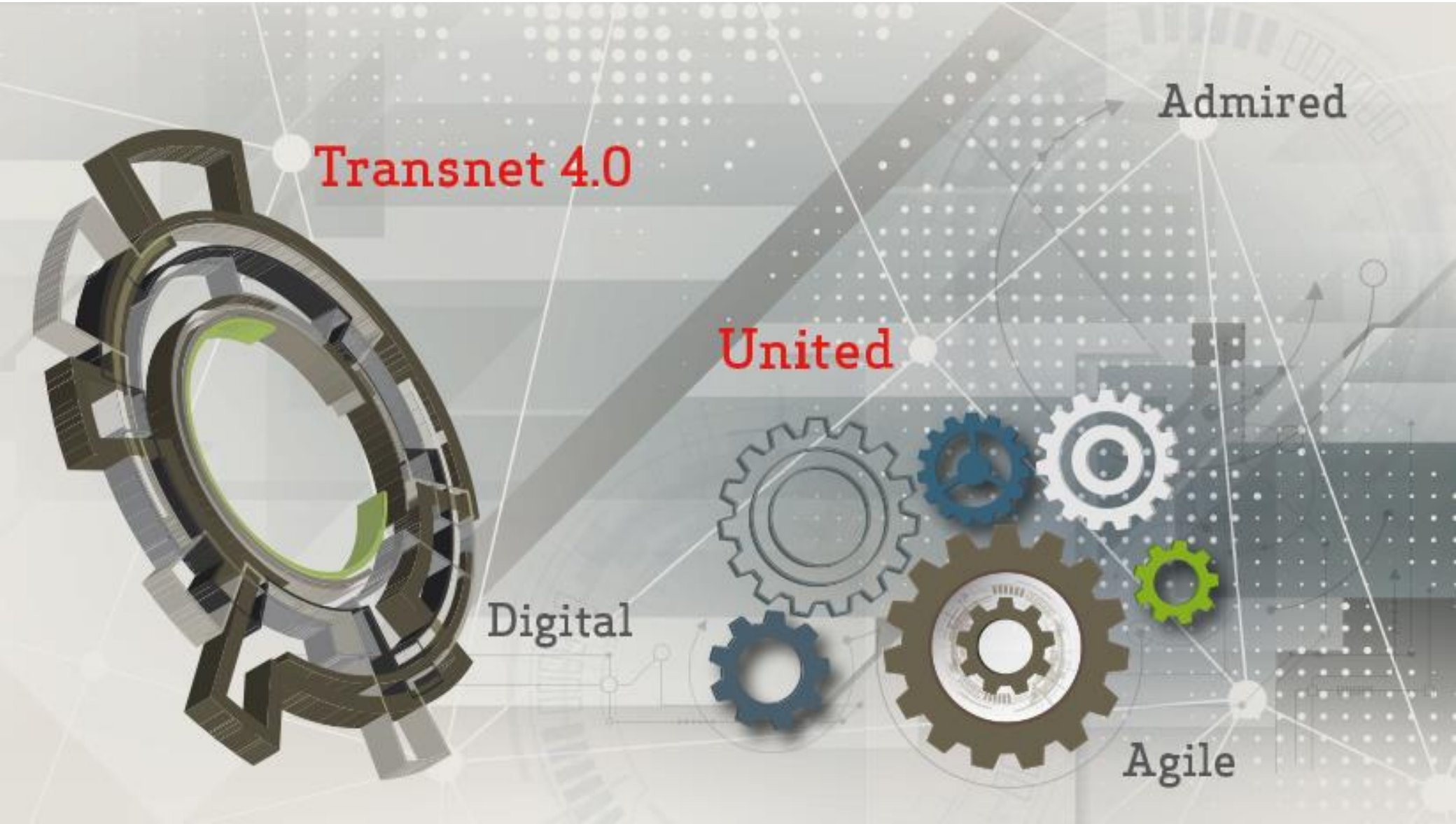
1064 LOCOMOTIVE UPDATE

December 2018



Presentation Outline

- **Delivery Schedule – November 2018**
- **1064 Overview of TE Scope**
- **Local content & Procurement**
- **Update per Supplier (GE, CNR, CSR, Bombadier Technologies)**

Bombardier Transportation South Africa (Pty) Ltd

DATE	Original Delivery Schedule March 2014	Revised Delivery Schedule October 2017	Actual Acceptance
25 March 2016			
25 March 2017	133		
25 March 2018	107	39	10
25 March 2019		96	15
25 March 2020		105	
25 March 2021			
TOTAL	**240**	**240**	**25**

CNR Rolling Stock South Africa Proprietary Limited

DATE	Original Delivery Schedule March 2014	Revised Delivery Schedule July 2018	Actual Acceptance
25 March 2016	20		
25 March 2017	77	2	
25 March 2018	135	19	21
25 March 2019		8	
25 March 2020		43	
25 March 2021		78	
25 March 2022		82	
TOTAL	**232**	**232**	**21**

CSR E-Loco Supply (Pty) Ltd

DATE	Original Delivery Schedule March 2014	Revised Delivery Schedule August 2016	Actual Acceptance
25 March 2016	88		0
25 March 2017	142	100	80
25 March 2018	129	110	88
25 March 2019		99	40
25 March 2020		50	
25 March 2021			
25 March 2022			
TOTAL	**359**	**359**	**208**

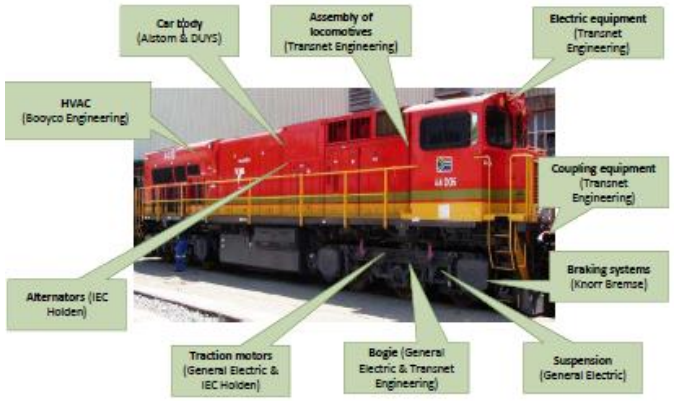
GE South Africa Technologies Proprietary Limited

DATE	Original Delivery Schedule March 2014	Revised Delivery Schedule August 2016	Actual Acceptance
25 March 2016	34		14
25 March 2017	126	N/A	103
25 March 2018	73	N/A	86
25 March 2019		N/A	30
25 March 2020			
25 March 2021			
25 March 2022			
TOTAL	**233**	**233**	**233**

LOCAL CONTENT COMMITMENTS PER OEM (AT BIDDING STAGE)

GE imagination at work

Rail Rolling Stock Designated Sector	DTI Stipulated Minimum Threshold	OEM LC Declaration
Diesel Locomotive	**55%**	**55.55%**



中国中车 CRRC DALIAN

Rail Rolling Stock Designated Sector	DTI Stipulated Minimum Threshold	OEM LC Declaration
Diesel Locomotive	**55%**	**61.13%**

LOCAL CONTENT COMMITMENTS PER OEM

(AT BIDDING STAGE)

E-LOCO

Rail Rolling Stock Designated Sector	DTI Stipulated Minimum Threshold	OEM LC Declaration
Electric Locomotive	**60%**	**68.20%**

BOMBARDIER

the evolution of mobility

Rail Rolling Stock Designated Sector	DTI Stipulated Minimum Threshold	OEM LC Declaration
Electric Locomotive	**60%**	**69.83%**

PWC ASSESSMENT & SABS AUDIT

PWC Local Content High Level Assurance:

- In 2017 the Transnet requested PWC to conduct an LC high level assessment to provide to Transnet's diverse stakeholder community that the OEMs and their suppliers are complying with the stipulated minimum threshold for local production and content for the Rail Rolling Stock as per the instruction note.

SABS Audit/Verification Process:

- On 25 June 2018 Transnet received notification of the formal commencement of the local content verification of the 1064 locomotive procurement programme by the South African Bureau of Standards (SABS) from the DTI and DPE.
- A view of OEM's performance in terms of Local Content will only be determined once SABS audit process as been concluded.

Review of the RFP – Evaluation Criteria

Transnet Request for Proposal (RFP[1]) for the supply of 465 New Diesel Locomotives

Part 1: Section 5. Local Content Threshold

5. LOCAL CONTENT THRESHOLD

It is a prerequisite of the Preferential Procurement Policy Framework Regulations 2011 that all procurement activities undertaken by Transnet which involve "designated sectors" (i.e. the purchase of textile, clothing, leather and footwear, power cylers, rolling stock [locomotives and wagons], canned/processed vegetables and/or boxes [box bodies]) shall be subject to the requirements of Regulation 9(1) thereof. Since this RFP falls within these designated sectors, 'local content' is a pre-qualification for the acquisition of Diesel Locomotives. (1) The stipulated minimum threshold for Diesel locomotives is 55%. Only locally produced or locally manufactured Diesel locomotives that the stipulated minimum threshold for local production will be considered.

Transnet reserves the right to evaluate bids in accordance with any instructions issued by National Treasury. Transnet also reserves the right to approach the Minister of Finance for exemption from the Regulations or instructions and to evaluate the bids in accordance with such exemption if granted.

(2) Please note that apart from the stipulated minimum threshold of 55% for Diesel Locomotives, the following thresholds must also be met in respect of certain components or activities:

	Component / Activity	% local content (3 – 5 years)	% local content (6 years and above)
1	Assembly of locomotives and DMU	100%	100%
2	Car body: - Car body shell - Door system - Windows - Seats (for coach interior) - Lighting - Grab pillars and rails - Interior cladding - Cable and wire - Safety equipment - Pipe works and ducts	100%	100%
3	Bogie: - Bogie frame - Motor suspension unit	100%	100%
4	Coupling Equipment: - Coupler body - Coupler head - Yoke - Pin - Draft gear	100%	100%
5	Suspension: - shock absorbers and dampers - Springs	100%	100%
6	Heat, Ventilation and Air Conditioning: - Fabrication - Power Cooling - Heat Exchangers - Fans - Compressors - Refrigeration components - Electrical components - Fasteners - Insulation and liners	60%	70%
7	Braking system	70%	80%
8	Alternators	90%	100%
9	Traction motors	60%	80%
10	Electric systems	80%	90%

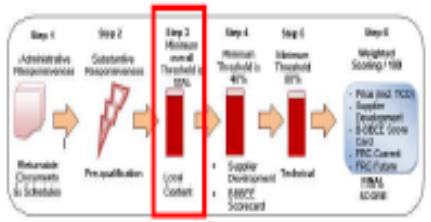
(2)
- Wheel sets and wheel components
- Axle and axle boxes
- Bearings
- Bolster

(3) *Respondents must complete and return the Declarative Certificate for Local Production and Content appended hereto as Annexure A, C, D & E. Only the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 must be used to calculate local content (Annexure C).*

Part 2: Section 5. Evaluation Methodology and Criteria

5. EVALUATION METHODOLOGY AND CRITERIA

Transnet will utilise the following methodology and criteria in selecting a preferred Bidder, if so required:



5.3. STEP THREE – LOCAL CONTENT

Respondents to provide a Local Content declaration as requested in the following Annexures of Part 1:

Annexure A: Declaration Certificate for Local Production and Content (DTIM SBD 6.2);
Annexure C: Local content Declaration Summary Schedule

(4) *The test for a minimum threshold of 55% for Local Content and designated components/ activities threshold stipulated as [Step Three] must be passed for a Respondent's Proposal to progress to [Step Four] for further evaluation.*

5.4. SUMMARY: EVALUATION THRESHOLD AND WEIGHTINGS

PRE-QUALIFICATION EVALUATION CRITERIA	MINIMUM THRESHOLD
Local content and Component/ Activity	55% and as stipulated in Annexure C
Supplier Development and B-BBEE	40%
Technical	80%

(4)

Key Observations

- Part 1 of the Transnet RFP[1], for the supply of 465 New Diesel Locomotives for the General Freight Business (GFB):
  - Complies with the Preferential Procurement Regulations, 2011 & the National Treasury Rail Rolling Stock Sector Instruction Note (issued and effective 16 July 2012)
    - (1) As it stipulated the minimum threshold percentages for local production and content for the different classes of Rail Rolling Stock (i.e. 55% for Diesel Locomotives); and
    - (2) To ensure that local production and content was discharged on manufacturing activities, the Transnet RFP[1] also stated that apart from the stipulated minimum threshold of 55% for Diesel Locomotives, stipulated thresholds in respect of certain components or activities must also be met: i.e. Assembly of locomotives, Car Body, Bogie, Coupling Equipment, Suspension, HVAC, Braking System, Alternators, Traction Motors & Electric Systems.
    - (3) The Transnet RFP[1] also requires that, respondents must complete and return the respective Declaration Certificates for Local Production and Content (i.e. Annexures A, C, D & E).
- Part 2 of the Transnet RFP[1] clearly defines the Evaluation Methodology and Criteria in respect of LC:
  - (4) In that both the stipulated minimum threshold of 55% for Diesel Locomotives, and the designated components/ activities threshold stipulated are pre-qualification evaluation criteria and must be met or exceeded for a respondent's proposal to progress for further evaluation.

PWC OBSERVATIONS – OEM BID SUBMISSIONS

LOCAL CONTENT BID EVALUATION COMPLIANCE

OEM	**55/60% Threshold**	**Designated Components**
General Electric	Compliance	Non Compliance
CSR	Compliance	Non Compliance
CNR	Compliance	Non Compliance
Bombardier Transportation	Compliance	Non Compliance
	Evaluated By Transnet	**Not Evaluated by Transnet (Non Compliance to Legislation)**

Reference: PWC LC Report 2018

PwC High-level OEM LC Assessment Summary:

Observations General Electric (GE)

Risk of GE not delivering against dti designation:
Low Risk Medium Risk High Risk

		Diesel Locomotive Component Contribution (%)			*Local Content: Target vs OEM Reported Performance vs PwC High-Level Assessment (%)*				
	dti Designations	PwC Estimated[1] Diesel Locomotive component contribution	GE post award Declared[3] Diesel Locomotive component contribution	GE Reported[4] Diesel Locomotive component contribution	Transnet RFP LC target[2]	GE post award LC Declaration[3] (Loco 1-233)	GE Reported[4] LC (Loco 1-233)	Supplier reported LC capability per Loco[5]	PwC High-level LC Assessment[6] (Loco 1-233)	
1	Diesel Locomotive	**100%**	**100%**	**100%**	**55%**	55.74%	56.06%		40.64% - 45.10%	
2	Assembly of locomotives	12.00%	5.11%	19.09%	**100%**	100.00%	93.00%	TE data outstanding	85% - 90%	
3	Car Body	10.00%	8.74%	3.86%	**100%**	73.18%[7]	82.40%	TE data outstanding	76.51 - 81.32%	
4	Bogie	5.00%	11.36%	0.47%	**100%**	71.44%[7]	77.00%	TE data outstanding	65.66% - 68.88%	
5	Coupling Equipment	0.70%	0.36%	0.00%	**100%**	100.00%	0%	Not sourced locally	0%	
6	Suspension	0.90%	0.48	0.30%	**100%**	0.00%[7]	100.00%	Not sourced locally	0%	
7	HVAC	1.20%	0.64%	1.44%	**60%**	73.92%	60.51%	49%	56.35% - 58.80%	
8	Braking System	1.70%	2.93%	1.35%	**70%**	55.63%[7]	80.00%	70%	78.20% - 84.00%	
9	Alternators	8.00%	3.69%	0.00%	**90%**	91.27%	0.00%	Not sourced locally	0%	
10	Traction Motors	11.50%	10.60%	0.88%	**65%**	89.42%	71.00%	69%	5.05% - 5.68%	
11	Electric Systems	15.00%	14.09%	0.44%	**80%**	48.53%[7]	49.74%	TE data outstanding	44.82% - 53.58%	
12	'Other'	34.00%	42.01%	72.16%		34.73%	46.77%		30% - 35%	

PwC High-level OEM LC Assessment Summary:

Observations - CSR

Risk of CSR not delivering against dti designation:

Low Risk | Medium Risk | High Risk

		Electric Locomotive Component Contribution (%)			*Local Content: Target vs OEM Reported Performance vs PwC High-Level Assessment (%)*				
	dti Designations	PwC Estimated[1] Electrical Locomotive component contribution	CSR post award Declared[3] electric Locomotive component contribution	CSR Reported[4] Electric Locomotive component contribution	Transnet RFP LC target[2]	CSR post award LC Declaration[3] (Loco 1-359)	CSR Reported[4] LC (Loco 1-178)	Supplier reported LC capability per Loco[5]	PwC High-level LC Assessment[6] (Loco 1-359)
1	Electrical Locomotive	**100%**	**100%**	**100%**	**60%**	60.52%	55.26%		42.01% - 51.72%
2	Assembly of locomotives	4.5%	Not declared by OEM	7.08%	**100%**	Not declared by OEM	87.25%	TE data outstanding	87% - 92%
3	Car Body	12.50%	Not declared by OEM	7.78%	**100%**	Not declared by OEM	81.37%	TE data outstanding	84.74% - 91.06%
4	Bogie	4.20%	Not declared by OEM	10.56%	**100%**	Not declared by OEM	45.32%	Multiple supplier data outstanding	27.24% - 33.34%
5	Coupling Equipment	0.80%	Not declared by OEM	0.22%	**100%**	Not declared by OEM	55.53%	Multiple supplier data outstanding	62% - 86%
6	Suspension	0.60%	Not declared by OEM	0.34%	**100%**	Not declared by OEM	81.60%	TE data outstanding	48.74% - 60.92%
7	HVAC	2.80%	Not declared by OEM	0.32%	**60%**	Not declared by OEM	85.19%	82%	86.1% - 90.2%
8	Braking System	1.90%	Not declared by OEM	1.48%	**70%**	Not declared by OEM	74.49%	73%	74.30% - 78.21%
9	Traction Motors	12.40%	Not declared by OEM	10.12%	**65%**	Not declared by OEM	16.95%	CRRC Transnet Rail data outstanding	10% - 15%
10	Electric Systems	35.60%	Not declared by OEM	2.00%	**80%**	Not declared by OEM	82.51%	Multiple supplier data outstanding	45.08% - 62.68%
11	'Other'	24.70%	Not declared by OEM	60.10%		Not declared by OEM	54.69%		18.44% - 22.00%

NB: This exercise could not be completed for BT and CNR as they failed to populate the monthly LC Tracking Tool provided to them by Transnet Freight Rail.

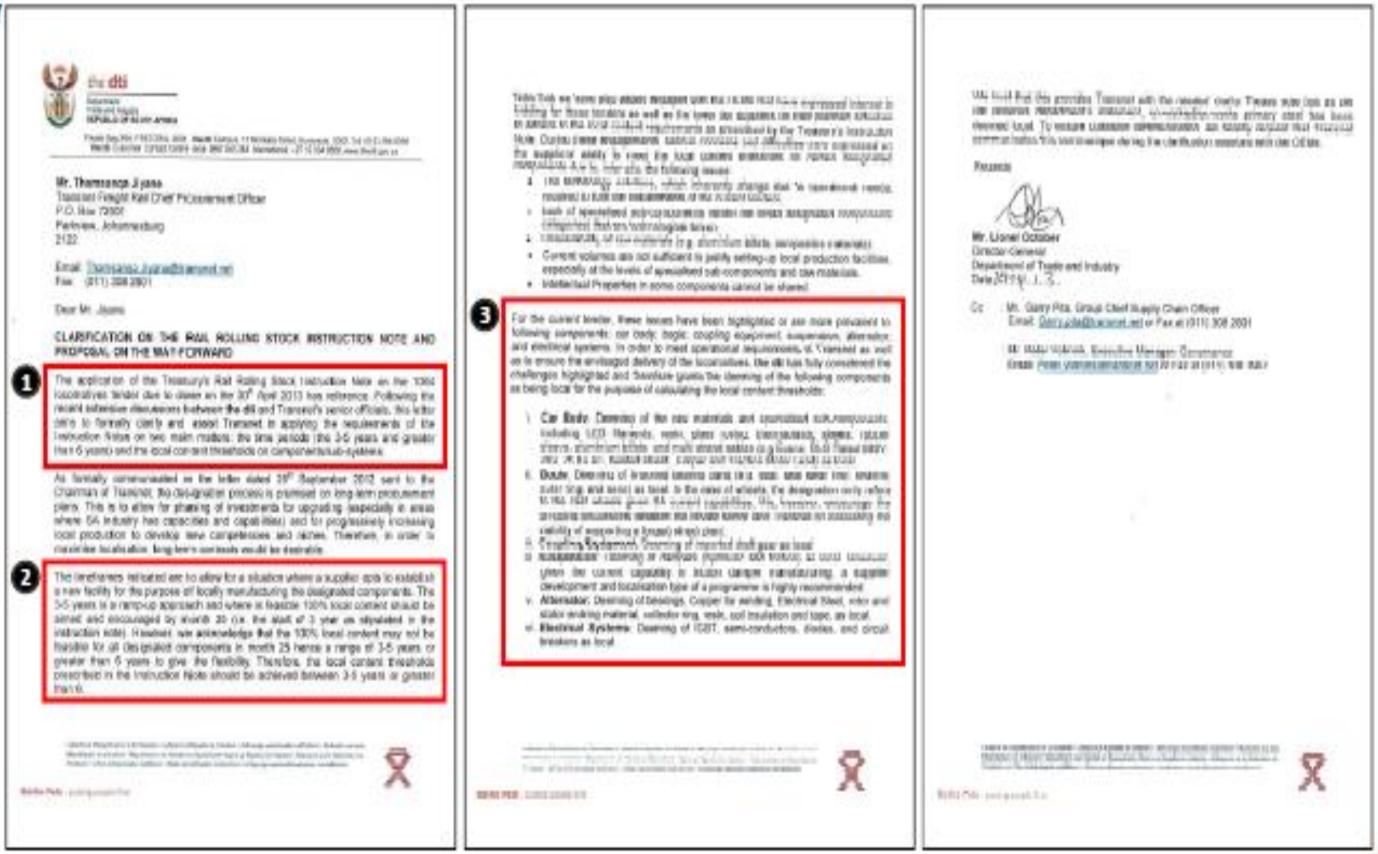
Review of DTI Clarification Letter (Mr Lionel October)

TRANSNET

Department of Trade and Industry (dti) Clarification Letter (issued 10 April 2013) in respect of the National Treasury Rail Rolling Stock Sector Instruction Note (issued and effective 16 July 2012)

dti Clarification Letter: 'Clarification on the rail rolling stock instruction note and proposal on the way-forward'

"



"

Key Observations

1 • This letter issued by the DG of the dti to the CPO of TFR, dated: '10 April 2013' and titled: 'Clarification on the rail rolling stock instruction note and proposal on the way-forward':

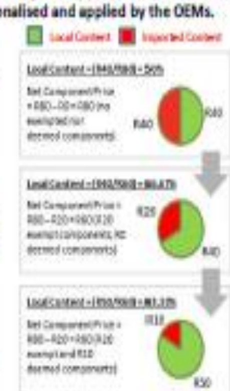
- 'Aims to formally clarify and assist Transnet in applying the requirements of the Instruction Notes on two main matters: the time periods (the 3-5 years and greater than 6 years) and the local content thresholds on components/ sub-systems.'

2 • This dti letter indicates that 'the 3-5 years is a ramp up approach and where is feasible 100% local content should be aimed and encouraged by month 25' ... It also acknowledges 'that the 100% local content may not be feasible for all designated components in month 25 hence a range of 3-5 years or greater that 6 years to give the flexibility'.

- This is significantly different to the rationale that the LC thresholds stipulated in the Transnet RFP[1] (i.e. '3-5 years' or '6 years and above'), apply based on the delivery requirement as determined by the contract length.
- The letter introduces further ambiguity ito the designated component thresholds for 1-2 years (i.e. months 0-24), and this ambiguity poses a risk to Transnet of being rationalised by the OEMs as though no LC is required during this period.

3 • In addition, this dti letter purports to grant the deeming of certain sub-components of designated components as being local for the purpose of calculating LC thresholds:

- The ambiguity of this letter (i.e. no timeframe nor monetary cap for deeming's purported to be granted) poses a risk to Transnet, as to how this will be rationalised and applied by the OEMs.
- It is important to note that dti deemed components are treated very differently from exempt components: (refer to the theoretical illustration to the right)
  - Exemptions reduce the net tender value of a component, whereas deemed components are treated as local.



PWC HIGH LEVEL OBSERVATIONS – CSR and BT

- PwC estimates CSR's LC in respect of the stipulated minimum threshold target for LC for Electric Locomotives between 42.01% - 51.72% which is below the Transnet RFP target of 60%

- The letter addressed from the DTI to the CPO of TFR (Lionel October on 10 April 2013), purports to grant the deeming of certain sub-components of designated components as being local for the purpose of calculating LC thresholds:
  - The ambiguity of this DTI letter (i.e. no timeframe nor monetary cap for deeming's purported to be granted) poses a risk to Transnet, as to how this will be rationalized and applied by CSR.
  - CSR has (in a letter to Transnet) indicated that they have applied the conditions of the Dti letter in their calculation of LC.

- CSRs performance in achieving the required LC target of 100% for Assembly of Locomotives over the first 178 locomotives has been significantly below the target (~12.75% below) and posses a risk that the target may not be achieved over the program, despite forecasts provided by CSR in their LC Reporting Tool that indicates that they are likely to reach the 100% LC target over the build programme.

- An analysis of BT Reported LC Performance in respect of 240 New Dual Voltage Locomotives & PwC's High-level BT LC cannot be determined as BT has not provided an updated tracking tool for review.

Reference: PWC LC Report 2018

PWC HIGH LEVEL OBSERVATIONS – CNR and GE

- CNR submitted a populated LC tracking tool based on their on 15 December 2017 to report on their LC performance; however CNR's LC performance could not be assessed – as CNR was unable to provide a populated (accurate/realistic forecast) LC Tracking Tool, considering that CNR was still in the early stages of their manufacture of locomotives.

- GE submitted a revised LC declaration (Annexure C) on 9 April 2018 to report on their LC performance:
  – In which GE has reported to be on track to deliver 56.059% LC in respect of the stipulated minimum threshold target for LC for diesel locomotives of 55%.
  – Of concern is GE's reported LC underperformance in respect of the designated components: i.e. Locomotive Assembly; Car Body; Bogie; Coupling Equipment; Alternators; Traction Motors & Electric Systems.

Reference: PWC LC Report 2018

LEGAL ANALYSIS: LOCAL CONTENT ("LC") LSA & PPPFA

- Transnet SOC Ltd, acting through Transnet Freight Rail ("**TFR**") entered into Locomotive Supply Agreements ("**LSAs**") with 4 (four) locomotive suppliers [Original Equipment Manufacturers ("**OEMs**")] in March 2014.
- Local Content and Production ("**LC**") is not mentioned in the LSAs regulating TFR's relationship with the OEMs, except for the fact that China North Railway's ("**CNR**") LSA does mention CNR's 55% commitment to LC.
- LC is regulated by the Preferential Procurement Policy Framework Act 5 of 2000 ("**the PPPFA**") together with the Preferential Procurement Regulations, 2011 ("**the PPR 2011**").

(a) The PPPFA came into operation on 3 February 2000

(b) The PPR 2011 came into operation on 7 December 2011.

The obligation to include LC in the Tenders in terms of both the PPPFA and PPR 2011 were complied with by Transnet, i.e. LC obligations were included in the Request for Proposals ("RFP").

The OEMs (who were still bidders at that stage) had to make an overall percentage declaration. BT declared 69.83%, CNR declared 61.13%, CSR declared 68.2%, and GESAT declared 55.55%.

The LSAs do address Supplier Development ("SD") in Clause 20 (Socio-Economic Obligations), and there are associated penalties for non-compliance with same.

Immediately Preceding Signature of the LSAs:

The Department of Trade and Industry's letter and exemptions

- The DTI issued a letter dated 10th April 2013, from Mr Lionel October (the "**Dti's letter**"), in which the Dti "deemed" certain components as local content.
- The Dti's letter has the adverse effect of releasing the OEMs from most of their LC obligations. This is based on the following 2 reasons:

(1) By deeming certain components as local, the OEMs are absolved from having to include the rand values of the "deemed" components in the determination of the total value of LC, thereby reducing the percentage and rand value of local content. This made it significantly easier for the OEMs to comply with their LC obligations; and

(2) The list of components in the letter constitutes most of the basic and large components required to build a locomotive, leaving the OEM with very few components that it had to source locally. By deeming most of these components as local, it thereby enabled the OEMs to import almost all of the components (which, as stated, constitute most of the locomotive) and still comply with their LC obligations in terms of the PPR 2011 read with the Instruction Note dated 16 July 2012.

(3) PwC have undertaken an in-depth analysis of this aspect and produced a report on it.

OPTIONS

- Transnet can enter into discussions with the OEMs to renegotiate the LSA with the OEMs, during which, *inter alia*, items such as SD &LC can be addressed, or

- It can invoke its rights in terms of the breach clause of the LSA where OEMs are in breach, which includes termination of the LSA and calling upon the relevant Bonds/Guarantees, and/or

- In terms of the remedies available for non-compliance with the PPPFA, Transnet can cancel the LSA and claim damages, or

- It can terminate the LSA based on irregularity/fraud/corruption should it have the necessary evidence.

CURRENT STATUS

- On 25 October 2018, a memo was sent from the Chief Executive, Transnet Freight Rails Office, to the office of the Acting Group Chief Executive, requesting that:
  - ✓ the PWC report and its contents be noted;
  - ✓ Recommending that TFR reports the current R27bn spend on the 1064 Locomotive transaction as potential irregular.
- PWC Has been requested, together with TFR Supply Chain, to conduct an in depth analysis into the evaluation of the 1064 Locomotive transaction, to ascertain whether any bidders may have been disadvantaged as a result of the initial tender evaluation.
- A meeting has been set-up with DTI, following which a letter was sent by the TFR Chief Procurement Officer to the DTI, requesting assistance with:
  - ✓ Clarification of a letter dated April 2012 from Mr Lionel October relating to Local Content requirements for the acquisition of 1064 locomotives;
  - ✓ If Dti has ever had any engagements with the 1064 locomotives OEMs, and if the Dti has shared any correspondences with any of the OEMs to date;
  - ✓ If Dti has granted exemptions to any of the OEMs;
  - ✓ Basis of the letter dated April 2012 and the National Treasury Instruction Note and how Dti intends measuring LC going forward;

CURRENT STATUS

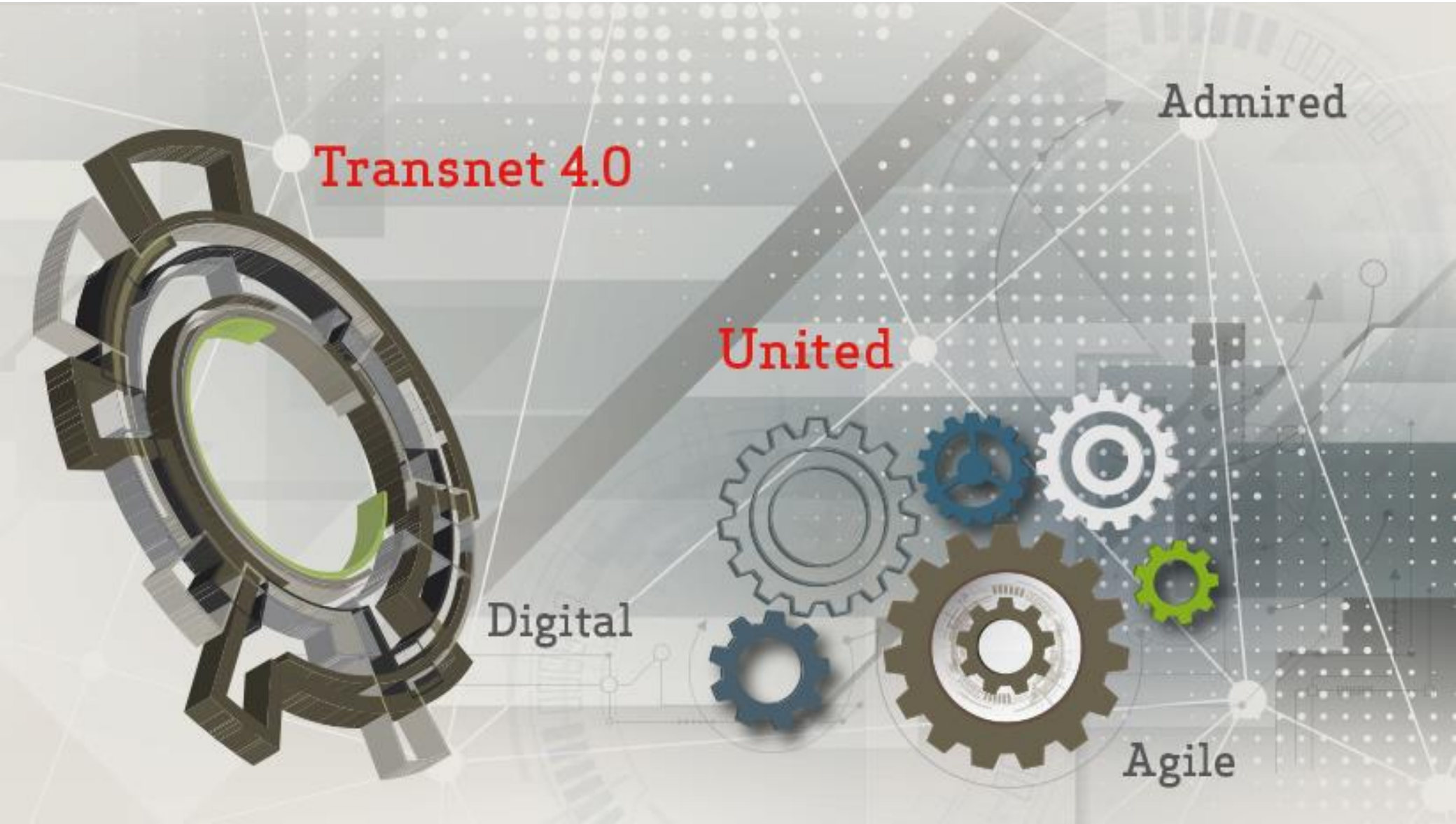
- ✓ View of how Dti is measuring LC and the request to share latest progress to date;
- ✓ Remedies for LC non-compliance should the OEMs not achieve their obligations and the sanctions to be levied by Dti and
- ✓ DTI's view of OEMs that have completed delivery (GE), those towards completion (CSR) and a view of CNR and Bombardier who have just started delivering locomotives.

Further to the issues mentioned above, Transnet has requested the Dti to invite team members from the South African Bureau of Standards ("SABS") to ensure alignment on issues relating to LC going forward.

The DTI has acknowledged receipt of the letter.

- Transnet Freight Rail will continue to monitor the progress of Local Content based on the legislative requirement and will endeavor to continue engaging and interacting with the DTI regarding the legislated Local Content requirements from OEMs.

1064 LOCOMOTIVE UPDATE: TE



1064 OEM Overview

GE Transport
233 Diesel Electric Locomotives
233

Built in Transnet Engineering Koedoespoort Pretoria

359
CRRC CSR
359 Electric Locomotives

Built in Transnet Engineering Koedoespoort Pretoria

240
Bombardier Transport
240 Electric Locomotives

Built in Transnet Engineering Bayhead Durban

Built in Transnet Engineering Bayhead Durban

CRRC CNR
232 Diesel Electric Locomotives
232

1064 Project Financial Overview – October 2018

Total Project Performance from inception to conclusion

OEM	Contract Qty	TE Scope Qty	TE Scope Contract	TE Projected Sales	Planned Contribution	Planned Material
CSR	359	319	3,045.1	2,654.3	1,092.2	1,952.9
GE	233	227	1,456.4	1,517.0	701.7	754.7
BT	240	240	757.1	889.7	440.8	316.4
CNR	232	212	2,219.3	2,204.4	936.2	1,283.0
Total	**1064**	**998**	**7,477.9**	**7,265.3**	**3,170.9**	**4,307.0**

Project Performance from Inception To Date

OEM	Actual Sales	Actual Contribution	Planned Material	Actual Material
CSR	1,354.2	712.6	868.4	641.6
GE	1,459.3	711.0	756.2	748.3
BT	204.6	168.3	85.5	36.3
CNR	15.1	11.4	8.7	3.7
Total	**3,033.1**	**1,603.3**	**1,718.9**	**1,429.8**

1064 Project Financial Overview – October 2018

Capex Spending

OEM	Total Budget	Actual YTD
CSR	279.9	235.4
GE	110.7	101.5
BT	172.8	154.4
CNR	215.6	148.4
Milling Machines	166.7	129.5
Total	**945.7**	**769.2**

Local Content

- Contracts between TE and the OEM`s only required TE to commit to Supplier Development objectives. There were no specific LC committed requirements in the contract.
- However Transnet applied the local content as per rail rolling stock sector instruction note when procuring goods for its scope of supply.
- DTI has appointed SABS to commence with the local content verification which confirm the actual local content achieved by Transnet and its suppliers.
- There were LC challenges experienced at the begging of each production line, when local suppliers were gearing up for productions, these includes bogie casting, springs
- To date over R1.6b material has been procured whilst its estimated the approximately R2b still to be procured to complete the program.

DESIGNATED COMPONENTS

1	**Assembly of Locomotives**
	Assembly of Locomotives
2	**Car Body:**
	- Car body shell
	- Door system
	- Windows
	- Seats (For coach interior)
	- Lighting
	- Grab pillars and rails
	- Interior cladding
	- Cable and wire
	- Safety equipment
	- Pipe works and ducts
3	**Bogie:**
	- Bogie frame
	- Motor suspension unit
	- Wheel sets and wheel components
	- Axle and axle boxes
	- Bearings
	- Bolster
4	**Coupling Equipment :**
	- Coupler body
	- Coupler hook
	- Yoke
	- Pin
	- Draft-gear

5	**Suspension :**
	- Shock absorbers and dampers
	- Springs
6	**Heat, Ventilation and Air Conditioning**
	- Fabrication
	- Power Coating
	- Heat Exchangers
	- Fans
	- Compressors
	- Refrigeration components
	- Electrical components
	- Fasteners
	- Insulation and liners
7	**Braking System :**
	Braking System
8	**Alternators :**
	Alternators
9	**Traction Motors :**
	Traction Motors
10	**Electric Systems :**
	Electric Systems

Top 20 Material Spent with local suppliers – 1064

Vendo	Vendor Name	Commodity	Value Spent	BO	BWO	BYO	BDO
513569	MACSTEEL VRN	Fabricated parts	80 649 612.00	41%	10%	0%	0%
529285	DNA MANAGEMENT PROJECTS	Fabricated parts	58 359 188.00	100%	100%	0%	0%
519343	MACSTEEL TRADING GERMISTON DIV OF M	Steel	52 315 971.00	41%	10%	0%	0%
528587	KARE FABRICATION	Fabricated parts	52 283 018.00	51%	0%	0%	0%
529615	DUVHA FOUNDRY	Castings	45 256 408.00	100%	0%	0%	0%
526940	HERMES APOLLO PROCESS ENGINEERING	Fabricated parts	41 663 743.00	100%	0%	0%	0%
529834	PLASMA CUT	Fabricated parts	40 684 867.00	56%	14%	0%	0%
521136	MACHINE TOOL PROMOTIONS	Fabricated parts	38 663 326.00	55%	28%	0%	0%
521990	FUMANANG ENTREPRENEURIAL PROMOTIC	Equipment/Machinery	36 568 975.00	51%	0%	0%	0%
528352	CAD CON	Fabricated parts	31 717 608.00	46%	0%	0%	0%
529002	VANTEK TECHNOLOGY	Fabricated parts	31 405 698.00	100%	0%	0%	0%
527855	ALERT STEEL TSHWANE	Steel	29 351 132.00	51%	0%	0%	0%
529896	BEKKER STEEL TRADING	Fabricated parts	28 385 842.00	51%	51%	0%	0%
509529	AFRICAN OXYGEN	Gas	27 543 486.00	65%	13%	0%	0%
528642	MIZANA ENGINEERING AND SERVICES	Fabricated parts	22 665 171.00	100%	0%	0%	0%
528774	BLUE GIG DISTRIBUTION	Insulation	22 577 196.00	100%	0%	100%	0%
506559	KANSAI PLASCON	Paint	21 856 187.00	23%	8%	0%	0%
528730	MAYISA AND CO	Consumables	21 618 518.00	100%	0%	100%	0%
512267	AVENG TRIDENT STEEL	Steel	20 287 232.00	89%	34%	0%	0%
530599	QINISA STEEL SOLUTIONS	Steel	19 817 727.00	51%	0%	0%	0%
TOTAL VALUE SPENT			**723 670 905.00**				

- To date over R1.6b material has been procured whilst its estimated the approximately R2b still to be procured to complete the program.
- TE has procure from over 500 local vendors since the inception of the project for material and capital equipment.
- SABS to commence with the local content verification which will confirm the actual local content achieved by Transnet and its suppliers.

Local content exception summary

OEM	Commodity	Date Exemption Grated	Supplier
BT	100mm Plates	2017/12/08	Mascteel
BT	FBO Fittings	2018/04/19	Transnet Engineering
BT	Round Tubes	2018/03/19	Macsteel Service Centre
CNR	Metric Seamless Pipes	2017/04/20	Transnet Engineering
CSR	Pipes and tubes	2016/11/21	Tilghman Rotoblast
CSR	Seamless Pipes	2018/05/07	Delbelg
CSR	Interior Cab Decoration	2016/05/10	Vantek
GE	Valves	2016/12/13	Transnet Engineering
GE	Valves	2018/01/18	Vanrail Supplies
CSR	Castings	2015/09/09	CSR

General Electric D44

GE Transport

233 Diesel Electric Locomotives

Current status

233 Locos delivered,

Phased Delivery

6 CBU Locos

First 6 locomotives: complete build and sent from GE Erie USA

1

227 Locally Built

227 locomotives completely fabricated and assembled in RSA

2

Scope of supply

		Diesel
No.	Description of activity	GE
1	Platform	Yes
2	Car body Fabrication	
3	Loco Assembly & Test	Yes
4	Bogie Fabrication	Yes
5	Bogie Assembly	Yes
6	TM Assembly	Yes
7	Traction motor complete	NO
8	Wheel Assembly	Yes
9	Operators Cab Fab	NO
10	Operators cab equip	NO
11	Fab Hoods/ Cubicles	NO
12	Equip Hoods/ Cubicles	Part
13	HVC Fab and equip	NO
14	Design cab layout	NO
15	Warehousing	Yes

TE SCOPE	Phase 1	Phase 2	Phase 3	
	Loco 1-6	N/A	Loco 7-233	
	OEM CBU	OEM SKD/CKD Supply &TE Assembly	Fabrication	Assembly
Platform Fabrication	OEM CBU	N/A	TE(TE Material)	TE(OEM Material)
Bogie Fabrication			TE(TE Material)	TE(OEM Material)
Bogie Assembly			N/A	TE(OEM Material)
Aux Cab Fabrication			TE(TE Material)	TE(TE Material)
Aux Cab assembly and test			N/A	TE(OEM Material)
CA1 Assembly and test			TE(TE Material)	TE(OEM Material)
Gearcase fabrication			TE(TE Material)	TE(OEM Material)
Traction Motor assembly and test			N/A	TE(OEM Material)
Wheel set assembly			N/A	TE(OEM Material)
DB Box & Air Filter Fabrication			N/A	TE(OEM Material)
Final Assembly			N/A	TE(OEM Material)
Test & Commission			TE	TE

General Electric D44

GE - TFR Class 44 D

- Lighting and Horn — AU
- Wiper System — AU
- HVAC — Booyco
- Driver Desk — AU
- Final assembly — TE
- Windows / Mirrros — AU
- Engine Assembly — GE
- Engine Cab — Duys
- Toilet Cubicle — Aero Services
- Rad Cab — AU
- Doors / Side walls — AU
- Aux Cab and Assembly — TE
- Dynamic Brake Structure — TE
- Piping Supply / Preparation — TE/Delberg
- Fuel Tank Structure / Filler — Duys
- Underframe Structure — TE
- Traction Motor Assembly — TE
- Bogie Frame and Assembly — TE
- Driver Cab Structure — CTLE/AU
- Cowcatcher — TE
- Coupler/DrawGear — GE
- Shortnose — Duys
- Wiring — TTS
- Driver Seats — TE /SA Inc.
- Brake — Knorr Bremse
- Driver Consoles — AU
- Hand Rail / Steps — TE

GE – Supplier Development Commitments

SD Elements	GE	
	SD Target Value (R million)	**SD Reported Value Audited YTD June 2018 (R million)
Industrialisation	105.00	60.00
Capacity and Capability	57.25	635.40
Skills Development	20.64	2.00
Job Maintenance	197.00	254.37
Small Business Development	46.43	326.56
Technology and IP Transfer	0	0
Job Creation	0	0
Down Stream Supplier Development	0	0
Total SD Commitment	**426.32**	**1 278.33**
SD % of Contract Value	28%	
Contract Value	R1 495 777 607.00	

CRRC-CSR 22E

CRRC CSR

359 Electric Locomotives

Current status

208 Locos delivered,

Phased Delivery

1 — 40 CBU Locos

First 40 locomotives: complete build and sent from CRRC Electric China

2 — 15 SKD Locos

15 Semi knockdown kits Supplied from CRRC, Completely assembled in RSA

3 — 304 Locally Built

304 locomotives completely fabricated and assembled in RSA

Scope of supply

		Electric
No.	Description of activity	CSR
1	Platform	
2	Car body Fabrication	Yes
3	Loco Assembly & Test	Yes
4	Bogie Fabrication	Yes
5	Bogie Assembly	Yes
6	TM Assembly	NO
7	Traction motor complete	NO
8	Wheel Assembly	NO
9	Operators Cab Fab	Yes
10	Operators cab equip	Yes
11	Fab Hoods/ Cubicles	NO
12	Equip Hoods/ Cubicles	NO
13	HVC Fab and equip	NO
14	Design cab layout	NO
15	Warehousing	Yes

TE SCOPE	Phase 1	Phase 2	Phase 3	
	Loco 1-40	Loco 41-55	Loco 56-359	
	OEM CBU	OEM SKD/CKD Supply &TE Assembly	Fabrication	Assembly
Carbody Fabrication	OEM CBU	OEM SKD/CKD	TE(TE Material)	TE(OEM Material)
Bogie Fabrication			TE(TE Material)	TE(OEM Material)
Bogie Assembly			N/A	TE(OEM Material)
Traction Motor Assembly			N/A	TE(OEM Material)
Combo Assembly			N/A	TE(OEM Material)
High Voltage Cubicle Assembly			N/A	TE(OEM Material)
Low Voltage Cubicle Assembly			N/A	TE(OEM Material)
Battery Cubicle Assembly			N/A	TE(OEM Material)
Springs Manufacture			TE(TE Material)	N/A
Cab Panels			TE(TE Material)	TE(OEM Material)
Cab Floors			TE(TE Material)	N/A
Final Assembly		TE	N/A	TE(OEM Material)
Test & Commission		TE	N/A	TE

CRRC-CSR 22E

CSR - TFR Class 22 E

Pantograph
CRRC

Toilet Cubicle
Aero Services

Brake Resistor
Microelettrica

Blower
Microelettrica

Brake
Knorr Bremse

Drive
CRRC/JV

Axel and Wheelset
CRRC/JV

Axel bearing
CRRC/JV

Cooling Tower
Lince

Battery
FNB

Switches
Microelettrica

Final assembly
TE

External and Internal lighting
Radel

HVAC
Booyco

Driver Desk
Lince

Door and Windows
Siyahamba

Cab GRP parts
Profibre

Wiring
TE/CRRC

Carbody
TE

Bogie
TE

Transformer
CRRC

Converter
CRRC Times/JV

Traction Motor Blower
Lince/JV

Electrical cubicles
CRRC/JV

CSR – Supplier Development Commitments

SD Elements	CSR	
	SD Target Value (R million)	**SD Reported Value Audited YTD June 2018 (R million)
Industrialisation	105.00	62.93
Capacity and Capability	167.57	568.10
Skills Development	15.96	3.1
Job Preservation	283.77	337
Small Business Development	135.89	386.34
Technology and IP Transfer	0	0
Job Creation	0	0
Down Stream Supplier Development	0	0
Total SD Commitment	708.19	1 357.47
SD % of Contract Value	23%	
Contract Value	R 3 045 078 006.00	

Project Overview and Scope - BT 23E

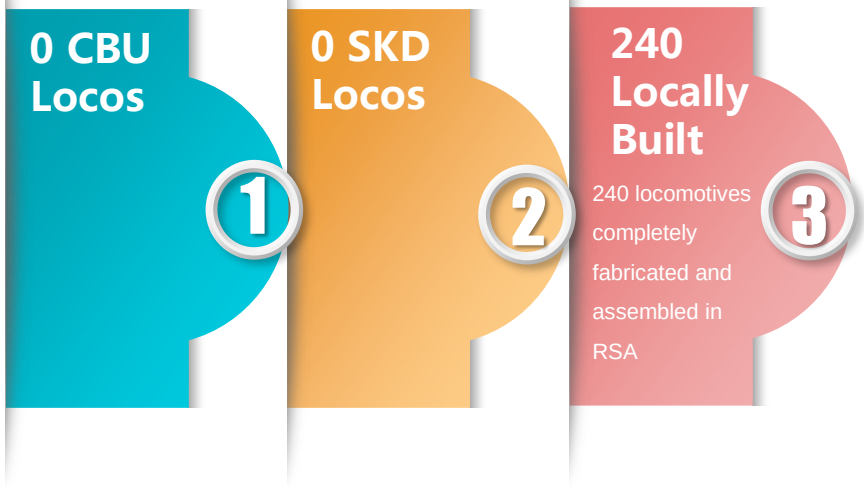
Current status

26 Locomotives delivered,

Bombardier Transport

240 Electric Locomotives

Phased Delivery



BT Electric: Scope of Supply (3/15)

1. Locomotive Assembly & Test
2. Bogie Fabrication
3. Bogie Assembly

23E Locomotive Key Suppliers

TRAXX Africa - TFR Class 23 E

Pantograph
Unique Engineering

Toilet Cubicle
Aero Services

Brake Resistor
Penbro

Blower
Microelettrica

Brake
Knorr Bremse

Drive
IEC Holden

Axel and Wheelset
SWASAP

Axel bearing
Timken

Cooling Tower
Booyco

Battery
Eqstra

Switches
Microelettrica

Final assembly
Transnet Engineering/BTSA

External and Internal lighting
Radel

HVAC
Booyco

Driver Desk
CTLE

Door and Windows
Siyahamba

Cab GRP parts
Profibre

Trainline
Radel

Carbody
DCD

Bogie
Transnet Engineering/BTSA

Transformer
ABB

Converter
BTSA

Traction Motor Blower
Microelettrica

Electrical cubicles
BTSA

TE SCOPE	Phase 1	Phase 2	Phase 3	
	N/A	N/A	Loco1-240	
	OEM CBU	OEM SKD/CKD Supply &TE Assembly	Fabrication	Assembly
Bogie Fabrication	N/A	N/A	TE(TE Material)	TE(TEMaterial)
Bogie Assembly			N/A	TE(OEM Material)
Final Assembly			N/A	TE(OEM Material)
Test & Commission			N/A	TE

CSR – Supplier Development Commitments

SD Elements	BT	
	SD Target Value (R million)	**SD Reported Value Audited YTD June 2018 (R million)
Industrialisation	110.00	3.50
Capacity and Capability	75.41	284.17
Skills Development	13.73	3.73
Job Maintenance	148.92	197.48
Small Business Development	34.08	99.04
Technology and IP Transfer	0	0
Job Creation	0	0
Down Stream Supplier Development	0	0
Total SD Commitment	**382.13**	**587.92**
SD % of Contract Value	50%	
Contract Value	R 757 116 558.00	

CRRC-CNR D45

Current status

20 Loco delivered,

CRRC CNR

232 Diesel Electric Locomotives.

Phased Delivery

1 — 20 CBU Locos

First 20 locomotives complete build and sent from China Dalian

2 — 15 CKD Locos

15 Complete knockdown kits Supplied from CRRC Dloco China

3 — 197 Locally Built

197 locomotives completely fabricated and assembled in RSA

TE Scope of supply

1. Underframe
2. Bogie
3. Drivers Cab
4. Fuel Tank
5. Cooling Room
6. Aux/Brake Room
7. Cooling Room
8. Power Room
9. Water Tank
10. Cow Catcher
11. Climate Chamber
12. Cabinet 1 & 2
13. Springs
14. Traction Motor Assembly
15. Alternator Assembly
16. Wheels Assembly
17. Bogie Assembly
18. Locomotive Assembly
19. Warehousing and Kiting

CRRC-CNR D45

Lighting and Horn
SA Inc.

Wiper System
SA Inc.

HVAC
Booyco

Driver Desk
SA Inc.

Final assembly
TE

Windows / Mirrros
SA Inc.

Engine Assembly
MTU SA

Engine Room / Roof Structure
TE

Toilet Cubicle
Aero Services

Water Tank Structure
TE

Doors / Side walls
SA Inc.

Cooling Room Structure
TE

Brake Room Structure
TE

Piping Supply / Preparation
TE

Fuel Tank Structure / Filler
TE

Underframe Structure
TE

Hand Rail / Steps
SA Inc.

Driver Consoles
TE

Brake
Knorr Bremse

Driver Seats
SA Inc.

Wiring
SA Inc.

AirCon Housing
TE

Coupler/DrawGear
SA Inc.

Cowcatcher
TE

Driver Cab Structure
TE

Bogie Frame and Assembly
TE

Traction Motor Assembly
TE

CNR

TE SCOPE	Phase 1	Phase 2	Phase 3	
	Loco1-20	Loco21-Loco35	Loco36-232	
	OEM CBU	OEM SKD/CKD Supply &TE Assembly	Fabrication	Assembly
Underframe	OEM	OEM/TE	TE(TE Material)	TE(OEM Material)
Bogie frame			TE(TE Material)	TE(OEM Material)
Drivers Cab			TE(TE Material)	TE(OEM Material)
Fuel Tank			TE(TE Material)	TE(OEM Material)
Aux Cab			TE(TE Material)	TE(OEM Material)
Power Room			TE(TE Material)	TE(OEM Material)
Cooling Room			TE(TE Material)	TE(OEM Material)
Drivers Desk			TE(TE Material)	TE(OEM Material)
Door & Frame			TE(TE Material)	TE(OEM Material)
Cabinet Assembly 1			TE(TE Material)	TE(OEM Material)
Cabinet Assembly 2			TE(TE Material)	TE(OEM Material)
Water Tank			TE(TE Material)	TE(OEM Material)
Cow Catcher			TE(TE Material)	TE(OEM Material)
Climatic Chamber			TE(TE Material)	TE(OEM Material)
Wheel Assembly			N/A	TE(OEM Material)
Locomotive Assembly			N/A	TE(OEM Material)
Testing & Commissioning			N/A	TE

CNR – Supplier Development Commitments

SD Elements	CNR	
	SD Target Value (R million)	**SD Reported Value Audited YTD June 2018 (R million)
Industrialisation	150.00	5.2
Capacity and Capability	90.52	134.94
Skills Development	21.46	2.73
Job Preservation	221.30	150.23
Small Business Development	73.41	51.74
Technology and IP Transfer	0	0
Job Creation	0	0
Down Stream Supplier Development	0	0
Total SD Commitment	556.68	344.85
SD % of Contract Value	27%	
Contract Value	R2 219 099 977.00	

THANK YOU