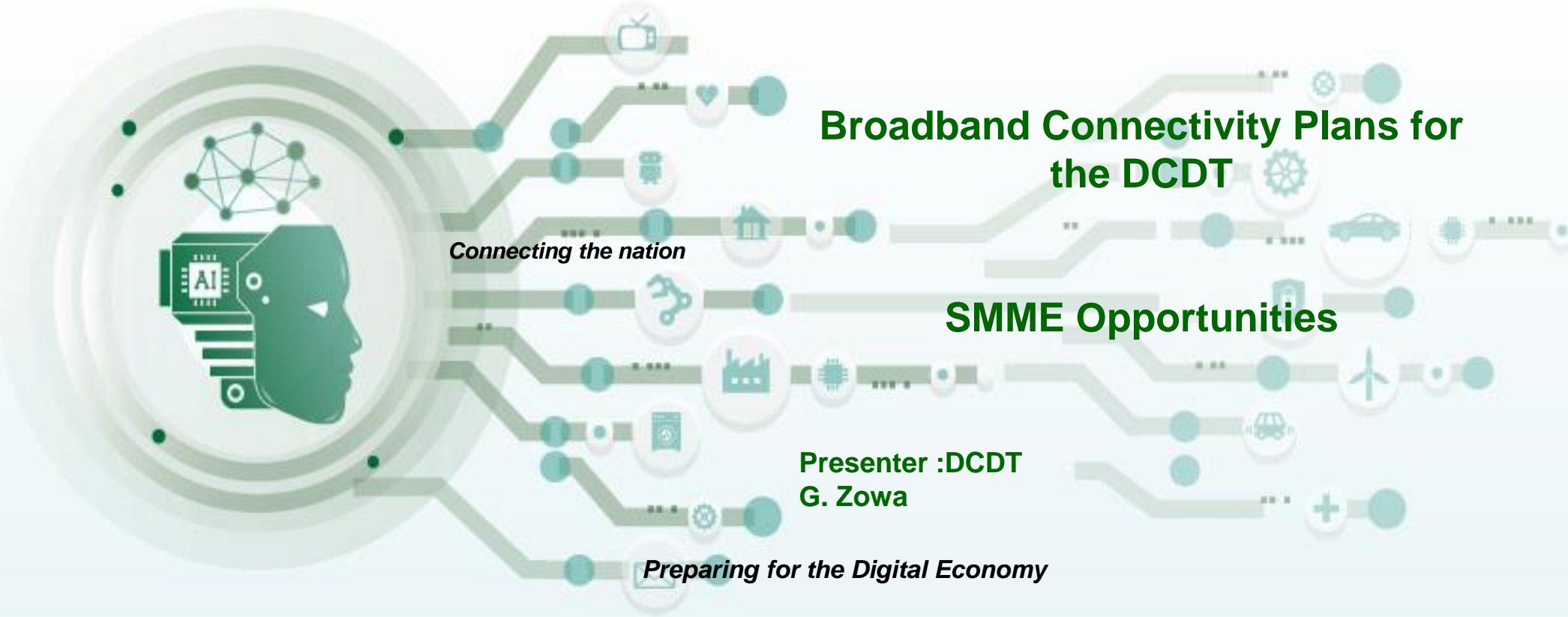


SA Connect: Connecting Government and Communities

department of communications and digital technologies



Broadband Connectivity Plans for the DCDT

Connecting the nation

SMME Opportunities

**Presenter :DCDT
G. Zowa**

Preparing for the Digital Economy



SA Connect Phase 2 Connecting Communities and Government in 3 Years

29 March 2022

How will we improve efficiencies and more importantly?

How will we improve the impact on SMME development?

How can we 'massify' this and bring more SMMEs?

How can we assist the SMME to become more sustainable

What is the vision of SA Connect?

What have been the challenges?

What are green shoots of hope that you see?

Has there been community buy in?

Unlock the SOE and SMME partnership and improve local beneficiation

What's next?

The purpose of the SA Connect Project is:

- to connect government facilities at 10Mbps (megabits per second) with planned upgrades of 100Mbps and up to 1Gbps for critical sites.
- to connect communities and provide public WiFi Hotspots to underserved communities at speeds from a minimum of 5Mbps upwards

Scope of Work for SA Connect Phase 2

- In the SA Connect Phase 2 the State will play a critical role in providing ICT services to households in underserved areas via the **BBI, Sentech and SITA, and the broader ICT industry.**
- **ICT Telcos licensed by ICASA** will connect **18 036 schools, 3 873 health facilities and 8241 tribal authority** sites within 36 months from date of licensing.
- **BBI, Sentech (SDIC)** will provide **840 Open Access Base stations and 33 539 community Wi-Fi hotspots to cater for 5 830 208 households**, through the WASPs, ISPs and MVNOs, as part of transforming the industry.
- **SITA** will provide services to Government facilities based on existing initiatives totaling **14 742 sites and new services to 949 libraries** and Thusong Centres according to their mandate.
- Connection of South African communities and homes to the internet will be facilitated by Broadband Infraco (BBI) and Sentech working with SITA and the ICT industry on an Open Access Principle.
- This partnership will enable small and emerging services providers such **Internet Service Providers (ISPs), Wireless Access Service Providers (WASPs), Mobile Virtual Network Operators (MVNOs)** and the ICT Mobile Network Operators (MNOs) to **connect communities** within 36 months.



SA Connect Phase 2 Numbers

Province	EC	FS	GT	KZN	LIM	MP	NC	NW	WC	Total
Schools	4338	787	2048	4728	2890	1216	444	1320	1454	19225
Health	1212	518	1409	1165	663	460	345	473	1213	7458
CommunityCentre	30	29	200	274	21	39	29	35	129	786
CommunityService	29	22	133	149	15	17	2	14	56	437
Post Office	187	99	359	203	117	64	49	106	187	1371
Thusong Centre	0	7	41	19	21	10	0	0	33	131
Government/MunicipalOffice	229	81	439	163	112	134	139	131	357	1785
CorrectionalFacility	28	25	17	14	6	16	13	13	37	169
Police Station	177	80	139	148	77	49	64	67	149	950
Court	47	33	64	41	18	30	28	21	44	326
TrafficDepartment	26	36	106	41	13	39	25	28	88	402
Utility	65	33	447	225	19	103	100	35	252	1279
InternationalBorderPost	3	5	0	3	5	2	4	3	0	25
RailwayStation	234	164	281	296	58	234	195	86	275	1823
ForestStation/ResearchStation	20	2	50	26	4	46	2	5	23	178
FireStation	17	14	66	34	13	19	5	18	51	237
Library	70	68	179	144	14	37	62	26	200	800
TouristInformation	52	46	40	59	22	30	32	17	137	435
Reservoir	14	6	61	17	2	14	46	4	51	215
Stadium	20	11	64	16	15	19	8	16	32	201
MilitaryStructure/Site	3	4	37	2	17	10	7	16	23	119
TollPlaza	0	5	86	38	12	4	0	11	6	162
Total	6801	2075	6266	7805	4134	2592	1599	2445	4797	38514

High Level Roll Out Schedule

The rollout will be done in 36 months as per the table below and will be followed by network upgrade.

The Telcos Industry will connect the Social Obligations over a period of up to 3 years

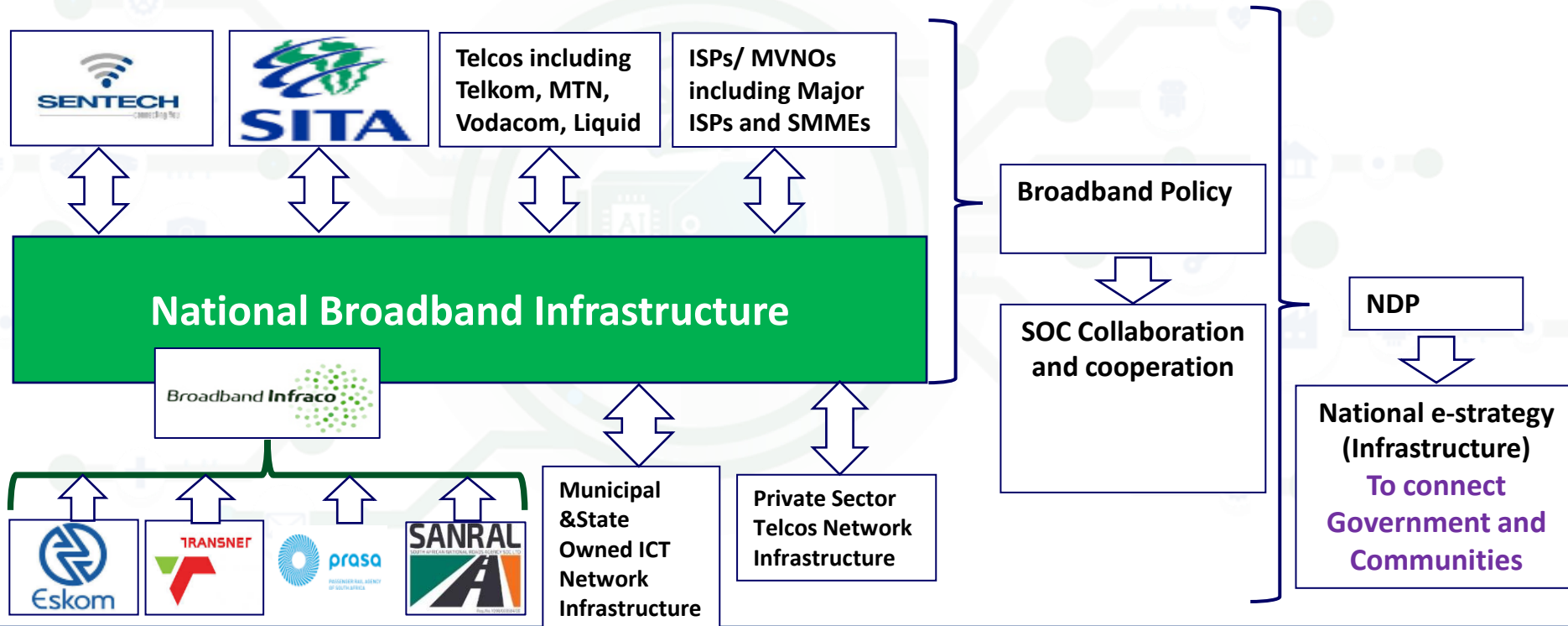
SITA	Year 1	Year 2
	Apr 2022 Mar 2023	Apr 2023 Mar 2024
Budgeted Sites(SITA existing sites)	2156	5030
SAPS - Migration sites	815	1902
SITA Current Broadband projects	1451	3388
Total Existing Sites	4422	10320
SITA 949 new sites (Libraries / Thusong Centres) 100Mbps - 1Gbps	284	665
Total New sites	284	665
Total Planned for Y1 and Y2	4706	10985
Overall Total Number of Sites		15691

Provide stable broadband services at a minimum of 5Mbps by 31 March 2025 at a minimum of 5Mbps for households and 10Mbps for Government facilities

Period	Year 1						Year 2 (Cumulative)						Year 3 (Cumulative)					
	House hold	Open Access Basestations (Shared and new)	VSAT (Mountainous Area)	Schools and Clinics	Tribal Community	Libraries and Thusong Centres	House hold	Open Access Basestations (Shared and new)	VSAT (Mountainous Area)	Schools and Clinics	Tribal Community	Libraries and Thusong Centres	House hold	Open Access Basestations (Shared and new)	VSAT (Mountainous Area)	Schools and Clinics	Tribal Community	Libraries and Thusong Centres
Eastern Cape	286 872	41	176	1 676	424	21	621 557	90	381	3 352	848	46	956 241	138	586	5 342	1 414	70
Northern Cape	67 486	10	68	86	10	19	146 219	21	146	172	20	40	224 952	32	225	220	33	62
Limpopo	317 206	46		1 142	691	11	687 280	99		2 283	1 382	25	1 057 354	152		3 715	2 303	38
KZN	389 093	57	237	1 619	1 101	50	843 034	123	513	3 239	2 201	108	1 296 975	189	789	5 171	3 669	166
Gauteng	148 144	21		870	5	66	320 978	46		1 741	10	143	493 813	71		2 427	16	220
Mpumalanga	154 958	22		485	175	17	335 741	48			349	36	516 525	74		1 499	582	56
Free State	115 206	17		284	33	23	249 613	36		568	67	51	384 020	55		842	111	78
North West	154 795	22		455	34	8	335 390	48		910	68	17	515 984	74		1 402	113	26
Western Cape	115 303	17		518	0	70	249 824	36		1 037	0	151	384 344	55		1 307	0	233
Total	1 749 062	253	480	7 135	2 472	285	3 789 635	546	1040	13 300	4 945	617	5 830 208	840	1 600	21 925	8 241	949

Integrated ICT Infrastructure

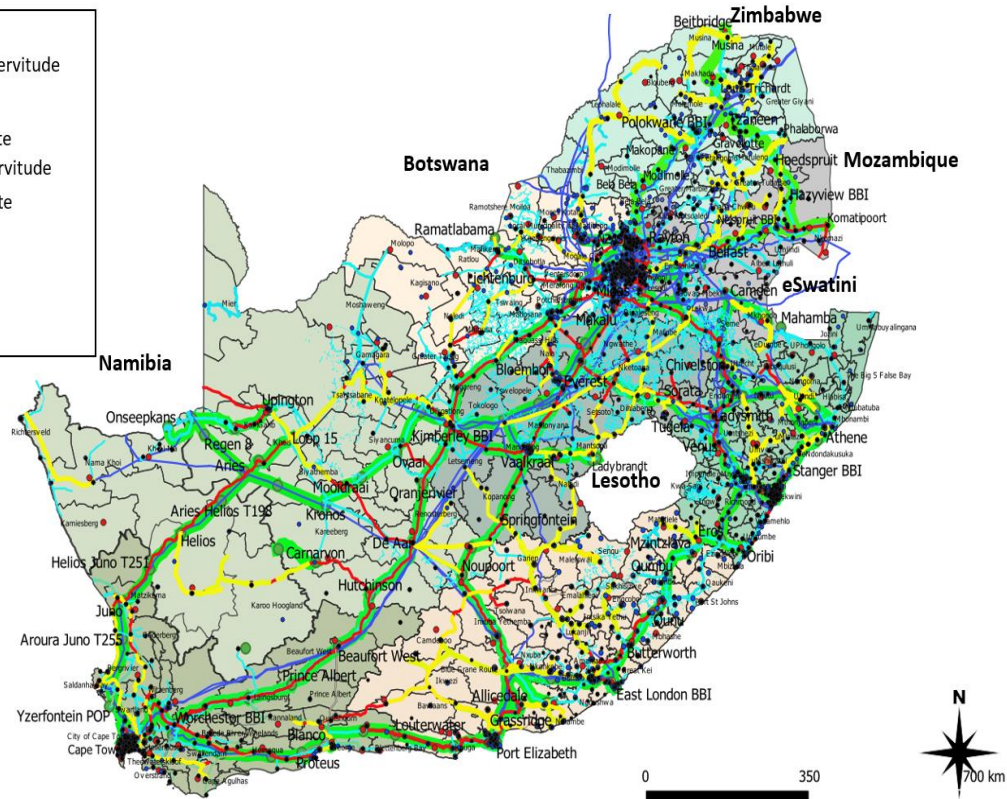
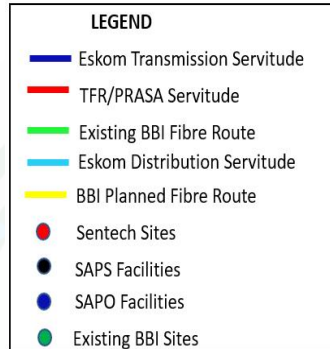
- The SDIC will apply the principle of non-duplication and integration of existing Government ICT infrastructure.
- This will include the aggregation of the digital infrastructure of non-ICT SOCs as depicted in the schematic below.
- The SDIC and ICT core network will be used to deliver broadband services for connecting government facilities to the SITA network.



Core Fibre Routes

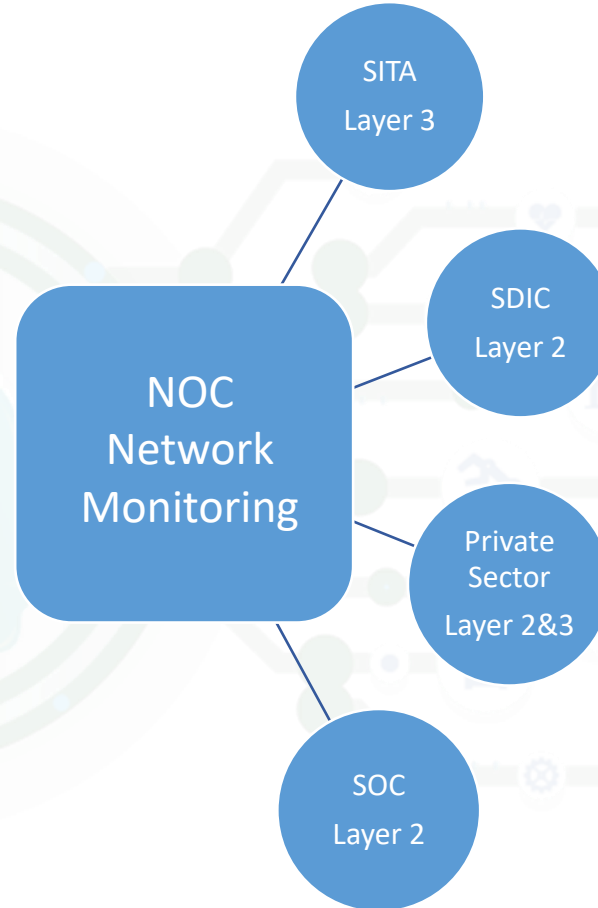
- Broadband Infraco provides Core network services using 14 900km fibre cable, including Eskom, Transnet and owned fibre routes as per below
- **2623 km of additional fibre is required from Eskom and Transnet** as highlighted in yellow on map and the breakdown on the table below.
- Routes are based on available servitude information.
- The SOCs will be required to advise and allow SDIC to use or build where there is no fibre cable available.
- **Additional 1044 km of fibre build and 40 PoPs** (refurb and build) are planned, subject to route survey and detailed design.
- **Sentech high sites, BBI PoPs, SAPO, SAPS sites,** new base stations and hot spots will be used by ISPs

#	Province	ICT and non-ICT Entities (km)
1	Eastern Cape	624
2	Free State	281
3	Gauteng	34
4	KwaZulu-Natal	227
5	Limpopo	505
6	Mpumalanga	32
7	North West	231
8	Northern Cape	214
9	Western Cape	475
TOTAL		2623



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- › Establish regional offices for a responsive network support.
 - › 35 new offices to be established
 - › Setup SLA's with Access Network Service Providers for maintenance provision.
- › National Network Monitoring System which will integrate SA Connect facilities private partners and SOC.
 - › Upgrade the NOC (National Operating Centre's).
 - › Measure QoS (Quality of Service)
- › Setup an Integrated Contact Centre to log network outages and faults.
 - › Provide real-time network status dashboard.
 - › Coordinate ticket opening, ticket resolve and closure.
- › Capacity development for network life cycle supportability.
 - › Through training of technical expertise and expertise retention by ensuring active involvement.
 - › Strategic Outsourcing through framework agreement with highly skilled service providers



- The strategy entails driving active participation of SMMEs, particularly in the core business of the entities.
- The project is estimated to provide **employment opportunities** of skilled professionals and semi-skilled labour
- The estimated number of **SMME opportunities** required for the programme are **75 companies** for Core Network build, Access Network Service Providers and Internet Service Providers (ISPs) / Mobile Virtual Network Operators (MVNOs).

Provinces	Core Network	Access Network and ISPs/ MVNOs
	SMMEs	SMMEs (based on 44 Local Municipalities and 8 Metros)
Eastern Cape	3	8
Free State	2	5
Gauteng	2	5
KwaZulu Natal	5	11
Limpopo	2	5
Mpumalanga	2	3
North West	2	4
Northern Cape	2	5
Western Cape	3	6
Total	23	52



How will we improve efficiencies



1. Standardise technology on vendor type per province and formalise partnerships with the vendors/ Original Equipment Manufacturers (OEMs).
2. Sign agreements with OEMs on equipment type, delivery timelines, training and support.
3. Allow for flexibility on the technology types, subject to demographic, costs and time to deliver.
4. Buy equipment in bulk to benefit from the economies of scale and distribute it from regional offices to minimise procurement delays by Service Providers.
5. Secure agreements on wayleaves, sites' acquisitions, grid power, environmental impact analysis report and colocation by partnering with the respective owners during the initial stage to minimise execution delays.
6. Allow for some flexibility and agility on sites connectivity plan for Service Providers to follow practical approach incl. daisy chain, to allow efficiency and unforeseen challenges.
7. Complete site installation and testing of Layer 2 and 3 by the same installer on a single trip, prioritising end – user sites that are ready with devices to receive connectivity.
8. Allocate sites in batches based on performance, with flexibility to transfer allocation due to poor performance, ensuring proper coordination with daily tracked deliverables and timelines.

How will we improve the impact on SMME development?

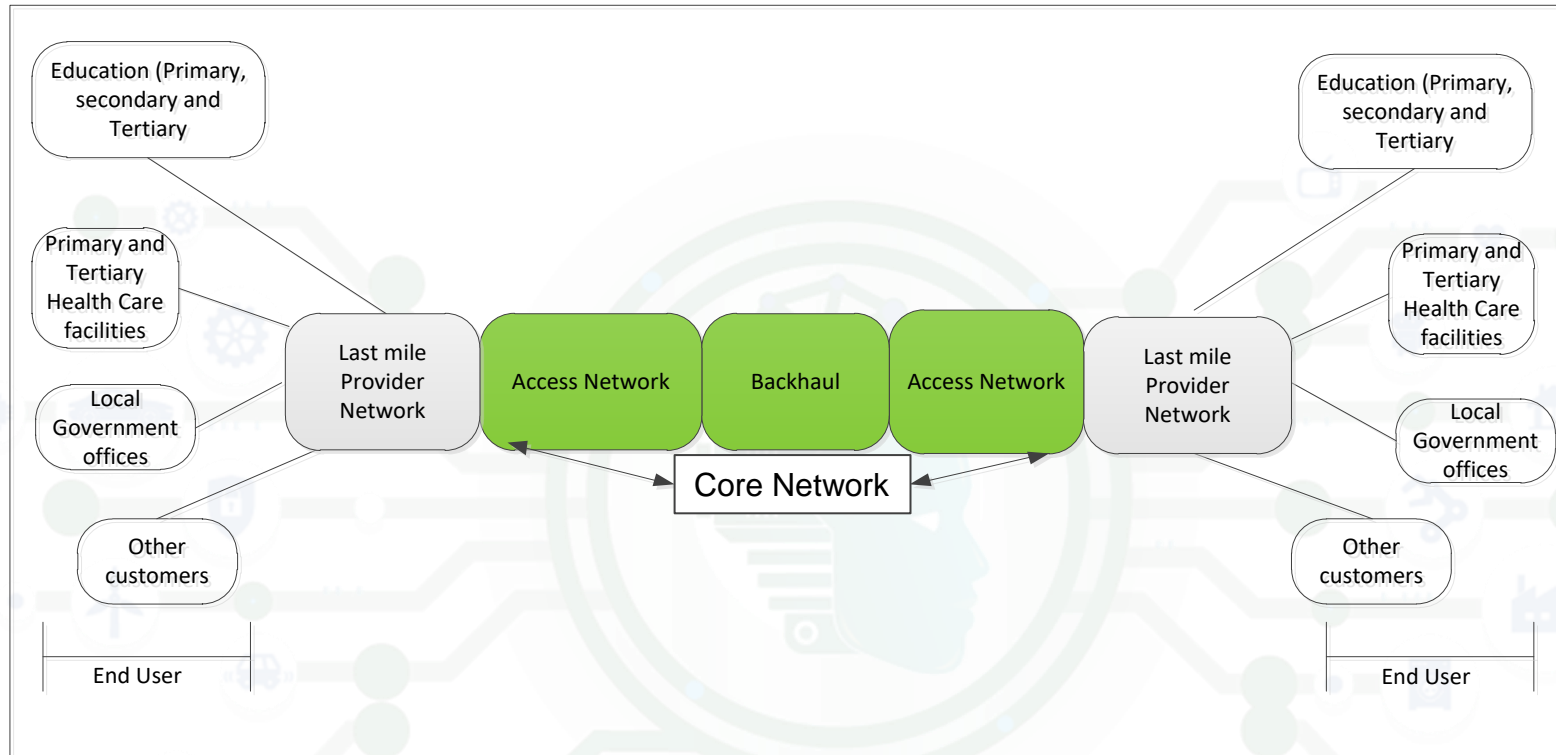
1. Ensure that OEMs provide training and development to SMME resources as part of the procurement of equipment.
2. Involve SMMEs during planning and design phase for development and ensure understanding of the project governance framework from the onset.
3. Allocate significant sites allocation to SMME including in various areas for business case viability and future sustainability.
4. Provide technical and financial support to SMMEs including but not limited to specifications and timely payment of services for project costs related to procurement and installation work.
5. Support SMME resources with additional skills training including Project Management, Service Management, Procurement, Contract Management, Finance and Investment.

1. Delayed issuing of orders delaying the rollout plan and commitment of resources.
2. Lack of funding and support of SMMEs may result in capacity constraints and delayed rollout by some of the appointed SMMEs.
3. Delayed approval of sites to install radio towers for high/ relay sites and grid power application may delay the installation and testing.
4. Unclear sites selection criteria and varying expectation from various stakeholders on what and how the SA Connect rollout should be done affected the buy in and support of the implementation.
5. Site access, readiness with power and space and security concerns resulted in installation and activation delays and equipment theft.
6. Power outage at high sites, relay sites and at the facility during installation and testing may delay completion.
7. Radio network interference as the ISPs/SMMEs might be using unlicensed spectrum.
8. End users switching off the supply or running out of electricity voucher units to power up the equipment.



What's next?

1. SA Connect Phase 2 proposal approval by National Treasury and securing of funding for the Broadband Services by DCDT.
2. Detailed design and securing of 3rd party services including SOCs' fibre routes agreements, Grid power, wayleaves, sites' acquisitions and Environmental Impact Analysis.
3. Stakeholder engagements including government structures, suppliers, service providers, ICT Industry, interest groups and communities.
4. Follow Project approval and establish governance framework with the various stakeholders and implementation plan.
5. Procurement of equipment, appointment of service providers, signing of infrastructure lease agreements and recruitment of resources.
6. Roll out the broadband services, starting in areas with existing infrastructure, upgrading the Core network to cater for additional capacity requirements and extending the network to areas without no infrastructure, all over the next 3 years.



Network expansion

- The core network expansion addresses the access and backhaul requirements in the provinces and nationally, thus:
 - Enabling the last-mile provider network, and;
 - End user connectivity requirement
- Each Point of Presence (PoP) can terminate customer services regardless of level of expansion,

- Scope of work includes the following:
 - **Design and Applications**
 - Fibre route survey and Technical site survey reports
 - Geological and Environmental Impact Assessment
 - Detailed route designs and Construction drawings
 - Bills of material and quantities
 - Wayleave applications and Site acquisitions
 - **Network Build and Connectivity**
 - New fibre build and fibre lease
 - New PoP sites and upgrade of existing PoPs
 - Installation of Transmission and IP equipment
 - Installation of Access Network connectivity and testing
 - Infrastructure (Layer 2 and 3) acceptance and handover
 - **Running a full fledged ISP with collection and CPE maintenance**

Area

- Urban suburban and business area
- Urban township
- Rural business
- Rural settlement
- Deep rural

Bandwidth

- High > 100Mbps
- Med 40 > 100Mbps
- Med 10 > 40Mbps
- Low 10Mbps
- Low 5 to 10Mbps

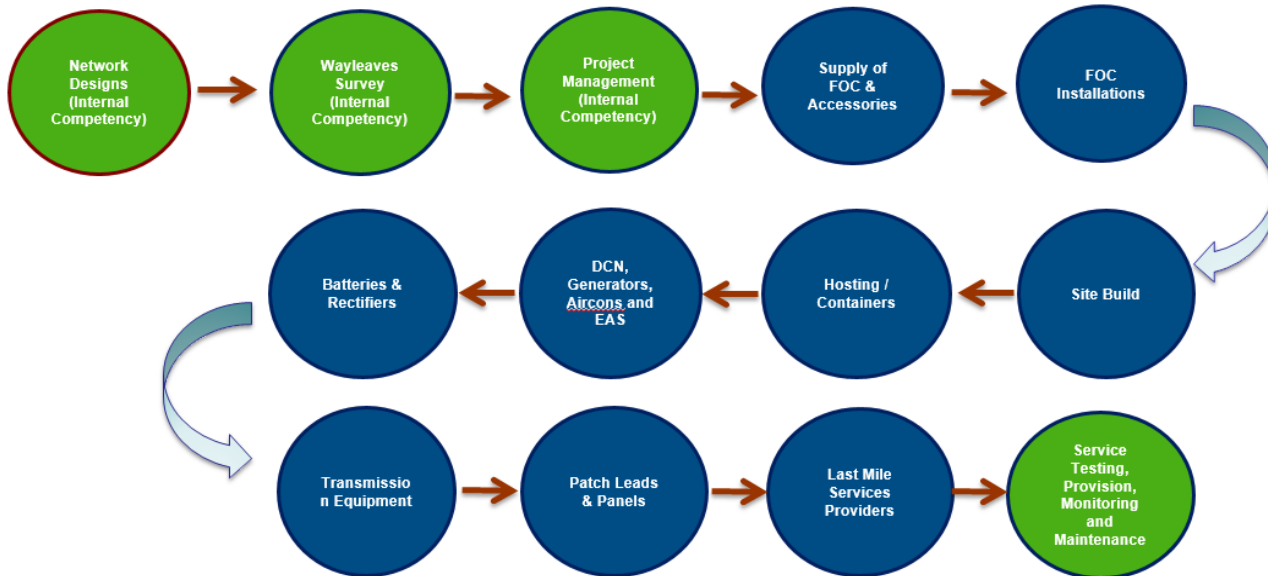
Technology

- Fibre connectivity
- Fibre connectivity
- Radio access
- Radio access
- Satellite link

Technical Requirements	Specs in Place	Opportunity
Fibre Installation (underground)	Yes	SMME
Rectifier System	Yes	SMME
Professional Services	Yes	SMME
Fibre Optic Cable	Yes	SMME
Patch Panels and Patch Leads	Yes	SMME
AC Power Connections	Yes	SMME
Site Build	Yes	SMME
EAS, DCN and FMS	Yes	SMME
Transmission Equipment	Yes	SDIC

- Strategic sourcing will support Government initiatives towards employment opportunities, SMME support, Enterprise and Supplier Development and Skills Development.
- Sourcing will be conducted in consideration of lead-times, based on Preferential Procurement principles and Empowerment objectives aligned to the National Development Plan.

Capacity and Strategic Sourcing is based on the Value Chain depicted below;





**End
Thank You**