# Solar tracking control technology

## Summary

*A small German company, specialized in developing customized sequence control and positioning technologies, offers a highly efficient solar tracking control technology. The main innovations are the high flexibility in the application, the increase of the energy yield by up to 30% as well as the stable operation. The company seeks long term industrial partners for technical cooperation agreements.*

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|---|---|
| **Creation Date** | 10 June 2014 |
| **Last Update** | 02 July 2014 |
| **Expiration Date** | 02 July 2015 |
| **Reference** | TODE20140610001 |

## Details

### Description

A small company with 11 employees has specialized in developing customized sequence control and positioning technologies. The main fields in which the company has been active until now are industrial applications, medical and laboratory technology and energy technology. Within the energy technology the company has developed a two-axis solar tracking control system which allows transversal sun tracking with high precision. Being independent from climatic influences the offered solar tracking control technology can easily be applied all over the world. Being very flexible, it can be adjusted to any needs. Even small remote systems can be run with this product. The system runs fully automatic and offers a maximal trouble-free operation. The company produces exclusively white-label OEM products and seeks long term industrial partners in order to realize technical cooperation agreements. The partner should be a manufacturer for solar mounting systems. This control technology is highly flexible and can be used for small and medium sized solar systems. The controller is housed in a metal-case with the dimension 15x8x5cm.

### Advantages and Innovations

This solar tracking control technology increases the energy yield by up to 30%, considering the energy consumption of the system itself. This also arises from the low-energy consumption of the control technology, compared to similar tracking systems. The correct location of the solar tracking system as well as the sun location is detected via the integrated GPS, allowing a maximal trouble-free operation. Similar products often detect the sun radiation and thus are highly influenced by climate: clouds can cause defaults in performance. The time and date is also automatically set by the GPS. Regarding the handling of the system, parameters can be called up and changed either on the keypad or via USB interface. This is the more comfortable way which also offers the possibility of calling up the current consumption rates.

### Stage of Development

Available for demonstration

**IPR Status**

Secret Know-how

**Profile Origin**

Private (in-house) research

## Keywords

**Technology**

| | |
|---|---|
| 001002018 | User Interfaces, Usability |
| 004005005 | Photovoltaics |
| 004005006 | Solar/Thermal energy |

**Market**

| | |
|---|---|
| 006005012 | Solar/thermal energy |
| 006005014 | Photovoltaics |

**NACE**

| | |
|---|---|
| M.71.1.2 | Engineering activities and related technical consultancy |

## Dissemination

**Send to Sector Group**

Intelligent Energy

## Client

**Type and Size of Organisation Behind the Profile**

Industry SME 11-49

**Year Established**

1991

**Turnover**

<1M

**Already Engaged in Trans-National Cooperation**

No.

**Langages Spoken**

English
German
Spanish

**Client Country**

Germany

## Partner Sought

**Type and Role of Partner Sought**

The partner should be a manufacturer for solar mounting systems. A technical cooperation agreement is sought.

**Type and Size of Partner Sought**

>500

**Type of Partnership Considered**

Technical cooperation agreement

# Lightweight, durable and high power lithium iron phosphate battery technology for replacement of lead acid batteries

## Summary

*A Dutch company developed a range of lightweight and high power lithium iron phosphate batteries with an integrated battery management system, as a drop in replacement for lead acid batteries. Main applications are in electric transport, hybrid and full electric propulsion in vessels and in the industrial and medical sector. The Dutch company is seeking commercial agreements with technical assistance with partners that supply and integrate battery power for different mobile systems and products.*

| | |
|---|---|
| **Creation Date** | 11 June 2014 |
| **Last Update** | 02 July 2014 |
| **Expiration Date** | 02 July 2015 |
| **Reference** | 13 NL 60AH 3S5J |

## Details

### Description

The Dutch company is focused on the development and marketing of standardized modular battery packs based on lithium iron phosphate (LiFePO4) cells. The batteries need no external control unit or battery management system, as this is already integrated in the sealed housing of each individual package. This creates a reliable and robust system that makes it easy to install and exchange batteries. The used case is similar to commonly used lead acid batteries, as defined by the Battery Council International (BCI). The Dutch company has the vision that lithium iron phosphate (LiFePO4) will be the preferred battery technology in the near future for transport and for other applications where high currents and a long lifetime are of interest. Iron phosphate lithium batteries are based on the original composition of lithium-ion. In the proposed technology LiFePO4 is used as the cathode material in place of lithium cobalt dioxide (LiCoO2). The latter cathodes can be found in most laptops, cell phones, MP3 players etc. LiFePO4 is an inherently safe material to use as cathode because exothermic reaction does not occur as with LiCoO2 cathodes. LiFePO4 battery cells therefore can not ignite or explode, not even in extreme conditions. Current and Potential Domain of Application:

### Advantages and Innovations

The proposed battery technology is a very easy and safe drop in replacement of lead acid batteries. Compared to lead acid batteries, lithium iron phosphate batteries have a double runtime/range. The batteries are lightweight. The weight of the battery system can be reduced by up to 60%. Lithium iron phosphate batteries can be recharged to 90% of their capacity in 3 hours. This can improve operations in mobile applications.

**Stage of Development**

Already on the market

**IPR Status**

Secret Know-how

**Profile Origin**

Other European R&D programme

## Keywords

**Technology**

| | |
|---|---|
| 002009002 | Hybrid and Electric Vehicles |
| 004001 | Energy Storage and Transport |
| 004001003 | Storage of electricity, batteries |

**Market**

| | |
|---|---|
| 006009 | Other Energy |
| 008003006 | Power transmission equipment (including generators and motors) |
| 008003007 | Other industrial equipment and machinery |
| 008005 | Other Industrial Products (not elsewhere classified) |
| 009001005 | Motor vehicles, transportation equipment and parts |

**NACE**

| | |
|---|---|
| C.27.2.0 | Manufacture of batteries and accumulators |

## Client

**Type and Size of Organisation Behind the Profile**

Industry SME <= 10

**Year Established**

2010

**Turnover**

<1M

**Already Engaged in Trans-National Cooperation**

Yes

**Langages Spoken**

English
Dutch
German

**Client Country**

Netherlands

## Partner Sought

**Type and Role of Partner Sought**

- Type of partner sought: industry - Specific area of activity of the partner: supplier of battery systems in various industrial sectors - Task to be performed by the partner sought: implementation of the proposed technology in the frame of commercial agreements with technical assistance and technical co-operation, aiming at the development and testing of new applications.

**Type of Partnership Considered**

Commercial agreement with technical assistance
Technical cooperation agreement

# Ecological solution to turn fermentable organic waste into valuable compost

## Summary

*A French SME specialized in hygiene and environment, is offering an ecological solution to turn organic waste into standardized compost based on a controlled aerobic fermentation patented technology. The SME designs, manufactures and implements on site turnkey composting station to treat and valorize any liquid/solid fermentable materials from agriculture, industry, municipalities (sludge, digestate, fats, green waste…). Commercial agreement with technical assistance or joint venture is sought.*

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|---|---|
| **Creation Date** | 10 June 2014 |
| **Last Update** | 02 July 2014 |
| **Expiration Date** | 02 July 2015 |
| **Reference** | TOFR20140318001 |

## Details

### Description

For 14 years, a French SME has developed a strong expertise in the treatment of any fermentable organic matters (liquid/solid, vegetal/animal) coming from Cities (residual household waste, green waste, urban sewage treatment plants' sludges), Agriculture (manures of poultry, sheep, cattle... droppings of poultry, duck, rabbits... slurries of pigs…) and Industries (sewage treatment plants' sludges, slaughterhouses' refuses, feathers, fats - hatcheries' scraps, methanation digestates). The process aims at obtaining standardized compost of quality (stable and sanitized), that can be sold towards agricultural, horticultural, viticulture and garden waste upgrading, or simply reused for oneself. Based on a patented technology of controlled fermentation (adjustment of temperature, humidity, air), the French SME designs, manufactures and installs on site customized composting stations to treat the organic waste. That enables the end user to get rid of spreading on land fields as well as incineration operations. The technology avoids the mixing of organic waste and so the contamination by pathogenic germs. Thanks to the controlled aeration/humidification control system during the phase of maturation, the standardized compost can be obtained in 4 to 6 weeks. The computerized monitoring system allows to follow-up all the process' stages. The French company provides turnkey solution and customized services: -the design and sizing of the composting station as specified -the design of the whole process: aeration, humidification, odors treatment (biological or chemical) -the integration in a complete waste treatment process -the works on site (fermentation in closed containers or semi-open concrete compartments covered by a trap) -the commissioning, training and assistance (monitoring software) -the after-sales service (maintenance, operations) As a result, 350 stations have already been installed in France and abroad, so 450,000 tons of organic waste are annually processed into standardized compost with a high agronomic value, which is economically profitable for the end user. The French SME is seeking Commercial agreements with

Technical assistance or Joint venture with operators in waste management, civil engineering companies, office studies in water and environment...

**Advantages and Innovations**

The composting plants are unique as constructed according to the specific needs: - aeration system by air ventilation or air suction through materials, - irrigation systems optimize the quality of incoming materials, - treatment systems odors are designed to meet the environmental standards, - traceability is complete over the entire composting process, with recording of controls and measurements performed throughout the cycle. The simplicity of the process makes it easy to exploit: - the technical management and ease of control do not require substantial human resources, - the monitoring and traceability can ensure transparency with respect to the competent authorities, - the low energy consumption is also environmentally friendly.

**Stage of Development**

Already on the market

**IPR Status**

Patents granted

**Comment Regarding IPR status**

Patented technology of controlled aerobic fermentation

**Profile Origin**

Private (in-house) research

## Keywords

**Technology**

| | |
|---|---|
| 004005007 | Solid biomass |
| 010003001 | Biotreatment / Compost / Bioconversion |

**Market**

| | |
|---|---|
| 008004003 | Water treatment equipment and waste disposal systems |
| 009008002 | Water, sewerage, chemical and solid waste treatment plants |

**NACE**

| | |
|---|---|
| E.39.0.0 | Remediation activities and other waste management services |

## Dissemination

**Send to Sector Group**

Environment

## Client

**Type and Size of Organisation Behind the Profile**

Industry SME 11-49

**Year Established**

0

**Already Engaged in Trans-National Cooperation**

Yes

**Langages Spoken**

English
French

**Client Country**

France

## Partner Sought

**Type and Role of Partner Sought**

The partner could be: -Operator in waste treatment that is seeking a proven solution, -Civil engineering company with aims of responding to public/private tenders -Office studies that needs to design a global project for waste treatment

**Type and Size of Partner Sought**

SME 51-250

**Type of Partnership Considered**

Commercial agreement with technical assistance
Joint venture agreement