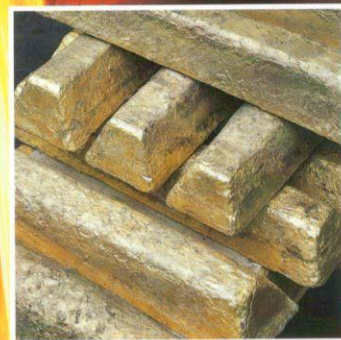


# NICKELHÜTTE AUE GmbH



Your Solution for Waste Recycling.  
**New Products** from **Waste Materials**.



# Innovative Processes

**Our contribution to environmental protection**  
direct and completely closed circulation of materials  
complete recovery of valuable materials  
DIN EN ISO 14001 : 2005

**Our aim: customer satisfaction**  
favourable conditions  
customer service  
specialized waste management company

**Quality in your interest:**  
high quality recycling in accordance with all regulations  
products to suit customer requirements  
DIN EN ISO 9001 : 2000

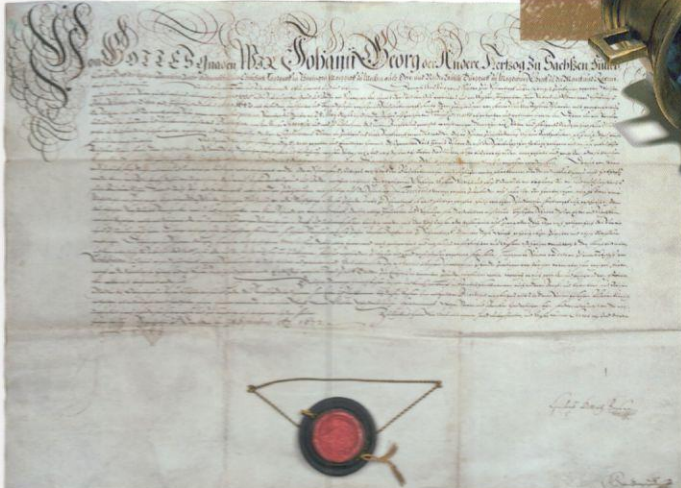
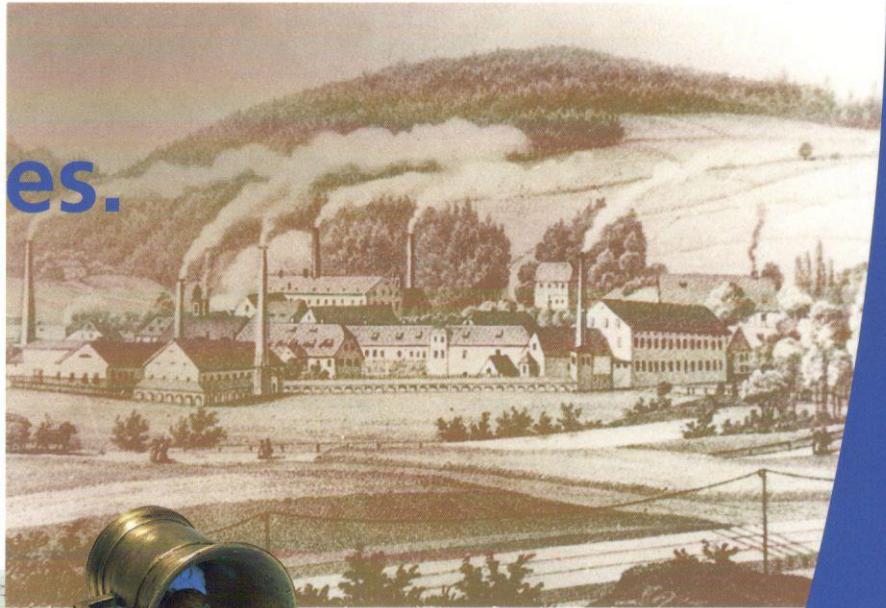
**Occupational health and safety management system**  
BS OHSAS 18001 : 2007  
permanent optimisation  
accident prevention

**Synergy**  
pyrometallurgy · Ni-, Cu-, Co-hydrometallurgy · non-ferrous metal trade  
non-ferrous alloy plant · CuCl<sub>2</sub>-recycling · energy production

Picture of the company 1860\*

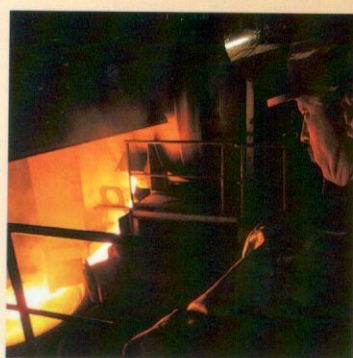
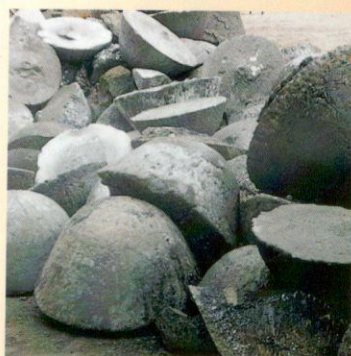
## Traditional Values.

Privilege granted by Johann Georg  
Duke of Saxony  
16. 04. 1677





## Products



## Our elegant recycling loop

We offer our clients an elegant "recycling loop" for waste materials containing Ni, Co, Cu, Mo, V and W. Our state-of-the-art installations meet the highest possible standards which guarantee a proper and safe recycling process.

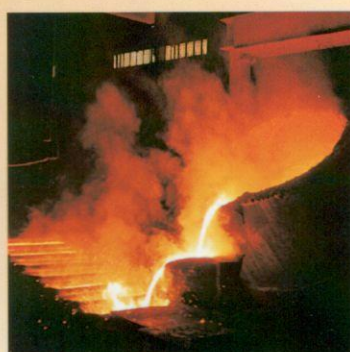
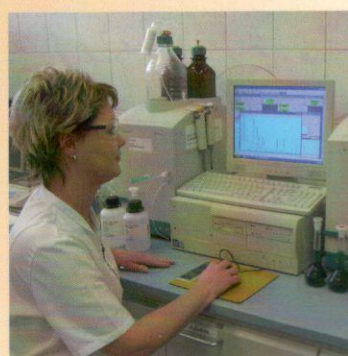
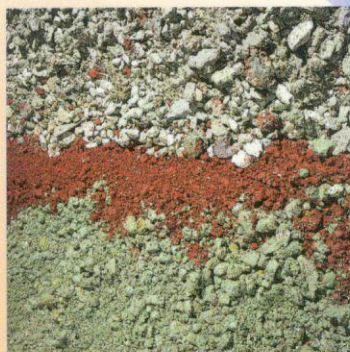
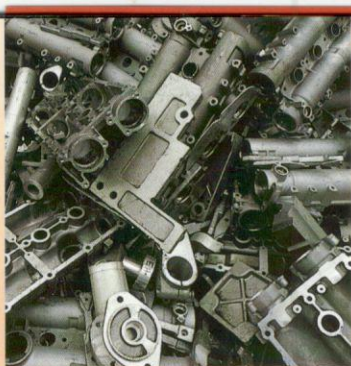
In our modern smelting works we produce non-ferrous metal concentrates out of **electroplating sludges and residues**. By following metallurgical processes, these concentrates are refined into non-ferrous metals and Ni-, Cu-, Co-, V-chemicals. The cycle is closed by using these chemicals in the electroplating industry. We recycle **spent catalysts** from petrochemical industries, chemical industries and from edible oil hydrogenation. With the production of non-ferrous metal concentrates and chemicals out of these spent catalysts, we can offer our customers an unique recycling loop as our chemicals are used as starting material for new catalysts.

For further application in surface technology and chemical industry **copper sulphate** is produced out of copper chloride solution generated by electrical industries.

## Recycling







Feedstock

In 2001, Nickelhütte Aue GmbH started to treat **PGM containing waste**. The treatment is carried out on behalf of well-known precious metals producers in a separate plant meeting the special requirements.

In 2002, Nickelhütte Aue GmbH expanded its processing spectrum to extend the production by **vanadium compounds**. NiV-containing filter dusts and catalysts are treated in smelting kilns.

Nickel and vanadium are returned into the material flow.

We offer our customers a full range of options for **non-ferrous metals** at our facilities: non-ferrous metal trade, transformer recycling and alloy smelting, all operating in a coordinated and synergic manner. According to DIN or customer demands we produce red brass, brass and bronze alloys.

The waste heat resulting from the pyrometallurgical processes is used to **generate electricity and heat**. We are able to satisfy our own energy needs and supply thermal energy to other companies situated in our home town.

As a major local employer we do not only care for the environment but we are also aware of our social responsibilities. We support more than 150 boys and girls in doing sports activities. **We provide own leisure facilities to the public** like a new cinema, an ice rink and others.



## **Transformer Utilization**

Utilization of transformers 1 t - 350 t  
Utilization of converters and fuel cells  
Correct dismantling according to material and type  
Sale via our metal trade or processing in alloy works

## **Non-ferrous Metal Trade**

### **Scrap**

Aluminium, other non-ferrous metals  
Precious metals, Copper, Brass, special alloys  
**Concentrates**

## **Alloy Smelting**

### **Ingots**

In accordance with the German Industrial Standard, European Standard or the customer's requirements.  
Aluminium bronze, Bronze  
Cu-alloys, Brass, Red brass

## **Chemicals**

Cobalt sulphate  
Nickel nitrate solution, Nickel sulphate  
Nickel sulphate solution  
Copper oxychloride, Copper sulphate  
Copper sulphate solution  
Hydrochloric acid  
Nickel chloride  
Vanadiumpentoxide  
Sodiumvanadate solution

## **Recycling**

Waste water slurries, electroplating sludges  
Catalysts, waste materials containing non-ferrous metals  
Neutral slurries, Ni/Cu/Co-solutions  
Ni/Cu/Co-dust, salt residues  
Corrosive solutions  
Precious metals





# From Blue Dye Works to Nickelhütte as it is today



*NiCo solvent extraction*

*Utilization of transformers*

*Recycling of corrosive  
solutions*

*Non-ferrous metal trade*

*Energy generation*

*Alloy smelting*

*Catalyst recycling*

**1991**

*The company was  
taken over by  
Siegfried Jacob  
Metal Works GmbH &  
Co. KG*

**1958 - 1963**

*Reconstruction of the  
hydrometallurgical plant.  
Increase in amount of  
hydrometallurgical  
processing possible.*

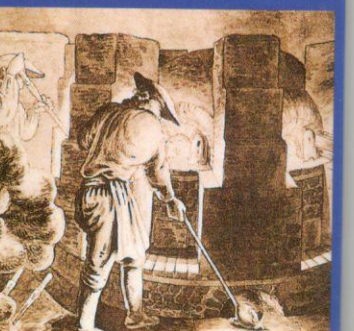
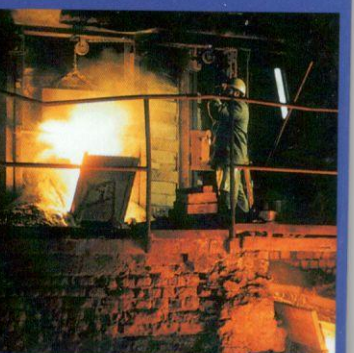
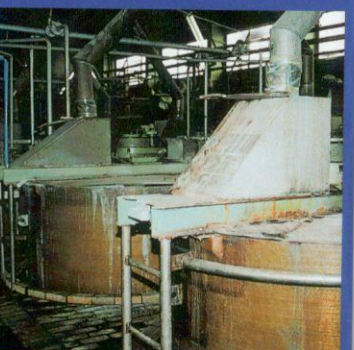
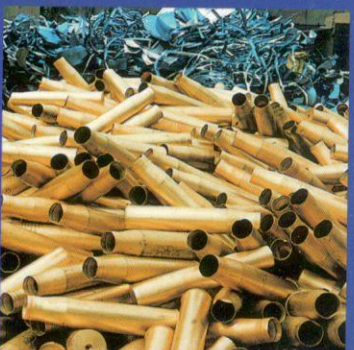
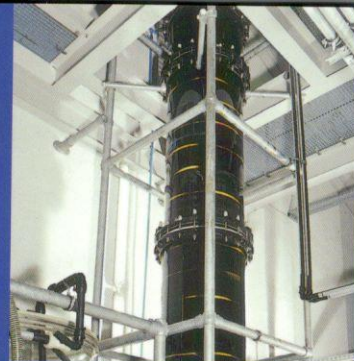
*At the beginning of the 20<sup>th</sup>  
century  
secondary metal works  
was started*

**1849**

*The first nickel cubes were  
produced*

**1635**

*The blue dye works was founded*







## NICKELHÜTTE AUE

Metals - Chemicals - Energy

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We would be pleased to get in  
contact with you.

