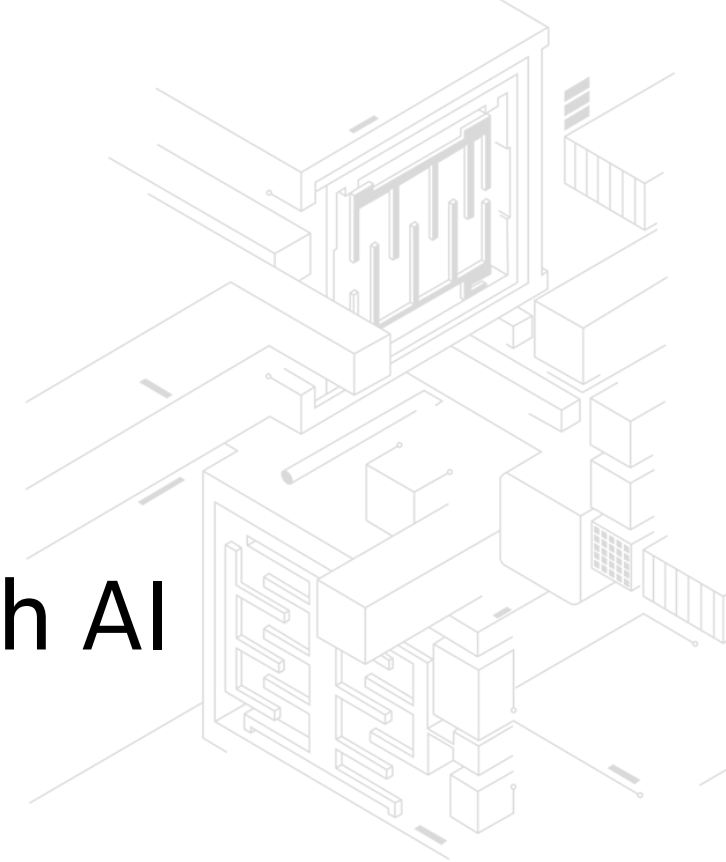
BME690

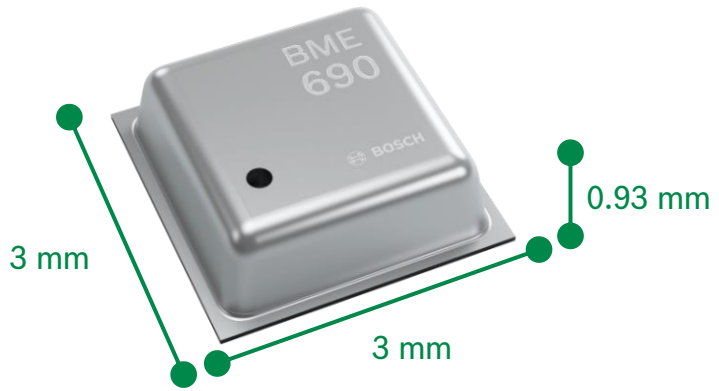
4-in-1 gas sensor with AI

Bosch Sensortec



BOSCH

BME690
Product overview



The digital nose for air quality

BME690 is the one and only environmental sensing solution monitoring gases, temperature, pressure & humidity in just 3 x 3 x 0.93 mm^3.

The further development of BME688 impresses with its increased robustness and is specially designed for high condensation conditions.

CHALLENGES

- Gas sensor output should align to indoor air quality standards (e.g. WELL/RESET)
- Gas sensor should perform optimally in high condensation environments
- Gas sensor should consume reduced power to enable battery operated devices
- Gas sensor with a faster response time to humidity is needed to control connected devices (e.g. HVAC, smart home devices)

BOSCH

BME690
Benefits

Alignment to WELL/RESET standards for indoor air quality

Usage in high condensation use cases

Reduced power consumption - optimal for battery operated devices

BME690
Target applications

Wearables

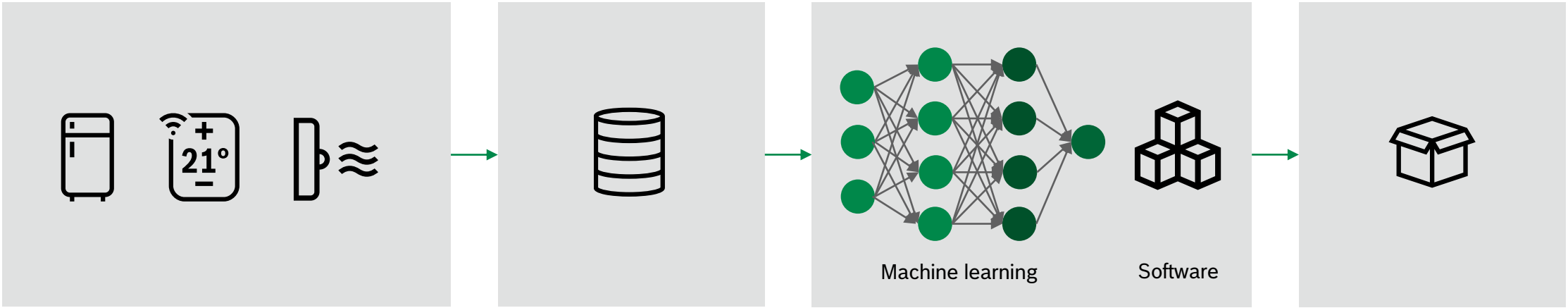
Mobile and care devices like breath checkers

Smart home devices including HVAC

Home appliances

Connected devices e.g. for asset tracking

BME690
Make your product with BME AI-Studio



Customer has specific use case

Customer collects and labels data within application

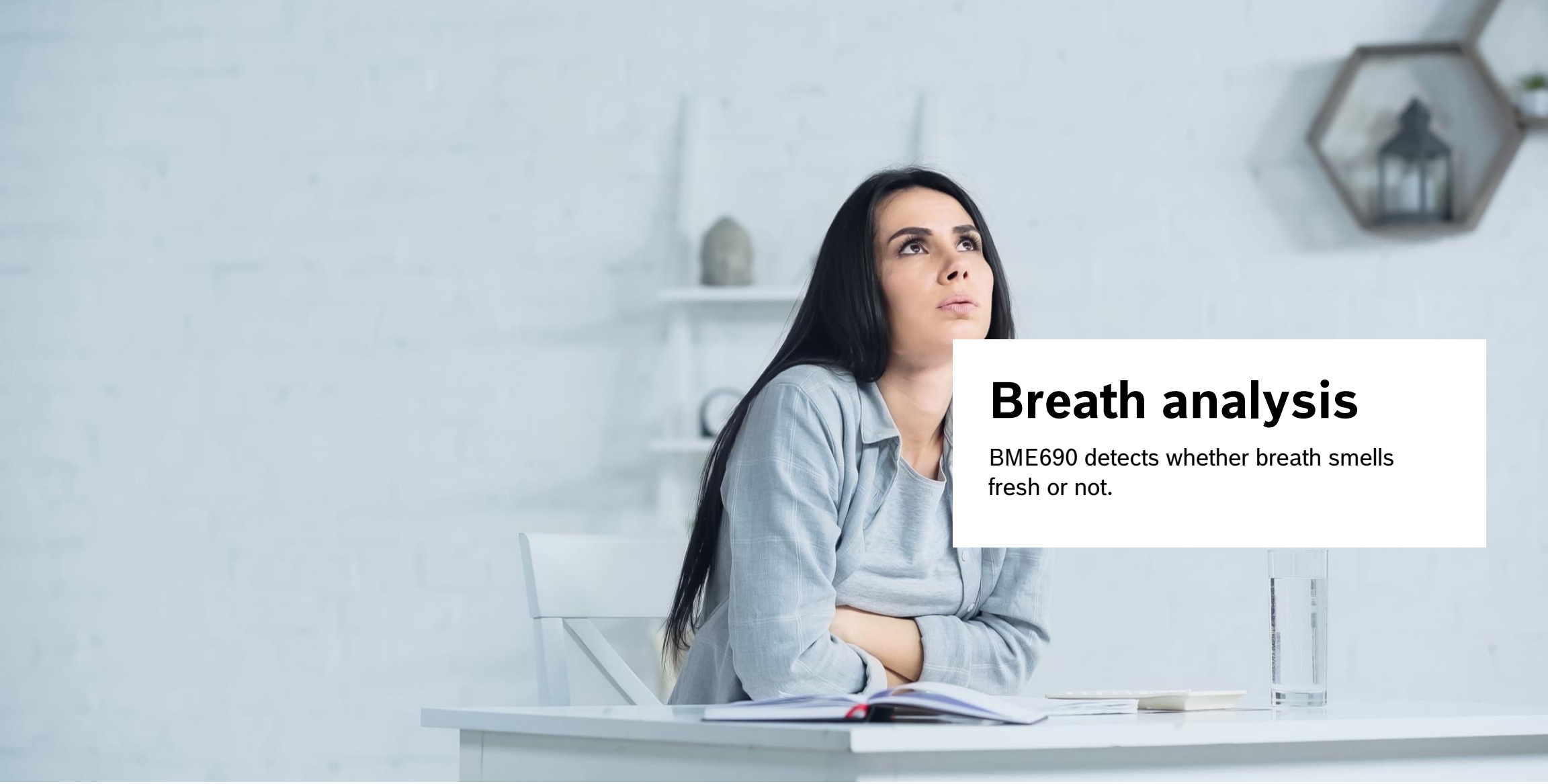
Train the specific use case

Deploy the algorithm model for individual application

Indoor air quality detection

Is it time to air out the living room? The BME690 detects high VOC levels caused by cleaning, cooking or other VOC sources.

BOSCH



Breath analysis

BME690 detects whether breath smells fresh or not.

BOSCH

Food freshness detection

The BME690 sensor can detect when food starts to spoil. This avoids wasting food.

BOSCH

BME690
Technical features

Dimensions
3 x 3 x 0.93 mm³

Temperature
Range: -40 - +85 °C
Accuracy: ±0.5 °C

Humidity
Range: 0% - 100%
Accuracy: ±3%

Pressure
Range: 300- 1100 hPa
Accuracy: ±0.5 hPa

Gas
Index for Air Quality (IAQ),
bVOC- & CO2-equivalents (ppm)

Current consumption
50 µA at ULP mode (300 sec) for p/h/T & air quality
0.5 mA at LP mode (3 sec) for p/h/T & air quality
0.11 µA in sleep mode
3.1 mA in standard gas scan mode

Interface
I²C (up to 3.4 MHz)
SPI (3 and 4 wire, up to 10 MHz)

Supply Voltage
VDD main supply voltage range: 1.71V to 3.6V
VDDIO interface voltage range: 1.2V to 3.6V

GET IN TOUCH WITH US

www.bosch-sensortec.com

community.bosch-sensortec.com

linkedin.com/company/bosch-sensortec

youtube.com/user/BoschSensortec

@BoschMEMS

BOSCH