

## Individually Adjustable Drug Delivery System

### Summary

Due to decades of antibiotics usage, the number of antibiotic-resistant bacteria strains is increasing. Particularly bone infections are hard to treat. A systemic drug treatment results in an insufficient concentration of the agent at the point of infection. This patented drug delivery system facilitates not only adequate local dosing, but also customised drug combinations and independently targeted release in a pre-determined period of time according to the patient's particular requirements. The technology requires only a minimal invasive surgical procedure and secondary surgery can be avoided by using a biodegradable basic body.

Industrial partners are sought for various possible commercialisation options.

### Background

FESTEL CAPITAL is supporting a German university to commercialise an innovative drug delivery system for various active agents and time controlled release.

### Description

The individually customised pharmaceutical drug delivery system is based on the idea of offering a modular system to the surgeon. Biocompatible basic bodies in the form of metallic, ceramic or polymeric screws or pins contain drill-holes. In these holes, agent carriers are inserted as pastes or sticks of a biodegradable polymer, which contain the active ingredient. Pastes and sticks are visually distinguishable by shape and colour depending on the type and concentration of the agent.

After carrying out an antibiogram, the surgeon can select an effective antibiotic or a combination of antibiotics. In contrast to other drug release systems, the surgeon can arrange an agent combination individually adjustable in dose and release rate.

## **Application areas**

The represented drug delivery system is not limited to the treatment of infections of bone tissue. Using vitamins, growth factors, hormones or cytostatic agents, the range of applications may be extended to other diseases like osteoporosis and tumours.

## **Advantages**

Advantages this technology offers include the following:

- Minimal invasive surgical procedure with standard instruments
- Visualisation by radiography and computer tomography
- Possibility of explantation for the purpose of treatment termination
- By using a biodegradable basic body, secondary surgery can be avoided

## **Investment Opportunity**

The aim of FESTEL CAPITAL is to commercialise this innovative drug delivery system. In the search for industrial partners different commercialisation options, such as out-licensing or a sale of all relevant intellectual property and know-how, are possible. Detailed information can be provided after the signing of a confidentiality agreement.

## **Disclaimer**

FESTEL CAPITAL has prepared this document to the best of FESTEL CAPITAL's knowledge and belief based on all available information. FESTEL CAPITAL takes no warranty for the accuracy and completeness of this information. Therefore, all liability for costs or damage resulting from information and conclusions in this document is excluded.

## **About FESTEL CAPITAL**

FESTEL CAPITAL is an advisory and investment firm focusing on the commercialisation of technologies in the areas of energy, environment, health, materials and nutrition.

CONTACT: Dr. Gunter Festel, Schuermattstrasse 1, CH-6331 Huenenberg/Zug, Phone +41 41 780 1643, Mobile +41 796 527 112, E-Mail [gunter.festel@festel.com](mailto:gunter.festel@festel.com).