

Tabla 1

Presupuesto por distrito						
Equipamiento referencia Fab Lab MIT	100000	(ver hoja anexa)				
Sueldo técnico mañanas	35000					
Sueldo técnico tardes	35000					
Adecuación del espacio	70000					
Gastos fijos año 1	18000					
Gastos fijos año 2	25000					
Coste por espacio individual	283000					
Total 21 Distritos	5943000					

Tabla 1

fab lab inventory : Fab Lab Inventory									
	1/2/2019	(all prices list)	List Unit Price	List Extended	VENDOR TOTAL	Country of Origin	Schedule B Tariff Code	Notes	
	Download as Excel file								
		Estimated cost assuming Epilog Mini24 with Sentry filter, Roland SRM20, Roland GS-24, 3Dwox printer (These are the most common and standard options. Other lasers, small milling machines, vinyl cutters and 3D printers listed here are viable but non-standard options):							
	Fab Lab http://mtm.cba.mit.edu/	#REF!							
	Fab labs have a recommended list of capabilities. These include a laser cutter for making 3D structures from 2D designs, a large CNC mill for making furniture and housing, a NC knife and smaller mini-mill for making circuits and molds for casting, 3D printers, an electronics workbench, and a suite of tooling and materials that allows anyone, anywhere to make almost anything. Below please find our recommendations for equipping your fab lab. If you invest in the below list completely, including materials, your lab can participate in the global Fab Academy.								
	For a laser system we recommend one of the following (Choose laser + ventilation or Filter system):								
		For USA purchases please contact Mark Schwarz, 303-277-1188, Marks@epiloglaser.com . Tell him you want MIT Fab Lab Laser							
		For International please contact Bob Henry, boh@epiloglaser.com . Tell him you want MIT Fab Lab Laser							
	http://www.epiloglaser.com/								
	1	Mini 24-40W 40Watt CO2 Laser system (2 yr warranty bumper to bumper) 12"X24" bed	14,495.00	14,495.00		USA	8456.10.80.00		
		Depending on where you are in the world, you can buy							
	1	Floor Stand	595.00	595.00		USA	9403.20.0020		
	1	Air Assist Pump	300.00	300.00		USA	84.56		
	1	Spare parts kit	2,495.00	2,495.00		USA	84.56		
		Rotary Attachment (for etching with round objects)	1,150.00	1,150.00		USA	84.56		
	1	shipping	250.00	250.00					
					Epilog:				
					\$19,285.00				
		Sentry Air Systems for Epilog (HEPA filter for internal filtration)							
	http://www.sentryair.com/								
	1	SS-400-PFS High Flow Portable Floor Sentry Filtration system, Includes CFP, HEPA and 22LB Carbon filters, 2 yr warranty	2,981.00	2,981.00		USA	8421.39.8005		
	1	Extra filters CFP + HEPA + 22 Lb Carbon ***CHECK ADAPTER FOR DUCT INLET***	2,235.38	2,235.38	SAS total:	USA	8421.39.8005		
					\$5,216.38				
		For venting outside (No HEPA)							

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			(Also need aluminum duct section, see 5400K3 under McMaster order)								
		1	DC250SEMB	395.00	395.00					Outdoor venting:	
										39,500 \$	
			<i>Other Epilog Options:</i>								
			<i>OPTION:</i>								
		1	Helix 24-75W	24,995.00	24,995.00			USA		8456.10.80.00	
			75Watt CO2 Laser system (2 yr warranty bumper to bumper) 18"X24" bed Comes with Stand								
		1	Air Assist Pump	300.00	300.00			USA		84.56	
		1	Spare parts kit	2,495.00	2,495.00			USA		84.56	
			Air Assist Pump Spare Parts Kit								
		1	Rotary Attachment (for etching with round objects)	1,150.00	1,150.00			USA		84.56	
		1	shipping	350.00	350.00						
			rim style rotary attachment shipping								
			<i>Ventilation is the same as above, requires either SAS Hepa or external blower</i>								
										\$29,290.00	
			<i>OPTION:</i>								
		1	Fusion M2 32 CO2 Laser system	31,995.00	31,995.00			USA		8456.10.80.00	
			75W CO2 Laser system (2 yr warranty bumper to bumper) 32"X20" bed Comes with Stand								
		1	Air Assist Pump	300.00	300.00			USA		84.56	
		1	Spare parts kit	2,495.00	2,495.00			USA		84.56	
			Air Assist Pump Spare Parts Kit								
		1	Rotary Attachment (for etching with round objects)	1,495.00	1,495.00			USA		84.56	
		1	shipping	500.00	500.00						
			rim style (3-jaw style also available) shipping								
			<i>Ventilation requires 650 CFM</i>								
										\$36,785.00	
			BOFA Ventilation								
		1	Filtration system part #L0661A	5,130.00	5,130.00						
			Bofa Advantage 500 IQ systems								
		1	DHK-AD500IQ-4	252.00	252.00						
			Std hose Connection kit 2 ports, 4"								
		4	A1030222	455.00	1,820.00						
			Year of Deep pleat Pre-filter supply (one is included in purchase)								
		2	A1030297	891.00	1,782.00						
		1	Shipping	300.00	300.00						
			Year of Combined Filter supply (one is included in purchase)								
										\$9,284.00	
			<i>OPTION:</i>								
		1	Fusion M2 32 50 watt CO2/20 watt Fiber	45,995.00	45,995.00			USA		8456.10.80.00	
			50W CO2/20 Watt Fiber Combo Laser system (2 yr warranty bumper to bumper) 32"X20" bed Comes with Stand								
		1	Air Assist Pump	300.00	300.00			USA		84.56	
		1	Spare parts kit	2,495.00	2,495.00			USA		84.56	
			Air Assist Pump Spare Parts Kit								
		1	Rotary Attachment (for etching with round objects)	1,495.00	1,495.00			USA		84.56	
		1	shipping	500.00	500.00						
			rim style (3-jaw style also available) shipping								
			<i>Internal Ventillation requirements are different for Fusion:</i>								
										\$50,785.00	
		1	Filtration system part #L0661A	5,130.00	5,130.00						
			Bofa Advantage 500 IQ systems								
		1	DHK-AD500IQ-4	252.00	252.00						
			Std hose Connection kit 2 ports, 4"								
		4	A1030222	455.00	1,820.00						
			Year of Deep pleat Pre-filter supply (one is included in purchase)								
		2	A1030297	891.00	1,782.00						
		1	Shipping	300.00	300.00						
			Year of Combined Filter supply (one is included in purchase)								
										\$9,284.00	

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			US Sales: Rachel Dreher, Marketing and Sales Trotec Laser Inc., Rachel.Dreher@troteclaser.com, +1 (734) 927 6312															
		TROTEC LASERS	International Sales: Petra Buresch, Int. Product Marketing Petra.buresch@troteclaser.com + 43 7242/239 7341															
			http://www.troteclaser.com/															
		OPTION:																
		1 Speedy 100	60W CO2 Laser System, 24"X12". Includes cutting table, air assist, 2 yr warranty	17,900.00	17,900.00													
		1 Table Stand	Table Stand	450.00	450.00													
		1 Option: Built in Air Assist (including pump)	Option: Built in Air Assist	700.00	700.00													
			Trotec Exhaust System for 100															
		1 Atmos Mono		3,900.00	3,900.00													
		1 Atmos Mono/ Duo Filter		495.00	495.00													
			OPTION:															
		1 Speedy 400 (CO2)	80W CO2 Laser System, 39"X24" bed, includes cutting table, air assist, Trolley base, 2 yr warranty	32,900.00	32,900.00													
		1 Option: Built in Air Assist (including pump)		690.00	690.00													
			Trotec Exhaust System for 400															
		1 Atmos Duo		4,900.00	4,900.00													
		1 Atmos Mono/ Duo F9 Filter		495.00	495.00													
			OPTION:															
			TROTEC: Leasing options are available. We can put you in contact with our leasing firm. Leasing – usually requires first and last month as a down payment. Rate is HIGHLY dependent upon credit check.															
		GCC LASERS	For GCC lasers please contact: Asia: sales@gcc.com.tw , America: sales@gccamerica.com , Europe: sales@gccworld.com															
			http://www.gccworld.com/															
		OPTION:																
		1 560-0008	GCC LaserPro Spirit LS CO2 Laser Cutter/ Engraving system, 40 Watt CO2 Laser system, bed size 29"X18", 2 yr warranty	22,200.00	22,200.00													
		1 560-0417	CorelDraw X7 Graphics Software, 1 seat	100.00	100.00													
		1 560-0100	LaserPro Honeycomb Cutting Table	480.00	480.00													
		1 560-0400	TEC Internal compressor	500.00	500.00													
		1 Spare parts kit (for remote locations)	Spare parts kit	2,491.00	2,491.00													
		1 Tech support if desired	Tech support if desired	2,000.00	2,000.00													
		1 3Yr Extended Warranty	3Yr Extended Warranty	900.00	900.00													
		1 shipping	shipping	600.00	600.00													
			OPTION:															
			Fume Extractor for GCC LSPRO Spirit															

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			BOFA Oracle IQ L1974-8205Chemical air filtration unit with hose kit and filters	3,149.00	3,149.00						
		4	560-0332 BOFA Orable Extra Replacement Labrynth Filter	198.00	792.00						
		2	560-0333 BOFA Orable Extra Replacement Main Hepa/Chemical Filter	317.00	634.00						
		1	shipping	300.00	300.00					GCC BOFA:	
										\$4,875.00	
			<i>OPTION:</i>								
		1	560-0051 GCC LaserPro C180 II- 40 Watt, 18" x 12"	16,900.00	16,900.00						
		1	560-0417 CorelDraw X7 Graphics Software, 1 seat (included)	-	-						
		1	560-0100 LaserPro Honeycomb Cutting Table	360.00	360.00						
		1	560-0400 GCC Compressor for Air Assist	500.00	500.00						
		1	Spare parts kit (for remote locations)	2,143.00	2,143.00					GCC LaserPro:	
										\$19,903.00	
			For Large CNC we recommend:								
			ShopBot								
			http://www.shopbotbots.com/								
			There are 2 versions, an open loop and a closed loop. The closed loop is more expensive, but preferable if you can afford it.								
			Open Loop ShopBot: You need to purchase the first three (3) parts. E-Chain optional but recommended								
		1	Open Loop ShopBot: PRSstandard9 6 96x48x8in: 220V 4HP spindle:	13,335.00	13,335.00		USA			8465.92.0090	
		1	Router Bit Starter Kit:	3,495.00	3,495.00		Italy			8466.92.0020	
		1	195.00 E-Chain X96 Kit - Cable carrier system for 96"-axis PRS tools	195.00	195.00		USA			8466.92.0020	
		1	380.00 Crating for Intl shipping	380.00	380.00		USA			8466.92.0020	
			Shipping fees: determined on a case by case basis	450.00	450.00					Shopbot Open Loop:	
										0.00	\$17,855.00
			<i>Closed Loop ShopBot:</i>								
		1	PRSalpha96 Includes E-Chain X96 Kit carrier sys	18,380.00	18,380.00		USA			8465.92.0090	
		1	Crtl Box 1 Spindle	200.00	200.00		USA			8466.92.0020	
		1	HSD 4HP 220V spindle	3,459.00	3,459.00		Italy			8466.92.0020	
		1	Router Bit Starter Kit:	195.00	195.00		USA			8466.92.0020	
			Crating for Intl shipping	450.00	450.00					Shopbot Closed Loop:	
			Shipping: determined on a case by case basis							1	\$22,684.00
			<i>The ShopBot requires a hefty dust collector. Please see: https://www.utterguys.com</i>								
		1	33828 Shop Fox W1666—2 HP 1550 CFM Dust Collector	483.00	483.00					Dust Collector:	8421.39.8005
		1	D4572 Upper micron bag (don't get it wet, you can clean these with compressed air)	49.00	49.00						
		2	D4573-5pk Lower plastic bags	35.00	70.00					60.200 \$	

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		5	57-240	1/8" Solid Carbide Two Flute Downcut for Woods	23.65	118.25		USA		820900	
		2	52-280	1/4" Solid Carbide Two Flute Upcut for Wood and Soft Plastic	26.70	53.40		USA		820900	
		2	57-287	1/4" Solid Carbide Two Flute Downcut for Woods	30.75	61.50		USA		820900	
		1	57-367	1/2" Solid Carbide Two Flute Downcut for Woods	84.00	84.00		USA		820900	
		2	37-61	1/2" Carbide Tipped Two Flute Up-shear V Flute For V-Grooving or Beveling 90° for Plastics, Solid Surface, Composites, Laminated and Veneered Materials	18.75	37.50		USA		820900	
		1	52-244BL	1/8" Solid Carbide Two Flute Upcut Ballnose (Extended Length) for Plastics, Solid Surface, Aluminum, and Wood	55.45	55.45		USA		820900	
		1	52-280BL	1/4" Solid Carbide Two Flute Upcut Ballnose (Extended Length) for Plastics, Solid Surface, Aluminum, and Wood	62.65	62.65		USA		820900	
		1	52-360BL	1/2" Solid Carbide Two Flute Upcut Ballnose (Extended Length) for Plastics, Solid Surface, Aluminum, and Wood	128.80	128.80		USA		820900	
		2	56-041	1/8" Solid Carbide Two Flute Straight V Flute for Composites, Hard and Soft Plastics, Solid Surface	26.25	52.50		USA		820900	
		2	56-082	1/4" Solid Carbide Two Flute Straight V Flute for Composites, Hard and Soft Plastics, Solid Surface	28.90	57.80		USA		820900	
		1	64-000	1/16" Solid Carbide One Flute Downcut Super O Flute for Plastic, Wood, Aluminum, Solid Surface	34.05	34.05		USA		820900	
										Onsrud:	
										\$1,174.55	
				For NC Mini-Mill we recommend one of the following:							
				Roland- This model is Fab Academy standard							
				http://www.rolanddga.com/monofab							
		1	SRM-20	SRM-20 (milling machine (X) 8 in x (Y) 6 in x (Z) 2.38 in(203.2 (X) x 152.4 (Y) x 60.5 (Z) mm)	4,995.00	4,995.00		USA/Japan		8465.92.0090	
		1	SS-20	SRM-20 Spindle Unit replacement part	259.99	259.99		USA/Japan			
		1	SM-20	SRM-20 Spindle Motor replacement part	167.98	167.98		USA/Japan			
		1	ZC-20-32	3.2mm-1/8in SRM Collet	64.99	64.99					
		1	shipping	shipping	80.00	80.00			Roland SRM20:		
									\$5,567.96		
				OPTION:							
				http://www.rolanddga.com/							
		1	MDX-40A	(milling machine (X) 12 in x (Y) 12 in x (Z) 4.125 in (305 (X) x 305 (Y) x 105 (Z) mm)	7,995.00	7,995.00		USA/Japan		8465.92.0090	

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1	ZCL-40A	Rotary 4th Axis unit 4.7 in.(120 mm) diameter by 10.6 in. (270 mm) long	3,695.00	3,699.00		USA/Japan				
1	ZDX-40	Dust Box for MDX-40	509.99	509.99		USA/Japan				
1	shipping	shipping	80.00	80.00						
										Roland MDX-40A: \$12,283.99
		OPTION: http://www.rolanddga.com/ MDX-540 (milling machine 19.6(X) x 15.7(Y) x 6.1"(Z) [500 (X) x 400 (Y) x 155 mm (Z)])								
1			20,995.00	20,995.00		USA/Japan		8465.92.0090		
1	ZCL-540	Rotary 4th Axis 7.0" Diameter x 14.6" Length [177.8mm Diameter x 370.8mm Length]	5,099.00	3,699.00		USA/Japan				
1	ZBX-540E	Safety enclosure	1,539.00	1,539.00		USA/Japan				
1	shipping	shipping	80.00	80.00						
										Roland MDX-540: \$26,313.00
		Roland (this is the Fab Academy standard) http://www.rolanddga.com								
1	GS-24 CAMM-1 SERVO vinyl cutter 2" - 27.5" 5.08cm - 69.85cm 19.69 IPS 30gf - 350gf		1,995.00	1,995.00		USA/Japan		8477.80.0000		
1	shipping	shipping	80.00	80.00						
		Roland Blades VMI Sales								\$2,075.00
		http://www.vmisales.com/plotter_blades/ Roland 45 Degree Plotter Blades, 5 pack	32.50	162.50		USA		8443.99.5600		
										VMI Sales: 16.250 \$
		Carbide Depot http://www.carbide-depot.com/precision_milling_tooling:								
10	GT 11550	0.0100" DIA 220M .010	16.43	164.30		USA		820900		
25	CU 129974	0.0156" DIA 2FL SE AITIN 1/64	14.94	373.50		USA		820900		
10	CU 129985	0.0312" DIA 2FL SE AITIN 1/32	10.10	101.00		USA		820900		
10	CU 130007	0.0625" DIA 2FL SE AITIN 1/16	7.31	73.10		USA		820900		
10	CU 130029	0.0938" DIA 2FL SE AITIN 3/32	7.31	73.10		USA		820900		
10	CU 130051	0.1250" DIA 2FL SE AITIN 1/8	6.80	68.00		USA		820900		
10	CU 137520	0.1250" DIA 2FL SE XL AITIN 1/8	14.47	144.70		USA		820900		
10	CU 132042	0.0156" DIA 2FL BALLNOSE AITIN 1/64	16.74	167.40		USA		820900		
10	CU 132053	0.0312" DIA 2FL BALLNOSE AITIN 1/32	10.39	103.90		USA		820900		
10	CU 132075	0.0625" DIA 2FL BALLNOSE AITIN 1/16	10.00	100.00		USA		820900		
10	CU 132097	0.0938" DIA 2FL BALLNOSE AITIN 3/32	10.51	105.10		USA		820900		
10	CU 132119	0.1250" DIA 2FL BALLNOSE AITIN 1/8	9.63	96.30		USA		820900		
10	CU 138180	0.1250" DIA 2FL SE BALLNOSE XL AITIN 1/8	17.24	172.40		USA		820900		
										Carbide Depot: \$1,742.80
		Amazon voltage agnostic soldering iron (to get in addition to standard wellers):								

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		https://www.amazon.com/UY-CHAN-Programmable-Pocket-size-Acceleration/dp/B01MDTO6X7	3	TS100 Digital OLED Programmable Soldering Iron	65.98	197.94													
		https://www.amazon.com/NOYITO-100-240V-Transformer-Interface-Suitable/dp/B07BDHMK9P/	3	TS100 24V, 3A, 110-220V Power Supply	14.99	44.97													
		https://www.amazon.com/UY-CHAN-Original-Soldering-Replacement/dp/B06XYG66ZB?th=1	2	TS100 I-tip	15.98	31.96													
		https://www.amazon.com/UY-CHAN-Original-Soldering-Replacement/dp/B06XYQG2CR?th=1	2	TS100 B2-tip	15.98	31.96													
		<i>solder fume extraction:</i> https://www.amazon.com/uxcell-120mm-Industrial-Cooling-Airflow/dp/B077GKB9DG	2	24VDC 2.5A 120mm fan	25.99	51.98													
		https://www.amazon.com/Valtcan-Activated-Xytronic-Absorber/dp/B079D5W2C2/	1	130mm x 130mm activated carbon filter	13.32	13.32													
		<i>cutting:</i> https://www.amazon.com/Honda-Cutters-ZO-41-ultrasonic-cutter/dp/B00KCAKZ7G	1	ZO-41 ultrasonic cutter	41.48	41.48													
		<i>fixturing: (Carpet Tape)</i> https://www.amazon.com/Intertape-Polymer-Group-9970-1-88-Inches/dp/B00011EHK0/ref=mp_s_a_1_fkmr0_2?ie=UTF8&qid=1538510961&sr=8-2-fkmr0&pi=AC_SX236_SY340_QL65&keywords=Intertape+9970+Indoor+Carpet+Tape+1.87-Inches+x+36-Yards	5	Intertape 9970 Indoor Carpet Tape 1.87-Inches x 36-Yards	12.95	64.75	USA	3919.10.2010											
		<i>art cutting board</i>																	

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		https://www.amazon.com/X-ACTO-Self-Healing-Cutting-Non-Stick-Bottom/dp/B000789P74/ref=sr_1_4?ie=UTF8&qid=1538602342&sr=8-4&keywords=art+cutting+board	X-ACTO Self-Healing Cutting Mat, Non-Stick Bottom, Gray, 18x24 Inches	1	14.87	14.87	USA	?			
		https://www.amazon.com/Cutting-Nicapa-replacement-cutting-3pack/dp/B073NZ8LPF/ref=sr_1_2?ie=UTF8&qid=1538602563&sr=8-2&keywords=Vinyl+Cutter+Carrier+Sheet+Cutting+Mat	Vinyl Cutter Carrier Sheet Cutting Mat	1	24.99	24.99	USA	?			
		<i>measuring:</i>									
		01407A	Neiko Stainless Steel 6-Inch Digital Caliper with Extra-Large LCD Screen	5	16.99	84.95	China	9017.30.40.00			
		B001FDOJC Q	10 pk LR44 cell battery for caliper	1	1.21	1.21	China	8506.10.0000			
		<i>inspection:</i>									
		44302	Celestron 44302 Handheld Digital Microscope	1	39.99	39.99	China	9011.80.0000			
		<i>laser cutter lens cleaning:</i>									
		74887544100	Zeiss Pre-Moistened Lens Cloths Wipes 400 Ct	1	25.99	25.99	USA	34.02			
		<i>laser cutter fire safety:</i>									
		B00IYCE7IC	Hot Headz Fire Blanket, 36 x 36-Inch, Red	1	17.97	17.97					
		<i>heat gun nozzles</i>									
		https://www.amazon.com/WELLER-TOOLS-HEATGUN-NOZZLE-1piece/dp/B00DJW4D90/	WELLER 6958 TOOLS, HEATGUN NOZZLE (1 piece)	5	12.94	64.70					
		<i>video conference:</i>									
		Logitech C920	HD Pro Webcam, 1080p Widescreen Video Calling and Recording	2	73.32	146.64	USA	8525.80.00.35			
		Logitech P710e	Mobile Speakerphone with Enterprise-Quality Audio	2	141.00	282.00	USA	8518.10			
		<i>video monitor:</i>									
		BWCMO363	4.3" Color TFT Monitor	1	19.52	19.52	China	8528.59.0100			
		<i>design:</i>									
		CTL471	Wacom Bamboo Splash Pen Tablet	2	42.99	85.98	Japan	8471.60			
		P-SDX128U1H-GE	PNY Elite Performance 128GB High Speed SDXC Class 10	5	49.99	249.95					
		B00LLEODC K	SanDisk Ultra Fit CZ43 64GB USB 3.0 Low-Profile Flash Drive	5	27.49	137.45					

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		https://www.amazon.com/SanDisk-microSDXC-Standard-Packaging-SDSQUNC-064G-GN6MA/dp/B010Q588D4	SanDisk Ultra 64GB microSDXC UHS-I Card with Adapter, Grey/Red, Standard Packaging (SDSQUNC-064G-GN6MA)	5	21.99	109.95													
		<i>project documentation:</i>																	
		https://www.amazon.com/dp/B01MGRBY4	Sony Cyber-shot DSC-RX100 V 20.1 MP Digital Still Camera w/ 3" OLED	1 X	998.00	998.00		Taiwan	8525.80.4000										
		<i>structured light scanning</i>																	
		B00D73RWN	IncrediSonic Pico Projector Vue Series PMJ-500 3D DLP	1 A	549.95	549.95		USA											
		Logitech C920	HD Pro Webcam 1080p	1	67.99	67.99		USA	8525.80.00.35										
		Sunpak 620-1212DC	Tripod	1 C	11.99	11.99		Japan	85.29										
		<i>projector:</i>																	
		1 H180X	Optoma H180X	1	450.17	450.17		USA	8528.61.00.00										
		<i>speakers:</i>																	
		1 M1Active 320	Alesis USB Studio Monitor Pair	1	79.99	79.99		USA	8518.22.0000										
		<i>radio modules:</i>																	
		https://www.amazon.com/NRF905-Wireless-Transmitting-Receiver-1-9-3-6V/dp/B00HR69SE	2pcs NRF905 GFSK Wireless Transmitting Receiver Module 1.9-3.6V	5 Q	14.57	72.85													
		https://www.amazon.com/DIYmall-Transceiver-Antistatic-Compatible-Raspberry/dp/B01DD5IV0Y	DIYmall nRF24L01+ 2.4GHz Wireless Transceiver 2pcs	10	6.45	64.50													
		https://www.amazon.com/DiyMall-Bluetooth-Module-Anti-lost-Android/dp/B00O2TTUE	Hm11 Bluetooth 4.0 BLE Module	10 W	11.99	119.90													
		https://www.amazon.com/Esp8266-Esp-12e-Wireless-Transceiver-IFANCY-TECH/dp/B01GZ0687C	Esp8266 Esp-12e Serial Wifi Wireless Transceiver Module (Pack of 2)	10	9.99	99.90													
		https://www.amazon.com/Hil_etgo-Internet-Development-Wireless-Micropython/dp/B010N1SPR	HiLetgo 2pcs ESP8266 NodeMCU LUA CP2102 ESP-12E Internet WiFi Development Board Open Source Serial Wireless Module Works Great with Arduino IDE/ Micropython (Pack of 2PCS)	5 K	12.99	64.95													
		https://www.amazon.com/ESP-WROOM-32-ESP-32S-Bluetooth-Consumption-Development/dp/B07BDLM5B	ESP32 Bluetooth and WIFI Dual Core CPU (5 PCS)	2 I	24.99	49.98													

fab lab inventory : Fab Lab Inventory														
		https://www.amazon.com/HiLetgo-ESP-WROOM-32-Development-Microcontroller-Integrated-dp/B0718T232Z	HiLetgo ESP-WROOM-32 ESP32 ESP-32S Development Board 2.4GHz Dual-Mode WiFi + Bluetooth Dual Cores Microcontroller Processor Integrated with Antenna RF AMP Filter AP STA	5	10.99	54.95								
		http://www.amazon.com/SunFounder-Ultrasonic-Distance-Mega2560-Duemilanove-dp/B00E0NXTJW	2 pcs Ultrasonic Module HC-SR04 Distance Sensor	5	8.99	44.95								
		http://www.amazon.com/J-deal%2%A-E-Pyroelectric-Infrared-Detector-Hcsr501/dp/B013LA6MW0	Pyroelectric Infrared PIR Motion Sensor Detector Module Hcsr501 (5pcs)	5	8.48	42.40								
		http://www.amazon.com/sunkee-OV7670-640X480-Compatible-Interface/dp/B00AZWVZK	Yosoo VGA OV7670 Camera Module Lens CMOS 640X480 SCCB Compatible W/ I2C Interface	5	8.27	41.35								
		https://www.amazon.com/CanaKit-Raspberry-3-B-Plus-Starter-Premium-Black/dp/B07BCC8PK	CanaKit Raspberry Pi 3 B+ (B Plus) Starter Kit (32 GB EVO+ Edition, Premium Black Case)	5	79.99	399.95								
		https://www.amazon.com/CanaKit-Raspberry-Wireless-Complete-Starter/dp/B072N3X39J	CanaKit Raspberry Pi Zero W (Wireless) Complete Starter Kit - 16 GB Edition	5	32.99	164.95								
		http://www.amazon.com/SunFounder-Project-Universal-Starter-Mega2560/dp/B00D9MK150/ref=sr_1_2?ie=UTF8&qid=1463685906&sr=8-2&keywords=breadboard+starter+kit	Breadboard starter kit w/ components	2	19.99	39.98								
		https://www.amazon.com/dp/B073JWXGN	Sandisk Ultra 32GB Micro SDHC UHS-I Card with Adapter - 98MB/s U1 A1 - SDSQUAR-032G-GN6MA	10	12.99	129.90								
		https://www.amazon.com/NETGEAR-R6700-Nighthawk-Gigabit-Ethernet/dp/B00R2AZLD2	NETGEAR R6700 Nighthawk AC1750 Dual Band Smart WiFi Router, Gigabit Ethernet (R6700)	2	99.99	199.98	USA	8517.62.0050						

fab lab inventory : Fab Lab Inventory														
	5	27143	Cables To Go - 27143 - 10ft CAT6 550Mhz Snagless Patch Cable Blue	3.91	19.55		USA	8544.42.0000						
	5	27145	Cables To Go - 27145 - 25ft CAT6 550Mhz Snagless Patch Cable Blue	3.86	19.30		USA	8544.42.0000						
	5	27166	Cables To Go - 27166 - 50ft CAT6 550Mhz Snagless Patch Cable White	11.25	56.25		USA	8544.42.0000						
			<i>printing:</i>											
	1		Canon Office Products PIXMA MX922 Wireless Color Photo Printer with Scanner, Copier and Fax MX 922 ***THIS IS OBSOLETE** *	99.99	99.99		China	8443.32.1040						
	2	B00ATZ9JZI	Canon CLI-251 BK/CMY 4 PK Value Pack Ink for Canon InkJet Printers	44.99	89.98		USA	8443.91.1000						
	2	B00AH9JVLS	Canon Ink PGI-250 PGBK XL Individual Ink Tank	22.99	45.98		Japan	3215.11						
	2	0775B023	Canon Photo Paper Glossy, 8.5 x 11 Inches, 50 Sheets	20.53	41.06		Japan	4802.62						
	5	54-301	Mohawk 100% Recycled Color Copy/Laser Paper, 96 Brightness, 28 lb, Letter Size (8.5 x 11), 500 Sheets (54-301)	11.43	57.15		USA	4802.62						
			<i>large format printing:</i>											
	1		https://www.amazon.com/imagePROG-RAF-iPF670-Large-Format-Printer/dp/B00SNLCTMK	945.00	945.00									
	1		https://www.amazon.com/HP-Inkjet-Plotter-Paper-24x150/dp/B005JZDGDK	38.95	38.95									
	1		https://www.amazon.com/Canon-PFI-107-130-ml-Tank-iPF670/dp/B00VWQH1NA	330.00	330.00									
	4	B000GOZXA	Mini Sharpie 4 pack	5.49	21.96			9608.20.0000						
			<i>hot glue</i>											
	1		https://www.amazon.com/dp/B07BNSFTN	16.99	16.99									
			<i>lighting:</i>											
	4	B006LW331E	5M Waterproof 5050 SMD 300 Epoxy LED Strip Light White	11.55	46.20			8541.40.2000						
			<i>air compressor fittings</i>											

fab lab inventory : Fab Lab Inventory																				
		https://www.amazon.com/WEN-2290-Compressor-Accessory-20-Piece/dp/B000HE8BMS	1	WEN 2290 Air Compressor Accessory Kit, 20-Piece	21.99	21.99	China	3917.31.0000												
		labeller and label tape:																		
			1	Model PT18R Brother PT-18R Rechargeable Label Maker	105.58	105.58	China	84.43												
			2	Model TZe231 Brother 1/2" 12mm Black on White tape 2pack	18.95	37.90	China	3919.10												
			3	Model TZe221/ Brother 3/8" 9mm Black on White tape	11.01	33.03	China	3919.10												
			3	Model TZe241 Brother 3/4" 18mm Black on White tape	12.28	36.84	China	3919.10												
			3	Model TZe211 Brother 1/4" 6mm Black on White tape	8.71	26.13	China	3919.10												
			5	M B00NH124V Micro USB cable 6ft	4.79	23.95	China?	847330												
			5	A B00NH11N5 Mini USB cable 6ft	4.27	21.35	China?	847330												
			5	2 B00NH13DV USB cable A to B, 10ft	5.49	27.45	China?	847330												
			5	U B00C7SA21 USB 3.0 10ft Extension	6.49	32.45	China?	847330												
		degassing																		
		http://www.amazon.com/Beil-Art-Scienceware-F42010-Polypropylene-Desiccator/dp/B002VBW9R8/	1	Vacuum Chamber (Polycarbonate, 24cm ID) for degassing silicone, etc.	101.84	101.84														
		velcro:																		
		https://www.amazon.com/iMBAPrice-Cable-Fastening-Tape-Yards/dp/B00FT2WHO6/	1	iMBAPrice Cable Fastening Tape - 0.75 inch One Wrap Hook & Loop (75 feet) 25 Yards/Roll - Black	15.95	15.95														
			3	Brother SA519 Iron On Backing Stabilizer	11.35	34.05														
			1	Whitmor 6152-5290-Tabletop-Ironing-Board	13.99	13.99														
			2	Fiskars 6x24 Inch Acrylic Ruler	10.49	20.98														
			1	Brother PE Design Plus Embroidery Digitizing/PhotoStitch Software Package	479.99	479.99														
			1	Plano Angled Tackle System	33.74	33.74														
			1	Prewound Bobbins for Brother Embroidery Machine Size A (156)	23.99	23.99														

fab lab inventory : Fab Lab Inventory												
	2	https://www.amazon.com/Pieces-SEWING-MACHINE-NEEDLES-ASSORTMENT/dp/B00W0RPQP0	50 Pieces HOME SEWING MACHINE NEEDLES ASSORTMENT (ORGAN 15X1 SIZE#9,11,14,16,18) 10pcs per size	9.99	19.98							
	2	https://www.amazon.com/Triangle-Tailors-Assorted-Colors-Quilting/dp/B00XI64MFC	Triangle Tailor's Chalk 10 Piece Assorted Colors	7.77	15.54							
	1	https://www.amazon.com/Emmakites-Ripstop-Fabric-Making-1-63-Oz/dp/B00ZPR32X	Ripstop Nylon Fabric 1.63Oz 40D 59" W X 36" L - PACK 14pcs of 14 Colors	67.95	67.95							
	1	https://www.amazon.com/Alvin-Professional-Cutting-Green-Black/dp/B0015ASN5S	Alvin 24 inches x 36 inches Green/Black Professional Self-Healing Cutting Mat	36.74	36.74							
	1	https://www.amazon.com/Fiskars-Contour-Rotary-Cutter-195210-1001/dp/B000B7M8W	Fiskars 45mm Contour Rotary Cutter	9.79	9.79							
	1	https://www.amazon.com/Rotary-Cutter-Blades-45mm-10-Pack/dp/B01CPPGBJQ	Rotary Cutter Blades 45mm 10-Pack	12.24	12.24							
	1	https://www.amazon.com/Singer-00349-Dressmaker-Pins-500-Count/dp/B00Y1DVRZ	Singer Dressmaker Pins, 500-Count (2)	6.88	6.88							
	2	https://www.amazon.com/dp/B00566E8DI	Singer Asst Safety Pins, Multisize, 250-Count	5.29	10.58							
	1	https://www.amazon.com/Rockland-Muslin-45-Inch-Unbleached-Natural/dp/B002PNPBLI	Rockland 92 by 76 Count Muslin, 44/45-Inch, Unbleached/ Natural	47.61	47.61							
	2	https://www.amazon.com/EasyWeed-Transfer-12-Color-Starter-BUNDLE/dp/B0127RTOYQ	SISER EasyWeed Heat Transfer Vinyl, 12 x 15" 12-Color Starter BUNDLE	30.20	60.40							
	1	https://www.amazon.com/Blasting-Abrasive-Media-Commercial-Cabinets/dp/B07CVK9NWX	8 lb Or 3.6 kg #7 Glass Bead Blasting Abrasive Media 60-80 Grit Or Commercial Spec No 7 for Blast Cabinets Or Sand Blasting Guns	29.95						USA		

fab lab inventory : Fab Lab Inventory															
		https://www.amazon.com/gp/product/B00QR09VTS/?ref=od_aui_detailpages00?ie=UTF8&psc=1	OREI 3 in 1 Italy Travel Adapter Plug with USB and Surge Protection - Grounded Type L - Italy & More - CE Certified - RoHS Compliant WPU-L-GN												
	20	110V/220V UPS:													
		https://www.amazon.com/CyberPower-CP1500AVRLCD-Intelligent-Outlets-Mini-Tower/dp/B000FBK3QK	CyberPower CP1500AVRL CD Intelligent LCD UPS System, 1500VA/900W, 12 Outlets, AVR, Mini-Tower	144.95	144.95										
	1	https://www.worldwidevoltage.com/ups-1000d.html	UPS 1000D 220-240Volt 50/60Hz Rated Power 1000VA/600W	134.99	0.00										
	0	Sandblaster: https://www.amazon.de/XXR-K%C3%96RNUNG-NUMMERNSC-HILD-POLIEREN-SANDBLASTER-BLASTER/dp/B00KNVRY8M/?ref=sr_1_fkmr1_2?ie=UTF8&qid=1538512799&sr=8-2-fkrm1&keywords=sand+blaster+cabinet+compressor	XXR TOOLS BEAD SAND GRIT BLAST BLASTING POLISHING PORTABLE BLASTER SANDBLASTER R 220V	112.25			DE		220V, EUR						
	0	****TRY TO SOURCE ELSEWERE (need to check connectors for whatever model we end up using)													
		https://www.amazon.com/OEMTOOLS-24815-Bench-Abrasive-Cabinet/dp/B00GXMFOV8/?ref=sr_1_3?ie=UTF8&qid=1540322982&sr=8-3&keywords=sandblast+cabinet	OEMTOOLS 24815 Bench Top Abrasive Blast Cabinet 110V	143.36											
	1	drilling: https://www.amazon.com/Makita-LXFD01CW-Lithium-Ion-Cordless-Driver-Drill/dp/B0046RE72K	Makita LXFD01CW 18-Volt Compact Lithium-Ion Cordless 1/2-Inch Driver-Drill Kit	295.99	295.99		USA		8467.21						
	1	https://www.worldwidevoltage.com/makita-dhp482rfwj.html	MAKITA DHP482RFWJ 18 V COMBI CORDLESS DRILL 220 VOLTS	250.00	0.00										
	0	scroll saw													
		https://www.amazon.com/dp/B000022313/?ref=psdc_9022388011_t1_B005UKGL58	DeWalt 20" Variable Speed Scroll Saw with Stand and Light FEIDER F405SC3F 125 W SCROLL SAW 220-240 VOLTS	489.00	489.00		Taiwan		8465.91.0049						
	1	https://www.worldwidevoltage.com/feider-f405sc3f.html		290.00	0.00										
	0	bandsaw													

fab lab inventory : Fab Lab Inventory														
		https://www.amazon.com/WEN-3962-Two-Speed-Stand-Worklight/dp/B016VD8GA	WEN 3962 Two-Speed Band Saw with Stand and Worklight, 10"	1	248.85	248.85		China	8465.91.0012					
		https://www.worldwidevoltage.com/scheppach-430456.html	SCHEPPACH 430456 BAND SAW, 230 VOLTS	0	245.01	0.00								
		https://www.amazon.com/Bosch-CS10-7-1-4-Inch-Circular-Saw/dp/B0001X21PS/	Bosch CS10 7-1/4-Inch 15 Amp Circular Saw	1	99.00	99.00								
		https://www.worldwidevoltage.com/bosch-gks-65-220v-7-1-4-inch-circular-saw.html	BOSCH GKS65 220V 7-1/4 INCH CIRCULAR SAW 220 VOLT 50 HZ NOT FOR USA	0	255.00	0.00								
		http://www.amazon.com/DeWalt-DXCMPA198-2054-20-Gallon-Portable-Air-Compressor/dp/B00CAI5I1Y/ref=sr_1_1?ie=UTF8&qid=1397151523&sr=8-1&keywords=dxcmpa1982054	DeWalt DXCMPA198 2054 20-Gallon Portable Air Compressor	1	600.86	600.86								
		https://www.worldwidevoltage.com/th-ac-200-30.html	Einhell TH-AC 200/30 OF Compressed air compressor boiler content 30 l 8 bar	0	345.00	0.00								
		https://www.amazon.com/Shop-Vac-9633400-6-5-Peak-12-Gallon-Detachable/dp/B00376WU2	Shop-Vac 9633400 6.5-Peak HP Ultra Pro Series Wet or Dry Vacuum with Detachable Blower, 12-Gallon	1	135.00	135.00		USA	8479.89					
		https://www.worldwidevoltage.com/shop-vac-9e2703-wet-dry-vacuum-220-volt-50hz.html	SHOP VAC 9E2703 WET & DRY VACUUM 220 VOLT 50HZ	0	249.00	0.00								
		https://www.amazon.com/BLACK+DECKER-BDH2000L-20-Volt-Cordless-Hand-Vacuum/dp/B008R3F0J8	BLACK+DECKER BDH2000L 20-Volt Max Lithium Ion Battery Cordless Hand Vacuum	1	59.99	59.99								
		https://www.worldwidevoltage.com/black-decker-dv9610n.html	BLACK + DECKER DV9610N CYCLONIC ACTION DUSTBUSTER - 9.6 VOLT	0	54.99	0.00								
		https://www.amazon.com/Festool-5841-74-SYS-Dust-Extractor/dp/B01EA8L1PA	Festool 584174 CT SYS Dust Extractor	1	395.00	395.00		USA						
		CHECK WITH FESTOOL FOR 220V	***CHECK WITH FESTOOL FOR 220V***											
		mold curing, solder reflow:												

fab lab inventory : Fab Lab Inventory											
		https://www.amazon.com/Cuisinart-TOB-260N1-Chefs-Convection-Toaster-Oven,Stainless/dp/B01M0AWSJ	Cuisinart TOB-260N1 Chef's Convection Toaster Oven, Stainless Steel	181.35	181.35	China	8516.60.6000				
		https://www.worldwidevoltage.com/2058.html	SEVERIN 2058 TOAST OVEN WITH CONVECTION, 42 LITRE, 1800 WATT, BLACK/SILVER 220 VOLTS	274.99	0.00						
		sanding: https://www.amazon.com/Bosch-Random-Polisher-ROS20VSC-Carrying/dp/B00BD5G9V	Bosch ROS20VSC 5" Random Orbit Sander	59.00	59.00	USA					
		https://www.worldwidevoltage.com/603378070.html	BOSCH 603378070 PEX 220V Random Orbit Sander	85.99	0.00	USA					
		grinding, cutting: https://www.amazon.com/Dremel-3000-1-24-Attachment-Accessories/dp/B005JRJE56/	Dremel 300 Series Variable-Speed Rotary Tool Kit 1/24 DREMEL 3000-15 MULTITOO, 130 W 220 VOLTS	54.12	54.12	USA	8467.29				
		https://www.worldwidevoltage.com/3000-15.html	DREMEL 3000-15 MULTITOO, 130 W 220 VOLTS	150.00	0.00						
		vacuum generation https://www.amazon.com/Gast-DOA-P704-AA-Diaphragm-Pressure-Plastic/dp/B002KVKG9	Electric Diaphragm vacuum pump (GAST)	488.63	488.63						
		NEED TO FIND 220V VACUUM PUMP	*NEED TO FIND 220V VACUUM PUMP*	0.00	0.00						
		ironing https://www.amazon.com/Rowenta-1700-Watt-Stainless-Stoleplate-Auto-Off/dp/B004ILTH1K	Rowenta Steam Iron, Stainless Steel Soleplate with Auto-Off, Brown	80.10	80.10						
		https://www.worldwidevoltage.com/braun-6561-iron-1900-watt-for-220-volts.html	BRAUN 6561 IRON 1900 WATT FOR 220 VOLTS	74.99	0.00						
		soldering iron: https://www.amazon.com/Weller-WES51-Analog-Soldering-Station/dp/B000BRC2XU/	Weller WES51 Analog Soldering Iron 110V	84.12	168.24						
		https://www.newark.com/weller/wesd51/digital-soldering-station-50w/dp/17H0846	Weller WES51 Digital Soldering Iron 220V	224.00	0.00						
		sewing:			0.00						

fab lab inventory : Fab Lab Inventory										
		https://www.amazon.com/Brother-Computerized-Embroidery-SE1900-Combination/dp/B07C9RQP1D	Brother Computerized Sewing and Embroidery Machine, SE1900, Combination Sewing and Embroidery Machine	999.00	999.00					
		https://www.amazon.co.uk/Brother-Innovis-F480-Sewing-Machine-Embroidery/dp/B01M1HYGI7/ref=sr_1_1?ie=UTF8&qid=1541449739&sr=8-1&keywords=Innovis+F480	Innovis F480 Sewing and Embroidery Machine	1,519.73	0.00					
		heat transfer								
		https://www.amazon.com/CO-Z-Multifunction-Sublimation-Baseball-Transfer/dp/B01N4VZ4NL	CO-Z 12" X 15" Heat Press 6 in 1 Multifunction Sublimation Heat Press Machine Desktop Iron Baseball Hat Press 1250W Digital Swing Away Transfer T Shirt Hat Mug	235.00	235.00					
		NEED 220V TSHIRT PRESS glue gun:	***NEED 220V TSHIRT PRESS***	0.00	0.00					
		https://www.amazon.com/Cobiz-Premium-Sticks-Christmas-Decoration/dp/B0721PTD5B/	Hot Glue Gun, Cobiz Full Size (Not Mini) 60/100W Dual Power High Temp Heavy Duty Melt Glue Gun Kit with 10 Pcs Premium Glue Sticks(0.43" x 8") for Arts & Crafts Use,Christmas Decoration/Gifts	23.99	23.99					
		https://www.worldwidevoltage.com/stanley-sta0gr25.html	STANLEY STA0GR25 HEAVY-DUTY GLUE GUN 220 VOLTS NOT FOR USA	30.99	0.00					
		heat gun								
		6966C	Weller Heat Gun, Model 6966C, 750-800 Degrees Farenheit (110V). For 230V, try http://uk.farnell.com/weller/6966ek/heat-gun-3-wire-eu-plug-230v/dp/1689001	122.00	122.00		Mexico	84.19		
		https://www.worldwidevoltage.com/23883.html	Hitachi RH650V Heat Gun For 220 Volts	135.00	0.00					
								Amazon/110/220: \$13,206.83		
		Dell http://www.dell.com								
		Inspiron Small Desktop	6th Generation Intel® Core™ i5-6400 Processor, 8GB, 1600MHz, 1TB 7200 rpm Hard Drive	529.00	3,703.00				8471 41 0150	
		E2417H	Inspiron Small Desktop \$330.00 Dell 24 Monitor	149.00	1,192.00				8528 51 0000	

fab lab inventory : Fab Lab Inventory																			
			I hate to add another vendor, but this cable is so useful. Lose the 2x3 and save \$.72 and a lot of space on every board!																
		Tag Connect http://www.tag-connect.com/TC2030-IDC-NL																	
		TC2030-IDC-NL	Programming cable, No-legs, 6 pin, Ribbon connector	33.95	67.90														
		2 TC2030-CLIP	Retaining clip for cables (optional)	6.00	12.00														
		Digi-Key http://www.digikey.com/ resistors:																	
		1000 311-0.0ERCT-ND	RES 0.0 OHM 1-4W 5% 1206 SMD-	0.00	4.77		China												
		250 311-0.1ANCT-ND	RES .10 OHM 1-4W 1% 1206 SMD	0.17	42.04		Philippines												
		50 P.10AVCT-ND	RES SMD 0.1 OHM 5% 1W 1206	0.34	17.18														
		100 CSRN2010FKR250CT-ND	RES .25OHM 1W 1% 2010 SMD	0.30	30.00		China												
		1000 311-1.00FRC T-ND	RES 1.00 OHM 1-4W 1% 1206 SMD-	0.01	6.37		China												
		1000 311-4.99FRC T-ND	RES 4.99 OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-10.0FRC T-ND	RES 10.0 OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-49.9FRC T-ND	RES 49.9 OHM 1-4W 1% 1206 SMD-	0.01	6.37		China												
		1000 311-100FRC T-ND	RES 100 OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-499FRC T-ND	RES 499 OHM 1-4W 1% 1206 SMD-	0.01	6.37		China												
		1000 311-1.00KFR CT-ND	RES 1.00K OHM 1-4W 1% 1206 SMD-	0.01	6.37		China												
		1000 311-4.99KFR CT-ND	RES 4.99K OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-10.0KFR CT-ND	RES 10.0K OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-49.9KFR CT-ND	RES 49.9K OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-100KFR CT-ND	RES 100K OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-499KFR CT-ND	RES 499K OHM 1-4W 1% 1206 SMD	0.01	6.37		China												
		1000 311-1.00MFR CT-ND	RES 1.00M OHM 1-4W 1% 1206 SMD-	0.01	6.37		China												
		1000 311-4.99MFR CT-ND	RES 4.99M OHM 1-4W 1% 1206 SMD-	0.01	6.37		China												
		1000 311-10.0MFR CT-ND	RES 10.0M OHM 1-4W 1% 1206 SMD-	0.01	6.37		China												
		50 987-1014-1-ND	TRIMMER 10K OHM 0.25W SMD	0.92	45.76														
		capacitors:																	

fab lab inventory : Fab Lab Inventory											
	500	311-1212-1-ND	CAP CERAMIC 1PF 50V NPO 1206-\$0.04200-	0.05	23.25	Taiwan	853224				
	500	311-1150-1-ND	CAP CERAMIC 10PF 50V NPO 1206-\$0.03612-	0.04	20.23	UK	853224				
	500	311-1161-1-ND	CAP CERAMIC 100PF 50V NPO 1206-\$0.04200-	0.05	23.53	UK	853224				
	500	311-1144-1-ND	CAP CERAMIC 1000PF 1KV X7R 1206-\$0.15300-	0.15	73.44	UK	853224				
	500	311-1174-1-ND	CAP CERAMIC 10000PF 50V X7R 1206-\$0.03360-	0.04	18.82	UK	853224				
	500	399-4674-1-ND	CAP CERAMIC 1UF 250V X7R 1206-	0.12	57.75	Mexico	853224				
	500	445-1423-1-ND	CAP CER 1UF 50V X7R 10% 1206-	0.07	34.00	Japan	853224				
	100	587-1352-1-ND	CAP CER 10UF 35V Y5V 1206-	0.18	18.40	Japan	853224				
	25	283-2810-ND	CAP SUPER 1F 5.5V RADIAL	2.72	68.08	South Korea	853229				
		<i>chokes:</i>									
	25	PCD2144CT-ND	CHOKE COIL 1.2UH 6500MA SMD-	1.99	49.73	Singapore	850450				
	25	PCD2152CT-ND	CHOKE COIL 10UH 3900MA SMD-	1.99	49.73	Singapore	850450				
	25	PCD2164CT-ND	CHOKE COIL 100UH 1200MA SMD-	1.99	49.73	Singapore	850450				
	25	PCD2176CT-ND	CHOKE COIL 1000UH 410MA SMD-	1.99	49.73	Singapore	850450				
		<i>diodes:</i>									
	250	497-5559-1-ND	DIODE SCHOTTKY 100V SGL SOD-123-	0.17	42.08	Taiwan	854110				
	250	641-1331-1-ND	DIODE SCHOTTKY 1A 100V MINI-SMA-	0.19	48.10	Taiwan	854110				
	500	BZT52C3V3-FDICT-ND	DIODE ZENER 500MW 3.3V SOD123-	0.07	32.63	China	854110				
	500	BZT52C4V7-13-FDICT-ND	DIODE ZENER 4.7V 500MW SOD-123-	0.07	32.63	China	854110				
		<i>transistors:</i>									
	250	NDS355ANC T-ND	-	0.26	65.84	Philippines	854121				
	250	NDS356APC T-ND	MOSFET P-CH -30V 1.1A 3-SSOT-	0.34	84.57	Philippines	854121				
	50	RFD16N05L SM9ACT-ND	MOSFET N-CH 50V 16A TO-252AA-	1.13	56.25	Malaysia	854129				
		<i>H-bridge motor driver:</i>									
	100	620-1428-1-ND	IC PWM MOTOR DVR FULL 8SOIC	1.41	140.52	Philippines	854239				
	50	296-40081-1-ND	IC BRIDGE DRIVER PAR 8WSON	1.23	61.55						
		<i>stepper motor driver:</i>									
	25	620-1352-1-ND	IC MOTOR DRIVER PAR 24TSSOP	3.11	77.80						
		<i>solid state relay:</i>									
	25	CLA413-ND	POWER SWITCH AC SS SCR 8SOIC	3.04	76.00						
		<i>regulators:</i>									
	250	LM3480IM3-3.3/NOPBCT-ND	IC 3.3V100MA LDO VREG SOT23-	0.32	80.00	Malaysia	854239				
	250	LM3480IM3-5.0/NOPBCT-ND	IC 5.0 100MA LDO VREG SOT23-	0.32	80.00	Malaysia	854239				
	100	576-1259-1-ND	IC REG LINEAR 3.3V 150MA SOT23-5	0.31	30.90						

fab lab inventory : Fab Lab Inventory													
	100	ZLDO1117G3 3DICT-ND	IC REG LDO 3.3V 1A SOT223-3	0.34	33.99							8542.31.0000	
	100	NCP1117ST50 T3GOSCT-ND	IC REG LDO 5V 1A SOT223-3	0.45	45.00								
		<i>charge controller:</i>											
	25	MCP73831T-2 ACI/OTCT-ND	IC CONTROLLR LI-ION 4.2V SOT23-5	0.48	12.10								
		<i>amplifiers:</i>											
	50	AD8615AUJZ -REEL7CT-ND	IC OPAMP GP R-R CMOS LN TSOT23-5	1.74	87.11			Malaysia				854233	
	25	LM4871M-ND	IC AMP AUDIO PWR 3W MONO 8SOIC	1.62	40.55							854233	
		<i>LEDs:</i>											
	250	160-1167-1-ND	LED RED CLEAR 1206 SMD-	0.13	32.81			Taiwan				854140	
	250	160-1169-1-ND	LED GREEN CLEAR 1206 SMD-	0.15	37.50			Taiwan				854140	
	250	160-1403-1-ND	LED YELLOW ORANGE CLEAR 1206 SMD	0.10	25.31							854140	
	250	160-1889-1-ND	LED BLUE CLEAR 1206 REV MT SMD	0.13	33.41							854140	
	250	160-1737-1-ND	LED WHITE YELLOW 260MCD 1206	0.25	62.10			China				854140	
	100	CLV1A-FKB- CK1VW1DE1 BB7C3C3CT-ND	LED RGB 4PLCC SMD	0.53	53.13			China				854140	
	100	1080-1346-1-ND	LED IR GAA1AS WATER CLEAR SMD	0.36	35.65			Taiwan				854140	
		<i>photodetectors:</i>											
	100	1080-1379-1-ND	Phototransist or 940nm Top View 1206 IR Phototransist or 940nm Top	0.15	14.85			Taiwan				854140	
	100	1080-1380-1-ND	View 1206 visible Optical Sensor 200cm I ² C Output	0.15	14.85								
	10	497-16538-1-ND	200cm I ² C Output	5.64	56.35								
		<i>LCD:</i>											
	25	67-1781-ND	LCD MODULE 16x2 CHARACTE R-	7.06	176.40			Taiwan				853120	
		<i>speakers / microphones:</i>											
	50	458-1124-ND	SPEAKER 8 OHM .25W 23MM ROUND SPEAKER	0.59	29.44			Taiwan				851829	
	25	458-1136-ND	8OHM 500MW TOP PORT 92DB MIC MEMS	1.95	48.76								
	50	423-1134-1-ND	ANALOG OMNI -22DB MIC MEMS	1.14	57.08								
	25	423-1405-1-ND	DIGITAL I2S OMNI -26DB	2.21	55.14								
		<i>temperature:</i>											
	25	235-1109-1-ND	THERMISTO R NTC 10K OHM 10% 1206-	2.50	62.48			Japan				853329	
	25	749-1055-1-ND	TEMP SENSOR RTD 1K OHM 1206	2.38	59.48			USA				8533.21.0030	
		<i>hall effect:</i>											
	25	620-1402-1-ND	SENSOR LINEAR ANALOG SOT23W	1.39	34.65			Philippines				854239	
		<i>accelerometer:</i>											
	25	ADXL343BC CZ-ND	ACCELERO METER DGTL 3AXIS 14LGA	2.71	67.83			Malta				854239	
	10	DPS310XTS A1CT-ND	SENSOR PRESSURE CAPACITIVE	2.45	24.50								
		<i>op-amp:</i>											
	100	AD8605ART ZREEL7CT-ND	IC OPAMP SNGL R-R I- O LN SOT23-5	1.35	135.24			South Korea				854233	

fab lab inventory : Fab Lab Inventory															
		<i>microcontrollers:</i>	-												
	200	ATTINY45V-10SU-ND	IC AVR MCU 4K 10MHZ 8SOIC-	1.23	246.00		China		854231						
	100	ATTINY44A-SSU-ND	IC MCU AVR 4K FLASH 20MHZ 14SOIC-	1.18	117.60		South Korea		854231						
	50	ATMEGA328P-AU-ND	IC MCU 8BIT 32KB FLASH 32TQFP	2.87	143.50		South Korea		854231						
	25	ATMEGA16U2-AU-ND	IC MCU 8BIT 16KB FLASH 32TQFP	3.53	88.20				854231						
	25	ATMEGA16U4-AU-ND	IC MCU 8BIT 16KB FLASH 44TQFP	4.63	115.67				854231						
	50	ATXMEGA16E5-AURCT-ND	IC MCU 8BIT 16KB FLASH 32TQFP	2.11	105.30		South Korea		854231						
	50	ATXMEGA16A4U-AURCT-ND	IC MCU 8BIT 16KB FLASH 44TQFP	2.80	139.92		South Korea		854231						
	2	ATATMEL-ICE-BASIC-ND	EMU FOR SAM AND AVR MCU BASIC	54.11	108.22				854231						
	3	1659-1000-ND	Arduino Uno Board	24.95	74.85										
	1	1597-1363-ND	Espruino Eval Kit	39.90	39.90										
	1	1597-1187-ND	BeagleBone Black Rev C	65.00	65.00										
	5	428-3390-ND	PSOC 5LP PROTOTYPING KIT	9.98	49.90										
	5	220-2656-ND	ICE40HX1K-STICK-EVN	25.24	126.20										
	50	114-00841-68-1-ND	CONN MICRO SD CARD PUSH-PULL R/A	1.22	60.98										
	10	RN4871-V/RM118-ND	BLUETOOTH 4.2 BLE MODULE, SHIELD	7.24	72.40										
	10	BL652-SA-01-CT-ND	RF TXRX MOD BLUETOOTH CHIP ANT	7.53	75.30										
	200	XC1109CT-ND	CER RESONATOR 20.00MHZ SMD	0.43	85.50		China		8541.6						
	200	535-10004-1-ND	RESONATOR CER 8.00MHZ W/CAP SMD	0.25	49.50				8541.6						
	100	644-1039-1-ND	CRYSTAL 20.000000MHZ 8PF SMD	0.49	48.60		Singapore		8541.6						
	50	401-2012-1-ND	SWITCH SLIDE SPDT 12V 100MA GW-	0.84	41.87		China		853650						
	100	SW262CT-ND	SWITCH TACT SMD W-GND 160GF	0.74	73.94		Japan		853650						
	100	469-1004-ND	MAGNET 1-4"DIA X 1	0.29	29.25		China		850511						
	100	469-1002-ND	MAGNET 1-2"DIA X 1	0.98	97.50		China		850511						
	3	A9982-ND	T-HANDLE TOOL MTA-100 CONN RECEPT 2POS 28AWG	33.93	101.79										
	50	A30814-ND	CONN STRAIN RELIEF COVER 2POS 28AWG MTA100	0.18	8.99										
	50	A19270-ND	CONN STRAIN RELIEF COVER 2POS 28AWG MTA100	0.26	13.18										
	50	A30816-ND	CONN STRAIN RELIEF COVER 4POS 28AWG MTA100	0.26	13.11										
	50	A19272-ND	CONN STRAIN RELIEF COVER 4POS 28AWG MTA100	0.38	19.19										
	50	A30818-ND	CONN RECEPT 6POS 28AWG MTA100	0.27	13.63										

fab lab inventory : Fab Lab Inventory														
	50	A19274-ND	CONN STRAIN RELIEF COVER 6POS	0.57	28.38									
	50	A30820-ND	CONN RECEPT 8POS 28AWG MTA100	0.35	17.54									
	50	A19276-ND	CONN STRAIN RELIEF COVER 8POS	0.53	26.55									
	50	609-4958-ND	CONN SOCKET IDC 4POS DL SR 30AU	0.55	27.34									
	100	609-2841-ND	CONN SOCKET IDC 6POS DL SR 30AU	0.57	57.41									
	50	609-3568-ND	CONN SOCKET IDC 8POS DL SR 30AU	0.75	37.36									
	50	609-1739-ND	CONN SOCKET IDC 10POS DUAL 30AU	0.90	44.88									
			headers:											
	50	609-5160-1-ND	4 Positions Header Connector 0.100" (2.54 mm) Surface Mount	0.66	33.00									
	100	609-5161-1-ND	6 Positions Header Connector 0.100" (2.54 mm) Surface Mount	0.60	60.14									
	50	609-5162-1-ND	8 Positions Header Connector 0.100" (2.54 mm) Surface Mount	0.67	33.50									
	50	609-5163-1-ND	10 Positions Header Connector 0.100" (2.54 mm) Surface Mount	0.89	44.35									
	50	609-4814-ND	CONN RCPT 5POS .100 SGL STR SMD 02+02 DIL	0.65	32.65									
	50	952-1771-ND	SMT SKT	0.51	25.50									
	50	S5674-ND	CONN FEMALE 8POS DL .1" TIN SMD	0.98	49.05									
	10	S1013E-36-ND	CONN HEADER 36PS .100 SINGLE SMD SMT RT	3.19	31.88									
	10	S1143E-36-ND	Angle Male Header 0.1" (36pos) SMT RT	3.30	33.00									
	20	A111251CT-ND	Angle Female Header 0.1" (5pos)	0.66	13.22									
	10	SAM1213-50-ND	TH female header 0.1" (50pos)	3.62	36.20									
	20	S1011EC-40-ND	TH male header 0.1" (40pos)	0.65	13.00									
			jacks / plugs:											
	100	CP1-023PJC T-ND	CONN PWR JACK DC 0.65X2.75M M SMD-	0.82	82.34		Hong Kong		853669					
	100	CP-012-ND	CONN DC PWR PLUG 0.7X2.35MM-CONN-	0.78	77.63		Taiwan		853669					
	50	CP-002AHPJ CT-ND	POWER JACK 2.1MM SMD	1.47	73.45		Hong Kong		853669					
	100	CP-2501SP-ND	CONN PLUG STEREO 2.5MM W-COVER	0.83	82.80		Taiwan		853669					
	100	CP1-2533SJ CT-ND	CONN JACK STEREO 3PIN 2.5MM SMD-	0.88	87.79		Hong Kong		853669					
	50	CP-1453-ND	CONN RCA PLUG W-STRAIN REL BLK	1.41	70.50		China		853669					
	50	CP-1459-1-ND	CONN RCA JACK METAL R/A BLK SMD	1.12	55.90		China		853669					

fab lab inventory :	Fab Lab Inventory																			
	10	SC1323-ND	CONN JACK PHONO 2POS SHIELDED-CONN PIN SPRING-LOADED PCB	3.00	30.00	USA	853669													
	50	ED1122-ND <i>ribbon cable</i>		0.58	28.77															
	1	MC10M-50-ND <i>screw terminals:</i>	CBL RIBN 10COND 0.050 MULTI 50'	38.07	38.07	Taiwan	854449													
	100	ED1514-ND	TERMINAL BLOCK 3.5MM 2POS PCB-	0.46	46.30	Germany	853669													
	100	ED1515-ND <i>test clips:</i>	TERMINAL BLOCK 3.5MM 3POS PCB-	0.67	66.60	Germany	853669													
	5	923655-08-ND <i>antistatic bags:</i>	8-PN GOLD SMD TEST CLIP-	15.65	78.25	USA	853690													
	100	16-1032-ND	BAG ESD SHLD 3"X5" METAL-IN ZIP-	0.10	10.25	USA	392329													
	100	16-1034-ND	BAG ESD SHLD 5"X8" METAL-IN ZIP-	0.19	19.41	USA	392329													
	200	16-1036-ND <i>antistatic packaging:</i>	BAG ESD SHLD 8"X10" METAL-IN ZIP-	0.33	65.92	USA	392329													
	1	12660-ND <i>heat shrink tubing:</i>	FOAM HI DENSITY X-IN 1/4" 24X35	62.67	62.67	USA	5503.9													
	5	A116B-4-ND	HEATSHRINK 1-16 IN X 4FT BLACK	0.76	3.80	USA	854690													
	5	A018B-4-ND	HEATSHRINK 1-8 IN X 4FT BLACK	0.86	4.30	USA	854690													
	5	A014B-4-ND	HEATSHRINK 1-4 IN X 4FT BLACK	1.32	6.60	USA	854690													
	5	A038B-4-ND	HEATSHRINK 3-8 IN X 4FT BLACK	1.46	7.30	USA	854690													
	5	A012B-4-ND <i>soldering:</i>	HEATSHRINK 1-2 IN X 4FT BLACK	1.66	8.30	USA	854690													
	4	KE1409-ND	SOLDER NO-CLEAN .020" X 1 lb-QUICK	74.33	297.32	USA	831130													
	10	EB1088-ND	BRAID GOLD .050" X 10'-SLDRNG	4.63	46.30	USA	741300													
	3	243-1156-ND	IRON STND W/TIP CLNR TIP	7.68	23.04	USA	851519													
	20	ETU-ND	REPLACEMENT SINGLE FLAT.015"-SPONGE	5.12	102.40	Mexico	851590													
	10	TC205-ND <i>tools:</i>	REPLACEMENT	1.10	11.00	USA	0511.99.3600													
	20	EROP7SA-ND	TWEEZER CURVED PRECISION TIP-	3.50	70.00	Pakistan	820320													
	5	PA70057-ND	WIRE STRIPPER DATASHARK 30-20AWG-PLIER	10.91	54.55	Taiwan	820320													
	5	MS54-ND	DIAGONAL CUTTING-PLIER	16.80	84.00	USA	820320													
	5	L4V-ND	SUBMINIATURE LONG NOSE-	16.10	80.50	USA	820320													
	10	243-1021-ND	MAGNIFIER EYE LOUPE 10X 1" LENS-PANAVISE JR.	2.16	21.60	USA	901380													
	4	201PV-ND	UNIVERSAL VISE-SCREWDRIVER	27.99	111.96	USA	820570													
	2	XP600-ND <i>battery connections:</i>	PRECISION SET 6 PC	25.70	51.40	Germany	820540													

fab lab inventory : Fab Lab Inventory												
	100	BS6I-MC-ND	9V BATTERY SNAP WITH 2PC MOLDED-HOLDER BATTERY 9V WIRE LEADS-CLIP	0.52	52.00		China	853669				
	50	BH9V-W-ND	BATTERY 9V WIRE LEADS-CLIP	1.27	63.25		China	853669				
	100	55K-ND	BATTERY AAA-N CELL SMT	0.28	28.15		USA	853669				
		<i>multimeter:</i>	-									
	2	1286-1076-ND	DGTL MULTIMETER PRO DMM	32.99	65.98							
		<i>USB:</i>	-									
	768-1007-1-25	ND	IC USB TO SERIAL UART 28-SSOP-	4.05	101.25		Indonesia	854239				
	3	768-1028-ND	CABLE USB TO TTL SERIAL CONV	20.00	60.00		China	847330				
	3	768-1015-ND	CABLE USB - SERIAL TTL CONVERTE	20.00	60.00		Indonesia	847330				
	609-4613-1-50	ND	R-CONN USB MICRO B RECPT SMT R/A	0.32	15.90							
	50	H2961CT-ND	CONN RECEP MINI USB2.0 5POS	0.89	44.28		Indonesia	8536.69.4040				
		<i>jumper wires:</i>										
	1528-1154-5	ND	M/M Jumper Wires 6" (40pcs)	3.95	19.75		China	854449				
	1528-1162-5	ND	M/F Jumper Wires 6" (40pcs)	3.95	19.75		China	854449				
	1528-1379-5	ND	F/F Jumper Wires 6" (40pcs)	3.95	19.75		China	854449				
		<i>memory card socket:</i>										
	114-00841-68-25	-1-ND	CONN MICRO SD CARD PUSH-PULL R/A	1.25	31.26							
		Jameco										
		http://www.jameco.com										
		<i>transducers:</i>										
	10	139492	SENSOR,UL TRASONIC, 40KHZ,TRAN 1,REC1,112db/67db, 2000pf/ VARIOUS	7.19	71.90		USA	8543.70.6000				
	25	1956784	40TR12B-R TRANSDUCER,PIEZO, 30VAC,75dB, LEADS, 0.5-20Hz.SINGLE TONE	2.95	73.75		USA	8543.7				
		<i>actuators:</i>										
	50	1810099	MOTOR,DC, 12VDC, 8600RPM, 63mA, SHAFT:Dia. 0.08 ,0.43 L, 14.8TOR	2.49	124.50		USA	850110				
	10	232047	DC MOTOR , 12VDC , 8750MA	4.49	44.90		USA	850110				
	25	256314	Vibrating Motor 3 Volt DC 75 mA	2.95	73.75							
	10	2138812	MOTOR,STEP,7VDC/ 350Ma, 7.5 STEP ANGLE,680 g-cm	7.95	79.50		USA	850110				
	10	253471	MOTOR,DC, GEAR,12V, 50/1,120RPM , 1100G-CM, 74MA	13.45	134.50		USA	850110				
	10	2120479	MOTOR,STEP,PER,BIPOLAR,4VDC/1A 3600 GR-CM, 1.8 STEP ANGLE	17.95	179.50		USA	850110				
	10	238538	MOTOR,STEP,12VDC/.4A, 3200 GM-CM	19.95	199.50		USA	850110				
		<i>test leads:</i>										

Digikey: \$8,428.54

fab lab inventory : Fab Lab Inventory														
	3	2151A65	Compact Aluminum Level Standard 9" Length with Non-Magnetic Strip	8.51	25.53		USA	9031.49.8000						
	1	1760T86	Compact Digital Bench Scale with Ss Platform 2000 Grams	398.74	398.74		China	8423.81.0040						
		<i>storage:</i>												
	4	5073T12	Cardboard Bin Box Standard, 2" Width X 12" Depth	5.23	20.92		USA	4819.10.0040						
	4	5073T29	Cardboard Bin Box Standard, 3" Width X 12" Depth	5.41	21.64		USA	4819.10.0040						
	4	5073T11	Cardboard Bin Box Standard, 4" Width X 12" Depth	5.75	23.00		USA	4819.10.0040						
	4	5073T14	Cardboard Bin Box Standard, 6" Width X 12" Depth	5.93	23.72		USA	4819.10.0040						
	4	5073T15	Cardboard Bin Box Standard, 8" Width X 12" Depth	6.33	25.32		USA	4819.10.0040						
	6	9619T61	Plastic Cabinet 16 Drawers, 10-9/16" W X 8-1/2" H	15.58	93.48		USA	9403.70.0000						
	2	9619T71	Plastic Cabinet 24 Drawers, 20" W X 15-13/16" H	34.29	68.58		USA	9403.70.0000						
		<i>cutting:</i>												
	4	41865A12	Scroll Saw Blade Regular Cut, .250" Width, .028" thk, 20"	5.89	23.56		USA	8208.20.0000						
	4	6917A23	Scroll Saw Blade Fast Cut Skip Tooth, .029" W,	5.00	20.00		USA	8208.20.0000						
	4	41865A16	Scroll Saw Blade Fast Cut Skip Tooth, .100" W,	6.11	24.44		USA	8208.20.0000						
	20	35545A71	Auto-Lock Breakaway-Blade Utility Knife Trimeline w/Three 13-Point Blades	3.17	63.40		China	8211.93.0001						
		<i>molding/ casting:</i>												
	2	1865T35	Plastic Cup Polypropylene, 37288 oz, 2-3/8" Top OD X 6" Length	7.87	15.74		USA	3924.10.0002						
	1	77985T54	Wooden Paint Stirrer, Packs of 500	14.45	14.45		China	4421.90.6500						
	2	52555T1	Nitrile Disposable Gloves Powder Free, 5 MIL Thick, 9-1/2" (medium)	14.45	28.90		China	4015.19.0002						
	10	17805T81	Disposable Aluminum Weighing Dish Smooth Sides, 2-7/8" Diameter X Soft	10.57	105.70		USA	7615.19.9000						
	2	9060K53	Tempered Aluminum Foil .001" Thick, 12" Width, 250'	30.60	61.20		USA	7607.11.3000						
		<i>cable ties:</i>												
	5	7134K21	Reusable Nylon Cable Tie Top Tab, 6" L, 1-1/2"	6.65	33.25		USA	3926.90.9980						
	5	7134K42	Reusable Cable Tie Top Tab, 15-5/16" L, 4"	6.92	34.60		USA	3926.90.9980						
		<i>hand tools:</i>												

fab lab inventory : Fab Lab Inventory														
	10	5820A17	6 Piece Fold-Up Screwdriver Set	7.30	73.00	USA	8205.40.0000							
	2	8551A31	10-Piece Slotted and Phillips Set	51.35	102.70	USA	8205.40.0000							
	5	54405A55	High-Visibility Orange Fold-Up Hex Key Set 9 Pcs, Sizes:	5.23	26.15	USA	8204.11.0060							
	5	54405A56	High-Visibility Orange Fold-Up Hex Key Set 9 Pcs, Sizes:	6.71	33.55	USA	8204.11.0060							
	1	5813A21	High-Visibility Premium Combination Wrench, (11 Piece ST) Red, 3/8" - 1" Sizes, Roll-Up Pouch	174.96	174.96		8204.11.00							
	3	8174A42	12-Piece Economy Needle-File Set 5-1/2" Long, Cut No. 2	18.00	54.00	China	8203.10.0000							
	2	5874A7	13" Forged Steel Head Hammer with Hickory Handle	8.95	17.90		8205.20.3000							
	1	5878A8	White Rubber Hammer, Hardwood Handle, 4 lb. Overall Weight, 3-1/8" Face Diameter	38.90	38.90		8205.20.3000							
		<i>hex keys/set screws</i>												
	10	6958A21	Hex L-Key 1.5 mm Size, 3-1/16" Overall Length	0.23	2.30	USA	8204.11.0060							
	10	57185A21	HT-Torque Ball-End L-Key, 2 mm Size	0.79	7.90									
	2	92605A097	Metric 18-8 SS Flat Point Socket Set Screw M3, 25x	2.73	5.46	Taiwan	8204.11.0060							
	1	92605A042	Nonmarring Flat Point Set Screw, 18-8 Stainless Steel, M2 Size, 3mm Length, 0.4mm Pitch, packs of 50	11.71	11.71									
	3	8586K81	ABS, 1" Thick, 6" x 6"	17.13	51.39									
		<i>cleaning:</i>												
	1	7074T62	Swab Cotton-Low Lint Tip, 141" Diam X .44" L Tip,	2.26	2.26	USA	5601.21.0000							
	10	8619k851	Multipurpose Brush with Plastic Handle, for Use with Acids and Alkalies, 6-3/4"	1.61	16.10									
	10	7035T4	Multipurpose Brush with Plastic Handle, for Use with Acids and Alkalies, 7" Oal	2.01	20.10									
	10	7035T5	Multipurpose Brush with Plastic Handle, for Use with Acids and Alkalies, 7-1/4" Oal	2.01	20.10									
	10	7348T14	Narrow-Width Horsehair Bristle Dust Brush, 8" Brush Length, 2" L Bristle, 14" Overall Length	7.32	73.20									

fab lab inventory : Fab Lab Inventory											
		54845T42 (cannot be purchased for non-US)	First-Aid Supplies Isopropyl Alcohol 0.7 Ounces	2.39	11.95		USA	2905.12.0050			
		5 magnet wire:									
		2 7588K71 shape memory wire:	Magnet Wire 30 AWG, Copper, 3000' Length Spool	27.96	55.92		USA	7408.19.00.00			
		1 8320K11 garolite:	Shape-Memory Nitinol Wire .004" Diameter, 30' Coil	37.26	37.26		USA	7505.22.0000			
		10 8525K411	Easy-to-Machine Garolite Sheet Electrical-Insulating, 1/32" Thick, 12" Wide x 12" Long	3.53	35.30		USA	3921.90.4010			
		10 8525K111	Easy-to-Machine Garolite Sheet Electrical-Insulating, 1/16" Thick, 12" Wide x 12" Long	4.32	43.20						
		5 8525K112	Easy-to-Machine Garolite Sheet Electrical-Insulating, 1/8" Thick, 12" Wide x 12" Long	7.30	36.50						
		5 8525K113	Easy-to-Machine Garolite Sheet Electrical-Insulating, 3/16" Thick, 12" Wide x 12" Long	10.14	50.70						
		5 8525K114 non-skid feet:	Easy-to-Machine Garolite Sheet Electrical-Insulating, 1/4" Thick, 12" Wide x 12" Long	12.86	64.30						
		1 6968T61	Textured-Surface Antislip Runner Mat Rubber, 36" W X 48"	23.58	23.58		USA	4016.91.0000			
		shopbot clamps:	shopbot fixturing clamps:								
		8 5039A52 shopbot dust removal:	Quick-Grip Bar Clamp 12" Maximum Opening, 150 lb Holding	19.30	154.40		China	8205.70.00.90			
		50 56355K33	Economical Clear Duct Hose 4" ID Quantity specifies length in feet	3.04	152.00			3917.39.0002			
		3 5518K13	Duct Hose Connector for 4" Duct Hose	16.38	49.14			7616.99.5050			
		1 5076K25 fire extinguisher: Non-US source locally	Worm Drive Hose Clamp for 4" Duct Hose (10 pk)	14.19	14.19			7307.29.0000			
		1 6430T16 safety:	Class ABC Dry Chemical Fire Extinguisher 3-A:40-B:C UL Rating,	52.08	52.08			8424.10.00.00			
		10 52755T9	Panoramic Safety Glasses W/ Vented Side Shield Clear Lens, Clear	4.81	48.10		USA	9004.90.0000			

fab lab inventory : Fab Lab Inventory														
	2	54725T34	Disposable Foam Ear Plug (Corded) (100 pk)	29.05	58.10	USA	4016.99.6000							
	3	54375T11	Three-Position Hearing Protection Earmuff	7.80	23.40	USA	3926.2							
	4	9832T62	Nitrile Palm-Coated Cotton Work Glove	4.50	18.00		6116.10.0000							
	2	9738T81	Disposable Polyethylene Apron Smooth, 28" Wide X 46" Long, 1.50 Mils Thick, White	9.66	19.32		6211.33.0000							
	2	5450T42	Disposable Respirator Mask N95 Filter, Aluminum Nose, Inner Foam Seal	20.95	41.90		39.26							
			<i>drill bits:</i>											
	1	2788A31	General Purpose HSS Jobbers' Drill Set Black Oxide, 50 Pcs, 1 - 5.9mm X 0.1mm, 118 Deg Point	96.15	96.15	Brazil	8207.50.4030							
			<i>metal casting</i>											
	2	3226K51	High-Temperature Melting Pots	24.00	48.00		6914.90.0000							
	3	56025T2	Nitrile-Coated Cotton Heat-Protection Glove 400	13.68	41.04		6116.10.0000							
	2	5499A12	Tongs	18.86	37.72		8203.20.6060							
			<i>tape</i>		0.00									
	3	6802K22	Military Grade Pipe Thread Sealant Tape Premium, 43'L X 1/4" W, .0032" Thk, 1.2 G/CC Gravity	3.11	9.33		3920.10.0000							
	3	7612A25	Duct Tape Conformable, 1/2" Width X 60 Yards Length	9.34	28.02	Canada	5906.10.0000							
	3	7648A711	Tape Made with Kapton® Polyimide High Temperature, 1/4" W, 5 Yards, .0025" Thk	4.34	13.02		3919.10.2040							
			<i>machine oil for Shopbot setup:</i>											
	1	1244K14	10W Machine Oil (4 oz.)	3.33	3.33									
			<i>pressure pot (bubble removal for casting)</i>											
	1	9590T11	Pressure Tank for Air-Powered Paint Sprayer, Zinc-Plated Steel, 2.5 Gallon	144.58	144.58									
	1	9590T15	Plastic Liners for 2.5 Gallon Stainless Steel Pressure Tank for Air-Powered Paint Sprayer	16.65	16.65									
	1	9590T23	Replacement Cover Gasket for Zinc-Plated Steel Pressure Tank for Air-Powered Paint Sprayer	7.40	7.40									
	1	4464K563	302 Stainless Steel, 3/8 Pipe Size, Hex-Socket Plug, 150 PSI	1.87	1.87									
	1	4628K81	Safety Air-Exhaust Brass Ball Valve	13.28	13.28									

fab lab inventory : Fab Lab Inventory										
	1	6534K19	Industrial-Shape Hose Coupling	1.82	1.82					
	1	5485K21 <i>laser ventilation</i>	Medium Pressure Brass Hex Nipple	1.40	1.40					
	1	5400K3 <i>PCB rivets</i>	Bend-and-Stay Very Flexible Metal Duct Hose for Fumes, 5 foot section, for laser ventilation.	44.6	44.6					
	2	3498A11	Center-Marking Punch with Round-Knurled Handle	3.48	6.96					
	2	3415A13	Pin-Loosening Punches	5.43	10.86					
										McMaster: \$3,444.55
			RotoMetals http://www.rotometals.com/ <i>metal casting</i>							
	10	LOWMELTIN GPOINT281A LLOY	Roto281F Low Melt Fusible Bismuth Based Alloy Ingot	19.99	199.90					RotoMetals: 19.990 \$
			Uline http://www.uline.com/ <i>lasercutter cardboard:</i>							
	100	S-12647	30 x 40" 275# Corrugated Pads	1.50	150.00		USA		48.02	Uline: 15.000 \$
			Machinable Wax.com http://www.machinablewax.com <i>machinable wax</i>							
	10	18-0150307	Machinable wax blue 1.5" x 3" x 7"	8.95	89.50		USA		3407.00.4000	
	5	18-150612	Machinable wax blue 1.5" x 6" x 12"	24.95	124.75		USA		3407.00.4000	
	5	18-030606	Machinable wax blue 3" x 6" x 6"	25.95	129.75		USA		3407.00.4000	
										Machinable Wax.com 25.450 \$
			Acrylic http://www.jfreeman.com/ Acrylic for laser cutting. You should be able to source this from just about any country. We order locally from J Freeman, Brand name ZYRO. For non fluorescent edge, the customer should specify "GP or CAST" material. All 4' x 8' sheets cut to 12' x 24" Color isn't important, we just order a variety, so if a certain color is out of stock, improvise as long as you stick with GP/Cast. J. Freeman uses Plexiglas Brand, for color codes visit http://www.plexiglas.com/pdf_catalog/20.pdf							
	1	#2050	Blue 1/4" thickness 6mm #2050 cast material	224.96	224.96		USA		3920.51.1000	
	1	#2108	Green 1/4" thickness 6mm#2108 cast material	224.96	224.96		USA		3920.51.1000	
	1		Clear 1/4" thickness 6mmcast material	121.60	121.60		USA		3920.51.1000	
	1	#7328	White 1/8" thickness 3mm#7328 cast material	103.68	103.68		USA		3920.51.1000	

fab lab inventory : Fab Lab Inventory											
		1	# 2037	Yellow 1/8" thickness 3mm # 2037 Cast Material	103.68	103.68		USA	3920.51.1000		
		1	#2025	Black 1/8" thickness 3mm #2025 Cast Material	103.68	103.68		USA	3920.51.1000		
		1	#2283	Red 1/8" thickness 3mm #2283 Cast Material	103.68	103.68		USA	3920.51.1000		
		1	#9093	Flourescent Green edge 1/4"	224.96	224.96		USA	3920.51.1000		
		1	#9095	Flourescent Red edge 1/4"	224.96	224.96		USA	3920.51.1000		
		1	#2119	Orange 1/4" thickness 6mm#2119 cast material	224.96	224.96					
									Acrylic:		
									\$1,661.12		
				Tower Hobbies https://www3.towerhobbies.com Wood for Lasercutting							
		1	LXAS8305	Midwest Poplar Plywood Sheet 1/8 x 12 x 24" (30)	174.80	174.80		Wood:	USA	44.12	
									17.480 \$		
				US Gypsum http://plaster.com/ casting							
		10		Hydrostone Super X - 1 Gallon Pail	12.75	127.50		USA	2520.10.0000		
		10		Drystone - 1 Gallon Pail	13.00	130.00		Plaster:	USA	2520.10.0000	
									25.750 \$		
				Smooth-On (or Reynolds Adv. Mtls.) http://www.smooth-on.com/ molding							
		10		OOMOO 25 Pint	25.47	254.70		USA	3910.00.0000		
		5		Smooth-Cast 305	25.96	129.80		USA	3909.50.1000		
		5		Smooth-Cast 326 (Cannot be purchased for overseas)	25.96	129.80		USA	3909.50.1000		
		2		Universal Mold Release - Aerosol Can (Cannot be purchased for overseas)	13.28	26.56					
		1		SO-Strong® 9-Pack Color Sampler	28.25	28.25					
		2		Ease Release 205 - Pint Unit- (Cannot be purchased for overseas)	13.20	26.40					
		5		SORTA Clear® 37 - Trial Size	34.72	173.60		USA	3910.00.0000		
									Smooth-On:		
									76.911 \$		
				Blick Art Materials http://www.dickblick.com/ molding:							
		2		BLICK STUDIO GESSO/ GALLON 2 COAT	25.50	51.00		USA	9503.00.0000		
		2		FOAM BRUSH SET/ 48SET CLSPK WD HND	19.09	38.18		USA	9603.40		
		2		FLEXWAX 5 lb block	51.14	102.28		USA	3407.00.4000		
		1		TITE- STRETCH CORD/100 FT	7.99	7.99		USA	5607.90		
		1		CORD SETTER/ 5X1IN	19.95	19.95		USA	8306.29		
		4		ACRYLIC SCRN FBR INK/BLK QUART	22.39	89.56		USA	3215.11.0060		

fab lab inventory : Fab Lab Inventory											
	2	43215-5517	ACRYLIC SCRN FBR INK/ PROCESS CYAN QUART	22.39	44.78		USA	3215.19.0060			
	4	43215-1007	ACRYLIC SCRN FBR INK/WHT QUART	22.39	89.56		USA	3215.19.0060			
	2	43215-4407	ACRYLIC SCRN FBR INK/ PROCESS YELLOW QUART	22.39	44.78		USA	3215.19.0060			
	2	43215-3007	ACRYLIC SCRN FBR INK/ MAGENTA QUART	22.39	44.78		USA	3215.19.0060			
	3	43405-1109	MONOFIL POLYST FABRC/WHT NO 110	12.79	38.37		USA	7019.52			
	2	43429-1012	SCRNPT 110 MONO FRAM/ 8X10X1 WHT CORDED,	17.49	34.98		USA	5911.20.20.0 0			
	2	43429-1004	SCRNPT 110 MONO FRAM/ 10X14X1 WHT CORDED	19.92	39.84		USA	5911.20.20.0 0			
	2	37204-1006	Squeegee, Standard 6"	7.17	14.34		USA	9603.90			
	2	37204-1010	Squeegee, Standard 10"	12.99	25.98	Blick:	USA	9603.90			
		shirts available from http:// www.cheapes tees.com/	T-Shirt export codes: White-61091 00004, Color-610910 0013								68.637 \$
		Budnick Converting http:// www.budnickconverting.com Prices as of 7/15/08 and reflect bulk rates only. If you need to order contact lass at cba dot mit dot edu. vinylcutter									
	1	Permacel # 595B	Permacel # 595B transfer adhesive 6"x60 yds. @	53.75	53.75		USA	3506.10.00.0 0			
	1	3M #214	3M #214 masking tape 6"x60 yds @	211.22	211.22		USA	4811.41.2100			
	1	3M #1	3M #1 epoxy film on liner 6"x100 yds @	220.87	220.87		USA	3919.10.2020			
	1	3M #1126	3M #1126 copper tape with conductive adhesive 6"x36 yds @	246.04	246.04		USA	7410.11.0000			
			coming: carpet tape coming: sandblast stencil, 3M scotch brand "buttercut"				Budnick:				73.188 \$
		Beacon Graphics http://beacongraphics.com vinyl note this is "Sign" vinyl, 4 years durability, opaque, A4 series									
	1	A4108-O-F	A4 BRIGHT YELLOW 1550	56.79	56.79		USA	3919.90.5060			
	1	A4375-O-F	A4 MERLOT 1550	56.25	56.25		USA	3919.90.5060			
	1	A4555-O-F	A4 MEDIUM BLUE 1550	56.25	56.25		USA	3919.90.5060			
	1	A4090-O-M	A4 BLACK 2450	81.90	81.90		USA	3919.90.5060			
	1	A4005-O-M	A4 TRUE WHITE 2450	81.90	81.90		USA	3919.90.5060			
	1	AT75-24	R-TAPE CLEAR CHOICE 24X100 YDS	90.40	90.40		USA	3919.90.5060			
		Global Laminates http:// www.globallaminates.com/ machineable PCB stock Prices as of 7/15/08 and reflect					Beacon :				42.349 \$

fab lab inventory : Fab Lab Inventory												
		bulk rates only. If you need to order contact: info@fabfoundation.org, Ryan.Walsh@cba.mit.edu or order from Inventables: https://www.inventables.com/categories/materials/circuit-board-blanks										
		FR1 .062 1/0 40"x48"										
	75	6"x8" Single	Single side circuit board stock	1.40	105.00			USA	4811.90.5050			
	25	6"x8" Double	Double side circuit board stock	2.50	62.50			USA	4811.90.5050			
		Composites										
		Entropy Resins										
		https://entropyresins.com/										
		Super Sap ONE Epoxy and ONE Hardener, 3 gal, Complete Starter Kit (Pumps, cups, sticks, gloves) (Cannot be purchased for overseas)										
	3	/		254.95	764.85							
		https://entropyresins.com/product/super-sap-100-1000/										
		Super Sap CLR Epoxy and CLF (FAST) Hardener, 3 gal, Complete Starter Kit (Pumps, cups, sticks, gloves) (Cannot be purchased for overseas)										
	3	/		254.95	764.85							
		https://entropyresins.com/product/super-sap-clear-epoxy-resin/										
		Fabrics-store.com										
		http://www.fabrics-store.com/										
		IL020, 100% Linen, 57 inch, per yard										
	10			10.39	103.90							
		http://www.fabrics-store.com/first.php?goto=big_fabric&menu=f&menu=f&fabric_id=740										
		Home Depot										
		http://www.homedepot.com/p/Owens-Corning-FOAMULAR-250-2-in-x-48-in-x-8-ft-R-10-Scored-Squared-Edge-Insulation-Sheathing-52-DD/202085962										
	10		FOAMULAR 250 2 in. x 48 in. x 8 ft. R-10 Scored Squared Edge Insulation Sheathing LOCAL SOURCING PLEASE	33.92	339.20							
		Fiberglass										
		http://www.fibreglast.com/product/low-temperature-release-film-1580/										
	10	Vacuum Bagging Films Peel Ply Tapes	Low Temperature Release Film, unperforated (yds)	2.95	29.50							
		Amazon										
		http://www.amazon.com/1A-Linen-15-Inch-Natural-100-Yard/dp/B00HTVMX08										
	2		LA Linen 15-Inch Natural Jute Burlap Roll, 100-Yard, Natural	50.90	101.80							
		http://www.amazon.com/Wiss-28N-Industrial-Shears-Scissors/dp/B000TDILJA										
	3		Wiss 28N Industrial Shears / Scissors	26.32	78.96							

fab lab inventory : Fab Lab Inventory																				
		http://www.amazon.com/Duck-Stretch-20-Inch-Single-970700/dp/B000NHTUC	Duck Brand Stretch Wrap, 20 Inches Wide x 1000 Feet Long, Single Roll (970700)	2	19.97	39.94														
		http://www.amazon.com/Warner-250-Tool-covering-Perforator/dp/B00016JLAQ	Warner 250 Tool Wall covering Perforator	1	31.62	31.62														
		https://www.amazon.com/Mountain-Mist-Quilt-Light-Polyester-Batting/dp/B000G6JNC	Mountain Mist Quilt-Light Polyester Batting, Full 81-inch-by-96-inch	3	6.58	19.74														
		http://www.amazon.com/Space-Saver-Vacuum-Storage-Jumbo/dp/B004X98B5A	50 PACK Space Saver Vacuum Storage Bags Jumbo Size 51"X40"	2	102.95	205.90														
		http://www.amazon.com/Mann-Release-Technologies-Ease-200/dp/B004BNAN3	Mann Release Technologies Ease Release 200 14 fl. oz.	3	10.44	31.32														
		http://www.amazon.com/Johnson-Fine-Wood-Paste-00203/dp/B0000DIWIM	Johnson Wax 16 Oz Fine Wood Paste Wax 00203	3	7.99	23.97														
		http://www.amazon.com/Gorilla-Glue-50008-Adhesive-8-Ounces/dp/B0000223UV	8oz Original Gorilla Glue	5	12.99	64.95														
		http://www.amazon.com/Members-Mark-Clear-Plastic-Cups/dp/B001KJFPR8	Members Mark Clear Plastic Cups - 100/16oz Cups	2	12.39	24.78														
		http://www.amazon.com/All-you-Containers-Lids-32/dp/B00IEBYLKM	All 4 you Containers w/ Lids 32 oz (24)	2	12.99	25.98														
		http://www.amazon.com/Chenille-Kraft-Natural-Wood-Craft-Sticks-Jumbo-Size-6-x-3-4-Wood-Natural-Wood-500-Box/dp/B001GXD6B	Chenille Kraft Natural Wood Craft Sticks, Jumbo Size, 6 x 3/4, Wood, Natural Wood, 500/ Box (3776-01)	2	7.27	14.54														
		http://www.amazon.com/Perfect-Stix-PAINT9-Birchwood-Paddle/dp/B009EE61M	Perfect Stix 9" Wooden Paint Paddle Stirrer Sticks Length (Pack of 100)	2	13.25	26.50														
		http://www.amazon.com/Mountain-452-6-4-Inch-Plastic-Spreaders/dp/B000LQDAT	Mountain 4526 4-Inch Plastic Spreaders, 100/box	2	28.39	56.78														

fab lab inventory : Fab Lab Inventory											
			Ansell TNT Blue 92-575 Nitrile Glove, Chemical Resistant, Powdered, Disposable, Rolled Beaded Cuff, 9.5" Length, 5 mils Thick, Large (Pack of 100)								
		http://www.amazon.com/dp/B003K15D9E		7.95	39.75						
		https://www.amazon.com/Irwin-Tools-Quick-Piece-Clamp/dp/B00M9IHVIC/	Irwin Tools Quick Grip 6 Piece Clamp Set	57.91	173.73						
		http://www.amazon.com/BLACK-GARBAGE-(TRASH)-BAGS-FOR-HEAVY-INDUSTRIAL-USE,60-GALLON-XXX-HEAVY,BLACK-2.1-MIL-4-MIL-STRENGTH,100/CASE/dp/B000Y3PPK8	BLACK GARBAGE (TRASH) BAGS FOR HEAVY INDUSTRIAL USE, 60 GALLON XXX. HEAVY, BLACK 2.1 MIL - 4 MIL STRENGTH, 100/CASE	53.99	53.99						
		http://www.amazon.com/3M-Scotch-Seal-Mastic-Width-Length/dp/B0010XFTQ6	3M Scotch-Seal Mastic Tape	11.72	35.16						
		McMaster									
		http://www.mcmaster.com/#5233k65/=ud4csa	PVC Tubing /// 5233K65	\$.75 per ft	37.50						
		http://www.mcmaster.com/#91465k92/=ud4coc	Brass Push on hose Fitting 5 pack /// 91465K92	8.21	8.21						
		Rock West Composites									
		13055-D-GROUP	DRY WOVEN FABRIC - FLAX FIBER - 2X2 TWILL - 500 TEX / 4500 DENIER / 367 GSM	38.39	383.90						
						total:				\$3,481.32	
		MTM a-la Jake									
		<i>material:</i>									
		8619K438	HDPE Sheet approximating 3/8" Thick, 4x8'	168.86	168.86				mcmaster		
		<i>tooling:</i>									
		65-013	1/8" Solid Carbide One Flute Upcut Super O Flute for Plastic, Wood, Aluminum, Solid Surface	35.75	71.5				onsrud		
		2673A75	M6 Tap	16.10	16.1				mcmaster		
		27535A48	Countersink Bit	18.08	18.08				mcmaster		
		7396A42	Torx Drill Driver T15	3.84	3.84				mcmaster		
		7396A41	Torx Drill Driver T10	3.84	3.84				mcmaster		
		<i>fasteners:</i>									
		99512A265	Button Head Thread-Forming Plastic Screws No. 6, 3/4"	11.21	67.26				mcmaster		
		99512A259	Button Head Thread-Forming Plastic Screws No. 6, 1/2"	11.18	11.18				mcmaster		
		95893A258	Flat Head Thread-Forming Plastic Screws No. 6, 1/2"	6.49	6.49				mcmaster		
		91292A126	M5x16 SHCS	10.73	10.73				mcmaster		
		93625A200	M5 Locknuts	6.46	6.46				mcmaster		

fab lab inventory : Fab Lab Inventory											
	50	92981A198	Shoulder Bolt 8mm Shoulder x 8mm Length x M6	1.33	66.5	mcmaster					
	10	92981A202	Shoulder Bolt 8mm Shoulder x 16mm Length x M6	1.32	13.2	mcmaster					
	2	91090A110	Bearing Shim via Oversize Washer	4.97	9.94	mcmaster					
	1	https://www.vxb.com/100-608ZZ-Skateboard-Inline-Skate-Rollerblade-p/100skate.htm	608ZZ Bearings (100)	19.95	19.95	vxb					
	2	https://www.amazon.com/BALITENSE-N-Timing-Printer-Mendel-Rostock/dp/B078BMBF3Z/?ref=sr_1_6?s=industrial&ie=UTF8&qid=1544197796&sr=1-6&keywords=gt2+10mm+belt	GT2 Timing Belt, 10mm Width	14.50							
	2	https://www.amazon.com/dp/B07G88TR8S/?ref=biss_dp_t_asn	GT2 Pulley, 20T or 16T for 10mm Width Belt, Bore to match Motors	9.99							
	1	https://www.amazon.com/LETOUR-96V-240V-Converter-S-500W-24-Lighting/dp/B01HTF1Q06/	500W 24V Power Supply	43.99							
	5	https://www.omc-stepperonline.com/hybrid-stepper-motor/nema-23-bipolar-18deg-09-nm-1275ozin-2a-36v-57x57x52mm-4-wires-23hs20-2004s.html	NEMA 23 Stepper Motor Bipolar	13.63							
	1	486-3979-ND	Power Entry IEC 320-C14 10A	14.00	14.00	digiquey					
	2	486-1226-ND	Power Entry Fuse 10A	0.43	0.86	digiquey					
	20	AE10316-ND	RJ45 Modular 8p8c, For Flat Cable, IDC 8 Conductor 26AWG	0.33	6.60	digiquey					
	1	A0082R-100-ND	Ribbon with Jacket RJ45	29.82	29.82	digiquey					
	1	K582-ND	Crimping Tool M3 Stud Terminal	29.90	29.90	digiquey					
	20	277-11144-ND	18-20AWG Stranded with Silicone Jacket, Black	0.14	2.80	digiquey					
	1	CN101B-100-ND	18AWG Stranded with Silicone Jacket, Red	44.27	44.27	digiquey					
	1	CN101R-100-ND	18AWG Stranded with Silicone Jacket, Red	44.27	44.27	digiquey					
	1	Q731-ND	Zip Ties ~ 6"	3.25	3.25	digiquey					
	1	https://www.adafruit.com/product/1749	TinyG	165.00	165.00	adafruit					
					MTM Total:						
					83.470 \$						
		MTM a-la Nadya									

fab lab inventory : Fab Lab Inventory											
		tooling:									
	5	57185A21	High-Torque Ball-Point Hex L-Key, 2mm Hex, 4" Blade Length	0.79	3.95	mcmaster				for m3 fasteners	
	2	8302A12	Chip-Clearing Tap for Through Holes, Standard, 3 x 0.5mm Thread Size	9.36	18.72	mcmaster				m3 tap	
	5	2958A55	Metric Black Oxide High-Speed Steel Jobbers' Drill Bit, 2.5mm, 57mm Overall Length, 25mm Drill Depth, 118 Degree Point	1.54	7.7	mcmaster				m3 tap	
	5	2958A66	Metric Black Oxide High-Speed Steel Jobbers' Drill Bit, 3.5mm, 70mm Overall Length, 32mm Drill Depth, 118 Degree Point	1.67	8.35	mcmaster				m3 clearance	
	1	2742A513	Countersink for Aluminum, Brass, and Bronze, 3-Flute, 1/2" Body Diameter, 1/4" Shank Diameter, 82 deg	16.09	16.09	mcmaster					
	1	4289A35	Fixed Length Deburring Tool with Two Blades	7.66	7.66	mcmaster					
	2	65-013	1/8" Solid Carbide One Flute Upcut Super O Flute for Plastic, Wood, Aluminum, Solid Surface	35.75	71.5	onsrud					
		fasteners									
	1	95610A530	Nylon Flat Washer, M3 Screw Size, 3.2mm ID, 8.0mm OD	2.84	2.84	mcmaster				nylon	
	1	93475A210	Type 18-8 Stainless Steel Flat Washer, M3 Screw Size, 3.2mm ID, 7.0mm OD	1.62	1.62	mcmaster				steel	
	1	92095A181	18-8 Stainless Steel Button-Head Socket Cap Screw, M3 Size, 8 mm Length, .5 mm Pitch	9.37	9.37	mcmaster					
	1	92095A183	18-8 Stainless Steel Button-Head Socket Cap Screw, M3 Size, 12 mm Length, .5 mm Pitch	4.00	4	mcmaster					
	1	92095A472	18-8 Stainless Steel Button-Head Socket Cap Screw, M3 Size, 18 mm Long, 0.5 mm Pitch	6.00	6	mcmaster					
	1	90576A102	Zinc-Plated Class 8 Steel Nylon-Insert Locknut, M3x0.5 Thread Size, 5.5mm Wide, 4mm High	3.27	3.27	mcmaster					
	1	91828A211	Type 18-8 Stainless Steel Hex Nut, M3x0.5 Thread Size, 5.5mm Wide, 2.4mm High	5.55	5.55	mcmaster				can be used with loctite to make permanent	

fab lab inventory : Fab Lab Inventory											
	1	94180A331	Metric Brass Heat-Set Insert for Plastics, Tapered, M3-.5 Internal Thread, 3.8mm Length	12.30	12.3	mcmaster				can be used with regular weller	
		<i>bearings</i>									
	10	6389K625	Light Duty Dry-Running Sleeve Bearing, 1/16" Flange Thickness, Nylon, for 3/8" Diameter, 1/2" OD, 3/8" Length	0.59	5.9	mcmaster				for use with aluminium shafts	
	10	7815K19	Multipurpose Flanged Sleeve Bearing for 3/8" Shaft Diameter, 1/2" OD, 1/2" Length, 11/16" Flange OD	3.57	35.7	mcmaster				for use with precision ground hardened steel shafts	
	10	6381K451	Alloy 932 (SAE 660) Bronze Sleeve Bearing for 3/8" Shaft Diameter, 1/2" OD, 1/2" Length	1.58	15.8	mcmaster				for use with precision ground hardened steel shafts, can be glued with epoxy	
	2	60355K45	Ball Bearing, Double Shielded, Trade No.R6-2Z	6.25	12.5	mcmaster					
		<i>shafts</i>									
	3	4568T22	Highly Corrosion-Resistant 6063 Aluminum, Anodized Tube, 3/8" OD, 0.070" Wall Thickness, 6 Feet Long	9.56	28.68	mcmaster				these are 6', maybe we can get a more convenient size if we custom order from mcmaster	
	4	6061K32	Hardened Precision Steel Shaft, 3/8" Diameter, 12" Length	6.48	25.92	mcmaster					
		<i>slides</i>									
	1	9829K3	Nylon-Lined Sleeve-Bearing Carriage, Threaded-Hole, for 12 mm Rail Width	24.06	24.06	mcmaster					
	1	9829K13	Guide Rail, 12mm Wide, 270mm Long, for Nylon-Lined Sleeve-Bearing Carriage	51.30	51.3	mcmaster					
		<i>materials</i>									
	4	8575K213	Black Delrin ® Acetal Resin Sheet, 1/8" Thick, 12" x 24"	27.26	109.04	mcmaster					
	4	9785T231	Rigid HDPE Polyethylene Marine Grade Sheet, 1/2" Thick, 24" x 48", White	83.16	332.64	mcmaster					
	10	9284K1	Expandable sleeving, do several colours of this	2.08	20.8	mcmaster					
	2	7130K12	Nylon Cable Tie, 4" Long, 7/8" Bundle Diameter, 10 lb. Break Strength, White	2.27	4.54	mcmaster					
		<i>adhesives</i>									
	1	7476A19	Carpenter's Glue for Wood, 4-Ounce Bottle	2.01	2.01	mcmaster					
	1	91458A370	Loctite® 425 Threadlocker, 0.7 oz.	19.93	19.93	mcmaster					

fab lab inventory : Fab Lab Inventory											
	3	7467A21	3M Adhesive Cartridge, DP100 Epoxy, 1.69 Ounces	18.88	56.64	mcmaster					
	1	7467A43	Dispensing Gun for 1.18, 1.25, 1.52, 1.59, 1.69 oz. 3M Adhesive Cartridge	85.76	85.76	mcmaster					
	1	7467A12	Mixer Nozzle for 1.25- & 1.69-oz. 3M Adhesive Cartridge	2.93	2.93	mcmaster					
	3	7544A66	Plastic Dispensing Bottle, 1 oz. Size	9.26	27.78	mcmaster					
	2	75165A791	Stainless Steel Dispensing Needle, Assort 1 Each of 12 Gauges	25.03	50.06	mcmaster					
		<i>drive trains: lead screw</i>									
	1	6350K128	Ultra-Smooth Threaded Rods, 1/4"-20 Size, 2:1 Speed Ratio, 1/10" Travel/Turn	148.45	148.45	mcmaster					
	3	6350K204	1/4"-20 Size, 10 Tpi, Wear-Compensating Nut for Ultra-Smooth Threaded Rods	29.33	87.99	mcmaster					
	6	6157K12	One-Piece Clamp-on Shaft Collar for 1/4" Diameter, Aluminum	2.20	13.2	mcmaster					
	6	6655K33	Steel Thrust Ball Bearing, Stainless Steel Washers, for 1/4" Shaft Diameter, 9/16" OD	2.85	17.1	mcmaster					
	3	6208K441	Aluminum Helical Flexible Shaft Coupling Clamp-on, 1" Length, 3/4" Outside Diameter; Shaft D A 3/16"; Shaft D B 1/4"	39.47	118.41	mcmaster					
		<i>drive trains: timing belt</i>									
	1	1679K686	Trapezoidal Tooth Urethane Timing Belt, .080" Pitch, Trade Size 962mxl, 77" Outer Circle, 1/4" Wide	10.10	10.1	mcmaster					
	A 8	6M16M018DF 6006	2.03 mm (MXL) Pitch, 18 Teeth, 6mm Bore, Plain Bore, No Insert, Polycarbonate Timing Pulley for 6mm Wide Belt	3.93	31.44	sdp-si					
	A 2	6T16M018DF6 005	2.03 mm (MXL) Pitch, 18 Teeth, 5mm Bore, Aluminum T-Insert, Polycarbonate Timing Pulley for 6mm Wide Belt	6.27	12.54	sdp-si					
	16	S99GGFM05 0605	General Purpose Flanged Bearing, 5mm Bore, 6mm Outside Diameter, 5mm Overall Length, . Material-G300® Polymer.	1.31	20.96	sdp-si					

fab lab inventory : Fab Lab Inventory										
	8	A 9X25M0420	M4 x 0.7 Thread, 5mm Shoulder Dia., 20mm Shoulder length, Stainless Stee	3.03	24.24	sdp-si				
	1	9829K3	Nylon-Lined Sleeve-Bearing Carriage, Threaded-Hole, for 12 mm Rail Width	24.06	24.06	mcmaster				
	1	9829K13	Guide Rail, 12mm Wide, 270mm Long, for Nylon-Lined Sleeve-Bearing Carriage	51.30	51.3	mcmaster				
	6	238538	Motor Step 12VDC 0.4A	21.95	131.7	jameco				
	4	167047	Motor Gear 12VDC 106mA	22.95	91.8	jameco				
	6	232047	12 Volt DC Motor - 19,850 RPM	4.95	29.7	jameco				
	2	2136438	Gearmotor Metal 12Volt131:1 0.3A 80Rpm 250Oz-In 64 Cpr Encoder	44.95	89.9	jameco				for ICs see fab inventory
	50	WM4302-ND	CONN HEADER 4POS .100 R/A TIN	0.49	24.5	digikey				
	50	WM2002-ND	CONN HOUS 4POS .100 W/RAMP/RIB	0.20	10	digikey				
	250	WM1114-ND	CONN TERM FEMALE 22-30AWG TIN	0.19	47.5	digikey				
	1	B007JLN93S	HT-225D Full Cycle Ratchet Crimping Tool with interchangeable die set HT-225D	23.00	23	amazon				http://www.amazon.com/HT-225D-Cycle-Ratchet-Crimping-Interchangeable/dp/B007JLN93S
					MTM Total:					
					\$2,098.80					
			Staples							
			http://www.staples.com							
			stock							
			fixturing:							
	25	504829	Model 137 Scotch Double Sided Permanent Tape with Dispenser, 1/2" x 450"	3.49	87.25		USA	3919.10		
	2	462104	Polyethylene Double Sided Foam Tape, 1" x 36 yds., 2/Pack	57.99	115.98					
			molding and casting:							
	5	617688	Model RK5 Translucent Plastic Cold Cups, 5-oz, 100/Pack	2.99	14.95		USA	3924.10.0002		
	5	563562	TP10 Solo Plastic Party Cups, 10-oz.	6.79	33.95		USA	3924.10.0002		
	5	783575	Model TP16 Solo Plastic Party Cups, 16-oz. Clear	5.79	28.95		USA	3924.10.0002		
	1	112743	Medline Talc Baby Powders, 4 oz, 48/Pack	34.99	34.99					
			cleaning supplies:							
	18	538868	Model 5320 Kimberly-Clark Utility Wipes, 9" x 10 1/2", 125/Pack	3.79	68.22		USA	4823.70		
	10	807727	Sustainable Earth All-Purpose Cleaner, 32 oz. Spray	3.99	39.90			2207.20		
	3	F11601M	O'Dell Angled Broom	9.99	29.97		USA	9603.90.0000		

fab lab inventory : Fab Lab Inventory										
		3	721698	Plastic Dust Pan	5.99	17.97		USA	3924.90	
		<i>office supplies:</i>								
		3	487547	uni-ball Vision Elite Rollerball Pens, Micro Point, Blue/Black, Dozen 13023/13403	28.59	85.77			9608.10.0000	
		5	229690	Acme 8" Economy Shears, Bent-Handle, 3/ Pack	7.99	39.95		USA	8213.00.0000	
		1	818674	X-Acto® 12" Heavy-Duty Plastic Paper Trimmer, 10 Sheet Capacity, Black	49.29	49.29				
		5	514742	Model 11454-CC Staples Mechanical Pencils . 7mm, Black Barrel w/ Blue Grip, Dozen	2.98	14.90		USA	9608.40	
		5	399782	Model L50BP3HB-K6 Pentel Super Hi-Polymer Lead Refills, 0.7mm, HB, 36 Leads	6.04	30.20		USA	9609.20	
		5	264291	Model ZE21BP3-K6 Pentel Clic Eraser with Grip, 3/Pack	3.89	19.45		USA	4016.92	
		3	163451	Model 11299 Staples Glue-Top Scratch Pads, 5" x 8", White, 12/ Pack	17.29	51.87		USA	4820.90.0000	
		5	609009	Model 4184/ Scotch Transparent Tape with Refillable Dispenser	13.29	66.45		USA	3919.10	
		5	452605	Model 07364/ Duck HP260 Crystal-Clear Packaging Tape w/ Dispenser, Clear, 1.89" x 60 yds	8.49	42.45		USA	3919.10	
		5	468389	Staples® Acrylic Utility Duct Tape, Standard Grade, Silver, 2" x 60 yds, 1 Roll	8.99	44.95				
		5	572355	3M #214 masking tape 2"x60 yds	4.99	24.95				
		1	752759	<i>batteries:</i> Duracell 9-Volt Alkaline Batteries, 72/ Pack	287.99	287.99		USA	8506.80.00.00	
		1	751595	Duracell AA Alkaline Batteries, 144/Pack	114.99	114.99		USA	8506.80.00.00	
		1	751596	Duracell AAA Alkaline Batteries, 144/Pack	129.99	129.99		USA	8506.80.00.00	
		1	IM13P6648	<i>3d scanning:</i> 3D Systems 350470 Sense 2 Black Handheld 3D Scanner	399.00	399.00			8471.60	
		5	518307	<i>stock:</i> Pacon® 37654 Spotlight Corrugated Presentation Display Board	30.99	154.95				
									Staples:	
									\$2,029.28	
		** Reference Books** (also available for Kindle-E Reader downloads) Purchase through Amazon.com (note: prices as of 3/7/2014)								

fab lab inventory : Fab Lab Inventory											
	1	521570956	The Nature of Mathematical Modeling, Gershenfeld	31.99						4901.99.0050	
	1	521580447	The Physics of Information Technology, Gershenfeld	28.94						4901.99.0050	
	1	465093477	Designing Reality: How to Survive and Thrive in the Third Digital Revolution	26.32						4901.99.0050	
	1	465027466	Fab: The Coming Revolution on Your Desktop--from Personal Computers to Personal Fabrication, Gershenfeld	12.20						4901.99.0050	
	1	500513759	Manufacturing Processes for Design Professionals THAMES & HUDSON Edition	61.25						4901.99.0050	
	1	831130911	Machinery's Handbook, Toolbox Edition 30th Edition	71.84						4901.99.0050	
	1	73398209	Shigley's Mechanical Engineering Design (McGraw-Hill Series in Mechanical Engineering)	219.95						4901.99.0050	
	1	521809266	The Art of Electronics, Paul Horowitz, Winfield Hill	58.97						4901.99.0050	
	1	1259587541	Practical Electronics for Inventors, Paul Scherz	24.66						4901.99.0050	
	1	1449355730	Learning Python, 5th Edition, Mark Lutz, David Ascher	49.03						4901.99.0050	
	1	1491951907	Creative Coding and Data Visualization with p5.js: Drawing on the Web with JavaScript	33.47						4901.99.0050	
	1	465093477	Designing Reality: How to Survive and Thrive in the Third Digital Revolution	19.04						4901.99.0050	
	1	3947045920	The Last Whole Earth Catalogue: Access to Tools (limited supply)	32.50						4901.99.0050	
										Books:	
										67.016 \$	
<p>Estimated Fab Lab total cost before shipping is between \$100,000 and \$125,000 depending on what brands and models you choose. See top of page for most common options and total cost.</p>											
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