

## Multifunctional Oxide and Unique Ultrananocrystalline Diamond (UNCD™) Coating **Enable New Generation Industrial Products, High-Tech/ Medical Devices and Prostheses**

## INCED DIAMOND TECHNOLOGIES, INC. UNCDTM-Industrial Products in World Market

UNCD®-coated pump seals (20% operate energy cost savin ) for Pharmaceutical Drug Mixers Market: U\$S 500 millions

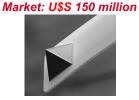


UNCD® - coated bearings Market: U\$S 1.5 billion

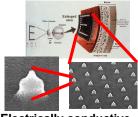


**Merck Millipore Nova Mixer** with UNCD-coated bearing (Catalog #C10728)

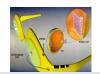
UNCD NaDia AFM Probes®



R&D done at  $\longrightarrow$  Argonne (2000-2010) directed by Aucieno, aeveloped UNCDcoated Si chip implantable in human eye to restore partial vision to blind people



**Electrically conductive** N-UNCD<sup>™</sup> tips/corrosion resistant electrode array



**CCD** camera transmit image to Si chip, which send electrons to brain to form images



Revolutionary new retina reattachment (3 patients recovered full vision In clinical trials in Argentina)



Super-paramagnetic Nanoparticles injected in eye attracted by magnetic field push Retina back to eye

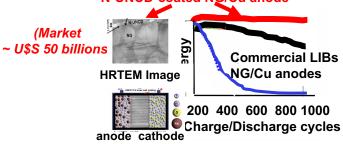
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**UNCD-coated magnet** temporarily outside eye produces magnetic field

Novel Li-ion battery with electrical N-UNCD-coated anodes. ≥10x longer capacity energy life / safer than current LIBs

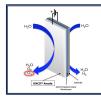
N-UNCD-coated NG/Cu anode



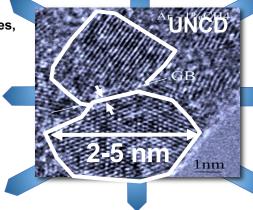
**Electrolysis Water purification system** with conductive/corrosion resistant **B-doped B-UNCD-coated metal electrodes** 

(Market ~ U\$S 80 billions)

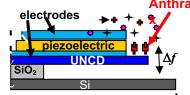




Ozone kills viruses, bacteria, fungi, mold, pathogens, protozoa, cysts, algae, yeasts.



hybrid piezoelectric/UNCD biosensor



piezo/UNCD MEMS cantilever

Implanted - 50 people (2018-present)-México to market in 2024-25

> **Embryonic stem cells** grown on UNCD surface

> > differentiated to

**Dental implant** 

UNCD-coated metal prostheses (Markets: ~ U\$S 10-20 billions)

knee

**Under development** 

photoreceptors





