

CENTRO UNO

NEW INSTALLATION ELECTRICAL & AUTOMATION

From Waste to Value

35,000 tons of slag from three different waste incineration plants, which would otherwise end up in landfills each year, are receiving special treatment in Full-Reuenthal. The deposited sweeping slag contains high levels of valuable metals such as iron, aluminum, copper and other non-ferrous and heavy metals.

50% Recovery Rate!

- Reduction of CO₂ emissions on planet-earth
- Closing the gap towards a fully realized circular economy



Each SELFRAG recycling plant saves a significant amount of CO₂ emissions. To further reduce the ecological footprint, SELFRAG facilities are built close to the waste incineration plants.



Full-Reuenthal

The plant in Full-Reuenthal has been operational since early 2023 and it has impressively demonstrated its capabilities.

At the core of the process is the patented high-voltage fragmentation technology. This technology exploits the differences in the conductivity of materials to release valuable components and separate them from impurities, enabling the efficient breakdown of the slag.

**AUTOMATION
ANLAGEN
SYSTEME**



sf elektro-engineering ag

Marktstrasse 21, CH-8890 Flums
Tel. +41 (0)81 720 10 10
info@sf-ag.com



Interior view of the building

Challenges of new plants

In addition to technical and time-related challenges, it was crucial to integrate various fields such as chemistry, mechanics, electrical engineering and software into process and systems engineering.

Our main tasks included:

- **Electrical planning**
- **Material procurement**
- **Software**
 - **PLC, drives and WinCC (SIEMENS)**
 - **Interfaces to third-party systems**
- **On-site commissioning**

In total over 100 motors and more than 100 valves work hand in hand.

We developed the control and regulation technology for the following modules:

- Automation with visualization
- Safety operation & remote access
- Conveyor systems, sorting facilities, and water management in production
- Interfaces to the setting machine (material separation)
- In cooperation with AIK Technik AG (chemical systems for slag processing)
 - Process water treatment (reducing fresh water consumption)
 - Wastewater treatment (cleaning contaminated water of heavy metals and other pollutants)
 - Acid wash (VVEA compliance)

Services

Our efforts focused on industrial electrical planning, hardware and software engineering and plant safety. The collaboration with interdisciplinary teams was beneficial for all involved.

Hardware

The control system was implemented using SIEMENS® equipment and the S7-1517-F & S7-1512-F product lines. Future expansions can be seamlessly integrated, as the system has high performance capabilities.

Commissioning

The commissioning of the new plants was divided into several stages. First, signal and rotation checks were performed. This was followed by module-level tests, including safety functions (emergency stop, safety torque off, etc.).

Afterward, cold commissioning (with water and without slag) was conducted. The process then moved on to hot commissioning with necessary chemicals and slag before the final acceptance of the entire plant.

Customer satisfaction

Thanks to the team spirit, high level of expertise and practical experience of all participants, the plant was handed over to the operator on time and without incident.

We thank SELFRAG and all partners for their professional collaboration.