Natural resources consumed to acquire raw materials for manufacturing.

Constant demand for low cost material to meet demand for low cost parts in low cost product

RoHS and WEEE identification by common parts and components will improve reclamation

As sources for recycled materials create greater and more efficient supply, cost will be less than mining natural resources.

Standards for idenifying materials in parts from point of production enables manufacturers, government, service providers, reverse logistics, and all participants to track easily.

A new marketplace connects Asset Recovery of retired products, Recycled Components, and an auction site for reclaimed raw materials.

Simple and easy processes, consumer education, and a wide network of collectors are critical to evolve.

Service Providers can join the network of collectors, using existing tracking to easily transfer unclaimed parts and product for recycle revenue

The goal is to reduce and control e-waste through easy identification, proper tracking and complete solutions.

Applications connect collectors with recyclers, and create opportunities to reuse materials as a new resource for manufacturing.

Application integration for Customer Service Call Centers empowers manufacturers and support personnel to direct consumers to collectors, and coordinate efficient routes for recyclers to pick-up scrap.

Natural Resources
  Mined and prepared for parts, components, and manufcaturing

Parts Production
  Identify RoHS, WEEE, Elements by part
  Cross-reference common parts (variety of MFFR part numbers)

Manufacturing
  Parts to Products, identify and track percent of elements RoHS, WEEE

Forward Logistics
  Track forward logistics, region, and sales
  Simplify tracking and reporting for manufacturers & government

Retail and Channel Sales
  Track date / time of sale, warranty birthday, product sales location
  Warranty validation for call centers, warranty service, and return

Consumer Registration
  Registration enables communication for education and instruction
  Extended warranty, return for technology upgrade, or proper disposal
  Locate a local service provider, purchase accessories, many benefits
  Consumer registration tied to Warranty Birthday for validation

Call Center
  Warranty Birthday expedites warranty confirmation and assistance
  Real Time status of Field Service, Service Providers, Collector Network
  CRM integrated with registration, additional point of entry & updates

Service Providers
  Network of Service Providers integrated for Real Time Service Status
  Many independent service providers with a consolidated real time view
  Call Center can assign field technician and view real time repair status
  Service Providers can also opt-in to become Collectors

Parts Distributors
  Service Providers have real time visibility to inventory, price, and order

Collectors
  Simple streamlined application designed for One Man Operation
      Part-time collectors, revenue for retired individuals, etc
  Complete application for Business version of Collectors
  Fully integrated with Recycle Application and Compliance reporting

Recyclers
  Recycle Application include collector application functions
  Manage Asset Recovery, product to material conversion, finances, etc
  Reporting to manufacturers and government based on region

Events, Optimization, and Auction
  Collection events scheduled in applications posted for public calendar
  Ability for recyclers to schedule and optimize pick-up at collection sites
  Ability for recyclers to auction Asset Recovery products globally
  Ability for recyclers to auction materials for reuse globally
  Materials become the Renewed Natural Resource for manufacturing

Manufacturers
  Warranty Birthday for financial forecast, manage warranty and returns
  Real time visibility to service provider back-order parts and impact
  Real time visibility and exception based reports on service delays
  Accurate consumer registration enables better communication
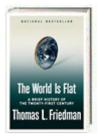 Reporting on items collected and recycled (for GOV and CSR)

Government
  Continual updates with current regulations and compliance
  Integration provides audit functions and tracking for government
  Consistent reporting between manufacturers and government
  Cooperation to improve consumer awareness and instructions

Global Sustainability through Green Reverse Logistics

Leveraging Asset Recovery and Recycling for RoHS and WEEE Compliance:

As Thomas L. Freidman wrote in *The World is Flat*, we do business in a global neighborhood. Materials flow from diverse regions based on cost and availability. Government and Corporate Social Responsibility have changed the methods and materials of manufacturing. Reverse Logistics, Service Providers, Collectors, Recyclers, and downstream reuse of materials are rapidly evolving. Experience, technology, and collaboration are eliminating barriers and creating new revenue opportunities for manufacturers, 3PSPs, 3PLs, Asset Recovery, buyers and sellers of raw materials.

You are part of the solution. How do you participate, and how do you benefit from it?

The GOAL

There are many players, multiple constituents, in the supply chain. Each constituent has a focus to optimize performance with efficiency, reduce cost, and secure profitability. Most often, the focus of business is concentrated on the immediate connected suppliers or vendors (input), the internal processes, and the immediate connected clients or customers (output). However, there are elements of data and information that are useful throughout the supply chain, and used in different ways to support the diverse requirements of the participants.

The goal is to create an open architecture that allows this data to flow through the supply chain with the parts, products, processes, and performance. This empowers each participant to forecast, audit, track, communicate, and optimize performance. Open architecture allows each participant to utilize existing internal systems and applications to accept and share applicable data. Applications developed from the instructions, input, and requirements of the constituents, enables greater participation for members who may require a system, solution, module, or application for full integration.

The LEGO's approach

By designing applications with independent integrated modules to accommodate the requirements of each constituent, participants can pick and choose the modules, or complete application, that meets the individual needs. Modules and applications are designed and developed based on feedback from the participants, allowing each member to benefit from the collaboration of the community.

Recycle Accelerator - The Solution

1) Collector Legend: The Individual Collector's Limited Edition
   a. Streamlined data entry for individual administrator full access
   b. Simplified user interface for part-time collectors, retired individuals, start-ups
   c. Online updates keep pace with regional regulatory and compliance requirements
   d. Enables product identification, inventory management, reporting, and finance
   e. Output integrated for Recycle Accelerator data transfer, eliminates double data entry
   f. Full Reporting functionality for government compliance, audit, and tracking
   g. Coordinate pick-up or delivery of assigned product or materials with recycle network
2) Collector Entrepreneur: The Complete Collector's Edition
   a. All of the features of Collector Legend: The Individual Collector's Limited Edition, PLUS
   b. Supports multiple USERS, control access, passwords, read / write, and assign functions
   c. Event scheduler updates public calendar and simplifies aggregate collection logs
   d. Enhanced financial management with export to common accounting applications
   e. Enhanced pick-up detail and functionality, bill of lading, labeling, etc
   f. Warehouse Management System (WMS), pallet consolidation, reporting, etc
   g. Custom Templates to load logo & company name on custom reports, email, etc
3) Recycle Accelerator – The customizable application for recyclers
   a. All of the features of Collector Entrepreneur: The Complete Collector's Edition PLUS
   b. Regulatory and Compliance updates for Recyclers
   c. Asset Recovery Sales Functions with Export Controls and Features
   d. Product to Material Conversion
        i. Product Reports to Government and Manufacturers
        ii. Inventory Management converted to material management for sales out
        iii. Certificates of Destruction with ability to provide online access to clients
   e. Integration to schedule pick-up & delivery with network collectors and clients
   f. Auction Asset Recovery remanufactured products and / or recycled material globally
   g. Enhanced WMS, Logistics Management, and Financial Management with export
4) Material Acquisition
   a. Auction site for asset recovery, product, parts, and materials
   b. Export control, compliance, and tracking
5) Manufacturers
   a. Reporting on collected and recycled products (Corporate Social Responsibility)
   b. Integrated Network to refer customers for proper disposition and handling
   c. Certificates of Destruction
   d. Improved consumer communications, instructions, compare to registration, call center
6) Government
   a. Audit functions, reporting, tracking, compliance – electronic management (not paper)

Features:

	Recycle Accelerator	Legend Limited Collector's Edition	Collector Entrepreneur
Account Management	X	X	X
Account Assignment	X		X
Account File Center	X	X	X
Event Management	X		X
Event Center	X		X
Event Label	X		X
Inbound / Outbound Sales Order	X	X	X
Inbound / Outbound Purchase Order	X	X	X
Spot Buy Purchase Order	X		
Spot Buy Sales Order	X		
Edit Order	X	X	X
Void Order	X	X	X
Scheduling Dispatch	X		X
Bill of Lading Order #	X		X
Shipment status update	X		
Freight Cost	X		
Export Booking	X		
Inbound Receiving	X	X	X
Outbound Packing List	X	X	X
Upload / View Photos	X		X
Product Management	X	X	X
Inventory Adjustment	X	X	X
Warehouse Management System	X		X
Pallet ID	X		X
Edit Order / Order Journal / Order History / Material	X	X	X
Document Verification	X	X	X
Print Order / BOL / Packing List / Certificate / Financials	X	X	X
Accounts Receivable Management	X	X	X
Accounts Payable Managements	X	X	X
Data Export to Accounting Software	X		X
Order Reports, Accounting Reports, Dispatch Reports	X	X	X
Inventory, Analysis, Claims, and Admin Reports	X	X	X
Recycle Reporting to Government	X		
SB50 Collection Logs, adjustment, and shipping	X		
User Management, User Groups, Assignment	X		X
Email & Report Custom Templates w/ Company Logo	X		X

Original Conceptual Design of Collector's Welcome for Recycler Order

CE Accelerator > Recycle Accelerator > Collector> Recycler Order   Welcome John   Logout   --Switch--   ?

Recycle Accelerator Logo

RECYCLER ORDER   Search [   ] 🔑   Advanced Search 🔑

| Home | Customers | Scheduled Events | Recyle | Collection | Reports | Admin |

Recycler Details   End...

- End User
- Education
- Non Profit
- Government
- Business
- Manufacturing
- Collection Event
- Another Collector

Sub Menu 1

Item 1
Item 2
Item 3

Recycler ID [   ] [ ]
City [   ]
Catagory [   ]   Model
Brand [   ]
Comments [   ]

Recycler Company Name [   ]
ZIP [   ]
UPC Code [   ]
No Of Units [ ]   Weight [ ]

ADD

Sub Menu 2

Item 1
Item 2
Item 3

S#

PRINT   CLOSE

Original Conceptual Design for Collector's Schedule Event Master

CE Accelerator → Recycle Accelerator →Collector →Order

Schedule Events

Loction Details

Event ID	[ ]	Event Location Name	[ ]		
Address 1	[ ]	Address 2	[ ]	State	[▾]
City	[ ]	Country	[▾]	ZIP	[ ]
Government Approved	Yes ⊙ No ⊙	Region / County / Territory	[ ]	Date	[ ]
Upload Documents	[ ] Browse				

Sponsor Details

Co Sponsor Customer 1 [▾]   Event Contact First Name [   ]   Event Contact Last Name [   ]
Co Sponsor Customer 2 [▾]   Phone [   ]   Email   Yes ⊙ No ⊙
URL [   ]

Save   Close

Collector Order from a Collection Event

CE Accelerator → Recycle Accelerator → Collector → Order

COLLECTOR ORDER from Collection Events (By Product)

Order

Event Type	[▼]	Event Date [ ]	Event Location [ ]

DATE [ ]
Order ID [ ]

Customer

First Name [ ]   Last Name [ ]   Contact Phone [ ]   Driving License [ ]
Street 1 [ ]   Mobile No [ ]   Status [ ]
Street 2 [ ]   E-Mail [ ]   Exp.Date [ ]
City [ ]   State [ ]   ZIP [ ]

Customer Requirement

Weight Scale [ ]   Grade Level Loading Dock [ ]   Forklift Required   Yes ◉   No ◉
Office Hours [▼]   Hi Loading Dock [ ]   Security Clearance Required   Yes ◉   No ◉

Order Requirement

Truck Lift Gate Needed Yes ◉ No ◉	Shrink Wrap Needed Yes ◉ No ◉	Dolly Needed Yes ◉ No ◉	Palletized Yes ◉ No ◉
Pallet Jack Needed Yes ◉ No ◉	Payment Amount Required Yes ◉ No ◉	Pallets Needed Yes ◉ No ◉	Manpower needed [ ]
Hand Truck Needed Yes ◉ No ◉	Gaylord Boxes Needed Yes ◉ No ◉	TV over 27" or 50lbs? Yes ◉ No ◉	On which Floor / Level? [ ]

Pick up

Assigned Date [ ]   Picked [ ]   Pending Weigh In [ ]   On dock to Ship [ ]
Internal Assigned to [ ]   Packed [ ]   Shipped [ ]   On dock Receipt [ ]

☑ STATE REIMBURSEMENT

Product Details

Product Type
Product ◉   Material ◉

Catagory [ ]   Model [ ]   UPC Code [ ]
Brand [ ]   Serial [ ]   No Of Units [ ]   Weight [ ] [▼]
Comments [ ]
Upload Iamge [ ] [Browse]

[Commit]

Product List

S#	zz	Model	UPC Code	Brand	Serial	No. of Units	Weight	Comments	📋	Action

Material List

S#	Material	Material Description	Weight	Action

Upload Iamge [ ] [Browse]

Special Customer Requirements

Remove Asset Tags Yes ◉ No ◉	Wipe HDD Yes ◉ No ◉	Certificate of Destruction Required Yes ◉ No ◉
Remove Serial Numbers Yes ◉ No ◉	Asset Recovery OK Yes ◉ No ◉	Wipe HDD Yes ◉ No ◉
Comments [ ]		

[PRINT]   [Save]

Collector Order from Manufacturer Pick Up

CE Accelerator → Recycle Accelerator →Collector →Order

COLLECTOR ORDER from Manufacturer (By Product)

Order

Collector Method	[▼]	Delivery Method	[▼]	Estimated Pick Up date	[ ]	DATE	[ ]
Order Status	[▼]	Order Type	[▼]	Actual Pick Up Date	[ ]	Order ID	[ ]

Customer

Account # [ ] [ ]   Manufacturer Name [ ]

City [ ]   ZIP [ ]

Customer Requirement

Weight Scale [ ]   Grade Level Loading Dock [ ]   Forklift Required Yes ⊙ No ⊙

Office Hours [▼]   Hi Loading Dock [ ]   Security Clearance Required Yes ⊙ No ⊙

Order Requirement

Truck Lift Gate Needed	Yes ⊙ No ⊙	Shrink Wrap Needed	Yes ⊙ No ⊙	Dolly Needed	Yes ⊙ No ⊙	Palletized	Yes ⊙ No ⊙
Pallet Jack Needed	Yes ⊙ No ⊙	Payment Amount Required	Yes ⊙ No ⊙	Pallets Needed	Yes ⊙ No ⊙	Manpower needed	[ ]
Hand Truck Needed	Yes ⊙ No ⊙	Gaylord Boxes Needed	Yes ⊙ No ⊙	TV over 27" or 50lbs?	Yes ⊙ No ⊙	On which Floor / Level?	[ ]

Pick up

Assigned Date [ ]   Picked [ ]   Pending Weigh In [ ]   On dock to Ship [ ]

Internal Assigned to [ ]   Packed [ ]   Shipped [ ]   On dock Receipt [ ]

☑ STATE REIMBURSEMENT

Product Details

	Product Type
	Product ⊙ Material ⊙

Catagory [ ]   Model [ ]   UPC Code [ ]

Brand [ ]   Serial [ ]   No Of Units [ ] Weight [ ] [▼]

Comments [ ]

Upload lamge [ ] [Browse]

[Commit]

Product List

S#	zz	Model	UPC Code	Brand	Serial	No. of Units	Weight	Comments	📋	Action

Material List

S#	Material	Material Description	Weight	Action

Upload lamge [ ] [Browse]

Special Customer Requirements

Remove Asset Tags	Yes ⊙ No ⊙	Wipe HDD	Yes ⊙ No ⊙	Certificate of Destruction Required	Yes ⊙ No ⊙
Remove Serial Numbers	Yes ⊙ No ⊙	Asset Recovery OK	Yes ⊙ No ⊙	Wipe HDD	Yes ⊙ No ⊙
Comments	[ ]				

[PRINT] [Save]

Collector Business by Product

COLLECTOR ORDER from Business (By Product)

Order

Collector Method	▾	Delivery Method	▾
Order Status	▾	Order Type	▾

Estimated Pick Up date _____ DATE _____

Actual Pick Up Date _____ Order ID _____

Customer

Account # _____

Business Name _____

City _____ ZIP _____

Customer Requirement

Weight Scale _____

Office Hours _____ ▾

Grade Level Loading Dock _____

Hi Loading Dock _____

Forklift Required   Yes ◯ No ◯

Security Clearance Required   Yes ◯ No ◯

Order Requirement

Truck Lift Gate Needed	Yes ◯ No ◯	Shrink Wrap Needed	Yes ◯ No ◯	Dolly Needed	Yes ◯ No ◯
Pallet Jack Needed	Yes ◯ No ◯	Payment Amount Required	Yes ◯ No ◯	Pallets Needed	Yes ◯ No ◯
Hand Truck Needed	Yes ◯ No ◯	Gaylord Boxes Needed	Yes ◯ No ◯	TV over 27" or 50lbs?	Yes ◯ No ◯

Palletized   Yes ◯ No ◯

Manpower needed _____

On which Floor / Level? _____

Pick up

Assigned Date	_____	Picked	_____	Pending Weigh In	_____	On dock to Ship	_____
Internal Assigned to	_____	Packed	_____	Shipped	_____	On dock Receipt	_____

☑ STATE REIMBURSEMENT

Product Details

Product Type	
Product ◯	Material ◯

Catagory	_____	Model	_____
Brand	_____	Serial	_____

UPC Code _____

No Of Units _____ Weight _____ ▾

Comments _____

Upload Iamge _____ [Browse]

[Commit]

Product List

S#	zz	Model	UPC Code	Brand	Serial	No. of Units	Weight	Comments	🗒	Action

Material List

S#	Material	Material Description	Weight	Action

Upload Iamge _____ [Browse]

Special Customer Requirements

Remove Asset Tags	Yes ◯ No ◯	Wipe HDD	Yes ◯ No ◯	Certificate of Destruction Required	Yes ◯ No ◯
Remove Serial Numbers	Yes ◯ No ◯	Asset Recovery OK	Yes ◯ No ◯	Wipe HDD	Yes ◯ No ◯

Comments _____

[PRINT] [Save]

Collector End-User by Product

COLLECTOR ORDER from End User (By Product)

Order

Collector Method	[dropdown]	Delivery Method	[dropdown]	Estimated Pick Up date [____]	DATE [____]
Order Status	[dropdown]	Order Type	[dropdown]	Actual Pick Up Date [____]	Order ID [____]

Customer

First Name [____]	Last Name [____]	Contact Phone [____]	Driving License [____]
Street 1 [____]		Mobile No [____]	Status [____]
Street 2 [____]		E-Mail [____]	Exp.Date [____]
City [____]	State [____] ZIP [____]		

Customer Requirement

Weight Scale [____]	Grade Level Loading Dock [____]	Forklift Required Yes ⊙ No ⊙
Office Hours [dropdown]	Hi Loading Dock [____]	Security Clearance Required Yes ⊙ No ⊙

Order Requirement

Truck Lift Gate Needed Yes ⊙ No ⊙	Shrink Wrap Needed Yes ⊙ No ⊙	Dolly Needed Yes ⊙ No ⊙	Palletized Yes ⊙ No ⊙
Pallet Jack Needed Yes ⊙ No ⊙	Payment Amount Required Yes ⊙ No ⊙	Pallets Needed Yes ⊙ No ⊙	Manpower needed [____]
Hand Truck Needed Yes ⊙ No ⊙	Gaylord Boxes Needed Yes ⊙ No ⊙	TV over 27" or 50lbs? Yes ⊙ No ⊙	On which Floor / Level? [____]

Pick up

Assigned Date [____]	Picked [____]	Pending Weigh In [____]	On dock to Ship [____]
Internal Assigned to [____]	Packed [____]	Shipped [____]	On dock Receipt [____]

☑ STATE REIMBURSEMENT

Product Details

Product Type	
Product ⊙	Material ⊙

Catagory [____]	Model [____]	UPC Code [____]
Brand [____]	Serial [____]	No Of Units [____] Weight [____] [dropdown]
Comments [____]		
Upload Iamge [____] [Browse]		

[Commit]

Product List

S#	zz	Model	UPC Code	Brand	Serial	No. of Units	Weight	Comments	📋	Action

Material List

S#	Material	Material Description	Weight	Action

Upload Iamge [____] [Browse]

Special Customer Requirements

Remove Asset Tags Yes ⊙ No ⊙	Wipe HDD Yes ⊙ No ⊙	Certificate of Destruction Required Yes ⊙ No ⊙
Remove Serial Numbers Yes ⊙ No ⊙	Asset Recovery OK Yes ⊙ No ⊙	Wipe HDD Yes ⊙ No ⊙
Comments [____]		

[PRINT]   [Save]

Reverse Logistics Workshop Review

How are RoHS and WEEE materials being tracked by parts and product in reverse logistics?

How is the transfer of product to parts being managed in Asset Recovery, refurbishment, and reuse?

What are the financial tracking requirements of turning product into parts – credit and revenue?

What useful data elements connect retail, channel, returns, registration, call center, and recycling?

How does data collection for product and part recycling impact regional regulations and compliance?

How can parts be managed to support field service and extended service?

What are the responsibilities and opportunities for third party service providers?

What are the responsibilities and opportunities for manufacturers?

What are the opportunities for retail and channel to support product returns for recycling?

How can the information from these diverse partners in the complete process be used to benefit the community at large?

For more information, or to join in the collaborative effort of designing the network solution, please contact:

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About ZSL Inc

SL Inc is an ISO 9001 certified technology service provider. ZSL Inc offers substantial cost savings and enhanced performance associated with a secure and effectively managed global development model. For over 10 years, ZSL Inc has been partnering with a loyal following of clients seeking to leverage proven delivery methodology, as well as 24 / 7 access to the very best technical resources and development tools anywhere.

ZSL Inc leverages specialized knowledge in custom enterprise application development, reporting, data management, administration, and application integration to assist enterprises in raising service levels, while reducing costs. ZSL Inc has extensive experience in mobile, wireless, and web application development.

In 2007, ZSL Inc was ranked 275 in the VAR Business 500, and was recognized as one of the 10 Fast Growth VARs to watch. The ZSL Inc customer base includes small and medium size companies across a broad range of verticals, as well as respected leaders in Finance and Banking, Insurance, Life Sciences, Telecommunications, Retail, and Manufacturing.

Recent News: ZSL Debuts Plugins for Enterprise Web 2.0

ZSL Inc., an information technology integrator, has released its Enterprise 2.0 Computing Framework built on IBM Websphere sMash and Service Oriented Architecture SOA. The framework allows businesses a virtual Web 2.0 to plug capability, adding secure social networking services to current legacy assets.

Enterprise 2.0 Computing Framework features a complete social networking platform that includes blogs, Wikis, forums, tagging, bookmarking and intelligent searching, will help businesses set up their internal social networking tools. It is targeting at midsized and large enterprises worldwide. However, the subcomponents of the framework could be implemented as modules and lay the foundation for the full scale SOA, ZSL said.

ZSL is among the early adopter of IBM's WebSphere sMash, a dynamic Web application platform. IBM sMash enables ISVs to deliver dynamic Web 2.0 based applications using preexisting assets written in PHP and Java, as well as reuse XML and RSS feeds.

"ZSL's Enterprise 2.0 Computing Framework built with IBM's newest Web 2.0 technology extends the reach of SOA and will enable our customers to effectively use the web as their SOA platform. Our Enterprise 2.0 Computing Framework provides a pragmatic approach to deliver the promise of Web 2.0 and SOA to meet true Service Oriented Enterprise requirements in a fundamentally different and more cost effective way," said Sudarshan Venkatraman, said ZSL's Chairman and CEO in a statement.

Forrester Research Inc. predicts enterprises investments in Web 2.0 technologies could reach $764 million by the end of 2008, and skyrocket to $4.6 billion by 2013.