

LEADING IN  
PRODUCTION  
EFFICIENCY



# Paint separation: Think green! Think dry!

October 23, 2019  
Bietigheim-Bissingen

[www.durr.com](http://www.durr.com)

# Dürr dry separation family

Efficient – Robust – Green – Individual



EcoDryScrubber



EcoDry X



Together we select the best systems for your requirements / expectations from the Dürr dry separation family

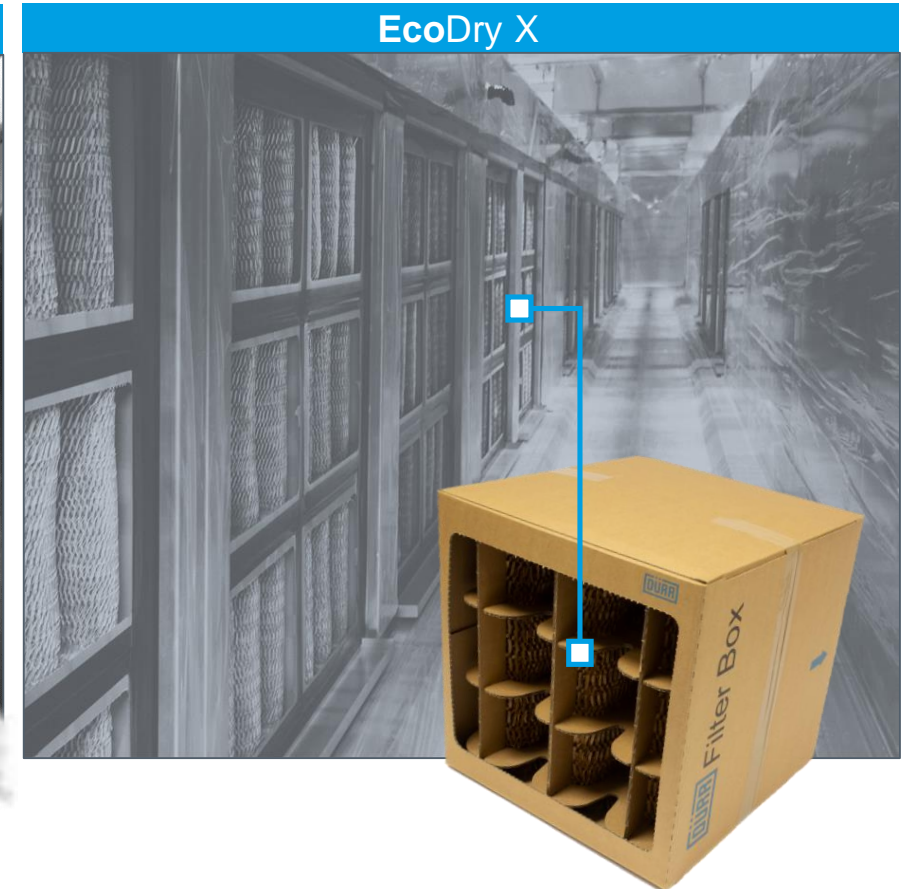
# Dürr dry separation family

Think green! Think dry!



## Your benefits

- No chemicals
- No bacteria growth
- No special skills needed
- No odor nuisance
- No paint sludge disposal
- Low sound emission
- Low opex
- Low capex



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# EcoDryScrubber – Dry overspray separation



## Automatic and efficient

- Single stage filter system
- Suitable for all paints
- Fully automatic, self-learning system
- Exhaust air quality  $< 0.1 \text{ mg/m}^3$ \*
- Low running costs
- Proven secondary raw material life cycle in the cement industry

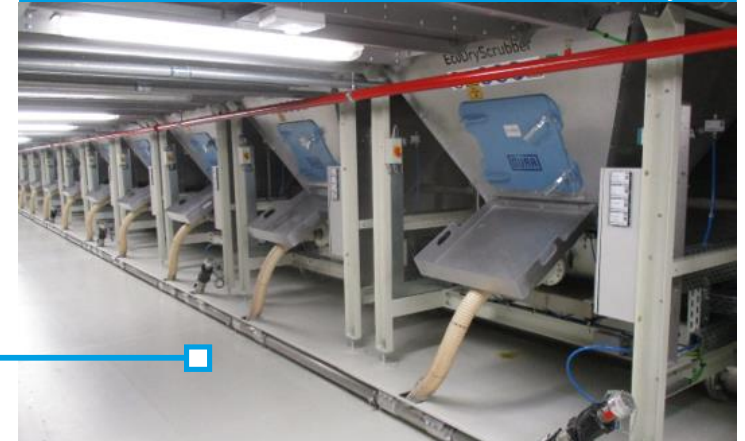
Modular filter module inlets

Walk way below grid level



Permanent access in maintenance area

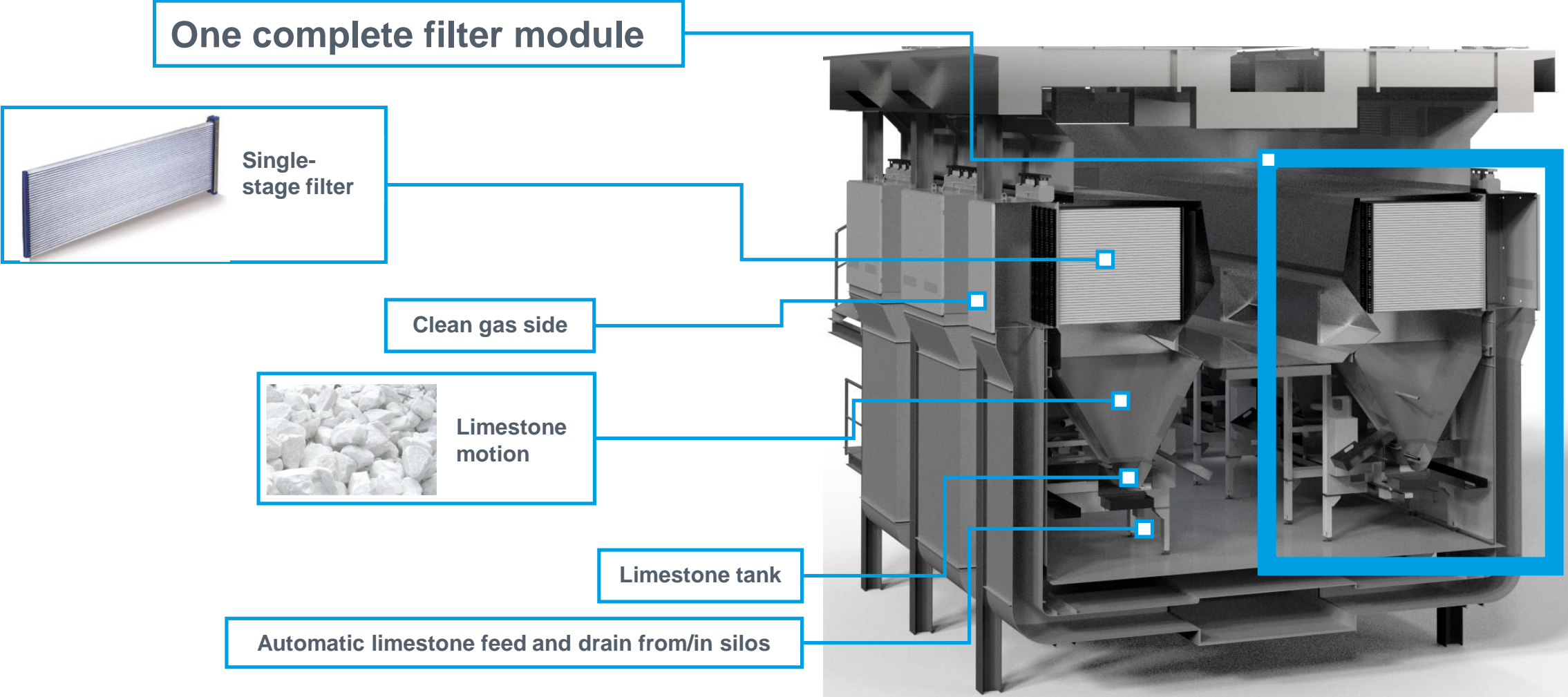
Maintenance area below the walk way



# EcoDryScrubber – Dry overspray separation



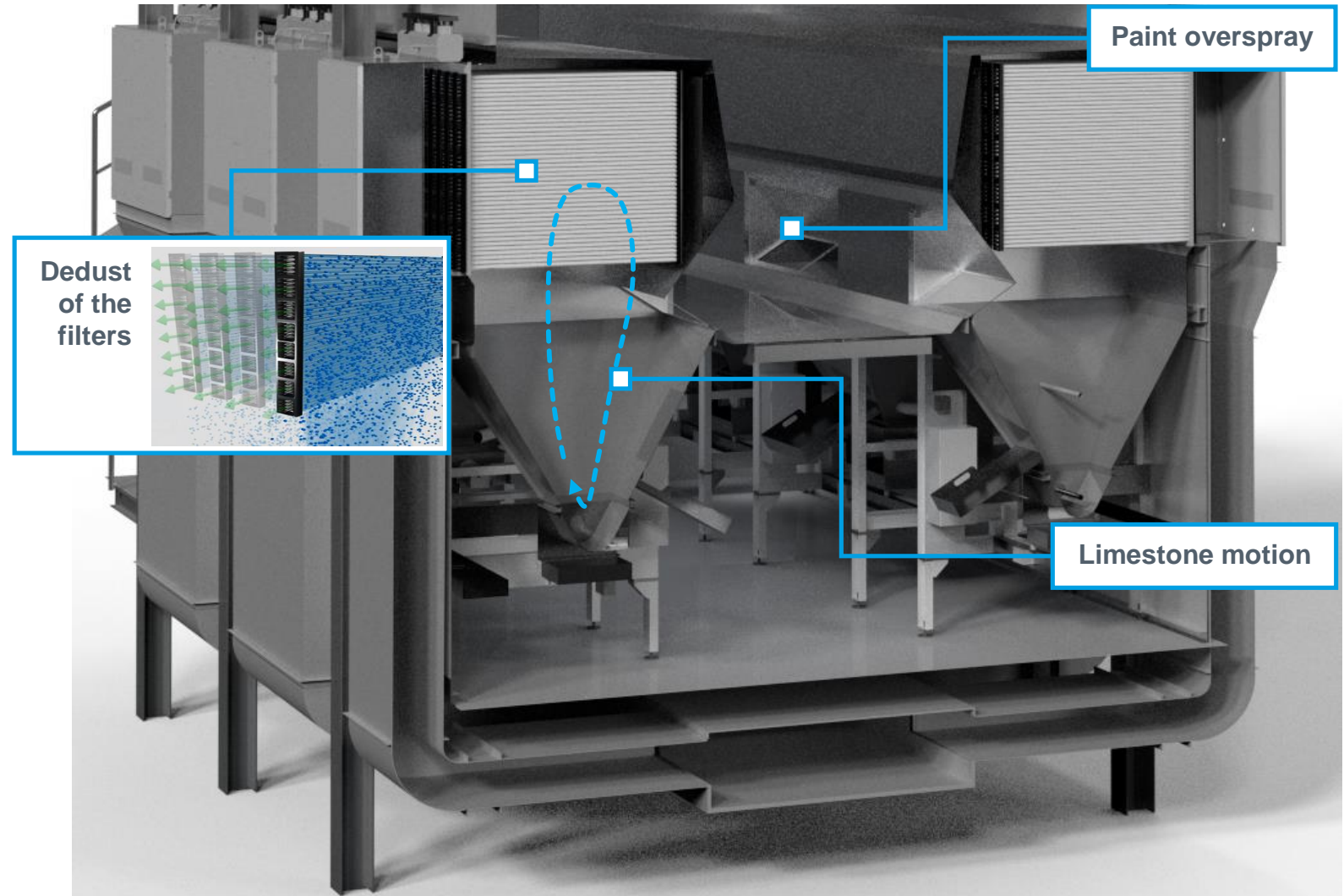
Main components of the system



# EcoDryScrubber – Dry overspray separation

## Filtration of process air with natural limestone as filtration agent

- Cycle-wise whirling of the limestone out of the tank near the filter surface
- Overspray droplets getting captured by limestone particles
- Automatic dedust of limestone-paint mixture
- Renewed whirling, capturing and dedust ↻
- Steady control of the limestone paint saturation
- Limestone changes controlled by intelligent software



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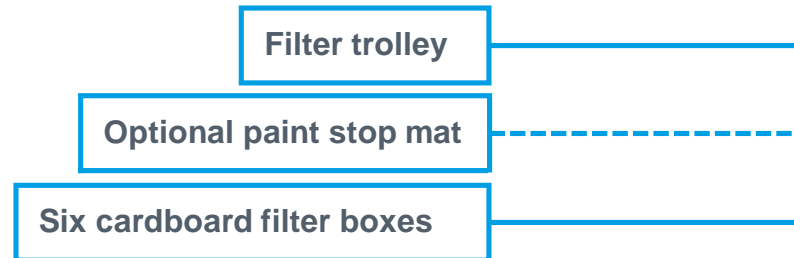


# EcoDry X – Dry overspray separation

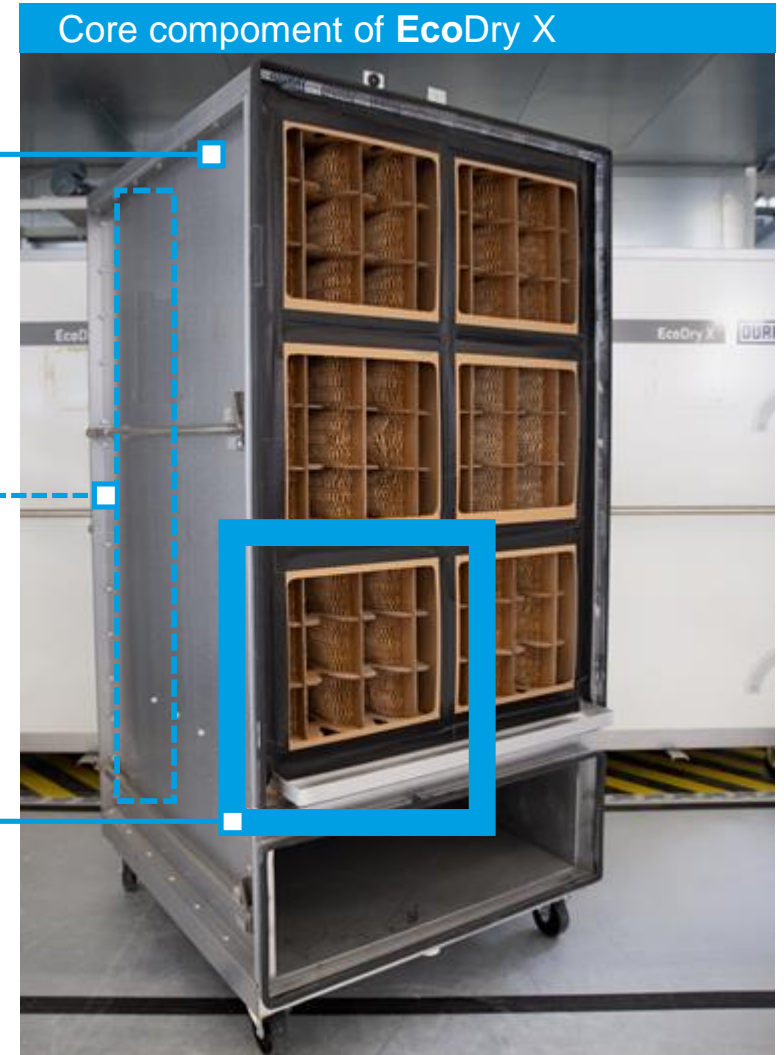
## Simple and robust

### Simple and robust

- Deep filtration inside the cardboard filter boxes
- Cardboard filter boxes as a single-use product
- Easy to maintain – Manual system



- Low running costs
- Exhaust air quality upon customer request, standard 1 mg/m<sup>3</sup>
- Easy handling: from sourcing to disposal

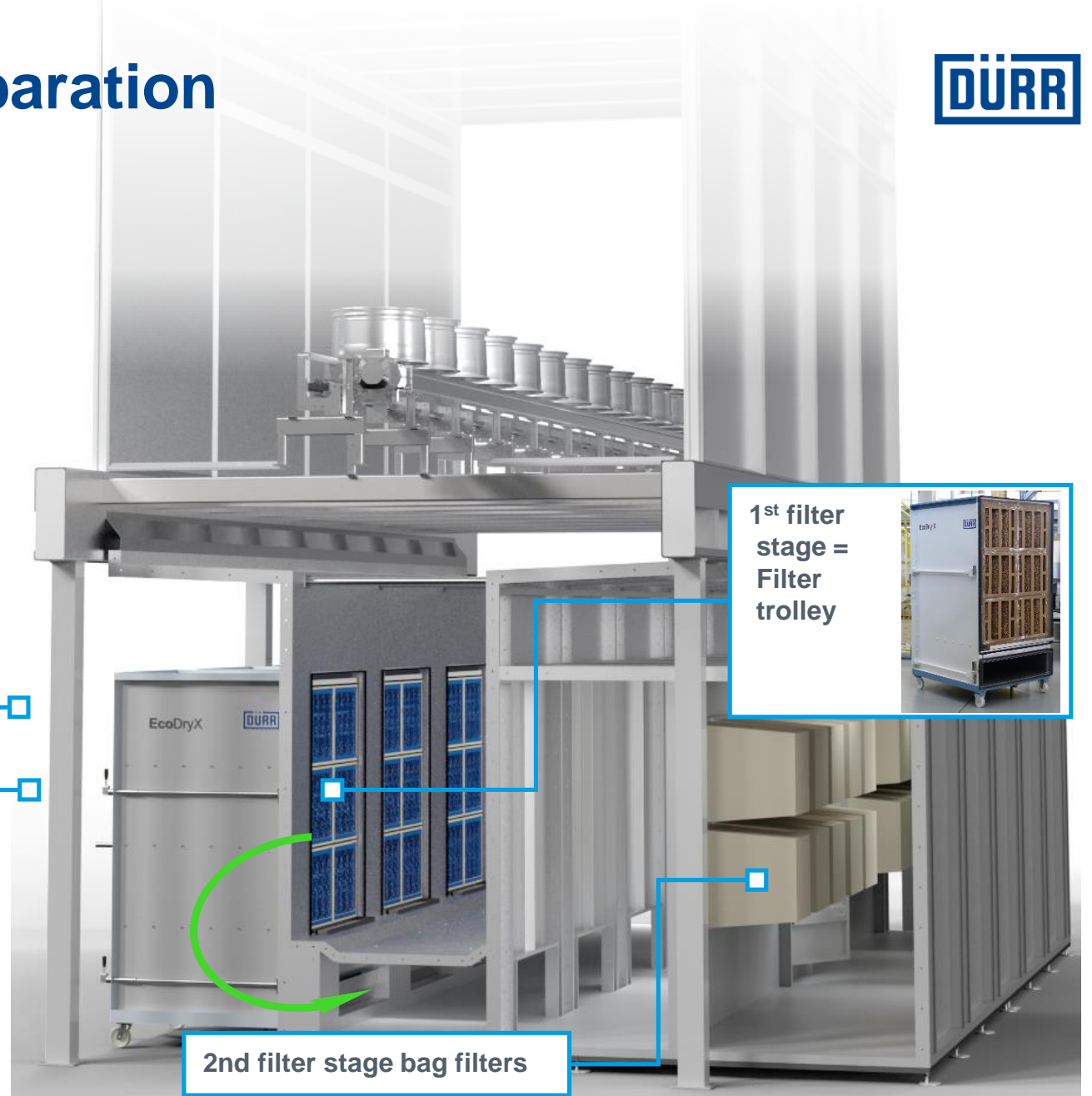


# EcoDry X – Dry overspray separation



## Filtration process

- Two filter stages
  1. Trolley with filter box and paint stop mat
  2. Bag filters (according to requested air quality)
- Trolley changes strongly depending upon overspray amount, jobs per hour and paint characteristics
  - Typical for 20 jph automotive (PR+BC+CC)  
2-4 trolleys per shift in total
  - Project-specific forecast based on an expected amount of overspray



Storage area: filter boxes

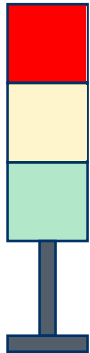
Working area: trolley exchange

2nd filter stage bag filters

1<sup>st</sup> filter stage = Filter trolley

# EcoDry X – Dry overspray separation

## Changing a filter trolley



- Central signal light informs about status **EcoDry X**
- System indicates the filter trolley that needs to be exchanged (*based on skid counter or pressure drop*)
- Prepared filter trolley is ready for use
- Worker unlocks and exchanges the selected used filter trolley with the prepared fresh filter trolley
- Worker locks the filter trolley to the booth interface



### Two Options:

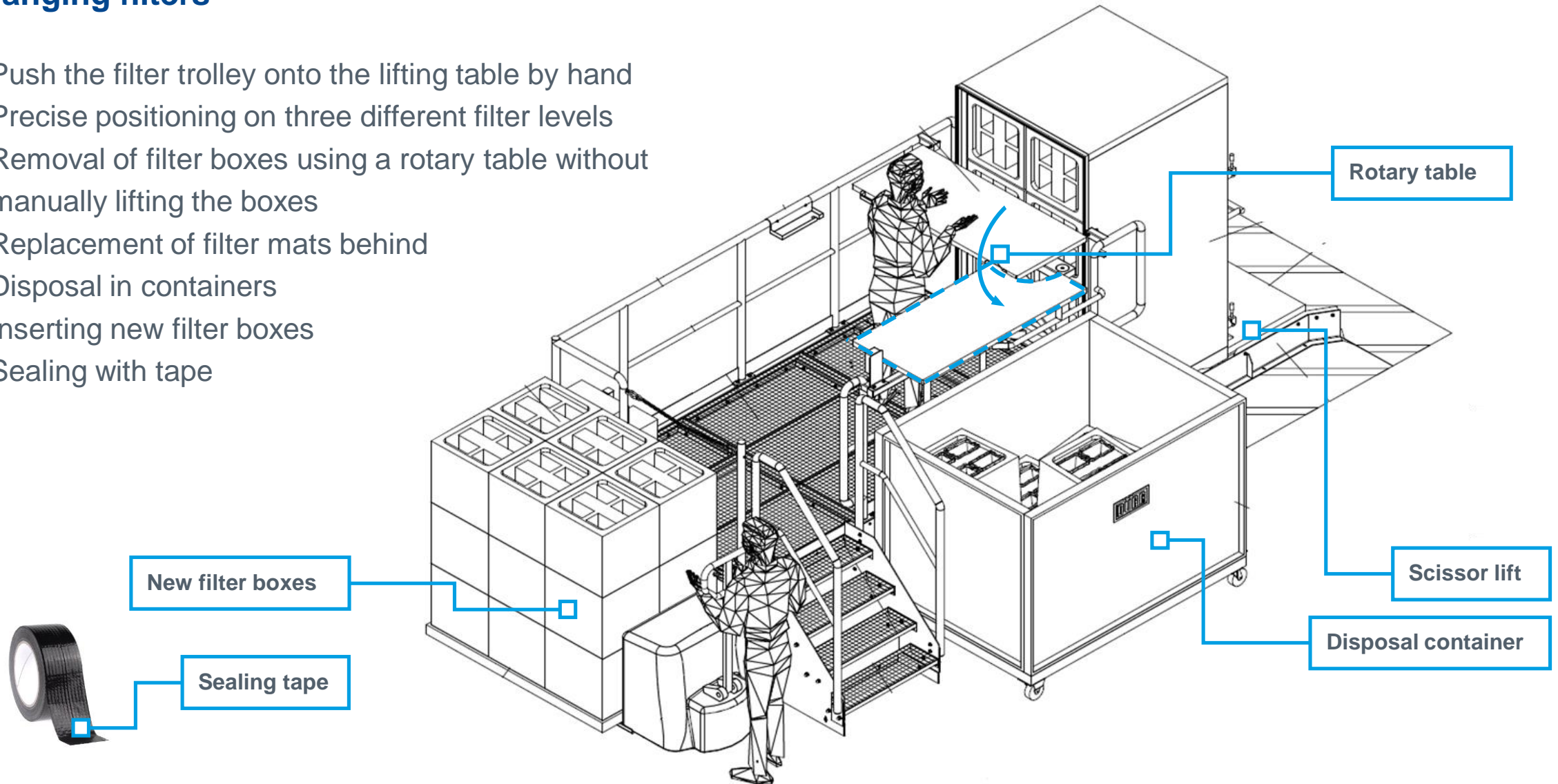
- BASIC – Manual setting of the skid counters
- ADVANCED – Self-learning process with automatic skid counter optimization

# EcoDry X – Dry overspray separation



## Changing filters

- Push the filter trolley onto the lifting table by hand
- Precise positioning on three different filter levels
- Removal of filter boxes using a rotary table without manually lifting the boxes
- Replacement of filter mats behind
- Disposal in containers
- Inserting new filter boxes
- Sealing with tape



# EcoDry X – Dry overspray separation



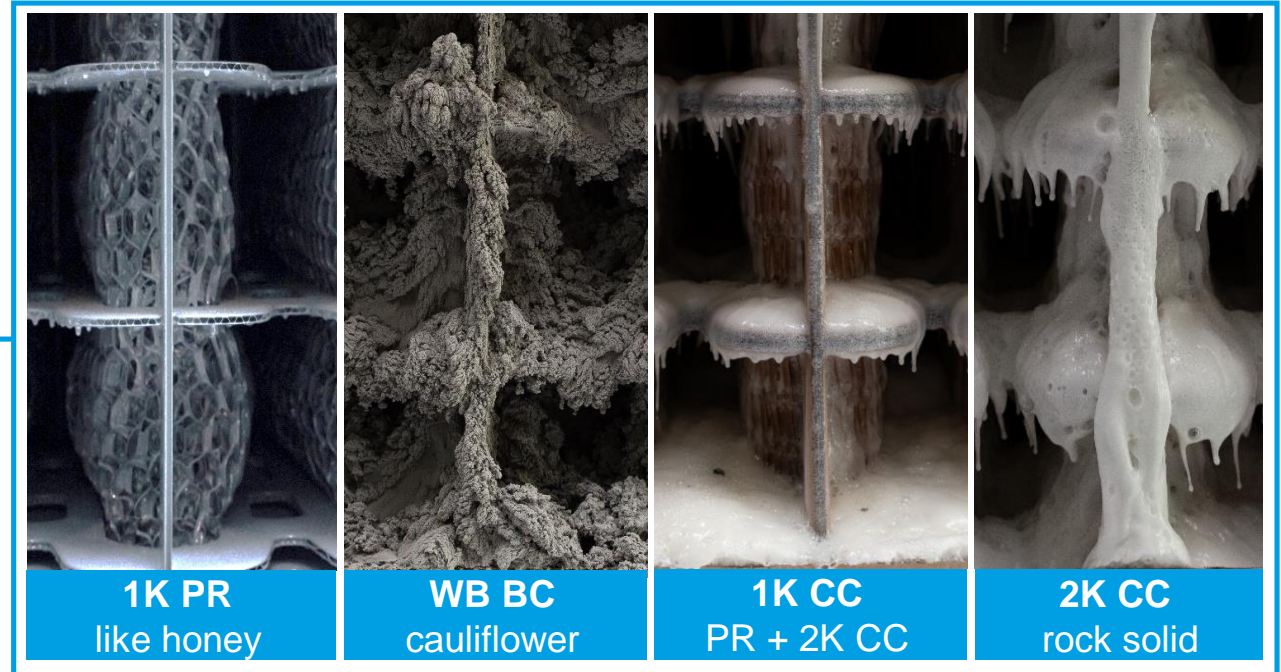
## Dürr filter box X500PV

- In-house development guarantees the best possible efficiency and cost-effectiveness
- Continuous further development for our customers

- Typical paint capacity filter box\*:

1K Primer	18 - 20 kg
WB BaseCoat	8 - 10 kg
1K ClearCoat	18 - 20 kg
2K ClearCoat	13 - 15 kg

- Paint tests for better estimation of the filter box performance
- Estimation of operating costs possible



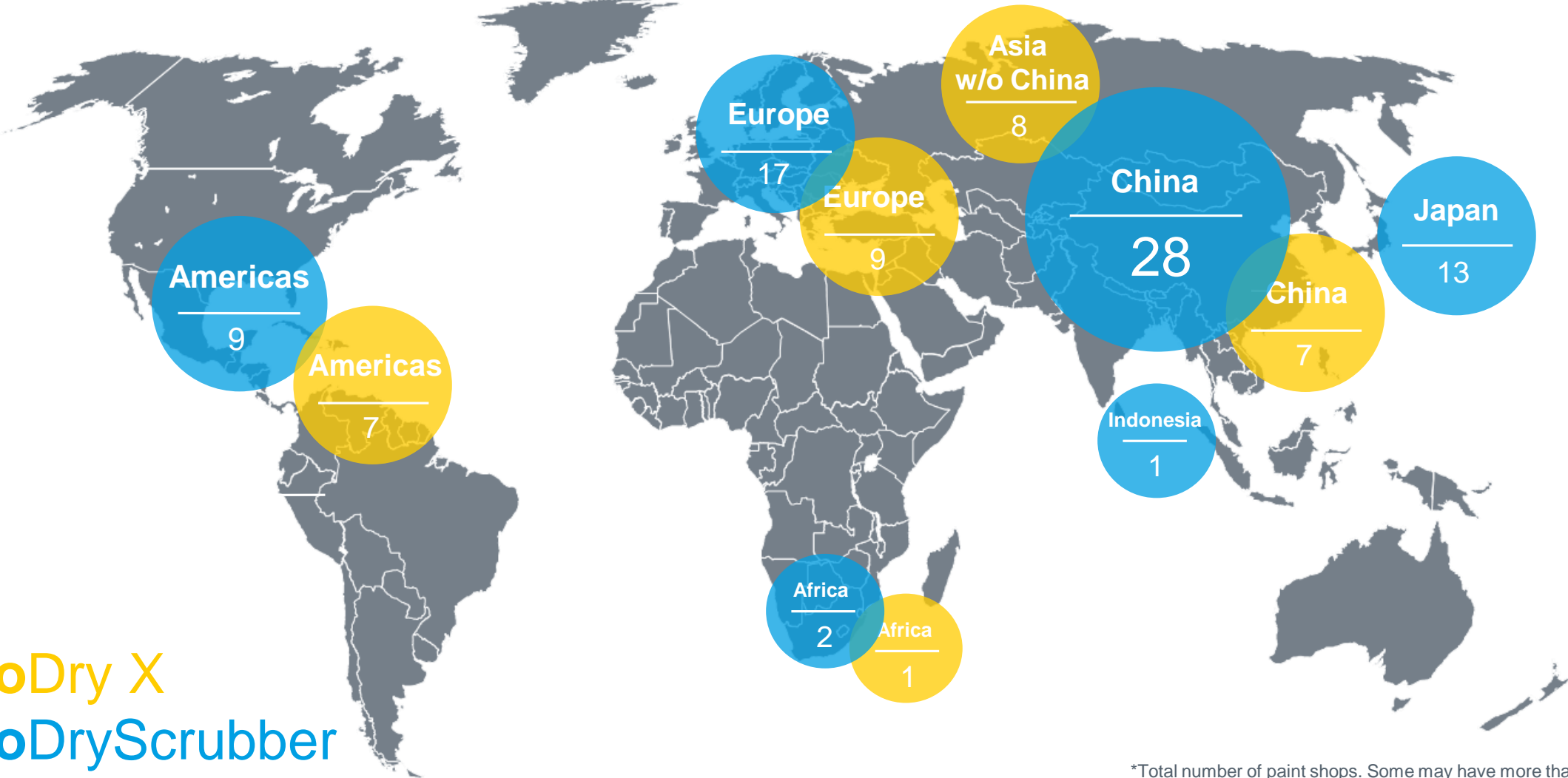
\* Note:

The information on the absorption capacity is based on empirical values from the Dürr Test Center in Bietigheim, as well as automotive customer plants.

These are average values. The final filter consumption depends on the area to be painted, the paint material, the application efficiency, the car body geometry (passenger car), the air conditions, etc. The final filter consumption depends on the surface to be painted. Since all these parameters fall outside Dürr's sphere of influence, the exact filter consumption cannot be guaranteed.

# Dürr dry separation family

## References



EcoDry X  
EcoDryScrubber

\*Total number of paint shops. Some may have more than one line

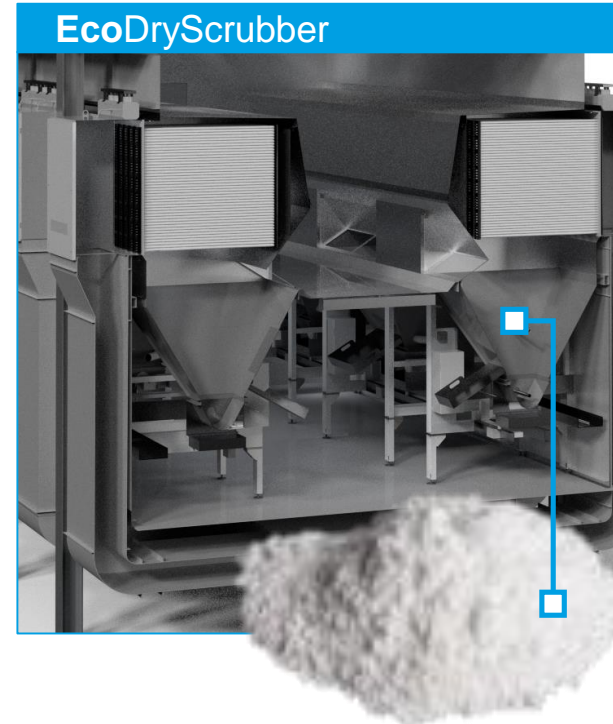
# Dürr dry separation family

Think green! Think dry!



## Benefits of the Dürr – DrySeparation family

- No chemicals
- No bacteria growth
- No special skills needed
- No odor nuisance
- No paint sludge disposal
- Low sound emission
- Low opex
- Low capex



<b>Separating agent</b>	Natural limestone
<b>Emissions</b>	<< 0.1 mg / Nm <sup>3</sup>
<b>Pressure drop</b>	Constant
<b>Operation and maintenance</b>	Qualified personnel
<b>Paint 2<sup>nd</sup> lifecycle</b>	Recycling in cement industry
<b>Features</b>	<ul style="list-style-type: none"> <li>▪ Perfect for fast drying paints</li> <li>▪ Fully automatic</li> <li>▪ Best for high-volume paint shops</li> </ul>

<b>Separating agent</b>	Cardboard filter boxes
<b>Emissions</b>	Upon customer request
<b>Pressure drop</b>	Increasing
<b>Operation and maintenance</b>	Instructed personnel
<b>Paint 2<sup>nd</sup> lifecycle</b>	Thermal recycling
<b>Features</b>	<ul style="list-style-type: none"> <li>▪ Simple, stable process with movable filter trolleys</li> <li>▪ Best result with minimal effort</li> </ul>

# [www.sli.do](http://www.sli.do) Your questions are welcome!



\*Event code: wheels

Ask your questions after the presentations

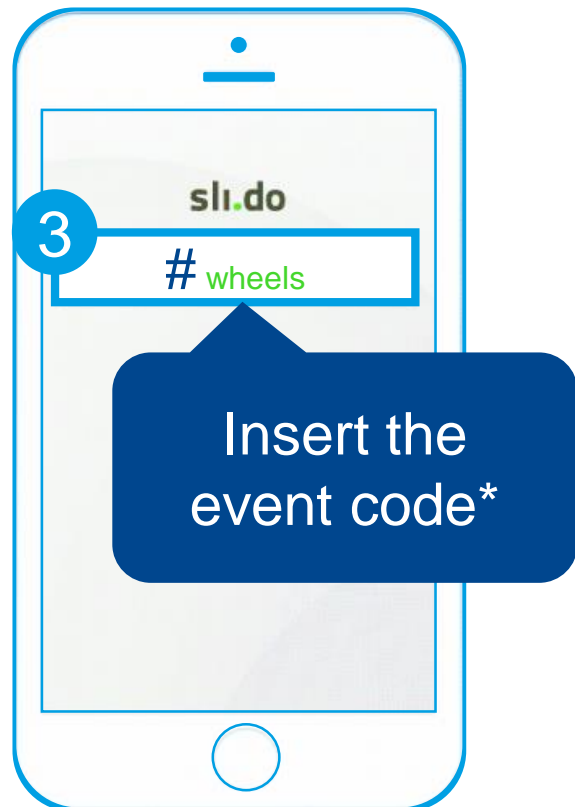
Ask your guides

Use slido for the final panel discussion

1 Open your Browser

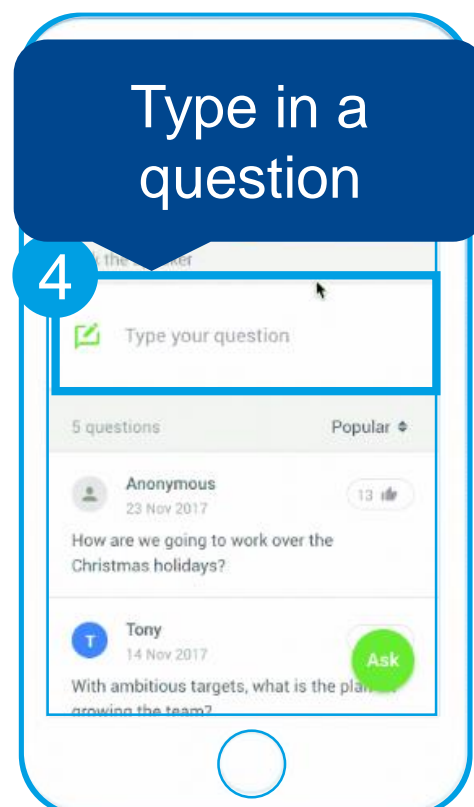
2 Open [www.slido.com](http://www.slido.com)

3




Insert the event code\*

4



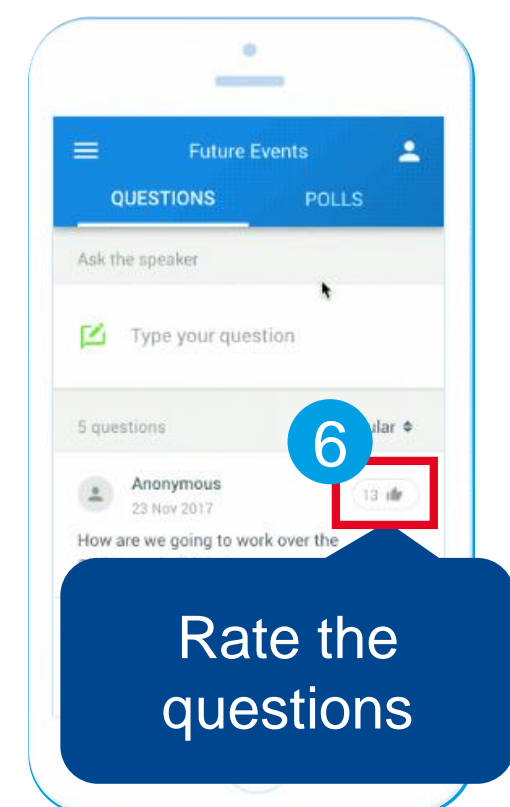
Type in a question

5



Submit the question anonymously or with your name

6



Rate the questions



October 23, 2019  
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# Wheel painting conference

## Think green! Think dry!

“Subject to change. The information in this presentation contains only general descriptions or performance characteristics, which may vary in different cases. The requested performance characteristics are only binding if they are expressly agreed in the contract.”

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