

## WHY

Expansion of the test stand capacity in the absence of planning permission

## HOW

Flexible solution with modular engine test benches

## WHAT

Engine test bench and technology modules suitable for outdoor installation

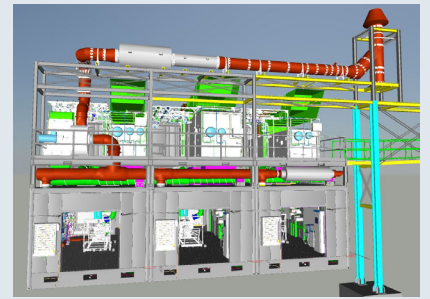
### WHY - The challenge.

The ever-increasing demands on engines required SEAT in Martorell (Spain) to expand and adapt its test bench capacities by 3 additional, highly flexible engine test benches. On the one hand, the tests with the new test benches were to achieve comparable results with the existing test benches, but on the other hand, the requirements of future drive concepts were also to be taken into account. Therefore, applications from e-mobility were also envisaged right from the start of the planning phase.

A building permit for the construction of a new hall in which the test benches could be set up was not available, so a flexible solution for the test benches and the associated technical equipment had to be found.

### HOW - The idea.

For many years now, **weisstechnik** has been using test modules for special requirements both indoors and outdoors. They are flexible and do not require a building permit. Therefore, they are very well suited for this application. The modularity enables construction at the Weiss Technik site in Stuttgart, so that only minor adjustments have to be made at the customer's site (preparation of the installation area). The supply technology required for the operation of the test benches is also assembled in transportable modules at the factory. This approach makes it possible to relocate the majority of the assembly work to the factory, so that only a small amount of work is required at the customer's site later on.



## WHAT - The solution.

The requirements could be implemented by means of 3 customised test cells in modular design with sound insulation and attached operating room. The test runs are monitored by high-resolution cameras. All necessary conditioning systems close to the engine are installed in the test room or in the raised floor of the test room. The other supply and conditioning systems are installed in the technical modules directly above the test room. All three test cells are connected to a central unit for combustion air and to a central exhaust system.

### Selected Solution: Individual engine test benches in modular design

The entire system was set up and commissioned at the Weiss Technik location in Stuttgart. Afterwards, test runs were carried out and the test stands were put through their paces. After successful pre-acceptance, the system was dismantled into 2 units (test module and technology module) and shipped to Spain, where it was then reassembled and put back into operation in a short time.



## Implemented Modification and Automation System

- 3 test stand containers (L/W/H: 11.5m/3.8m/4.5m, approx. 33 t)
- 3 supply frames (L/W/H: 11.5m/3.9m/4.5m, 16-19t)
- for engine outputs of 265 kW & 480 kW
- cooling water conditioning 540kW resp. 906kW at 7/13°C
- central combustion air conditioning 5.700m<sup>3</sup>/h
- central exhaust system: 28,000m<sup>3</sup>/h, max. 310°C