MEDILIGHT - a miniaturized smart system for light stimulation and monitoring of wound healing

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Miniaturized smart system for light stimulation and monitoring of wound healing

Total Budget: 2,988,033 Euro / Max. EU Contribution: 2,475,310 Euro
Advanced wound care market

Global advanced wound care market = 10 B€

Acute wounds
(Healing time = 20 days)

Chronic wounds*
(Healing time = 200 days):
- Pressure Ulcer
- Venous Leg Ulcer
- Diabetic Foot Ulcer

European advanced wound care market: 780 M€

- Risk of infection and infection
- Non-infected

84%
16%

*Patient burden and high cost for community over 10 B€ per year in Europe
We develop a treatment adapted to each wound

Diabetic foot ulcers (DFU)  MEDILIGHT PRIORITY 1
Venous Leg ulcers (VLU)  MEDILIGHT PRIORITY 2
Pressure ulcers (PU)  Not MEDILIGHT priority

4 healing phases per type of wound

INFECTION  Bacteria
CLEANSING  Macrophages
GRANULATION  Fibroblasts
EPIDERMISATION  Keratinocytes
MEDILIGHT – an all in one breakthrough technology

Bacteria
- To limit proliferation
- To limit virulence
- To limit formation of biofilm

Macrophages
- Modulate Macrophage activity (inflammation mediators)

Fibroblasts
- Proliferation
- Dermis synthesis (collagen)
- Migration

Keratinocytes
- Migration
- Proliferation
- Differentiation
Views of nurses, diabetologists and dermatologists

• An automated system managed solely by nurses and GPs
• No patient active interaction
• Be simple, comfortable, esthetic and discreet
• Be reimbursed
Translate technologies into products: **Proof of concept**

- Treats chronic wounds with blue light
  - Antibacterial
  - Proliferative
- Management of patient’s exudates
- Breathability

- Blood *oxygenation* and *temperature* sensors
- Flat, flexible and *homogenous* *illumination* system
- Heat Management (from LEDs)

- Waterproof backing - **Breathable**
  - Highly absorbing layers - **Exudates management**
  - Soft adherent layer - **Atraumatic withdrawal**

**Chemical free**

**URGO know-how**

**UV FREE**

**Innovative domain**
MEDILIGHT development process

Research phase
- Industrial scale-up
- Qualification & specifications
- Risk analysis
- Pre-clinical (biocompatibility/pharmacology)
- Regulatory documentation
- Application for CE mark
- Clinical study on humans with wounds

Research Phase
TRL 1 → 3

Development Phase
TRL 3 → 6a

2/5 years

TRL 6b → 7

2/3 years

3,5 years
Conclusion: From a concept to a product

A competitive project

- All in one and personalized treatment
  - UV Free
  - Chemical Free
  - Data processing
- Human cells proliferation
- Antibacterial effects
- Heat management (from LEDs)
- Flexible, flat, homogeneous illumination system

VS

A tough market access

- Each State has its own procedure for reimbursement
  - Prices wars
- Twice more standards in Medical Devices
  - No equivalent products
- Tough clinical study
  - A real world usage to be validated
Opening up new perspectives

How could we valorize the results coming from MEDILIGHT project?

1. AWC Europe through URGO Medical
2. AWC players in North America and Asia
3. Outside AWC: Compression & Vascular Therapy, Aesthetic Medicine
Good practice

• End-user as a driving force
  – Research
  – Development
  – Management

• Early customer involvement
  – Design
  – Handling

• Strong and efficient project management
Thank you for your attention!

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Supporting strategically oriented innovations for business impact

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