

Company **AEP Engineering** registered at the legal address: Stanislawowska 47, 54-611, Wrocław, Poland, NIP: 8943192253.

Director - chief constructor of the enterprise Vitaly Shablov, Ph.D. in Ecological Safety

**AEP Engineering** is an innovative manufacturing engineering enterprise.

The company has the following divisions:

- Manufacturing facility;
- Main equipment assembly shop;
- Department of Automation;
- Software Department;
- Design department;
- Research Chemical Laboratory;
- Laboratory for testing non-standard waste-derived fuels;
- Laboratory for the development and production of multi-fuel engines;
- Laboratory for pyrolysis waste processing;
- Laboratory for the study of cavitation processes in hydrocarbons;
- Flue gas cleaning laboratory.

The company employs doctors of sciences, a candidate of chemical sciences, a chemical technologist, designers, IT specialists and other engineering and technical personnel.

Vitaly Shablov

Mob.: +48 664 441 179

Viber/Telegram/WhatsApp: +375 29 6789 001

**AEP Engineering** manufactures equipment and operates in the following areas:

1. Development and production of mobile (up to 40 tons per day) and stationary complexes for waste processing by low-temperature pyrolysis to obtain commercial raw materials, heat and electricity with zero emission of flue gases into the atmosphere;
2. Development and production of filtration and condensation units for high-temperature (more than + 10000C), heavily polluted gases for their purification to the level of 100%;
3. Development and production of gasifiers for obtaining generator gases from waste;
4. Development and production of containerized mobile distillation platforms (mini-refineries), with a feedstock capacity of up to 40 tons per day, for the production of straight-run gasoline, diesel fractions and fuel oil;
5. Development and production of watering stations for substandard and degraded fuels (fuel oil, boilers, marine and diesel fuels) to produce water-fuel emulsions;
6. Development and production of equipment for energy-efficient high-speed drying of various highly watered waste, agricultural waste, animal husbandry (chicken manure, pig and cow manure) and woodworking industry by the steam explosion method;.
7. Development of multi-fuel internal combustion engines operating according to the M-process to generate electricity using fuel obtained from the pyrolysis processing of waste;
8. Development and production of mobile and stationary installations for environmentally friendly processing of PVC waste;
9. Development and production of equipment for the neutralization and purification of flue gases, gases from waste incineration, exhaust gases of diesel generator sets operating on substandard fuels;
10. Development and production of equipment for the neutralization and utilization of high-temperature flue (exhaust) gases to produce synthesis gas used in power plants as a fuel with zero emissions into the atmosphere;
11. Development and production of fuel-free incinerators for environmentally friendly waste disposal of I-IV hazard class;
12. Development and production of hydrogen production equipment;
13. Microbiological wastewater treatment;
14. Microbiological cleaning of hot water, steam boilers and network heating systems from scale and rust deposits;
15. Development of equipment for the production of sorbents from the carbon residue formed during the pyrolysis of waste;
16. Development of technology and equipment for obtaining condensed water from air, on an industrial scale;
17. Development and production of mobile and stationary container-type heating and ventilation units with a thermal power of up to 2.0 MW / h, operating on various types of fuel;
18. Development of a new concept for the processing of unsorted solid waste of I-IV classes without combustion (complete replacement of waste incineration plants) to produce electricity, synthesis gas and useful commercial products.

Own research center **AEP Engineering** carries out the following work:

1. Andstudy of pyrolysis waste processing at the Pulsar experimental stand to determine energy efficiency;
2. Determination of the percentage composition of light distillates and fuel oil fractions in the obtained pyrolysis liquids;
3. Determination of physico-chemical parameters of obtained light distillates for their use as a motor fuel;
4. Study of the composition of the carbon residue and the possibility of its further use as a fuel for gas generators, sorbents and other useful products;
5. Determination of the composition of pyrolysis and generator gases, their physical and chemical characteristics, the possibility of liquefaction, compression and further use in energy or chemistry;
6. Carrying out the calculation of the material balance of technological processes;
7. Research on the possibility of environmentally friendly use of the obtained distillates for the generation of electricity on diesel generators and heat engineering installations;
8. Development of technologies for obtaining alternative fuels and other high-margin products (xylene, toluene, solvents) obtained by low-temperature pyrolysis from more than 150 types of waste;
9. Development of effective methods for purification and clarification of substandard fuels and oils<sup>4</sup>
10. Development of technologies for cleaning and neutralizing exhaust gases from a pyrolysis plant for the disposal of organic waste;
11. Development of technology for purification and clarification of dark substandard fuels (removal of sulfur and hydrogen sulfide compounds), gas condensate (removal of tar and pollution), etc.;
12. Optical-microscopic studies of liquid and solid pyrolysis products using a digital microscope;
13. Study of the physicochemical properties of gaseous, liquid and solid products of pyrolysis;
14. Development of technical specifications for manufactured products;
15. Carrying out research in the field of microbiological cleaning of hot water, steam boilers, network heating systems from scale and rust deposits;
16. Conducting research in the field of efficiency of microbiological wastewater treatment;
17. Other research work.

During our work, we have implemented more than 25 innovative projects in various industries.

A list of some of the completed projects is listed in Appendix No. 1.

Photos of objects, stands and laboratories - Appendix No. 2.