




Environmental Solutions Group

Leveraging Technology to Maximize Recycling Profits

Alabama Recycling Coalition Conference
7/21/2016
Tuscaloosa, Alabama
Matt Harris



Who are we?



COLLABORATIVE ENTREPRENEURIAL SPIRIT WINNING THROUGH CUSTOMERS HIGH ETHICAL STANDARDS OPENNESS AND TRUST EXPECTATIONS FOR RESULTS RESPECTS AND VALUES PEOPLE

Collection → Transport / Transfer → Recycling / Compaction → Waste to Energy → Compost / Biomass → Landfill



Mobile Refuse Solutions Compaction Solutions Recycling Solutions Renewable Energy Solutions

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- INNOVATION...COMPANIES MUST CONSTANTLY ADAPT AND INTEGRATE MODERN TECHNOLOGY INTO THEIR PRODUCTS IN ORDER TO IMPROVE CUSTOMER SAFETY, PROFITS, AND EFFICIENCY...DON'T BECOME THE BUGGY WHIP MAKER OF THE 21ST CENTURY!



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- Moore's Law...Computing power doubles every two years!
- Solid Waste and Recycling Equipment technology is old...some based upon almost 150 year old hay baling equipment!



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the 10-Megabyte Computer System

Only \$5995 COMPLETE

New From IMSAI!

- 28-Amp Power Supply
- 12" Monitor
- Standard Intelligent 62-Key ASCII Keyboard (Optional Intelligent 86-Key ASCII Extended Keyboard)
- 132-Column Dot-Matrix Printer
- CP/M™ Operating System

You Read It Right ... All for \$5995!

IMSAI...Thinking ahead for the 80's


Computer Division of the Pacific Peripherals Corporation
910 Elgin Avenue, Bldg. 14 • Oakland, CA 94621

415/635-7615


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- Material handled 14 times from collection to finished product at the mill

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- "SMART BALER" TECHNOLOGY
 - Reduces "shrinkage" and theft
 - Maximizes profits (keeps mills and employees honest)
 - Minimizes Rejects
 - For vertical or horizontal balers
 - Weighs, Barcodes, and Photographs each bale
 - Wireless connectivity via Wi-Fi or Cellular
 - Software automatically tracks production data (bale counts and weights by commodity, and location)
 - Vertical Balers – integrated scale (retail, big box stores, grocery etc.)
 - Horizontal Balers – separate scale (MRF's large recycling centers)

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- Now that you have Data, what do you do with it?
 - Data Analysis

Interactive analytics. Real-time updates. Less equipment downtime and more efficiency.

And the dashboards are available everywhere.

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- Telematics for large balers/mrf's
 - Galaxy Pro Monitors:
 - Bale counts by commodity
 - Down time
 - Faults
 - Maintenance reminders
 - Wire consumption/reminders
 - Remote connection for diagnostics
 - Connects internally with PLC via Ethernet module
 - Wireless connectivity via Wi-Fi or Cellular
 - Simple outbound connection, no firewall/security issues

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Galaxy Pro® Monitoring System

Marathon's Galaxy Pro® Monitoring System enables web-based, real time monitoring of production, maintenance, and other data.

Galaxy Pro® Monitoring System

- Production data - total production including bale count by commodity, runtime, and downtime.
- Operational data - real time monitoring of oil temperature, hydraulic pressure, and wire consumption.
- Maintenance data - Preventative maintenance reminders, system fault alerts, and remote connection for diagnostics.

The Galaxy Pro will send email notifications to required personnel as defined by the user. The Marathon Service Tech Team can also initiate contact to monitor and troubleshoot the machine to maximize uptime. The Galaxy Pro is firewall friendly using a simple outbound internet connection.




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Organics...Where do I begin?




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Organics processing is the next frontier in recycling

- Organics make up about 36% of solid waste, yet only a small percentage is recovered/recycled.
- Digesters (creating CNG & Electricity)
- Composting

Organics from MSW





Electrical Room
Mechanical Room
Digesters (Qty of 8)
Shipping Chute

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The Torxx Kinetic Pulverizer is revolutionary feedstock preparation machine that uses the power of air turbulence to cause materials to pulverize themselves

- An electric motor (500 HP) drives a spinning shaft with arms at a very high speed
- Low wear on the internals since the material self destructs
- Pulverizes material to a fluff
- Robust enough to handle both soft and ductile materials
- Tough and resilient to pulverize rock, metal and dense plastics
- Replaces shredders, cutters, grinders and hammer mills.
- Finished result size is adjustable
- Low total cost of operation



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SAFETY...EVERYTHING ELSE IS SECONDARY!

- Marathon has members on the ANSI committees that pertain to waste handling equipment.
- If it is made by man, it can be defeated by man.**
- Solid waste and recycling industry is one of the most dangerous for workers
- Interlock redundancy
- Training





CAUTION
PINCH POINT.
Keep hands clear.
Do NOT operate with cover removed.

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SHEAR JAMS

Stamper Anti-Jamming Device
Automatically prevents shear jam before it happens
Saves labor and lives



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COLLABORATE WITH PROFESSIONAL STAFF WINNING THROUGH CUSTOMERS HIGH ETHICAL STANDARDS, OPENNESS AND TRUST EXPECTATIONS FOR RESULTS RESPECTS AND VALUES PEOPLE

The most important thing you can do to ensure your program is maximizing efficiency, profit and safety, is to talk with an industry professional.

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THANK YOU!!!

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