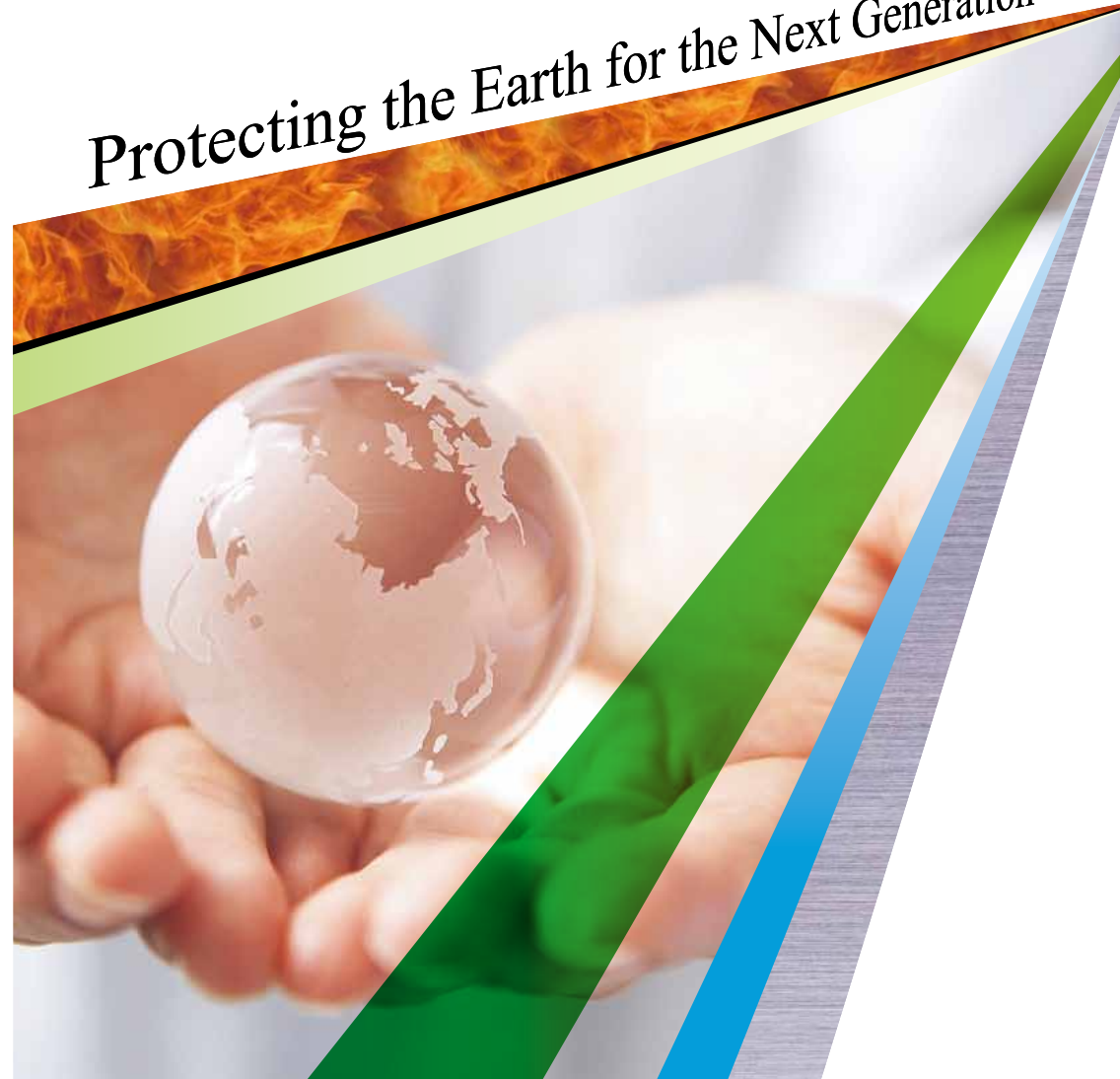


Protecting the Earth for the Next Generation



Making the World Better for the Future.

The world's population in the 2060s it will reach 10 billion.

This increase in population means that we will need more water, food, and other resources, and solving energy problems will need the cooperation of everyone on Earth.

At Actree, we help protect the environment from pollution caused by waste products.

Even now that many people work to protect the environment, we still approach waste products with new ideas, solving challenges faster and better than anyone else.

We work to make the world a better and cleaner place, both for the people of today and the people of tomorrow.



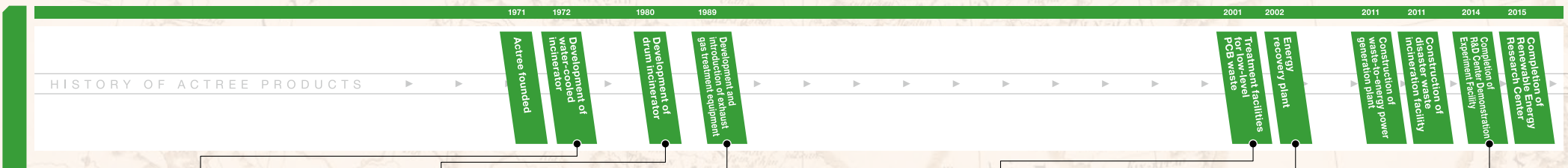
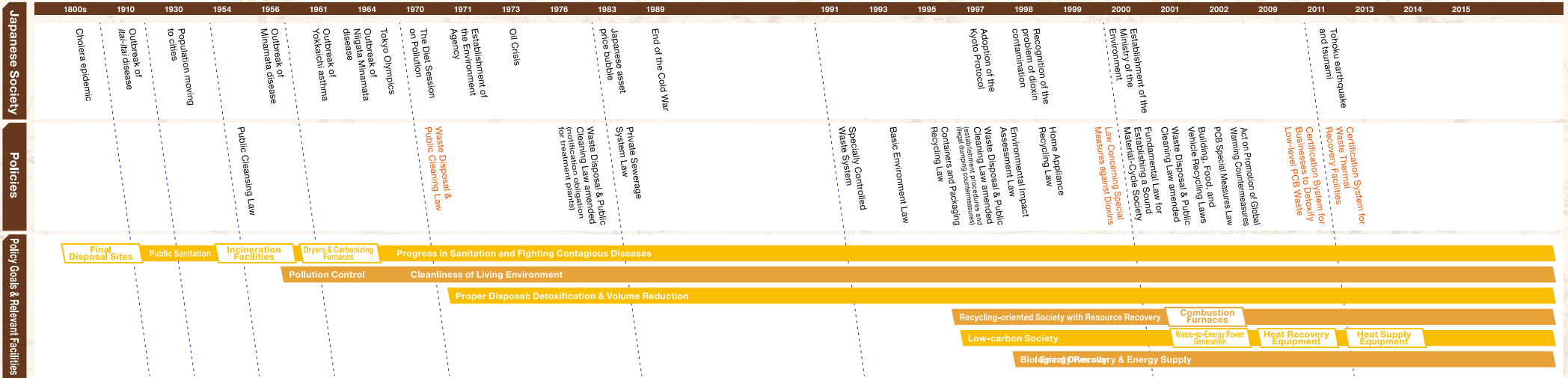
Creating The World of Tomorrow



Improved Waste Treatment, Through Years of Progress



At Actree, we never stop looking ahead.



The water-cooled incinerator: the original industrial incinerator.

Developed in 1972, the water-cooled incinerator combines a water-cooling jacket and heat-resistant materials. Heat load fluctuations in the furnace are absorbed by the cooling water in the walls, for consistently stable incineration.

The drum incinerator: for safe, low-cost disposal.

The drum incinerator allows solid waste resins to be incinerated while still inside their storage drums, for fewer preprocessing accidents and lower costs.

Consistently the leader in creating cleaner products.

Product development has always been important to us. We led the change from wet dust collectors to dry dust collectors, and this technology made us among the first to comply with 1999's Law Concerning Special Measures against Dioxins.

Specified hazardous waste technology for processing even low-concentration PCBs.

We use a bogie-hearth furnace for disposal, treating polychlorinated biphenyls (PCBs) while detoxifying containers for transformers and other equipment.

Sales of energy recovery plants for a new generation.

Waste material can be an energy source. Our waste-to-energy power generator was released before the Certification System for Waste Thermal Recovery Facilities, and we keep finding new ways to use waste materials.

Actree's ideas begin at our R&D Center.

In 2014, we opened an incineration plant at our R&D Center as a demonstration experiment facility. It includes a waste-to-energy power generator and serves as our R&D facilities. We also use it as a showroom, training center, substitute facilities, and more.

How Actree Became an Environmental Solutions Company.

At Actree, we use environmental technologies to make the world clean and comfortable.

In 1971, Murata Kinzoku, a metal-stamping company, started a new business that became Actree.

We started from zero to solve the pollution problems that came from major economic growth.

We have developed advanced processing facilities, with many environmental technologies,
to help make the environment around the world.

Today, we are Japan's top maker of industrial waste treatment incineration plants.

At Actree, our goal is to protect the environment for the future.



Everything is Handled In-house. It's Our Pride and Our Responsibility.

At Actree, when we build plants, we plan to help our customers forever.

Our plants are built to protect the environment and save our customers money,
and we give our customers great support.

By doing everything in-house, we can give our customers the best reliability and peace of mind.



ACTREE WORKFLOW



Proposal



Our Sales Group helps customers expand their businesses with our waste treatment plants. We listen to customer requests, and look at waste treatment trends, the nature of the area, historical background, and more.

Planning

Process Plan, Mechanical Plan, and Electrical Plan



To help expand a customer's business, we make plans that will provide safe and reliable treatment, and we analyze the materials that customer will treat. Our Plant Group makes process plans, mechanical plans, and electrical plans to fit the customer's business.

Manufacturing

In-house Factory



At Actree, we have always believed that in-house manufacturing is very important for our technologies, and we have always had an in-house factory. Our expert Manufacturing Group uses in-house manufacturing to give our customers excellent quality, very quickly.

Installation



From planning to installation and test run, every step is done by our Plant Group, working closely with the customer. Our products are built at our factory with modular designs, so they can be assembled quickly and efficiently, with safer installation work.

Test Run



After installation work, the same people from our Plant Group perform a test run. We take responsibility for the test runs until our products are ready for standard operation. We also carefully teach our customers how to operate their new facilities.

After-sales Service



Even after our customers start using our products, experts from our Service Group provide regular maintenance and service if there are technical issues. Our in-house approach, from planning to manufacturing to service, lets us quickly get customers back up and running.

Using Experience and Hard Work to Find Solutions to Any Challenge

Waste-to-Energy Power Generation Equipment

We plan and build incinerators to fit our customers' businesses. We can also add systems to automatically transport and load infectious waste, waste still stored in drums, and more.



ISR Combines a stoker incinerator and a rotary kiln incinerator. The water-cooled walls let it recover heat and generate power.



RKN Combines a pusher-type stoker with a countercurrent rotary kiln, for stable processing of waste with many different calorific values.



Drying Equipment

Incinerates and deodorizes the foul-smelling gas from drying, for odorless exhaust that is also used as a heat source. The combined drying and deodorizing equipment uses less fuel than using two separate pieces of equipment.



AKM Dries fertilizer, feed, livestock waste, fermented compost, organic compost, metal sludge, and more.



Combustion Furnace Equipment

Combustion furnaces fire soil or cinders that are polluted with organic compounds or heavy metals, to detoxify them. The results can then be used as ground embedding material for buildings, roadbed material, and other construction materials.



SRJ Detoxifies cinders for reuse. Much lower initial and running costs than a melting furnace.



SRP Mixes insolubilizer into inorganic matter sludge, then granulates and fires it to be used in recycled items.



SRJ Small-scale combustion furnace equipment to recycle cinders produced by your plant.

Carbonizing Equipment

Processes woody waste material, food debris, organic sludge waste resin, waste tires, and more. Manufactured carbide products can be used as a substitute for activated carbon in water cleaning agents, soil improvement materials, road heat storage materials, deodorizers, household floor and wall humidity control agents, and more.



AKT Combusts distillation gas from the carbonizing process. Its self-carbonizing system helps it consume almost no fossil fuel.



AKMT Uses biomass fuel to help reduce CO2.

Actree's New Technologies Make Waste Treatment Better than Ever.

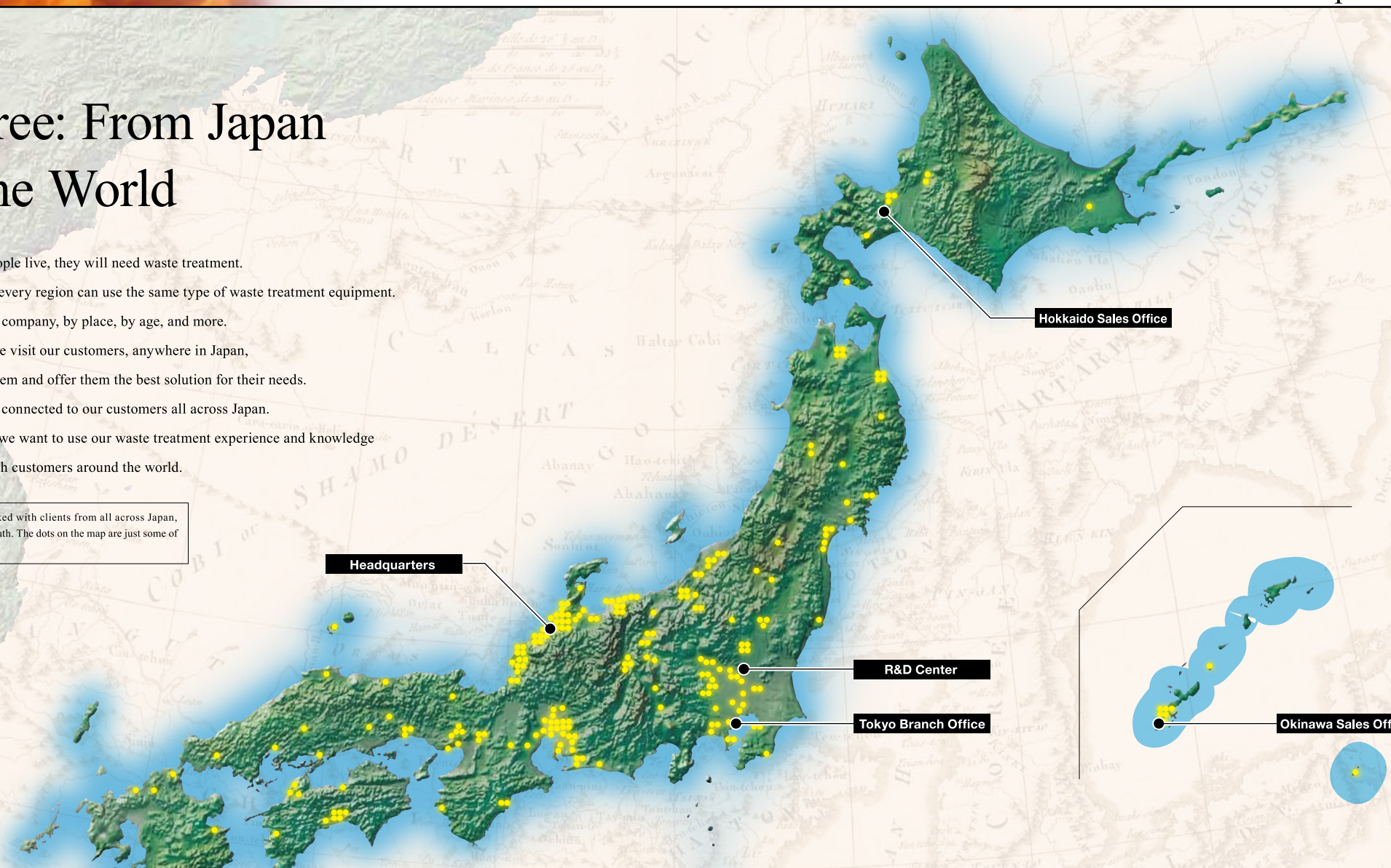
Technology improves very quickly. At Actree, we develop new waste treatment technologies for modern society. We make combustion furnace equipment to recycle materials, and waste-to-energy power generation equipment to recycle energy. We find ways to use energy more efficiently, to help make society lower-carbon. At Actree, our goal is to protect the environment for future generations.



Actree: From Japan to the World

Anywhere people live, they will need waste treatment.
 However, not every region can use the same type of waste treatment equipment.
 It can vary by company, by place, by age, and more.
 That is why we visit our customers, anywhere in Japan,
 to talk with them and offer them the best solution for their needs.
 Today, we are connected to our customers all across Japan.
 In the future, we want to use our waste treatment experience and knowledge
 to connect with customers around the world.

Actree has worked with clients from all across Japan, from north to south. The dots on the map are just some of our plants.



ACTREE OFFICE AND BRANCH LOCATIONS



Industry, Universities, and Government Working Together to Make the Next Generation of Waste Treatment.

R&D Center

Research and development to build next-generation incinerators for industrial waste treatment.

The R&D Center was built in 2004 to research next-generation incinerators. The same year, it started producing and selling recycled heavy oil made by collecting and recycling mineral waste oil from the manufacturing and automotive industries. In 2014, we added an incineration plant to do demonstration experiments for incineration technologies. The Center also has a thermal recycling system to produce electricity from the heat that comes from incinerated trash, and it has a showroom for visitors, to show customers and local people how waste treatment processes work and more. The R&D Center is also a substitute facility, which our customers can use for waste treatment when their facilities are being inspected or repaired.

Energy Supply

- High-temperature waste heat
- Low-temperature waste heat
- High-pressure steam
- Low-pressure steam
- Electricity
- Hot water

Power Generation of 770kw

Research & Development Functions

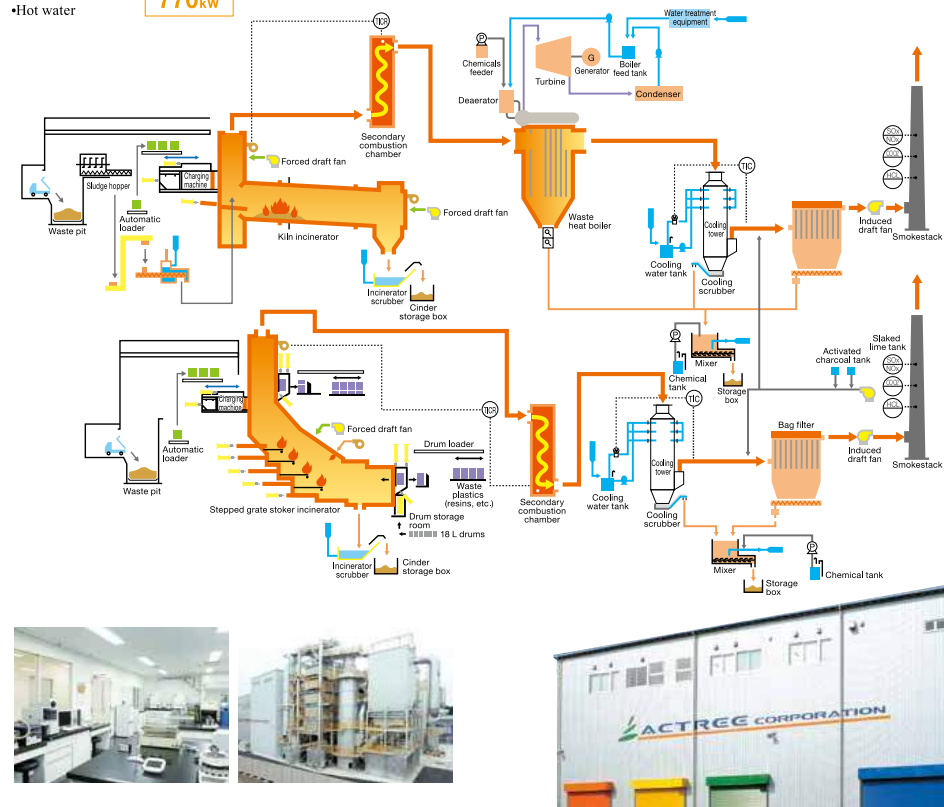
Finds ways to dispose of materials that cannot be easily incinerated, and develops technologies to effectively use the energy obtained from incinerators.

Showroom Functions

People can always visit the incineration plant, and companies or local people can learn about waste treatment and more.

Substitute Facility Functions

When our users can't use their incineration facilities because of inspections or repairs, they can treat their waste materials here, with our facilities.



Renewable Energy Research Center

Researching composite energy supply systems that provide both electricity and heat.

At this center, Actree works with the University of Tokyo's Research Center for Advanced Science and Technology, to develop a hybrid generation system that combines a tracking-condensing solar power generation system with a thermoelectric generation system. This system collects sunlight and heat energy, to generate twice as much power as conventional solar power generators or more. Now, they are performing demonstration experiments to make greenhouse farming possible without CO₂ emissions, heating greenhouses with sunlight instead of fossil fuels.



Research Building

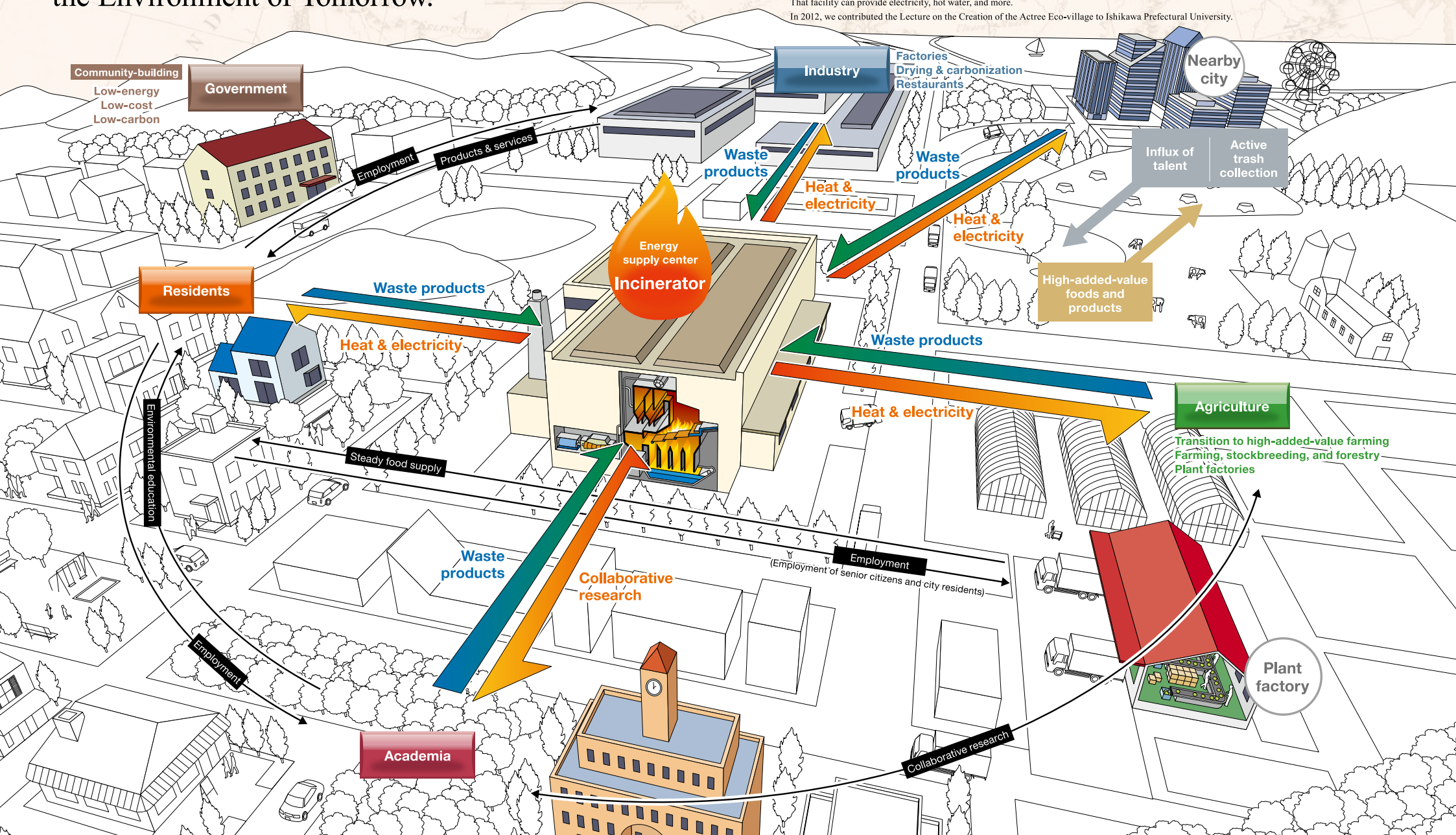
Fast and accurate analysis for plant planning.

Waste material treatment changes with the times. At our Research Building, we analyze calorific values, perform elemental analysis and heavy metal dissolution tests, and more. The results are used for plant plans. We are a registered measurement certification business operator (Ishikawa Prefecture, No. 39), helping us meet customer needs with fast and accurate analysis.



The Eco-village Concept to Protect the Environment of Tomorrow.

The world's population will grow a huge amount in the 21st century, and we will need more water, food, and other materials. At the same time, rapid economic expansion developing nations means that we have to work hard to not destroy and pollute natural environments. At Actree, we consider ourselves an Environmental Creation Company. Our Eco-village Concept is designed to save the environment of the future. Thermal recycling reclaims energy from waste product incineration, and it uses solar power too, so the city of tomorrow can be built around an incineration facility. That facility can provide electricity, hot water, and more. In 2012, we contributed the Lecture on the Creation of the Actree Eco-village to Ishikawa Prefectural University.



The Hearts and Minds of Each and Every Member of Our Team are Dedicated to Creating the Next-generation Environment.



Kaori Kawai
Marketing Team
Joined 2011

Actree sells the future — it's a company that the world needs.

Actree is always focused on the future. Beyond the fact that it takes at least three years for waste treatment facilities to begin construction, they cost hundreds of millions of yen, making them a serious investment for our customers. We make our proposals to our customers with an eye on the future, with their business's expansion in mind. The facility that was the first project I was in charge of will finally begin construction soon, and I'm looking forward to the moment when we can hand over control of their brand new facility. At Actree, our focus is on more than just products — we also have major projects like the Actree Eco-village planned, with the goal of creating an affluent society with a waste treatment facility serving as the energy center for a town. I'm proud to work at Actree, helping to build a bright future for the energy needs of tomorrow.



Makoto Hashimoto
Mechanical Planning Team
Joined 2009

Refusing to compromise or to force a fit, for customer satisfaction.

Actree is not the sort of company that believes that "one size fits all." In the mechanical planning team, we have a long history of plans and proposals designed specifically for our customers, rather than simply working by the book. That customized attention to detail extends beyond drawing up blueprints, all the way through installation and test runs. Each of us is involved in the entire process of the project and takes full responsibility as we work on it, regardless of age or position. Waste treatment plants must take into account the unique characteristics of the area, the various waste products to be treated, and the customer's desires. We work to meet each of these needs, allowing us to build better proposals and plans that perfectly fit our customers. I look forward to continuing to work to meet the changing times and the needs of our customers.



Factory



Tsutomu Yokota
Manufacturing Group
Joined 1997

The more difficult the plant, the more pride we take in building it.

Putting together one of our plants is anything but assembly line work. Each of us is involved in virtually the entire process of building a plant, taking responsibility for the whole thing rather than just working on a limited part of it. The structure of each plant varies based on each customer's needs, and sometimes we get orders for large, complex plants. No matter how tough the job, though, our pride as makers suddenly fires us up, as we're motivated by the goal of building a plant that's certain to delight our customers. At Actree, we can take on any challenge once we have that drive motivating us. I've worked at Actree for 18 years; I look forward to training young new talent, further expanding our factory, and taking on new challenges in building new plants.



Kojiro Tanaka
Doctor of Agriculture Technology
Development Group
Joined 2007

Our major research and development efforts are for the global environment of tomorrow.

I joined Actree eight years ago, and have worked on various research projects related to the environment since then. In addition to our in-house research, we have also cooperated with other organizations and universities for a broad range of research and development efforts. Much of our research work has been large projects that exceed the scope of what can be done by a single company, built around R&D meant to address the environmental problems we expect to see ten or twenty years from now. In Ishikawa Prefecture and the whole Hokuriku region, Actree is the first thing that comes to mind when it comes to the environment, and we hope to expand that to nationwide through R&D efforts that contribute to bringing about a rich environment in the future.



Marketing Team

Planning Team

General Affairs Team and Accounting Team

Entrance

Meeting Room

Meeting Room

Discussion Room

Utility Room

Bath

Sauna

Tennis Court

Actree's Vision for the Future: Keeping the World Beautiful for 100 Years and More.

At Actree, we want to help society by making technology for a clean, comfortable global environment.

In fact, our company name is based on our hope for the future.

These have always been our beliefs since we started in 1971.

The environment will be very important in the 21st century. Waste treatment will change, from getting rid of waste to using waste as an energy source.

We will continue to work to protect the environment for future generations.

A Message from Our Representative Director

When Actree started in 1971, Japan was experiencing major economic growth. People only thought about making and buying things, without thinking about protecting the environment. For our history, we have always thought about environmental problems, as we make excellent waste treatment plants. As a result, we have become Japan's leader in industrial waste treatment plants. Today, our environmental plants do more than waste treatment, such as material recycling, thermal recycling, energy recycling, energy recovery, and more. We are even making large-scale composite plants that do more than one thing. Our R&D experts have also found many ways for our waste treatment plants to reduce greenhouse gases. At Actree, we make new environmental plants with the newest technologies, and we thank our customers for their support.



Hiroharu Mizukoshi

Doctor of Engineering & Representative Director

Amenities with
Clean-oriented
Technology to
Recover the
Environment on
Earth

Company History

Apr. 1971	Founded as Murata Kiko Co., Ltd. (¥8,000,000 capital) Production begins at our incinerator factory in Kannondō-machi, Kanazawa	Sep. 2001	Work begins on the Research and Development Project for Regional Revitalization through Collaboration between Industry, Academia, and Government
May 1972	Our MKT incinerator is designated an Ishikawa New Product Each following year until 1988, our incinerators, low-energy machinery, recycling plants, and anti-pollution plants received Ishikawa New Product designations as well.	Apr. 2002	Collaborative development begins of an incinerated ash recycling system that uses granulation and firing technology, under the Program for Developing Infrastructure for the Next-generation Waste Treatment Technology
Dec. 1975	Factory expanded	Dec. 2004	R&D Center opened in Tochigi Prefecture
Jul. 1977	Capital increased to ¥10,000,000	May 2005	ISO-14001 certification and registration (corporate headquarters and Tokyo branch office)
Dec. 1979	New factory built in Senohi-machi, Kanazawa	Oct. 2005	Received JST Risk-taking Fund for Technology Development for our device for simultaneous desulfurization and denitrification during radical injection
Jul. 1984	Capital increased to ¥20,000,000	Jan. 2006	Certified Ishikawa Niche Top Company no. 1
Aug. 1988	Capital increased to ¥28,000,000	Mar. 2006	ISO-14001 certification and registration (R&D Center)
Apr. 1990	Our medical waste incinerator is designated an Ishikawa New Product	Sep. 2007	Collaborative research with Ishikawa Prefectural University, Hokuriku Electric Power Company, and Kotaro Pharmaceutical on super liverwort plant factory system for eicosanoid production
Apr. 1991	Our GRM-1000 waste tire incinerator and activated carbon production device is designated an Ishikawa New Product	Nov. 2007	Collaborative research with Tokyo Institute of Technology and Industrial Research Institute of Ishikawa on a low-density waste heat recovery system using a highly integrated thermoelectric conversion module
Jun. 1992	Our KHP-2000S-EP white smoke-preventing waste incinerator is designated an Ishikawa New Product	Dec. 2007	ISO-9001 certification and registration (corporate headquarters, Tokyo branch office, and R&D Center)
Dec. 1992	The factories inside the city of Kanazawa begin to feel cramped, leading to the construction of a new, state-of-the-art factory and a new headquarters in nearby Matto (now Hakusan), to which all parts of the company are relocated	Jun. 2008	Collaborative research with Tokyo Institute of Technology and Industrial Research Institute of Ishikawa on a low-density waste heat recovery system using a membrane-structure thermoelectric conversion module
Apr. 1993	Our KHPR-2000S multistage incinerator with rotary kiln is designated an Ishikawa New Product	Nov. 2008	Collaboration with Ishikawa Prefectural University on investigation of possibility of industrial ethanol production from food biomass
Jun. 1994	Our MIT-4000S-EP waste fluid, waste oil, and waste resin incineration device is awarded a gold medal as an Ishikawa Brand New Product	Dec. 2009	Collaboration with Ishikawa Prefectural University and Yoshida Shuzoan on trial manufacture of continuous bioethanol fermentation and distillation device
Jul. 1994	Tokyo branch office established	Oct. 2011	90-ton rotary kiln furnace begins operation in Sendai (Gamo), in association with JFE Engineering
Aug. 1994	Capital increased to ¥55,000,000	Mar. 2012	95-ton stoker furnace begins operation in the Watari-Natori Block (Natori) for Nishimatsu JV, in association with JFE Engineering
Apr. 1995	Our small industrial incinerator with new EP is awarded an award for excellence as an Ishikawa Brand New Product	Apr. 2012	95-ton rotary kiln and stoker furnace begins operation in the Watari-Natori Block (Iwanuma) for Hazama JV
Feb. 1996	First-class architect office opened	May 2012	95-ton stoker furnace begins operation in the Watari-Natori Block (Natori) for Nishimatsu JV, in association with JFE Engineering
Mar. 1996	Awarded the Small and Medium Enterprise Agency Director-General's Award	Jun. 2012	Exhaust gas treatment facility for two 300-ton rotary kiln furnaces begins operation in the Ishinomaki Block, in association with JFE Engineering
Jan. 1997	Awarded the Medium and Small Business Research Institute Prize (now the Good Company Award)	Jul. 2012	110-ton stoker furnace begins operation in the Miyagi-Tobu Block, in association with JFE Engineering
Mar. 1997	Established the Technology Research Center	Dec. 2012	Capital increased to ¥98,000,000
Aug. 1997	Collaborated with the American company MITek on steel truss technology	Mar. 2013	100- and 200-ton rotary kiln furnaces begin operation in the Kesennuma Block (Hashikami and Kobayashi)
Dec. 1997	Collaborated with the American company Warburton on air-purifying flowerpot technology	Jan. 2015	Completion and start of operation of incineration demonstration experiment plant at our R&D Center
Mar. 1998	Capital increased to ¥67,500,000	Mar. 2015	Construction of Renewable Energy Research Center, using a METI Subsidy for Advanced Technology Demonstration and Evaluation Facility Development
Feb. 1999	Awarded the Ishikawa Venture Grand Prix		
Jul. 1999	Collaborated with the American company Dryback on vacuum dehydration and drying device technology		
Mar. 2000	Pyrolytic melting system built as a regional consortium research and development project completed		
Mar. 2001	Capital increased to ¥80,720,000		
Apr. 2001	Company name is changed to Actree Corporation		
May 2001	Awarded the regional promotion prize at the Japan Venture Awards		

Corporate Details

Company name	: Actree Corporation	Corporate headquarters	: 375 Misumi-machi, Hakusan, Ishikawa 924-0053 Tel: +81 (76) 277-3380 Fax: +81 (76) 277-3329
Description of business	: Manufacture and sales of various types of environment-related plants (waste incinerators, combustion furnaces, carbonizing furnaces, drying furnaces, energy recovery devices, sludge dewatering devices, etc.) and recovered oil, as well as intermediate treatment of waste products	Tokyo branch office	: 9F Ginza Makicho Building, 8-12-10 Ginza, Chuo-ku, Tokyo 104-0061 Tel: +81 (3) 6264-2050 Fax: +81 (3) 6264-2051
Date of establishment	: April 1, 1971	R&D Center	: 3491-1 Mibu, Mibu-machi, Shimotsuga-gun, Tochigi 321-0215 Tel: +81 (282) 83-5963 Fax: +81 (282) 83-5964
Capital	: ¥98,000,000	Hokkaido sales office	: 306 2-3-18 Kita 10 Jo-higashi, Higashi-ku, Sapporo, Hokkaido 065-0010 Tel: +81 (11) 768-8340 Fax: +81 (11) 768-8350
Representative	: Representative Director Hiroharu Mizukoshi	Okinawa sales office	: 201 3-4-14 Akebono, Naha, Okinawa 900-0002 Tel: +81 (98) 917-6403 Fax: (98) 917-6404