



Executive Summary

The problem: Pressure sores and venous leg ulcers are the most prevalent form of chronic wounds in the Western World and 1 in 100 adults will be affected at sometime. The NHS spends £34.8m (Source: PASA) on pressure area care products (beds, mattresses, cushions etc) and £20m/annum on dressings and bandages for the treatment of leg ulcers. The total cost of treatment for leg ulcers has been estimated at anything up to £500M/a when practitioner time is included. However, treatment of ulcerations remains an art rather than a science, and leaders in the clinical community and bandage assessment fields have worked with Ulsys to define their problems and the solutions required.

Combining existing technologies to address clinical needs: Ulsys Ltd is a start-up medical device company, spun-out of Blueprint Innovation Ltd, a product design consultancy based in Halifax. Ulsys is developing solutions to the medical problems brought about by pressure - whether too little or too much. The aim of Ulsys is to bring together existing, proven technologies to address identified clinical needs.

Bringing pressure therapies into the 21st Century: The ultimate aim of Ulsys is to develop a 'smart' bandage. Such a product does not currently exist and supply of such a development to the marketplace will provide both time and cost savings to the NHS and other healthcare systems. Whilst working towards this aim, Ulsys intends to help bring treatment of leg ulcers into the 21st Century by providing the tools to allow practitioners to optimise applied pressures and ensure they are within the known treatment guidelines. The extrapolation of this ability is expected to be optimisation of healing times and reduced complications, although demonstration of this will be the remit of the practitioners and not Ulsys.

Capitalising on market opportunities: Whereas the technologies to deliver a 'smart' bandage already exist, these 'parts' have not to date been brought together in a cohesive and functional way. Ulsys intend to capitalise on the existing technologies and the immediate market opportunities which can be readily addressed using some of the component parts. Information on these market areas was developed by Bob Grantham under a £30k Pathfinder Investment by Rising Stars Growth Fund (RSGF). These have been identified as three product lines:

- Sub-bandage pressure monitoring – monitors and evaluation aids
- Novel pressure redistribution material for use with compression bandages
- Mattress pressure monitoring

Progress to date: The team are already making progress with their aims and funding is required to support this. A prototype sub-bandage pressure monitor is already in operation and clinical trials under a CRAFT award are due to commence early in 2006. Key opinion leader support has been secured and the initial outlined activities will ensure that the opportunities presented by these links are optimised. A novel z-axis material has been developed and patented to provide a novel pressure redistribution for use in compression bandaging and industrial interest has been expressed by a leading player in the field and CDA signed. A concept bed design has been produced and development partners are being sought. First meetings with interested parties have already been held.

Next steps: To speed up time to market and achieve first sales, Ulsys now requires £764 k over two years to:

- Supply the developed sub-bandage pressure monitors to key opinion leaders to demonstrate practical utility and generate PR.
- Supply a pressure bandage assessment kit (anatomical leg plus pressure monitors) to the UK's leading bandage evaluation centre in Cardiff (by request), with the intention of getting this assessment method written in to the standard assessment protocols and become the ISO standard assessment method for novel bandages.



- Optimise the format of the pressure monitoring device (lightweight, thin, user-friendly wireless outputs) through combination of existing proven technologies.
- Bring the product to market and achieve repeat orders in the UK.
- Develop and license the pressure redistribution material to a marketing partner.
- Develop a prototype 'intelligent' mattress through combination of existing, proven technologies and license to a marketing partner.

Exit strategy: Ulsys expect to develop the three leading product opportunities and take them through to first sales and/or licensing. First sales of the bandage assessment kit and sub-bandage pressure monitors are realistically expected within 18 months. It anticipated that a trade sale will be possible within 5 years.