

# TECHNOLOGY OFFERS

## Virtual management cockpit for enterprises

FRANCE

### Description

Piloting the enterprise in immersive 3D and extending business intelligence tools in collaborative 3D mode are now available worldwide for all businesses. Take the right decisions with a virtual "management cockpit" for BI Collaboration in 3D (avatars). It is simple and affordable for (i) piloting your enterprise, its business units and its activities; (ii) coordinating your projects despite the distance with ubiquity; and (iii) managing the crisis within secured virtual spaces with access to BI dashboards and applications, and to the company's social network. Accessible through the Inter/Intranet, this secured operational piloting room gathers in the same virtual space the three main engines of the enterprise: the people, the applications/data, and the actions tools.

### Areas of Application

Collaboration in 3D and business intelligence

### Advantages

- Better and accelerated decision-making
- Higher performance of the management teams
- Reduction of travel expenses and of the costs for rooms' equipment
- Re-use of the existing BI infrastructure, its applications and data
- Single license pricing model

### Environmental Aspects

Cleaner production, energy efficiency, systems integration

### Development Status

Commercial prototype

### Legal Protection

Trademark, patent

### Technical specifications

Video is posted here: [http://www.innovageek.com/project\\_owners/82-michel-denis/projects/238-virtual-management](http://www.innovageek.com/project_owners/82-michel-denis/projects/238-virtual-management)

### Transfer Terms

Technology licensing, equipment supply

### Contact:

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## Vacuum pump filter

### Description

The present technology for vacuum pump filter uses electrostatic precipitation principle to filter out all the dust, mist, oily, and gaseous particles in filter fluid stream, which is going toward the vacuum pump. The additional fixtures such as flame proof panels and flame proof fixtures make the filter effective for use in flame proof environment such as solvent recovery systems, semi conductor(s) process systems in bulk drugs and pharma, and semi conductor(s) where fumes of explosive nature is pro-

duced. Dry air from the object moves inside the vacuum pump filter. The current flow generates the electric field which in turn charges the particles present in the dry air. The electric field so produced leads corona generation (free electron generation). The free electrons so produced then combine with the gas molecules to form negative gas ions, which subsequently get collected at the charged collection plate.

### Areas of Application

Vacuum drying; vacuum packaging; vacuum solvent distillation; vacuum furnace; lamp manufacturing; electronics processing; glass bottles molding; vacuum conveying; vacuum fermentation; vacuum handling; vacuum filling; and vacuum impregnation.

### Advantages

- Very low (negligible) pressure drop
- Very low operating cost.
- Low maintenance costs for vacuum pumps
- Saves lot of oil and water
- High up time
- Zero/low system breakdowns
- No disposal problems (in hazardous materials handling process)
- Very consistent vacuum levels in process
- Can filter gaseous impurities effectively up to 0.1 micro size
- With passage of time filter efficiency will not be affected—No choking
- Can withstand high operating temperatures up to 200 °C
- Filter is effective for particles less than 0.1 micro
- Can reclaim collected materials easily after filtration
- Suitable for any chemical environment like acids and alkalis
- Can stop the oil back streaming in diffusion vacuum pumps
- With very high returns on investment right from 10 days to few months (depends on application)
- No periodical replacement is needed

### Development Status

Fully commercialized

### Legal Protection

Patent

### Transfer Terms

Technology licensing

## Liquid anode radiation source

### Description

Our partner, a Hungarian university has developed a novel invention, which is a liquid anode radiation source with head stand capability. The client is looking for partners to further improve the new type of patented X-ray tubes, to develop it into a product, and to launch it on the market. Background information: In the area of X-ray tubes, the trend in technical development is currently toward reducing the size of the focal spot, raising the thermal loadability of the anode, and raising the maximum current. A significant increase in the maximum tube current has been made possible through the introduction of the rotating anode, the use of which reduces the heat load on the anode by distributing the heat over a larger surface. The next technical improvement

HUNGARY

in terms of loadability was the introduction of the liquid anode. The drawback of this type of anode is the fact that the issue of stabilizing the flow of fluid has not been resolved.

#### **Areas of Application**

Potential areas of use:

- Imaging and diagnostic
- X-ray tube
- CT (Computer Tomography)
- Security technologies
- Quality assurance systems

#### **Advantages**

The invention offers several advantages over solutions that reflect the current state of the technologies. Very large tube currents can be attained with the embodiment, and it also overcomes the disadvantage in rotating anode tubes of only being capable of operating at maximum tube current for a short period of time due to limited heat transfer capacity.

#### **Development status**

Laboratory model

#### **Legal Protection**

Patent

#### **Transfer Terms**

To develop it into a product and to launch it on the market

#### **For the above two offers, contact:**

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## **Technology for silk reeling**

#### **Description**

India being one of the largest producers of silk is forced to import high-grade silk threads from China due to low yields and low grade silk threads. This technology offers solutions to the existing silk-reeling industry in India. We are looking for potential business and investment partners for a semi-automatic silk thread reeling machine. The technology is open for business collaboration discussions.

#### **Areas of Application**

- Sericulture industry
- Silk reeling

#### **Technical specifications**

Semi-automatic silk reeling machine producing A4 grade silk threads

#### **Transfer terms**

Technology licensing

#### **Contact:**

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## **Method to synthesize anti-malarial drug and its analogues**

#### **Description**

*Plasmodium falciparum*, the parasitic microorganism that causes the most clinically severe type of malaria is becoming increasingly multidrug resistant. New drug molecules are urgently required to be developed against such plasmodium strains. Recently, it has been discovered that naturally derived compounds called flinderole show impressive anti-malarial activity. NCL scientists have developed a novel method for synthesizing flinderole analogs using a fully synthetic route (total synthesis), which has an overall yield of 17.2%. The process developed will enable to produce these anti-malarial compounds in commercial quantities.

#### **Areas of Application**

- Developing anti-malarial drugs
- Agriculture

#### **Advantages**

- Potentially could be used to treat drug resistant strains of *Plasmodium falciparum*
- A simple and efficient process
- The process developed results in high yields (17%) of flinderole analogs
- The process is useful for the production of commercial quantities of these compounds

#### **Development Status**

Laboratory model

#### **Legal protection**

Patent

#### **Transfer terms**

Technology licensing

## **Preparation of Copolymer-1 used in the treatment of multiple sclerosis**

#### **Description**

A novel process using readily available raw materials, for the synthesis of Copolymer-1 and its pharmaceutically acceptable salts is described here. The process uses a polymer bound catalyst as an initiator (which requires 10x less catalyst concentration than conventional systems). The resulting polymer has a narrow molecular weight distribution, with m. wt can be tailored to be in the range of 8–19 kDa. Copolymer-1 could be injected subcutaneously, intraperitoneally, intravenously, intramuscularly for the treatment of MS.

#### **Area of Application**

- Copolymer-1 is used for treatment of MS
- Suggested application in the treatment of non-autoimmune neurodegenerative disorders such as glaucoma, acute CNS injuries, Alzheimer's disease (Kipnis, J., and Schwartz, M. (2002), Dual action of glatiramer acetate (Cop-1) in the treatment of CNS autoimmune and neurodegenerative disorders, TRENDS in Molecular Medicine, Vol. 8, pp. 319–323.).

#### **Advantages**

- A simple, cost-effective process using easily available raw materials

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- Yields a product with high degree of purity (without requiring additional steps of separation, purification, etc.)
- Molecular weight can be tailored to be in the range of 8–19 kDa (hence overcoming toxicity issues; m. wt of over 20 kDa are known to be toxic)—with excellent control over the m. wt distribution
- High purity levels—almost no acid residues (less than 1%)

## **Development Status**

Laboratory model

## **Legal Protection**

Patent

## **Transfer Terms**

Technology licensing

## **Injectable biodegradable gels**

### **Description**

The hydrogel developed by NCL scientists can be in situ cross-linked (which makes it suitable for injectable systems), with one or more hydrophobic pocket(s) which can be used to deliver desired drugs with desired release profile (gelation time – 1 to 30 minutes; degradation time – 1 to 30 days; storage modulus – 5 to 110 Kpas). It comprises a polymer backbone, a hydrophobic pocket (moiety being triclosan), and a water soluble cross linker (paclitaxel solubilized in alpha tocopherol).

### **Areas of Application**

- In site-specific drug delivery systems/depots (Many important drugs are hydrophobic in nature and need to be administered in a solubilized form for the expected therapeutic effect—using our gel system, which has hydrophobic pockets to hold these drugs, the drugs can be delivered directly)
- Biomedicine—cell growing depots for tissue regeneration and protective membranes for the treatment of wounds
- Tissue engineering—space filling agents, delivery vehicles for bioactive molecules and tissue formation directing scaffolds

### **Advantages**

- Overcomes the barrier of surgical implantation
- Does not require solvents as other biodegradable polymers might require, which are harmful to the human body/some drugs may become inactive on coming in contact with the solvent
- In drug delivery applications, drugs can be loaded in the hydrophobic pockets present in the gels
- Provides precise control over the chain length, sequence, and 3D arrangement of the polymer networks in the gels — hence prevents side reactions caused which may influence their performance

### **Development Status**

Laboratory model

### **Legal Protection**

Patent

### **Transfer Terms**

Technology licensing

### **For the above three offers, contact:**

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## **Sensor for detecting air leakage in packed items and storage plants**

### **Description**

The present invention provides a sensor for detecting the oxygen leakage in packed items and storage plants. The present invention further provides a process for preparing the sensor by ion-pairing of methylene blue (MB) with dodecyl sulfate (DS) to produce a water insoluble form of dye (solvent soluble and compatible with food items), which can be used to create an UV-activated, oxygen sensitive indicator that can be printed on a variety of different hydrophobic polymers. The sensitizer in the indicator solution is TiO<sub>2</sub>. The present invention also provides a method of detecting air leakage using the sensor with high sensitivity and high reproducibility. The detections are based both on the changes in color of the sensor as well as resistance of sensor. The developed sensor gives visual response in less than a minute. The indicator sensor is bleached quite rapidly under UV light and recovers their original color when exposed to air.

### **Areas of Application**

- Food packaging industry
- Medical devices
- Other such industries using vacuum packaging

### **Advantages**

- It can be coated on the plastic materials normally used for packaging
- It can be applied in the form of thin sample in very simple ways via brush, normal pen, or general printing process or can be printing with the help of ink jet printer
- It can give very fast visible color indication of the air leakage within minutes
- It can also give changes in terms of resistance/conductivity for raising an alarm in case of air leakage
- Several months of reusability and stability
- It is not harmful to food

### **Environmental aspects**

Prevent contamination due to air leakage

### **Development status**

Laboratory model

### **Legal Protection**

Patent

### **Transfer Terms**

Technology licensing

### **Technical specifications**

The sensor is capable of detecting air leakage visualized by change in color from white to blue in the presence of air. When optionally combined with an electric current, it generates a signal (alarm)wh.

### **Transfer Terms**

Consultancy, technology licensing, research partnerships

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