





5 Ton Per Hour Electronic Scrap & Small Appliance Materials Reclamation Facility

By: Chuck Vollmer

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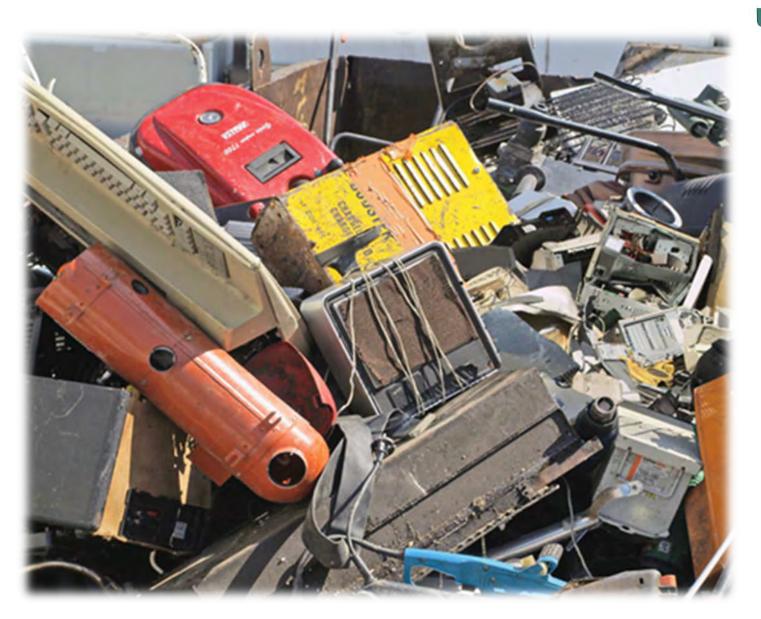






Feedstock: Small Appliances & Electronics





Feedstock Handling Equipment







Truck & Truck Scale



Handling **Equipment**





Pre-Shedder



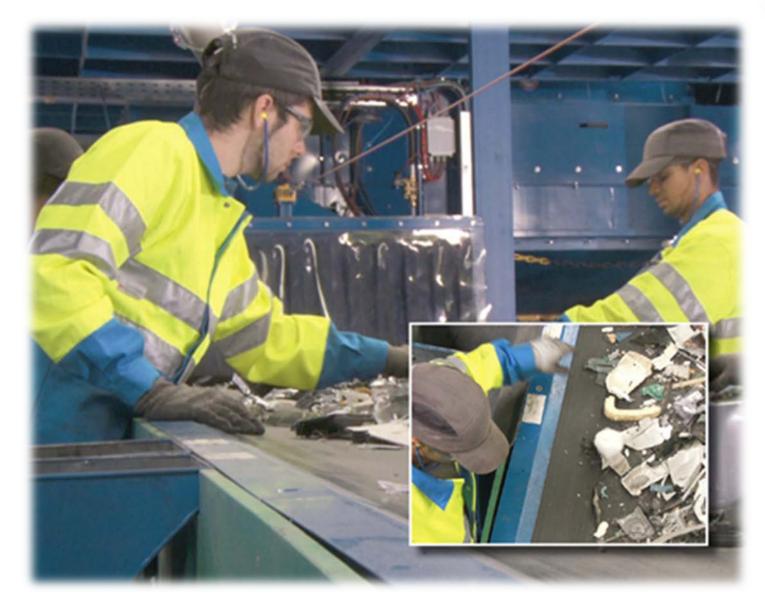




Hand Sorting







Printed Circuit Boards







Motors, Transformers







Hazardous Waste







Fraction Discharge Hand Sorting







Post Shredder I







Iron Separator







Iron Metal







Eddy-Current Separator (Plastics)



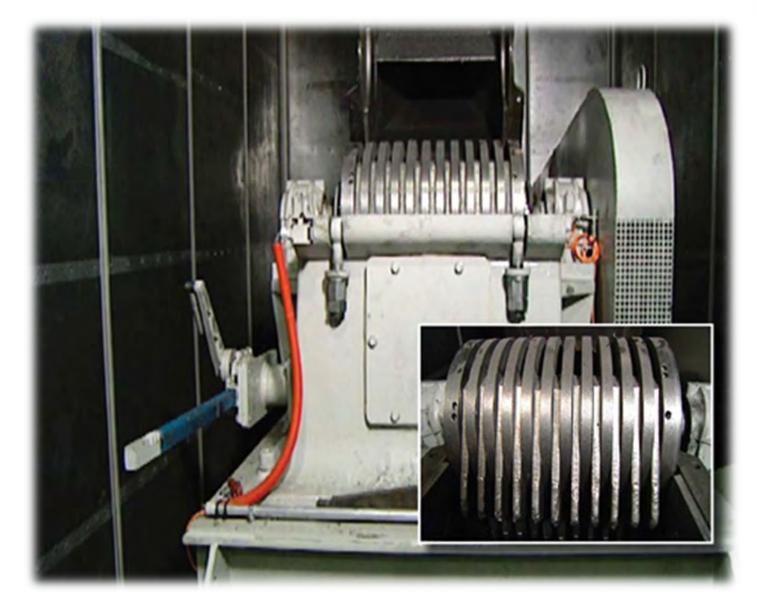




Post Shredder II







Separator







Copper, Brass and Zinc



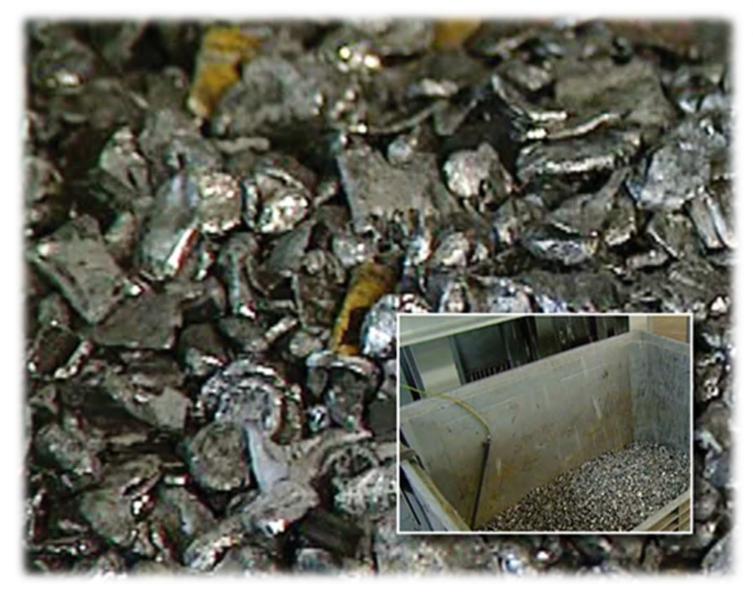




Aluminum







Discharge Systems







Plant Control Panel







Electronic Cables/Wires







Copper Cable Stripping Device





Cathode Ray Tubes (CRTs)





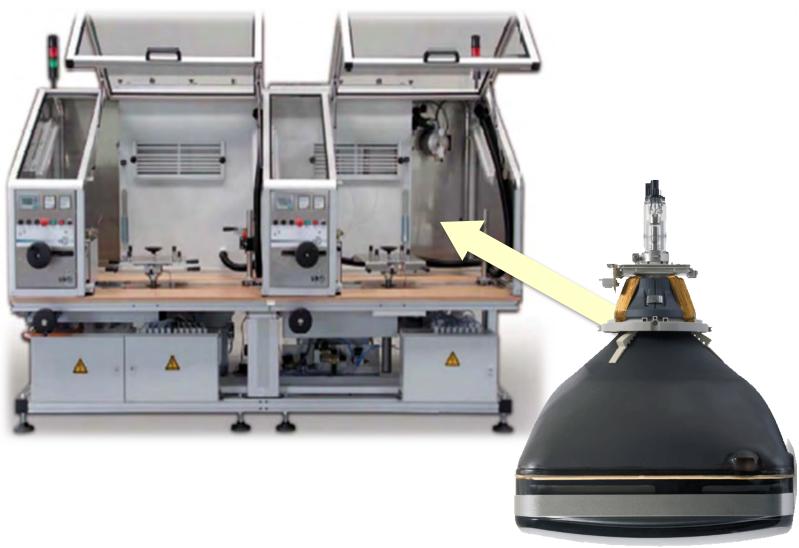




CRT Separation Device (Optional)







Similar Operational Plants











All Trade, Israel





Similar Operational Plants (Con't)





Spectra Media, Croatia











Estimated Cost For Plant & Options



E-Scrap Equipment	Throughput Description	Price @ \$1 = 1.3€	Electrical Power	Sq. Ft.	Labor	Comments			
URT SDA; WEEE (E-Scrap) Step I & II	3-5 tons/hr	\$2,817,433	160kW 480V 60Hz	1250	15	Without Optical Sorting Device			
URT CRT, PC, Printer & Cartridge	400 pieces/hr	\$673,769	30kW 480V 60Hz	750	12	Line within Cutting Device			
Cable/Wire Shredder/Separation	0.3 tons/hr	\$323,054	85kW 480 60Hz	50	2	-			

URT Equipment **\$3,814,256**

Optional Facility/Equipment	Price	Electrical Power	Sq. Ft.	Labor	Comments		
25,000 Square Foot Building with 40' Height (Building \$235,000, concrete slab \$160,000, erection cost \$505,000; buildout \$330,000, HVAC/fixtures \$30,000, architectural and engineering \$85,000, IT/telecom \$80,000, furniture/miscellaneous \$150,000). Assuming basic utilites are already available at site.			1 to 3 acres		Large enough for reburbishment and reuse activities, expansion room to handle future large applicances (e.g., refrigerators, etc.), classrooms, conference room and break room. Elegant enough for a showplace to attract customers and grants.		
Truck Scale	\$150,000	Standard		2	-		
Storage and Collection Containers (10 20-yard containers \$8,000, 10 40-yard containers \$16,000)	\$24,000	N/A		5	Can buy used or leased		
Handling Equipment (Forklifts, Handling Devices, Pickup Truck, Semi-Trailer Truck & Roll-Off Trailer)	Rent	N/A		9	Can buy used or leased		
Optional Equipment	\$1,749,000	Tota	l Labor	45	Estimated		

\$1,749,000

Total Equipment eCyclingUSA Fee (6%)

\$5,563,256 \$333,795

Total Cost

\$5,897,051 Including New Building



1-Shift Operation Feedstock Requirements





40 Tons Per Day (2 Shipping Container Equivalents)



\$ Value of e-Waste Raw Materials

For Estimating Purposes Only

5 Tons Per Hour, 1-Shift Operation, 300 Days Per Year

Feedstock: Computers, Consumer Electronics, Small and Large Applicances

Metal/Material	% of e-Waste	M	\$s per letric Ton*	\$/Ton (2204 pounds)		Total \$/Year (5 tons/hour x 8 hour/day x 300 days/year)	
Iron/Steel (Fe)	20%	\$	195	\$	39.00	\$	468,000
Copper (Cu)	5%	\$	4,430	\$	221.50	\$	2,658,000
Aluminum (AI)	20%	\$	1,300	\$	260.00	\$	3,120,000
ABS Plastics	10%	\$	1,675	\$	167.50	\$	2,010,000
Other Plastics/Foam	40%	\$	287	\$	114.80	\$	1,377,600
Computer Components	5%	\$	2,466	\$	123.31	\$	1,479,766

Source: Jobenomics, eCyclingUSA

100%

Revenue** \$ 11,113,366

Cost of goods sold **\$ 7,327,000**

Operating expenses \$ 2,660,000

Not become \$ 1.126.3

EBITDA

Net Income \$ 1,126,366

10%

**Does not include grants, tax incentives or tipping fees

^{*}Scrap prices as of 3 December 2016

2-Shift Operation Feedstock Requirements





75 Tons Per Day (Less Than 4 Shipping Container Equivalents)



\$ Value of e-Waste Raw Materials

For Estimating Purposes Only

5 Tons Per Hour, 2-Shift Operation, 300 Days Per Year

Feedstock: Computers, Consumer Electronics, Small and Large Applicances

Metal/Material	% of e-Waste	N	\$s per letric Ton*	\$/Ton (2204 pounds)		Total \$/Year (5 tons/hour x 16 hour/day x 300 days/year)		
Iron/Steel (Fe)	20%	\$	195	\$	39.00	\$	936,000	
Copper (Cu)	5%	\$	4,430	\$	221.50	\$	5,316,000	
Aluminum (AI)	20%	\$	1,300	\$	260.00	\$	6,240,000	
ABS Plastics	10%	\$	1,675	\$	167.50	\$	4,020,000	
Other Plastics/Foam	40%	\$	287	\$	114.80	\$	2,755,200	
Computer Components	5%	\$	2,466	\$	123.31	\$	2,959,531	

100% Source: Jobenomics, eCyclingUSA

\$ 22,226,731 Revenue**

Cost of goods sold **\$ 14,730,000**

Operating expenses \$ 3,631,000 *Scrap prices as of 3 December 2016

3,865,731 Net Income \$

EBITDA

17%

^{**}Does not include grants, tax incentives or tipping fees

3-Shift Operation Feedstock Requirements







110 Tons Per Day (5.5 Shipping Container Equivalents)

\$ Value of e-Waste Raw Materials

For Estimating Purposes Only

5 Tons Per Hour, 3-Shift Operation, 300 Days Per Year

Feedstock: Computers, Consumer Electronics, Small and Large Applicances

Metal/Material	% of e-Waste	M	\$s per letric Ton*	\$/Ton (2204 pounds)		Total \$/Year (5 tons/hour x 23 hour/day x 300 days/year)		
Iron/Steel (Fe)	20%	\$	195	\$	39.00	\$	1,345,500	
Copper (Cu)	5%	\$	4,430	\$	221.50	\$	7,641,750	
Aluminum (Al)	20%	\$	1,300	\$	260.00	\$	8,970,000	
ABS Plastics	10%	\$	1,675	\$	167.50	\$	5,778,750	
Other Plastics/Foam	40%	\$	287	\$	114.80	\$	3,960,600	
Computer Components	5%	\$	2,466	\$	123.31	\$	4,254,326	

Source: Jobenomics, eCyclingUSA

100%

Revenue**

\$ 31,950,926

Cost of goods sold **\$ 15,417,000**

*Scrap prices as of 3 December 2016

Operating expenses \$

4,666,000

Net Income \$ 11,867,926

EBITDA 37%

^{**}Does not include grants, tax incentives or tipping fees



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