



EUROPEAN BUSINESS COUNCIL

STRATEGIC COOPERATION & TECHNOLOGY TRANSFER

ANNEX 4

DETAILED TECHNICAL BRIEFING
Environmental & Vector-Control

ISSUED TO: His Excellency President Yoweri Museveni & The Cabinet of Uganda

DOCUMENT PROTOCOL: EBC-UGA-2026-V04

SECURITY CLASS: CONFIDENTIAL - RESTRICTED STATE PROTOCOL

AUTHORIZATION DESK: European Business Council Diplomatic Liaison

DATE OF ISSUANCE: May 20, 2026

1. Executive Summary & Strategic Vision

Vector-borne diseases, particularly Malaria, pose a severe threat to public health and economic productivity in Uganda. This vertical establishes a comprehensive, non-toxic, wide-area vector suppression strategy, combining ecological biological larvicides with modern drone-based delivery technology and advanced chemical-free municipal water purification.

2. Strategic Project Portfolios

The following sections present the detailed technical catalogs, operational parameters, and physical assets for each strategic project under this vertical. The technical structures have been compiled from original engineering designs, and deployment models are aligned with the Ugandan national priorities.

Project 4A: Nanotech Global UAVs (Vector Drones)



hectares per day, these drones provide local health ministries with real-time digital mapping and precision vector suppression, bypassing difficult terrain and protecting urban population centers from disease outbreaks.



Nanotech Global UAVs deploys advanced heavy-payload autonomous drones (UAVs) for wide-area vector tracking and malaria control. These tactical UAVs are equipped with high-resolution multi-spectral cameras, thermal sensors, and precision liquid dispersal nozzles. They autonomously scan dense equatorial swamplands, identify stagnant water mosquito breeding hot-spots, and disperse biological larvicides through dense forest canopies. Able to cover up to 500





Figure: Vector Control Drones: Thermal hotspot tracker and digital mapping UAV.

Key Technical Parameters & Specifications:

| Technical Parameter | Specification / Performance Capability |
|--------------------------|---|
| UAV Payload Capacity | Heavy-payload capacity carrying up to 50 kg of biological liquid vector suppressors. |
| Operational Range Radius | Autonomous mission range extending up to 15 kilometers from tactical deployment bases. |
| Flight Mission Time | Continuous flight time up to 45 minutes, optimized for low-altitude swampland mapping. |
| Liquid Spray Width | Effective spray swath of 8 to 10 meters, securing wide-area swamp coverage per pass. |
| Targeting Accuracy | Sub-meter GPS-guided flight tracks, minimizing overspray and conserving bio-formula reserves. |

Project 4B: Veterinary Solutions & Ecological Disinfectants

This project integrates biological vector suppressors and ecological disinfectants to protect Uganda's agricultural and livestock economies. The non-toxic biological formulas physically disrupt the larval development and breeding cycles of mosquitoes, ticks, and bed bugs, preventing them from reaching adulthood. These organic disinfectants are 100% biodegradable and completely safe for bees, fish, agricultural soils, livestock, and local human populations. When applied to poultry farms, cattle ranches, and dairy complexes, they eradicate vector-borne pathogens (such as avian influenza, African swine fever, and bovine ticks) without leaving synthetic chemical residues in meat or milk, securing export compliance.





ANIMAL DISINFECTION

"Animal Disinfection" is an innovative high-tech product disinfectant for animal skin and a closed corral, stable or other auxiliary equipment treatment.

Efficiency:

- Skin surface treatment against malignant microorganisms;
- Scratches, erosions and other skin lesions treatment for prevention of pathogen acquiring;
- Repellence and protection against malware blood-sucking and stinging insects;
- Stable disinfection without chlorine strong odor;
- Protection of technological equipment's surfaces, forage formulation area and other auxiliary facilities from various pathogens without toxic compound formation threat;
- A broad spectrum of action against viruses, protozoa, bacteria and fungus;
- Strong sporicidal agent (Giardia lamblia, Cryptosporidium);
- Biofilm's and other thin organic sediment's rapid removal;
- Does not irritate animal's skin, eyes and mucous membranes due to non-toxic byproduct formation (chlorides – Cl-; chlorites – ClO₂-, chlorates – ClO₃-);
- Does not induce metal surface corrosion (rusting).

Composition: Transparent, colorless liquid with chlorine faint odour. Aqueous solution contains: NaClO - 0.18%; HClO - 0.11%.

PIGS



Active Components:

- Bio Saline K1 Solution
- Activated Bio



Application Area:

Used for disinfecting and refining of animal drinking water. For processing and utilization of equipment Prevention of diseases.

Effectiveness:

- It allows producing of ecologically pure, Bio products, without risk of harmful impacts.
- Significantly increases immunity and ability to fight diseases.
- Reduces mortality rate.
- Animals reach the desired weight in the shortest period.
- More goods and extra profits are created with quicker weight gain of pigs.
- Used to optimize the digestive process and the animals effectively use a small amount of food to reduce the amount of consumed foods.

CATTLE

Active Components:

- K1 Solution
- Activated Bio Aqua



Effectiveness:

- It allows producing of ecologically pure, Bio products, without risk of harmful impacts.
- Increases milk production by up to 15% desired weight in the shortest period.
- More goods and extra profits are created with quicker weight gain of pigs.
- Used to optimize the digestive process and the animals effectively use a small amount of food to reduce the amount of consumed foods.

Application Area:

Used for disinfecting and refining of animal drinking water.

For processing and utilization of equipment .
Prevention of diseases.

Effectiveness:

- Improves nutrition effectiveness; Used to optimize the digestive process and the poultry effectively use a small amount of food to reduce the amount of consumed foods.
- Formulates and strengthens immunity.
- Raising resistance to various illnesses, their sustainability and durability.
- Increases vitality.
- Mortality rate decreases from 50 to 70%, effective in epidemic periods.
- Reduces the need of use antibiotics.
- Significantly reduces e-coli, salmonella and coccidiosis and helps rapid cure of the bird.
- The tendency to laying small eggs is reduced.
- Raises the quality of eggs and homogeneity.
- Is safe for people and animals, does not require special safety measures.
- Using less financial and human resources, the desired result is achieved.
- There are no side effects and does not leave harmful residues.
- Does not require special transportation.

CHICKEN

Application Area:

Innovative and high-tech product with technology used for improving quails' conditions, preventing diseases and increasing weight gaining rate.

Used for poultry recovery, prevention of diseases and increase efficiency.

Used for disinfecting and refining of birds drinking water, processing and utilization of equipment

Active Components:

- Activated Bio Saline Solution
- K1 Solution
- Bio Aqua





QUAIL

Application Area:
Used for poultry recovery, prevention of the diseases and increase efficiency.
Used for disinfecting and refining of animal drinking water.
For processing and utilization of equipment.


Active Components:

- K1 Solution
- Activated Bio Aqua



Effectiveness:

- Getting bio friendly and organic products (meat, eggs).
- Feed reducing up to 10 %
- Increase of egg production up to 15 %
- Reduce of egg loss up to 70 %
- Egg uniformity, increase of quality.
- Sharp reduction of chicken mortality up to 60 %
- Increase of immune system.
- Promotes quick recovery of the bird.




RABBITS

Application Area:
For Rabbits is innovative, safe, environment friendly, additive to improve water to help the growth, ecologically clean product technology.
It is used as a food additive to improve water to help the growth, strengthen immunity and help gaining weight.

Active Components:

- Activated Bio Saline Solution
- K1 Solution
- Activated Bio



Result:

- Disinfection and improvement of water for the rabbits;
- Processing and disinfection of technological equipment and inventory to avoid infections diseases;
- Prevention of fungal, bacterial and viral infectious diseases (diarrhea, skin infections, respiratory tract infections); Prevention of diarrhea due to coccidiosis and intestinal stroke, reduction of mortality;
- Empowerment of animal immunity and accelerated cure process;
- In the relevant period improves the quantity of mother's ability to feed off spring;
- Reduction of antibiotics and other medical costs;
- Improves digestion and digestion process. Animals are able to achieve the desired weight in a short period of time;
- Production of ecologically pure bio products.

PETS

Application Area:

Used for disinfecting and refining of dog, cat, rabbit and other pets.

Can be applied on the skin and different concentration as a drinking water.

Effectiveness:

- Clear water intended for drinking;
- Cure and prevent diseases such as diarrhea, skin infections, bacterial diseases, respiratory tract infections;
- Destruction of harmful microorganisms and bacteria;
- Balance cleansing from blood parasites;
- Reduce the use of various medicines and antibiotics;
- Increasing sustainability of the digestive system and respiratory tract;
- During the feeding period, the milk is increased;
- The sharp decrease in mortality;
- Immunity to respiratory and digestive system disease.

Active Components:

- K1 Solution
- Activated Bio Aqua



Application Area:

For fish and other sea foods.

To make healthier and maintain better quality water in fish farms.

Creation of ecologically optimal conditions.

To create optimal growth and nutrition for spawning and lifts.

Control / Prevention of viral and bacterial diseases;

Prevention of infectious diseases.

Avoidance of antibiotics.

FISH

Effectiveness:

- Quality of water is improved and maintained in the sewage system.
- Creates an optimal growth environment for spawning and lifts.
- Use of various medicines is reduced, resulting in environmentally clean, organic products.
- Effective control of infectious diseases.
- Used against diseases such as diarrhea, skin and respiratory tract infections.
- Bacterial diseases, respiratory tract infections.

Active Components:

- Activated Bio Saline Solution
- K1 Solution
- Activated Bio Aqua



Key Technical Parameters & Specifications:

| Technical Parameter | Specification / Performance Capability |
|---------------------------|---|
| Target Biological Vectors | Larval stages of mosquitoes, disease-carrying ticks, and structural bed bug infestations. |
| Ecological Safety Rating | 100% non-toxic to non-target wildlife, including honeybees, freshwater fish, and livestock. |
| Biodegradability Speed | 100% organic decomposition into natural nitrogen compounds within 14 days of soil contact. |
| Livestock Disease Shield | Eradicates bacterial and viral pathogens responsible for avian flu and African swine fever. |
| Application Versatility | Fully compatible with wide-area agricultural sprayers, localized backpack units, and UAV nozzles. |

Project 4C: INODES Plasma-Assisted Pyrolysis System (PAP)

The INODES Plasma-Assisted Pyrolysis (PAP) system represents a fifth-generation, environmentally closed industrial waste-to-energy recovery installation designed for continuous, depressurized catalytic depolymerization of end-of-life tires (ELT) and hydrocarbon waste. By applying external electromagnetic energy effects on the treated waste, the system shifts the energy states of its elements, decomposing the mass into high-value commercial fuels in an isolated oxygen-free environment. Unlike traditional batch pyrolysis, the system operates as a continuous thermal process with zero external gaseous emissions, recovering 100% of organic components into clean energy carriers.

Plasma-assisted pyrolysis system for end-of-life tires to high-quality secondary products INODES - PAP

PETAL SA, founded in 1949, has over 40 years of experience in designing and manufacturing oilfield equipment, industrial valves and fittings. From 2016, PETAL is an innovative engineering company specializing in the design, production and implementation of facilities for alternative electrochemical treatment and utilization of waste to valuable commercial products.

Our installation are the result of “Innovative technology and installation for decontamination and waste recovery through depressurized catalytic depolymerization INODES” Project, developed in 2021-2023 on National Program POCIDIF, Cod SMIS 2014+:120863, aimed at global environmental challenges - clean water, carbon emissions and the utilization of waste resources, promoting a circular economy.

PETAL propose you, INODES installation with fifth generation plasma assisted pyrolysis system PAP for end-of-life tires to high-quality secondary products.

End-of-life tires (ELT) represent a significant environmental challenge, as over 1 billion ELT are generated worldwide each year.

For partial utilization of this amount of ELT, various technological solutions are applied:

1. Energy recovery, as ELT are burned as an alternative fuel source for power plants and in the cement industry - a technology that utilizes energy, but generates greenhouse emissions.
2. Obtaining materials from ELT used in the construction of playgrounds, artificial turf and other infrastructure projects - applications are increasingly limited due to growing concerns about the possibility of soil, water and ecosystem pollution.
3. Recycling of ELT through classical pyrolysis - a technology for the decomposition of whole or shredded tires to obtain solid and liquid products.

Problems arising when recycling ELT in classical pyrolysis:

- technology implemented through simple batch systems with external heating by burning fuels emitting greenhouse gases;
- partial pyrolysis; ELT are high molecular hydrocarbons with low thermal conductivity, which is why they heat up extremely slowly and unevenly; the mixture located in the immediate vicinity of the heating zones pyrolyzes to a greater extent than the mixture distant from the heating zones;
- the resulting solid residue near the heating zones is heavily charred and isolates the rest of the starting material, which solidifies it into a monolithic block and requires the reactor to be stopped for cleaning;

– due to the uneven heating, low-quality soot is produced and the recovered products are of little commercial value; – due to the relatively high ash content due to uneven and too high temperature heating, the carbon content is low;

– to achieve over 80% carbon content in the recovered carbon black, a sulfuric acid wash is required, followed by a neutralization wash, which generates wastewater with a very high chemical oxygen demand.;

All these technological solutions for ELT utilization are becoming a growing environmental problem and there is an urgent need for innovative and large-scale solutions for effective management and reuse of ELT, minimizing their environmental impact and unlocking their hidden value.

At the heart of our waste carbon resource utilization business is the plasma-assisted pyrolysis system, a fifth-generation PAP system that provides significant environmental and financial benefits. A system operating with zero emissions and with much lower energy consumption compared to traditional pyrolysis systems, offering a cost-effective and environmentally friendly solution for converting waste into commercial products.



INODES installation with fifth generation plasma assisted pyrolysis system PAP

A system implementing an innovative waste processing process, built from highly reliable components developed and manufactured by PETAL SA. Components with original design solutions and internationally recognized operating principles, meeting the requirements of:

- Machinery Safety Directive 2006/42/EC;
- Electromagnetic Compatibility Directive 89/336/EEC;
- Low Voltage Directive 73/23/EEC.

The plasma assisted pyrolysis system, by combining external energy effects on the treated waste, changes the energy state of the elements in its structure, resulting in:

- synthetic gas 20% to 60% (8 to 12 MJ/m³);
- pyrolysis oil 40% to 60% (10 to 17 GJ/m³);

- solid residue 30% to 40% (30 GJ/t).

In the modeling of the physicochemical processes for waste pyrolysis and the utilization of the resulting products, an approach for unifying the mass-transfer and oxidation-reduction processes of decomposition with electric field processes of intensification.

The following assumptions are made:

- the nature of the structural bonds of substances is electrical;
- structural bonds correspond to the potential energy of the existing electric fields between the charges;
- dynamic impacts are force actions that change the energy of the structural elements;
- external energy affects the structural elements by changing the nature of the oscillations around an average equilibrium position in terms of frequency and amplitude, determined by the potential and kinetic energy;
- the new energy state is the reason for obtaining permanent bonds with a certain energy.

The mechanism of influence on the structure of the substance allows the unification of all external force interactions into two models:

- Energy,
- taking into account the change in time of the energy affecting the structural elements, in which their properties are a function of the new energy state.
- Kinetic, taking into account the change in the state of the elements in the structure of the substance, and from there their properties.

From the unification of these two models, it follows that when the external field effect changes, the stability of the system changes and qualitatively different properties of the particles appear compared to their initial ones from which it was created - with each quantitative accumulation of energy, the system jumps to a new qualitative structural state.

Production of pyrolysis oil and regenerated carbon black from ELT pellets

Plasma-assisted pyrolysis system with continuous operation of Elphi-tech with a capacity of 1000 l/h; 500 kg/h including two innovative continuous reactors elphi resyrs.

The elphi resyrs reactor implements an avant-garde approach for continuous thermochemical conversion of ELT pellets. A plasma-stimulated pyrolysis process implemented by a rotating multi-component thermal emission electric spiral with a variable pitch located in an electromagnetic field, causing the structuring of a steep temperature front integrated with multiple coronal electric discharges.



resyrs reactor

Configuration operating in adaptive mode, providing effective and precise control of heating and residence time of the material inside the reactor.

The resyrs reactor is fed with pellets from ELT through a system consisting of an inverted pyramid-shaped container, a vertical bucket elevator, an intermediate hopper, an inclined screw and a rotary inlet valve with a gear motor.



vertical bucket elevator



rotary inlet valve

The screw and the rotary valve play a dual role in the pyrolysis process, ensuring precise volumetric feed and at the same time creating a hermetic seal preventing air from entering the reactor and thus ensuring a lack of oxygen.

The extraction of solid residues is through a design choice facilitating the compaction of the solid sections and the formation of a hermetic solid plug at the outlet end. This design is crucial to ensure the success and efficiency of the pyrolysis process, where achieving a controlled oxygen-free environment is of essential for the desired chemical reaction to occur. The solids are



Extractor

cooled efficiently and safely by a double-walled design utilizing a recirculating cooling water system to mitigate thermal stress and facilitate secondary treatment.



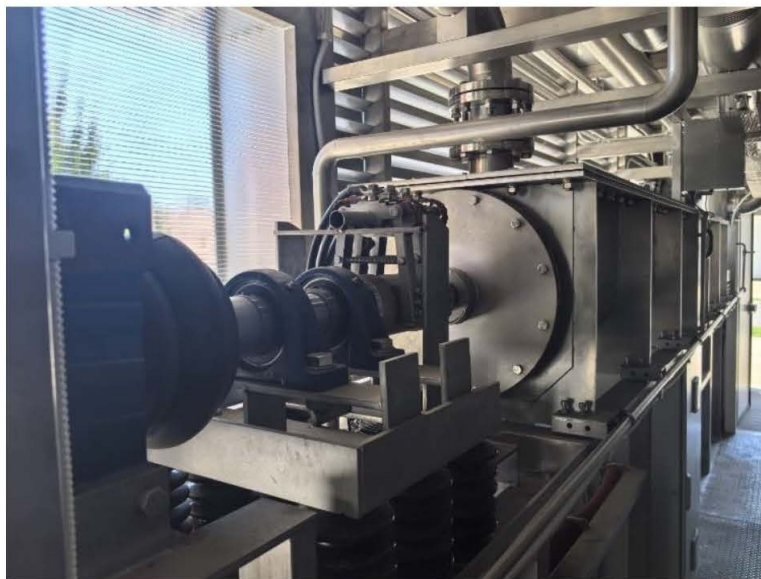
recirculating cooling water system

The reactor electrical control and monitoring system complies with API RP 500 UL and includes monitoring, alarming and instrumentation functions designed to ensure safe and continuous operation in Class 1, Division 1 and 2 hazardous areas.



management and monitoring system

The pyrolysis reactor is rigidly mounted on a stainless steel structure, including



pyrolysis reactor

a stainless steel frame and sidewalls for structural integrity, along with floor plates with improved slip resistance in industrial environments.

A frequency-controlled turbocharger facilitates continuous and controlled transfer of the pyrolysis gas from the pyrolysis reactor outlet throughout the gas cleaning and conditioning path, while maintaining the required operating pressure in the system.

A vortex ultrasonic separator provides dynamic and efficient separation of



vortex ultrasonic separator

particles entrained in a flow resulting from the pyrolysis process. Separation plays a key role in the effective isolation and removal of suspended particles, contributing to the overall purification of the gas.

The liquid fraction – pyrolysis oil, is condensed from the purified gas using a water-cooled condenser and a straight jacket with an ultrasonic cleaning system.



capacitor

The plasma-assisted pyrolysis system stands at the forefront of pyrolysis technological innovations, offering a high-tech solution for continuous pyrolysis conversion with adaptive control and process efficiency to obtain commercial pyrolysis products of high quality and competitive price. Unlike conventional batch pyrolysis systems, which generate harmful emissions released into the environment from the combustion of fuels for external thermal impact on the treated waste material, the plasma-assisted pyrolysis system PAP operates as an isolated thermal system with a closed cycle and zero emissions.

Traded pyrolysis products product of the PAP system
Pyrolysis oil /stabilized/

Pyrolysis oil market of 500 million US dollars per day.
Stable market.
Reduced viscosity
Reduced sulfur content.
Lower ash and acidity (TAN number).

Increased heating value.

Obtained in the PAP plant in an amount of 35 - 40 weight percent of the input raw material by liquefying the pyrolysis gas generated in the plasma-assisted pyrolysis reactor elphi resyrs. This pyrolysis gas has a different composition compared to the pyrolysis gas obtained through traditional pyrolysis processes and includes mainly light hydrocarbon vapors. These vapors have undergone a

physicochemical transformation under the conditions of an intense ultrasonic field leading to the initiation of oxidation-reduction reactions, the reason for gas purification - removal of soot and tars, as well as the formation of complexes of carbon bonds allowing for the achievement of a higher percentage of condensate. To balance the exothermic and endothermic reactions in the condenser configuration, an ultrasonic stabilization system is integrated.

This comprehensive approach guarantees not only the elimination of downstream emissions, but is also a prerequisite for obtaining pyrolysis oil /stabilized/ - an environmentally unencumbered product of the first and second class of the API standard and with a very high economic and environmental value.

Technical carbon /regenerated carbon black/ rCB

Annual production of over 8,100,000 metric tons, at an average price of over 1,000 US dollars per ton.

70% of this amount is used in the production of tires.

For every ton of recycled carbon black used as a replacement for virgin carbon black, CO₂ emissions are reduced by 2.0 – 2.5 tons.

The global market is estimated at \$14.4 billion in 2024.

It is obtained in PAP in an amount of 42 - 45 weight percent of the input raw material in the installation as a result of thermal decomposition in the plasma-assisted pyrolysis reactor, in which the mass of rubber granules is heated between 280 OC and 420 OC in the absence of oxygen - a process with a phase-chain front of thermal impact with a progressive nature of development.

External fields:

Mechanical field

It mainly affects the crosslinking of macromolecules, and thus on the mechanical and electrical properties of carbon black. Wave mechanical vibrations lead to their strong destruction. Carbon black contains large macromolecules with uncompensated charges and during crosslinking between the individual units of the macromolecule, the charges interact and are partially compensated.

Electric field

It manifests itself as an ultimate effect in the grouping of molecular charges around a certain nucleus, in which well-formed groups (aggregates) are formed in the volume of the material. External charges accumulate on the surface of the material and the soot has a structure in which individual groups of molecules touch more closely. These interactions are particularly effective if they are carried out on heated soot, since the temperature significantly affects the final effect of the impact. Due to the oscillatory processes, the molecules reorient depending on their charges

and size. Molecules with smaller sizes have greater mobility, as a result of which they are more strongly affected and help the molecules to bond together.

The magnetic field

Strongly affects the molecular charges in a direction different from the direction of the electric field. This force effect enhances the oscillations and energy of the molecules and charges. Diamagnetic macromolecules and especially elements with a π -structure, which have strongly pronounced diamagnetic properties, orient perpendicular to the magnetic field and a vortex motion is excited. Thanks to this, the structure of the soot becomes uniform and compacted. Qualitatively different mechanical and electrical properties of carbon black particles are manifested

due to:

increasing the degree of crosslinking;

higher energy state of macromolecules;

improvement of heterogeneity of bonds between individual identical units – monomers and radicals of a single molecule;

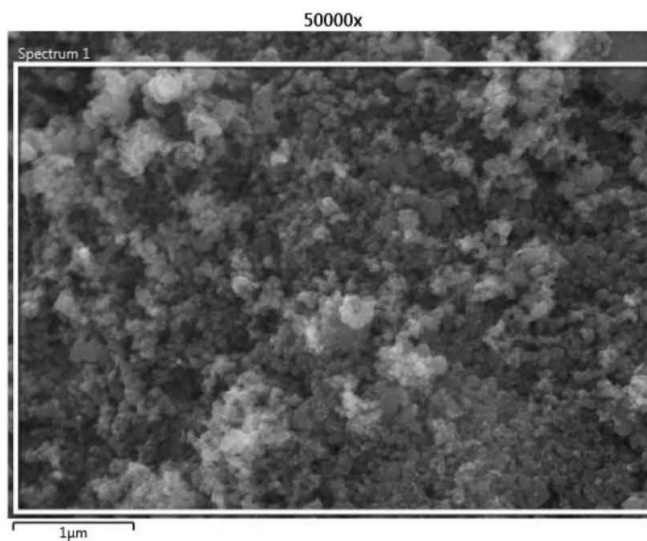
appearance of dipoles with charges;

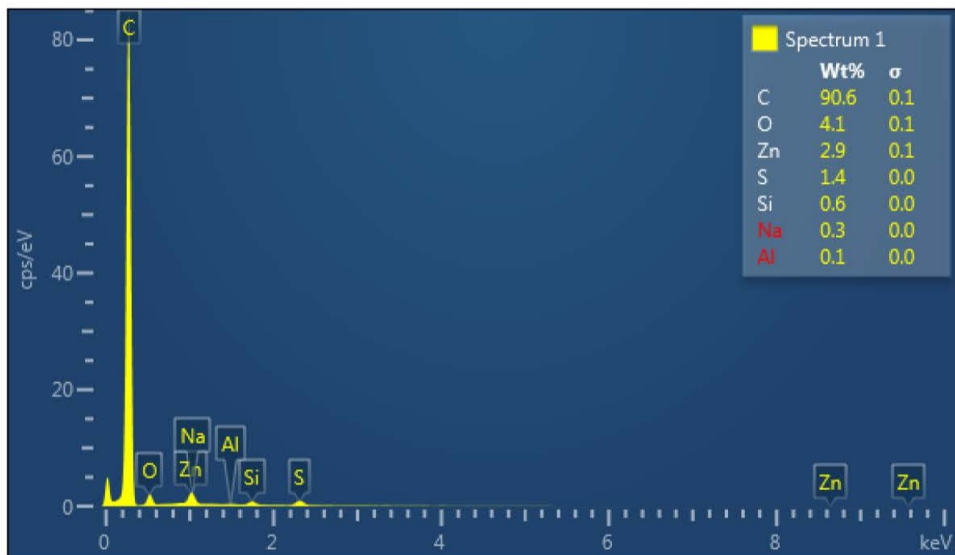
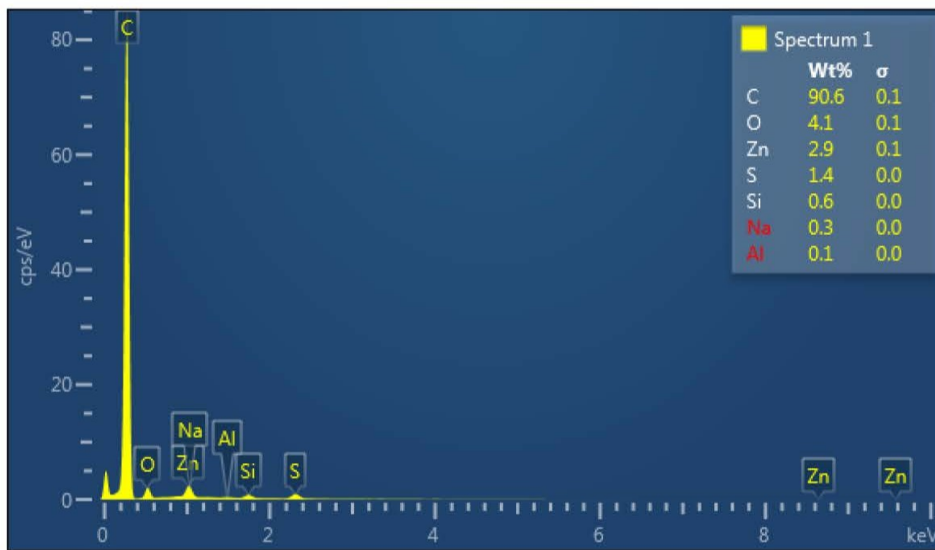
obtaining a strongly diamagnetic π -structure;

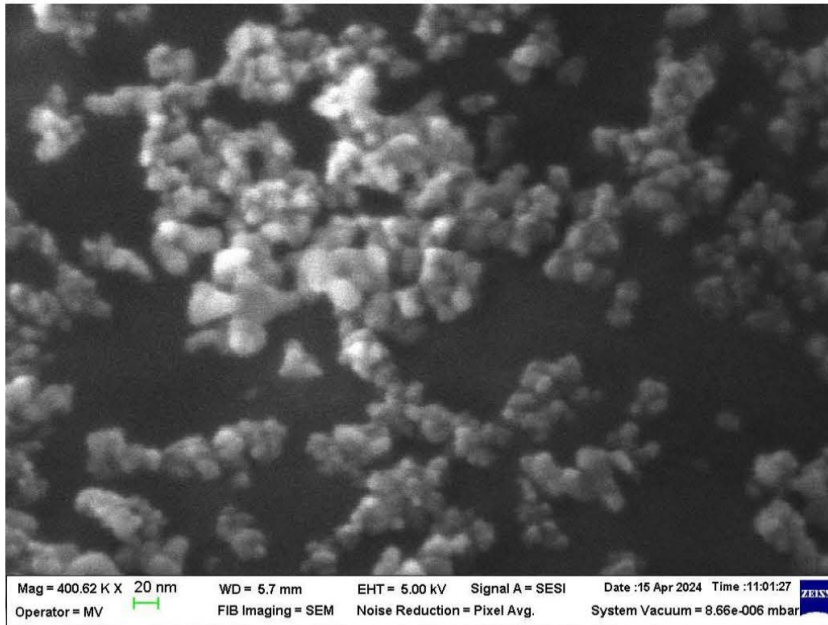
reducing micro inhomogeneities and increasing the specific surface area.

This is an opportunity in the plasma-assisted pyrolysis system to obtain technical carbon /regenerated carbon black rCB/ with a nano structure of 10 – 15 nm and a very high carbon content of over 90%.

In classical pyrolysis, technical carbon with a structure of 20 – 35 μm and less than 80% carbon content is obtained.



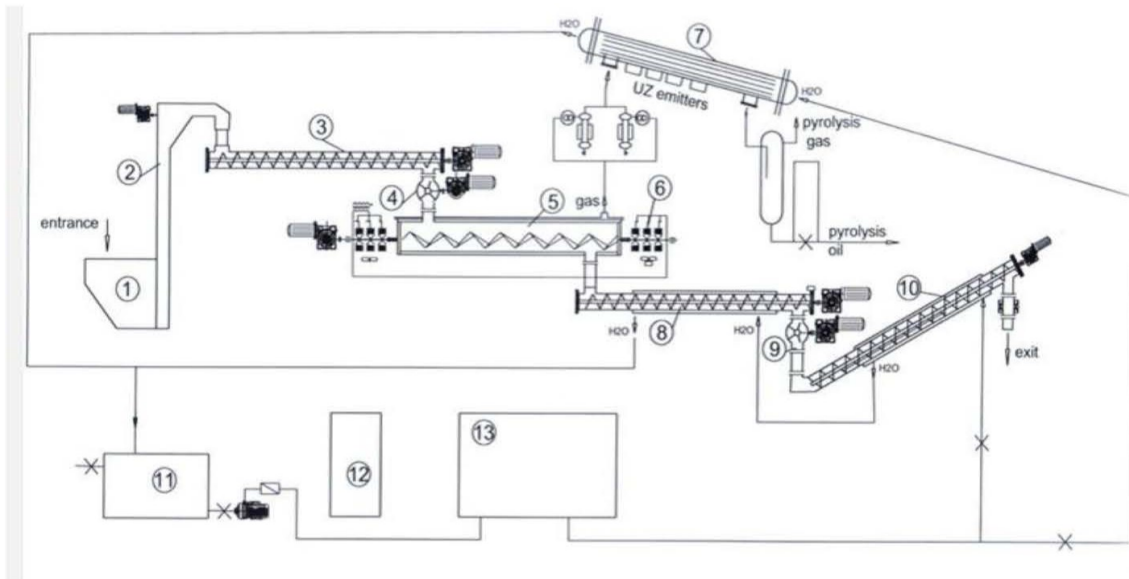




The resulting products obtained by the plasma-assisted pyrolysis system of end-of-life tire pellets ELT are prerequisites for its exceptional innovation, economic efficiency, and full compliance with the criteria for a circular green economy. An innovative pyrolysis system without analogues in world practice.

Innovations:

- Plasma-assisted pyrolysis.
- Pyrolysis reactor with multi-component thermal emission spiral with variable pitch.
- Ultrasonic cyclone with effective tar removal from the gas pyrolysis fraction.
- Field fractional condenser.
- Wave homogenizer of rCB.



Technological scheme

Composition:

- 1. hopper for scrap tire pellets ELT 1- 3 mm 1 pc.
- 2. vertical elevator 1 pc.
- 3. horizontal screw conveyor 2 pcs.
- 4. rotary valve 2 pcs.
- 5. plasma-assisted pyrolysis reactor 2 pcs.
- 6. power supply unit 2 pcs.
- 7. gas-liquid extraction system 2 pcs.
- 8. solid residue extraction screw 2 pcs.
- 9. rCB homogenizer 2 pcs.
- 10. rCB soot extractor 2 pcs.
- 11. refrigerant buffer 1 pc.
- 12. control and monitoring unit 2 pcs.
- 13. heat pump cooling system 1 pc.

Parameters of the system

input:

- amount of pellets from end-of-life tires ELT 1000 l/h (500 kg/h)
- particle size 1 - 3 mm.

output:

- technical carbon / carbon black / rCB 200 - 210 kg/h
- pyrolysis oil API class 175 - 200 kg/h

Key Technical Parameters & Specifications:

| Technical Parameter | Specification / Performance Capability |
|------------------------|---|
| Synthetic Gas Yield | 20% to 60% gas production with a calorific value of 8 to 12 MJ/m3. |
| Pyrolysis Oil Yield | 40% to 60% high-quality oil fraction with a calorific value of 10 to 17 GJ/m3. |
| Technical Carbon Black | Sustained extraction of high-purity regenerated technical carbon for circular green economy applications. |

| | |
|--------------------------------|---|
| Environmental Footprint | 100% emission-free, isolated under continuous vacuum operation; zero hazardous gas leakage. |
| Continuous Processing | Depressurized continuous catalytic depolymerization of up to 1000 kg/h of waste pellets. |

3. Bilateral Facilitation & Execution Model

EBC coordinates the supply of UAV fleets, specialized multi-spectral sensors, and biological formulas. We establish a local UAV Flight School and environmental monitoring desk to train Ugandan pilots and biological technicians.

4. Protocol & Technical Validation Notice

PROTOCOL ACCORD: This strategic document is prepared under bilateral partnership guidelines and is subjected to technical audits by EBC scientific and tactical councils. The deployment parameters mentioned are mathematically validated and scale-tested across active European and regional deployment sites. Transfer of technologies is bound by sovereign bilateral agreements and international intellectual property protocols.