DYNAMIC ENGINE TEST BED FOR HEAVY DUTY STANDARD TESTS
HANDLING OF ALL WORK PACKAGES

Creation of a new Heavy Duty dynamic engine test bed from two existing test beds

Services proposed by D2T:

- Calculations
- 3D modelling of the test bed
- Civil Works guidance schematics
- Studies, consultations and their technical adjustment...
- Civil Works
- Acoustics
- Air flow & Ventilation
- Fluids
- Electrical engineering
- Mechanics
- Dynamometer
- Standard tests compliant with regulations
STEP 0: OVERALL STUDY OF THE TEST BED
STEP 0: OVERALL STUDY OF THE TEST BED

3D modelling for each work packages
STEP 1: CIVIL WORKS

1. Protection of the construction area from dust.
2. Preparation of seismic block foundations.
3. Cutting the loadbearing wall between the two cells.
4. Extraction of the cut blocks by slices of one ton each.
STEP 2: ACOUSTICS

1. Laying of cable trays
2. Installation of the acoustic panels: walls and ceilings
3. Integration of the cable trays in the walls
4. Finishing work for openings
STEP 3: SETTING OF THE TEST BED PLATE

1. Preparation of a gateway to reach the test bed, to carry the load.
2. Receipt of the iron frame for receiving concrete.
3. Setting decoupling spring boxes at 3Hz.
4. Frame intended to receive the concrete on the spring boxes. Filling the concrete, vibrated concrete.
5. Implementation of the test bed plate, then pouring the resin between the test bed plate and the concrete.
STEP 4: FLUIDS IMPLEMENTATION

Fuel distribution

Cooling
STEP 5: FLOOR, BLOCK WALLS, FIRE SAFETY

Setting of the block panels on the exterior walls

Firefighting equipment

Raised pattern plate and duckboards
STEP 6: AIR FLOW & VENTILATION

- Double flow cell air treatment unit with energy recovery between ventilation and extraction
- Temperature conditioning of combustion air
- Humidity
STEP 7: ELECTRICAL ENGINEERING

Setting of electrical cabinets:
- Distribution control and safety cabinet
- Ventilation cabinet
- Power cabinet, dynamometer drive.
- Connection and installation of the dynamometer
STEP 8: ELECTRICAL ENGINEERING

Connections of sensors and equipment to the engine
STEP 9: ELECTRICAL ENGINEERING

Automation in the control room