

**SIP# 260 Round 2**

**Title:** Dye Solar Cells in South Africa

**Acronym:** DSC

**Submitted by:**

Lukas le Roux

CSIR, CSIR M&Mtek, PTC, PO Box 395, Pretoria, 0001

Email [lleroux@csir.co.za](mailto:lleroux@csir.co.za)

**Theme:** Energy

**Focus Area:** Renewable electricity generation

**Type of project:** R&D project (small scale)

**Summary:** Current research includes synthesis of a stable precursor for the Ru-dyes. Comparative studies of power output between DSC and Si cells in South African conditions. TiO<sub>2</sub> film/paste formulations and the effect of time on the paste.

**Expertise offered:** 2x PhD and 2x MSc. Three years experience in DSC research. This includes cell characterisation techniques such as SEM, XRD, CV, Impedance, UV-VIS. Cell assembly and synthesis of nano-TiO<sub>2</sub>

**Previous FP involvement:** None

**Consortium status:** Not existing

**Expertise sought:** Expertise in DSC and other PV research.

**Related projects:** None

## **SIP# 282 Round 2**

**Title:** LTN Energy

**Acronym:** LTN-E

**Submitted by:**

Nicolas Lategan, Lategan Technology Network, PO Box 3530, Durbanville, 7551, South Africa  
Mobile 0829221346 Email [nicolas@ltn.co.za](mailto:nicolas@ltn.co.za)

**Theme:** Energy

**Focus Area:** Energy efficiency and savings

**Type of project:** Implementation support to FP7s

**Summary:** We believe there is a great need to provide commercialisation support to guide companies to the point where their technology is suitable for international licensing. We would therefore actively encourage companies and research institutions to be well equipped and make use of FP7s initiatives by providing market and industry research and assessment studies, partner matching with established EU companies, IP audits to assess whether company's IP is licensable, licensing and negotiation assistance and training, industry research and identification of potential license partners for their technology. Awareness of the FP7 program will be done by means of seminars and workshops for the specific industry, in various parts of the country, articles and notices in industry publications, radio and other media interviews, and co-operation with industry associations, export associations and chambers of commerce. A major reason why companies don't get involved with initiatives such as FP7, is because of a perceived fear of the administrative burden it would place upon them. To overcome this, we would contract interns to provide FP7 application, monitoring and reporting support to SME's throughout the whole process. Companies are also often unaware of the various government support structures and subsidies that would assist them to become active in the international market. Awareness of these resources, as well as application support would be provided along with the creation of awareness of the FP7 initiative.

**Expertise offered:** Market research Industry research IP audits and assessment licensing negotiation Company matching Event organizing Media liaison

**Previous FP involvement:** None

**Consortium status:** Network of specialists that would be contracted.

**Expertise sought:** Industry leaders from EU countries, potential partners

**Related projects:** None

## **SIP# 285 Round 2**

**Title:** XBAT simultaneous charge and discharge battery

**Acronym:** XBAT

**Submitted by:**

Nicolas Lategan, Lategan Technology Network, PO Box 3530, Durbanville, 7551, South Africa  
Mobile 0829221346 Email [nicolas@ltn.co.za](mailto:nicolas@ltn.co.za)

**Theme:** Energy

**Focus Area:** Hydrogen and fuel cells

**Type of project:** R&D project (small scale)

**Summary:** XBAT has registered and secured various patents for a new 4 terminal Hybrid Storage batteries that can charge and discharge simultaneously without the charging current exceeding the discharging current (this is a first in the world). The inner construction of the battery as used and known over the past 100 years has been reconstructed by the inventor, this allows for charge and discharge simultaneously enabling BATX storage batteries to be charged quicker and cheaper because of less internal resistance. This allows the battery to be more efficiently charged over a shorter period by solar modules, wind generator, micro-hydro or generator/battery charger and/or any renewable energy. This battery also now allows existing grid suppliers (like Eskom) an alternative by using the storage capacity in the XBAT bank during peak hour. (Load stabilizer). Applications that would benefit from this technology is motor vehicles, hybrid vehicles, cell phones, laptops, forklifts, hybrid trains, clean energy houses, portable devices etc.

**Expertise offered:** Currently the team exists only of the inventor, who has been working on this technology for the past five years, and a commercialization partner who seeks to assist the inventor in getting the technology to a point where it can be licensed to an international company for the commercialization thereof.

**Previous FP involvement:** None

**Consortium status:** Only the inventor, a commercialization partner, and department of chemistry at the University of Stellenbosch.

**Expertise sought:** Expertise in hybrid vehicles, solar technology, and chemistry would be required.

**Related projects:** None