



Tecnoimpianti



AIR



WATER



FOOD



SERVICE



R&D

#Providing**Solution**

www.tecnoimp.com



“ *Improving the environmental impact of our industries is no longer a choice, but a duty we have towards future generations.*

”





ABOUT US

PROVIDING SOLUTIONS

This is our philosophy.

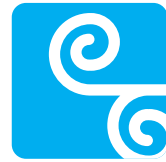
We design and build plants for the treatment air, water and resource recovery from production processes.

We work with large industrial groups to develop innovative processes and build state-of-the-art plants and turnkey solutions.

TECNOIMPIANTI was founded in 1985 in the province of Milan, and is present with its solutions at particularly important international customers (Italy, Brazil, Spain, United Kingdom, Germany and other countries).



ACTIVITIES



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We work in a wide range of industrial sectors and offer tailor-made designs for each specific requirement to ensure the **optimal solution for every water, air and odour treatment problem.**

We complement our many years of solid experience with constant **R&D activities**, this enables us to apply the most modern and effective technologies.

An impeccable assistance and maintenance service completes the profile of our organization.

TECNOIMPIANTI supports its customers not only in the initial project development phase, but also throughout the post-sales period.

TRANSITION 4.0

All systems designed and installed by **TECNOIMPIANTI** are fully compliant with the requirements necessary to obtain the tax benefits of the “National Transition 4.0 Plan”.

It is possible to remotely manage each plant, monitoring all operating and process parameters.





WHY CHOOSE OUR PLANTS

- **EXPERIENCE AND COMPETENCE:** we have been helping you to realise your projects for more than 35 years with passion and professionalism.
- **RELIABILITY:** Tecnoimpianti is a solid, experienced and innovation-oriented company, which puts the customer and his needs at the centre of the project.
- **DIRECT PRODUCTION:** our production department is an integral part of our philosophy, as it allows us to control every stage of production, thus guaranteeing the highest quality of our products.
- **TAILOR-MADE:** your needs and requirements are studied in depth, in order to offer you a tailor-made solution that is really able to solve your specific problems.
- **CONSULTING APPROACH:** each project has a unique approach and unique solution. Our approach is based on field experimentation and the search for new solutions to meet the challenges of markets, compliance and sustainability.
- **SUPPORT AND MAINTENANCE:** our team will follow and support you at every stage of the project, thanks to the professionalism of our experts and the traceability of each individual item and processing phase.



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TREATMENT AND ODOUR REDUCTION

Our experience in a wide range of sectors enables us to propose reliable solutions for treatment and reduction of odours both with wet scrubber technology and with integrated activated carbon systems, biofilters, biopercolators, bioscrubbers for:

- ammonia stripping
- waste treatment
- composting
- treatment of tank vents
- agri-food production
- dairy products, charcuterie
- fertiliser production
- centrifuge vents
- washing plants











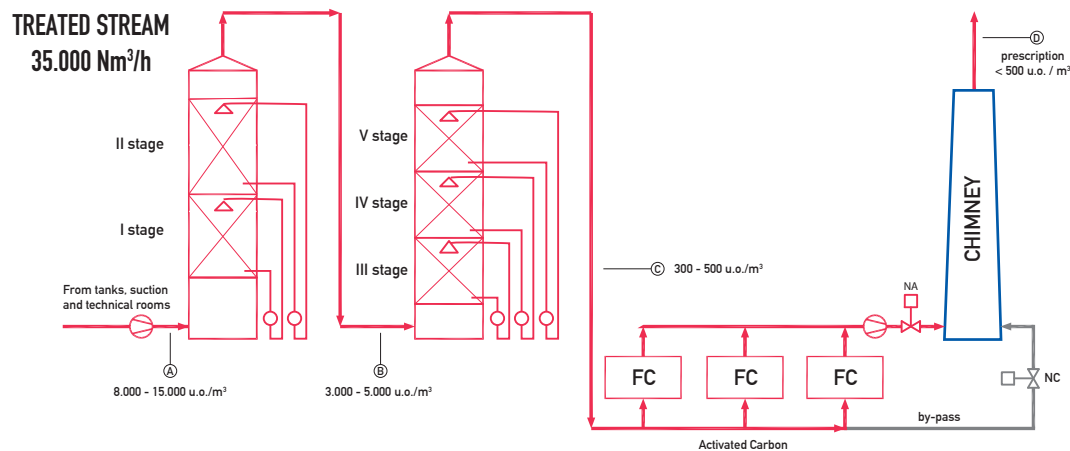


CASE HISTORY

VAPOUR ABATEMENT AND ODOUR CONTROL SYSTEMS

One of the most innovative plants installed by **TECNOIMPIANTI** is the one built at the Monza Municipal Water Treatment Plant, created to solve the problems related to emissions and odors from the sludge treatment line of the civil wastewater treatment plant.

The plant consists of five washing and deodorization stages made in two wet towers (scrubbers) and, if managed by DCS supervisor, is able to reduce the odor from a value of about 10,000 u.o./m³ to less than 500 u.o./m³ after scrubber, thus solving what was a critical issue for the surrounding population.



SUBSTANCE	LIMIT	INPUT POINT	SCRUBBER OUTPUT	GAC CHIMNEY OUTPUT	TOTAL RETURN
H ₂ S	1 mg/Nm ³	< 40 mg/Nm ³	< 0,5 mg/Nm ³	< 0,1 mg/Nm ³	99 %
Mercaptans	4 mg/Nm ³	< 10 mg/Nm ³	< 0,5 mg/Nm ³	< 0,1 mg/Nm ³	99 %
COV Nm	20 mg/Nm ³	< 100 mg/Nm ³	< 30 mg/Nm ³	3,0 mg/Nm ³	97 %
NH ₃	5 mg/Nm ³	< 100 mg/Nm ³	< 0,5 mg/Nm ³	< 0,5 mg/Nm ³	99 %
ODOURS	500 o.u./m ³	< 10.000 o.u./m ³	360 - 500 o.u./m ³	< 300 o.u./m ³	99 %



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WATER TREATMENT

TECNOIMPIANTI supports production processes and communities in every step that involves water, from technical needs to treatments to return water in full respect of the environment in a Circular Economy perspective.

Alongside primary water treatment and wastewater purification, **TECNOIMPIANTI** deals with the optimization of innovative technologies, to ensure maximum efficiency in the process.

- **Multimedia filtration**
- **Carbon filtration**
- **Selective filtration**
- **Micropollutant filtration**
- **Waste water purification**
- **Ammonia stripping**
- **Removal of boron, selenium, zinc, arsenic**
- **Chemical-physical plants**
- **MBR**
- **Ultrafiltration, reverse osmosis and membrane technology**
- **ZLD recovery and zero discharge plants**
- **Ultra pure water and EDI**





SELECTIVE TREATMENT OF SELENIUM AND MERCURY / DEMS

TECNOIMPIANTI has addressed in recent years the environmental problems of treatment of critical contaminants including selenium, arsenic, boron, mercury, vanadium and fluorine.

For selenium, which cannot be eliminated by traditional chemical-physical means, **TECNOIMPIANTI** has developed and patented an innovative and effective industrial-scale process also for the removal of mercury and other heavy metals, creating the first selective selenium removal plant from wastewater for the Power sector.

The element selenium is present in many process and wastewater, and in particular can be a constraint for:

- Coal-fired thermoelectric plants
- Mineral extraction industry
- Metallurgical and special technologies
- Surface treatment

The removal of selenium, in addition to solving a significant environmental problem, allows you to:

- Reliably comply with regulatory constraints
- Be able to use selenium-based products and technologies
- Use, in the case of thermal power plants, high selenium coal with great economic advantages and greater flexibility in supplies.

These objectives are easily achievable with the **TECNOIMPIANTI** treatment process able to “block” both $Se6^+$ and $Se4^+$ in sludge with abatement yields of up to 99.9% in compliance with legal limits.











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FOOD

The experience of **TECNOIMPIANTI** is applicable to industry the production of food, drinking water and beverages, where we can propose technologies for potabilization, production of treated water and wastewater purification.

In addition to these traditional applications, **TECNOIMPIANTI** has developed a line of processes and specific equipment for purification of sugar solutions, enhancement of by-products, extraction and recovery of polyphenols from agri-food waste up to the production of natural dyes.

Our solutions:

- **Grinding of the must**
- **Production of enocyanin**
- **Demineralization of molasses**
- **Purification of fruit sugars**
- **Separation and recovery of anthocyanins**
- **Production of natural dyes**
- **Adsorbent resin plants**
- **Recovery of polyphenols and tannins**
- **Discoloration of sugars and musts**
- **Recovery of process water**





F&B agri-food companies are among those that best of all can recover by-products, opening up new market developments.

The reuse of products that previously could be considered waste, finds an optimal enhancement thanks to our technologies..

GRAPE JUICE

Polyphenols (tannins and anthocyanins), natural dyes and substances with high added value can be extracted both from the skins, juice or musts and from the seeds.

In this context, our systems allow the demineralization of the must, the MCR production and also the tartaric stabilization, the removal of heavy metals from the wine, the discoloration of the must and the production of enocyanin.

CITRUS JUICE

In orange juice there are many types of polyphenols and organic molecules.

Some of those present in the pulp and peel of citrus fruits can be extracted as active ingredients also give a bitter taste and are removed with a process of deamarication.





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Tecnoimpianti
Water Treatment

ASSISTENZA TECNICA

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SERVICE

The maintenance activity, and more generally of service, is fundamental for the proper functioning of the process.

It allows you to reduce consumption, avoid waste, calibrate and optimize performance.

The qualified personnel for assistance allows us to plan and continuity of assistance both on **TECNOIMPIANTI** supplies and on existing systems.

Of particular importance is our mobile resin plant maintenance unit, which allows timely washing and restoration of ion exchange resins to prevent plant downtime and related production losses.

Operators for washing and periodic scrubber maintenance are also authorized to operate safely in confined places.



SERVICE ACTIVITIES

- Scrubber washing and maintenance
- Washing and reactivation of ion exchange resins
- Maintenance and washing of reverse osmosis systems
- Maintenance of softeners and demineralizers
- Revamping scrubber and demister replacement
- Reverse osmosis membrane replacement
- Discoloration of sugars and musts
- Process water recovery





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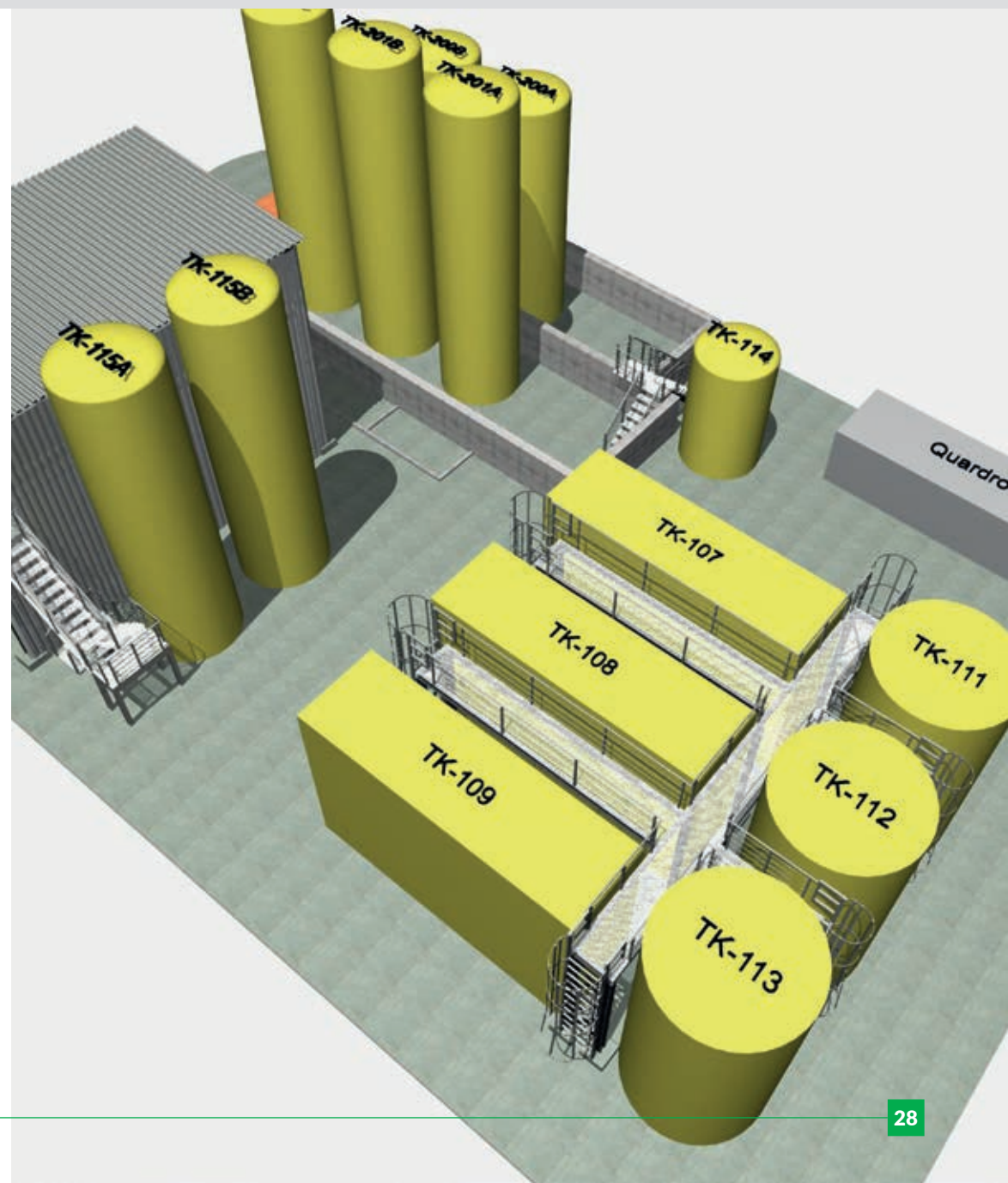
RESEARCH & DEVELOPMENT

Providing solutions is our philosophy and we do it starting from tests with our pilot plants.

In **TECNOIMPIANTI** we give a central importance to the study of innovative solutions adapting them to the needs of our customers. This approach is possible thanks to the Research & Development applied to the process, applied to technology and applied to the materials used for the construction of the plants.

We have numerous pilot plants of various types, which allow us to study the problem and optimize the solution, starting initially from feasibility tests and then with the semi-industrial plant.

In addition, the collaboration and contracts stipulated with university subjects make us ideal partners for funded research projects subject to tax deductibility.



PILOT PLANTS

- Ultrafiltration pilot plant
- Reverse osmosis pilot plant
- Ceramic ultrafiltration pilot plant
- Pilot plant with adsorbent resins and ion exchange
- Deodorization scrubber pilot plant
- Pilot plant for the removal of micropollutants
- Pilot ammonia stripping plant



“GREEN ENGINEERING”

The significant experience gained in the field of environmental engineering allows us today to offer our customers a high-value support that embraces the entire “Green Engineering” activity at 360 °.

We are able to support companies starting from the initial phase of study, analysis and optimization of production processes to get to the design, construction and assembly of the complete plant.

All this by providing concrete and cost-effective solutions with the aim of making industries increasingly competitive and sustainable.

We help industries to face an important challenge, that of the ecological transition, proposing integrated and synergistic systems of water and air treatment to significantly improve the environmental impact of the production process.







Tecnoimpianti

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