

Samba Sensors AB

...aiming at becoming market leader!

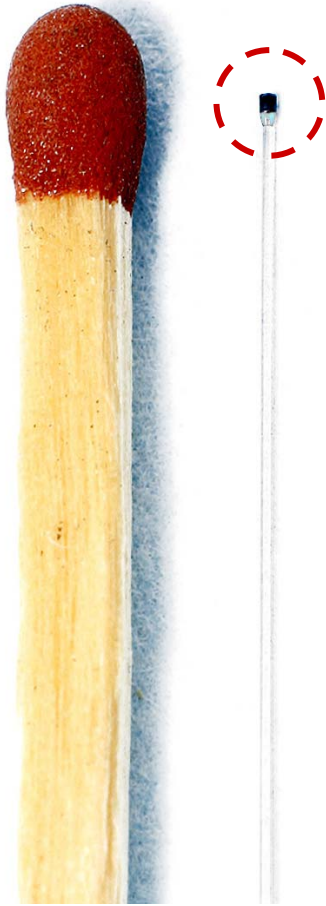
FOBIS seminar - October 31, 2006

Business concept

“To develop, manufacture and market measurement systems and support based on competence in fiberoptic technology and micro-mechanics, with a focus on medical applications.”



The Samba 420/360 transducer



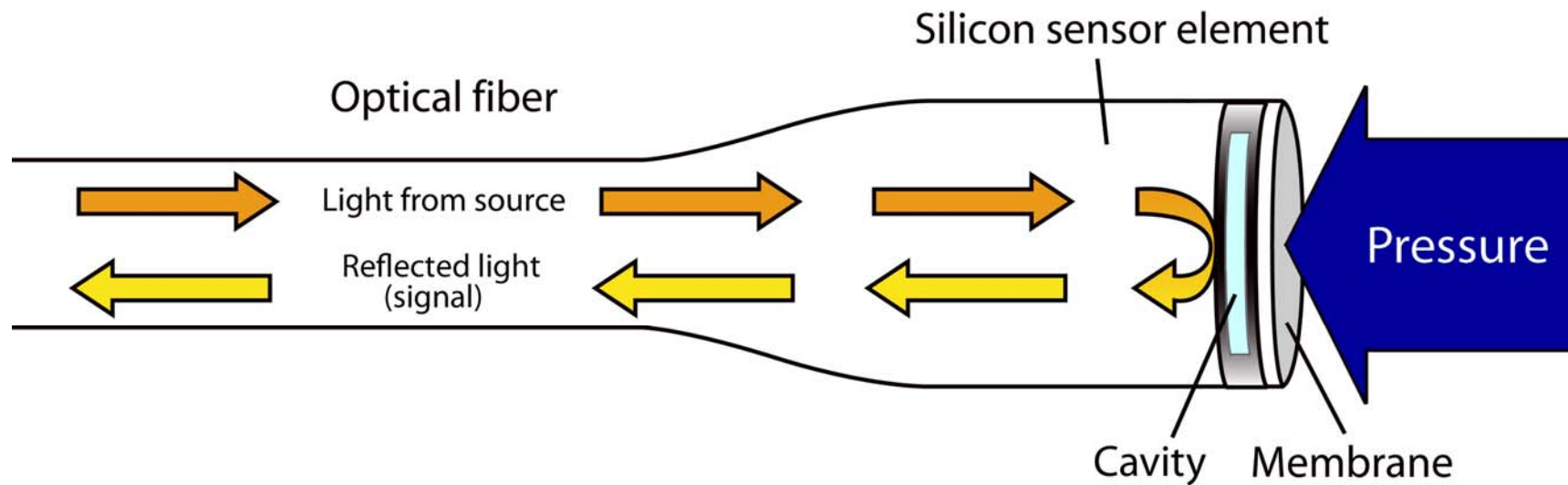
Ultra-miniature fiber optical pressure sensor – no bigger than a grain of salt on a hair!

Highly sophisticated, accurate, fast and sensitive instrument designed to measure pressure in gas or liquid.

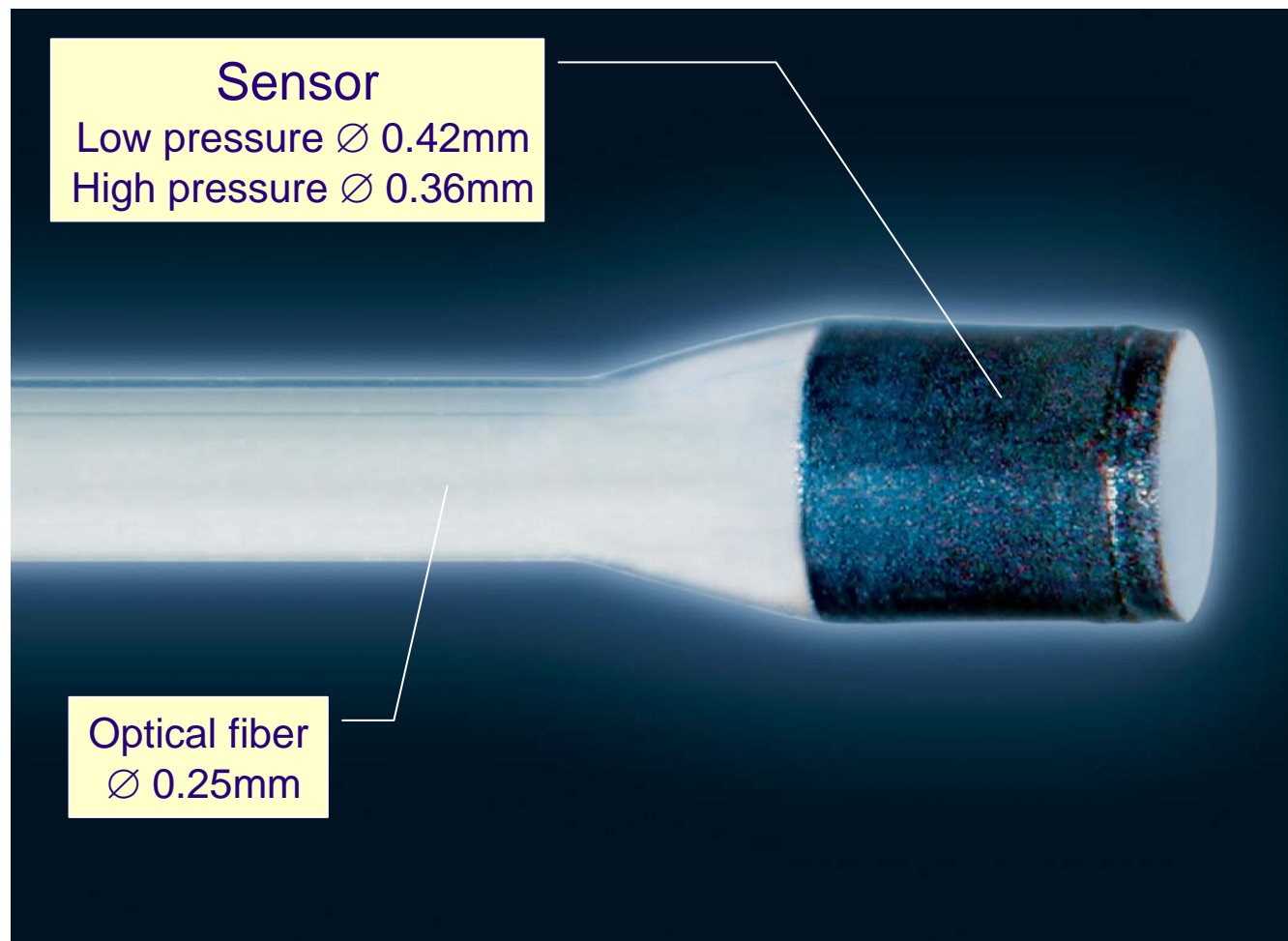
Constructed with patented state-of-the-art micro mechanic, MEMS and fiber optic technology.

A first-class tool for building knowledge and solving problems in numerous application areas.

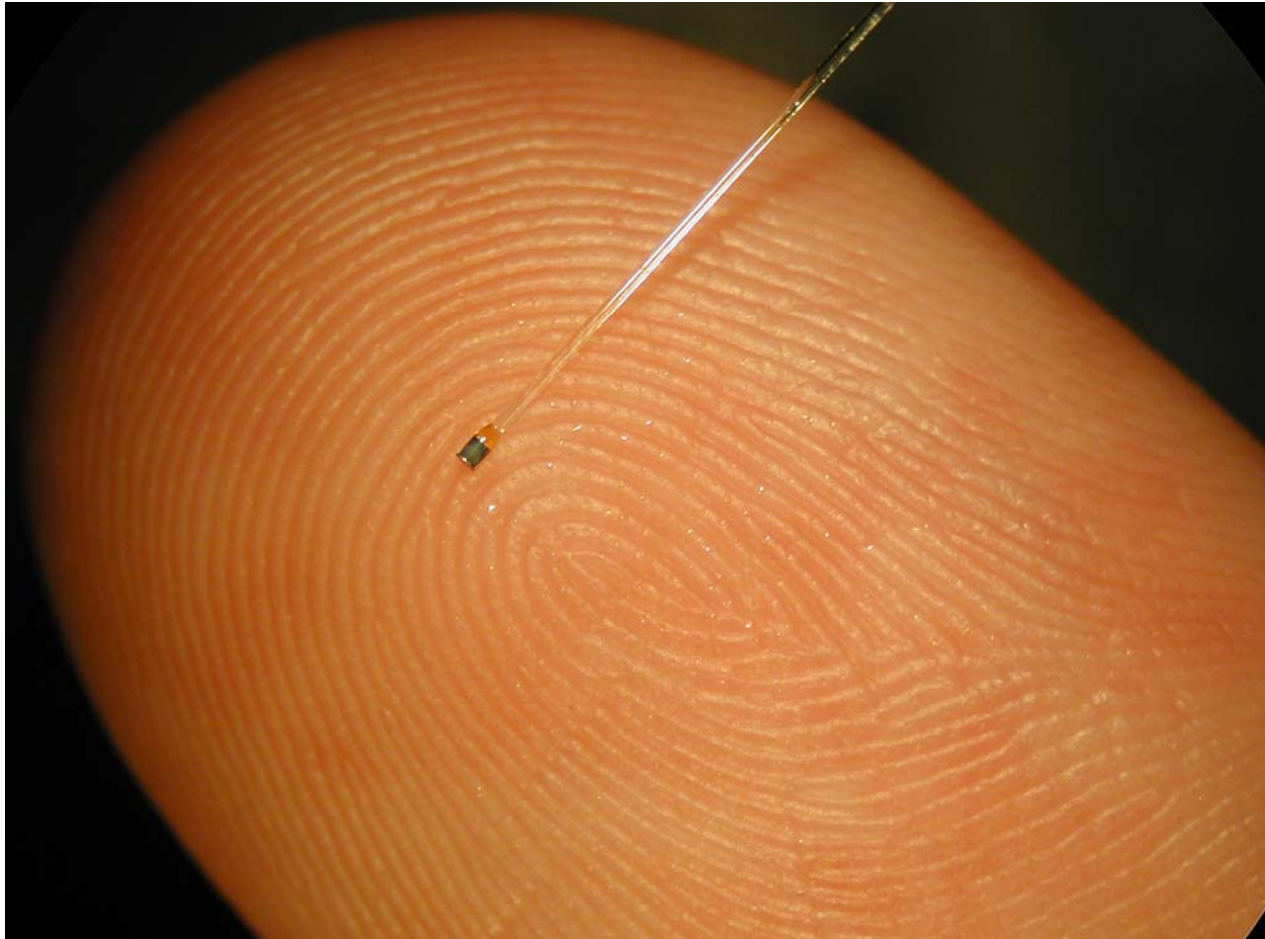
Samba Sensors' technology



The sensor



The sensor on a finger tip



Main products

samba preclin

420/360 PRESSURE TRANSDUCERS

Ultra-miniature optical pressure transducers in different versions. For preclinical and industrial use.



samba 3200

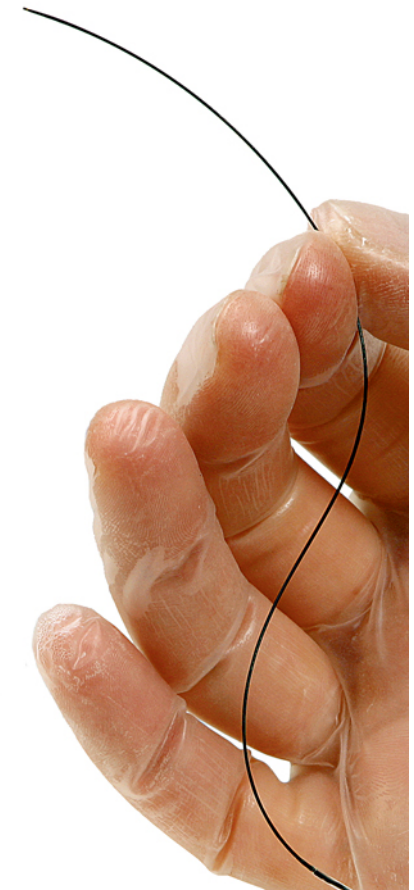
CONTROL UNIT

Control unit with analog and serial port. Samba Data Collection software for PC. For research use.



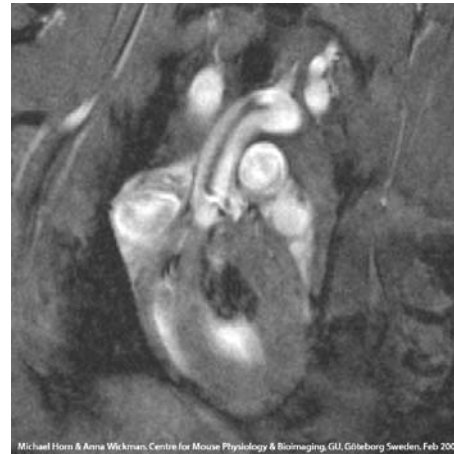
The Samba transducer

- ✓ Pressure can be measured in very small cavities or directly in the tissue.
- ✓ Direct measurements with very high precision are made at the sensor location.
- ✓ The ultra-miniature size minimizes insertion trauma.
- ✓ Insensitive to EM radiation and RF fields (MRI scanner, microwaves etc).
- ✓ The transducer does not affect the measuring environment itself.
- ✓ Low risk – no electricity or bio-hazardous material.
- ✓ Long transducer possible (up to 10m).



Current market segments

- Preclinical research (primarily small rodents)
 - Preclinical MR; monitoring & gating
 - Cardiovascular pressures
 - Intracranial pressure
 - Urology (cystometry & urodynamics)
 - Tissue, e.g. muscles, tumor tissue etc.
 - Orthopedics
- Clinical research
 - Urology
 - Gynecology
 - Gastro-intestinal
 - ICU – ventilation
 - Tissue



Future clinical target segments

- Urology
 - Module in urological workstations
- ICU Respiration
 - Module in ventilator
- Neurology
 - Module in ICP monitoring system
- Cardiovascular/Cardiology applications
 - - Module in Intra-aorta balloon pump system (IABP)
 - - Module in Swan-Ganz catheter
 - - System/Module for monitoring pressure gradient over stenosis
 - - System/Module for monitoring pressure gradient over heart valves
- Orthopedics
 - Stand-alone system for diagnose of diffuse back & neck injuries
- Gynecology
 - System for diagnose of malignant/benign cysts
- Gastroenterology
 - Module in gastroenterological workstation
- Cardiac gating
 - System for MRI scanner triggering



Neonatal ETT monitoring

Reflections

Scandinavian biosensor companies

What's needed for an increased success rate?

Why Scandinavia?

- Innovative technical climate with successful track record
- World-class, by comparison inexpensive, high performing engineers
- Large multinational high-tech enterprises are great educators (Ericsson, SAAB, Siemens-Elementa, ABB etc.)
- Fairly easy to establish collaboration with leading clinical expertise at Scandinavian university hospitals



Oslo



Göteborg

Why is USA better?



- Well established culture: **"The customer is King!"**, leading to a higher degree of market orientation
 - Long and close relationships with demanding customers
- Investors have longer track records and more capital
 - Longer investment horizon (early ventures)
 - Larger capital injections to promising ventures
 - Higher degree of business development knowledge and experience
 - VCs with niche focus offer unique market segment insights
- Productification and production is given a more central role in the business plans of early ventures
- More senior people in top management, recruited from a larger recruitment base
- Their home market is the largest in the world!

Productification! Productification!

- Main factors to consider
 - The entire user process (from shelf to trash bin)
 - Mass production at lowest possible cost (at defined quality level)
 - Consumable items/parts
 - Design
 - Packaging, transportation & storage
 - Integration/communication with other equipment to create a “Total solution”
 - Service and maintenance



*Hb 201+,
HemoCue AB*



LUCAS, Jolife AB

Strategies for success in early stages

- Focus on customer value and market demand (not so much on the technology and need only)
- Find your “killer application”, lock your aim and follow through
 - Compelling and strong competitive advantages, strong demand, sufficient sales volume potential and good margins
 - Look at the “whole product”
- Invest in first-class productification
 - It costs more than you think and you must have access to the right competence!
 - Making prototypes is “easy” and the first product is many times just a prototype produced on a larger scale (and will never become a block buster...)



Samba Sensors' productification

- Development of manufacturing process for the Samba transducers
 - Redesign of transducer (include standard components)
 - Fully automated assembly procedure (micro-robotics)
 - Aim: Millions produced at lowest cost (overall cost leadership)
- Development of a new generation control unit
 - New demanded features
 - Modular design
 - Standard, low-cost components
 - Straightforward manufacturing (outsourced)
 - Professionally designed stand-alone units
- Narrow market focus
 - Preclinical market – MRI & CV
 - OEM-partnering



Med-Storm Innovation A/S

- Great, innovative technology!
 - Attractive market: Pain monitoring of non-speaking (e.g. neonates/children) and unconscious patients (anesthetized)
 - IPR platform (necessary to attract partners and investors)
 - Large amount of clinical data
 - Very small revenue stream
- **Final productification remaining (and thereafter market introduction)**
 - Present model sensitive to noise
 - World-class productification competence needed
- Challenge:
How to finance a professional productification?
- Partnering discussions
 - Device companies
 - VC companies

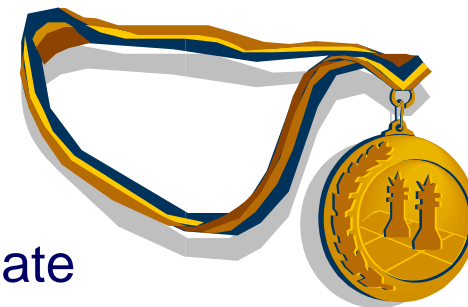


MED-STORM

Innovation

Productification for start-ups

- Target your “killer application”
 - Cultivate a network with local/regional companies and individuals with the right complementing competence
 - Involve your customers and end users in the process
 - Monitor customer feedback closely and continuously
 - Maintain a flexible and fast moving organization that is able to respond to market changes
 - Secure sufficient financing
- or
- Partner with the right company (with appropriate competence and strong financials)



samba preclin

EXCITINGLY SMALL™



Thank you for your attention!

samba  sensors