

#### 公司主要业务范围:

无人驾驶整车在环试验系统,整车试验台,高速电机试验台,动力总成试验台,大功率齿轮箱试 验台等试验台研发、制造:测试咨询与服务:试验台售后服务维护保养服务:产品销售等。

#### Our business scope:

research, development and manufacturing of autonomous vehicle in loop test system, vehicle test bed, high speed E-motor test bed, powertrain test bed, high power gearbox test bed, etc. Test consulting and service; After-sales service and maintenance service of test bed; Products sales, etc.

#### 新能源电机 ligh speed E-motor test bec



- 高转速 (最高至 21,000 rpm)
- 低惯量测功机
- 用于电动车用驱动电机测试
- 提供整体交钥匙工程
- 经过验证的高速机械结构
- ▶ 高速机械传动Know-how
- ▶强大的系统设计与集成能力
- High speed (up to 21,000 rpm)
- Low inertia dynamometer
- For testing of drive motors of electrical vehicles
- Proven overall turn-key project
- Proven high-speed mechanical structure
- Know-how of mechanical design with High-speed
- Powerful system design and integration capabilities

# Powertrain test bec



- 用于动力总成测试
- 用于动力传动系测试
- 用于车桥测试
- 用于四驱传动系测试
- 用于混动总成测试
- ▶强大的系统设计与集成能力
- For testing of Electric drive assembly
- For testing of powertrain
- For testing of axle test
- For testing of four-wheel drive train
- For testing of hybrid powertrain.
- ▶ Flexible multi-drive structure
- Powerful system design and integration capabilities

# ehicle test bed



- 四轮直接驱动
- •测试与仿真技术的结合
- 整车能量流分析
- •可分解为两个动力总成台架
- ▶ 仿真模型与物理台架的结合
- ▶强大的系统设计与集成能力
- Four-wheel direct drive
- Combination of test and simulation technology
- Analysis of vehicle energy management
- Can be set to two powertrain test beds
- Combination of model simulation and physical platform
- Powerful system design and integration capabilities

- ▶柔性的多传动结构





### 电驱动下线试验台 Electric drive assembly

EOL test bed



- 与电驱动总装输送线集成
- 下线带载测试
- 下线NVH测试
- •全自动的油、水、电气对接
- ▶EOL自动测试解决方案
- ▶强大的系统设计与集成能力
- Integration with electric
  drive assembly conveyor line
- EOL load test
- EOL NVH test
- Automatic feeding of electrical, oil and coolant
- EOL automatic testing solution
- Powerful system design and integration capabilities

## 电机/变频器试验台

Motor/Converter test bed



- 出厂测试
- 环境测试
- 负载测试
- 谐波补偿

#### ▶模块化的设计

- ▶强大的系统设计与集成能力
- Factory Acceptance Test
- Climatic test
- Load test
- Harmonic compensation
- Modular design
- Powerful system design and integration capabilities

### 大功率齿轮箱试验台 High power gearbox test bed



- •兆瓦级齿轮箱测试 (高至24MVA)
- 可靠的、同步的多电机串联控制应用
- 高动态控制和快速的响应
- 与NVH测量系统的集成
- •风能模拟扩展试验项目
- ▶成熟的机械+电气解决方案
- ▶强大的系统设计与集成能力
- Megawatt level gearbox test (up to 24MVA)
- Reliable, synchronous multimotor series control applications
- High dynamic control and fast response
- Integration with NVH
  measurement system
- Wind power simulation extension
- Proven mechanical + electrical solutions
- Powerful system design and integration capabilities



## **公司业务** BUSINESS OF COMPANY

## 无人驾驶整车在环试验系统

Autonomous Vehicle In Loop Test Syetem

无人驾驶整车在环试验系统由重庆凯 测公司与中科院共同研发,此块业务由重 庆凯测与中科院的合资公司中科测试(深 圳)有限责任公司实施。

#### 测试项目:

- 自动驾驶控制策略与算法的动力在环测试
- 道路阻力模拟测试
- 转向阻力模拟测试
- 虚拟交通场景、虚拟感知传感器仿真系统、 高精地图联合仿真测试
- 自动驾驶路径规划仿真测试
- 汽车动力性测试: 自定义工况

Autonomous Vehicle In Loop Test Syetem was jointly developed by Chongqing Ctest and the Chinese Academy of Sciences. The business is carried out by Cstest Shenzhen Ltd., a joint venture of Chongqing Ctest and the Chinese Academy of Sciences.

#### TEST ITEM:

- Autopilot control strategy and algorithm are tested in the loop
- Road load simulation test
- Steering load simulation test
- Virtual traffic scene, virtual perception sensor simulation system, high-precision map joint simulation test
- Automatic pilot path planning simulation test
- Automobile power performance test: user-defined condition







## 无人驾驶整车在环仿真测试系统

Autonomous Vehicle In Loop Simulation test system





场景模拟是以物理模型为基础的汽 车ADAS和自动驾驶仿真软件,支持基于 摄像头、雷达、激光雷达、GPS、V2V 车车通讯等多种ADAS和自动驾驶的开发 和测试。

The scene simulation is based on the physical model of automobile ADAS and automatic driving simulation software, supporting the development and testing of various ADAS and automatic driving based on camera, radar, lidar, GPS, V2V communication.