At the end of 2008, the joint waste authority for waste disposal for Southwest Thuringia (ZAST) in Zella-Mehlis, Germany, commissioned one of the most modern waste incineration plant in Europe. The plant disposes 160,000 tpa of waste, generating up to 14 MW of electrical power and feeding the district heating network of the public utility of Suhl/Zella-Mehlis with up to 30 MWth of heat.

Background
The greenfield plant “RABA Southwest Thuringia” in Zella-Mehlis (Germany) incorporates a new generation of thermal waste treatment plants. The companies, MARTIN GmbH, Munich, Integral GmbH, Vienna and ABB Ltd, built the waste incineration plant (RABA) as a consortium – with MARTIN as the general contractor. The ABB scope of supply comprised the concept, design engineering, integration, installation and commissioning of the complete overall electrical, instrumentation, control and process control systems, the steam turbine with the complete water/steam cycle including the coupling of the district heating feed for the supply network of the Suhl/Zella-Mehlis public utility and the technical building equipment for the main areas of the RABA Southwest Thuringia. The System 800xA process management system handles about 4,400 signals. The control system contains the new ABB incineration controller WACS, which was developed in close cooperation with the incineration grate vendor MARTIN GmbH. WACS includes the revolutionary operating mode selection concept, allowing the plant manager to automatically choose the most efficient way to run the plant as a function of process limitations or external, economical, constraints.
ABB solution
- Control system ABB 800xA
- Incineration controller WACS with operating mode selection
- District heating control
- Instrumentation
- Emissions measuring
- Water steam cycle/turbine/generator
- Boiler protection
- MV and LV equipment
- Transformers (step-up and distribution)
- Frequency converters/motors/drives
- Emergency diesel/UPS
- Heating/Ventilation/Air conditioning/HVAC
- Fire fighting system
- Planning, erection, commissioning
- Project management, service, remote support
- Cabling

Benefits
- Full-scope, totally integrated solution, one single point of contact
- Standardization results in operator cost savings
- Modern, consistent control and visualization methods
- Individually tailored operating stations
- Maximum reliability and availability, even during installation and commissioning
- Optimal thermal utilization of waste
- Operation modes allow running the plant in a specific, optimized way
- Highest environmental standards and lowest emissions
- TÜV certified solutions for emission monitoring
- Complete portfolio of lifecycle services
- Reduced power losses with ABB transformers
- Reduced energy consumption with ABB variable speed drives

Plant data
<table>
<thead>
<tr>
<th>Operator</th>
<th>Zweckverband für Abfallwirtschaft Südwestthüringen (ZASt)</th>
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<tbody>
<tr>
<td>Commissioning</td>
<td>2007</td>
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<tr>
<td>Incineration lines</td>
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<td>Steam</td>
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<td>Electricity</td>
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<td>District heating</td>
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</table>

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