

#### ЕЛЕКТРОТЕХНИЧКИ ИНСТИТУТ НИКОЛА ТЕСЛА

АКЦИОНАРСКО ДРУШТВО БЕОГРАД

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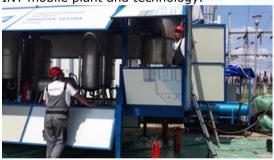
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# 3 PINT™ - OIL PROCESSING TECHNOLOGY FOR SIMULTANEOUS REMOVAL OF PCB, DBDS, ELEMENTAL SULFUR AND AGEING PRODUCTS FROM MINERAL OILS

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<sub>8</sub>), which can cause power transformer failures. The procedure involves dispersing reagent at low operating temperature in oil to decompose unwanted contaminants, resulting 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 environmentallyfriendly 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<sub>8</sub> 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 providing oil cases regeneration. Our technology mitigates risk of power transformer failures induced by corrosive sulphur, remove PCB's and this way extend life. Competitive transformer advantage of this technology is at least 30% lower price to existing oil regeneration

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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 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 capitalize on this market and offer costeffective 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**

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