Management Director



ALFREDO LUNDA

Technical Lead – Upstream Analyst

- Team Contributors
 - IT Teams
 - Production
 - Exploration
 - Information Management



QUESTIONS ?

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THANK YOU



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