Development project

Measuring the eye's surface shape during refractive laser surgery

Patents: DE19837932C2, US6613041B1 EP1105038B1, WO2000010449A1





Adaptation/Integration of the system

Clinical trial study

Publication of the results

Marketing - licensation





BioShape covers development costs

Schwind provides laser

Joint search for clinical partner

Publication of the study results





UV fringe projection as measurement principle







Example of an attachment ...







... in the clinic



Eye before treatment

PRK





Fringe contrast lower in stroma and on sklera than on epithelium





... und afterwards

PRK





Loss of contrast due to drying and ablation products





Difference maps after 3d registration (geomagic.com)

PRK (6.5mm)

LASIK (7+1mm)



Homogene periphery





peripheral deformations due to microkeratom BioShape

Further findings





Flap fold and epithelial defect

Epithelial ingrowth





Bonus: laser calibration with fluorescing plastic









Controling the treatment procedure

Better results at high treatments

Higher security at difficult treatments

More trust in superior technology

Better understanding of the healing process





Innovative technology (Marketing)

Competitive advantage

Low development costs, high revenue

New research tool (Algorithms)

More efficient calibration





Development contract with goals, time schedule and work load of the partners

Development of the system according to Schwind's requirements

Integration of the system into the laser

Clincal trial study



