EISENMANN

ATLAS
Advanced Technology for Low-emission Applications and Sustainability

Experience E-Cube in the Web-App!

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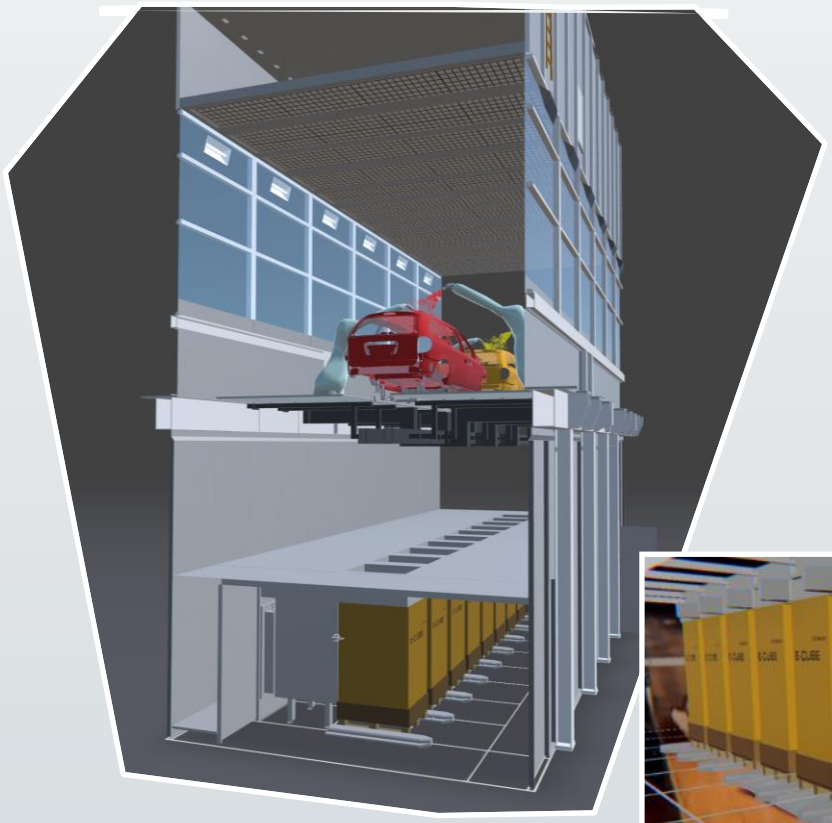
E-CUBE – HOW TO USE THE WEB APP

1. Open the app via the link.
2. Click the blue play button to start the next scene.
3. Zoom in the Paint Shop using the mouse scroll wheel.
4. Move around the Paint Shop by clicking and dragging the left mouse button.
5. Explore the system like in a CAD application.

E-CUBE – PLANT TECHNOLOGY



Dry Scrubber System for Overspray

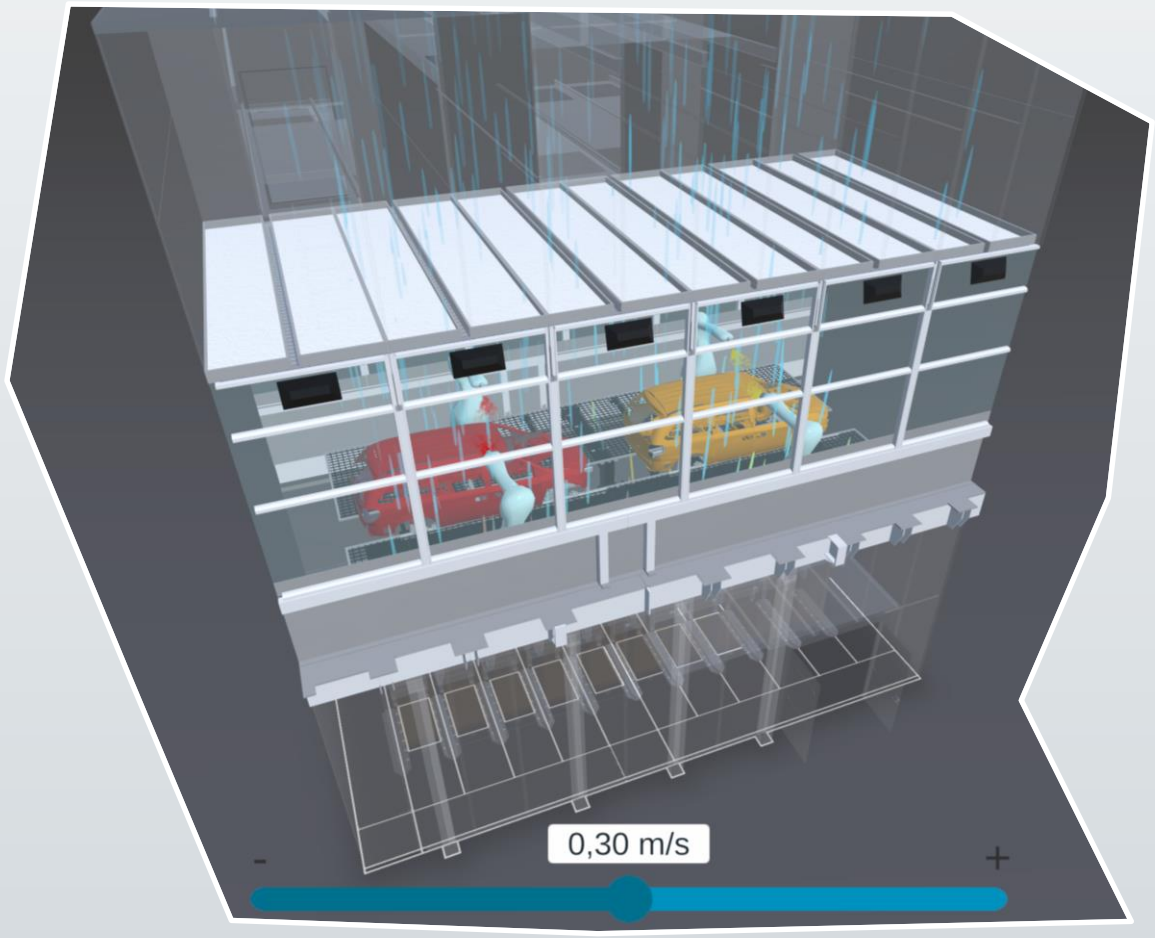
Heart of the Paint Shop

- Paint Booth
- Fresh air supply via Plenum
- Robots and conveying system on grid level
- (Calming room/) expansion room for focus on
- Centralized Filter system

E-Cube

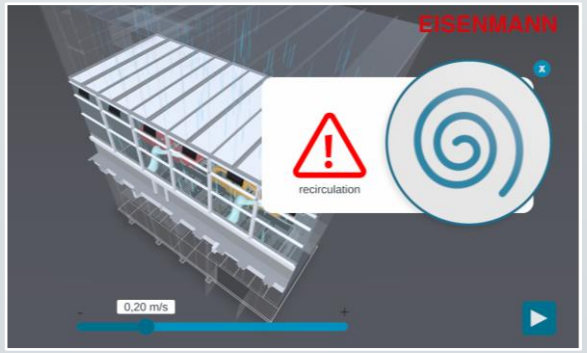
Modular system with 1 module / m booth length

E-CUBE – PLANT TECHNOLOGY

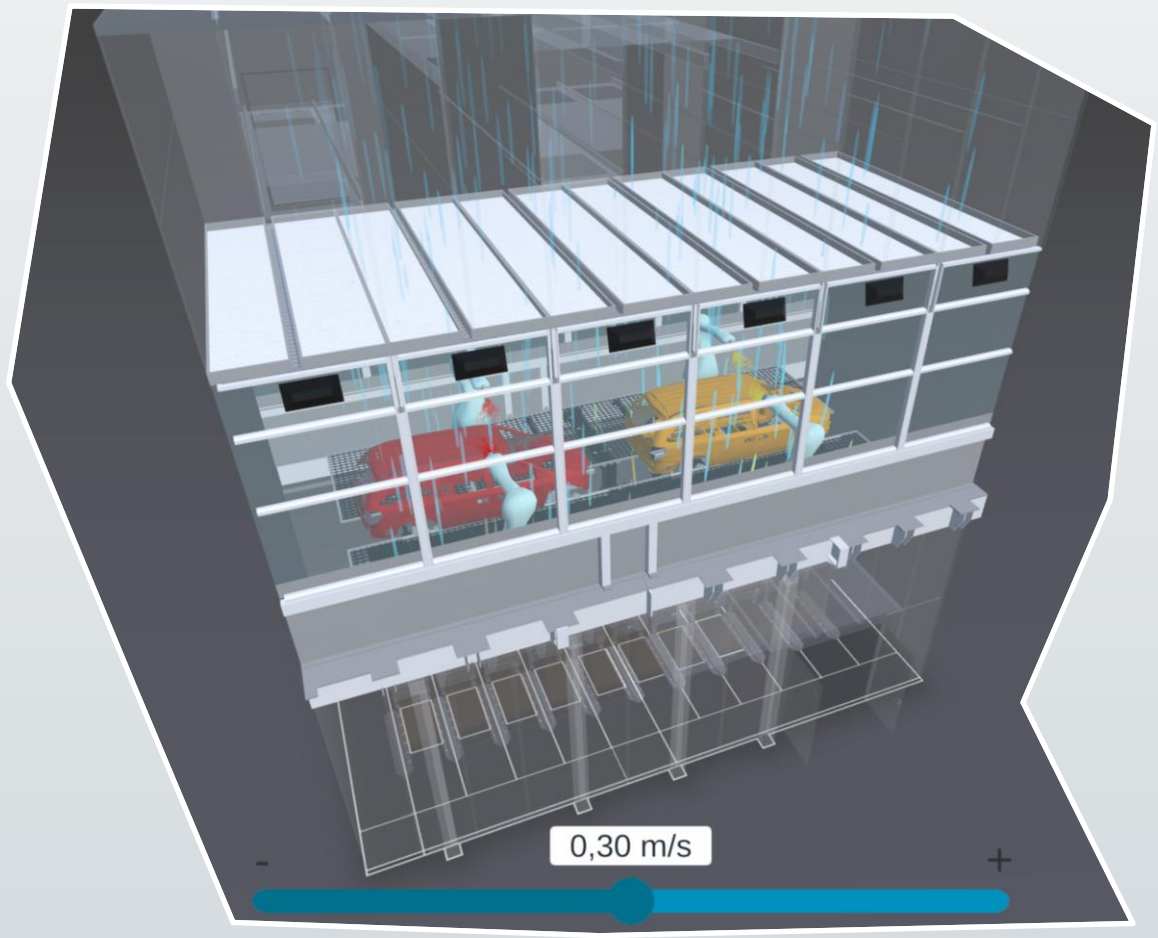


Homogeneous flow
→ most important for painting quality
(besides temperature and humidity)

- Down velocity is usually > 0,2 m/s (to avoid recirculation → drying time for droplets → dust on car body → orange peel)
- < 0,4 (to avoid take along effects → runners)
- Homogenous means same down velocity in width and length all through the booth (=0,35 m/s)

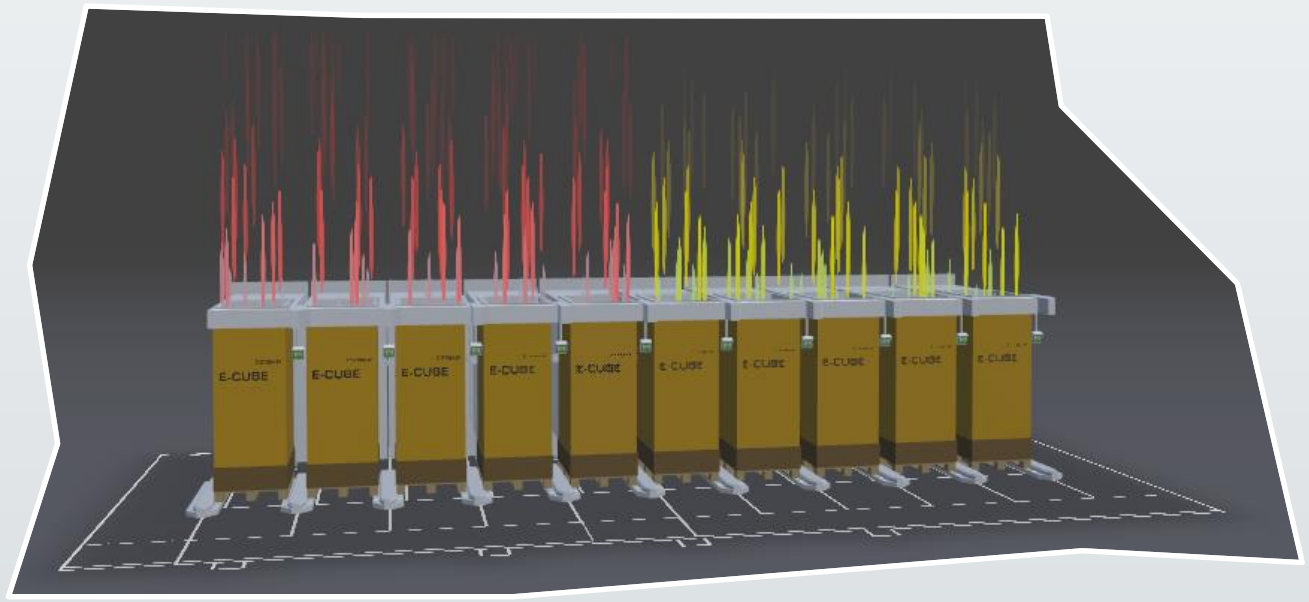


E-CUBE – PLANT TECHNOLOGY



- The expansion room (height) is used to focus the flow towards centralized E-Cubes (width) and to enable interaction of E-Cube (length)
- Full filters will take less volume flow than empty ones
- But the overall (sum of all volume flows) flow remains constant (Volume Flow Controlled System)

E-CUBE – PLANT / FILTER TECHNOLOGY

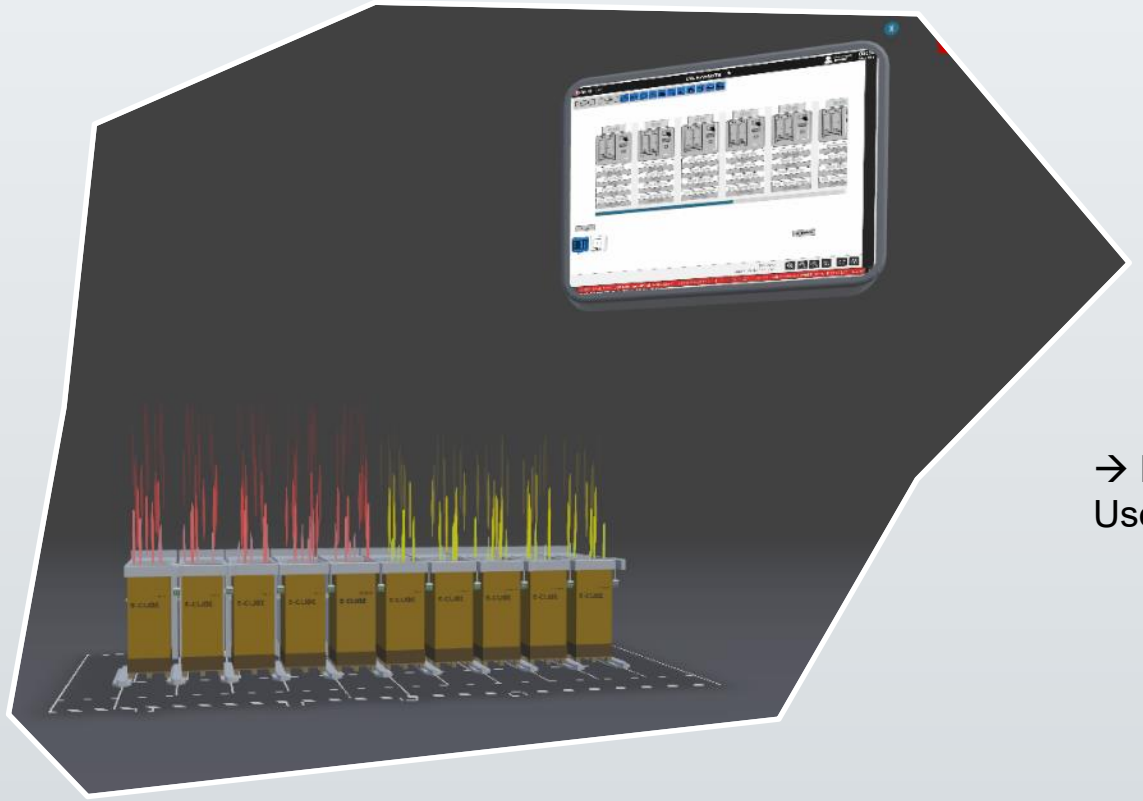


E-Cube filter system is a modular system.
This means 1 module / 1 m booth length
– simple

- Each docking module measures pressure loss through E-Cube filter, 2nd Filters and an orifice (calculation of volume flow)
- This enables the calculation of filter resistance (=Dp/Vstr²) and prediction of filter lifetime
- Visualization of data is realized with PLCs and each module's HMI

→ Press PLAY Button to see module's HMI during a full filter (see also Visu)

E-CUBE – PLANT / FILTER TECHNOLOGY



→ **Press VISU button:**
Use the blue scrall beam to see all modules of zone

E-CUBE – PLANT / FILTER TECHNOLOGY

Interaction of filters

Interaction of filters is system related.

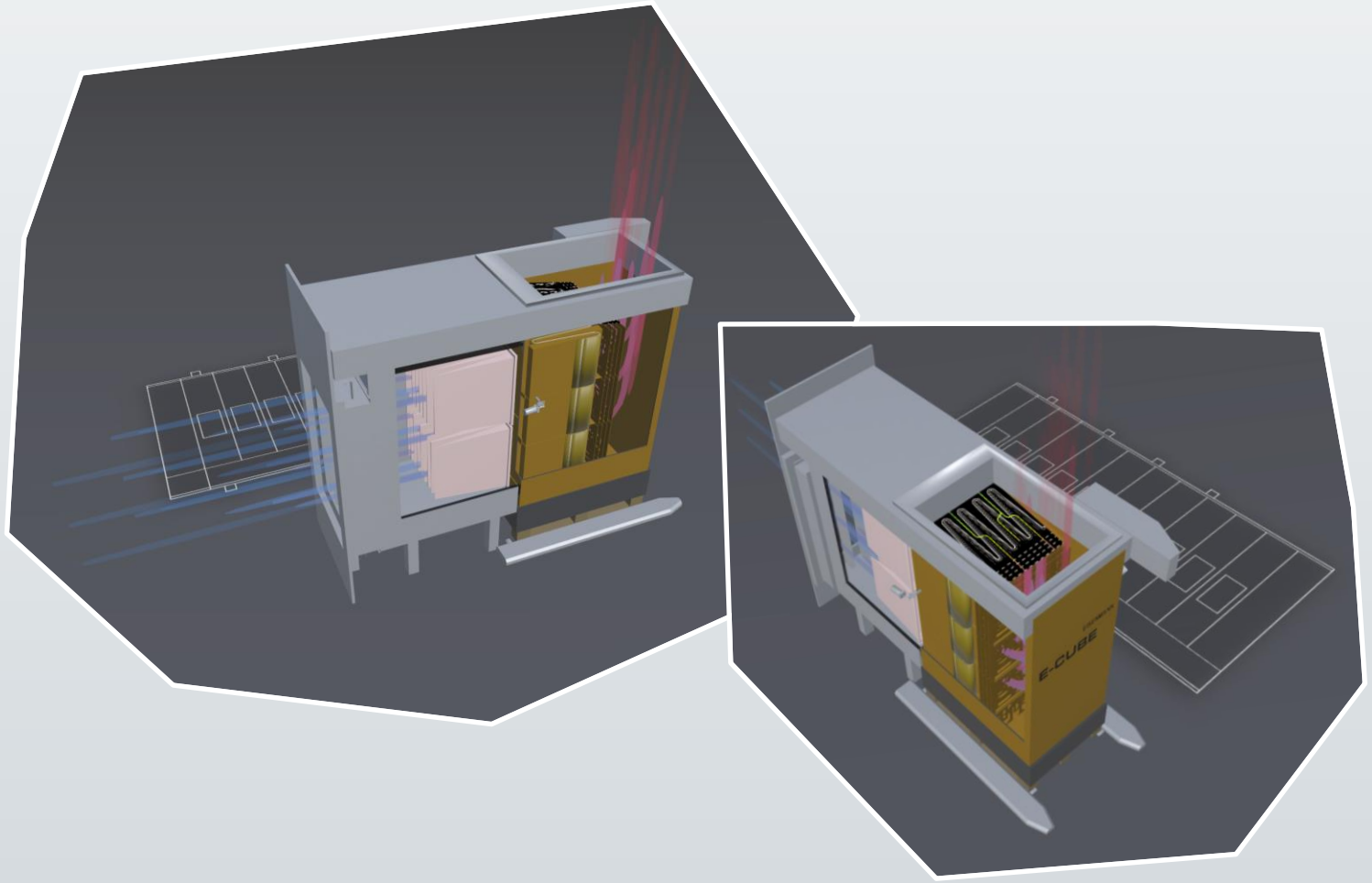
If a filter is full, in extreme cases there is no more volume flow through the filter, the remaining operational modules take over.

Exchange of filter during production

- To exchange a filter during production, go to the HMI
- Change to un-/docking screen *(left mouse button / tip on HMI)*
- Once more *(left mouse click / tip)* onto the HMI to Undock (damper close, pneumatic cylinders open, drawer closes when pulling Cube)
- In reality use then a pallet jack to pull the old E-Cube out and push in the new one

→ **SIMPLE**

E-CUBE – FILTER TECHNOLOGY



1. Stage:

- E-Cube Filter with 2 filter stages
  Impact filters + depth filter inside
- Cardboard box filter made from recycled material
  Dimension w 0,8 x l 1,2 x h 2,1 m³
- 2nd Generation One type for primer and topcoat
  → **SUSTAINABLE**

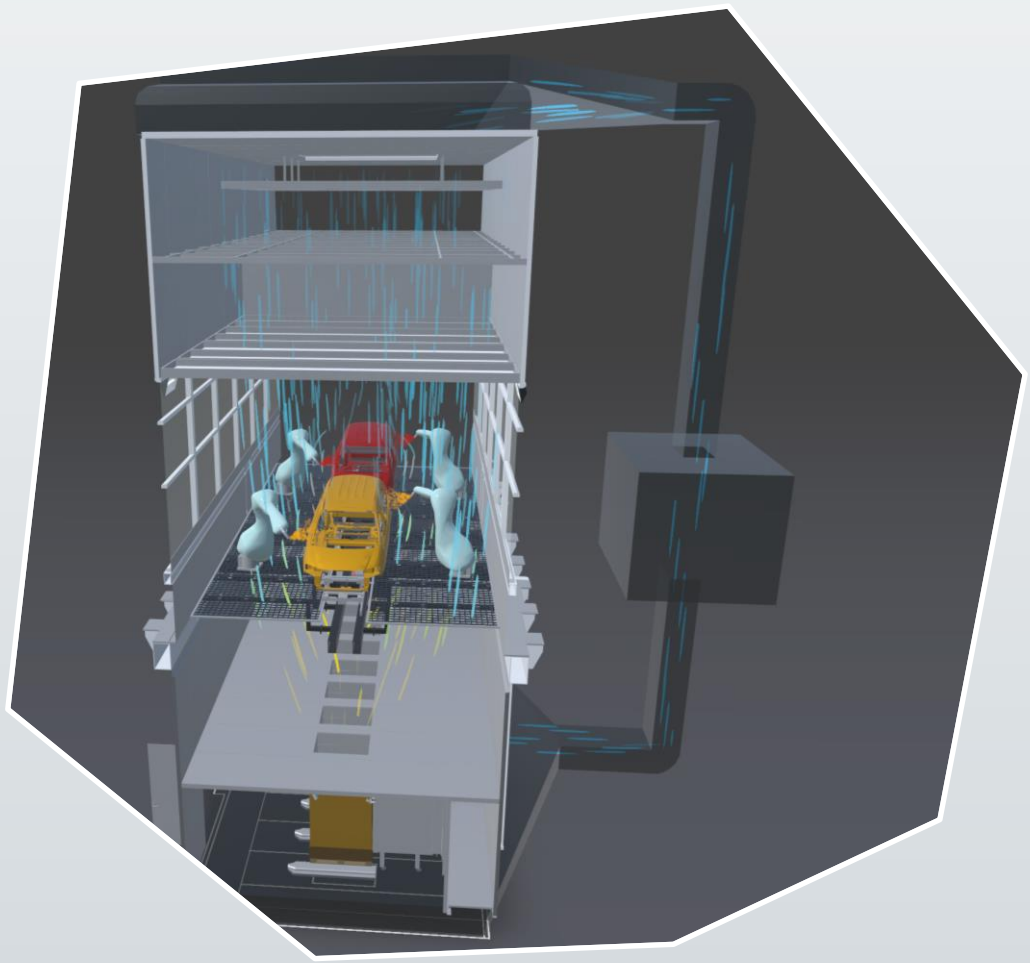
2. Stage:

- 2 pocket filters
- F7 air quality

Module technology:

- Dampers – decoupling of ducting while exchanging filters
- Possibility to show HMI, locking, roller beds

E-CUBE – FILTER TECHNOLOGY



E-Cube system

Enabler for efficient recirculation and exhaust air cleaning
Less than 10 % fresh air
Possibility to concentrate VOCs (RTO)

No water
“No condensation + humidification” necessary
Huge potential of energy savings

No additives
No agglomerating agent, no pre-coating agent

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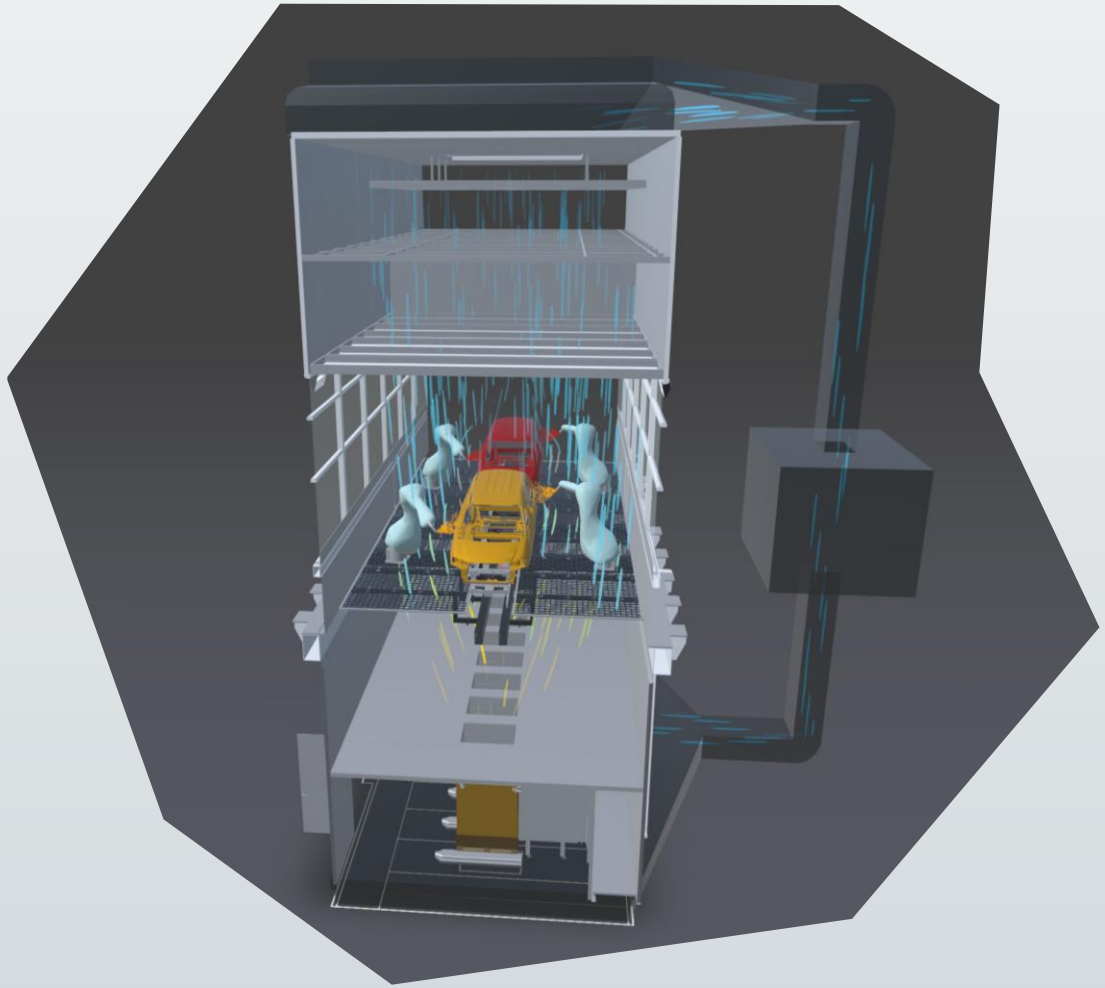
E-CUBE – FILTER TECHNOLOGY



The E-Cube System can be implemented
in almost every plant (shade of Spray booth)

SIMPLE

Modular system to install and maintain as a part of ducting

SUSTAINABLE

Cardboard box filter made from recycled material
Enabler for efficient thermal post-cleaning (TO)

EFFICIENT

No additives, only full filters out, Filter efficiency (F7)
High capacity, low pressure loss, air circulation system,
uninterrupted production

EXPERIENCE E-CUBE IN AUGMENTED REALITY – WHENEVER YOU LIKE!

Download the **mobile** E-Cube App
on the Apple Store or Google Play Store.

You can access the E-Cube AR app directly by clicking on the linked store buttons or by scanning the QR codes with your mobile device.

Download on the App Store

Google play

Scan this card as a “visual anchor” to reach E-Cube system in augmented reality.

Keep this anchor for further usage. On the next slide you will find a larger version of the “visual anchor”. You can use it as a print template.

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SIMPLE, SUSTAINABLE, EFFICIENT

E CUBE

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WE ARE LOOKING FORWARD TO HEARING FROM YOU!

If you would like more information or have any questions,
please do not hesitate to contact us.

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