

 Eskom National Transmission Company South Africa TM	Industrialisation Strategy 2025/26 – 2035/36 Implementation Roadmap	Procurement & Supply Chain Management
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Industrialisation Strategy 2025/26 – 2035/36

Implementation Roadmap

Stage 1 - Initial Phase (2026/27):

1. Internal Data Analysis

The successful implementation of the NTCSA Industrialisation Strategy requires a comprehensive internal data analysis of key commodities. This analysis will provide insights into production capabilities, market demand, trade flows, and investment opportunities, forming the foundation for strategic industrial interventions.

Objectives of Internal Data Analysis

- To assess the current production landscape of key commodities.
- To identify gaps and opportunities within the industrial value chains.
- To provide data-driven insights for policy formulation and investment prioritisation.
- To establish a monitoring framework for tracking industrial growth and performance.

Key Steps in Data Analysis

1. Identify and Gather Relevant Data

A systematic approach will be employed to collect and consolidate data across key commodities, ensuring a holistic view of the industrial landscape.

1.1 Commodity Selection:

- Identify priority commodities within NTCSA's focus sectors (e.g., mining, agriculture, manufacturing, energy, pharmaceuticals, automotive, and ICT).
- Prioritise commodities based on economic impact, employment potential, and strategic national interest.

1.2 Data Sources:

- Internal government reports, NTCSA databases, and industrial policy documents.

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- External reports from StatsSA, South African Revenue Service (SARS), trade organisations, and industry associations.
- Market intelligence from research institutions and international trade bodies.
- Stakeholder consultations, including industry leaders, SMEs, and financial institutions.

2. Data Segmentation and Categorisation

Data will be structured into specific categories to facilitate targeted analysis:

- **Production Data:** Output volumes, production costs, and technological capabilities.
- **Consumption Data:** Domestic demand trends, import substitution opportunities, and consumer preferences.
- **Trade and Market Trends:** Export potential, regional and international trade flows, and competitive positioning.
- **Employment and Skills Data:** Workforce capacity, skills distribution, and required upskilling initiatives.
- **Financial and Investment Data:** Capital investment patterns, funding availability, and industrial financing gaps.

3. Data Quality Assessment

Ensuring high-quality data is crucial for accurate analysis. The following assessment criteria will be applied:

- **Completeness Check:** Identification of missing datasets and strategies for data augmentation.
- **Accuracy Verification:** Cross-validation with multiple sources to eliminate discrepancies.
- **Timeliness:** Prioritising the most recent and relevant data to reflect current industry conditions.

4. Analytical Framework for Commodity Insights

A structured framework will be used to extract actionable insights from the collected data:

- **Competitiveness Analysis:** Benchmarking local production against imported alternatives to identify competitive advantages.
- **Value Chain Analysis:** Mapping key value chain components to pinpoint inefficiencies and industrialisation opportunities.
- **Economic Impact Assessment:** Evaluating the contribution of each commodity to GDP, employment, and SME development.

- **Infrastructure and Logistics Assessment:** Examining supply chain efficiency, transport networks, and industrial infrastructure constraints.

5. Reporting and Insights Generation

Findings from the data analysis will be compiled into comprehensive reports and visual dashboards to support strategic decision-making.

- **Commodity-Specific Reports:** Detailed reports on each key commodity, highlighting opportunities, challenges, and recommended interventions.
- **Data-Driven Policy Recommendations:** Formulation of policy interventions based on empirical data insights.
- **Dynamic Dashboard Development:** Establishment of a real-time monitoring system to track commodity performance and market trends.

2. Supplier Capability Review

A thorough evaluation of supplier capabilities is critical to ensure a resilient and competitive industrial ecosystem. This will involve:

- **Supplier Identification:** Mapping existing suppliers across key commodity sectors.
- **Production Capacity Assessment:** Evaluating the ability of suppliers to meet demand in terms of volume, quality, and timelines.
- **Technological Capabilities:** Reviewing the level of technological advancement and innovation within the supplier base.
- **Compliance and Standards:** Ensuring suppliers meet regulatory and industry standards, including environmental and labour compliance.
- **Supplier Development Programmes:** Identifying gaps and designing interventions to strengthen supplier capabilities, including skills development, funding support, and technology transfer.
- **Local vs. International Suppliers:** Analysing the balance between domestic and international suppliers to enhance local industrial resilience.

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Suppliers will be assessed on:

- **Technical Expertise** – Proven experience in industrial technologies.
- **Financial Stability** – Ability to sustain long-term engagements.
- **Compliance & Certification** – Adherence to industry standards (ISO, SABS, regulatory approvals).
- **Capacity & Scalability** – Ability to handle large-scale deployment.
- **R&D Investment** – Commitment to innovation and continuous improvement.

Key Assessment Methods:

1. Technical Capability Assessment

- Evaluate product quality, reliability, and compatibility with NTCSA needs.
- Conduct on-site inspections to verify production capacity and infrastructure.
- Assess the technology's lifespan, maintenance requirements, and upgrade potential.
- Ensure the supplier has robust cybersecurity measures for digital systems.

2. Supply Chain & Logistics Assessment

- Analyse raw material sourcing (local vs. imported components).
- Assess the supplier's ability to meet delivery timelines.
- Evaluate resilience to supply chain disruptions (alternative suppliers, redundancy plans).

3. Financial & Commercial Viability

- Review pricing models (CAPEX vs. OPEX, financing options).
- Compare cost-effectiveness vs. competitors.
- Assess long-term sustainability of the supplier's business model.
- Consider available government incentives or industrial financing support.

4. After-Sales Support & Service

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- Review maintenance and technical support structures.
- Check availability of spare parts and local service centres.
- Assess training programs for local technicians and workforce.
- Verify warranty policies and service level agreements (SLAs).

5. Legal & Compliance Review

- Confirm **regulatory compliance** with industry laws and safety standards.
- Ensure supplier adheres to **labour laws, environmental regulations, and ethical business practices**.
- Assess **intellectual property (IP) rights and data security measures**.

3. Technology Assessment

To enhance industrial competitiveness, a thorough assessment of technology gaps and needs for modern manufacturing tools will be conducted. This will include:

- **Identification of Technology Gaps:** Evaluating current manufacturing technologies in use and identifying outdated or inefficient systems.
- **Needs Assessment for Modern Manufacturing Tools:** Determining industry-specific technological advancements required to enhance productivity and efficiency.
- **Adoption of Industry 4.0 Technologies:** Assessing the readiness for automation, artificial intelligence, Internet of Things (IoT), and digital manufacturing solutions.
- **Investment in Research & Development (R&D):** Encouraging innovation and technological advancements through increased R&D funding.
- **Technology Transfer Initiatives:** Establishing partnerships for knowledge sharing and technology adoption from global leaders.
- **Capacity Building & Workforce Readiness:** Developing training programmes to equip workers with the skills required to operate advanced manufacturing systems.

Key Steps:

1. Technology Readiness Level (TRL) Assessment

- Evaluate technologies based on their maturity levels (from basic research to full deployment).

- Prioritize technologies that are market-ready or require minimal development for industrial scaling.
- Use a TRL scale (1-9) to determine feasibility for local adoption.

2. Cost-Benefit & Economic Impact Analysis

- Assess the economic viability of adopting new technologies.
- Compare capital costs, operational costs, and long-term ROI.
- Identify potential job creation, skill requirements, and productivity gains.

3. Comparative Benchmarking

- Compare NTCSA's industrial sectors with global best practices.
- Evaluate successful technology adoption cases in similar emerging economies.
- Use international standards (ISO, Industry 4.0 frameworks) to guide adoption.

4. Industry & Sector-Specific Technology Audits

- Conduct audits in priority sectors (manufacturing, agro-processing, mining, energy, ICT, etc.).
- Identify gaps in existing technologies and opportunities for improvement.
- Assess infrastructure readiness and integration feasibility.

5. Environmental & Sustainability Impact Assessment

- Ensure that technology adoption supports green industrialisation.
- Evaluate energy efficiency, carbon footprint, and compliance with sustainability policies.
- Promote circular economy principles (recycling, waste reduction, renewable energy).

6. Skills & Workforce Capability Analysis

- Identify skill gaps and training needs for technology deployment.
- Develop capacity-building programmes in partnership with universities, TVET colleges, and industry bodies.
- Support digital transformation through AI, automation, and smart manufacturing training.

7. Pilot Testing & Proof-of-Concept Trials

- Implement pilot projects to test new technologies in real-world conditions.
- Conduct small-scale proof-of-concept trials before full-scale rollout.
- Use results to inform policy recommendations and investment decisions.

8. Stakeholder-Driven Innovation & R&D Collaboration

- Foster collaboration between industry, government, academia, and research institutions.
- Establish innovation hubs, tech incubators, and research funding mechanisms.
- Encourage partnerships for local technology development and manufacturing.

4. Stakeholder Engagement

Effective stakeholder engagement is essential for the successful implementation of the NTCSA Industrialisation Strategy. The following key actions will be undertaken:

1. Stakeholder Mapping & Categorization

- Identify all key stakeholders (government, industry leaders, SMEs, financial institutions, labour unions, academia, and development agencies).
- Categorize them based on **influence, interest, and involvement** in industrialization.
- Prioritize engagement based on their impact on NTCSA's objectives.

2. Multi-Tiered Engagement Approach

A structured engagement model should involve different tiers of stakeholders:

- **Policy Level:** National and provincial government, regulators, and policymakers.
- **Industry & Business:** Large manufacturers, SMEs, and sector associations.
- **Financial & Development Partners:** Banks, DFIs, investment funds.
- **Community & Workforce:** Labor unions, cooperatives, local communities.

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- **Academia & Innovation Hubs:** Universities, research institutions, and tech incubators.

3. Engagement Channels & Mechanisms

Use different methods tailored to each stakeholder category:

- **High-Influence Stakeholders (Govt, Investors, Corporates):**
 - Private roundtables and strategic forums
 - Bilateral meetings with key decision-makers
 - Public-private partnership dialogues
- **Industry & Business Networks (SMEs, Manufacturers, Business Associations):**
 - Workshops and sector-specific forums
 - Business-to-business (B2B) networking events
 - Online knowledge-sharing platforms
- **Community & Labor Groups:**
 - Town hall meetings and local consultations
 - Focus group discussions
 - Social media engagement for inclusive participation
- **Academia & Research Institutions:**
 - Collaborative research projects
 - Innovation challenges and hackathons
 - Industry-academia roundtables

4. Digital & Media Engagement

- Develop an **interactive NTCSA Stakeholder Portal** for updates, feedback, and collaboration.
- Leverage **social media campaigns** for broad awareness and transparency.
- Use **press releases, newsletters, and industry publications** to keep stakeholders informed.

5. Strategic Partnerships & MoUs

- Establish formal agreements with industry bodies, government agencies, and financial institutions.
- Leverage trade agreements and international cooperation for industrial growth.

6. Feedback & Continuous Improvement

- Set up mechanisms for **ongoing stakeholder feedback** through surveys, public consultations, and policy dialogues.
- Use feedback to **refine and adapt industrialization strategies** dynamically.

This Stakeholder Engagement Strategy will ensure broad participation, alignment of interests, and commitment from all relevant parties. Below are some of key Stakeholder groups to be engaged:

- **Government Collaboration:** Engaging with national, provincial, and local government bodies such as the Department of Trade, Industry and Competition (DTIC), Industrial Development Corporation (IDC), and provincial economic development agencies.
- **Partnerships with Educational Institutions:** Collaborating with universities (e.g., University of Pretoria, Wits University), TVET colleges, and research institutes to develop industry-relevant curricula and skills programs.
- **Engagement with Local Industries:** Facilitating discussions with industry associations such as Business Unity South Africa (BUSA), Manufacturing Circle, and sectoral chambers.
- **Trade Unions:** Consulting with worker representatives including the Congress of South African Trade Unions (COSATU), National Union of Metalworkers of South Africa (NUMSA), and the Federation of Unions of South Africa (FEDUSA) to address labour issues and workforce development.
- **Public-Private Partnerships (PPPs):** Establishing PPPs to mobilise investment, enhance infrastructure, and drive industrial development.
- **Community and Labour Consultations:** Ensuring community and workforce participation in industrial initiatives to promote inclusive economic growth.
- **International Stakeholder Engagement:** Establishing global partnerships for technology transfer, market access, and best practices in industrial development.

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Stage 2: Execution Phase (2027/28):

- **Infrastructure Implementation:** Establish necessary infrastructure, including funding, legislation, and technology, to support industrialization.
- **Economic Active Zone:** Develop zones that encourage economic activity.
- **Manufacturing Plant Set-up:** Establish manufacturing facilities.

Compiled by:



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Rudzani Tshikungulu
Senior Advisor SDL&I

Date: 22/10/2025

Approved by:



.....
Alan Ranganathan
Middle Manager Business Enablement

Date: 22/10/2025

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