Objective

SWAN-iCARE is an ambitious project aiming at developing an integrated autonomous device for the monitoring and the personalized management of chronic wounds, mainly diabetic foot ulcers and venous leg ulcers. Most foot and leg ulcers are caused by diabetes and vascular problems respectively but a remarkable number of them is also due to the co-morbidity influence of many other diseases (e.g. kidney disease, congestive heart failure, high blood pressure, inflammatory Bowel disease). More than 10 million in Europe suffer from chronic wounds, a number of which is expected to grow due to the aging of the population.<br/>
Core of the project is the fabrication of a conceptually new wearable negative pressure device equipped with Information and Communication Technologies. Such device will allow to:• accurately monitor many wound parameters via non-invasive integrated micro-sensors;• early identify infections;• provide remotely an innovative personalised two-line therapy via non-invasive micro-actuators to supplement the negative pressure wound therapy.<br/>
SWAN-iCARE novel idea focuses on the provision of pioneering two-line therapy at home: a first line based on a negative pressure device, a second line based on the integrated micro-actuators.<br/>
The physician's analysis of the collected data will be the basis for the decision and the remote control of the therapy. The closed-loop approach offered by SWAN-iCARE project provides unprecedented levels of care, improves patient's health condition and significantly lowers costs and need for hospitalisation, with obvious advantages for both patients and health care services.<br/>
The project follows an iterative validation approach which includes a series of test session in-vitro on human biological samples and in-vivo on humans.<br/>
A detailed impact analysis and business plan will be conducted towards the successful commercialisation of the project results.

Related information

Documents and Publications
- D9.1
- D1.3.1
- D9.5.1
- Y2 Publishable summary
- Publishable Summary Year 1
Coordinator

EXODUS ANONYMOS ETAIREIA PLIROFORIKIS
ESTIAS 1 & MESOGEION 73-75
ATHINA
Greece

Administrative contact: Leonidas Lymberopoulos
Tel.: +302107450355
E-mail

Participants

SWISSINNOV PRODUCT SARL
RUE DE L'ETRAZ 1
GLAND
Switzerland

Administrative contact: Thierry Navarro
Tel.: +41225752360
E-mail

CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT
RUE JAQUET DROZ 1
NEUCHATEL
Switzerland

Administrative contact: Marc Correvon
Tel.: +41 32 720 5007
E-mail

CAP PARTNER APS, EWMA SECRETARIAT DFSG SECRETARIAT
NORDRE FASANVEJ 113-115
FREDERIKSBERG
Denmark

Administrative contact: Jan N. Kristensen
Tel.: +4570200305
Fax: +4570200315
E-mail

COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES
RUE LEBLANC 25
PARIS 15
France

Administrative contact: Olivier Hatem
Tel.: +33 4 78 38 30 57
E-mail
CENTRE HOSPITALIER UNIVERSITAIRE DE GRENOBLE
BOULEVARD DE LA CHANTOURNE
LA TRONCHE
France
Administrative contact: Florence Martin
Tel.: +33476769541
Fax: +33476765042
E-mail

INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS
Patission Str. 42
ATHINA
Greece
Administrative contact: Yannis Vassiliou
Tel.: +302107724374
Fax: +302107722456
E-mail

EURORESEARCH SRL
VIALE DEI MILLE 20
MILANO
Italy
Administrative contact: Massimo Laurenza
Tel.: +39028055660
E-mail

UNIVERSITA DI PISA
Lungarno Pacinotti 43/44
PIŠA
Italy
Administrative contact: Maria Pia Auricchio
Tel.: +39 050 2219 201
Fax: +39 050 2219260
E-mail

HAEMOPHARM BIOFLUIDS SRL
VIA LARGA 2
MILANO
Italy
Administrative contact: Giuseppe Gazzara
Tel.: +390342 771019
E-mail

SMITH & NEPHEW MEDICAL LIMITED
HESSLE ROAD 101
HULL
United Kingdom
Administrative contact: Mark Richardson
Tel.: +441482673557
E-mail

Subjects
Information and Media

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