

RCPE

Research Center Pharmaceutical Engineering

Programme: COMET – Competence Centers for Excellent Technologies

Programme Line: K1-Centers

Texan Pharmaceutical Company Evestra Performs Research in the Field of Female Health in Graz

The Texan pharmaceutical company Evestra, a specialist in the field of female health, has chosen a competence center RCPE to be its research partner for the development of better drug delivery systems for hormonal contraception, hormone replacement therapy during menopause and treatment of other diseases. With a volume of at least EUR 1.8 million, it is the largest exclusive research project that has been won to date by a K1 center in Austria.



600,000 Euro per year for targeted drug delivery

During the first three years of operation at least 600,000 Euros per year will be used primarily to develop a vaginal ring as hormonal contraceptive and a drug delivery system for other treatment cases. This method provides targeted drug delivery and has many advantages over oral medication.

A drug is more stable and acts more specifically and over a longer period of time. At the same time this method ensures that the hormone supply does not entirely or partially fail, as it may happen when the drug is ingested orally due to dosage errors or gastrointestinal conditions (diarrhea, vomiting). Because the hormones are delivered right into the female sexual organ, lower dosages are sufficient, reducing their negative impact on the body. This targeted drug delivery form is suitable for many applications.

With that regard, Evestra has already explored and patented some new compounds. In addition to an even better hormonal contraception, the vaginal ring can be used in hormone replacement therapy. Moreover, a new method of incontinence treatment is underway.



New application of melt extrusion process

To produce vaginal rings, RCPE has developed a special melt extrusion process to add nano-suspensions (here drugs) of the polymer melt. The exact doses of active ingredients are released into the body over an exact period of time.

In addition to the vaginal rings, uterine devices (similar to the spiral) and implants are tested as alternatives. The goal of this research collaboration is to develop innovative and safer forms of drug delivery.



Fig. 1: Vaginal ring – © RCPE



Impact and effects

For Graz-based RCPE, this research mission provides an opportunity to further expand its know-how long-term into a multi-billion dollar pharmaceutical market and secure its current unique position in the field of pharmaceutical process and product optimization in Europe.

In addition to the development costs, RCPE receives 0.5 percent of the worldwide revenue for the products in whose development it has participated. A minimum term of ten years after termination of the contract is guaranteed. An extension of the cooperation is possible. In this partnership, Evestra develops the pharmaceutical active ingredients and RCPE contributes its expertise in the fields of pharmaceutical melt extrusion and production.

Specifically, it concerns determining which carrier materials and auxiliaries are optimal for long-term and targeted delivery of active ingredients. In addition to melt extrusion, other manufacturing methods, such as injection molding and 3D-printing, are developed. Moreover, the required production and processes are created.

RCPE's spinoff PRSG will take care of the required approvals.

In addition to RCPE, Styrian supplier companies will profit from the cooperation by securing the existing jobs.



Fig. 2: Front row: Prof. Dr. Johannes Khinast, Dr. Klaus Nickisch, Dr. Thomas Klein (v.l.n.r.); back row: Province Representative Dr. Christian Buchmann, Rector Prof. Dr. Harald Kainz (v.l.n.r.) – © Stephan Friesinger

Contact and information

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Project Partners

Organization	Country
Evestra GmbH	Germany
PRSG Pharmaceutical and Regulatory Services GmbH	Austria

Weitere Informationen zu COMET – Competence Centers for Excellent Technologies: www.ffg.at/comet

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