



ИНСТИТУТ
НИКОЛА ТЕСЛА АД

ЕЛЕКТРОТЕХНИЧКИ ИНСТИТУТ
НИКОЛА ТЕСЛА
АКЦИОНАРСКО ДРУШТВО БЕОГРАД
ELECTRICAL ENGINEERING
INSTITUTE NIKOLA TESLA
BELGRADE

централа: 36-91-447
факс: 36-90-823
директни: 36-90-487
36-90-786
36-90-548
36-90-359
36-90-674

Косте Главинића 8а
11000 Београд
Поштански фах 139

www.ieent.org
info@ieent.org

3 PINT™ - OIL PROCESSING TECHNOLOGY FOR SIMULTANEOUS REMOVAL OF PCB, DBDS, ELEMENTAL SULFUR AND AGEING PRODUCTS FROM MINERAL OILS

The 3 PINT (Three-patent Institute Nikola Tesla) technology enables the simultaneous removal of all three major hazardous compounds in mineral insulating oil: PCB, DBDS, and elemental sulphur (S_8), which can cause power transformer failures. The procedure involves dispersing reagent at low operating temperature in oil to decompose unwanted contaminants, resulting in regenerated oil having quality as required by international standards (IEC 60296 and IEC 60422) for use in electrical equipment. Over 850 tons of PCB-contaminated and corrosive oils from over 450 power transformers of varying sizes and power ratings in R. Serbia were successfully treated since 2015 using INT mobile plant and technology.



INNOVATION DESCRIPTION

3PINT is highly competitive technology which provides a sustainable and environmentally-friendly solution for mineral oils re-refining, with advantages over other technologies in producing deeply refined non-corrosive oils free of PCB, S_8 , while state of the art technologies can emit toxic substances, produce S_8 and cause power transformer failure. The INT mobile or stationary oil processing facility can remove a single undesired oil component or all three simultaneously without toxic emissions, in all cases providing oil regeneration. Our technology mitigates risk of power transformer failures induced by corrosive sulphur, remove PCB's and this way extend power transformer life. Competitive advantage of this technology is at least 30% lower price to existing oil regeneration

technologies, taking into consideration fast and deep refining resulting in high quality of regenerated/re-refined oil produced by environmentally friendly technology without toxic emissions to the environment.

MARKET OPPORTUNITY

The launch of 3 PINT technology offers a lucrative opportunity for businesses seeking sustainable, eco-friendly solutions for recycling waste transformer oil, to meet goals of European Green Deal and reduction of power transformers carbon footprint. With the European market estimated to be worth over 100 million Euros for PCB oil and over 150 million Euros for the regeneration and recycle of waste transformer oil, there is immense potential for companies to capitalize on this market and offer cost-effective solutions. Our technology provides the best environmental practice to extend power transformers' life and to introduce new eco-friendly process for mineral oils recycling, giving us a competitive advance over other technologies.

INTELLECTUAL PROPERTY STATUS

This innovation will be the subject of an international patent application, as it represents a novel and groundbreaking advancement in the field of mineral insulating oil processing. The Electrical Engineering Institute Nikola Tesla offers expertise in treating service aged, corrosive, PCB-contaminated and waste oils to companies interested in commercializing this technology.

CONTACT PERSON

TT expert, Ph.D. Chem.Eng. Jelena Lukic
Institution: Electrical Engineering Institute Nikola Tesla
Address: Koste Glavinica 8a, R. Serbia, Belgrade
Mob: + 38164 825 97 11
Tel: + 381 11 3952 102
E-mail: lukicjelena@ieent.org
Web: <https://www.ieent.org>

