



N Arc Consulting

(Advisory, Engineering & Project Management)



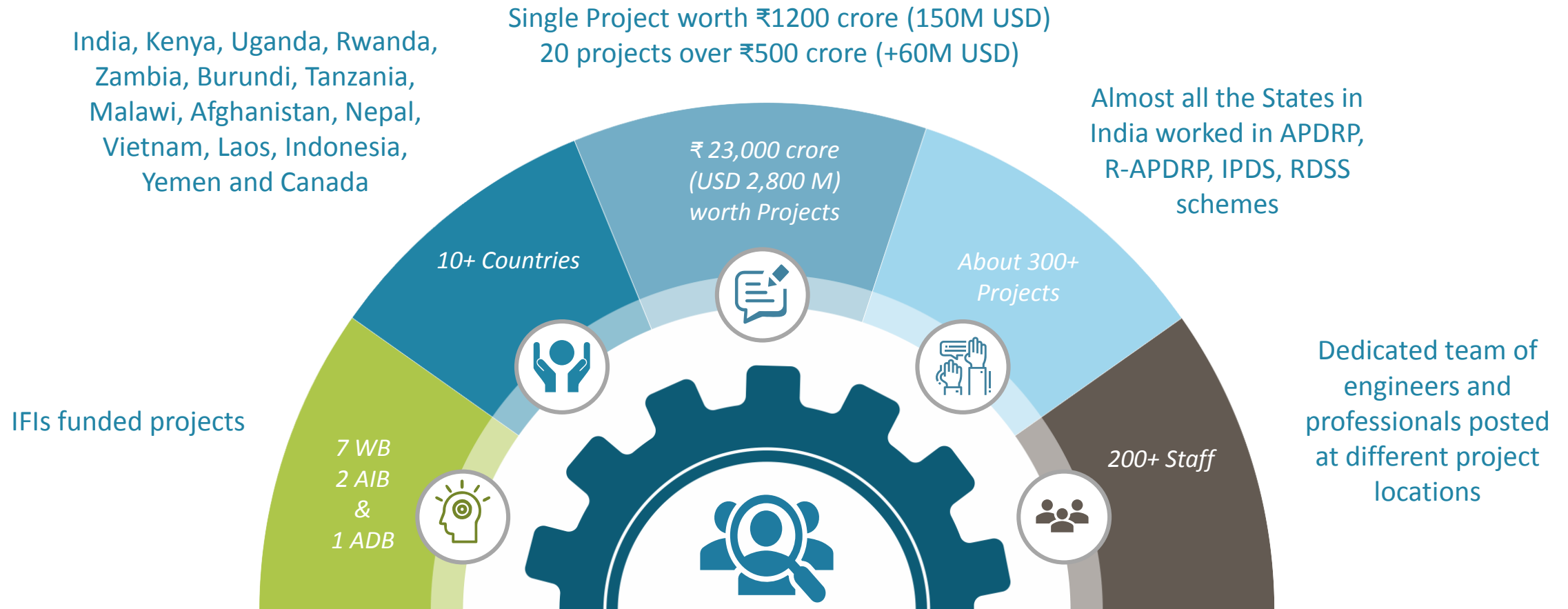
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N Arc Consulting
(Advisory, Engineering & Project Management)

N Arc Consulting – at a glance



Established in 2004 – 19 years of operations in successfully delivering consulting projects in Power Sector

An ISO-9001:2015 certified company

Our Global Presence

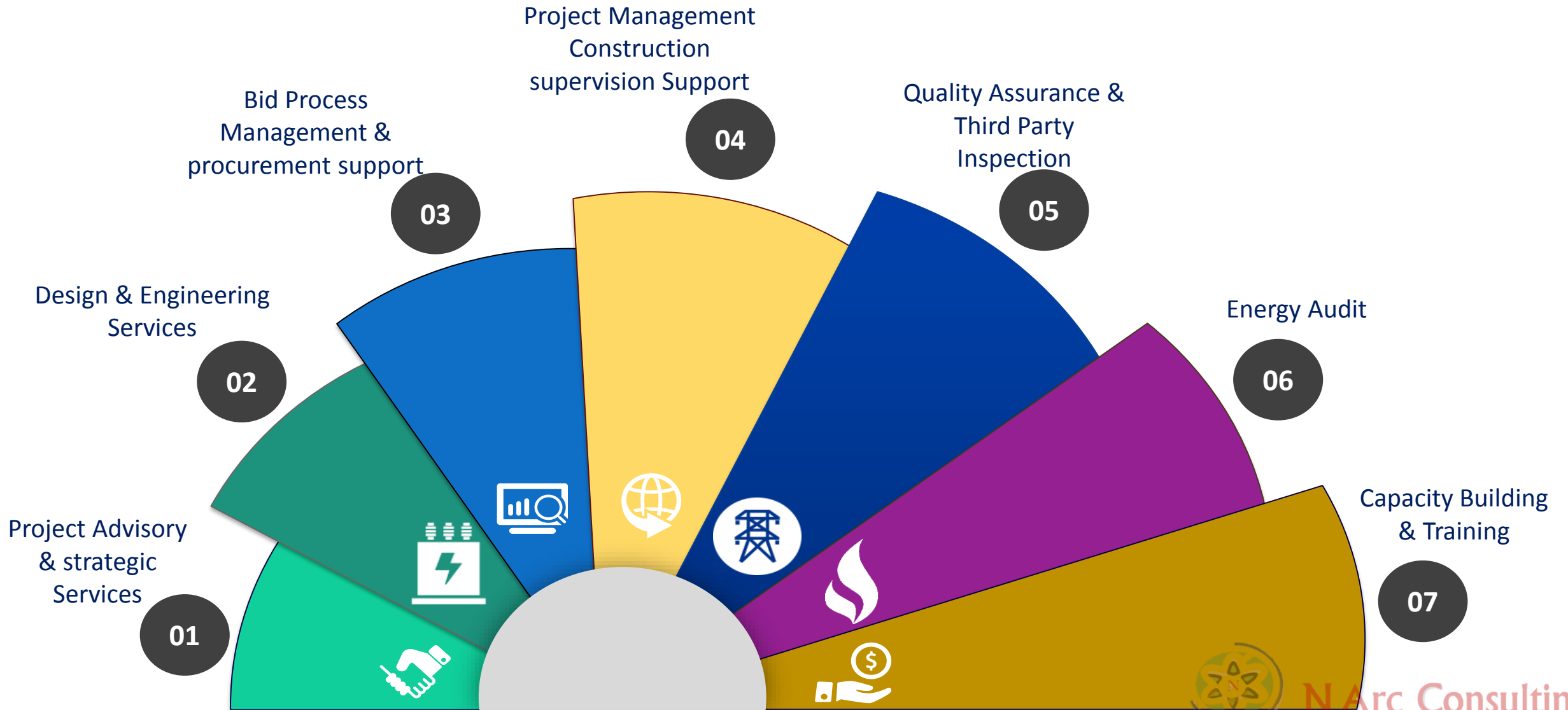


- 1. Canada

- 1. Malawi
- 2. Rwanda
- 3. Uganda
- 4. Zambia
- 5. Burundi
- 6. Tanzania

- 1. India
- 2. Nepal
- 3. Bangladesh
- 4. Afghanistan
- 5. Laos
- 6. Vietnam
- 7. Indonesia
- 8. Mongolia

We provide the following services..



1

Project Advisory & Strategic Services

Loss reduction and loss control:
Supporting Discoms in distribution system re-vamping, upgradation of infrastructure & IT/OT support

Renewable Generation, Transmission & Distribution Infrastructure Planning / Implementation

Forecasting and analysis for power management

Project Feasibilities / Detailed Project reports

2

Design & Engineering Services

Civil structural & Electrical Design support Substations/ Transmission Line , Renewable Generation Projects

Detailed engineering Packages – Pre award to Implementation

Construction / Design Coordination

Engineering Studies , Load flows, Power system studies

Field Studies & project Development documentation

3

Bid Process Management & Procurement Support

Contract Administration & Bid Process management

Setting up of procurement systems for power Projects for clients

Bid Documentation & contract documentation WBS , work contract formulations

Bid Evaluations & recommendations for award

Developing Vendor Management system

4

Project Management Construction Supervision Support

Project start to end implementation support

Construction supervision & contract administration

Design / site co-ordination

Project interface coordination

FAT / SAT / Quality assurance / FQP's

Project conflict resolution

Project reporting & client interface

Act as Lender's / Owner's Engineer

Project closure & delivery

5

Quality Assurance & Third Party

Third party quality assurance

Create ITP , QAP & MAP's

Conduct Factory Inspections Pre-Dispatch

Site quality assurance & tests

Create Field quality Plan & conduct field quality inspections

Conduct Joint measurements

Quality Plans

6

Energy Audit/ Accounting

Agriculture Demand Side Management (AgDSM)

Municipality Demand Side Management (MuDSM)

Perform, Achieve and Trade (PAT) Advisory

Energy Efficiency and Energy Auditing Studies under various Government Schemes

Energy Audit / DPRs & PFRs, Bid Process Management, Project Management Consulting



7

Capacity Building & Training

Capacity building, project related training programs on design & engineering of electrical T&D projects

Training on O&M of EHV equipment for substations & TL

Training on project implementation techniques & construction management contract procedures

Knowledge Sharing, update on technology – client / project specific

- We are one of the few consulting companies in India with an extensive work experience on end-to-end SCADA solutions
- We have a strong project monitoring unit and use project management tools to keep an eye on the progress
- We, by virtue of quality & time delivery have several repeated clients
- N Arc provides a blend of global reach, local knowledge, innovation and technical excellence in delivering customized and creative solutions that meet the client needs

Our Major Service Sectors



Transmission and Distribution (Substations, Transmission Lines, Distribution System & Networks)

Renewable Power Generation: Solar Power Generation & Hydro power Generation (Small Hydro)

Industrial Parks, SEZ's & Residential mixed use mega townships, Smart Cities development solutions

Industrial Projects

SCADA/ Automation /DMS/OMS; IT/OT solutions; Mapping & GIS integration

Railways, Metros

Water Engineering & distribution Networks

Our Capability Matrix

Power Transmission (Substations & Transmission Lines > 33KV)

- Power Systems, Transmission lines & substations
- Distribution systems
- Computer-aided Techniques for simulation studies
- O&M of power system, EHV Equipment O&M
- Overhead Line Maintenance techniques
- Safety Training of personnel on engineering & project implementation techniques

Power Distribution (Up to 33KV)

- System Studies & Engineering studies & software network simulations
- Load Growth Planning, Studies & projections, trend analysis
- System Augmentation & Strengthening, Reduction of AT&C losses
- O/H & U/G network planning, Distribution layouts
- Design & Engineering services for power distribution projects
- GIS/GPS Survey, Asset mapping, integration on GIS platform
- Baseline Audit, Energy Management & Energy Accounting
- Demand Side Management
- Project Management & Construction Supervision
- Lender's Engineers & Distribution automation System

Solar Power Generation

- Site Assessment, Project Concept Plan, Project Master Planning, Location analysis
- Site surveys, Contour plans, Geo Tech Studies
- Solar radiation assessment, energy yield analysis, shadow analysis
- Plant Electrical Design (DC & AC), Technology options, Design Optimisation
- Power pooling arrangement & power evacuation
- Environmental and Social Impact
- Feasibility Reports / Bankable Reports
- Detailed Design & Engineering
- Procurement, Bid Process Management & Vendor Evaluation
- Construction Supervision and Quality Assurance at Site, Regulatory support, O&M Services

Our Capability Matrix

Hydro Power Generation

- Identifying Potential Hydel Sites, Site Assessment and Site Feasibility Studies
- Preparation of Pre-Feasibility Report
- Carrying out Detailed Survey for optimum utilization of water resources
- Technical, Economical and Financial viability of the Project
- Preparation of Techno Economic Feasibility Report and Detailed Project Report
- Tender preparation, negotiations, Selection of Suppliers/ Contractors
- Hydro & electromechanical Project design
- Detailed Design / Engineering – BOP
- Construction Supervision
- Assisting in obtaining various Govt. Clearances for implementing the project
- Operation and Maintenance

Industrial Hubs/ SEZ's/ Metro / Airports

- Load Estimation Studies and Load Trend Analysis, Load Forecasting and Load Categorization
- Power Sourcing studies and T&D Planning
- Survey for Interconnection options and Power Sourcing arrangements
- Conceptual design, Design Criteria, system planning & design
- Preparation of Feasibility Report, BOQ & Cost Estimates
- Design & Engineering, Bid Process Management and Construction Supervision
- Regulatory & Legal Framework

Industrial Projects

- Load Growth Planning, Studies & projections, trend analysis
- HV, MV & LV planning & design support
- Network planning , Distribution layouts
- Demand Side Management
- Energy management solutions
- Bid Process management support.
- Project Management & Construction Supervision
- Lender's Engineers & Distribution automation system



Our Capability Matrix

Other Infrastructure projects like Railways, Metros & water / Waste Water

- Project Planning & preparation of detailed project reports
- Pre- tender design support, BOQ, cost estimation
- Design of Railway O/H traction & traction substation engineering
- Computer-aided Techniques for simulation studies
- Water system design and project reports
- Design support for water distribution networks
- Simulation studies
- Project management & construction support

SCADA / DMS / Automation / IT-OT/ GIS

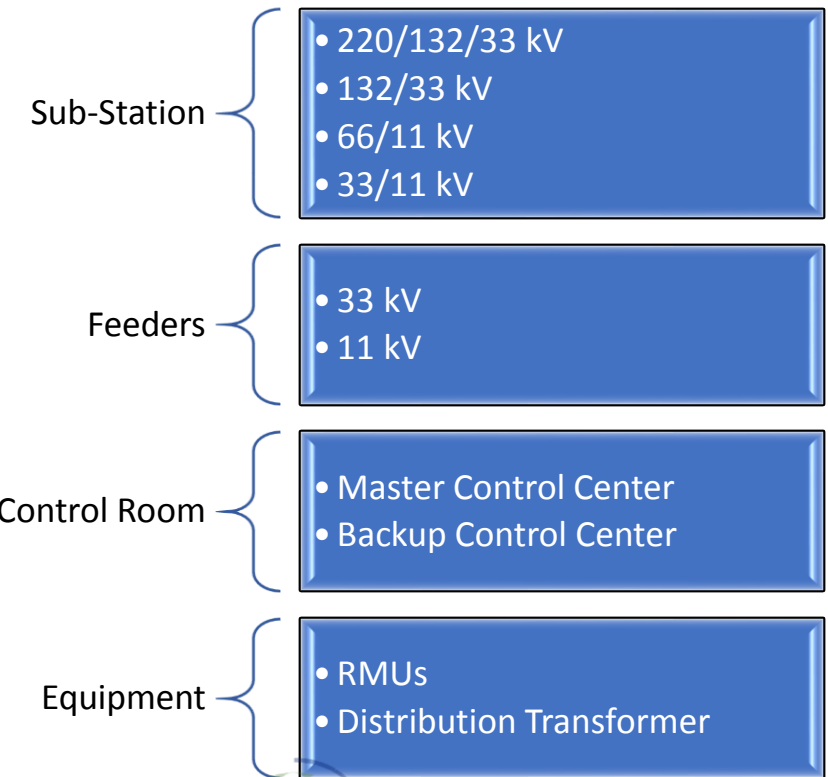
- Creation of site information matrix, analysis of site data of T&D Networks
- Assets & consumer mapping/Indexing
- Preparation of Design based memorandum preparation of Detailed Project Report
- Bid Process services, design & engineering support for SCADA/DMS/EMS Main equipment
- Third party quality assurance
- Post award services & Owner's engineers
- Smart Metering technology, Integration, GIS solutions, IT/OT support
- SCADA /DMS integration, Feeder & load management techniques

SCADA/ Automation Sector

We have vast experience in the field of SCADA in Power transmission and Distribution. We are one of the few consulting companies in India with an extensive work experience on end-to-end SCADA solutions



Fields for which we have provided consultancy Services



T & D Project History

Total Projects Executed	25	Time Line : 6 Years
Power Distribution Projects Size & number of Projects Executed		
+ 375 M USD	3 Nos	DPR 's, Project management & construction supervision, Design Support
+ 250 M USD	1 No	
+ 125 M USD	3 Nos	
+ 60 M USD	20 Nos	
Total Projects Executed	28	Time Line : 8 Years
Transmission Line Projects Size & number of Projects Executed		
Project DPR's	25 Nos	<ul style="list-style-type: none"> • 765 kV- 300+ km • 400 kV – 650+ km • 220 kV – 1500+ km • 132 kV – 450+ km
Survey & Studies	10 No	
Design & Engineering	25 Nos	
Project management	8 Nos	
Substation Projects	> 84	66KV – 132KV
Substation Projects	> 46	220KV – 765 KV

International Transmission Sector Projects

1

RWANDA

Design & Engineering for Electrical, Structural & Civil design of 220kV Switchyard, 220kV Take-off yard, 220kV Interconnecting Transmission Lines & 11kV Overhead Lines of Rusumofalls, Africa

2

NEPAL - INDIA

Consultancy Service for Engineering and Project Management Services for 132 kV Substation for Strengthening of INDIA - NEPAL Power Transmission Interconnection under MEA/WAPCOS

3

NEPAL

Detailed Design and engineering for 93Km 33kV transmission line from Thapakhola switchyard to Modi substation

4

AFGHANISTAN

Consultancy Services for Design & Engineering for 500KV Arghande Sub-Station in Kabul, Afghanistan

5

LAO-PDR

115/22kV Nabong and Thabok Substation & Bay extension of Khoska AD Substation at Lao-PDR - Detailed Electrical & Civil Design, Drawings & Engineering work

6

ZAMBIA

66/11KV Substation in Zambia - Detailed Electrical & Civil Design, Drawings & Engineering work



Projects Done for SNC Lavalin, Canada

1

Johnson Substation

240 KV substation

Detailed structural & Electrical design packages

2

Hazelwood Substation

240 KV substation

Detailed structural & Electrical design packages

3

Reddeer Substation

240 KV substation

Detailed structural & Electrical design packages

4

100 KMs of transmission Lines in Alberta Province for Alta Link



N Arc Consulting

(Advisory, Engineering & Project Management)

How N Arc Can Help?

- Associate with consulting companies in Canada and provide back-office design / engineering support on T&D projects
- Approach the T&D utilities in Canada & offer engineering services across transmission, substation & distribution projects
- Support the Canadian market with low cost and highly trained technical staff for project implementation/ construction support

Areas of Association

- Transmission
- Distribution
- SCADA
- Project Management
- Training



Thank You

