

Gilbert Technologies

recognized by **MED TECH** magazine as
OUTLOOK

TOP 10 RESPIRATORY DEVICES SOLUTION PROVIDERS - 2019

*The annual listing of 10 companies that are at the forefront of providing
Respiratory Devices solutions and impacting the industry*

COMPANY:

Gilbert Technologies

WEBSITE:

gilberttechnologies.eu

KEY PERSON:

Maurits Huigen,
COO

George Hersbach,
CEO

Scott Fleming,
CTO

Frans van Leuven,
CFO

DESCRIPTION:

Designs and develops medical inhalation devices with monodisperse aerosol technology that enables medication to reach in the specific region of the lungs

TOP 10 RESPIRATORY DEVICES SOLUTION PROVIDER - 2019

Technological advancements have ushered in new ways of interacting in all areas of our lives. The pharmaceutical and healthcare sector, which is rather known to be slow to adopt digitization, has also recently witnessed innovations across its diverse therapeutic areas. Take, for instance, the respiratory healthcare area. Today, technology has been a boon for fueling the expansion of respiratory devices in home and alternate care settings across the world. With more than 100 million suffering from COPD (Chronic Obstructive Pulmonary Disease) and 300 million people affected by asthma, respiratory device solution providers are pioneering changes to enable patients to regain control and live the life that they want. By offering cutting-edge devices and solutions for functions such as patient education, sleep apnea testing, CPAP (Continuous Positive Airway Pressure) treatment and home oxygen therapy, and many more, they have made it easy for patients to engage with care and integrate it into everyday life. On the flip side, these solutions have also made it easy for clinicians to identify unmet clinical needs, thereby improving patient outcomes and a reduction in costs.

The digital respiratory market is still emerging, yet some major players have already established themselves by introducing purpose-driven innovations through their unique product-lines. In this edition of "MedTech Outlook 2019", we are focusing particularly on such pioneering respiratory devices solution providers. In order to help patients, and healthcare specialists, opt for the best and form some deep insights about it, we have shortlisted the top players from this arena.

We present to you the MedTech Outlook's "Top 10 Respiratory Devices Solution Providers -2019".

Gilbert Technologies

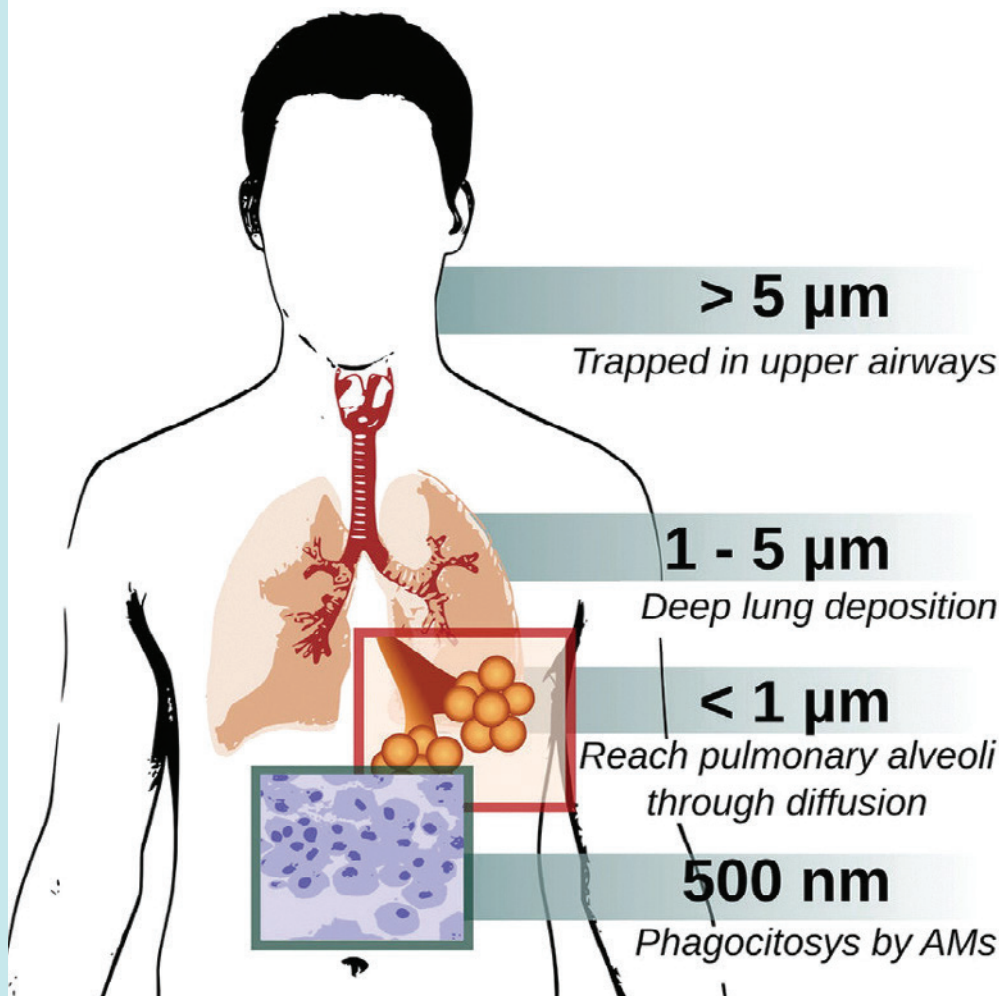
New Generation Soft Mist Technology for Precise Pulmonary Drug Administration

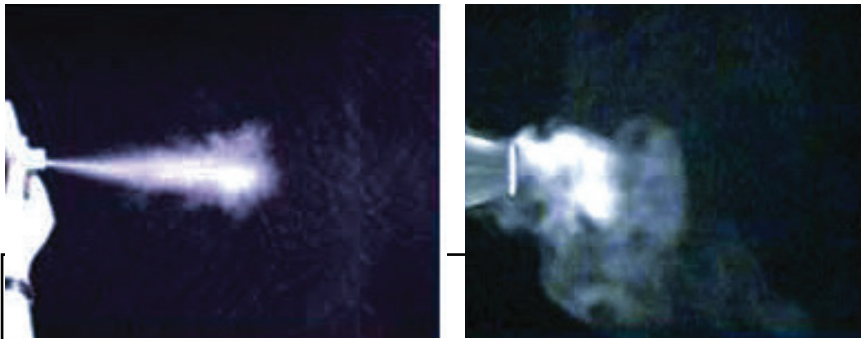
The treatment of more severe lung diseases is accompanied by therapy with complex expensive pharmaceuticals, like f.i. biologicals or oncological drugs, that are administered to the patient currently either orally, intravenously or subcutaneously. It's well acknowledged that the administration of pharmaceuticals directly to the lung is more effective. Ease of use is one reason why inhalers have been historically popular. However, when it comes to treating severe lung conditions like cystic fibrosis (CF), severe asthma, or lung cancer, dry powder inhalers (DPIs) and metered dose

inhalers (MDIs) available in the market have limited capabilities. Recognizing the imperative need for an effective pulmonary drug administration, Netherlands-based Gilbert Technologies brings to the table, Electro Hydro-Dynamic Atomization (EHDA) or 'Electrospray' technology for aerosolization and precise medication. Their inhaler device, currently in development with Philips Innovation Services (PIInS), will simplify the inhalation technique for patients, enable enhanced drug administration, therapy adherence, and reduce the cost of treatments. "Our patented EHDA electro-spray technology makes it possible to

deliver therapies in a targeted way to patients through inhalation, making treatment more effective," says Maurits Huigen, COO of Gilbert Technologies.

Electrospray features variable aerosol particle size, which enables the medication to target the bronchial tree. The underlying technology breaks up the liquid jet drug formulation into droplets under the influence of electric forces. Depending on the condition and medication dosage, the droplet size can be varied within a narrow interval creating a uniform and monodisperse aerosol. Controlled droplet size enables the deposition





Typical MDI plume pattern (left) versus EHDA soft plume pattern (right)

of medication at the right place in the lungs. “Since the generated aerosol is a soft mist, it is more comfortable and convenient for patients to inhale than dry powder,” adds Huigen.

The functioning of the device gives Gilbert a competitive advantage over other inhalers in the market. The formulation is pumped through a nozzle at a low flow rate where an electric field is applied between the nozzle and the counter electrode of the inhaler device. The formulation then breaks down to generate a soft mist of monodisperse droplets.

Moreover, controlled droplet size gives physicians the ability to initiate precise and effective drug deposition into the specific parts of the lungs. The EHDA technology therefore has the potential to reduce side effects compared to current systemic administration of the selected group of compounds. As such, Gilbert’s inhaler devices promote smarter medication strategies by enabling lowering dosages, frequency of intake, and with the least side effects. All these advantages improve patient adherence to the treatment. The offering finds the best use in the effective treatment of CF, severe asthma, oncology, pulmonary arterial hypertension, as well as non-CF

bronchiectasis, chronic obstructive pulmonary disease, idiopathic pulmonary fibrosis, transplantation, and pain management.

Recently, Gilbert Technologies has joined hands with Louvain Drug Research Institute (LDRI) to improve therapy for CF-patients. The combination of Gilbert’s soft mist inhalation technology with LDRI’s improved formulation of a long-acting PEGylated

“
Our patented
EHDA
electrospray
technology
makes it possible
to deliver
therapies in a
targeted way to
patients through
inhalation,
making
treatment more
effective

rhDNase will potentially reduce the burden of the disease of this treatment used regularly by CF-patients. The company has also received funding from Brabant Startup Fonds (BSF), an organization that proactively focuses on supporting companies for affordable and improved healthcare innovations, in the Netherlands province of Noord-Brabant. Working as a technology partner in the region, Gilbert Technologies will work with BSF and PInS for further development and improvement of the effectiveness of expensive medication used for complex lung diseases. Gilbert will bring a turning point in the inhaled pharmaceutical market and new pulmonary drug formulation strategy with its new generation of soft mist technology. 



Maurits Huigen