

## PROFILE of West-Japan Auto Recycle Co. Ltd. (WARC)

### 1. Company Profile

LOCATION: Kitakyushu Ecotown, Fukuoka, JAPAN

CAPITAL: 100 Million Yen (0.8 Million US\$)

SHAREHOLDERS: Yoshikawa, Mitui & Co., Nippon Steel Corp, etc.

AREA: Total 20,000 m<sup>2</sup> Plant 4,500 m<sup>2</sup>

CAPACITY: 1,000 Cars/Month on the basis of 8 hours/day

### 2. Dismantling Process

#### 2-1. Concept

“SHREDDER-LESS” dismantling process i.e. To complete dismantling without shredding operation by 4 parts-collecting sections and 1 car-body pressing section into the shape of 50x60x70cm set on a 62m long line

No1 Section: Suction of Fuel, LLC and Oils plus Removal of Bonnet

(Main Equipments) Flaco's Liquid Suction Systems x 2

No2 Section: Removal of Tires, Battery, Fleon gas and Collection of Front/Doors Glass

(Main Equipment) Fleon Gas Collector x 2, Glass Collecting tools x 1 set

No3 Section: Removal of Engine/Mission, Suspensions, Exhaust pipe, and Catalyst plus

Collection of Rear Glass

(Main Equipments) Turnover x 1, Hydraulic Cutter x 1,

Electric Cutter x 1, Cantilever Crane x 1

No4 Section: Removal of Nonferrous Parts such as wiring harness,

Various Motors, Heater Core, Evaporator, Radiator and Computer Board

(Main Equipment) Hydraulic Body Grips x 1, Cantilever Crane x 2

No5 Section: Tri-axially pressing a body-shell into about 50x60x70cm

(Main Equipment) 600 ton Press Machine x 1

In addition, one Al- remelting furnace from engines and one Cu-reproducing machine from wire harness are being operated inside the company.

#### 2 - 3. Main Features

- (1) No ASR(Automobile Shredder Residues) because of “shredderless”
- (2) Reproduction of High quality Fe scraps usable at LD converters
- (3) Execution of High Recycling Ratio---90% excluding thermal recycle
- (4) Presentation of Technical Information regarding Dismantlability and Recyclability toward Car Manufactures

### 3 . Present Performance

Since started operations in February 2001, the number of ELVs dismantled has steadily increased as follows. Note that the above-mentioned capacity of 1000 cars/month can be achieved by 6 operators in the dismantling line, that is 45 cars per 8 hours per day, and presently 1500 cars/month by the addition of 3 more operators for the extra 8 hours per day.

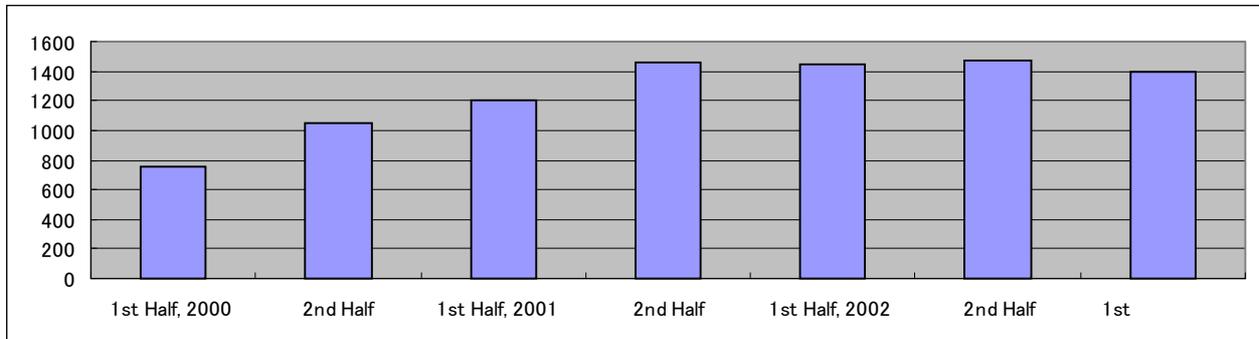


Fig.1 Change of Cars Dismantled by Time

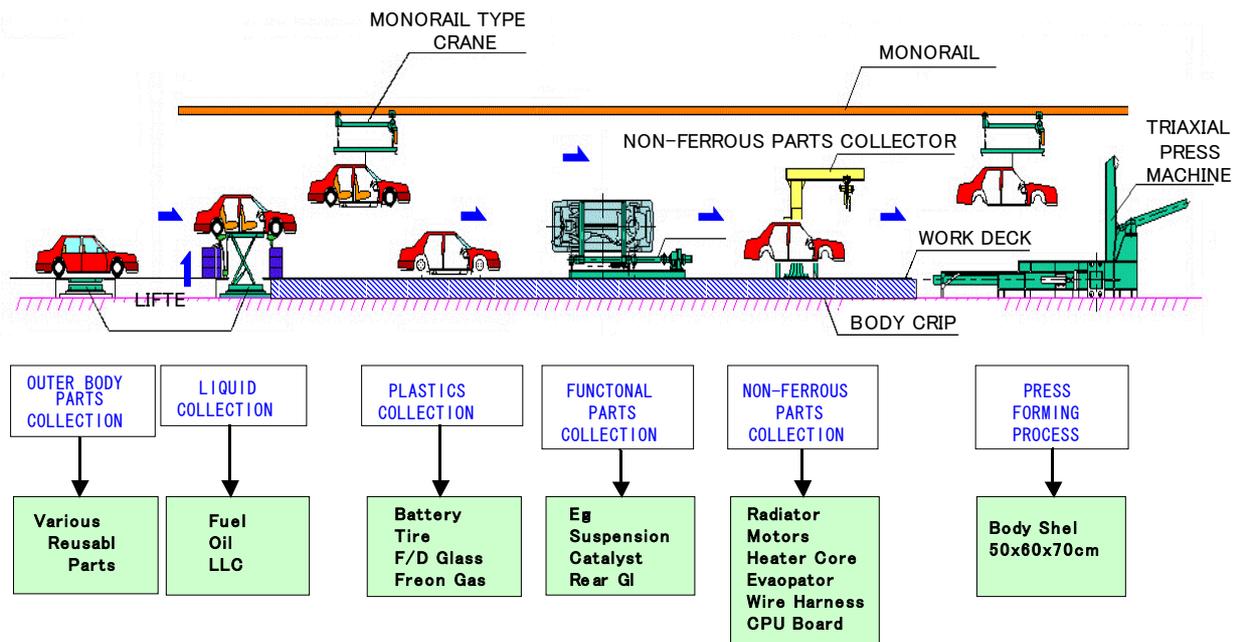


Fig.2 ELV Dismantling Flow at WARC

#### Features of WARC Process

1. On-line Part-by-Part Collecting System to Obtain High Recycle Ratio
2. High Efficient Dismantling Process at Speed of 8.5 Minutes/Car

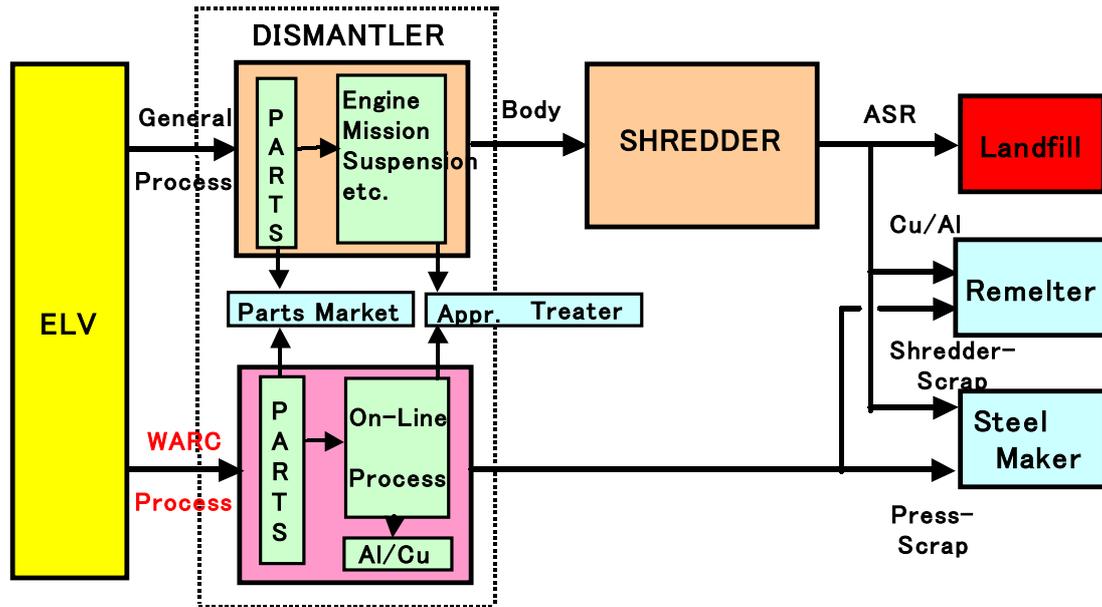


Fig.3 ELV Recycling Flow -General Process vs. WARC Process

Features of WARC Process

1. Shredder-less → ASR free → No Need to Landfill
2. Press-Scrap Return to BF Steel Maker → Horizontal Recycle

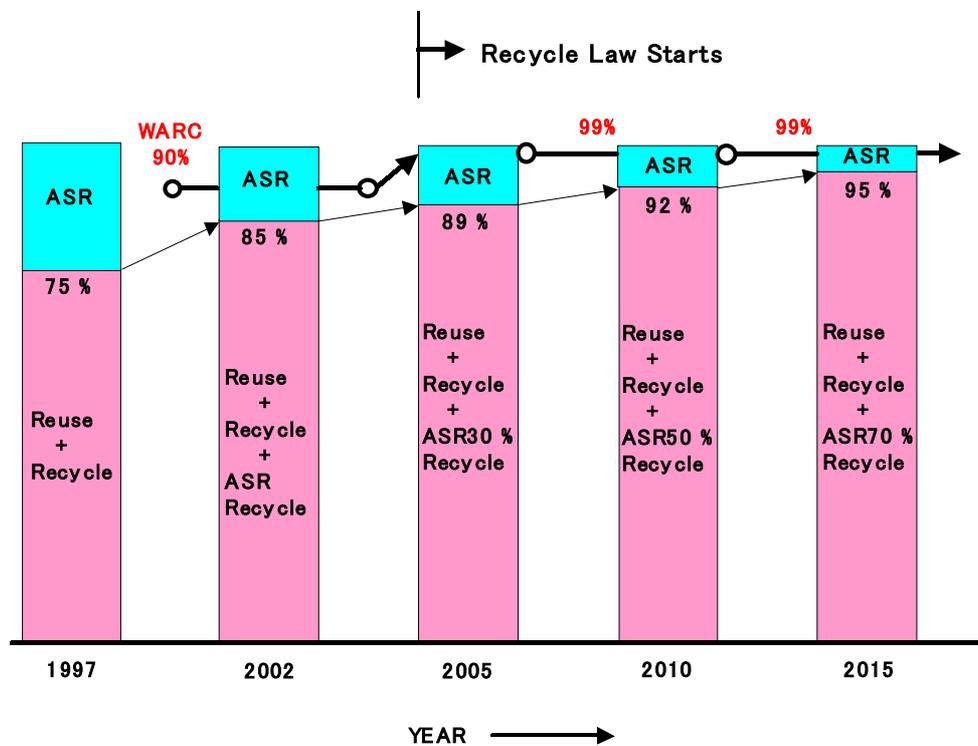


Fig.4 Recycle Rate of ELV - Country Target vs. WARC