



Software &
Testing
Solutions

TEST FACILITIES

DESIGNED BY TESTING EXPERTS

Software and Testing Solutions

www.fev-sts.com

TEST FACILITIES DESIGNED BY FEV EXPERTS

Solutions for every test center & test facilities projects.



The main market drivers that influence the test center concept, design, equipment, and operational organization of future test fields and planning include: cost, limited project time frames, legislation and new technology.

Conceptual defects attributed to inadequate specification and conception in the early planning stages can only be corrected later with great difficulty or, in some cases, not at all. Due to the high capital expenditures for buildings, technical facilities, and testing facilities - in addition to the resulting long depreciation periods - test centers must be quickly and easily adaptable to changing testing tasks. Functionally-organized basic structures, modular design, reserves for changing equipment needs as well as an intelligently-structured supply infrastructure are all key factors for efficient test centers.

On that topic, the interests of the users usually differ from the requirements of the operators: while the user will require for example fast changing test tasks, extensive and sometimes expensive instrumentation, the operator will be looking for a high standardization level, no un-used equipment, low down-times...

With Software and Testing Solutions (STS), boost your testing facilities efficiency.

What could be better than asking from outside expert such as STS, to support you in this approach ?

» BENEFITS FROM FEV EXPERIENCE

TEST CENTER (EDLP, GERMANY)

The world's largest test center for high voltage batteries for passenger and commercial vehicles: 19 walk-in-chambers and 29 standard chambers for durability testing for modules and packs, 1 350 kN shaker, abuse testing with dip tank, a 500 kN crusher, ...



Photos with the courtesy of @FEV

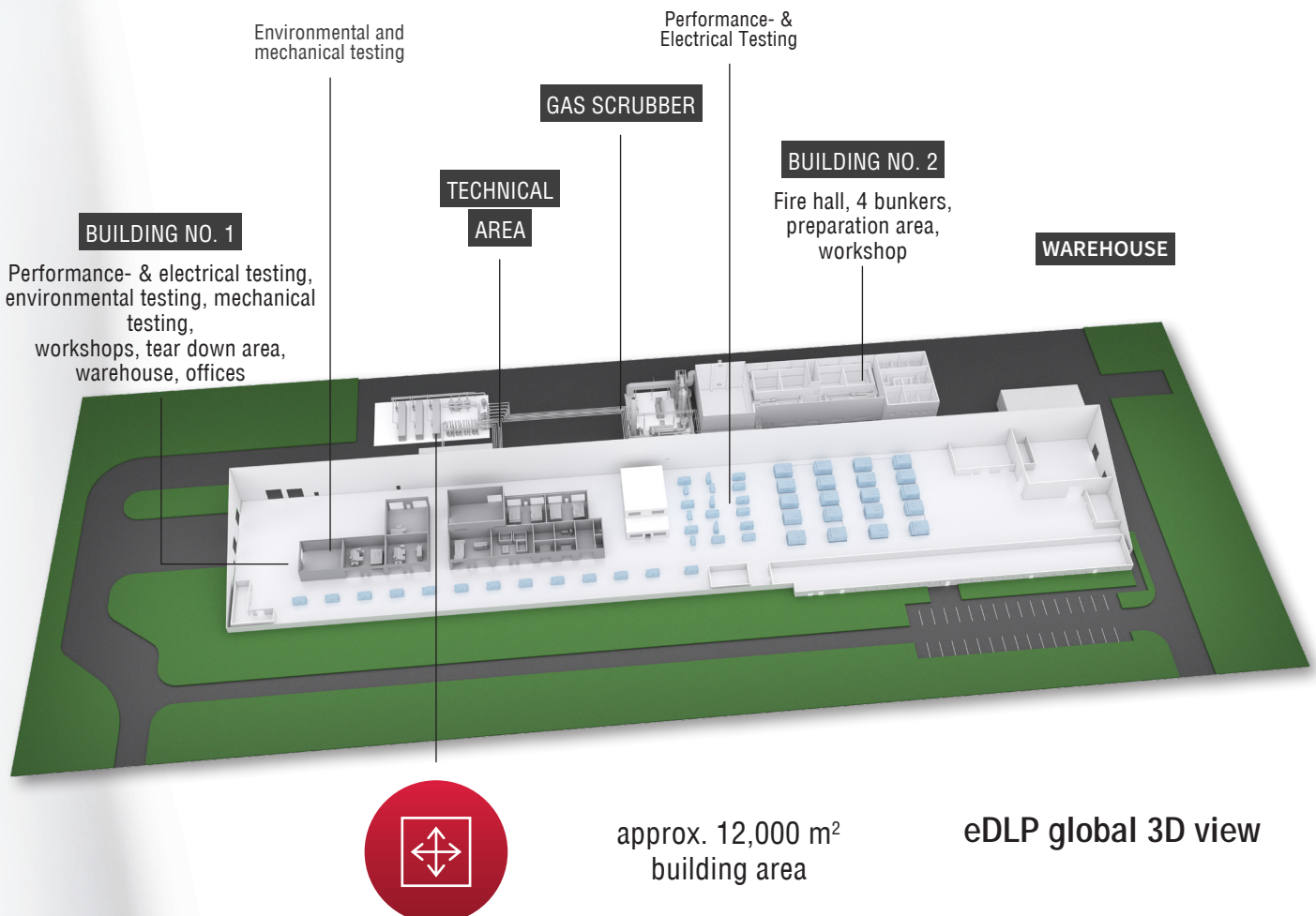
TEST CENTER (CHINA)

Built in 2017, this is the most modern test center in China.

BATTERIES TEST CENTER (FRANCE)

A unique facilities offer for e-mobility, in France : 600 m² with 4 walk-in chambers, 4 battery pack chambers and 300 testing chambers for battery cells.

» IMPROVE TEST CENTER



» STS EXPERTISE : FROM TEST BED TO STATE OF THE ART TEST CENTER



Photo with the courtesy of @FEV

On the basis of best practice solutions and years of experience, STS plans test beds and entire test centers, for its own needs or for answering customer requests. This is how, in test centers across the globe, battery, e-drive and fuel cell test benches are being created in various configurations. The heart of a successful project is the Consulting. It is where the specification is created and the layout of the test center is determined. As a leading automotive development company, STS is constantly modifying the requirements of its own test capabilities to meet

future needs. We use this knowledge in consultation with our customers to adapt current test benches to hydrogen applications, for example. Thanks to a tightly-knit network of experts, STS covers all typical phases of a project and offers to perform partial projects as well as full turnkey implementation projects, depending on the customer's needs. STS has successfully completed more than 300 such projects worldwide over the past decades.

AREAS OF EXPERTISE

- > Demand analysis, specifications, concepts
- > Test Cell layout, test center layout
- > HVAC, media supply, energy supply
- > Special systems and solutions (gas supply...)
- > Upgrading current facilities to the complete design of a new e-mobility test center.

» THE TOP SOLUTIONS FOR TEST CENTER EFFICIENCY, OFFERING A RAPID RETURN ON INVESTMENT

STS test facilities engineering team

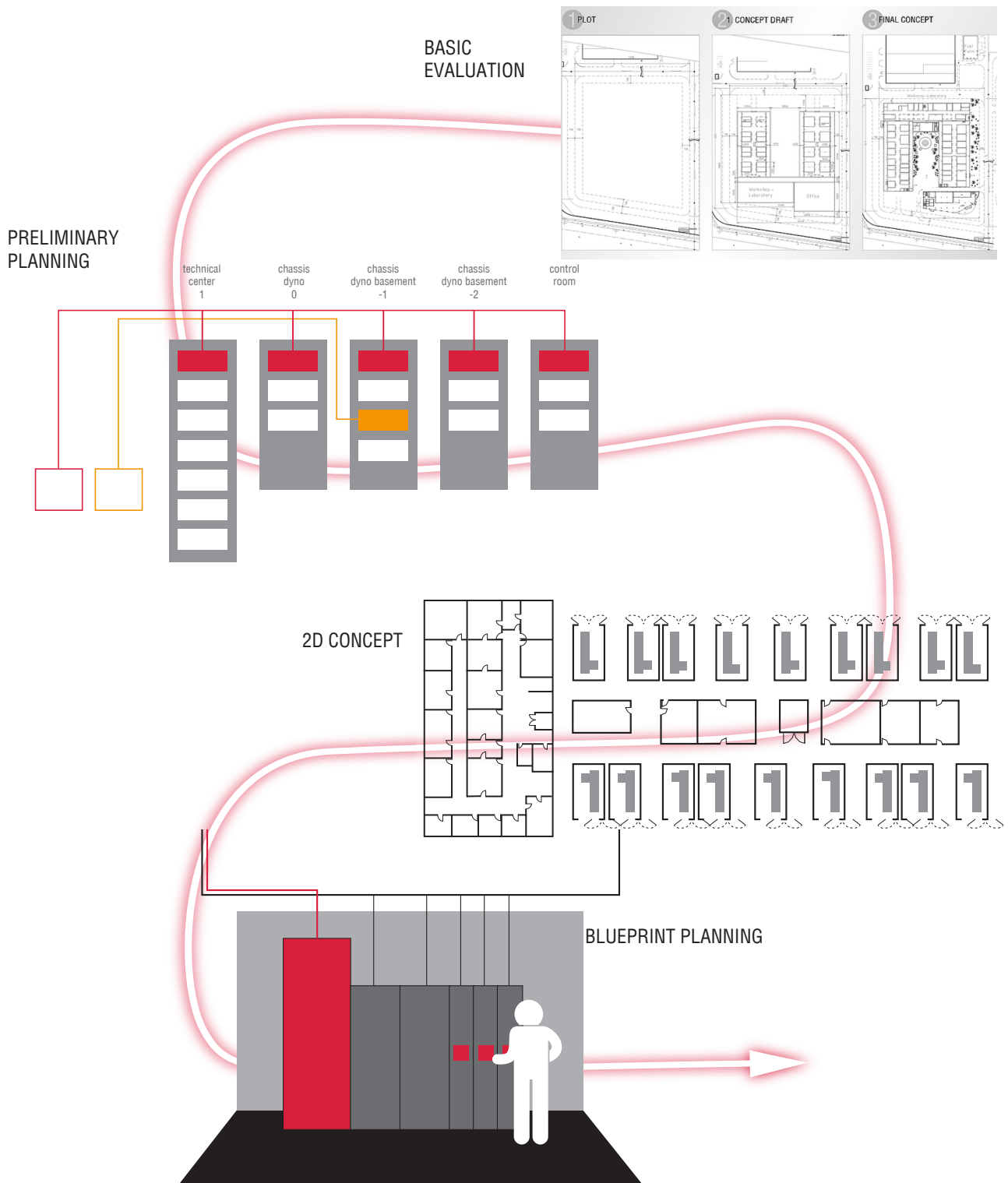


THE SCOPE OF SUPPLY

- > Functional specification
- > Technical boundary conditions
- > Approval/Legislation boundary conditions
- > Process description
- > Room book
- > Electric engineering
 - Media supply
 - Energy supply
 - Test bench equipment
- > Calculation of media and energy supply systems
- > Safety concepts and equipment
- > 2D and 3D Planning documents
- > Conceptual design of building management systems

» THE DIFFERENT STEPS OF A TEST CENTER BUILDING PROJECT

There are two main phases involved in creating a new test center: the first phase is planning and consulting the project and its completion is marked by provision of the specifications; the second comprises the project implementation in its current form.



» LEAN FLOW, OPTIMIZED LOGISTICS

STS's solution optimizes the flows.

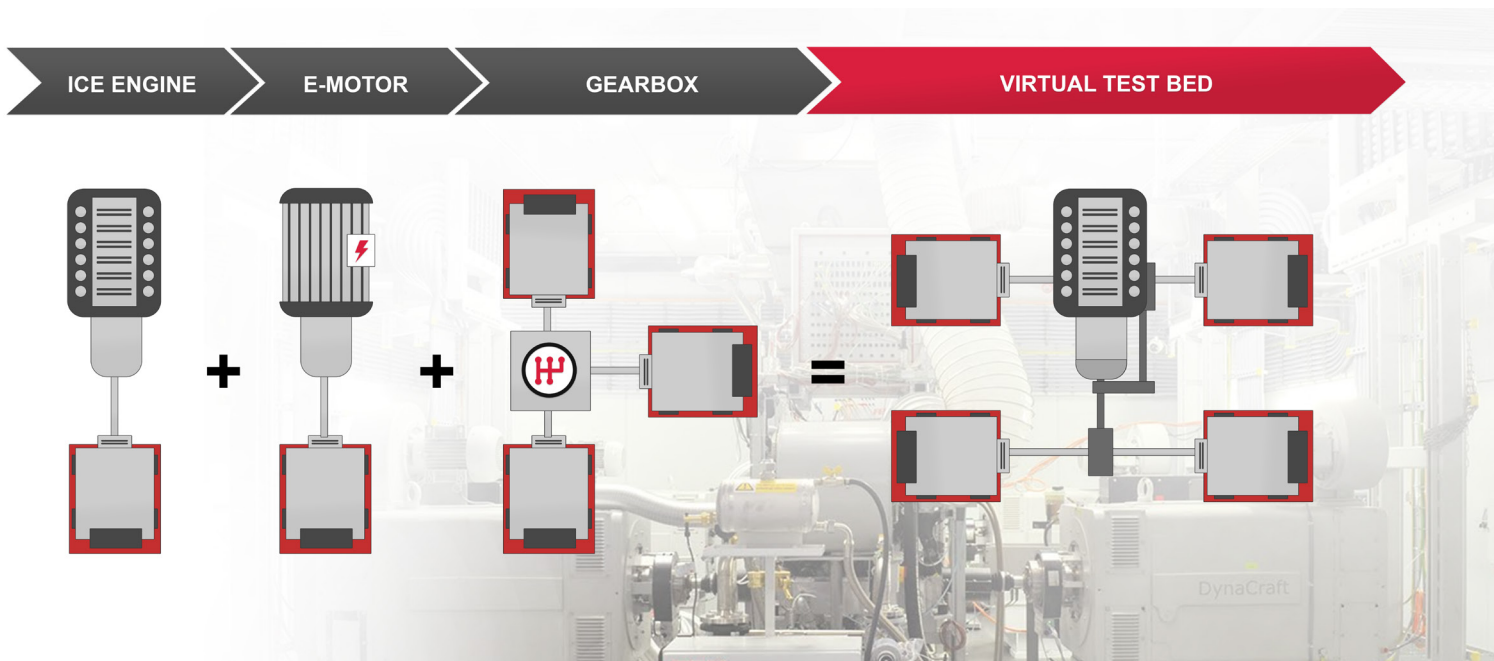
Here is an example of the solution selected from eDLP, the FEV Battery Test Center. One large hall offers easy access to the test beds for the UUT and to the climatic chambers and the other devices.

The first floor houses all the large equipment such as the power units. At peak load, as much as 4,800 A and 1,000 kW of power can be supplied to test one battery by connecting multiple testing channels.



In some cases, STS proposes an innovative global control room concept: Instead of having one control room for each test bed –and considering that a test center is increasingly a global entity, with continuous sharing of data, tests, equipment– STS concluded that it made sense to unify the test bed operations in a single control room. This concept enables human resources to be optimized and also reduces noise and safety constraints in the test cell environment; this then means that investments inside the plant can be reduced.

» INTUITIVE CONCEPT



Are you interested in innovative,
pioneering software solutions?

Contact us!

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