# GOO science



MEDICAL TECHNOLOGIES

CUSTOMIZED TO YOUR NEEDS

**Company Presentation** 

# Key Figures



#### Foundation

2001 in Erlangen

#### Ownership structure

 Wholly owned subsidiary of WEINMANN Emergency Medical Technology

#### Managing directors

Dr. Claudius Moor, Philipp Schroeder

## Number of employees

100 (about 75% engineers and growing)

#### Certificates

- DIN EN ISO 13485:2016
- MDD Annex II
- FDA registration (no. 9048414)





# 3 Business Areas.







## Who we are



Corscience is the established development service provider of national and international medical technology companies.

As a **One-Stop-Shop**, we offer

- Medical Device Development
- OEM Products, Modules & Licenses
- QM Consulting, Production & Life Cycle Management

Our services range from **research to development** and **approval up to production** and **life cycle management**. We combine electronics, software and mechanics up to systems for **safety-critical applications**.

We are leaders in our areas of expertise (our so called "COR Technologies") of system engineering, electrostimulation, monitoring, ventilation, gas analysis and mobile health.

# COR Technologies - Areas of Expertise ©©© science





# COR Technologies - Areas of Expertise



## System development

e.g. operating lights, dialysis system, foot control panel

#### Electrostimulation

e.g. defibrillation, AED, PAD, pacing, muscular stimulation, intracardiac stimulation

#### Monitoring

e.g. multiparametersystems, GUI, SpO<sub>2</sub>, ECG, EEG, NiBP, CO<sub>2</sub>

#### Mobile Health

 e.g. Event-Recorder, ECG w/ UMTS, Webserver, Integration of interfaces like Bluetooth, Zigbee, Wifi, ANT+, GPRS, UMTS, Ethernet

## Gas analysis

e.g. capnography, multigas analysis, anesthesia

#### Ventilation

e.g. emergency, transport-, home- and critical care ventilation















## Development



#### Hardware

- e.g. digital & analog, HF, SPICE, layout

#### Software

 e.g. GUI, μC, embedded Linux, RTOS, Windows, APP, bio signal analysis, MATLAB/ Simulink, FPGA

#### Mechanic

 e.g. construction, injection molding, mechatronic, FEMcalculation, installation tools, prototyping

#### Systems engineering

 e.g. combination of hardware, software, mechanics up to systems for safety-critical applications









# Electrostimulation / Defibrillation



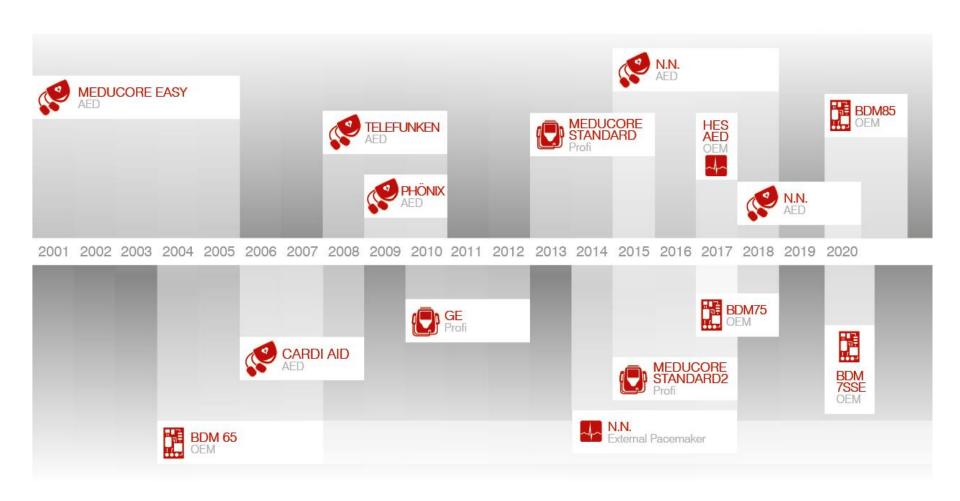
- Development of the MEDUCORE Standard<sup>2</sup> for Weinmann Emergency Medical Technology, a compact defibrillation and monitoring unit to be used in demanding emergency situations. The device informatively monitors all important vital parameters and supports resuscitation if necessary.
- Development, high volume serial production and life cycle management of fully- and semiautomatic CardiAid AEDs for our customer Cardia
- Development of several other defibrillator boards, professional defibrillators and AEDs (> 10)
- Several customers who have integrated our OEM Defibrillator Modules (BDM65 and BDM75), e.g. BPL





# Successful history of defibrillator development Gorscience



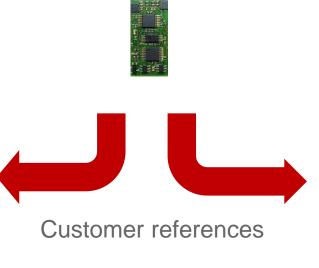




# Pulse oximetry

- Our energy-efficient SpO2 board ChipOx is particularly suitable for battery-powered devices, mobile applications and multi-parameter monitors.
- Utilized in emergency (defibrillator) monitors as well as clinical monitors around the globe







and many more

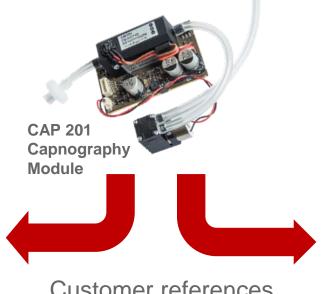


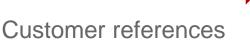
# Gas analysis / capnography



- Customer specific adaption of our capnography-modules
- Development and integration of new gas analysis modules (e.g. oxygenators)
- System development of medical gas analysis devices













#### We are experts in transportation- and emergency ventilation.





- Development of ventilators for emergency, transport-, home- or critical care ventilation (WEINMANN Emergency)
- Development of components and firmware for clinical ventilators



# Life Supporting Systems

- Extensive experience with class IIb and class III life supporting systems including projects in the fields of defibrillation, ventilation, cardiac support systems, external pacemakers and dialysis
- Reference development projects:
  - Safety electronics and alarm system for an mobile ECMO system.
  - Extracorporeal controllers for controlling heart assist devices and LVAD implants. Corscience focused on the extracorporeal parts including user interface, alarm handling, sensing, data logging, implant control and configuration, power management and power supplies.
  - CE approved extracorporeal pacemaker for epi-/myocardiac stimulation. The key challenges of low power electronics, EMI compliance (100µV sensing) and isolation of such a small device were successfully managed.

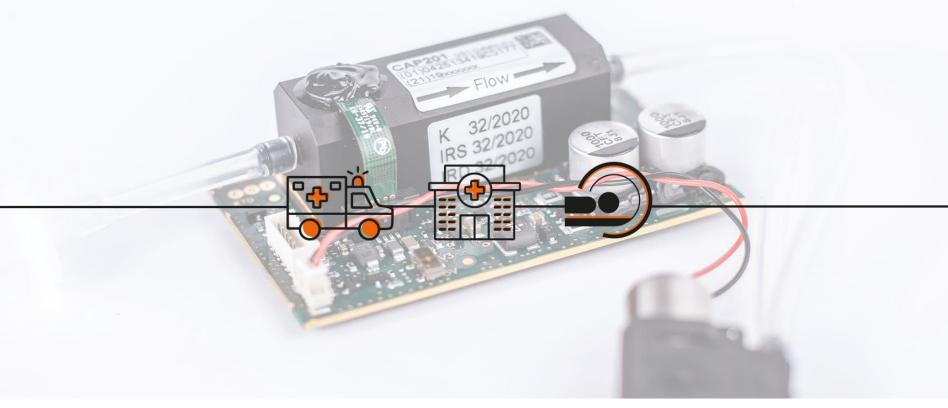






# Capnography Module CAP201





- Side stream technique
- Continuous CO<sub>2</sub> curve
- Robustness due to absence of mechanically moving parts
- High performance

- Suitable to different markets due to adapted variants:
  - ➤ CAP201 Emergency
  - > CAP201 Clinic
  - CAP201 MRI

## **Defibrillation Module BDM85**



- Defibrillation energy up to 360J
- Charging time < 5s</p>
- Small dimensions
- Pacing functionality available
- Competitive pricing
- Launch in Q4 / 2021





# HES Hannover ECG System



## Diagnostic ECG Program

- Portable Library is written in C
- Standardised or customized licensing model

## Supported Operating Systems

- MS Windows, OS X and different Linux distributions
- Embedded Systems

#### Software Modules

- Resting ECG
- Exercise ECG
- Real-Time Monitoring
- VF/VT analysis for AEDs









## Supported Standards

- IEC / EN 60601-2-47
- IEC / EN 60601-2-25
- IEC / EN 60601-2-4





## **Your Corscience Contact**



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