

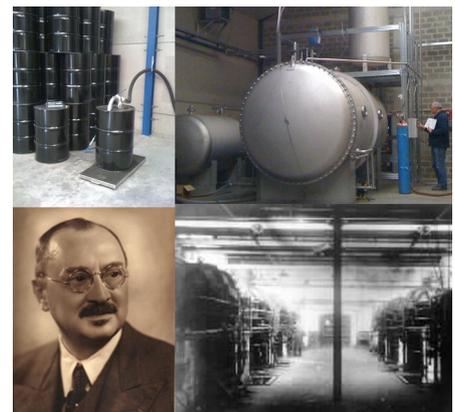
## HISTORY OF ELECTRO-CHEMICAL TREATMENT OF OILS

Electro-chemically treated oils have since long proven their extraordinary performances superior to mineral oils and even in some applications to synthetic oils. The exclusive production method brings extreme lubricity/oiliness to a lubricant which particularly benefits older "stressed and tired" engines with high mileage and high oil consumption.

**Aviation Quality Oils.** Most aviation companies worldwide between 1920 and 1950 used electrically treated oils because they saw their flying ranges extended ten fold (e.g. from 60 flying hours to more than 600 hours (without engine reconditioning or oil change) thanks to the unique oily properties the electric treatment confers to the lubricant. Aviation companies such as KLM(1919), SABENA(1923), LUFTHANSA(1926), as well as aviation motor producers such as Wright, Gnome, Pratt&Whitney were delighted about the performances of this special class of lubricants(1). The German army also produced and used huge quantities of electrically treated bases for its aviation, marine and even submarines(2). These oils were essential for planes equipped with very powerful engines (above 2000 HP) that flew at a very high altitude (13000m) like the Focke-Wulf and the Messerschmitt. Some technicians of the now dismantled Belgian aviation company SABENA were surprised to see that the engines of their planes, as well as the surface finish of the metallic parts thereof were, quote: "...of an exceptional cleanliness...and this even after having flown more than 10 times (!) the normal distances without changing the oil"(3). After the '40s, new cost-efficient petroleum additives like ZDDP would replace their vegetable-based alternatives.

**Electro-Chemical Installation.** Voltrion technology was revived after Philippe Vercaemmen, whose grandfather had been the privileged collaborator of the Belgian inventor of the electro-chemical process early 1900's, decided in 2006 to restart together with his son Olivier a newly designed electro-chemical process based on these old yet sustainable manufacturing methods. After years of research on a small prototype they build a pilot industrial scale production reactor in Deinze (near Ghent).

**Official BFOV partner.** On a sidenote, VOLTRION has since March 2013 been elected as official partner of the BFOV (Belgian Federation of Ancient Vehicles) to supply its 30.000+ members with specially treated and formulated for the ancient automobile market. [www.voltrionoil.be](http://www.voltrionoil.be)



Belgian Federation of Ancient Vehicles  
Official Partner

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1 Xth International Congress of Industrial Chemistry.

2 Rhenania-OSSAG (Wikipedia).

3 "L'Echo des Ailes" jaargang 1932