



协鑫
GCL

协鑫能科
GCL-ET

协鑫数字能源解决方案

GCL
DIGITAL
ENERGY



| 算力 + 电力 = 新型生产力

COMPUTING POWER + ELECTRICITY = NEW PRODUCTIVITY

GLOBAL LEADING DIGITAL
ENERGY TECHNOLOGY SERVICE PROVIDER

ABOUT GCL DIGITAL ENERGY

| 关于协鑫数字能源

全球领先的数字能源科技服务商

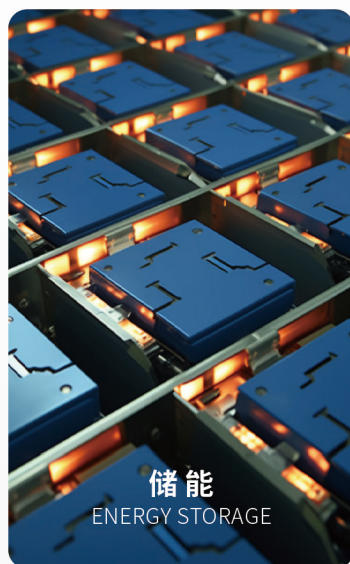
Global leading digital energy technology service provider

协鑫能源科技股份有限公司(证券简称:协鑫能科002015.SZ)系协鑫集团旗下企业,于2019年5月在深圳证券交易所上市,主营业务为清洁能源运营、数字能源运营以及综合能源服务。依托在绿电、算力、售电等领域的优势,协鑫创新打造“电+储+算”一体化绿色能源生态,大力发展算力领域,以电力驱动算力,以算力推动生产力,打造具有国际竞争力的数字产业集群。以储为核,聚焦电网侧、工商业、移动分布式储能,建设储能PACK等关键产品的研发制造体系,战略性全面布局超充,并提供光储充换售一体化解决方案,共创数字能源新格局。

GCL Energy Technology Co.,Ltd.(stock ab-breviation:GCL Energy 002015.SZ),is a subsidiary of GCL Group, which was listed on Shenzhen Stock Exchange in May 2019,engages in businesses such as cleanenergy operation,digital energy operation and comprehensive energy services.Leveraging its strengths in green power, computing power, and power sales, GCL is pioneering an integrated green energy ecosystem that combines electricity, storage, and computing". The company is vigorously fostering the growth of computing, forming new productivity with electricity plus computing. Centered on storage, GCL focuses on power-grid, commercial, and mobile distributed energy storage. It is also strategically implementing a comprehensive supercharging infrastructure, providing an integrated solution that encompasses PV power, energy storage, charging, battery swapping, and sales with the goal of shaping a new digital energy landscape.

CORE PRODUCTS AND SOLUTIONS

| 核心产品及解决方案



算力 COMPUTING

协鑫率先进军能源算力领域, 建成全国首座能源智算中心, 拥有国内领先的AI智能算力集群, 对外可提供算力租赁服务。

GCL taking the lead in the field of energy computing, it has built the first Energy Intelligent Computing Center in China, with the leading AI intelligent computing cluster in China, and can provide arithmetic leasing services to the outside world.



2023年8月, 全国首座能源智算中心—协鑫智算(苏州)中心一期投运, 系苏州市单体投资最大的数字新基建项目。具备1000PFLOPS算力规模的AI智能算力集群, 其计算能力高达每秒一百万亿次, 拥有32PB的存储容量, 综合能耗指标PUE(能源使用效率)达到1.1。在能源智能算力规模方面位居国内前列。

The AI intelligent computing cluster with 1,000 PFLOPS computing scale has a computing capacity of up to one hundred trillion times per second, a storage capacity of 32 petabytes, and a comprehensive energy consumption index PUE (energy use efficiency) of 1.1. It ranks at the forefront of the domestic market in terms of the scale of energy intelligent computing.



业务模式 / BUSINESS MODEL

算力+能源, 建设+运营, 行成2*2矩阵业务模式, 打造电力+算力结合的新型生产力。

Computing power + energy, construction + operation, forming a 2 * 2 matrix business model, and creating a new type of productivity that combines electricity and computing power.



“模型工厂”模式, 构建六大垂域场景大模型
"Model factory" mode, building six big vertical scene models

业务规划 / BUSINESS PLANNING



15+个中心
15+centers
重点突破, 布局全国
Focus on breakthrough, layout of the whole country



100+亿
10+ billion investment
投资持续投资, 实力雄厚
Continuous investment and strength



50+方案
50+ Programs
多行业案例经验
Multi-industry case experience



多元异构
Attributed Multiplex Heterogeneous
国产进口兼备, 互相协同
Both domestic and imported, synergizing with each other



10000 PFLOPS
10000 PFLOPS
多家IDC上市公司均PB15
Several IDC listed companies are PB15



算力集群规模行业领先
Industry leading arithmetic cluster
联合多家企业共建生态
Jointly build an ecology with many enterprises

合作伙伴 / COOPERATION PARTNERS



储能 ENERGY STORAGE

打通正极材料到系统应用全产业链，为绿色能源使用及电力转型提供模组PACK、终端储能及储能系统应用等多种储能产品与服务。

Have opened up the whole industrial chain from cathode materials to system application, and provided various energy storage products and services, such as module PACK, terminal energy storage and energy storage system application, for the use of green energy and power transformation.



产品矩阵 / PRODUCT MATRIX

鑫辰系列 Xinchen series	鑫河系列 Xinhe series	鑫宇系列 Xinyu series	鑫海系列 Xinhai series	超级储充一体充电桩
储能专用电芯 Special battery cell for energy storage	液冷储能一体式机柜 Integrated cabinet of liquid cooling and energy	液冷储能一体舱 Integrated cabin of liquid cooling and energy	场站式城市超级储能电站 Field-type urban super energy storage station	Super charging pile integrating energy storage and battery charging
规格:30Ah/100Ah/320Ah	规格:100kW/200kW	规格:20尺/40尺液冷 40尺风冷	规格:单个模块容量125kWh 整体容量1GWh	规格:1拖6或1拖12配置 1000KW液冷超充

核心技术和优势 / CORE TECHNOLOGIES&PRODUCTT ADVANTAGES



- 安全** Safe: 自有LFP正极材料技术, 多级热防护PACK设计, 智能自研BMS (Self own LFP cathode material technology, multi-stage thermal protection PACK design, intelligent self-developed BMS)
- 经济** Economical: 15000次长循环, 25年设计寿命, 低成本正极材料技术 (15000 cycles, 25-year lifespan, low-cost cathode material technology)
- 高效** Efficient: 核心部件全自产, 高集成化设计, 高效热管理 (Fully self-produced core components, highly integrated design, and efficient thermal management)
- 智控** Intelligent control: 统一网联平台, 本地EMS, 多平台APP (Unified Netsunion platform, local EMS, multi-platform APP)
- 灵活** Flexible: 标准模块化结构, 多电压, 多容量平台, 灵活扩展, 易安装 (Standard modular structure, multi-voltage, multi-capacity platform, flexible expansion and easy installation)
- 便捷** Convenient: 多气候, 多地域适用, 无需工程土建, 易安装, 高防护等级 (Suitable for multiple climates and regions, without the need for civil engineering, easy to install, and high in protection level)

充电 CHARGING

提供电动汽车补能一体化运营服务, 打造多种充换电产品, 高质量的补能服务设施, 带来优质体验、质量和收益。

Provide electric vehicle replenishment integrated operation services, create a variety of charging and swaping products, high-quality energy replenishment service facilities, bring the first-rate experience, quality and income.



全液冷超充
Liquid cooling supercharger

核心特点 \ Key features

1秒1公里
1km/1s

核心液冷技术
Core liquid cooling technology

最大720KW输出功率
Max 720KW output power

时效性
Effectiveness

寿命长
Stability

稳定性
Economy

效率高
High efficiency

经济性
Fast charging

噪音低
Low noise



直流快充
DC fast charging

核心特点 \ Key features

直流输出电压最大1000V
Maximum DC output voltage 1000V

整机最大输出功率360KW
Maximum output power 360KW

快速充电寿命长
Fast charging

适用范围广
Wide application range

便携性强
Portable

远程监控
Remote monitoring



交流慢充
AC slow charging

核心特点 \ Key features

工作电流可达32A
Operating current up to 32A

输出功率7KW
Output power 7KW

支持三种启动
Supports activation

高防护性
High protection

安装便捷
Convenient installation

安全智能
Safe & intelligent

个性互动
Personalized & interactive



更多补能产品
More charging products



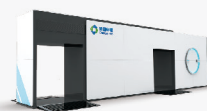
移动式储充一体车
Mobile Storage and Charging Vehicle



充电机器人
Charging Robot



移动能源车
Mobile Energy Car



重卡换电港
Heavy Truck Energy Hub

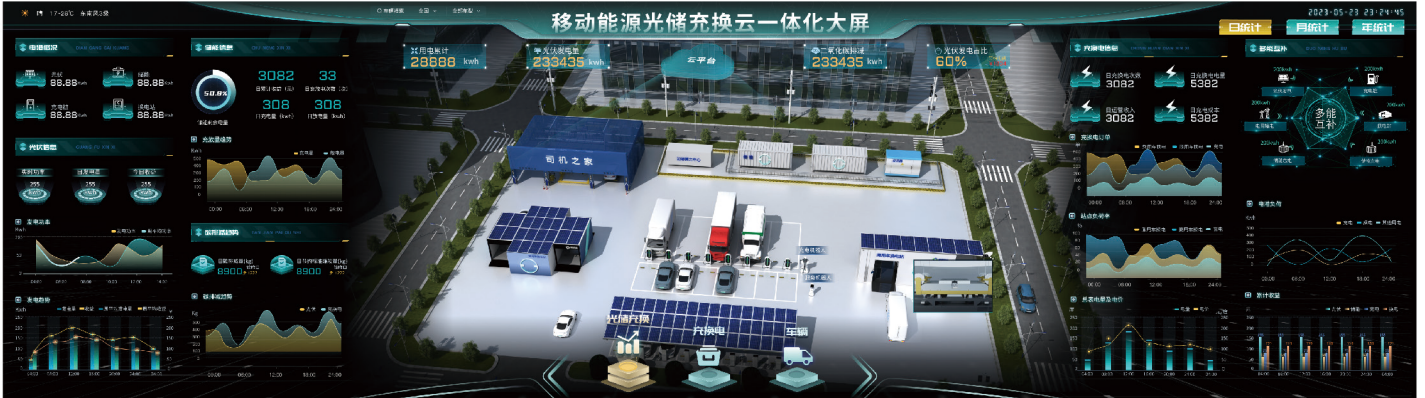


乘用车换电港
Passenger Vehicle Energy Hub

云平台 CLOUD PLATFORM

协鑫自主开发的全数字云平台，集“云—管—端”一体，将光伏、储能、充电、换电、电动汽车、边缘算力高效融合，覆盖场站智慧运维、虚拟电厂、零碳交通等多种服务场景。

GCL's self-developed all-digital cloud platform, Gathering "cloud-management-terminal" and efficiently integrates photovoltaic, energy storage, charging, power exchange, electric vehicles and edge computing power, covering a variety of service scenarios, such as intelligent operation and maintenance of field stations, virtual power plants and zero-carbon transportation.



智能补能

Intelligent energy replenishment

通过电港云手机端，智能算法匹配最优充换电方案和驾驶路线。

Intelligent algorithms match the optimal charging and switching programs and driving routes through the Electric Harbor Cloud mobile terminal.

电池生命周期管理

Battery life cycle management

智能化管理，提高电池的使用价值和利用率。

Intelligent management to increase the value and utilization of batteries.

能源效益及效率提升

Energy Efficiency & Efficiency Improvement

以能源利用为核心建立一体化的能源数智平台，实现能源的高效利用。

Establishing an integrated energy digital intelligence platform centered on energy utilization to achieve efficient energy utilization.

削峰填谷

Balance peak and valley

通过平台智能运营策略合理安排、引导、调度各类用户补能需求。

Reasonable arrangement, guidance and scheduling of various types of users to replenish energy demand through the platform's intelligent operation strategy.

车辆调度服务

Vehicle dispatch services

通过智能调度算法保障作业效率并提升补能效率。

Safeguard operational efficiency and enhance replenishment efficiency through intelligent scheduling algorithms.

大数据管理

Big data management

构建智能数据运营应用体系，实现数据模型的智能化。

Build intelligent data operation application system to realize the intelligence of data model.

无人值守

Unattended

发生故障时，平台会自动处理并恢复，必要时会智能派单给工作人员。

In the event of a malfunction, the platform automatically handles and recovers, intelligently dispatching orders to staff when necessary.

金融资产管理

Financial asset management

通过车辆、电池、站点资产管理，覆盖人、车、货全业态的车辆服务体系。

Through vehicle, battery and station asset management, the vehicle service system covering the whole industry of people, vehicles and goods.

智能运营管理

Intelligent operations management

构建精细化用户运营管理体系，提高运营效率。

Build a refined user operation management system to improve operation efficiency.

业务场景 / BUSINESS SCENARIO

场站园区升级光储充换云一体化综合能源场景

Yard Park Upgrade Optical Storage Charging Switching Cloud Integration Comprehensive Energy Scenario



一体化的综合能源管理平台
Integrated and comprehensive energy management platform

场站无人化运营运维
Unmanned operation and maintenance of field stations

光储充车智能调度服务
PV storage charging vehicle intelligent dispatch service

储能及电池生命周期管理
Dstorage battery life cycle management

源网荷储一体化
Integrated generation, grid, load, storage

智能资产管理
Intelligent asset management

助力园区智能绿色低碳化转型
Helping the park's smart, green and low-carbon transformation

虚拟电厂智慧能源管理

Virtual Power Plant Intelligent Energy Management



削峰/填谷响应
Peak reduction/valley filling response

收益最大化分析策略
Revenue maximization analysis strategy

自适应调整策略模型
Adaptive adjustment strategy model

电站响应分析
Power plant response analysis

智能微网
Smart microgrid

补贴运营
Subsidized operations

有效提升电网消纳能力，同时提升企业能源效益
Effectively enhance the grid's consumption capacity while improving corporate's energy efficiency

光储超充一体化解决方案

PV POWER GENERATION-ENERGY STORAGE-SUPERCHARGING INTEGRATION SOLUTIONS



最大600kW超充赋能

Maximum 600kW supercharging empowerment

先进液冷技术应用

Advanced liquid cooling technology application

光储充算检协同发展

Synergistic development of vehicle, power, PV storage charging computing overhaul

优质的体验、质量和收益

Ultimate experience, quality and profitability



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ABOUT GCL

| 关于协鑫集团

源网荷储算一体化绿色能源运营商

Integrated green energy operator of generation, grid, load, storage and computing

全球新能源 500 强 第 2 名

Ranked No.2 among the Global Top 500 New Energy Enterprises

中国企业 500 强

The Top 500 Chinese enterprises

中国民营企业 500 强

The Top 500 private enterprises in China

中国最具价值品牌 500 强

The Top 500 Most Valuable Brands in China

中国电力企业联合会副理事长单位

Vice-chairman Unit of China Electricity Council (CEC)

旗下四家上市公司

Four Listed Affiliates:

协鑫科技控股有限公司 (简称: 协鑫科技, 股票代码: 03800.HK)
GCL Technology Holdings Limited (GCL Tech, stock code: 03800.HK)

协鑫集成科技股份有限公司 (简称: 协鑫集成, 股票代码: 002506.SZ)
GCL System Integration Technology Co., Ltd. (GCL SI, stock code: 002506.SZ)

协鑫新能源控股有限公司 (简称: 协鑫新能源, 股票代码: 00451.HK)
GCL New Energy Holdings Limited (GCL New Energy, stock code: 00451.HK)

协鑫能源科技股份有限公司 (简称: 协鑫能科, 股票代码: 002015.SZ)
GCL Energy Technology Co., Ltd. (GCL ET, stock code: 002015.SZ)



34年

34年能源服务经验
34 years of experience in energy services



6大

6大产业集群
six industrial clusters



2400亿元

2400亿元资产规模
Assets of 240 billion



3000+

3000+海内外科研人员
over 3000 researchers at home and abroad



6000+

累计6000+发明专利、知识产权
6000+invention patents, intellectual property rights



6大洲

6大洲 业务覆盖全球
business covering 6 continents