Constro (Pty) Ltd – Unseen material provided on examination day

Read this information before you answer the question

Application to the Afri government for a mobile telecoms operating licence in Afri

By November 2002, all of the companies that are interested in applying for a licence to run a mobile telephone network in Afri are in the process of preparing their business plans and their applications. These are due to be submitted to the regulatory authority in Afri in February 2003, and successful licensees will be announced in April 2003.

The Afri regulatory authority has indicated that it will make its selection based on all of the data submitted, and that it will grant ***only two*** licences, each for a 10-year period. The regulatory authority has also stated that for the first five years of both licences, no further licences will be granted, but it reserves the right to issue further licences to other potential network operators after five years.

In early October 2002, the Afri regulatory authority unexpectedly announced that it would ***only*** grant the two licences to companies that are owned by Afri nationals, or a consortium of companies including Afri-owned companies. Therefore, all of the global telecoms companies that were interested in entering the Afri mobile telecoms market would only be able to participate if they formed a joint venture consortium with one (or more) local Afri companies. However, the Afri regulatory authority has made no comment on the level of holdings within any joint venture that global companies may, or may not, hold.

If Constro decides to apply for a mobile telecoms licence, and it is subsequently successful in being granted a licence, it will be bound by the licence to construct and operate a mobile telecoms network in accordance with the licence conditions laid down.

Constro's market intelligence understands that five other large Afri-owned companies are also intending to apply for a mobile telecoms licence. These Afri companies currently operate in such diverse fields as banking, media services, clothing manufacture and oil production. It is understood from sources that all five of these companies are interested in forming joint ventures with global telecoms companies.

Constro Board Meeting in October 2002

At the Constro Board meeting held at the end of October 2002, Malan Beka reported that he had received telephone calls from five of the six global telecoms companies that were considering applying for a mobile telecoms licence in Afri. They were now very keen to discuss a possible joint venture with Constro, because of the announcement by the regulatory authority concerning the involvement of Afri-owned companies in any licence application. Market intelligence had identified that one of the global telecoms companies that was understood to be intending to apply for a licence, had already formed a joint venture with another Afri company.

Malan Beka reported on the preliminary discussions that he had held with a global telecoms company that he had not previously met with. It had contacted him after the regulatory authority's announcement. He stated that after discussion, he considered that its terms were unreasonable and that it was not in Constro's interest to pursue discussions any further.

Malan Beka had previously discussed with the Board the outcomes of the meetings that had been held with Global Companies A, B, C and D. At a preceding Board meeting, a decision had been taken ***not*** to pursue negotiations with two of the four companies, Global Companies B and C. Malan Beka reported that both Global Companies B and C had contacted him following the Afri regulatory authority's announcement, but he had repeated the Board's previous decision, which was that Constro did not want to enter into a joint venture with them.

Malan Beka confirmed to the Constro Board that both Global Companies A and D were still very keen to enter into a joint venture and that a final decision would have to be made shortly, when the Constro Board had discussed the alternative strategies available.

The alternative strategies available for Constro

1. *Constro could make a licence application on its own.*

   Malan Beka stated that he was keen for Constro to be involved in the rapidly growing mobile telecoms market in Africa, and saw this as a "once in a lifetime" opportunity.

2. *Constro could enter into a joint venture to apply for a licence.*

   Global Company A and Global Company D were both still very positive about entering into a joint venture with Constro. Final details of any joint venture would need to be negotiated, if a joint venture was the chosen course of action.

   In preliminary discussions, Global Company A had agreed to fund over 50% of the investment required. It had a good reputation for its dealings in the other African joint ventures that it was involved in, but had advised Malan Beka subsequent to their initial meeting that it would require a significant shareholding in a joint venture with Constro.

   Global Company D was not currently involved in any joint ventures in African countries, although it has a number of joint ventures in other countries around the world. Global Company D did not want to commit to any desired level of funding or percentage holding until Constro confirmed its intention (or not) to enter into a joint venture.

3. *Constro could retail mobile handsets.*

   Malan Beka reported that many of the global handset manufacturers were keen for their products to be stocked and sold in Afri. He reminded the Board that Constro already had electrical retail shops in all nine major towns, as well as the necessary stock control and retail sales systems in place to handle these new products. This would be an easy way for Constro to be involved in part of the retailing side of the mobile telecoms business, whether it was involved as a mobile telecoms network operator or not.

4. *Constro could expand its road building and other major construction projects business to other countries.*

   Constro's current five-year plan (shown as Appendix B in the pre-seen material) shows an expansion to other countries of its road-building business and also its other major construction projects business. In 2001, Constro started its first ever construction project outside Afri, with a three-year road-building project, which has a contracted turnover value of $25 million. The remaining $225 million turnover for road-building in other countries, in the five-year plan, has not been contracted, although Constro has already submitted bids for part of this future work. The entire $80 million forecast in years 2004 to 2006 for other major construction projects in other countries has no contractual basis at present.

The Constro Board of Directors' comments on the alternatives

Tanda Lew stated that he had completed his business plans and he was in the final stages of selecting the equipment supplier for the proposed mobile telecoms network. He reported that he was confident that at least the mid-growth level of demand for mobile telecoms services would exist in the main towns of Afri. He stated to his Board colleagues that Constro has the personnel and the skills required to build and deliver a high-quality mobile telecoms network in Afri.

Tanda Lew also stated that he had been recruited into Constro to prepare for and hopefully operate a mobile telecoms network, and if the Board decided not to apply for a licence to operate a network, he would be forced to offer his resignation.

Andani Noon stated that he had been involved in construction projects all of his life, but that he was very concerned about such a large investment for the company. He stated that if Constro were to fund the investment of $300 million and the demand is lower than the mid-growth level, then this would have a major impact on the entire company.

Ben Knowle agreed and stated that he would not recommend the project unless it was in the form of a joint venture with one of the two global telecoms companies with which Constro was still in discussion. Ben Knowle reported that the company could fund around $170 million from Constro's current cash reserves and that loans of over $150 million would be needed to meet the investment in the first few years, before cash in large quantities could be generated.

Sol Endi commented that he was very keen for the Constro Board to approve the application for a licence. He stated that this was the direction that the company should be taking and his experience in marketing domestic electrical products led him to believe that Constro could be very successful. He also saw this as a way to increase his influence in the company, his staff and his marketing budget.

Malan Beka stated that he saw the proposed Constro licence application as a unique opportunity to grow the company, so that it can participate in an exciting new era of high technology. He reported that the founder, Mani Freel, also thought that the company should embrace this opportunity.

Malan Beka reported that while he fully understood all of the benefits of a joint venture, he felt strongly that Constro could be successful on its own, given its resources. However, Malan Beka reported that he had recently employed a Strategy Consultant from an international firm of consultants to advise the Board. A final decision will be made after receipt of the Strategy Consultant's report, which is due at the end of November.

Market size

Tanda Lew and Sol Endi are both confident that the mid-growth level of subscribers is realistic and achievable. This has been estimated to be approximately 4 million urban subscribers in Afri within five years of the launch of both mobile networks, as shown under Market Opportunities in the pre-seen material.

Cash flow forecasts for mobile telecoms network operations

Ben Knowle's and Tanda Lew's teams have prepared detailed financial plans, which estimate the forecast turnover, variable and fixed costs of operating a mobile telecoms network. The total net operating cash inflows (in nominal terms) based on the mid-growth level of subscribers, and assuming each of the two network operators achieves an equal 50% market share are shown in the table overleaf:

Constro's total net operating cash inflows for the mid-growth scenario *	*Year 1 2004*	*Year 2 2005*	*Year 3 2006*	*Year 4 2007*	*Year 5 2008*	*For each year 6-10 ** 2009-2013*
	$ million	*$ million*	*$ million*	*$ million*	*$ million*	*$ million*
Total net operating cash inflows – urban	2	14	48	143	308	362
Total net operating cash inflows – rural	0	1	4	8	18	23
Total net operating cash inflows	2	15	52	151	326	385

Notes: * Net operating cash inflows are defined as turnover less all cash-based variable and fixed operating costs, but exclude all capital expenditure.

** Years 6 to 10 (2009 to 2013) assumes no further growth in subscriber numbers after the end of Year 5 (2008).

The total net operating cash inflows for the high-growth and low-growth scenarios (for both urban and rural subscribers), assuming a 50% market share, are as follows:

Constro's total net operating cash inflows for alternative growth scenarios	*Year 1 2004*	*Year 2 2005*	*Year 3 2006*	*Year 4 2007*	*Year 5 2008*	*For each year 6-10 2009-2013*
	$ million	*$ million*	*$ million*	*$ million*	*$ million*	*$ million*
High-growth total net operating cash inflows (urban and rural)	4	30	104	302	652	770
Low-growth total net operating cash inflows (urban and rural)	0	4	14	37	80	95

It should be noted that if Constro were able to achieve a higher (or lower) market share than 50%, the effect of each 10% movement [for example, to 60% (or 40%)] would be to increase (or decrease) the NPV ***based on the mid-growth scenario*** by approximately $150 million.

Capital investment requirement for mobile telecoms network operations

A fast rollout of the network infrastructure across the urban areas and part of the rural areas is planned, in order to support a growing subscriber base. For ***each*** of the two mobile telecom network operators granted a licence in Afri, this will require an investment of approximately $300 million phased over three years, as follows:

Total capital investment for each network operator in Afri, based on mid-growth level of subscribers	*Year 0 2003*	*Year 1 2004*	*Year 2 2005*	*Total 2003-05*
	$ million	*$ million*	*$ million*	*$ million*
Urban areas	40	87	110	237
Rural areas – limited coverage	10	25	28	63
Total capital expenditure for each network operator	50	112	138	300

It is envisaged that no further capital investment will be required after the end of Year 2 (2005), and this will be sufficient to maintain the expected subscriber numbers up until the end of the 10-year licence period for both mobile networks, unless subscriber numbers grow considerably beyond the end of Year 5 (2008).

If growth does not achieve the mid-growth level, but instead achieves only the low-growth level, then capital expenditure requirements for both networks would remain as above for 2003 and 2004, but no further capital expenditure would be required in 2005.

For the high-growth option, the capital expenditure requirements will be double the above levels for each year for urban areas, but capital expenditure for rural areas will remain as shown in the table above.

According to extensive market surveys, the probabilities of the alternative growth levels are as follows:

- High growth 20% probability
- Mid growth 75% probability
- Low growth 5% probability

Ben Knowle has decided that Constro's weighted average cost of capital of 14·5% is ***not*** appropriate for this investment in a mobile telecoms network, and he has decided that a more appropriate discount rate of 18% should be used. This discount rate is based on the increased risk of the mobile telecoms investment and the substantial borrowings that Constro may have to undertake.

Because of the fast-changing technology, it is anticipated that within the 10-year licence period, most of the network infrastructure will become obsolete and have no resale value at all. Furthermore, substantial additional investment in new technology, probably 3G technology, will be required beyond the 10-year licence period, by the companies applying to renew their licences or new companies wishing to enter the marketplace in 10 years time.

Cash flow forecasts for sales of mobile handsets

The forecast sales of mobile handsets and net operating cash inflows are based on Constro selling handsets in its retail outlets only. It is anticipated that handset sales could be even greater if Constro also has a licence to run one of the mobile networks.

No material capital expenditure is forecast if Constro were to retail handsets only. The table below shows the forecast unit sales and relevant net operating cash flow forecasts based upon the mid-growth level of subscribers in Afri:

	Year 1 2004	*Year 2 2005*	*Year 3 2006*	*Year 4 2007*	*Year 5 2008*	*Total 5 years 2004-08*
Sales of handsets (units)	10,000	40,000	50,000	180,000	120,000	400,000
Net operating cash inflows per handset sale	$110	$130	$130	$130	$130	
Total net operating cash inflows (nearest $ million)	$1 million	$5 million	$7 million	$23 million	$16 million	$52 million

For simplicity, taxation and capital allowances should be ignored.

End of unseen material

Maths tables follow

Present value table

Present value of $1, that is $(1 + r)^{-n}$ where r = interest rate; n = number of periods until payment or receipt.

Periods	Interest rates (*r*)									
(*n*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149

Periods	Interest rates (*r*)									
(*n*)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.079	0.065
16	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071	0.062	0.054
17	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060	0.052	0.045
18	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051	0.044	0.038
19	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043	0.037	0.031
20	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037	0.031	0.026

Periods	Interest rates (*r*)									
(*n*)	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	0.683	0.672	0.661	0.650	0.640	0.630	0.620	0.610	0.601	0.592
3	0.564	0.551	0.537	0.524	0.512	0.500	0.488	0.477	0.466	0.455
4	0.467	0.451	0.437	0.423	0.410	0.397	0.384	0.373	0.361	0.350
5	0.386	0.370	0.355	0.341	0.328	0.315	0.303	0.291	0.280	0.269
6	0.319	0.303	0.289	0.275	0.262	0.250	0.238	0.227	0.217	0.207
7	0.263	0.249	0.235	0.222	0.210	0.198	0.188	0.178	0.168	0.159
8	0.218	0.204	0.191	0.179	0.168	0.157	0.148	0.139	0.130	0.123
9	0.180	0.167	0.155	0.144	0.134	0.125	0.116	0.108	0.101	0.094
10	0.149	0.137	0.126	0.116	0.107	0.099	0.092	0.085	0.078	0.073
11	0.123	0.112	0.103	0.094	0.086	0.079	0.072	0.066	0.061	0.056
12	0.102	0.092	0.083	0.076	0.069	0.062	0.057	0.052	-	-
13	0.084	0.075	0.068	0.061	0.055	-	-	-	-	-
14	0.069	0.062	0.055	-	-	-	-	-	-	-
15	0.057	0.051	-	-	-	-	-	-	-	-

Cumulative present value of $1 per annum, Receivable or Payable at the end of each year for *n* years $\frac{1-(1+r)^{-n}}{r}$

Periods	Interest rates (*r*)									
(*n*)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365
20	18.046	16.351	14.878	13.590	12.462	11.470	10.594	9.818	9.129	8.514

Periods	Interest rates (*r*)									
(*n*)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	7.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675
16	7.379	6.974	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730
17	7.549	7.120	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775
18	7.702	7.250	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812
19	7.839	7.366	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843
20	7.963	7.469	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870

Periods	Interest rates (*r*)									
(*n*)	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	1.509	1.492	1.474	1.457	1.440	1.424	1.407	1.392	1.376	1.361
3	2.074	2.042	2.011	1.981	1.952	1.923	1.896	1.868	1.842	1.816
4	2.540	2.494	2.448	2.404	2.362	2.320	2.280	2.241	2.203	2.166
5	2.926	2.864	2.803	2.745	2.689	2.635	2.583	2.532	2.483	2.436
6	3.245	3.167	3.092	3.020	2.951	2.885	2.821	2.759	2.700	2.643
7	3.508	3.416	3.327	3.242	3.161	3.083	3.009	2.937	2.868	2.802
8	3.726	3.619	3.518	3.421	3.329	3.241	3.156	3.076	2.999	2.925
9	3.905	3.786	3.673	3.566	3.463	3.366	3.273	3.184	3.100	3.019
10	4.054	3.923	3.799	3.682	3.571	3.465	3.364	3.269	3.178	3.092
11	4.177	4.035	3.902	3.776	3.656	3.544	3.437	3.335	3.239	3.147
12	4.278	4.127	3.985	3.851	3.725	3.606	3.493	3.387	3.286	3.190
13	4.362	4.203	4.053	3.912	3.780	3.656	3.538	3.427	3.322	3.223
14	4.432	4.265	4.108	3.962	3.824	3.695	3.573	3.459	3.351	3.249
15	4.489	4.315	4.153	4.001	3.859	3.726	3.601	3.483	3.373	3.268
16	4.536	4.357	4.189	4.033	3.887	3.751	3.623	3.503	3.390	3.283
17	4.576	4.391	4.219	4.059	3.910	3.771	3.640	3.518	3.403	3.295
18	4.608	4.419	4.243	4.080	3.928	3.786	3.654	3.529	3.413	3.304
19	4.635	4.442	4.263	4.097	3.942	3.799	3.664	3.539	3.421	3.311
20	4.657	4.460	4.279	4.110	3.954	3.808	3.673	3.546	3.427	3.316