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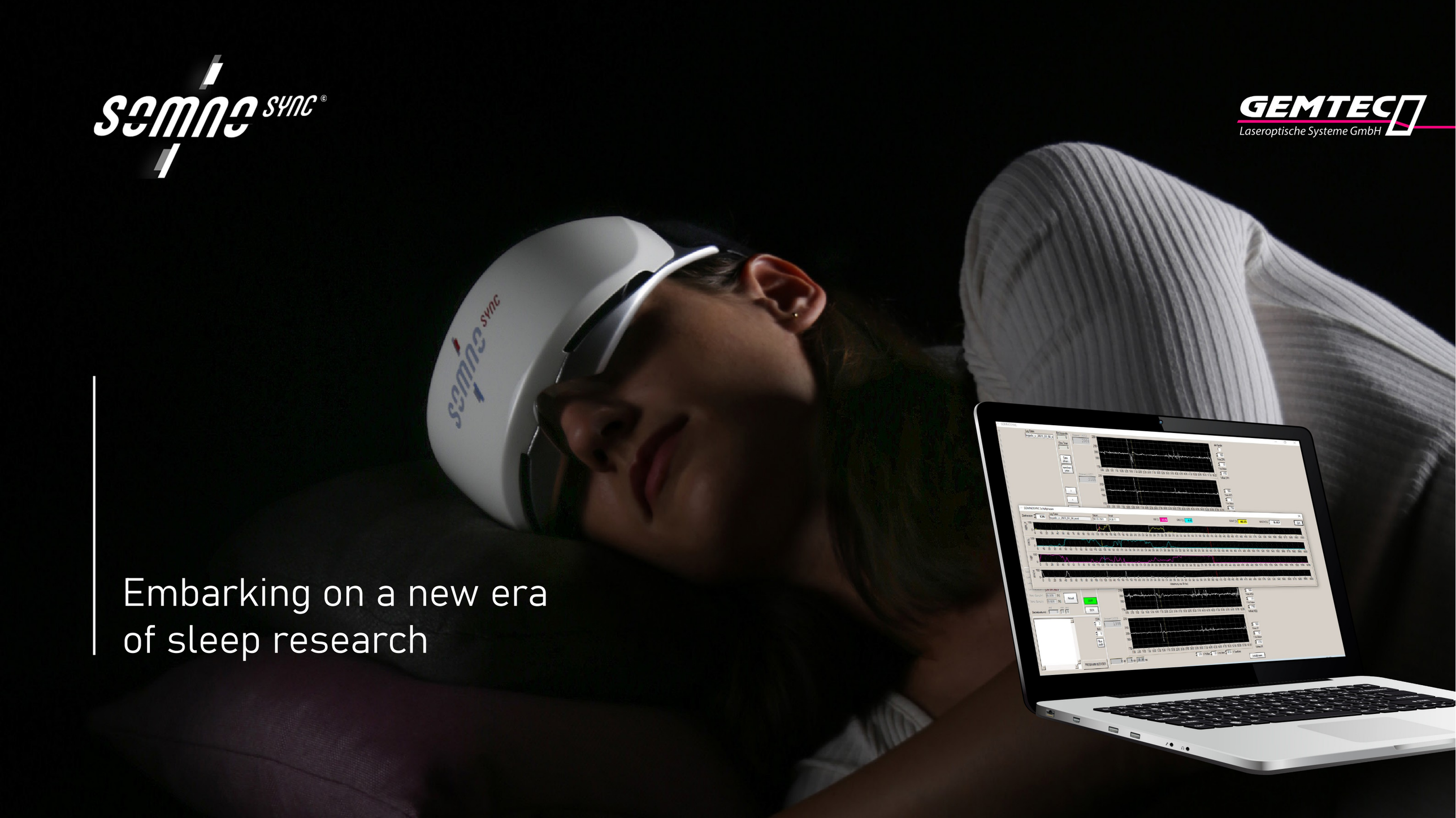

Embarking on a new era of sleep research

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„Over 30 years of experience in research and development are the basis for our innovative strength“

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For the first time, innovative field-effect sensors make it possible to **analyze sleep without contact**, using an easy-to-use, user-friendly, and comfortable sleep mask.

Unlike **polysomnography, which has been standard** practice in sleep laboratories to date, this method eliminates the need for complex placement of adhesive electrodes, the necessary cabling, and the time-consuming calibration of the contact resistance between the adhesive electrodes and the body surface.

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The **newly developed field-effect sensors** make it possible for the first time to measure the **electrical fields** emanating from the eyes without contact, to use this data to determine eye movements, and to use them for sleep analysis. In contrast to polysomnography, the **SOMNOSYNC sleep mask** can also measure and analyze the chaotic, burst-like, rapid **eye and eyelid** movements **characteristic of the REM phase**. For this purpose, three sensors per eye were integrated into the sleep mask.

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The contactless recording of rapid, **chaotic, burst-like eye and eyelid movements** opens up the possibility, for the first time, to systematically examine **attention** and **reflection during sleep** using objective criteria. The required **AR analysis module** is in development.

This opens up entirely **new possibilities** for **research**. From the analysis of sleep disorders such as **RBD**, or the analysis of **memory formation** during dreams and thus also during waking hours, to methods for **treating nightmares**.

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The data collected by the **SOMNOSYNC sleep mask** can be wirelessly transferred to a **notebook** or PC using a **BLE module**.

Intuitive, clearly structured **analysis software** determines **sleep phases** based on the detected rapid, chaotic, burst-like eye and eyelid movements, both online and offline.

Offline analysis offers the possibility of developing new, customer-specific analysis approaches **and testing them on existing data sets.**

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Advantages

- Contactless detection of eye movements
- No adhesive electrodes or wiring required
- Highly comfortable, easy to use
- Easily customizable with interchangeable pads
- Intuitive, structured analysis software
- Offline analysis for customer-specific signal analyses
- Screening and diagnosis also in the home environment

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Technical data

Recording duration	10 hours
Weight	130 g (with Akku)
Material	PA11
interface	BLE-Modul; RN 4020 (Microchip Technology)
Processor	MSP 4030 F2410 (TI)
With integrated AD converter	12 Bit
sensitivity the sensors	> 40 µV per Bit 400
sampling rate	Hz per sensor
Number of sensors	3 per eye
Frequency range	0,2 Hz to 47 Hz 1
Signal transmitter	LED per eye
Current consumption	< 25 mA
Energy supply	Akku; 270 mAh, removable, with charging unit

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