

AfriRemoteLabs Consolidated Equipment and Budget

Phase 1 JOOUST Remote Laboratory Demonstration Centre



October 2026

Overview

The priced capital requirement is **US\$2,004,450** including 15 percent contingency. Adding one full operating year gives US\$2,214,450. This is a priced planning total, not a complete landed project cost: the items marked TBD require additional quotations.

Unit prices are provisional allocations of the earlier budget, not verified supplier quotations. Where equivalent support items have different station allowances, the unit-cost column shows the range and the subtotal sums the individual allowances; do not multiply the quantity by a range endpoint. Quantities refer to units, sets or packages as named; development quantities are hours. Recurring staffing uses person months and recurring utilities use months. Generic package contents remain subject to specification.

Shared UV Vis, FTIR and Raman equipment is purchased once. Native controllers are included in the instrument allowances. Deduct bundled computers, cameras, licences and commissioning before procurement. Local GPUs and the central GPU server are separate provisional provisions; confirm whether both are required. Client users supply existing devices and internet.

No.	Category	Item or requirement	Quantity	Unit cost USD	Total USD
1	Equipment	Dynamics track and carts	1	2,200	2,200
2	Equipment	Motion detectors	4	300	1,200
3	Equipment	Force sensors	4	250	1,000
4	Equipment	Wireless acceleration sensors	2	200	400
5	Equipment	Photogates and timers	2	200	400
6	Equipment	Springs, masses and friction apparatus	1	600	600
7	Equipment	DAQ and wireless interfaces	1	1,000	1,000
8	Equipment	Guarded actuator and local stop	1	1,300	1,300
9	Equipment	Mounts and experiment fixtures	1	1,000	1,000
10	Computing	Host workstation CPU/RAM/SSD	13	1,200 to 4,800	30,600
11	Computing	Monitor, keyboard, NIC and interface accessories	13	800 to 1,600	14,000
12	Software	Acquisition/control licence allocation	13	900 to 10,800	39,900
13	Software	Analysis/SDK/support allocation	13	600 to 7,200	26,600
14	Integration	Station gateway computer/interface	13	500 to 900	10,900
15	Integration	Demonstration camera and mounting	13	375 to 700	8,375
16	Integration	Driver/API development (engineering hours)	1391	50	69,550
17	Integration	Station testing and recovery validation	13	475 to 10,000	29,675
18	Commissioning	Installation and acceptance allowance	13	750 to 20,000	50,750
19	Commissioning	Operator training allowance	13	450 to 12,000	30,450
20	Commissioning	Initial method validation/calibration allowance	13	300 to 8,000	20,300
21	Equipment	Temperature probes	8	100	800
22	Equipment	Temperature DAQ/logger	1	900	900
23	Equipment	Calorimetry and heating apparatus	1	800	800
24	Equipment	Independent temperature cutoff	1	400	400
25	Equipment	Approved heater controller	1	600	600
26	Equipment	Fixtures and insulated vessels	1	400	400
27	Equipment	Optical bench and alignment mounts	1	3,000	3,000
28	Equipment	Light sources and holders	1	2,000	2,000
29	Equipment	Optical sensors and meters	2	1,000	2,000

No.	Category	Item or requirement	Quantity	Unit cost USD	Total USD
30	Equipment	Motorized stage/filter assembly	1	2,000	2,000
31	Equipment	Optical sensor DAQ	1	1,000	1,000
32	Equipment	Filters, lenses and reference samples	1	2,000	2,000
33	Equipment	AFM including native scanner controller	1	78,000	78,000
34	Equipment	Vibration isolation allowance	1	5,000	5,000
35	Equipment	Probe starter stock	20	150	3,000
36	Equipment	Reference specimens and calibration standards	1	2,000	2,000
37	Equipment	Sample mounts and preparation kit	1	2,000	2,000
38	Computing	GPU allowance	6	800 to 1,600	6,400
39	Equipment	STM including low-noise native controller	1	35,000	35,000
40	Equipment	Vibration/acoustic isolation allowance	1	5,000	5,000
41	Equipment	Conductive reference samples	1	1,500	1,500
42	Equipment	Tip stock and preparation tools	1	2,000	2,000
43	Equipment	Sample holders and mounts	1	1,500	1,500
44	Equipment	Programmable UV-Vis with native acquisition	1	13,500	13,500
45	Equipment	Quartz cells	10	150	1,500
46	Equipment	Automated sample accessory allowance	1	2,000	2,000
47	Equipment	Standards, holders and sampling accessories	1	1,000	1,000
48	Equipment	FTIR with native acquisition	1	30,000	30,000
49	Equipment	ATR sampling accessory	1	5,000	5,000
50	Equipment	Raman with native detector/controller	1	45,000	45,000
51	Equipment	Raman enclosure and laser safeguards	1	8,000	8,000
52	Equipment	Reference standards	1	2,000	2,000
53	Equipment	Sample holders and preparation tools	1	2,000	2,000
54	Equipment	Mapping-stage allowance	1	3,000	3,000
55	Equipment	Automated titrator and native controller	1	15,000	15,000
56	Equipment	Sample changer	1	7,000	7,000
57	Equipment	Dosing/burette assemblies	2	1,500	3,000
58	Equipment	pH/conductivity probes	2	1,000	2,000
59	Equipment	Reagent/waste containment	1	1,000	1,000

No.	Category	Item or requirement	Quantity	Unit cost USD	Total USD
60	Equipment	Reference buffers and accessories	1	2,000	2,000
61	Equipment	Digital microscope optical system	1	6,000	6,000
62	Equipment	Microscope camera	1	2,500	2,500
63	Equipment	Motorized stage/focus controller	1	3,000	3,000
64	Equipment	Calibration slide	1	500	500
65	Equipment	Illumination accessories	1	1,000	1,000
66	Equipment	Prepared specimens and mounts	1	1,000	1,000
67	Equipment	Multimode reader with native controller	1	25,000	25,000
68	Equipment	Temperature-controlled incubation	1	3,500	3,500
69	Equipment	Precision pipette set	1	1,500	1,500
70	Equipment	Plate and reagent starter stock	1	1,500	1,500
71	Equipment	Temperature probes/logger	1	1,000	1,000
72	Equipment	Sample-preparation bench equipment	1	1,500	1,500
73	Equipment	Small ancillary assay equipment	1	1,000	1,000
74	Equipment	SEM with native imaging/detector controllers	1	210,000	210,000
75	Equipment	Specimen coating equipment allowance	1	12,000	12,000
76	Equipment	Preparation tools	1	10,000	10,000
77	Equipment	Stubs, standards and starter supplies	1	3,000	3,000
78	Equipment	Vacuum/chiller accessories allowance	2	10,000	20,000
79	Equipment	Sample fixtures	1	5,000	5,000
80	Equipment	Conventional TEM with native controls	1	520,000	520,000
81	Equipment	Digital TEM camera allowance	1	70,000	70,000
82	Equipment	Thin-specimen preparation allowance	1	30,000	30,000
83	Equipment	Holders and reference specimens	1	15,000	15,000
84	Equipment	Grids and preparation supplies	1	5,000	5,000
85	Equipment	Multi-channel DAQ development kit	1	3,000	3,000
86	Equipment	Wireless gateway/receivers	1	1,000	1,000
87	Equipment	Voltage/current/light sensor assortment	1	1,200	1,200
88	Equipment	Calibration references	1	1,000	1,000
89	Equipment	Isolated I/O and protection	1	1,500	1,500
90	Equipment	Cables and connectors	1	800	800
91	Subtotal	All station items			1,598,000

No.	Category	Item or requirement	Quantity	Unit cost USD	Total USD
92	Shared capital	Portal development (hours)	300	50	15,000
93	Shared capital	Secure server/gateway configuration (hours)	100	50	5,000
94	Shared capital	Platform testing/documentation (hours)	100	50	5,000
95	Shared capital	Managed network switch	1	1,500	1,500
96	Shared capital	Firewall and security appliance	1	1,500	1,500
97	Shared capital	Network installation/cabling	1	2,500	2,500
98	Shared capital	Backup connectivity hardware/setup	1	2,500	2,500
99	Shared capital	Storage and backup server	1	6,500	6,500
100	Shared capital	Backup storage/media	1	3,500	3,500
101	Shared capital	Shared analysis server CPU/RAM/SSD	1	6,000	6,000
102	Shared capital	Shared GPU	1	4,500	4,500
103	Shared capital	Server accessories/networking	1	1,500	1,500
104	Shared capital	Controller UPS units	13	700	9,100
105	Shared capital	Surge protection and power management	1	5,900	5,900
106	Shared capital	Electrical/earthing upgrades allowance	1	20,000	20,000
107	Shared capital	Cooling/ventilation allowance	1	25,000	25,000
108	Shared capital	Isolation/room preparation allowance	1	15,000	15,000
109	Shared capital	Benchwork and utility connections	1	15,000	15,000
110	Subtotal	Shared capital subtotal			145,000
111	Year-one operations	Technical coordinator	12	2,000	24,000

No.	Category	Item or requirement	Quantity	Unit cost USD	Total USD
112	Year-one operations	Laboratory technicians	24	1,500	36,000
113	Year-one operations	Administrative/access coordination	12	500	6,000
114	Year-one operations	Employer costs/training allowance	1	4,000	4,000
115	Year-one operations	SEM service provision	1	20,000	20,000
116	Year-one operations	TEM service provision	1	35,000	35,000
117	Year-one operations	AFM/STM service provision	1	10,000	10,000
118	Year-one operations	Other calibration/service	1	10,000	10,000
119	Year-one operations	Chemistry consumables	1	8,000	8,000
120	Year-one operations	Biology consumables	1	7,000	7,000
121	Year-one operations	Microscopy consumables	1	8,000	8,000
122	Year-one operations	Physics consumables	1	2,000	2,000
123	Year-one operations	Internet services	12	700	8,400
124	Year-one operations	Hosting/data services	12	300	3,600
125	Year-one operations	Electricity/water/cooling	12	1,500	18,000
126	Year-one operations	Recurring licences/support	1	10,000	10,000
127	Subtotal	Year-one operations subtotal			210,000
128	Scope to confirm	Biology temperature-probe count	To confirm	Included	Included
129	Scope to confirm	Biological sample-preparation components	To confirm	Included	Included
130	Scope to confirm	Thin-specimen preparation components	To confirm	Included	Included
131	Scope to confirm	Additional safety equipment and PPE	To confirm	TBD	TBD

No.	Category	Item or requirement	Quantity	Unit cost USD	Total USD
132	Scope to confirm	Chemical/biological waste disposal beyond consumables	To confirm	TBD	TBD
133	Scope to confirm	Specialist microscopy staffing beyond staffing allowance	To confirm	TBD	TBD
134	Scope to confirm	Packing and international freight	To confirm	TBD	TBD
135	Scope to confirm	Cargo insurance	To confirm	TBD	TBD
136	Scope to confirm	Customs clearance and applicable duties/taxes	To confirm	TBD	TBD
137	Scope to confirm	Vendor travel beyond commissioning scope	To confirm	TBD	TBD
138	Scope to confirm	Institutional client laptops/headsets if required	To confirm	TBD	TBD
139	Scope to confirm	Major construction or excess facility upgrades	To confirm	TBD	TBD
140	Scope to confirm	Specialized biosafety infrastructure if required	To confirm	TBD	TBD
141	Summary	Priced capital before contingency			1,743,000
142	Summary	Contingency on priced capital	15%		261,450
143	Summary	Priced capital including contingency			2,004,450
144	Summary	First full operating year			210,000
145	TOTAL	Priced capital and one operating year			2,214,450