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自主创新 · 产业发展

您的需要
我的创造

INDEPENDENT INNOVATION INDUSTRIAL DEVELOPMENT

创新理念
INNOVATIVE CONCEPT

You need to,
I create!
自主创新 · 产业发展

仁创铭/RECHSAND MING

善美化人·宜居环境·提升生活品质

IDEPENDENT INNOVATION INDUSTRIAL DEVELOPMENT
COMPANY HONOR
企业荣誉

中关村国家自主创新示范区
A high-tech enterprise located in Zhongguancun National Innovation Demonstration Zone.

北京市首批“十百千工程”重点培育企业
One of Beijing’s first group of enterprises supported by the project of ‘Ten Hundred and Thousand’

国家首批“创新型企业”
One of the first group of “National Innovative Enterprises”

硅砂资源利用国家重点实验室
State Key Laboratories
IT HAS BEEN COMMITTED TO THE DEVELOPMENT OF SAND INDUSTRY
专业致力于“砂产业”开发

沙 → 砂

农业型 AGRICULTURAL
工业型 INDUSTRIAL

Rechsand Conquered three worldwide difficult problems
成功攻克“用沙”三大共性世界难题

① 微颗粒全包覆技术
Microparticle fully coated technology

② 微颗粒界面改性技术
Microparticle interfacial modification technology

③ 免烧结成型技术
Avoiding sintering molding technology
INDEPENDENT INNOVATION

仁创自主创新成果

30余年，
围绕沙漠中沙子的综合开发利用，
300多项原创性发明成果

Rechsand has made over 300 original scientific achievements with completely independent intellectual property rights, has realized self-industrialization, creatively presenting solutions represented by "the utilization of sand".
THE SELF-INDUSTRIALIZATION, CREATIVELY PRESENTING SOLUTIONS

仁创自主创新典型产品
NATIONAL METHODS
国家级工法

INDUSTRY STANDARDS
行业标准
INDEPENDENT INDUSTRIALIZATION

自主产业化

- Sand artifact tech
- Sand in precision casting
- Petroleum output increase by sand tech
- Air-permeable and Waterproofing sand
- Water collection by sand tech
- Sand agriculture tech
- Sand architecture tech
- Oil production by sand tech
- Agriculture by sand tech
- Building by sand tech
- Art by sand tech
- Precision casting by sand tech
第一领域：以砂精铸

First Industry: Air-permeable and Waterproofing sand

以沙漠中的沙子为原料，
自主创新创造，
加工成一种新型的精密铸造材料
——覆膜砂系列产品。

Process the aeolian sand in the desert into a new type of precision casting material coated sand.

[高精度低发气覆膜砂] [耐高温覆膜砂] [易溃散覆膜砂]
解决我国复杂薄壁精密铸件难题
Solve the complex thin-walled precision casting problem

我国汽车发动机铸件90%以上
采用“仁创覆膜砂”技术生产而成
Key castings of more than 90% of domestic automobile engines are produced by using Rechsand coated sand.

仁创覆膜砂”技术与产品
为改造提升传统铸造业
提供了有效解决方案
Rechsand coated sand provided effective solutions for promoting the traditional casting industry.
第二领域：以砂增油
Second Industry: Petroleum out-put increase by sand tech

以沙漠中的沙子为原料，原创性发明出一种新型的石油开采增油剂
——油吗？孚盛砂
Process the aeolian sand in the desert into a new type of fracturing proppant that is "impermeable to water but permeable to oil"—selective Fusheng sand.

孚盛砂与海粒对比图
The contrast between Fusheng sand and ceramicite
大庆油田（X91井）：采用仁创“油哆哆”孚盛砂，替代传统压裂支撑剂，日产油由原来的0.4吨增至24吨，产水为0。

Take one well in Daqing oilfield for instance, after Fusheng sand replaced the traditional fracturing proppant, the oil output increased from 0.4 tons to 24 tons.

<table>
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<th>施工前单日效果</th>
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<td>日产油</td>
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<td>0.4</td>
<td>1.6</td>
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</table>
＞油吱吱 孚盛砂——应用案例
——庆典型实例2

压后日增油6.3t，
含水降低8.7个百分点，
目前有效期超过13个月，累计增油1224t

The moisture content reduce 8.7% of water and increase 6.3 tons of petroleum per day by using Rechsand Fusheng sand. It has been used over 13 months and improved the output of petroleum for 1224 tons in total.
“该项目发明成果对我国能源战略具有重大意义。”
—— 李克强

“This invention is significant for the National energy strategy.”
—— Li Keqiang
the Chinese vice-premier

经大庆油田、吉林油田、胜利油田
等10多家油田数千口油井应用，
平均提高石油产量15%以上。

The product, as applied in oilfields like Daqing Oilfield, Jilin Oilfield, Shengli oilfield and so forth, improves the average per well output by 15%.

油哆哆”孚盛砂技术与产品
为石油开采业提高采收率
提供了有效解决方案

Rechsand Fusheng sand provided effective solutions for the oil industry to improve recovery efficiency.
第三领域：以砂兴水

Third Industry: Water collection by sand tech

- 以沙漠中的沙子为原料，原创性发明出“生态透水”系列产品和“生态保水”系列产品。经系统集成，创造性开发出一套完整的“雨水收集与过滤净化和储用保鲜”系统。

  Process the sand in the desert into permeable bricks and rainwater collection system. Typical products include sand-based water-permeable bricks, sand-based rainwater collection system and sand-based filtering membrane, all of which have been successfully used.

- 核心技术与产品

  Core technology and products

  ![沙基透水砖](image1)
  ![硅砂滤水井](image2)
  ![透气防渗砂](image3)
  ![硅砂滤水沟](image4)
  ![硅砂滤水路缘石](image5)
仁创雨水专家系统

Rechsand rainwater collection system

荣获北京市2011年度科技发明一等奖
有效消除城市内涝与暴雨洪涝

It won the first prize of Beijing Scientific & technological

The schematic diagram of Rechsand rainwater collection system

由传统的“点式”排水变成“收集、蓄用、渗补、排放”于一体的生态雨水利用系统

Transform the traditional drainage conditions into an environmentally friendly rainwater collection system.
It can collect rainwater and store it, in order to complement the groundwater of drains the excess water away.
永定河防渗对比试验
Contrast test of Yongding River

仁创透气防渗砂
The effect of using air-permeable and waterproofing sand

土工膜防渗
The effect of using geomembrane

仁创井工程案例
Project case

硅砂滤水平石
sand-based water permeable stone
【中关村生命科学园】
Zhongguancun life science park

硅砂滤水砖
Sand based water permeable bricks
【天津生态城】
Tianjin Eco-city

滤水路缘石
Sand based water permeable kerb
【天津生态城】
Tianjin Eco-city
“仁创雨水专家系统”已应用于13个省市300多项工程，并成功应用于奥运水立方、世博中国馆、绿色军营建设等。

Red seamlessly rainwater collection system have been successfully used in more than 300 projects in 13 provinces, for instance, the Water Cube; China Pavilion in Shanghai World Expo, barracks construction and so forth.

为宝贵雨水收集利用和消除暴雨洪涝，缓解城市热岛效应，提供了有效解决方案。

It provides solutions for rainwater collection, eliminate the flood, heat island effect.
第四领域：以砂建筑

Fourth Industry: Sand architecture tech

以沙漠中的沙子为原料，原创性发明一种集装饰、结构、保温、防火于一体，冬暖夏凉、会呼吸的硅砂生态建筑。

Process the aeolian sand in the desert into an ecological silica sand building materials like wall bricks, the foundation system and the heat insulation system.

核心技术与产品

Core technology and products

硅砂外墙装饰板
Sand-based outdoor decorative materials

硅砂内墙装饰板
Sand-based indoor decorative materials

膨化保温砂
Insulation sand
硅砂内墙挂板
Sand-based indoor decorative materials

硅砂外墙挂板
Sand-based outdoor decorative materials
会呼吸的硅砂生态建筑（试验楼）
Demonstration building in Rechsand research institute in Miyun

安徽新农村建设样板房
Model houses for Anhui new rural reconstruction
某集团军现代化综合仓库
Modern integrated warehouse

武警某部活动中心（示范楼）
Troops activity center

用沙子制出“透气防水”功能的“会呼吸”的装饰挂板，替代粘土制砖，替代石材、陶瓷用于装饰，集成创新，形成集“保湿、防火、装饰”于一体的围护结构
Silica sand is widely used in building materials like wall bricks, the foundation system, the roof seepage-proof & heat insulation system, the load-bearing system as well as in indoor & outdoor decorative materials like doors & windows, indoor & outdoor cladding, floor tiles, ceiling and sand-based furniture.

为住宅工业化提供了有效解决方案!
第五领域：以砂兴农
Fifth Industry: Sand agriculture tech

以沙漠中的沙子为原料，原创性发明创造出“会呼吸”的花盆、“透气保水砂”等系列产品
Process the aeolian sand in the desert into an ecological and breathing silica sand flower pots that are impermeable to water but permeable to air.

核心技术与产品
Core technology and products

生泰® 透气保水砂
Shengtai air-permeable and water retention sand

生泰® 会呼吸的花盆
Shengtai air-permeable silica sand flower pots
沙漠设施农业示范工程
Desert Protected Agriculture Project

宁夏中卫沙漠设施农业种植示范工程
Zhongwei, Ningxia

辣椒在32天时的对比
Contrast test for hotpepper planting by 32 days

未采用
Normal way

采用透气保水沙
Adopting Shengtai air-permeable and water retention sand
沙視設施農業示範工程2
Desert Protected Agriculture Project
保水的同时保肥，透气功能促进光合作用
This waterproofing sand can maintain both water and fertilizer, the function of air-permeable can promote photosynthesis.

节水70% 增产45%
Save the water resource by 45% and improves the output by 65%.

“会呼吸” 花盆节水种植
Water saving planting
"会呼吸"的花盆，透气保水砂等系列技术与产品，为沙漠变粮田、现代都市农业与阳台经济，提供了有效解决方案。

This type of flower pot is widely used to grow flowers or vegetables on the balcony or roof, which are thus changed into ecological vegetable gardens.
第六领域：以砂治沙

Sixth Industry: Air-permeable and Waterproofing sand

以沙漠中的沙子为原料，原创性发明出“透气防渗漏砂”、“透气防蒸发砂”等生态节水技术产品

Process the aeolian sand in the desert into a new type of ecological water holding material that is ‘impermeable to water but permeable to air’—air-impermealbe and seepage-proofing sand.
种植方案
Method of Planting

生泰® 透气防渗漏砂
透气防蒸发砂
The air-permeable and waterproofing sand

(1) 晃砂
Sanded
(2) 填土
Sand cushion
(3) 填砂
Filling
(4) 浇水
Watering
沙丘种植示范工程
The experimental forest

2009年 VS 2012年

两年浇三次水，成活率100%
Can be watered three times per two years, the survival rate can reach 100%.
内蒙古通辽奈曼旗 Inner Mongolia

2009年 VS 2010年

节水75%，成活率100%
75% of water is conserved, the survival rate is 100%
宁夏腾格里沙漠 Tenger Desert, Ningxia
沙模种植示范工程

The experimental forest

新疆和田沙漠  Khotan desert, Xinjiang

经内蒙古, 宁夏, 甘肃, 新疆等地近万亩
沙漠种植试验，成活率高达97%，节水75%。

The planting experiments in Inner Mongolia, Ningxia, Gansu and Xinjiang desert areas show that the survival rate of trees can reach 97% and saves the water resource by 75% if the air-permeable and waterproofing sand is used.

为防治沙使沙漠变绿洲

提供了有效解决方案

Rechsand Science & Technology Group provided effective solutions for make the desert oasis
第七领域：以砂兴艺

Seventh Industry: Sand artifact tech

以沙漠中的沙子为原料，原创性发明出“砂雕”及替代宣纸写字作画的“砂宣”等技术产品。

Process the Aeolian sand in the desert into new types of artifact

砂雕艺术品

Embossments made by silica sand
砂雕艺术品

Embossments made by silica sand

The certification shows that the soap box made by sand got honorable mention
砂宣艺术品

Byobus made by aeolian sand

用沙替代木浆造纸，替代石材雕塑等技术产品，为科技与文化融合，以砂兴艺探索实践。

The combination of technology and culture, exploration and practice.
INAUGURATED SAND INDUSTRY

以沙为原料，通过技术创新，加工成各种各样对人类有益的砂产品，系统集成，创造性形成“以砂精铸、以砂增油、以砂兴水、以砂建筑、以砂兴农、以砂治沙、以砂兴艺”为代表的解决问题方案，从而开创出一个具有重大技术突破和重大发展需求的战略性新兴产业——工业型砂产业。

In the past 2 decades, with the research of desert sand as the entry point and the comprehensive exploitation and utilization of the desert as the target, the enterprise has made over 300 original scientific achievements with completely independent intellectual property rights, has realized self-industrialization, creatively presenting solutions represented by “the utilization of sand in the field of casting, waterworks, oil exploitation, desertification control, construction engineering, agriculture and art” and has inaugurated a new strategic industry marked by “the utilization of sand”.
INNOVATION MODEL OF RECHSAND
仁创自主创新模式

GENERAL SITUATION OF SAND INDUSTRY
“砂产业”国内外概况

1. 原理  2. 技术  3. 产品  4. 标准  5. 产业化

中国首创 ORIGINATE IN CHINA
THE VALUE CHAIN OF SAND INDUSTRY
形成完整“砂产业”价值链
领导关怀 LEADERSHIP CARE

仁创砂产业得到了党和国家领导人以及社会各界的高度重视与关怀

With the concern and support by the government and the public, the research results have been applied in industrial production, involves the utilization of sand in the field of casting, oil exploitation, waterworks, eco-construction, agriculture, desertification control and art.

“透水砖系列产品，是利国利民的好产品。”
—— 胡锦涛

The water permeable bricks are products that is useful for our country and people.
——Hu, Jintao
“该项发明成果对我国能源战略具有重大意义。”
—— 李克强

“This invention is significant for the National energy strategy.”
----- Li Keqiang, the Chinese vice-premier
“像魔术一样神奇。”
—— 俞正声

"Your products are as amazing as the magic."
---- Yu Zhengsheng
“我扩大政府采购，进一步帮你降低成本。”
—— 王岐山

“I will enlarge the scope of government procurement to help you reduce the cost.”
—— Wang Qishan
国际交流与合作

EXCHANGES AND COOPERATION

以色列沙漠研究所所长莅临仁创科技集团考察

以色列沙漠研究所所长奥尔洛夫斯基教授于2009年10月26日访问仁创科技集团，看到了仁创科技集团一系列创新技术，表示“很惊讶，很感动。秦升雄董事长的创新技术，简直是一种神奇（ЧУДО），是风积沙利用上的一种突破（ПРОРЫВ）。”

联合国荒漠化公约组织秘书长——吕克.尼亚卡贾

“仁创的技术为实现2030年荒漠化零增长的目标提供了有效解决方案。我们将积极把仁创神奇的糙沙技术产品推向全球、造福全球，并希望明年在中国召开首届国际砂产业论坛。”
远景目标
VISION

沙漠变绿洲 DESERTS WILL BECOME FERTILE LAND
沙漠变粮田 DESERTS WILL BECOME OASIS
沙漠变宜居 DESERTS WILL BECOME LIVABLE PLACE

仁创人历经30余年的探索与实践证明，依靠创新的力量，完全有望使沙源变资源，变废为宝，化害为利——为生态文明建设探出了一条新的途径。

Depends on the power of innovation and exploration for more than 20 years, Rechsand have already open a new pathway for ecological civilization construction that can transform deserts to resources, turn the waste into treasure and turn harm into good.
巴彥淖爾

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