

TECHNOLOGY SHOWCASE: **BIOCORP'S INSPAIR™**

BIOCORP



Figure 1: Inspair™ sensing technology for inhalers.

AN INTEGRATED SOLUTION TO DIGITALISE INHALED THERAPIES

Airflow – caused by lung ventilation – has a critical impact on inhaled particle deposition. Thus, it seems evident that successful dose delivery requires a complex combination of mechanical conditions involving optimal airflows.

This is the reason why Biocorp has developed Inspair™, a sensing technology able to measure inhalation metrics and therefore provide an accurate insight into actual doses consumed. When it comes to obstructive lung disease, this information provides significant benefits both to end users and healthcare professionals.

Any pressurised metered dose inhaler (pMDI) can be enhanced with Inspair's smart sensor (Figure 1) and thus take advantage of this highly effective digital health platform.

READY TO BE QUICKLY ADAPTED TO EXISTING INHALERS

Inspair is a smart sensor that can be attached to pMDIs to track every inhalation. The sensing device has been designed to be very compact with three separate pieces: the sensor part, the plastic mouthpiece and the cap.

Without changing the recommended use of inhalers, Inspair smart sensor is a user-friendly device compatible with a wide range of pMDI. Inspair's modular design ensures a perfect fit with very different mouthpiece shapes: the removable sensing part remains unchanged and only the plastic mouthpiece requires customisation. Thus, Inspair technology can be easily adapted to a large range of inhalers – reducing significantly the time to market.

NEW POSSIBILITIES FOR ASTHMA/COPD CARE

The Inspair inhalation tracking system provides unique insights into inhaled therapy and supports patients, enhancing respiratory disease self-management. It brings numerous advantages, including:

- Better breath-hand co-ordination. Lack of co-ordination is a significant problem among pMDI users and affects the actual dose delivered.



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- Measurement of inhalation depth and speed. This is a major concern for patients with highly constricted airways, so inhalation metrics bring precious support, improving medical decision-making.
- Measurement of inhaled dose. This critical information is needed to improve treatment compliance.

“Treatment data is accessible through Biocorp’s proprietary platform. This cloud storage solution offers a very high level of protection. Health data and personal data are stored on separate servers. Only a cryptographic pseudonymisation system can associate health data with a personal ID.”

The Inspair tracking system allows patients to access feedback and advice on inhalation technique.

Indeed, using inhalers requires end users to follow complex handling instructions with several operations to be performed in a specific sequence. Inspair can be used as an education tool helping patients improve their inhalation technique, improving therapeutic outcomes and saving time for healthcare professionals.

Treatment data collected in between medical visits is critical for assessing the persistence of and compliance with an inhaled therapy. Hence, Inspair is a

valuable solution supporting physicians in the management and monitoring of large patient populations – directly from their mobile phone.

Treatment data is automatically stored in an exhaustive treatment history allowing pharma companies and CROs to streamline clinical trials to achieve more cost-effective clinical development.

CONNECTIVITY & WIRELESS TRANSFER SECURED BY DESIGN

Health data are protected from the collection point – Inspair smart sensor – to the storage platform (Figure 2). Data are encrypted in the sensing device and thereafter transferred – via Bluetooth Low Energy (LE) – to a mobile phone pushing data to a secured platform. For security reasons and for enabling multi-device use, no data is stored on the mobile phone.

Treatment data is accessible through Biocorp’s proprietary platform. This cloud storage solution offers a very high level of protection. Health data and personal data are stored on separate servers. Only a cryptographic pseudonymisation system can associate health data with a personal ID.

Biocorp’s online proprietary platform is compliant with European data protection law and is certified HDS (the French certification for health data storage, compliant with L’Agence Francais de la Santé Numérique (ASIP) guidelines). Finally, a strong authentication system secures end-users access to health data.

OPTIMISING TREATMENT PERSISTENCE & COMPLIANCE

The main end user interface is a customisable mobile app (iOS/Android) and web-

platforms can be designed to let healthcare professionals access their patients’ data.

Inspair transforms a smartphone into companion software allowing the patient to provide complementary information like daily symptoms or trigger factors. Reminders and alerts features keep patients and their caregivers informed throughout the treatment period. Coaching services can be added to help patients better manage their condition and motivate them to continue their efforts.

“Inspair technology is more than a smart cap for counting doses. Inspair is an integrated health solution that digitalises inhaled therapies through an open sensing device collecting unique drug delivery metrics and a secured platform protecting patients’ health data.”

CONCLUSION

Inspair technology is more than a smart cap for counting doses. Inspair is an integrated health solution that digitalises inhaled therapies through an open sensing device collecting unique drug delivery metrics and a secured platform protecting patients’ health data. Inspair enables personalised care and actively engages patients and their caregivers with their long-term treatment requiring daily effort and motivation.

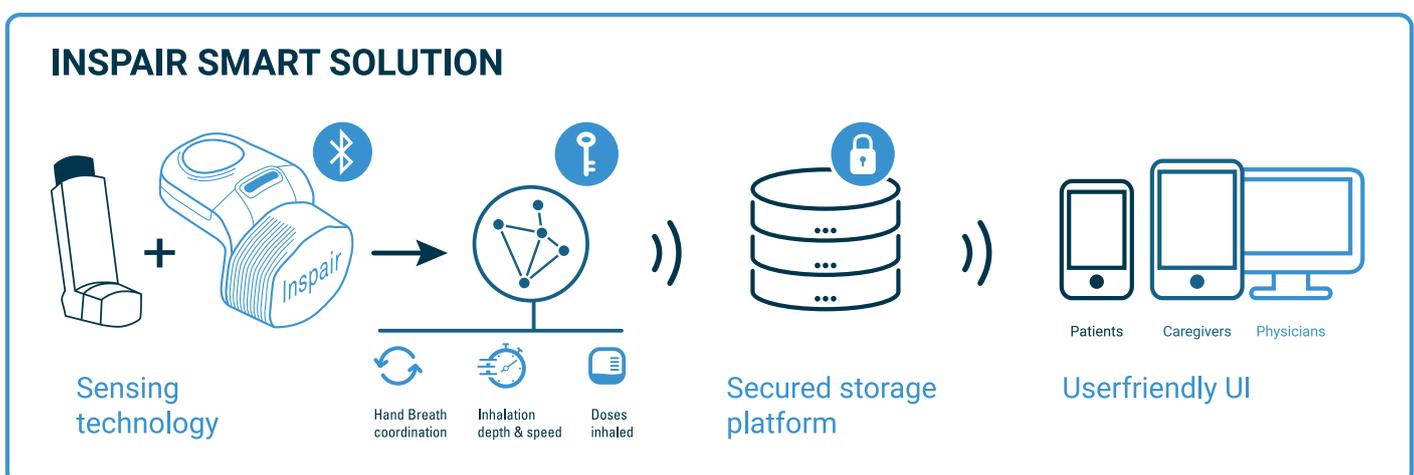


Figure 2: Inspair™ – a smart solution ensuring high data protection standards.

Ready to boost your inhaler ?



Inspair, sensing technology compatible with inhalers



01 Sensing technology

Provides unique insights on inhaled therapies



- Hand-breath coordination
- Inhalation depth & speed
- Doses Inhaled

02 User friendly interface

Gives useful feed back to improve inhalation technique



03 Secured platform

Ensures health data storage and sharing with high protection standards

