

***DIALLO***  
***VALORAMOS EL AMBIENTE***

# 1. Value the Environment

A commitment to you and the environment

## 2. Solid Waste Treatment

With renewable energy generation and clean water

## 3. Wastewater Treatment Modules

With production of alternative fuels and power generation

## 4. Tire Recycling Plant

With production of alternative fuels and power generation

## 5. Sludge and Oils Treatment Plant

With production of alternative fuels and power generation

## 6. Power Plant-Container

With energy generation through crude oil

## 7. Gas Installations - Oil Extraction

Specialization in the field of air and gas separation, GAP recycling and natural gas preparation

## 8. Pyrolytic Processing Plant

Designed for the processing of any waste that contains carbon

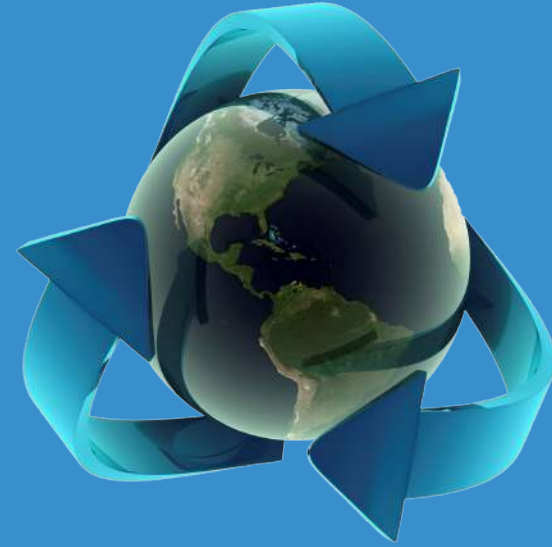
## 9. Electric Buses

# Who we are?

Since its foundation, our Holding has been guided by the idea of promoting advanced and innovative technologies that will help turn waste into renewable energy, helping to reduce harmful emissions to our planet.

Over the years, we have seen repeatedly that the most valuable resources are the health of the people and the health of the environment. That is why we believe it is our duty to help take care of these valuable resources, by providing high-quality tools and technologies and to motivate as many people as possible to join our cause.

To this end, we only offer equipment that meets the highest European environmental and safety standards. In addition, after carefully studying the regulations and requirements of various countries and regions, we help implement the technology to meet the regional and industry standards of health, safety, and environmental protection.



**+20**

Countries

**+15**

Plants in  
Operation

**+800 MW/h**

Renewable Energy

**0%**

Emissions and  
Pollution

**+120 m<sup>3</sup>/h**

Wastewater  
Treatment

**+1 200 Mill.t/a**

Solid Waste  
Treatment

## High Reliability Partners



# We Value the Environment

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## A commitment Team

A focus work team on capturing the needs of each country, guiding them to reach the core of the problems and offering the best technology that helping the countries and the environment.

## One-to-One Solutions

We are focusing in each and unique person and country, whether individual or corporate way established in the field of waste, the region is studied and its implementation is planned; and in the process, it identifies the problems that must be addressed in the course of professional activities.

## We understand the customer needs

It is essential to build a working relationship with our partners an based on trust and thus, to be a offer more than may be required sense, we have developed an in cooperation program to offer it clients, according to their needs desires.

## Quality and support through the Process

- Financing.
- Accompaniment pre-sale, sale, after-sale.
- Induction all staff.
- Connection to high voltage networks.
- Construction and commissioning.

## Permanent Innovation

We have worked 20 years ago with engineers specialized in the development of innovative technologies being pioneers this field.

A commitment to you and to the environment that bear fruit!

# Management Team

Our Directors

*A team of managers with a global vision*



**+ Aldo Villarreal**  
Chief Executive Officer

- Santo Domingo, Dominican Republic
- +7 (915) 024 0261 - +57 (319) 439 3058
- [aldovillarreal@dialld.com](mailto:aldovillarreal@dialld.com)
- [latinamerica@bioenergyholding.net](mailto:latinamerica@bioenergyholding.net)
- Skype: aldo.villarreal



**+ Diego Rendon**  
Commercial Director

- Moscow, Rusia
- + 7 (985) 966 6296
- [diegorendon@dialld.com](mailto:diegorendon@dialld.com)
- Skype: diegoalejandrorendon

# Management Team

Our representatives worldwide

*A team with a global vision and  
commitment to help the environment*



+ Ibragim Ibragimov

**Moscow, Rusia**  
**ibragim@diاللd.com**  
Chief Financial Officer



+ Pedro Garcia

**Santos/São Paulo, Brasil**  
**pedrogarcia@diاللd.com**  
Director of Operations -  
Country Manager



+ Catherine Medellin

**Bogotá, Colombia**  
**catherinemedellin@diاللd.com**  
Director of Hydrocarbons and  
Environmental Management  
Specialist in Latin America and  
the Caribbean

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+ **Giovanna Villarreal**

**Santo Domingo, Dominican Rep.**  
Director of New Projects



+ **Igor Torregroza**

**Colombia**  
**igortorregroza@dialld.com**  
Trade Representative



+ **Pablo Andres Santa**

**Antioquía, Colombia**  
**pablosanta@dialld.com**  
Trade Representative

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+ Jefferson Campos

**Quto, Ecuador**  
**jeffersoncampos@dialld.com**  
Trade Representative



+ Gerson Nuñez

**Manta, Ecuador**  
**nunezgerson@dialld.com**  
Trade Representative



+ Manuel Pérez

**Alicante, España**  
**manuelperez@dialld.com**  
Investments Managing Partner -  
Trade Representative  
Latin America, the Caribbean,  
Europe, Asia, Africa,  
Arabian countries.



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**+ Eduardo Ruiz Mastache**

**Mexico City, México**  
**eduardoruiz@dialld.com**  
Country Manager



**+ Juan Carlos Sierra**

**Veracruz, México**  
**info@ismareco.com**  
Partner - Strategic Ally



**+ Emilio Vázquez**

**Puebla, México**  
**emiliovazquez@dialld.com**  
Director of Strategic Projects

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+ Alfredo Ortega

**Puebla, México**  
Representative -  
Environmental Lawyer



+ Armando de la Llata

**Puebla, México**  
Representative -  
Administrative Lawyer



+ Ballardo Arce Sandino

**Managua, Nicaragua**  
**ballardoarce@dialld.com**  
Trade Representative

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**+ Marcela Avila**

**Lima, Perú**  
**marcelaavila@dialld.com**  
General Representative



**+ Walter Herencia**

**Cusco, Perú**  
**walterhcpc@dialld.com**  
Trade Representative



**+ Irina Katchan**

**San José, Costa Rica**  
**irinakatchan@dialld.com**  
General Representative  
in Costa Rica, Guatemala,  
Honduras and El Salvador

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**+ Silvio Fiuza**

**São Paulo, Brasil**  
**silviofiuza@dialld.com**  
Trade Representative



**+ Ilda Braga**

**Minas Gerais, Brasil**  
**ihc@dialld.com**  
Trade Representative



**+ Calros Magno**

**Bahia, Brasil**  
**ihc@dialld.com**  
Trade Representative

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**+ Hilario Alves**

**Espirito Santo, Brasil**  
**ihc@dialld.com**  
Trade Representative



**+ Jovanny Garcia**

**Santiago, Chile**  
**giovannygarcia@dialld.com**  
Trade Representative



**+ Paul Watson**

**Estambuel, Turquía**  
**paulwatson@dialld.com**  
Trade Representative



**PROJECT MANAGEMENT  
AND OPERATION**



**GERMAN AND RUSSIAN  
MANUFACTURING**



**INSTALLATION  
AND SET-UP**



**HELP WITH  
PROJECT FUNDING**



**GERMAN DESIGN**



**TECHNICAL SUPPORT**



**TECHNOLOGY  
MANAGEMENT**



**TECHNOLOGICAL  
INNOVATION**



**MORE THAN 15  
YEARS OF  
EXPERIENCE**



**STRATEGIC  
PARTNERS**

# Operational Management Model DIALLD

Representatives and collaborators in different parts of the world

Our Representatives, engineers and work team are in the region of each project, this allows us to meet the needs of our partners in an agile and effective way, offering technical and legal advice.

Having full command of different languages and being located in strategic countries.

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Specialization in the field of air and gas separation, GAP recycling and natural gas preparation

# 8. Pyrolytic Processing Plant

Designed for the processing of any waste that contains carbon

# 9. Electric Buses



**DIALLD** – It means recovery and conversion. We integrate technologies and processes for the treatment of different waste streams in a **Center of Conversion of Waste**. Our task alongside recycling is **to maximize** the **Production of Electricity**. At the same time, we avoid emissions, sanitize water and landfills are obsolete.

Our **Waste Conversion Center** can be designed, for example, for the recovery of the following types of waste:

- Municipal waste without separating.
- Sewage sludge and wastewater of septic tanks.
- Tires, wood waste and bulky garbage.
- Reduction and restoration of landfills.
- Hospital waste and specific toxic wastes.
- Supermarket waste, expired food, waste from gardens and parks.
- Commercial waste and light industry waste.
- Floating waste, etc.

**Our plant can handle from 120.000 to 1.000.000 tons of waste per year, producing energy from 10MW/h up to 100 MW/h and clean water.**



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**Wastewater Treatment Modules- Energy Generation:** They are designed for wastewater treatment of cities, settlements, industries, water of salt mines, sewage and organic livestock systems. In addition, it modernizes and develops existing Wastewater Treatment Plants, combined systems (electric and thermal generation), production systems for alternative sources of highly energetic fuels.

The advantage of this technology is that it allows it to work completely with both waste water and other liquid waste. Environment pollution is excluded in the course of the process. Fertilizers, alternative fuels and electricity are obtained from the purification of process solids.

**Advantages of Waste Treatment Modules – Energy Generation... the following indicators are available:**

- High degree of purification and disinfection;
- High stability of biological treatment, immunity to possible overloads of waste water and influence of toxic substances;
  - The sterilization of the waste water occurs in continuous mode; Wastewater is a safe fuel;
  - Wastewater is a highly energetic fuel;
- The modules of Wastewater Treatment – Generation of Power are of group type, each with a productivity of 10, 50, 100, 300, 500, 2500 m<sup>3</sup>/day of waste and generation of up to 20 MW, which are recommended to be applied in projects from 10 to 1000 m<sup>3</sup> of wastewater per day.
- Our technological and manufacturing solutions follow the ISO 2001 / ISO 14001 standards.

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The first motivation for the creation of this facility was the desire to ensure a cleaner environment and a desire to achieve an impressive solution for the treatment of almost any type of plastic waste and recovering valuable raw materials using the thermolyzes process. The processing of rubber, plastic and bitumen is a big problem for society today and tomorrow, most of this waste is burned, buried or subject to produce tire dust, which has a temporary effect.

No one, until now has analyzed the real potential of reused rubber materials, Now, based on thermolyzes we are able to create new petroleum products and carbon black (particulate material). And this is a real process.

The developed technology describes an indirect heat transfer process by radially extending plates acting on the pellets in a vertical reactor in the oxygen free environment. At a temperature of 500-850°C, the compounds decompose and build the chain connections. As a result, the final product is divided into the following materials: Solid (coke, carbon black and charge), Liquids (oil thermolyzes of different density and composition) and Gas (non-condensing with a caloric value of 44MJ/m<sup>3</sup>). The most essential element is the temperature in the reactor, because and thanks to it we can change the composition if it is subjected to controlled thermolyzes vapors and coke. The working pressure in the reactor is approximately 50 mbar.

The emissions generated by the burning of gas from the generator, to obtain the catalyst and the filter in accordance with European environmental standards. Thermal energy is obtained through the water cooling system based on combined electric mode and thermal energy recovery.

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**DIALLD** offers Finnish technology and equipment for sludge and oil processing. Finnish work teams do not depend on sludge and oil type fractions – oil refining waste and the processing of oil. In general, it is accepted that the annual average of 5% of the billing increases, due to the treatment of this waste. Existing recycling techniques are costly and limited by numerous factors, for example, can operate with a specific type or fraction of specific sludge, the technological development strategy DIALLD plans to create a network of suppliers for the treatment of sludge mixed oil after the extraction of oil for use in all markets.

**DIALLD** is seeking investors and clients for mutually beneficial cooperation in the field of elimination of environment problems – the disposal of waste oils.



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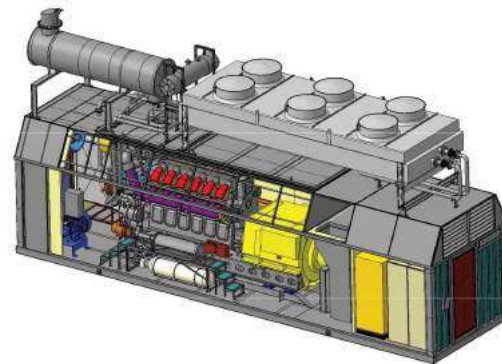
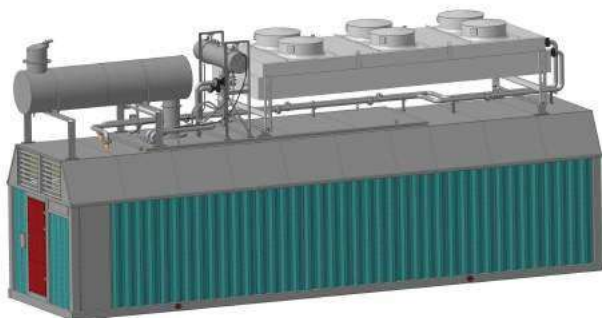
Proposal for the design, manufacture, construction, installation and commissioning of the power plant (ESN), is carried out based on the technical requirements of the client with the experience in construction of similar plants in different regions of the Russian and German Federation. The power plant is designed to supply electricity to consumer customers.

Fuel for the plant (ESN) is crude oil (the customer will agree on the applicability of fuel to the engine manufacturer).

Mode of operation of the power plant – basic connection.

The technical solutions can be changed and adjusted, in the development stage of the design and construction documentation.

This technical proposal is provisional project information, the price and the services presented therein, can't be represented as terms of reference or as part of the project documentation.





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**DIALLD - GRASYS** are technological innovation and production, design and construction, execution of EPC projects in the division of gases and treatment of natural gas and gas associated with oil.

The technological innovation and production company **GRASYS** has executed more than 850 projects for more than 350 companies National and international.

GRASYS equipment and industrial plants in Russia are installed in companies such as: Gazprom, Rusneft, Lukoil, Surgutneftegas, Salvneft, Tatneft, Gazpromneft, Transneft, Novatek, Ritek, Ximmash, Sibur, Euroxim, Samara-nafta, Neftisa, Belarusneft, Naftogaz, Serbian Oil Industry, Turkmengaz, KazMunaygaz, Kazaxmis, Zarubehneft, Exxon Mobil, Shell, Conoco Philips, Petrofac, etc.

**For the execution of projects GRASYS has the respective permits and official patents, as well as quality certificates ISO 9001: 2008.**

### MEMBRANE PLANTS FOR GASES TREATMENT

- Separation of heavy hydrocarbons ( $C_{4+}$ ,  $C_{5+}$ )
- Sulfuric component separation ( $H_2S$ )
- Inert gas separation ( $CO_2$ ,  $N_2$ )
- Gas drying, removal of water and hydrocarbon condensates
- Removal of solid particles from the gas

### MEMBRANE PLANTS FOR THE DIVISION OF AIR GASES

- Nitrogen Plants ( $N_2$ )
- Absorbent plants ( $N_2$ )
- NITROPOWER generators ( $N_2$ )

### PLANTS AND NITROGEN STATIONS ( $N_2$ )

- Mobile stations ( $N_2$ )
- Compression stations ( $N_2$ )
- Fire stations ( $N_2$ )

### PLANTS AND OXYGEN STATIONS ( $O_2$ )

- Adsorbing plants ( $O_2$ )
- Cylinder filling stations ( $O_2$ )
- Mobile cylinder filling stations ( $O_2$ )

### COMPRESSORS AND COMPRESSION STATIONS

Wide range of models of piston and screw compressors, of our own production.

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The **FORTAN-M plant** is designed for the pyrolytic processing of various wastes: sewage, solid household waste, rubber products and plastic waste, incl. worn tires, wood and waste from wood chemistry, contaminated soil and salinized water with petroleum products, oil sludge, shavings and scale from metallurgical industries, medical waste, etc. unclassified. The plant can be used for some chemical-technological processes associated with heating up to temperatures not exceeding 700 ° C.

Our team has successfully implemented our technology successfully in many countries of the world: Russia, Turkey, Australia, Belarus, India, Argentina, Armenia, Republic of Panama, Bulgaria, Kyrgyzstan, Moldova, Transnistria, Turkmenistan, Ukraine, Czech Republic, South Africa, etc.

***The production of equipment is certified by the quality management system in accordance with the requirements of the international standard ISO 9001.***

**Our technology processes:**

**RTI (used tires)**  
**Fuel oil**  
**Waste plastic**  
**Medical waste**

**Oil sludge and water**  
**Used oils**  
**Coal (D)**  
**Wood waste**

**TT GROUP company** has been in the market for more than 18 years. We are developers and manufacturers of equipment for recycling waste and obtaining alternative energy sources.

The FORTAN / FORTAN pyrolysis plants of our company were included in the Manual of Best Available Technologies "Waste Disposal by Thermal Method", developed by the Ministry of Natural Resources of the Russian Federation on December 17, 2015.

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The concept of the new electric bus developed with the participation of MSTU specialists. Bowman, who along with the design of the "GAZ Group" center have been working to determine the energy balance and optimal modes of machine movements in the routes of the Russia Capital.

To create a traction and software solutions, we worked with the company Siemens and its innovative technology.

Maintaining an elevated level of unification of the electric bus along with a model line in Likino Bus "GAZ Group" of the plant, allows achieving maximum economic efficiency for the company.

The electric bus is designed to carry up to 90 passengers and has 27 seats with the possibility of obtaining three seats for passengers with disabilities. The machine meets the international standard of the environment with zero emissions, which is characterized by the total absence of emissions harmful to the atmosphere. The electric bus has a metal structure with improved corrosion resistance characteristics, obtained through the use of cataphoresis priming technology.

The electric bus is equipped with lithium-manganese batteries, which has a high energy and increased resources – up to 5000 charge/discharge cycles, which increases the daily mileage of the bus to 200 Km using modular solutions for the load. The application of this decision implies a long charge of the electric bus, which would be performed at night, with two or three short recharging for 20-30 minutes, in the electric bus route variables.

# **DIALLD**

VALORAMOS EL AMBIENTE

Skype : Dialld.com | dialld@dialld.com

WWW.DIALLD.COM | WWW.BLOG-DIALLD.COM

WWW.DIALLDCAPITAL.COM