

Dear Madam or Sir,

We hope this email finds you well.

In November, we participated in three international exhibitions: the **Ecomondo** – Rimini (Italy), the **World Alliance Summit for Efficient Solutions** – Paris (France), and the **World Nuclear Exhibition** – Paris (France), where we presented Alpha Cleantec’s environment-friendly and cost-effective chemical technologies for soil remediation and the treatment of organic contaminants in groundwaters, wastewaters and sludges in a circular economy. We consolidated our business cooperation with existing partners and paved the way for new projects based cooperations in Italy, several European countries and Canada. We also strengthened our partnership with the Solar Impulse Foundation whose Label has been rewarding our work and accompanying our development over the past three years.

We furthermore pushed ahead several ongoing projects in Italy and Austria and had several meetings with public and industrial operators of wastewater treatment plants and landfills in Switzerland, Germany and Spain as well as with one major actor in the field of nuclear waste and wastewater treatment in Germany and France, generating an additional pipeline of projects related cooperations to be concretized in 2024.

From our R&D department, we are happy to provide you with a new update regarding customer projects.

### *Full-size application of vegetation control on railway roads in the EU.*

- The Problem:** The project was with one of the EU companies acting in the vegetation control field on railway roads. Railway tracks must be largely vegetation-free for safety and operational requirements. The standard market solution to prevent and treat vegetation on railway tracks is the use of soil herbicides and leaf herbicides. Glyphosate-based materials were one of the most efficient and cost-effective solutions for decades. However, recently, because of the environmental impacts and resistance of some of the plants, it was decided to stop using Glyphosate-based materials, and new efficient and cost-effective **non-Glyphosate herbicide material**, which can be applied with existing equipment, is in great need. This material was developed by ACT and named **VC material for railway roads**.
- The Objective** Therefore, our potential customer intends to have a rapid, simple, cost-effective, and non-Glyphosate herbicide that can treat a wide range of weeds, including Glyphosate resistant plants and can be applied with existing spraying equipment based on the current protocols of work.
- The Solution:** The full-size spraying project was executed by using a dedicated spraying truck for railway road vegetation control. The dozens of km of the railway road were treated with our VC herbicide-like material, demonstrating high efficiency and good results.

# Alpha Cleantec AG

## Newsletter November 2023



Maybe you face similar challenges in your business. Then please feel free to contact us.

<https://www.linkedin.com/company/alpha-cleantec-ag/>



### About Alpha Cleantec AG

We believe that our eco-system requires looking after so we have a world worth living in to pass to our next generations. Decontamination of soil and water from hazardous contaminants plays a major role in this regard, in our view. This is why we established Alpha Cleantec AG as an environmental technology company in 2016 with the vision to provide safe, green, rapid, efficient and cost-effective technologies to resolve environmental harms and hazards caused by inadequate human and industrial activities.

For Decontamination of a wide range of contaminants (see table below), we provide two technologies, AFA and SOA, achieving decontamination ratios of up to 97% in just hours (such as for Hydrocarbons, BTEX, Petroleum leftovers, Aromatics, PAHS, Chlorinated Solvents, PCBs, Dioxins as well as Pesticides and Herbicides) to be applied in soil, groundwater, wastewater and railway ballast treatment.

For wastewater facilities we have developed, based on our proprietary technology, a process allowing to pretreat sludge before the digester, thereby significantly increasing biogas generation (up to 50%) and decreasing dry sludge disposal at the end of the process (up to 20%).

For Vegetation control we have developed a process based on an environmentally friendly mixture of inorganic salts that generates concentrated (non-Glyphosate) herbicide absorbing water from the plants and drying the plant including the roots, without changing the salinity of the soil.

### Table of contaminants treatable by our technologies

CONTAMINANTS	IN-SITU		ON SITE	
	SOA	AFA	SOA	AFA
<b>BTEX</b>				
Benzene	*	*	*	*
Toluene	*	*	*	*
Ethylbenzene	*	*	*	*
Xylene	*	*	*	*
<b>PETROLEUM HYDROCARBONS</b>				
Gasoline Range Organics (GRO)	*	*	*	*
Diesel Range Organics (DRO)	*	*	*	*
Oil Range Organics (ORO)	*	*	*	*
<b>AROMATICS</b>				
Chlorobenzene	*	*	*	*
Bromobenzene	*	*	*	*
Dichlorobenzene	*	*	*	*
Nitrobenzene	*	*	*	*
Phenol	*	*	*	*
Styrene	*	*	*	*
Naphthalene	*	*	*	*
Trichlorobenzene	*	*	*	*
Trimethylbenzene	*	*	*	*
<b>PAHS</b>				
Phenathrene	*	*	*	*
Naphthalene	*	*	*	*
Acenaphthylene	*	*	*	*
<b>CHLORINATED SOLVENTS</b>				
Tetrachloroethylene	*	*	*	*
Trichloroethene	*	*	*	*
Dichloroethene	*	*	*	*
Vinyl chloride	*	*	*	*
Tetrachloroethane	*	*	*	*
Trichloroethane	*	*	*	*
Dichloroethane	*	*	*	*
Dibromochloroethane	*	*	*	*
Bromodichloromethane	*	*	*	*
Carbon tetrachloride	*	*	*	*
Chloroethane	*	*	*	*
Chloroform	*	*	*	*
Chloromethane	*	*	*	*
Chlorotoluene	*	*	*	*
Methylene chloride	*	*	*	*
<b>PCBS</b>				
<b>DIOXINS</b>				
<b>PESTICIDES AND HERBICIDES</b>				
Glyphosate	*	*	*	*
Goal	*	*	*	*

We plan to inform you in the future about newly accomplished projects, pilots or case studies. Please let us know if you do not wish to receive our company news.

Kind regards/ Mit freundlichem Gruß

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