

# RAPID – Routing & Planning through intelligent data

## Show & Tell

18<sup>th</sup> November 2025



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# Project Summary

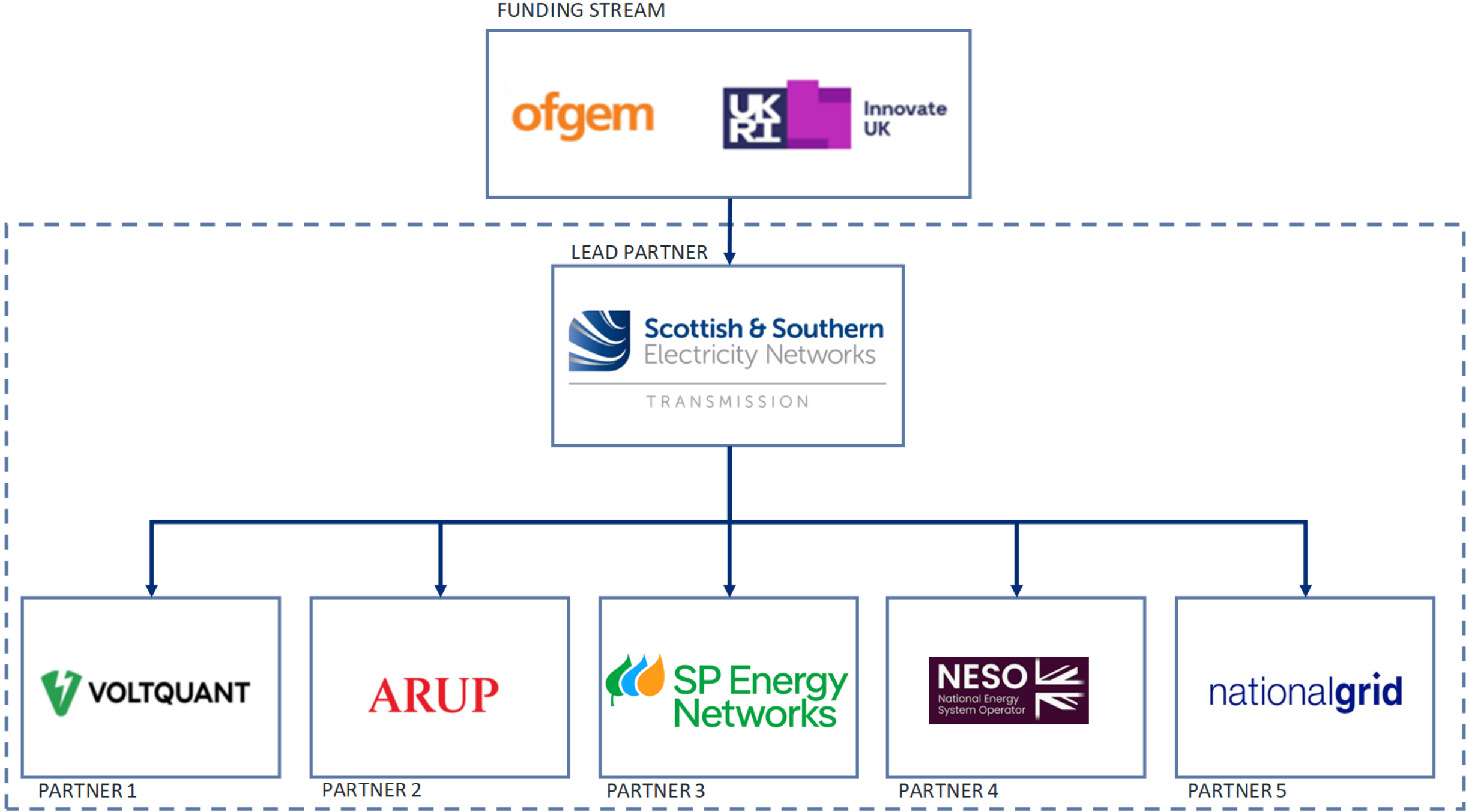
## Objectives:

The focus is on understanding current practices within the industry regarding automated infrastructure, identifying discrepancies, and setting out a clear problem statement with a view to improving efficiency. A collaborative response to the Winsor Report, particularly AR1 and AR2 on automated routing, is required. The work also considers where delays occur in the wider transmission build process, and how digital and AI-enabled methods can be leveraged to accelerate overall delivery.

## Key Findings:

- Current routing automation tools are effective.
- High potential to increase efficiency in route planning by reducing the administrative burden on engineering, consenting, land, and construction teams.
- Potential to increase collaboration through shared responsibility for mitigating common challenges, such as data standardisation, and data acquisition.

# Project Partners (Discovery)





# Work Packages

Literature Review

Benchmarking

Pathways

# WP 2 - Review of available policy documents

## Key findings

1. **Need for standardised design templates**  
based on ETDP guidelines for asset design in various environmental conditions (urban, rural, coastal).

2. **Need for interactive tools for stakeholders**  
to provide input on design choices within permissible influence areas.

3. **Options should consider** long-term costs, carbon impacts, and societal benefits of selected designs.

4. **Need for an automated compliance verification system** to ensure designs meet equipment standards and regulatory requirements.

5. **Need for interoperability across platforms** to ensure tools can seamlessly integrate with existing Geographic Information Systems (GIS) and other planning platforms used by TOs and statutory consultees.
6. **Environmental Impact Assessment**  
**Integration:** Incorporate modules to quantify ecological impacts of proposed routes and designs.

7. **Community Engagement Optimisation:**  
Add visual tools for community stakeholders to understand proposed routes and designs.

8. **Training and Skill Development**  
**Integration:** Develop training modules within the tools to enhance user competency in automated routing and standardised design principles.

9. **Cross-Border Collaboration Features:**  
Incorporate functionality to harmonise routing and design processes across regional boundaries.

## Documents reviewed

1. Clean Power 2030 (CP2030) Action Plan

2. Electricity Networks Commissioner’s Report (Nick Winser)

3. Electricity Networks Commissioner: Letter to Secretary of State

4. Secretary of State’s Response to the Electricity Networks Commissioner

5. Transmission Acceleration Action Plan (TAAP)

6. National Policy Statement for Electricity Networks Infrastructure (EN-5)

7. Strategic Spatial Energy Plan (SSEP)

8. National Infrastructure Commission (NIC) Reports

9. Strategic Energy Planning Environmental Assessments

10. Clean Power 2030 (CP2030) Technical Annex

11. Horlock Rules

12. Holford Rules

13. Centralised Strategic Network Plan (CSNP) Methodology

# WP 3 – Current practices

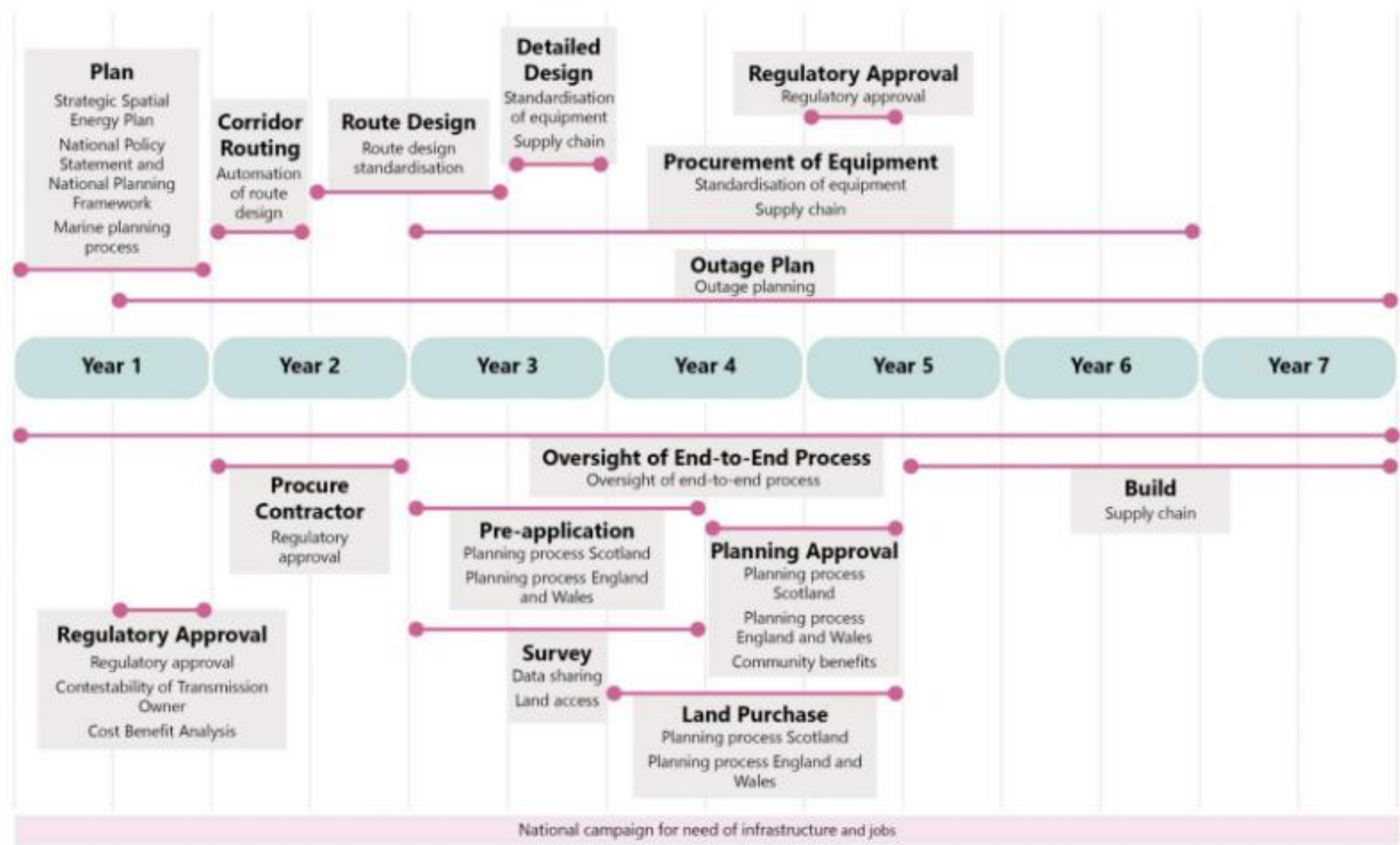


Figure 4.6 New seven-year process map and recommendations required.

# WP 3 – Challenges with current practices

Land access negotiations and legal processes (e.g. Wayleaves, easements) are often bottlenecks

Balancing environmental, technical, and social constraints

Manual processes for data sharing between engineering, planning & consenting, and land

High effort involved with stakeholder feedback to queries

Unforeseen redesign due to late-stage constraints or consultation feedback

High administrative effort to get the plan(s) approved



# WP 4 – Ideation of solutions

Common Data Environment

Route-Rationale  
GPT

Document  
Generator

Land Negotiation  
Tool

# Lessons Learnt

Adopt a phased rollout to validate tools before live deployment.

Explainability is critical

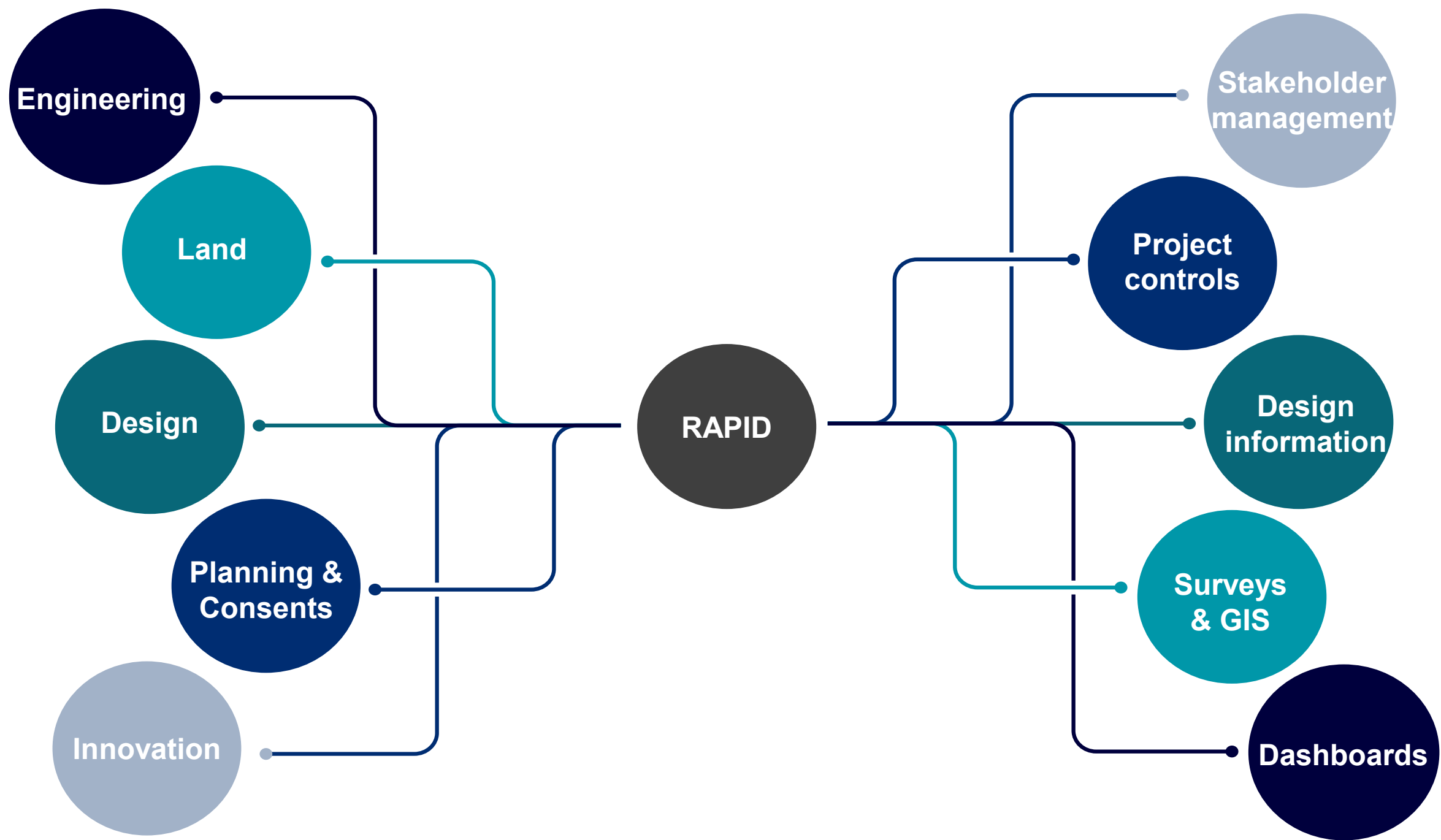
Early alignment adds value

Standardisation needs to be driven by use cases.

Solution needs to consider the varying needs of system designers, environmental teams, community engagement teams, and various other departments.

Sector is still in experimenting with various tools

# Solution



# Plan for Alpha Phase

## Aim

- Undertake further stakeholder engagement to quantify the value of each opportunity, while understanding how each opportunity will fit in their existing processes.
- Develop a Proof-of-Concept (PoC) to validate the solution's ability to deliver the stated value

The scope will be delivered across the following work packages:

1. Project management
2. Opportunity refinement
3. Solution architecture
4. Data & framework
5. Build of PoC
6. Model testing

## Next Steps

- The draft scope is currently under review by the SSEN-T Innovation Governance board. Bid development is in progress.
- Plan to submit an Alpha phase application during the next funding cycle.



# Thank you

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