

REXAM

New advanced solutions for pMDIs

CPhI Russia

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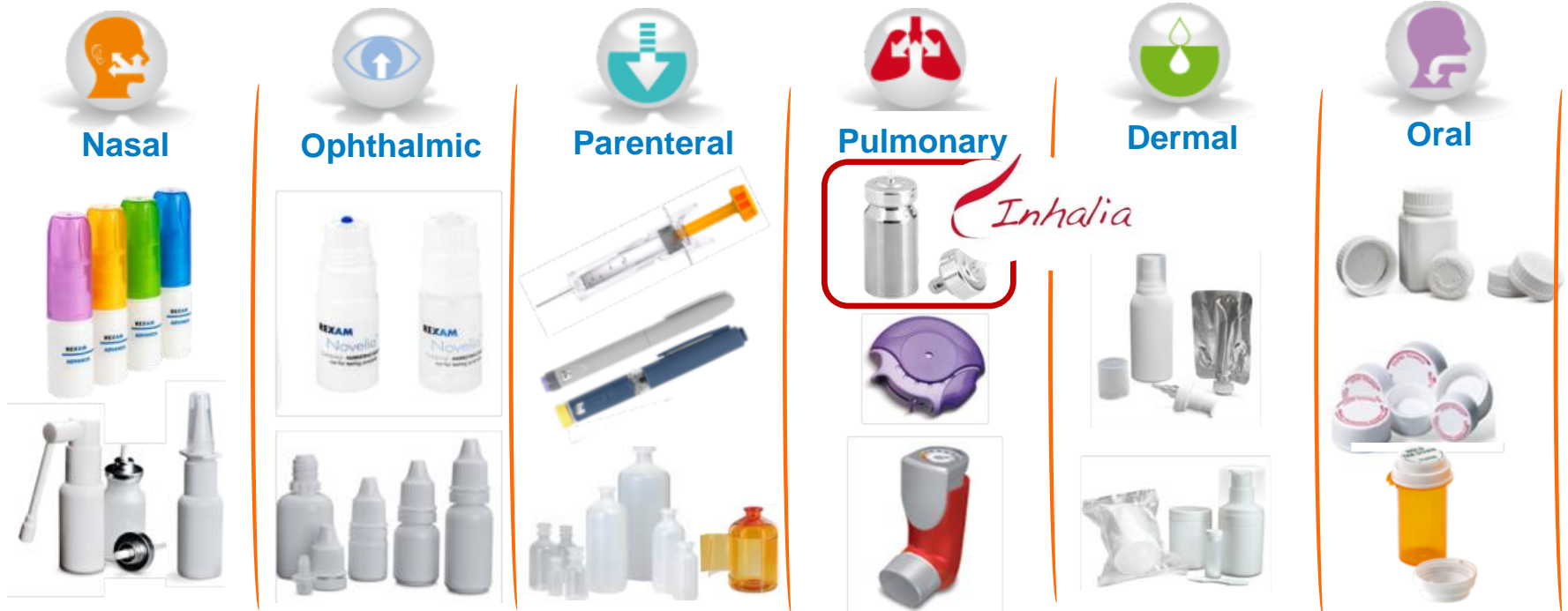
Global Category Manager

Pulmonary segment



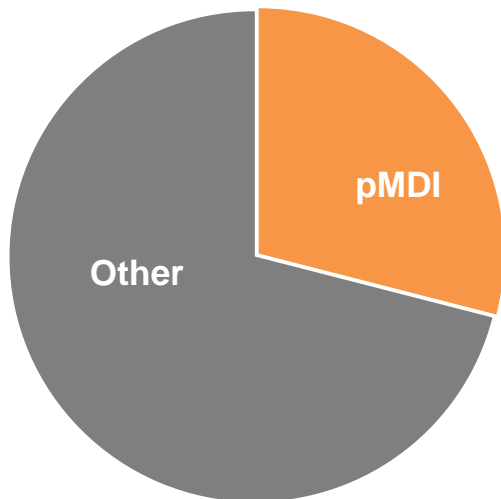
 we put patients first

- ▶ **Leading** manufacturer of **drug delivery systems** and **medical devices**
- ▶ **Wide range of standard products** offering best delivery for every route
- ▶ **Strong product development expertise** for your custom products

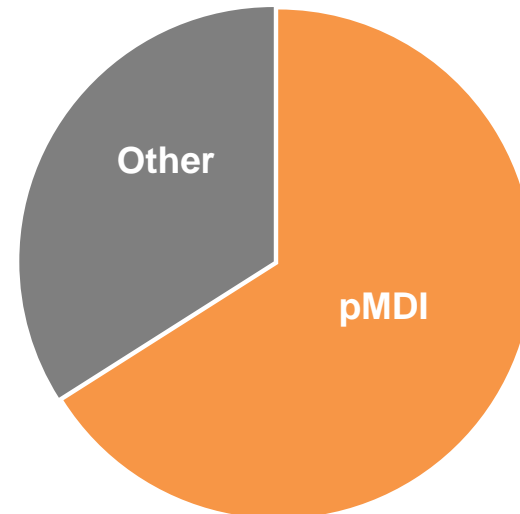


- ▶ Value and volume: two different pictures
- ▶ Continued growth in pressurised metered dose inhaler (pMDI) volumes
 - Attractive cost per dose
 - Growth in prevalence and control
 - Patient preferences

**Pulmonary device market
in \$**



**Pulmonary device market
in units**



Source: Business Insights, Rexam estimates

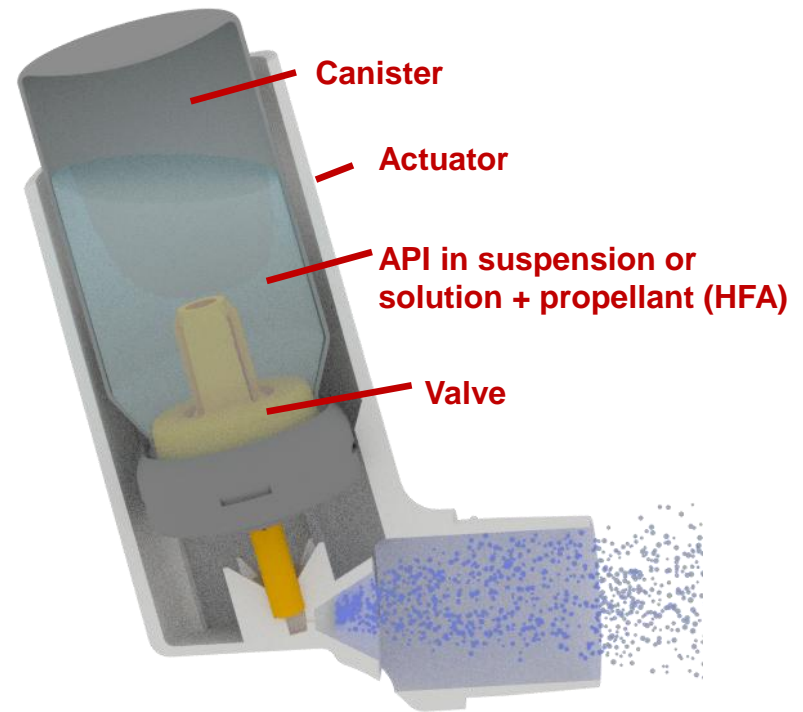
Device to deliver a specific dose of drug to the lungs in the form of a high pressure aerosol

▶ **Key requirements**

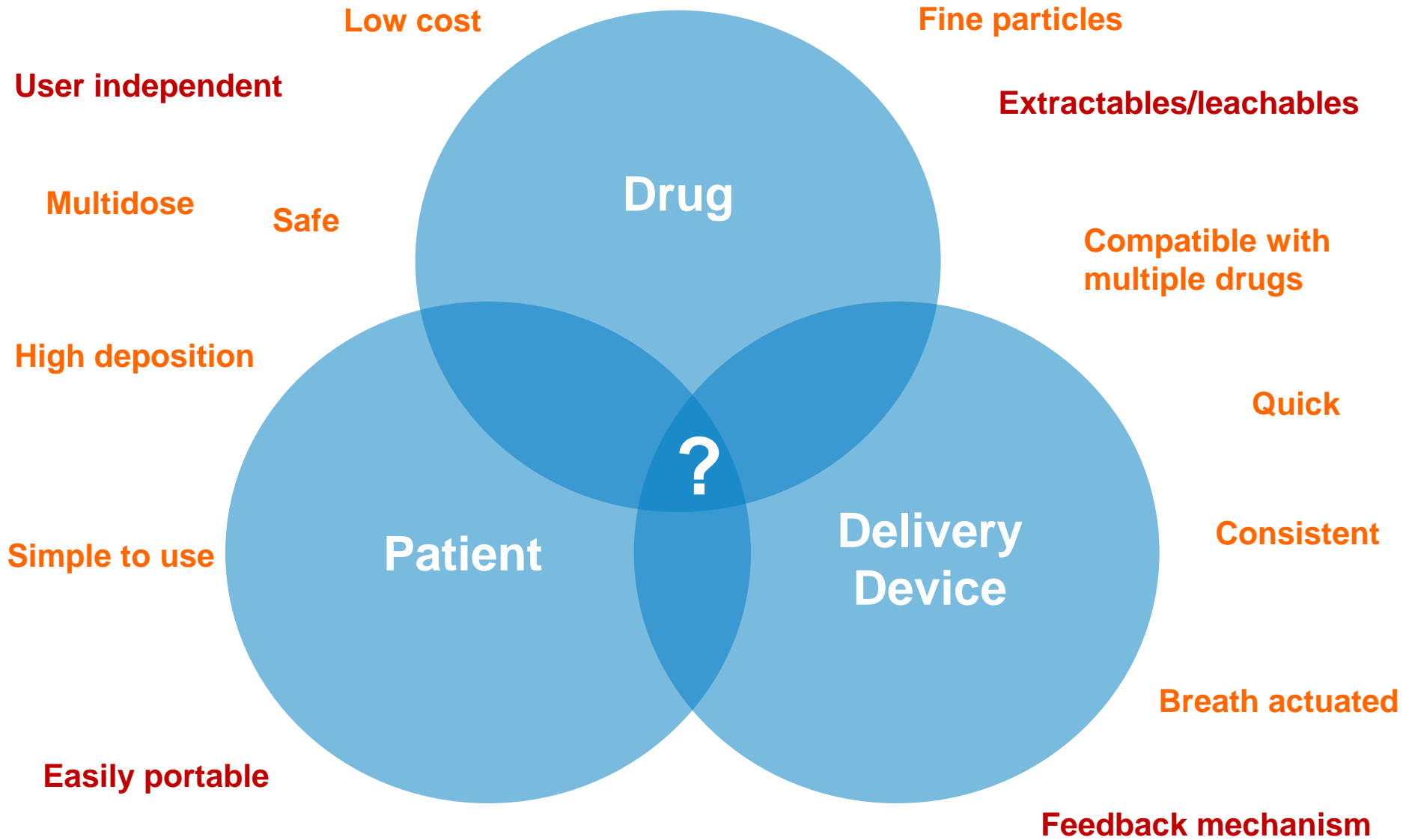
- Consistency and reproducibility of dose
- Optimal fine particle size

▶ **Valve = engine of the system**

- Interaction with the drug
- Performance for proper pulmonary deposition



Looking for the perfect inhaler



Market Trends

- New combinations
- Strong growth of generics
- Systemic treatments
(e.g. insulin, pain treatment, Parkinson's disease, vaccines)
- Targeting niche patient groups

Device requirements

Improved patient compliance 

- Easy and intuitive handling

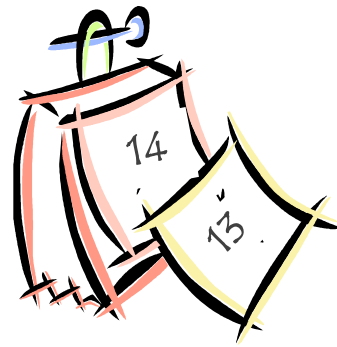
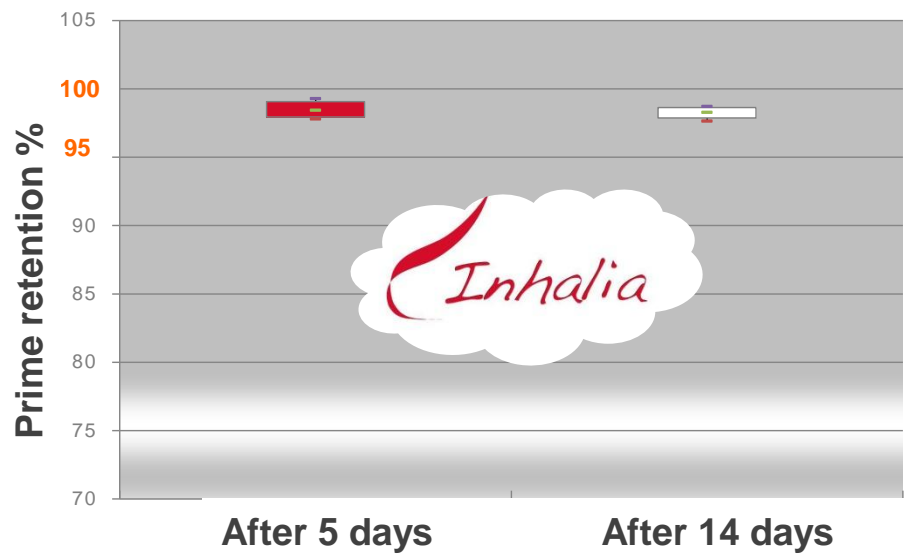
Cost effective solutions 

- Versatility to suit a basket of products
- Performance with new drug classes/molecules
- Delivery of higher amount of drugs
- Sustainable
(e.g. alternative to HFA)

“After not using my inhaler for some time, I have to re-prime to ensure it delivers a full dose. This is very inconvenient and can become dangerous especially in a crisis situation.”



- ▶ **Inhalia®: Improved engine technology and good sealing properties** ensure a full dose for up to 14 days



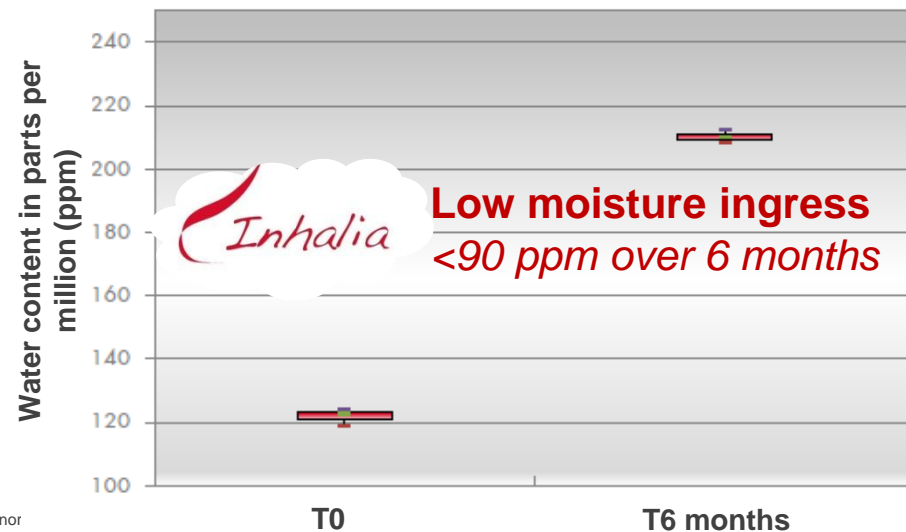
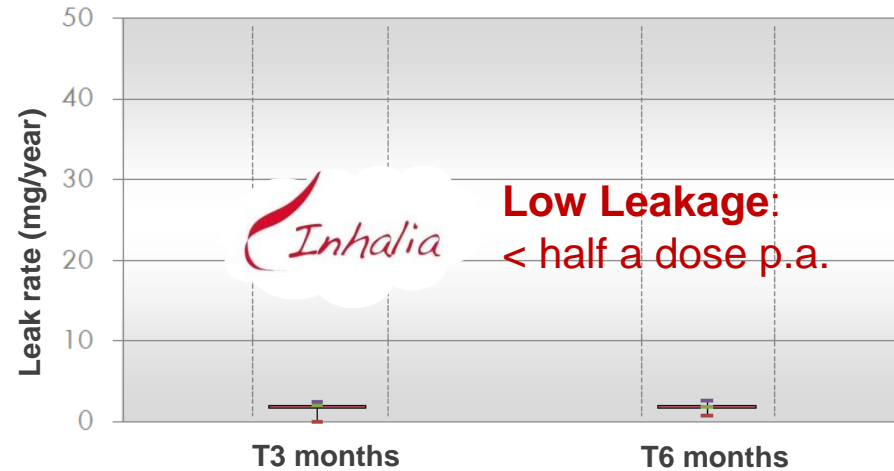
Tightness of the device is crucial for consistency

REXAM

“It is important to me that I can rely on my inhaler to dispense a consistent dose as indicated on the information leaflet”



- ▶ Moisture ingress or leakage can
 - **Negatively impact drug stability**
 - Lead to **dosing problems for the patient**
- ▶ Industry compensates leakage with costly overfill
- ▶ **Inhalia®**
 - Designed for maximum robustness
 - Strong gasket sealing properties
 - Gathering ring for control of moisture



Do you want to know more about our pMDI valve Inhalia® or any of our other products?

Visit us at **Booth 544** and ask for the **complimentary whitepaper**

Inhalia® - the valve of choice for your next pMDI development

▶ Platform

- doses from 40µl to 140µl
- different plastic resins available

- ▶ Engine designed for optimal drug flow path
- ▶ Robust, one piece stem design
- ▶ Chlorobutyl gasket for good sealing properties
- ▶ Validated with HFA and up to 15% ethanol content



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