

Waste Water Treatment

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Our service ...

Bayer Technology Services offers customized, innovative and effective solutions for wastewater treatment plants that are based on our own process developments and many years of experience.

Our services begin with an analysis of the wastewater generated in a process and extend through lab and pilot plant studies to the construction of a full-scale plant. We provide a full range of services – from the initial concept through the actual commissioning of a decentralized wastewater treatment plant or a complete central treatment plant. This full range avoids any interface problems and applies equally to new plants and to the retrofitting of existing plants.

Our range of services encompasses complete solutions such as:

- biological wastewater treatment using our proven Bayer aeration system and Bayer Tower Biology;
- biological nitrification and denitrification;
- anaerobic biotechnology;
- low-pressure wet oxidation (LOPROX®) and wet oxidation with H_2O_2 or O_3 (ozone);
- Bayer high-performance dissolved air flotation for activated sludge separation or as a tertiary treatment stage;
- precipitation/flocculation using adapted solids separation;
- sludge conditioning and dewatering;
- adsorption to activated carbon, ion exchangers and other adsorbent materials;

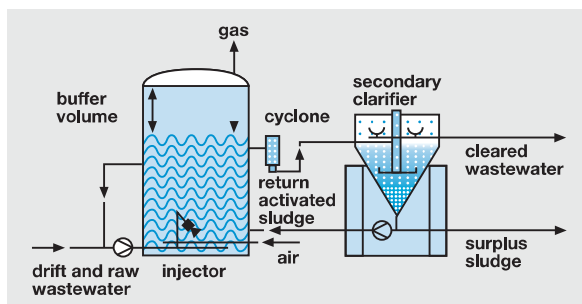


Diagram of Bayer Tower Biology

- extraction, stripping and membrane filtration of wastewater;
- simulation and optimization of treatment plants.



Bayer Tower Biology, Leverkusen

... is your gain.

We have detailed knowledge of the relevant processes as well as experience in designing plant technology and operating such plants. All of this expertise is at your disposal.

Our proven process and plant concepts is your assurance that everything we design and build will function correctly. Plants that we construct have a high availability, are economically efficient and naturally meet quality requirements.

Our plants are designed to allow a range of uses that are encountered in practice so that their flexibility meets your expectations.

We pride ourselves on our innovative approach to process technology – both in the development of new processes and the refining of existing ones. However, we do not confine ourselves to the use of our own process technology, we use the best technology available on the market. Our main concern is the benefit to our customers.





Flotation, Bayer Antwerp

Our approach

The first step is to establish exactly what is required and the project-specific boundary conditions. Our project team, comprising process development and design personnel, then develops the plant concept for the customer. Our own experience in plant processes naturally helps in the formulation of this concept.

The development process includes the following aspects:

- careful analysis of the problem and baseline data;
- wastewater analysis in our laboratories;
- investigation of chemical, physical and biological parameters on a laboratory and pilot plant scale;
- development of calculation and simulation models;



LOPROX®, plant, La Felguera, Spain

- specialist planning throughout all project phases using the latest planning tools;
- training of personnel for the commissioning of large plants as part of the concept.

References

We have successfully concluded projects of varying size and complexity, both in Germany and abroad. These plants all have a high availability.

Some examples of these projects are given below:

- industrial/municipal wastewater treatment plant, Bayer AG, Leverkusen, Germany;
- industrial wastewater treatment plants for 3 further production facilities of Bayer AG in Germany;
- 2 industrial wastewater treatment plants for the Bayer sites in Antwerp, Belgium and 2 plants in the USA;
- industrial wastewater treatment plants for Degussa-Hüls AG, Probis GmbH and Shell/DEA AG in Germany;
- wastewater treatment plants for the Königsbacher and Bitburger breweries in Germany;
- industrial wastewater treatment plant Biwater Ltd, UK;
- LOPROX® plants for Bayer AG, in Germany, Spain and Indonesia;
- more than 10 flotation plants with throughputs of up to 3,000 m³/h;
- Fenton oxidation for the Bayer site in Wuxi, China;
- ozone oxidation for the Bayer site in Dormagen;
- heavy metal precipitation and flocculation for the 4 hazardous waste incinerators of Bayer AG;
- precipitation and adsorption plants for Bayer Garbagnate, Italy;
- wastewater evaporation plant for CISA, South Africa;
- more than 10 decentralized wastewater stripping plants and extraction plants for Bayer Group companies;
- simulation and optimization of the municipal wastewater treatment plant of Bayer AG, Leverkusen.

Contact

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