

društvene vijesti



Predstavljamo Vam ... Međunarodni izdavački savjet

Nikola Marinčić

Redox Engineering, LLC., Florida, SAD
Redox Engineering, LLC., Florida, USA

Biografija

Dr. Nikola Marinčić rodio se 1933. godine u Žepču, Bosna. Diplomirao je na Kemijsko-tehnološkom fakultetu Sveučilišta u Zagrebu 1958. i obranio doktorsku disertaciju 1961., pod nadzorom profesora Branka Lovrečeka ne prekidajući rad u zagrebačkoj industriji sve do odlaska u Kanadu 1964. Dvogodišnji poslijedoktorski studij s profesorom B. E. Conwayem na Sveučilištu u Ottavi iz područja kinetike elektrodnih procesa oksidacije tekućih organskih goriva završio je s dva objavljena rada. Slijedilo je razdoblje od 7 godina kod tvrtke Duracell u SAD-u gdje je nakon kratkog istraživačkog rada našao svoje pravo mjesto u organizaciji Duracell u praktički nepremostivom jazu između istraživanja i proizvodnje alkalnih baterija. Iz tog razdoblja objavio je nekoliko recenziranih radova i dobio osam američkih patentata koji su pomogli poboljšanju kvalitete i smanjenje troškova proizvodnje alkalnih baterija.

Godine 1973. dr. Marinčić osnovao je inženjersku grupu unutar istraživačkih laboratorija tvrtke General Telephone and Electronics (GTE) s ciljem razvoja litijevih baterija na bazi tekućih depolarizatora, tioniol-klorida i sulfuri-klorida. Grupa je razvila i započela proizvodnju novih baterija za ugradene medicinske uređaje (pacemakers), do 1978. je narasla na 40 članova (uključujući sastavljače baterija) i ostvarila profit od 50% iznad svih troškova grupe. To su bile prve litijeve baterije ugradene u ljudska tijela. Po nalogu laboratorijske GTE nadzirao je izgradnju sličnog pogona u Izraelu za proizvodnju baterija za oružane snage. U istom razdoblju dr. Marinčić je izradio konstrukciju i grupa je razvila i proizvela prototip baterije za američke zračne snage za lansiranje interkontinentalnih raketa (ICBM). To je bila najveća primarna baterija ikada proizvedena: 24 članka, 3.6V i 12,000 Ah po članku. Velika koncentracija energije predstavljala je opasnost od eksplozije, pa je trebalo poduzeti daljnji razvoj prije nego je konačno baterija puštena u proizvodnju u novoizgrađenoj tvornici. Teoretske osnove konstrukcije baterija s tekućim depolarizatorima objavio je dr. Marinčić u seriji od 5 recenziranih radova i u velikom broju tehničkih radova i izvještaja na skupovima te, konačno, u dva poglavja u knjigama. U tom razdoblju dobio je i šest američkih patentata. U duhu poznate američke izreke "Success has many fathers, failure is an orphan" promjenio je dr. Marinčić svoj status 1978., od vode grupe u istraživačkom laboratoriju u status savjetnika u proizvodnji s dozvolom da se i sam može koristiti novom tehnologijom samo ako ne konkuriра proizvodnji ICBM baterija.

Godine 1978. osnovao je vlastitu tvrtku, Battery Engineering Inc. (BEI). Među prvim poslovima nova tvrtka poduzela je projektiranje i nadzor izgradnje pogona u Copenhagenu za dansku tvrtku Hellesens za proizvodnju baterija za arktičke bove koje bi

Curriculum Vitae

Dr Nikola Marinčić was born in 1933 in Žepče, Bosnia. He graduated on Faculty of Chemical Engineering, University of Zagreb, in 1958 and defended his doctoral thesis in 1961 under supervisor, professor Branko Lovreček, continuing his work in Zagreb industry until departure for Canada in 1964. Two-year postdoctoral studies with professor B. E. Conway at the University of Ottawa in the area of kinematics of electrode processes of the oxidation of liquid organic fuels were finished with two published papers. Subsequent had been period of seven years in Duracell company in USA where he had found his right position, after brief research work, in Duracell organization of practically unbridgeable gap between research and the production of alkaline batteries. Dating from this period are some peer review articles published and eight american patents which helped in improvement of the quality and in lowering the costs of alkaline batteries production.

In 1973, Dr Marinčić founded engineering group within research laboratories of General Telephone and Electronics (GTE) company with the aim of development of lithium batteries on the basis of liquid depolarizers, thionyl chlorides and sulphuric chlorides. The group developed and started to produce new batteries for implanted medical devices (pacemakers) and it grew to 40 members (including the assemblers of the batteries). They made a profit of 50% above all expenses of the group. These were the first lithium batteries implanted in human bodies. On the order of GTE laboratory, he supervised the building of a similar laboratory in Israel for battery production for military purposes. In the same period Dr Marinčić had made a construction and the group developed and produced a prototype battery for launching the intercontinental ballistic missiles (ICBM) for the American Air Force. That was the biggest primary battery ever produced: it consisted of 24 cells, 3.6 V and 12000 Ah each. Great amount of concentrated energy had been a threat to explode so it had been necessary to undertake further development before the battery entered final production in newly built factory. Theoretical foundations of the battery construction with liquid depolarizers Dr Marinčić published in a series of 5 peer reviewed articles and in a great number of technical works and reports on conferences and finally in chapters in two books. In this period he got six american patents. In the spirit of famous american proverb "success has many fathers, failure is an orphan", Dr Marinčić changed his status in 1978 from group leader to advisor in production with the clearance that he can also use new technology by himself, only if he does not compete in ICBM batteries production.

In 1978 he founded his own company, Battery Engineering Inc. (BEI). Amongst the first enterprises the company had undertaken a projecting and supervising of the building of a plant in Copenhagen for the Danish company Hellesens which produces batteries

pomogle plovidbi do danskih posjeda na Grenlandu i u razdoblju najnižih temperatura. Manje uspješan bio je posao za švicarsku tvrtku Tissot, koja u potrazi za novim poslovima nakon pojave jeftinih elektronskih ura nije uspjela ovladati tehnologijom ugrađenih medicinskih uređaja. Potpuno neočekivan uspjeh doživjela je tvrtka s baterijama za visoke temperature kakve vladaju u naftnim bušotinama. Posao je došao kao rezultat eksplozije ilegalno uvezene baterije iz Izraela, koje je dr. Marinčić konstruirao za potrebe oružanih snaga. Pronašao ga je kompjutor tvrtke iz Teksasa preko knjižnice u Kaliforniji i dali su mu hitan zadatak da ispita uzroke eksplozije ne znajući da razgovaraju sa konstruktorom te baterije. Ta nevjerojatna epizoda pokušaja upotrebe krivih baterija u tako vreloj sredini s jedne strane i srećkovića koji se našao na pravom mjestu u pravo vrijeme s druge strane, završila je sa nalogom vlasnika iz Teksasa: "If you are so smart, why don't you make these batteries for us". Tvrtka BEI tako je bez velikih pretenzija lansirala primjenu baterija u naftnim bušotinama u koje su se prije morali spuštati do pet kilometara dugi kablovi da bi napajali mjerne instrumente tijekom bušenja. Tvrtka BEI poslovala je u malom mjerilu, u uskom području primjene i vrlo unosno prije nego je prodana japanskoj tvrtki Hitachi Maxell. Danas je opet u američkom vlasništvu kao dio tvrtke Electrochem Industries, koja je godinama bez znatnog uspjeha pokušavala konkurrirati tvrtki BEI.

Dr. Marinčić je 1992. osnovao tvrtku Redox Engineering i opremio pogon za istraživanja i razvoj od osobnog interesa. Pogon je sada zatvoren jer je postao preskup kao osobna zabava iako je uspješno razvio nove baterije za Siemens, proveo par programa za američku vladu i doveo program elektrokemijskih kondenzatora do prototipa snage 50 kW. Tvrtka i dalje dobiva poslove konzultacija i nastavlja organiziranje seminara u Floridi, o kojima je bilo riječi u napisu KUI od lipnja 2002. Dr. Marinčić je objavio oko 30 znanstvenih i tehničkih radova, napisao poglavlja u dvije knjige i dobio oko 28 američkih patenata.

for arctic buoys which help in navigation to Danish areas on Greenland in periods of the lowest temperatures. Less successful was a job for Swiss company Tissot which did not succeed in integrating a technology for production of implementation medical devices after cheap electronic watches came on market. Completely unexpected success company had achieved with the batteries for high temperatures which are common in oil drills. Business has come as a result of an explosion of illegally imported batteries from Israel which were constructed by Dr Marinčić for the needs of armed forces. He was found by a computer from a Texas company via library from California and he was given an urgent task to examine the causes of the explosion and at the same time the company was not aware that they talked with the constructor of that very same battery. This improbable story of trying to use the wrong kind of batteries in so warm an environment on one side and the lucky man who had been in the right place in the right time on the other side had finished by the order of the owner from Texas: "If you are so smart, why don't you make these batteries for us". So BEI company, without big pretensions, had launched the application of the batteries for oil drills to which five kilometers long coils had to be dropped before in order to supply power for instruments during drills. BEI company has made business on a small scale, in a narrow area of application but very profitable before it was sold to Japanese company Hitachi Maxell. Today, it is owned as a part of the American company Electrochem Industries which tried for years to compete with BEI without a success.

Dr Marinčić founded Redox Engineering company in 1992 and he equipped a research plant to do research for his own interests. Plant is closed now because it has become too expensive as a private fun, though it successfully developed new batteries for Siemens, a few programs for American government and made electrochemical condensators prototype which had 50 kW power. Company still gets consulting jobs and continues to organize seminars in Florida about KUI reported in June 2002. Dr Marinčić has published about 30 scientific and technical papers, has written chapters in two books and got about 28 American patents.

Odabrani radovi Selected Papers

- B. Lovrecek, N. Marincic, Kinetics of Electrode Processes of Dissolution and Deposition of Cadmium, *Electrochimica Acta* **11** (1966) 237–249.
 B. E. Conway, N. Marincic, D. Gilroy, E. Rudd, Oxide Involvement in Some Anodic Oxidation Reactions, *J. Electrochem. Soc.* **113** (1966) 114–158.
 J. Wojtowicz, N. Marincic, B. E. Conway, Oscillatory Kinetics in the Electrochemical Oxidation of Formate and Ethylene, *J. Chem. Phys.* **48** (1968) 4333–4345.
 N. Marincic, Materials balance in primary batteries. I. Lithium inorganic cells at low discharge rates, *J. Appl. Electrochem.* **5** (1975) 313–318.
 N. Marincic, Materials balance in primary batteries. II. Lithium inorganic batteries at high discharge rates, *J. Appl. Electro-*

- chem.* **6** (1976) 51–58. See also Part III 6 (1976) 263–268, Part IV 6 (1976) 463–468 and Part V 8 (1978) 11–17.
 Carl R. Schlaikjer, Franz Goebel, Nikola Marincic, Discharge Reaction Mechanism in Li/SOCl₂ Cells, *J. Electrochem. Soc.* **126** (1979) 513–522.
 N. Marincic, Lithium Batteries with Liquid Depolarizers in Ralph E. White, J.O'M. Bockris and B. E. Conway, Editors, *Modern Aspects of Electrochemistry 15*, Plenum Press New York 1983, 167–233.
 N. Marincic, High Energy Lithium Batteries, in Ricardo O. Bach, Editor, *Lithium, Current Application in Science, Medicine and Technology*, John Wiley & Sons, New York 1985, 103–119.
 N. Marincic, Elektrokemijski kondenzatori na osnovi električnog dvosloja u nevodenim otopinama, *Kem. Ind.* **48** (1999) 289–295.
 N. Marincic, New Batteries for Medical Implants, *Kem. Ind.* **52** (2003) 9–15.