



R.I.S.E.

(ROBOTICS INTEGRATION FOR SUSTAINABLE ENERGY)

SIF Show and Tell
9th October 2026



THE NATIONAL
ROBOTARIUM
PEOPLE CENTRED • INTELLIGENCE DRIVEN



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Scottish & Southern
Electricity Networks



HOUSEKEEPING

- Please feel free to ask questions throughout the session in the Teams chat.
- Today's session will be recorded and will be made available after the event. The recording will stop for the Q&A session.



Video/webcams off
Please only turn your video on for the discussion in break-out rooms



Mics on mute
Please stay on mute unless you are asking a question



Technical queries
If you have any technical questions let us know

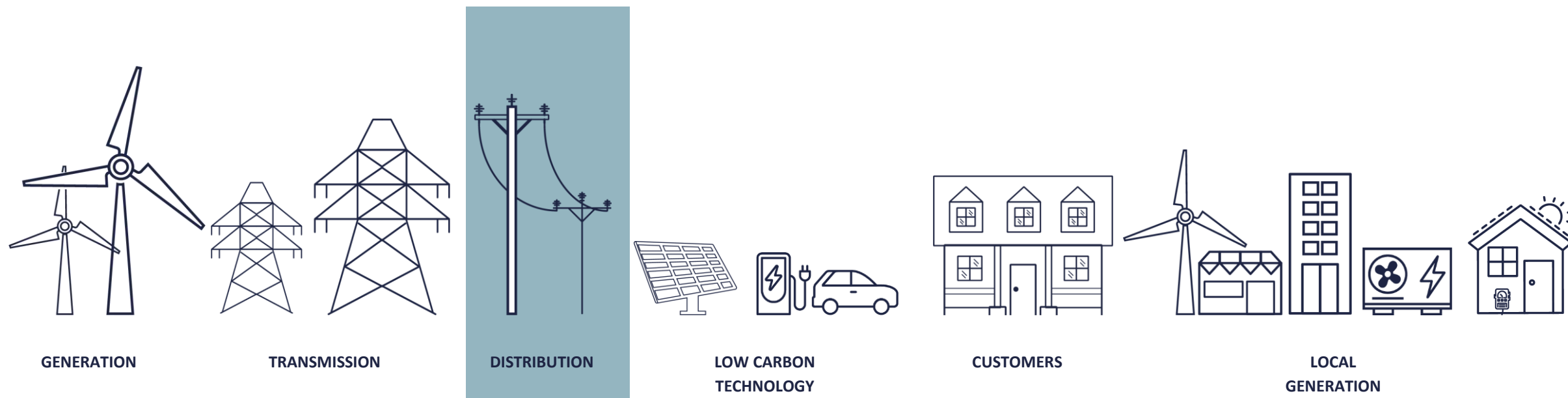




OUR ROLE IN THE ENERGY SYSTEM

As a Distribution Network Operator, our role in the energy system is to carry electricity from the high voltage transmission grid to industrial, commercial and domestic users via a network of cables and poles.

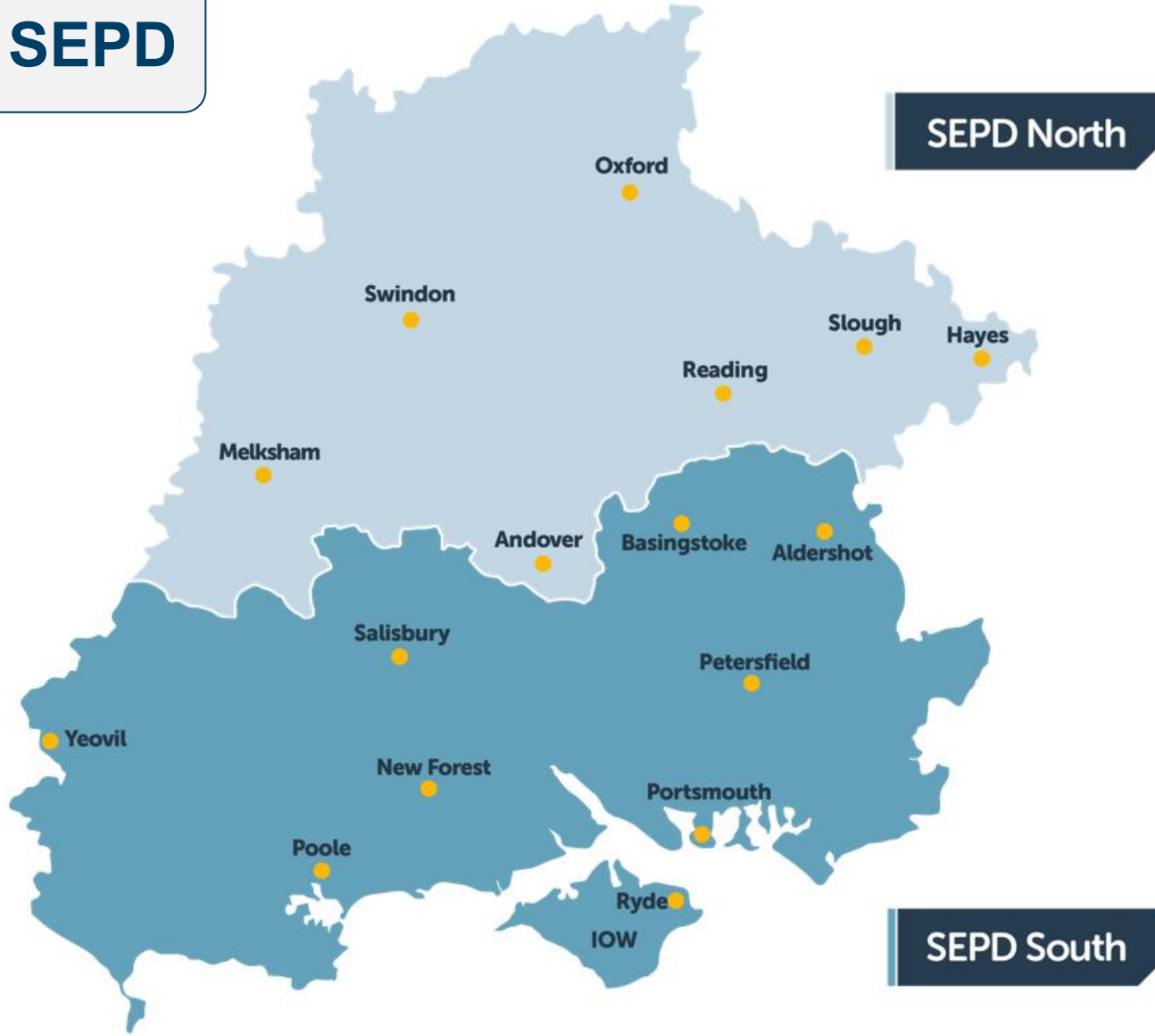
We provide this service for every home and business in the north of Scotland and central southern England regardless of who you pay your energy bills to.



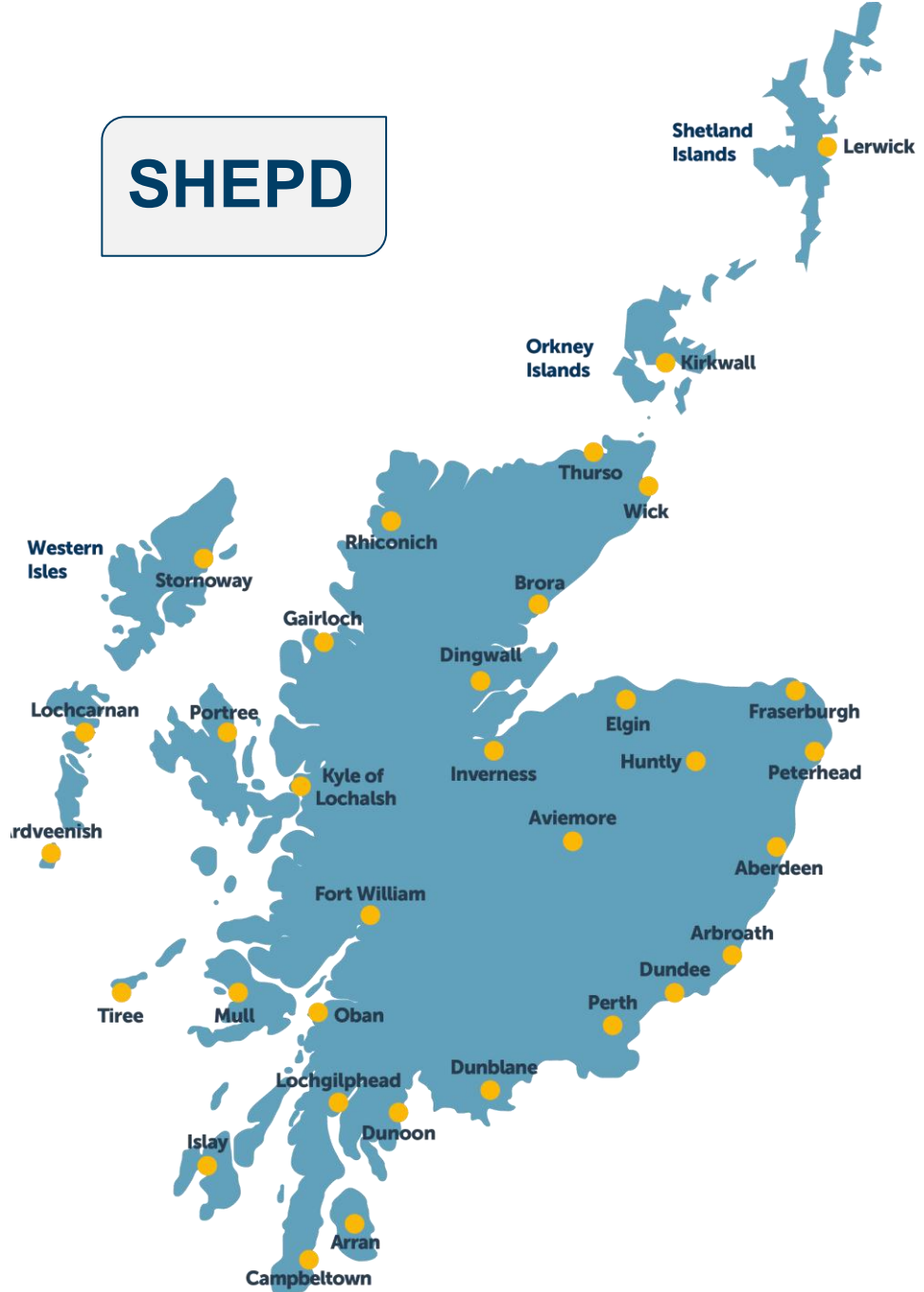
We are regulated by Ofgem, the energy regulator, through a 5-year price control cycle. Our latest business plan, for RIIO-ED2, began in April 2023 and runs until March 2028.



SEPD



SHEPD





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INTRODUCTIONS

RISE

ROBOTICS INTEGRATION FOR SUSTAINABLE ENERGY

SSEN SIF Project



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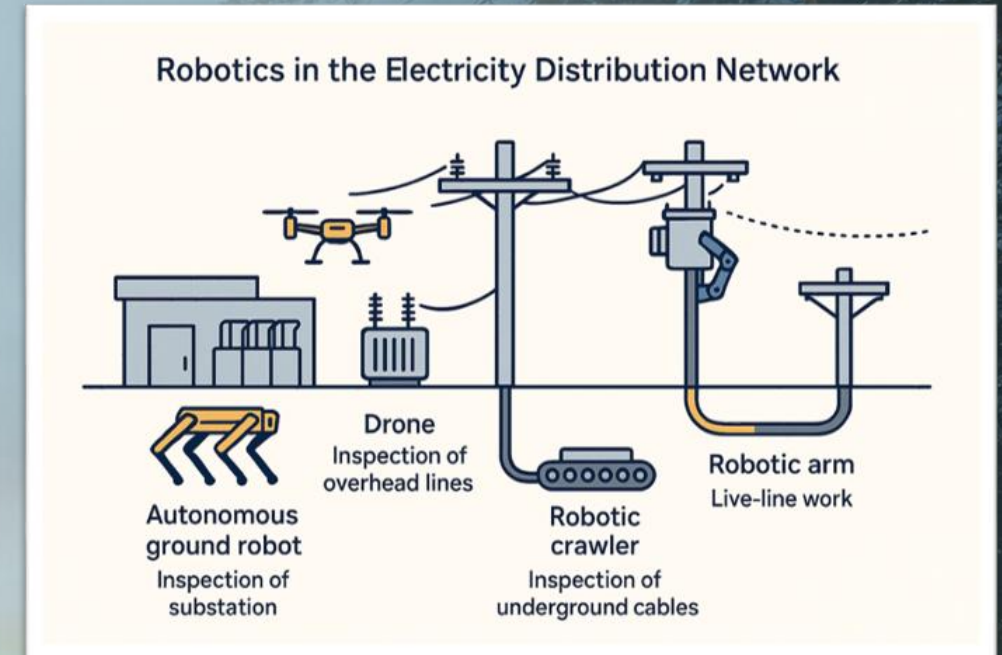
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ROBOTICS, AUTOMATION AND SMART MACHINES IN ELECTRICITY

- Becoming essential tools for everyday operations
- Shift from smart machines as 'add-ons' to part of core grid operations
- Dull, dirty and dangerous
- Workforce of the future - a quicker, safer, more efficient way of working

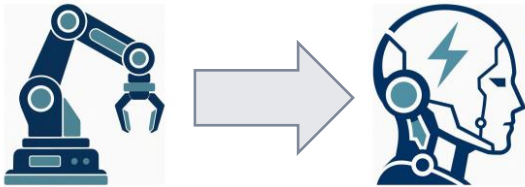
Robots and autonomous systems are currently used for:

- Drones for overhead line and substation inspections
- Robotic dogs for hazardous or restricted areas
- Robotic arms/manipulators for inspection and maintenance – international examples
- Crawlers for ducts, trenches and underground cable routes (more gas and other DNOs)



IF EVERYONE HAS 'ROBOTS', WHY AN INNOVATION PROJECT?

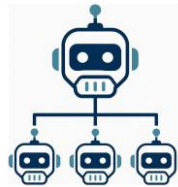
Innovation in this area is currently technology led rather than problem led



Need to understand the operational challenge, organisational constraints and pathways required for successful adoption



Operational challenge

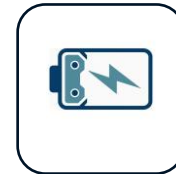


Organisational constraints



Pathway to adoption

DNOs are creating bespoke solutions for single use cases



Use case 1



Use case 2



Use case 3

Bespoke, not shared

RISE DISCOVERY

Identify barriers across the electricity network and highlight where robotics can genuinely transform operations

Robotics Readiness Review

Assess organisational readiness for the safe and effective deployment of robotics.

Defining Use Cases

Identify opportunities and establish the requirements needed to progress from challenge to solution.

Industry Engagement

Assess industry adoption and signal demand to suppliers and manufacturers.



Jointing



Overhead Live Line Tool

STAKEHOLDER ENGAGEMENT : HOW WE IDENTIFIED AND SELECTED OUR PRIORITY USE CASES

Purpose

To evidence how stakeholder engagement was used to identify operational needs, validate potential robotics applications and inform the project's readiness, use case development and adoption assessments.

Initial Stakeholder scoping

Brainstorming workshop

Use case prioritisation

HOW STAKEHOLDER ENGAGEMENT SHAPED THE DISCOVERY PHASE

- Defined the initial robotics opportunity pipeline
- Captured operational pain points and safety risks
- Identified high-value areas for automation
- Informed readiness and deployment considerations
- Provided evidence-based foundations for recommendations

KEY OPPORTUNITY AREAS IDENTIFIED FROM BRAINSTORMING WORKSHOP



Over Head Lines Vegetation Management

Robotic systems and autonomous machinery reduce manual clearance work and improve access in difficult terrain.



Over Head Lines Inspection Technologies

Climbing robots, drones, and remote sensing gather asset condition data quickly and safely across large areas.



Underground Network Robotics

Robots aid live jointing, cable detection, excavation, and cable handling, enhancing safety and efficiency.



Advanced Asset Monitoring

Thermal imaging, LiDAR, and automated defect detection improve risk reduction and asset assessments.

RISE Learnings and Next Steps



Key Discovery Learnings



Safety First

Robotics offers greatest value where it reduces workforce exposure to operational risk.



Problem-Led Innovation

The strongest opportunities were identified by addressing business challenges rather than pursuing technology for its own sake.



Innovation beyond Technology

Governance, operating models and organisational readiness are as important as the technology itself.



Tailored Development Paths

Different use cases require different innovation pathways depending on their maturity and readiness.



Automated Cable Jointing (Discovery)



Understanding the Opportunity

Explore where robotics and automation could add value across the cable preparation and jointing process, identifying activities most suitable for automation.



Assessing Technical Feasibility

Investigate the maturity of available technologies and determine how robotics could be applied within real-world network operations.



Defining Adoption Requirements

Examine the operational, safety, skills and governance requirements needed to support future implementation.



Building the Future Roadmap

Develop the evidence base and business case required to define a subsequent development and demonstration programme.



Overhead Live Line Maintenance (Alpha)



Advancing Robotic Capabilities

Explore how robotic technologies can be adapted and refined to perform priority live line maintenance activities.



Validating Operational Application

Assess how the solution performs within representative operational environments and maintenance scenarios.



Understanding Integration Needs

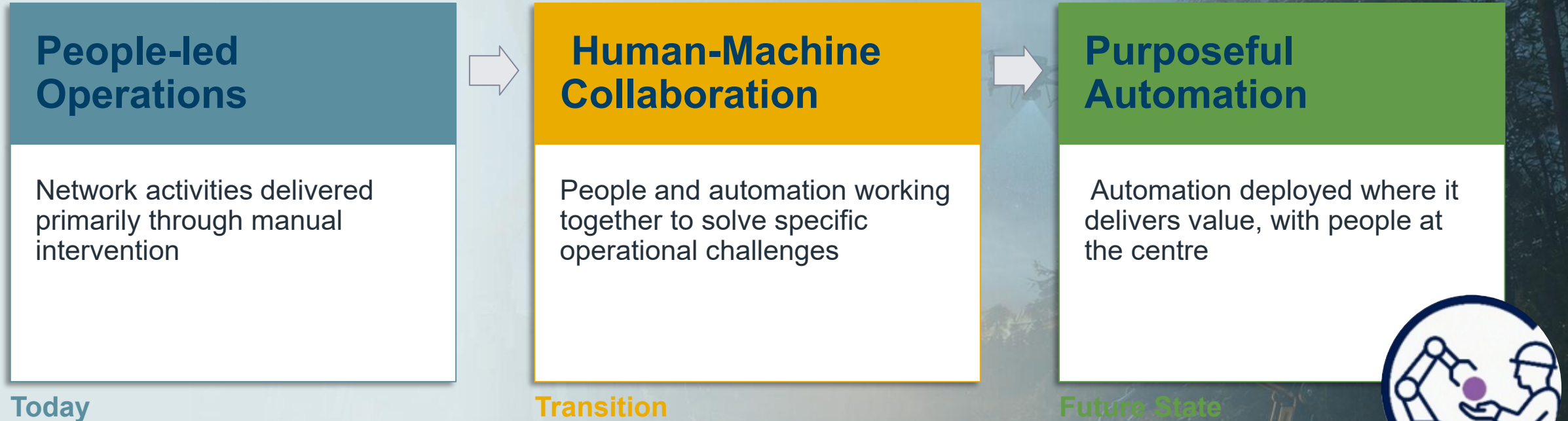
Identify the processes, skills, training and operating model changes required to support adoption.



Establishing a Pathway to Adoption

Develop the evidence, partnerships and deployment approach needed to inform future large-scale implementation.

SHAPING THE FUTURE OF NETWORK OPERATIONS





THANK YOU

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AUDIENCE Q&A



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