

## + Company History

- 2008 | 11    Founded the company with capital of 500 million KR Won
- 2009 | 10    Completed Factory Construction  
Land area: 14,493 m<sup>2</sup>, Building Area: 3,934.9m<sup>2</sup>  
Total Investment for Land and Production Facilities: 16.8 Billion KR Won
- 2010 | 02    3 Rotary Furnaces on Operation with yearly product capacity of 43,200 tons
- 2010 | 03    ISO 9001 Certified

### *Head Office*

#### **KOOKJEA METALLIC Co., Ltd.**

Address : 34-3, Ogye-ri, Geumho-eup, Yeongcheon-si,  
Gyeongsangbuk-do (Ogye Industrial Complex)  
Phone : 054-338-6622~5      Fax : 054-338-6621

### *Holding Company*

#### **SANGSHIN METALLIC Co., Ltd.**

Address : (Zip code: 425-836) 701-3, Seonggok-dong,  
Danwon-gu, Ansan, Gyeonggido  
Phone : 031-499-4011      Fax : 031-499-4016  
Web page : <http://www.smetal.com>

#### **S. M. TECH Co., Ltd.**

Address : 193-6 Muksan-ri, Jinsan-myeon, Geumsan-gun, Chungcheongnam-do  
Phone : 041-751-5011      Fax : 041-751-5013

# Eco-Friendly

## Lead Manufacturing Company



**KOOKJEA METALLIC Co., Ltd.**

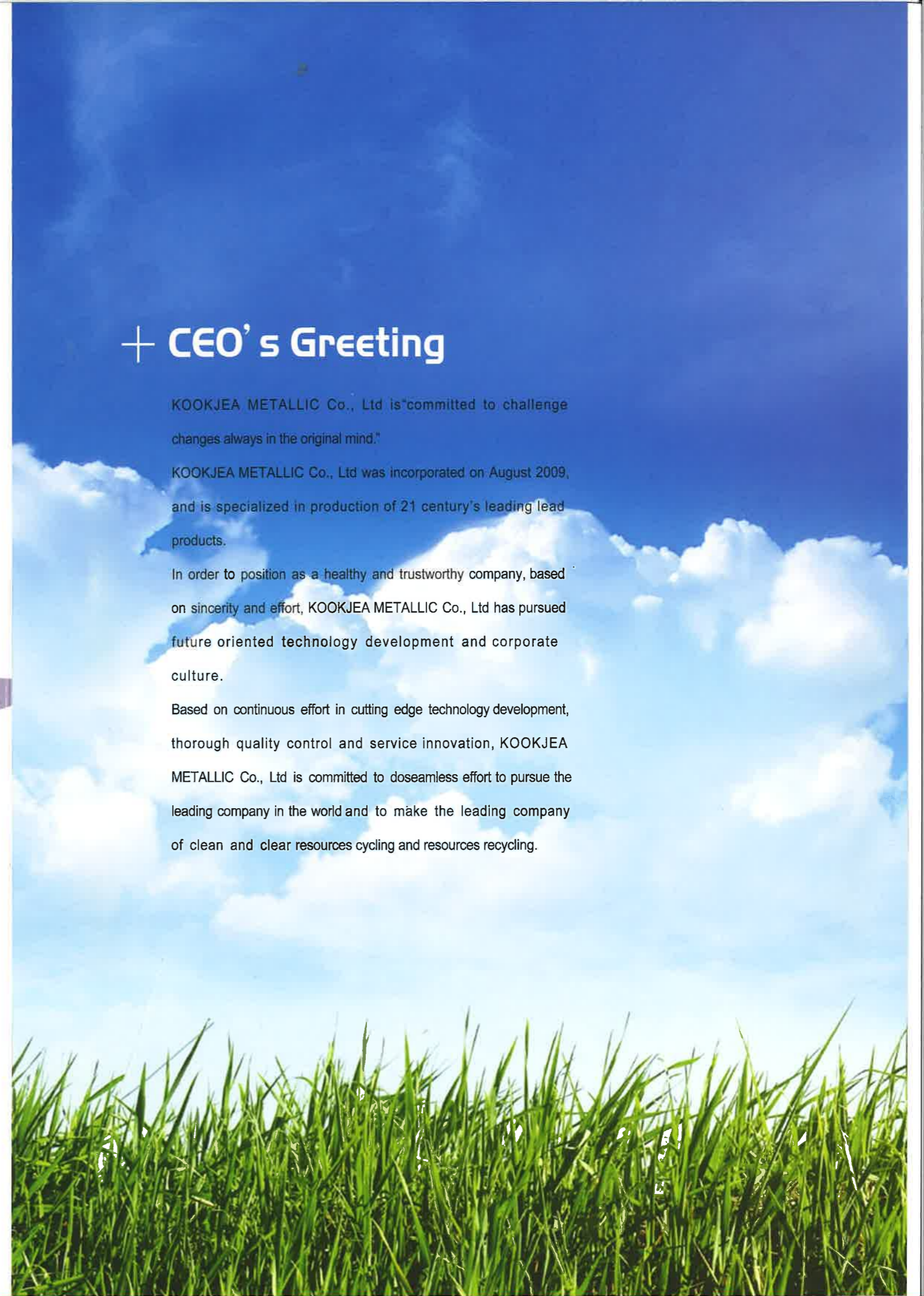
### + CEO's Greeting

KOOKJEA METALLIC Co., Ltd is "committed to challenge changes always in the original mind."

KOOKJEA METALLIC Co., Ltd was incorporated on August 2009, and is specialized in production of 21 century's leading lead products.

In order to position as a healthy and trustworthy company, based on sincerity and effort, KOOKJEA METALLIC Co., Ltd has pursued future oriented technology development and corporate culture.

Based on continuous effort in cutting edge technology development, thorough quality control and service innovation, KOOKJEA METALLIC Co., Ltd is committed to doseamless effort to pursue the leading company in the world and to make the leading company of clean and clear resources cycling and resources recycling.



## + General View



①



②



③

1. Laboratory
2. Wastes treatment facility
3. Dust collection facility

## + Production Facilities

1. Separation System
2. Furnace
3. Refining and alloying crucible
4. Automatic Caster
5. Filter Press
6. Control Room
7. Laboratory



## + Manufacturing Method

Raw materials for recycling lead are waste batteries, and the major resources are domestic vehicles, industrial companies using batteries for preliminary sources of electricity, telephone offices under KT Corp., the Korea Maritime and Port Administration, Korea Railroad Corp., Korea Coal Corp., and substations under Korea Electric Power Corp. Waste batteries are classified into the specific industrial wastes.

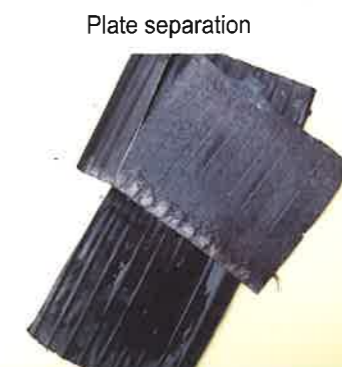
Composition materials of waste battery are grid, oxide, P.P., separator, and electrolyte, and the materials to be produced from recycling lead are grid and oxide.

Waste batteries are separated to paste, grid, P.P. and separator through the process of primary electrolyte removal and crushing, and the separated paste and grid are inputted into melting furnace (rotary furnace) by mixing with soda ash, fine iron, and fine coal, and then pass through reduction and casting processes in the fixed time.

Pure lead and lead alloy (Sb lead, Ca lead) are produced through the processes of refining and alloying of unwrought lead produced by the crossing process in the kettle for melted lead.

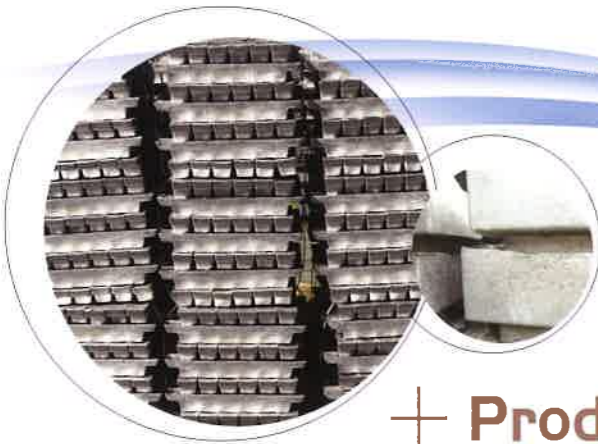


## + Battery Separation



# KOOKJEA METALLIC

+ Holding Company



## + Product

- **LEAD ALLOY INGOT**
  - ANTIMONIAL LEAD ALLOY INGOT  
PACKING : 1TON / 42PCS SMALL INGOT BANDING
  - CALCIUM LEAD ALLOY INGOT  
PACKING : 1TON / 42PCS SMALL INGOT BANDING & JUMBO INGOT
- **PURE LEAD INGOT, Pb 99.97% MIN**  
PACKING : 1TON / 42PCS SMALL INGOT BANDING & JUMBO INGOT



## • SANGSHIN METALLIC Co., Ltd.

Founded on September 1993, SANGSHIN METALLIC Co., Ltd., the holding company of KOOKJEA METALLIC Co., Ltd, has grown in the size of yearly gross revenue of 100 Billion KR Won; supplies lead products, the basic raw materials, to big 4 storage battery manufacturers by specialized production and processing; and based on sincerity and effort, pursues future oriented technology development and reasonable corporate culture.

## • S. M. TECH Co., Ltd.

It is a subsidiary company of SANGSHIN METALLIC Co., Ltd. that was established on September 15, 2006 and located at 193-6, muksan-ri, Jinsan-myeon, Geumsan-gun, Chungcheongnamdo.

### Factory 1

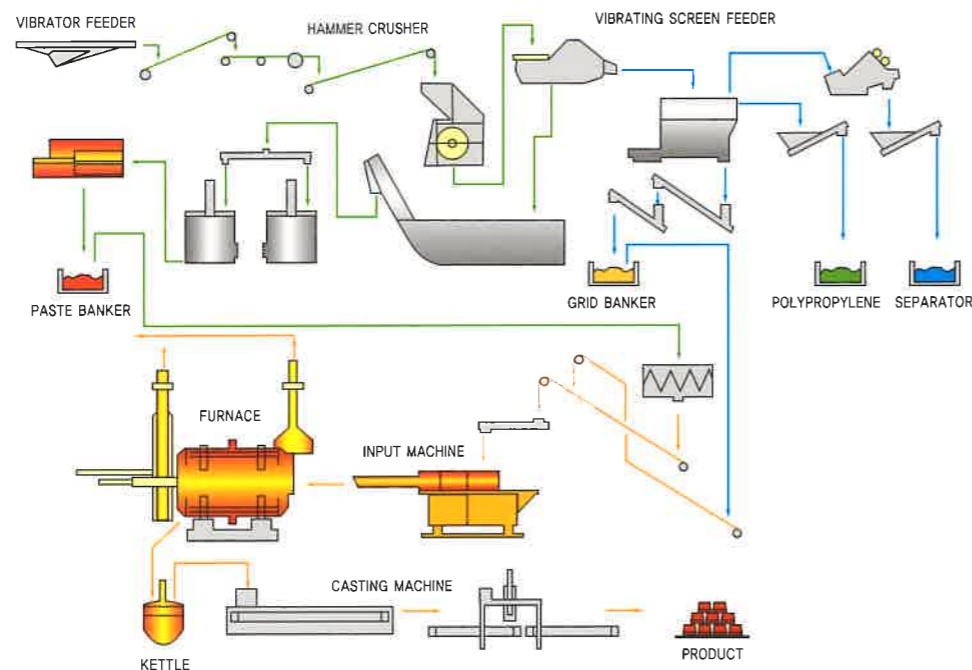
It has the facility to mold and produce terminals for automobile battery using forging machine (bushing machine) after making pipes with the fixed specification by blank forging machine from cut materials with fixed length that are cut from bars in a variety of size produced by inputting lead alloy ingot (Pb) into large-sized intruder.

### Factory 2

It has the facility to produce P.P. materials using extruder (200hp, 150hp) through the mixing and moisture removing process after breaking (3~4cm) and washing P.P., the case of waste battery, and inputting it to the mixer.



## + Flow Chart



Board separation



## + Certificates

