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Business idea and model

- Pantec Biosolutions AG was founded by the need to **replace the self-injection based hormone therapy for In Vitro Fertilisation (IVF)** by an **active intraepidermal method**.
- The P.L.E.A.S.E.® - platform is also used for active intraepidermal delivery of biopharmaceuticals, such as **hormones, proteins, peptides, and vaccines**.
- Device development and produced is performed **in-house**.
- **Intraepidermal drug systems (IEDS)** are developed in collaboration with reputable **patch development and production companies**.
- The P.L.E.A.S.E.® - platform supports Pharmaceutical and Biotech companies in **line extensions** and **life cycle management**.
- The final **package solution (= device plus drug patches)** is open for **licensing** by Pharmaceutical/Biotech companies.

Financial information

- **CHF 12 million** in total equity raised by 2009 including **founders, private investors** and **VC investors**.
- **Loans of CHF 4.6 million** by two banks.
- **Swiss CTI grants of CHF 1.2 million**.

Intellectual property position

- Strong IP based on novel proprietary technology.
- Eleven patents pending on the device, method and applications (most patent applications published).

Product - P.L.E.A.S.E.® - device

- A hand-held medical device (P.L.E.A.S.E.®) for **laser skin microporation** followed by drug **intraepidermal** application (e.g. drug patch).
- P.L.E.A.S.E.® works with a novel **short-pulsed laser technology** optimised for **skin ablation** without **thermal damage**.
- The P.L.E.A.S.E.® has built in **safety features** to eliminate mis-use (e.g. patient and drug recognition).
- The P.L.E.A.S.E.® can be used by **medical personnel** as well as by the **patients at home**.
- Product key advantages: **Painless, increased drug transport** over competing technologies. **Individual dosing** by variation of micropores.

Product - Drug patches

- Strategic alliance with a reputable **drug patch manufacturer** to co-develop IVF patch systems, (triptorelin, FSH, progesterone).
- **Clinical CRO under contract and clinical strategy** in place to achieve marketing approval for the IVF package.
- All **necessary permissions** in place to act as a **Specialty Pharma Drug Device** company
- **Preclinical** strategy in place to test other **very promising drug candidates** to be switched from injection to P.L.E.A.S.E.

Initial target market - in vitro fertilisation (IVF)

- 20% of all couples have troubles conceiving
- \$ 1.5 - 2 billion IVF hormone market, closed growing niche market. 1% of children in western world born through IVF. 1 million IVF-stimulations globally. Germany: 90.000 stimulations in 2004. USA: >400 registered fertility clinics, 120.000 stimulations (av. cost \$12.000/stimulation). Prof. Zech carries out 4000 stimulations per annum in 6 own fertility clinics.
- Average cost in Europe € 5000/st. plus €1000-2000 hormone costs.
- Drug delivery **device** market: >€ 1billion (>10% growth).

Market opportunity- Biopharmaceuticals- grow faster than small organic drugs

- Therapeutic **proteins, antibodies, peptides** (= "Biotech drugs") account for 10-20% of total drug sales (US\$ 60-120 billion).
- Biogenerics, **biosimilars** are gaining momentum.
- **Prophylactic** and **therapeutic vaccines** offer great potential for intraepidermal application.
- Potential applications in **dermatology**, in particular **onychomycosis**
- **Improvement** of existing **passive patches**, e.g. **smaller patch** or **less drug** due to increased permeation rates through pores.

Distribution model

- **Distribution** of P.L.E.A.S.E.® and drug patches direct or by Pharmaceutical or Biotech partner to **pharmacies** and **IVF-specialists**.
- **Daily device rental costs** will be included in the **patch costs**, to be paid by the patient (on prescription) in the clinic or pharmacy.
- **Recuperation** of device costs before the device gets used by the patient is very attractive for **licensing partners**.

Achieved milestones

- **P.L.E.A.S.E.** - device in handheld size has **CE-mark**.
- Human **skin irritation study and histological evaluation** show **painless application** and **no thermal damage** of skin.
- **Human phase I pharmacokinetic studies** with triptorelin, FSH and progesterone with the P.L.E.A.S.E. show **proof of concept**.
- Several agreements signed with selected **Pharmaceutical companies** in **IVF** and **Immunisation**. First promising **clinical data** in place.
- **Virtual Pharma company** established with strong partners. **IVF development plan** in place until **marketing approval**.
- Strong **scientific advisory board** in **infertility and dermatology** in place.

Planned milestones 2009

- **Completion** of the development of the P.L.E.A.S.E.® device.
- **Completion** of the **infertility patch** development projects and **clinical studies** for Triptoreline and FSH.
- **Completion of clinical pivotal studies** for Triptoreline and FSH and **subsequent marketing** of P.L.E.A.S.E. IVF.
- Generation of **more preclinical permeation data** with P.L.E.A.S.E. to generate additional licensing opportunities.