

Professional & Eco-Environmental

——Guangxi Bossco Environmental Protection Technology Co., Ltd.——

Stock name : 博世科 Stock code : 300422

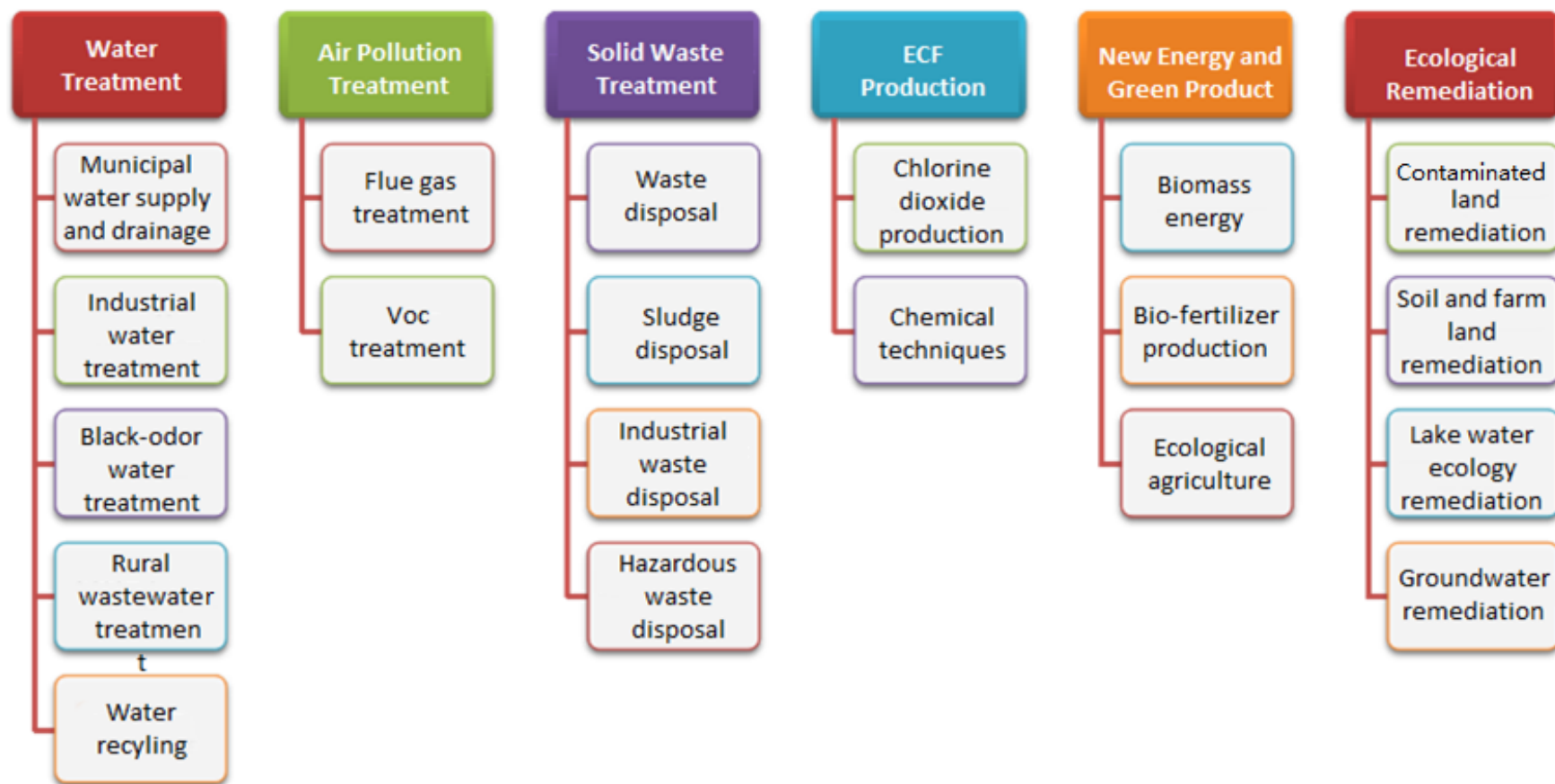


➤ About Bossco

- Established in 1999, one of the key high-tech enterprises of China Torch Program
- 101 approved patents, 19 of which invention patents
- Listed in Shenzhen Stock Exchange GEM, stock code: 300422
- A comprehensive environmental service provider with core technologies



Services



Qualifications

- Environmental Impact Assessment
 - Grade A Report scope: metallurgical, electromechanical, building materials, thermal power, agriculture, forestry, water conservancy, transportation, social areas
 - Grade B Report scope: light industry, textile, chemical fiber, chemical, petrochemical, medicine
- National laboratory
 - CNAS certified laboratory
 - CMA testing center



➤ Qualifications

- Project Design
 - Municipal Industry (Water Supply and Drainage) Grade A
 - Environmental Engineering (Water Pollution Prevention and Control) Grade A
 - Environmental Engineering (Solid Waste Disposal) Grade B
- Project Consultancy
 - Municipal Utility Engineering (Water Supply and Drainage), Ecological Construction and Environmental Engineering Grade B
 - Municipal Utility Engineering (Water Supply and Drainage), Ecological Construction and Environmental Engineering Grade C
- Project Construction
 - Municipal Public Project Construction General Contracting Grade III
 - Environmental Project Contracting Grade I
 - Mechanical and Electrical Installation Project Contracting Grade II
 - Urban Landscape Greening Company Grade III
- Facility operation
 - Environmental Pollution Control Facility Operation (Domestic Sewage) Qualification
 - Environmental Pollution Control Facility Operation (Industrial Sewage) Qualification
- Overseas Project Construction
 - People's Republic of China Qualification of Foreign Project Contracting



➤ Manufacturing



- ❑ 6 manufacturing bases
 - ❑ 30000 m² manufacturing workshop
 - ❑ Processing materials : CS, SS, PP, PVC & PTFE
 - ❑ Processing capacity :
 - maximum diameter - DN15000mm
 - maximum length - 28000mm
 - maximum thickness - 60mm
- Yearly capacity:
- CS - 4500T
 - SS - 2500T
 - others- 1000T



➤ R&D Platform and Honors

- China Torch Program Key Enterprise
- Postdoctoral Science & Research Station
- Academician Station
- Guangxi Enterprise Technology Center
- Provincial R&D Center
- Guangxi Innovative Enterprise
- Guangxi Innovation Model Enterprise
- Guangxi Talent Pool
- Cultivation Unit of the Intellectual Property Advantage Enterprise Program of Guangxi
- Technology Research Center Guangxi Water Pollution Control Project
- Nanning station of Haizhi Base
- Technology Research Center of Nanning Water Pollution Control Project
- Talent Pool of Nanning for Environmental Equipment R&D
- Nanning Expert Positions (1st, 2nd and 3rd phase)
- International Technological Cooperation Base of Nanning for Industrial Water Pollution Control
- ...
- Backbone Enterprise of CAEPI
- AAA+ Grade Quality Credit Company of China
- China Renowned Environmental Enterprise
- Industrialization demonstration projects of the National Torch Program
- Industrialization suggestion of kitchen waste utilization equipment
- Industrialization of the BSC-type chlorine dioxide production system for pulp bleaching
- National key new product recognized by the Ministry of Science and Technology of China
- Up-flow Multistage Anaerobic Reactor (UMAR)
- Up-flow Heterogeneous Oxidation Tower (UHOFe)
- Industrial Wastewater Leading Company, Green Elite Award
- 2014 Leading Enterprise in the Water Industry and Water Treatment of China
- 2014 China Key Practical Technology of Environmental Protection(UMAR, UHOFe)
- ...

➤ Markets

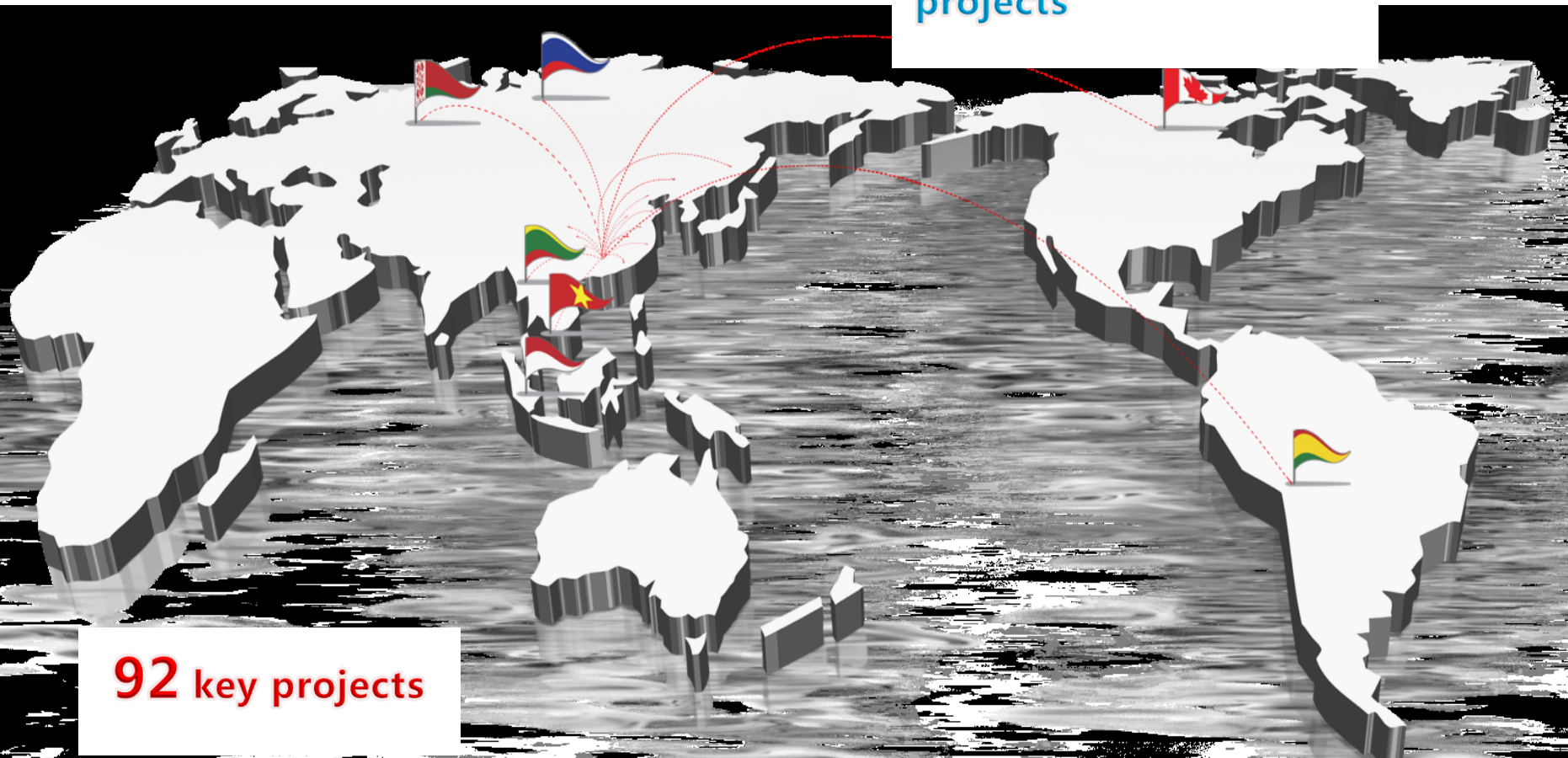
Benefit 280M people

Serve **210+** cities

Serve **85+**
industrial zones

Cover **4** continents

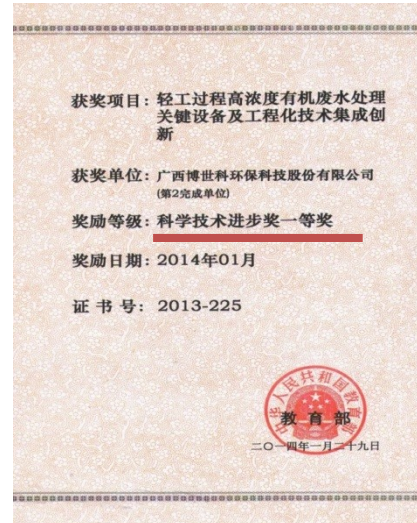
Implement **200+** water
projects



92 key projects

Industrial Application of Key Technologies and Equipment for Treatment of Concentrated Organic Wastewater of Light Industry

**First Prize of
Science and Technology Progress Award of the Ministry of Education (2013)
Science and Technology Progress Award of China Light Industry Federation(2013)**



Key Technologies and Application of Utilization and Ultra-low Discharge of Typical Papermaking and Fermentation Wastewater

Second Prize of National Science and Technology Progress Award (2016)

Technology Innovation Achievement

Chlorine Dioxide Preparation Technology for Pulp Bleaching

- Top ten breaking news of China Paper 2010
- First Prize of the 2015 Guangxi Science and Technology Progress Award
- Guangxi first key technological equipment of China in 2016



PT INDAH KIAT PULP & PAPER Tbk.

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To whom it may concern,

We, PT. Indah Kiat Pulp & Paper Tbk, Indonesia hereby certify that: the chlorine dioxide plant built by Guangxi Bosscor has successfully operated for the period of year 2014 – 2015 with capacity and stability, as similar plants engineered by Eka or Erco. We believe the gratitude of technologies and applications for the project have reached the top level as implementation worldwide, which is capable of replacing similar technologies of former predecessors in this field. Moreover, investment of equipment for the project only requires one third to half cost in comparison with same capacity with satisfactory aftersales service.



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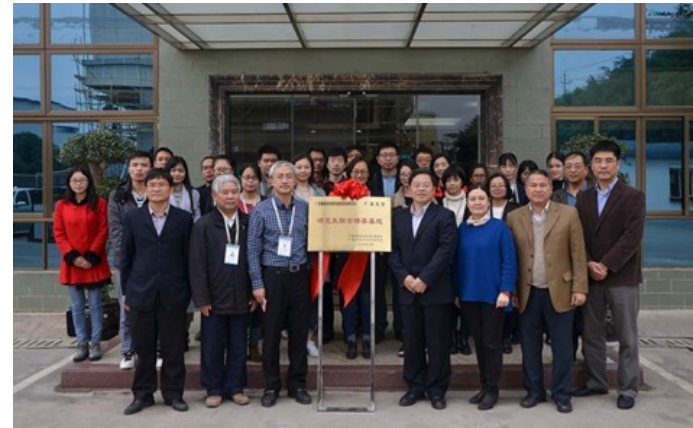


➤ Management Culture

- Construction and implementation of group management platform
- Equity incentive system
- The introduction of high-end talent, and young teachers in Colleges and universities to carry out innovative personnel training program
- Construction of Environment College of Guilin University and Bossco-Guangxi University Graduate Cultivation Base



Bossco–Yang Teachers Innovative
Personnel Training Program



Bossco-Guangxi University Graduate
Cultivation Base Opening Ceremony

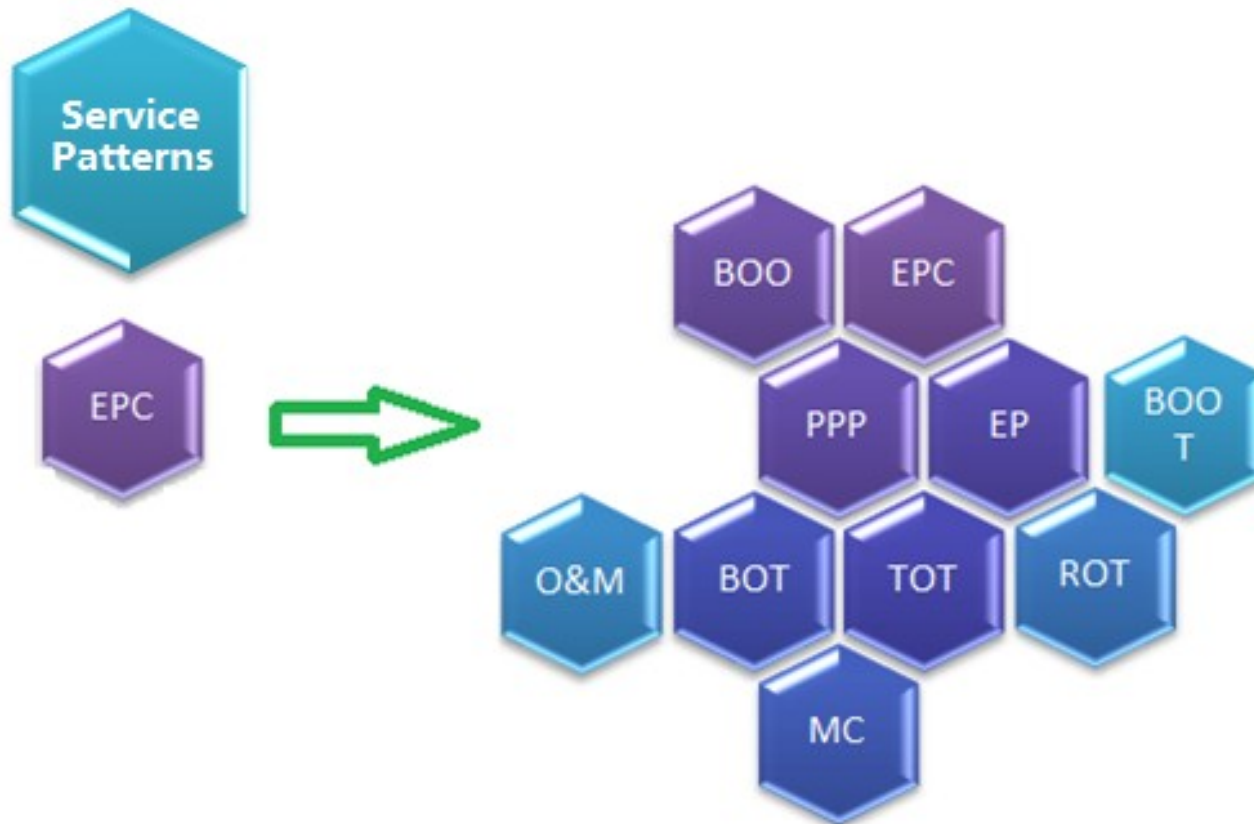
➤ Overseas Businesses and Services

■ Explore overseas businesses and services

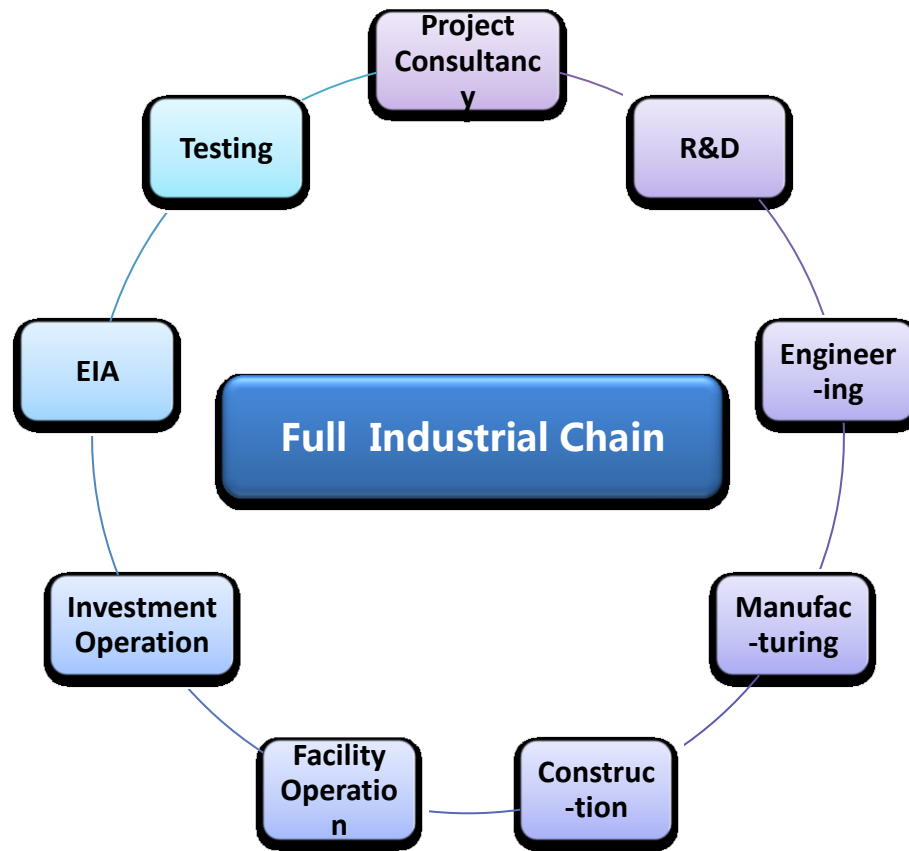


➤ Business Patterns

- ❑ Considering the tendency towards comprehensive treatment, Bossco is transforming into a regional comprehensive environmental service provider relying on its core technologies and excellent R&D strength, and the business pattern is transited to EPC , PC and PPP from the conventional EPC.



➤ Full Environmental Protection Industrial Chain



- ❑ As of today, more than 200 cases of design consultancy and over 400 cases of project construction service have been provided to governments and companies of various levels, with the service scope covering project consultancy, project design, R&D, equipment manufacturing, project construction, facility operation and investment operation, which forms a full industrial chain to render integrated environmental services.

➤ Environmental Management Core Technologies

Municipal Wastewater Treatment Patent Core Technology: ACM Bio-reactor

Bosscos developed the ACM Bio-reactor (Anaerobic-contact oxidation dephosphorization and denitrification biofilm reactor), Circulating Fluidized Bed Aerobic System and Biochemical Oxidation Deep Denitrification Equipment etc. for the urban and rural sewage treatment and disinfection, and also integrated the technologies of constructed wetlands and rapid infiltration to construct the urban and rural sewage treatment technology system.

No.	Patent Name	Classification	Patent No.
1	Anaerobic-contact oxidation dephosphorization and denitrification biofilm reactor	Utility model	201520922324.0
2	the sewage treatment method with Anaerobic-contact oxidation biofilm reactor and the equipment	Utility model	201510808776.0
3	A batch-type external circulating aerobic granular sludge fluidized bed	Utility model	ZL200920165023.2
4	A magnetic separation system	Utility model	ZL201020060917.8
5	A suspension packing bed for nitrogen removal	Utility model	ZL200920165021.3
6	A biochemical oxidation nitrogen removal equipment	Utility model	ZL201120208151.8
7	A sludge dewatering equipment	Utility model	ZL201220458951.X
8	An anti-blocking sedimentation equipment	Utility model	ZL201320318182.8
9	A movable integrated sewage treatment system	Utility model	ZL201520405900.4
10	Circulating fluid bed oxidation system	Utility model	ZL201520502598.4
11	Circulating fluid bed oxidation system	Invention	201510407475.7
12	A method of high purity chlorine dioxide production with integrated reductant	Invention	200910114638.7
	...		

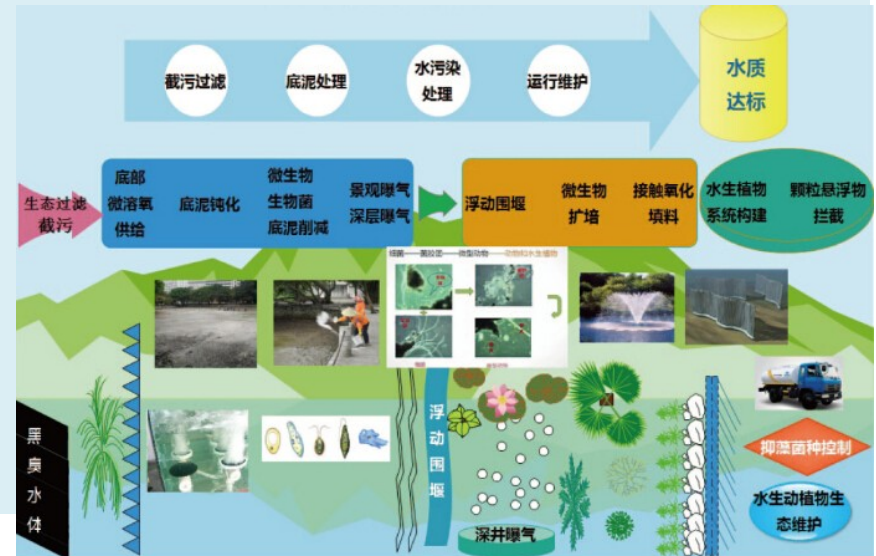


- Zhejiang Lingshang Village Wastewater Treatment Plant 250m³/d
- Zhejiang Hengshan Town Wastewater Treatment Plant 1000m³/d
- Hunan Litian County Wastewater Treatment Plant 500m³/d
- Dahua Gongshan County Sewage Treatment Plant 250m³/d
- Dahua Gonghe County Sewage Treatment Plant 400m³/d
- Binyang Industrial Park Wastewater Treatment Plant 300m³/d
- Nanning Zhongliang Fishpond Water Body Remediation 20000m³
- Guangxi Institute of Finance and Economics Xiangsi Lake Water Body Remediation 20000m³
-

➤ Integrated solution for Watershed Ecological Remediation

Rivers & Lakes Ecological Remediation Technologies

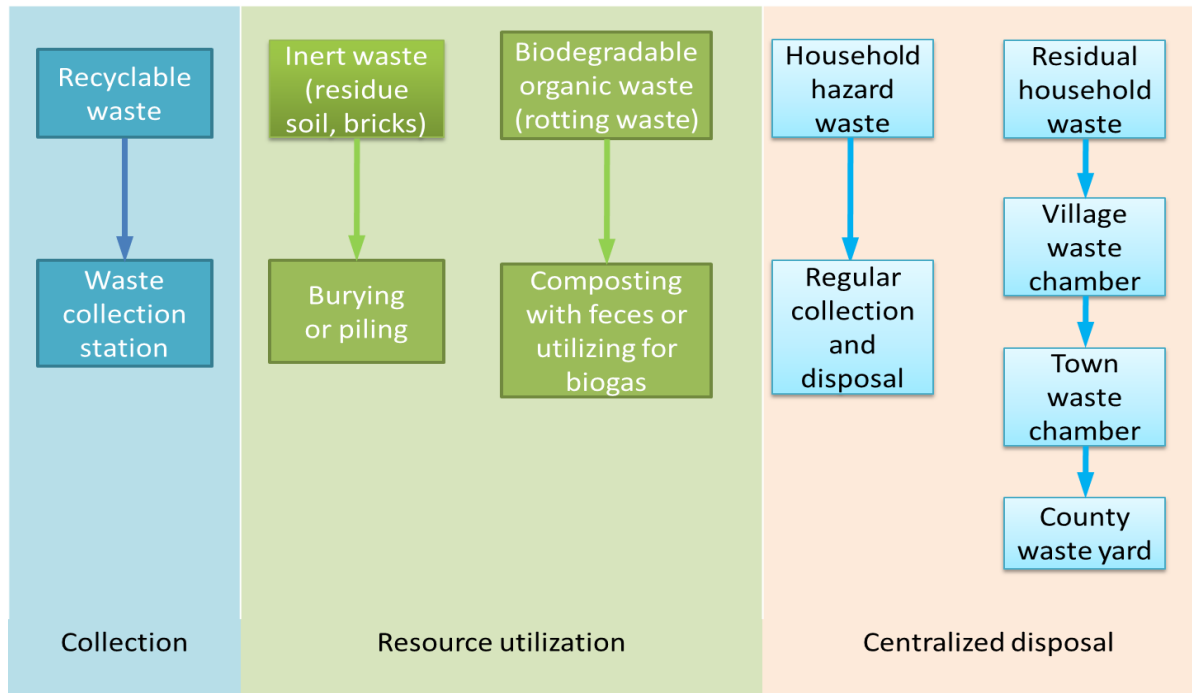
- Bossco studied on the main pollution sources, surrounding and hydrology conditions and shoreline situation of the black-odor rivers and eutrophic lakes in the area, designed an treatment solution combining applicability, integrity, economy, sustainability and safety to improve and maintain the environment quality through the external sources control and internal sources abatement.
- The external sources control technologies: sewage pipe interception, the on-site treatment integration, air separation, etc..
- The internal sources abatement technologies: dredging, dredging and biodegradation.
- Ecological remediation technologies: trash floating cofferdam technology, artificial medium technology, microbial technology, strengthening the management of aquatic vegetation ecological remediation technology, ecological bed technology, constructed wetland and aquatic organism control system construction technology.



➤ Environmental Management Core Technologies

Rural Domestic Waste Collection, Transfer and Disposal Route

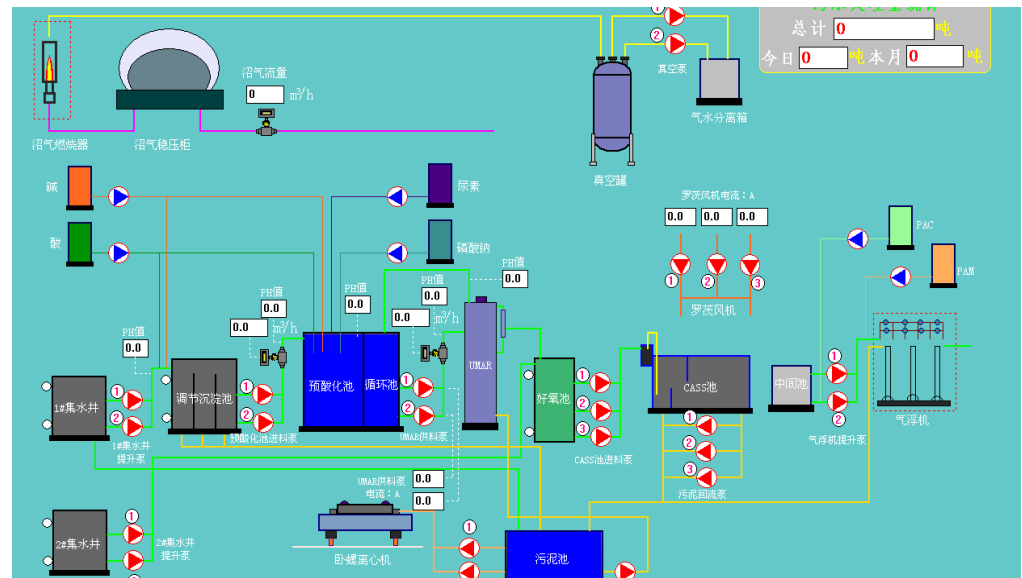
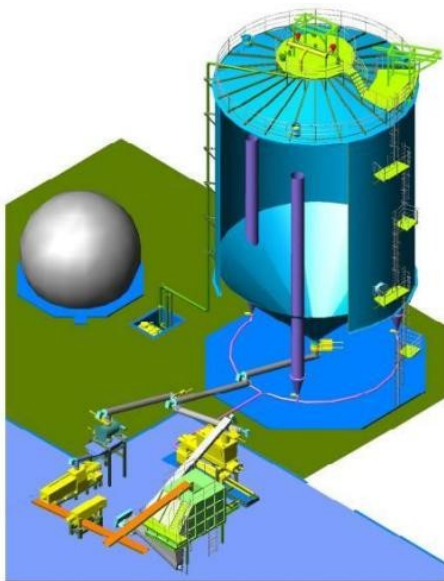
- Sort and collect the urban and rural domestic waste;
- Utilize the construction waste which could be recycling, compost the organic waste which could be degraded or utilize in the anaerobic biogas project;
- Construct the waste chambers in the villages and towns, form a rural waste collecting and transferring system. The waste that could not be recycled shall be buried in the town's waste landfill.



➤ Organic Waste Recycling Core Technologies

Medium high temperature Mixing Anaerobic Reactor

Bosscos developed a medium high temperature mixing anaerobic reactor for the animal waste and rural organic waste which is with high solid content and high viscosity. The hydraulic retention time of the reactor is 10 to 25 days, volumetric loading is 5 to 13kgCOD/m³·d, gas generating rate is 1m³/m³·d, and the whole reaction system is controlled intelligently. And Bosscos has designed a solution for the animal waste and the rural organic waste which a large and medium scale of anaerobic biogas project is core of it, integrated with organic waste recycling, biogas supply, power generation, CNG, organic fertilizer production, eco-agriculture construction, green food and eco-agricultural tourism to promote the medium and small town development, new village construction and spiritual assistant.



➤ Typical Project Case

Water Supply Project

Sihong Water Supply Project

PPP cooperation

Investment: : RMB 306.7 million

The water supply capacity is 150,000m³/d, serving an area of 1790km² with population of 577,900 in Sihong county, Jiangsu province. It helps to solve the problem of save drinking water for over 23 villages.

Sihong water supply plant was started in 2014 and successfully commissioning in June 2016.



➤ Typical Project Case

Industrial Park Water Supply and Wastewater Treatment

Name: Qinzhou Huangma Industrial Park
Wastewater Treatment

Designed capacity: 10,000m³/d

Site: North district, Qingzhou, Guangxi

Time of contract: December, 2015

Startup time: October, 2016

Performance: the treated water meets the first A grade of national standard



Name: Qinzhou Huangma Industrial Park
Water Supply

Designed capacity: 20,000m³/d

Site: North district, Qingzhou, Guangxi

Time of contract: September, 2016

Status: under construction



➤ Typical Project Case

Industrial Wastewater Treatment Project

Designed capacity : 45,000m³/ d

Wastewater source : deinked pulp wastewater

Process: pretreatment + primary sedimentation tank + anaerobic system + aerobic system + secondary sedimentation tank + advanced treatment + final effluent reuse/efflux

Site: Liansheng Paper mill, Fujian

Effluent parameters

	Flow	COD	BOD	SS
Inflow	45,000	4,000	1,500	1800
Outflow	45,000	≤50	≤10	≤20



➤ Typical Project Case

Sludge Composting Project

Site: Fangchenggang, Guangxi

Designed capacity: 10t/d (95% dryness)

Performance: the treated sludge completely meets the design requirement including the water content, pH, and the content of mercury, arsenic, lead, chromium and cadmium etc. The treated sludge was tested by the third party of profesional testing agency in August, 2016, and all parameters met the standard.



Turning Science Into Reality

Thank you

