Low Cost, Scalable, Modular Sorting Technology for Municipal Solid Waste

Nalin Kumar, Ph.D.
President
nanoRANCH
UHV Technologies







UHV's Patented Technology

- Latest <u>Artificial Intelligence Technology</u> developed with US-DOE ARPA-E METALS funding over the last 5 years
- Selection of categories based on 'LOOKS'
 - Simple Example: Al cans, plastic bottles & glass bottles from municipal waste
 - Different aluminum alloys for wrought, extrusions and cast products
 - Zorba into as many as 15 different outputs such as copper, brass, zinc, SS etc.
- Multiple output streams for 16-32 product Categories
- Adjust output stream composition to meet requirements
- User Friendly software can be trained for any "Look'
- Almost 100% accuracy is possible
- Sorting accuracy increases as you run more material
- Technology is scalable for width
- Air-jet, vacuum, electro-magnetic rejection & robotics for pick-up



Why Sorting? Higher Profit Example of Automotive Metal Scrap

Sorting of a Truckload (40,000 lbs) of Automotive Metal Scrap

		Weight	Price			Value		TOTAL	
		(lbs)	\$/lb		\$		\$		
Un-Sorted Scrap		40,679	\$	1.00		40,679	\$	40,679	
	Copper	14,170	\$	2.20	\$	31,174.00			
	Brass	8,890	\$	1.80	\$	16,002.00			
	Zinc	12,270	\$	0.75	\$	9,202.50			
	Aluminum	4,583	\$	0.55	\$	2,520.65			
	Coins	70	\$	15.00	\$	1,050.00			
	PCBs	12	\$	1.00	\$	12.00			
	SS	10	\$	1.50	\$	15.00			
	Leftover	674	\$	0.25	\$	168.50			
SORTED Scrap			T(OTAL			\$	60,145	

Key to Value: Use/Recover/Recycle EVERYTHING

UHV's Metal Sorters









UHV's Metal Sorters



UHV's Sorters

Coin Sorter





Coin Fraction



Scrap

