

# Eco-services



- 1 Product-related services**
- 2 Reuse and recycling services**
- 3 Outsourcing services**
- 4 Management-related services**
- 5 Others**

In the *Eco-products Directory 2008*, “eco-services” refer not only to “technological improvements” but also “ways to use products” and “environmental management” as well as “mechanisms that enable environmental impact reduction through financial products.” Typical eco-services include car sharing. Car sharing is a type of eco-service where, for example, 10 people share one car instead of each driving his/her own car. This results in fewer vehicles on the road, thus reducing the environmental impact of travel considerably. As another example of eco-service, regular maintenance and upgrading can be performed on conventional products so that they can be used longer. In this directory, “eco-services” also refer to “eco-funds where investments are made in business firms with excellent performance in caring for the environment.”

The technological development of eco-products normally requires time and money. However, eco-services often only require good ideas to promote environmental impact reduction. Eco-services have not yet been widely recognized by consumers. A system should be developed to publicize the availability and advantages of eco-services so that they permeate society, encouraging further environmental impact reduction.

## Eco-services

ES-1-001

Product - related services

gifts

### Present Tree

Present Tree is present that delivers an owner certificate for the planted tree with a message card. Trees will be planted for the reproduction of tropical forests in the Kalimantan island.

You can have two planted trees. One of the trees is planted for recovering tropical forest.

The other is a Teak, and this afforestation enables the sustainable supply of woods, and creates the employment of locals.

Ten years later, the Teak will be cut down, and sold. The income of the Teak will be paid to the owner. The income will also be able to be used for reforestation, or the environment conservation activity.

As another privilege, CO<sub>2</sub> offset certificate is attached to Present Tree. The planted tree will become forest and that will absorb carbon dioxide. It contributes prevention of global warming.

The owner certificate is described with the owner's name, and the latitude and the longitude of the position where the Teak sapling is afforested, that is measured by the GPS(Global Positioning System).

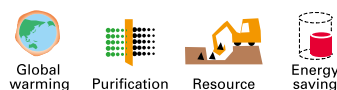
#### VIVO Corporation Co.,Ltd

3-5-4, Tanashicho, Nishitokyo-shi, Tokyo 188-0011, Japan

Tel 81-42-465-7563 Fax 81-42-465-7241

E-mail [info@vivo.jp](mailto:info@vivo.jp)

URL <http://www.env-r.com/tree>



Available in : Japan

[Present Tree] contents

## Eco-services

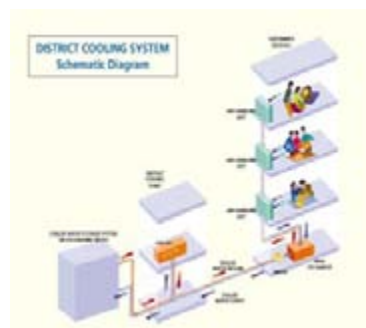
ES-1-002

Product - related services

district cooling system

### District Cooling System

District Cooling System (DCS) is an energy efficient system for a building's air-conditioning needs. The centralized chillers housed in the plant will generate chilled water, which will be sent via a network of underground pipes to individual buildings for their cooling needs. Besides reducing the energy consumption for DCS users, this system also eliminates the risk of legionnaire disease and the noise pollution for the users. Other than the environmental benefits, the use of DCS helps to reduce upfront capital investment cost for building owners.



#### First DCS Pte Ltd

48 Changi Business Park Central 2 486067, Singapore

Tel 65-62606700 Fax 65-67882311

E-mail [marketing@firstdcs.com.sg](mailto:marketing@firstdcs.com.sg)

URL <http://www.firstdcs.com.sg>

Available in : Singapore

## Eco-services

ES-1-003

Product - related services

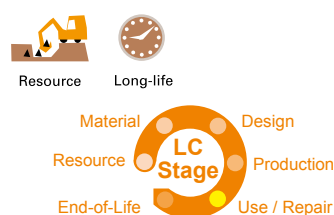
treatment of metal surface

### High-Performance Surface Treatment Technology TRIBEC™ Series

Various surface treatment technologies are applied to molds for extending their lives. However recent growing environmental awareness is resulted to change the type of lubricants and coating methods along with other drastic modifications and has shortened the operating lifetime of molds. In an effort to improve their operating life, Hitachi Metals developed the TRIBEC™ Series. By identifying the necessary performance attributes of each application based on extensive analysis on mold abrasion over many years, Hitachi Metals has achieved high-performance surface treatment of molds that is operating-environment specific. The TRIBEC™ Series provides protection for molds used even in harsh conditions where environmentally conscious lubricating methods are used. In addition, mold abrasion can be suppressed with polishing to remove damaged portions and reuse enabled through the application of TRIBEC™.

#### Hitachi Metals, Ltd.

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo 105-8614, Japan  
Tel 81-3-5765-4410 Fax  
E-mail  
URL [http://www.hitachi-metals.co.jp/e/prod/prod19/p19\\_02.html](http://www.hitachi-metals.co.jp/e/prod/prod19/p19_02.html)



Products with TRIBEC™ applied

## Eco-services

ES-1-004

Product - related services

Solar Energy Services

### Solar Energy Services

- Engineer renewable system on building and infrastructure based on customer requirements and budget
- Improve existing infrastructure by re-engineering; providing new supports and incorporate energy efficient products to existing infrastructure
- Design and manufacture Garden/landscape solar furniture such as solar table, solar lamp, solar water feature and solar trellis
- Providing standalone solar CCTV system for no power source environment
- Providing standalone solar water monitoring power for no power source environment.
- Providing standalone lights for residential and construction such as portable and super bright solar light for construction/road repair sites. No need for trenching, generators and cranes anymore

#### Grenergy Pte Ltd

Blk 22 Woodlands Link, #01-44 Woodlands East Industrial Estate 738734, Singapore  
E-mail [info@grenergy.com.sg](mailto:info@grenergy.com.sg)  
URL <http://www.grenergy.com.sg>



Available in : Singapore

## Eco-services

ES-2-001

Reuse and recycling services

retreaded tires

### Retread tires for trucks and buses

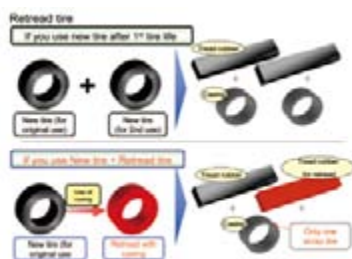
Retread is to assemble new tread rubber on worn-out tire and to revive tire life.

There are 2 ways of retread. One is the way that already cured tread (Pre-Cured Tread=PCT) is assembled on worn-out tire, which is called "COLD" type retread, because temperature on curing is relatively low (100-120°C). The other is the way that non-cured tread is assembled, which is called "HOT" type retread, because temperature on curing is relatively high (140-150°C) and this is similar to new tire production.

Through retreading method, the CO<sub>2</sub> emission and energy consumption during tire manufacturing process can be significantly reduced as well as scrap tire reduction. Bridgestone also provides new tire with properly designed as retread casing in order to maximize the value of casing and reusing efficiency. Bridgestone will make continuous effort for further enlightenment of ECO concept responding to social justice and needs of customers through retread activity.

#### Bridgestone Corporation

10-1, Kyobashi 1-chome, Chuo-ku, Tokyo 104-8340, Japan  
Tel 81-3-3563-6082 Fax 81-3-3563-1165  
E-mail  
URL <http://www.bridgestone.co.jp/english/index.html>



Retread tires image

## Eco-services

ES-2-002

Reuse and recycling services

tungsten

### Tungsten Recycle system of Carbide Cutting Tools

Tungsten is a refractory metal in its property, and tungsten carbide has high hardness at high temperature and used for the cemented carbide cutting tools which are indispensable to metalwork a variety of parts and components in automobiles, household electric appliances and other industries. Tungsten is also known as one of the rare metals, and its resource in the world is very limited. MITSUBISHI MATERIALS group, known as one of the major cemented carbide tool companies in Japan, and a supplier of tungsten carbide, began the recycling of tungsten. Tungsten materials processed by the conventional recycling method are used in the limited application areas because of its insufficient quality. MITSUBISHI MATERIALS group has developed a new recycling method to recycle tungsten, while ensuring high quality of recycled tungsten. At present, we are the only manufacturer, who can recycle used cemented carbide by metallurgical refining process. We recycled tungsten from used cemented carbide tools and alloys, collected in the manufacturing process.

#### JAPAN NEW METALS CO.,LTD

1-6-64 Sennari-cho, Toyonaka, Osaka 561-0829, Japan  
Tel 81-6-6333-1171 Fax 81-6-6331-5358  
E-mail  
URL <http://www.jnm.co.jp>



Carbide Cutting Tool

Available in : Japan

## Eco-services

ES-2-003

Reuse and recycling services

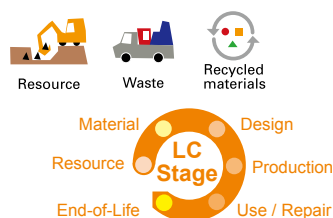
FRP recycling system

### FRP Recycling Depolymerize Unsaturated Polyester under Ordinary Pressure

Fiber reinforced plastics (FRPs) - light, high-strength and durable materials - are used for a variety of items, including bathtubs, automotive parts, railway vehicle parts and small vessels. However, FRP raw materials such as thermosetting resins (unsaturated polyester resins, etc.) make FRP difficult to be recycled because they do not degrade after being molded. Hitachi Chemical's FRP recycling technology, which uses tripotassium phosphate as a catalyst and benzyl alcohol as a solvent, involves melting FRP for about 10 hours at 200 degrees centigrade under ordinary pressure. FRPs are readily separated into glass fibers, fillers, resins and other components, which together are reprocessed into FRPs at a low cost. This technology is unique that it requires neither the pretreatment (crushing, etc.), the facilities nor the energy for the pressurization. This technology also helps to reduce processing costs while ensuring health and safety. Moreover, the relatively long glass fibers can be recovered, which can be reproduced in recycled FRPs with about 70% of the tensile strength of virgin FRPs.

#### Hitachi Chemical Co.,Ltd

1500 Ogawa Chikusei-shi, Ibaraki 308-8521, Japan  
Tel 81-296-20-2304 Fax 81-296-28-4637  
E-mail  
URL <http://www.hitachi-chem.co.jp>



FRP dissolving process

## Eco-services

ES-2-004

Reuse and recycling services

material recycling

### Recycling of Electronic Appliances toward Recycling-oriented Society

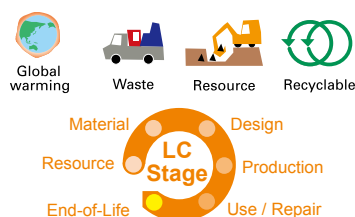
Tokyo Eco Recycle Co., Ltd. disassembles used electric appliances manually to separate valuable resources thoroughly. The company has established a novel business model in which "wastes" are reproduced as valuable "resources". One step forward from an effort just to "recover resources" for environmental protection to a business "to create resources" leading to profits-Tokyo Eco, as a front runner in the world has been striving to establish a novel approach representing the recycling industry.

Tokyo Eco strives for "zero emission." This is a concept in which waste going to landfill sites be reduced to zero. Our landfill ratio 0.1% is top level in Japan.

Tokyo Eco is also working to expand and improve the zero emission effort established for the four home appliances and to apply it to other used items, too. On the other hand, from the viewpoint to promote recycling in the information society, regarding disposal information devices such as personal computers, the company enhance the security level further.

#### Tokyo Eco-Recycle, Ltd.

38 Wakasu, Koutou-ku, Tokyo 136-0083, Japan  
Tel 81-3-3522-6690 Fax 81-3-3522-6688  
E-mail [webmaster@tokyo-eco.co.jp](mailto:webmaster@tokyo-eco.co.jp)  
URL <http://www.tokyo-eco.co.jp>



Magnetic Separator, Line for washing machine

## Eco-services

ES-2-005

Reuse and recycling services

biomass cogeneration

### Biomass cogeneration plant

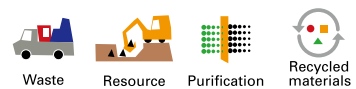
ecoWise owns and operates its own 1MW biomass cogeneration plant using wood/tree waste/woodchips as fuel source. Electricity up to 1000kW and 15 tonnes/hour of steam are generated for internal use, greatly reducing power grid off-take.

ecoWise is also able to provide on-the-job training in boiler operations as well as participation in sustainability and Clean Development Mechanism (CDM) projects. It also manages its own wood and tree waste shredding operations producing wood chips as fuel.

#### ecoWise Holdings Ltd

3 Phillip Street, #14-01 Commerce Point 048693, Singapore  
Tel 65-6536-2489 Fax 65-6536-7672  
E-mail enquiries@ecowise.com.sg  
URL <http://www.ecowise.com.sg>

Available in : ASIA



## Eco-services

ES-2-006

Reuse and recycling services

recycling system for polyester

### World's first totally closed-loop recycling system for polyester

ECOCIRCLE™ is an advanced technology that turns PET bottles and polyester products back into highly pure polyester raw material (99.99%). By separating additives and coloring agents, equivalent purity to raw material produced from petroleum can be achieved.

So, ECOCIRCLE™;

- does not produce waste
- suppresses petroleum consumption
- significantly reduces CO<sub>2</sub> emissions and energy consumption

ECOCIRCLE is Teijin Fiber's trademark.

#### Teijin Fibers Limited

2-1, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo 100-8585, Japan  
Tel 0088-22-0175 Fax  
E-mail [tfj0604@teijin.co.jp](mailto:tfj0604@teijin.co.jp)  
URL [http://www.ecocircle.jp/index\\_e.html](http://www.ecocircle.jp/index_e.html)



Closed-loop recycling system

## Eco-services

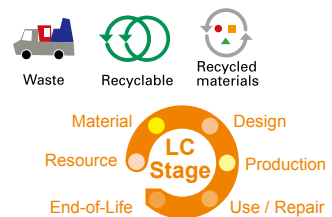
ES-2-007

Reuse and recycling services

recycled copper slag

### Provide Service for Recycling of Used Copper Slag and Supply of Recycled Copper Slag

As a government approved Treatment Centre for the collection of Used Copper Slag, JPL Industries recycle and grade them to be reuse for blast cleaning process. Our wholly owned subsidiary, JPL Concrete Products converts recycled copper slag into one of the raw materials used for the production of concrete paving blocks and car park slabs.



#### JPL Industries Pte Ltd

29 Tanjong Kling Road, 628054 Singapore  
Tel 65-6266-2210 Fax 65-6266-3002  
E-mail [admin@jplind.com.sg](mailto:admin@jplind.com.sg)  
URL



Available in : Singapore

Treatment & Recycling Facilities



## Eco-services

ES-3-001

Outsourcing services

landfill gas collection volume evaluation method

### Landfill Gas Collection Volume Evaluation Method

For successful landfill gas (LFG) collection and/or power generation projects or CDM projects, accurate evaluation of the LFG emission and collection volume is crucial. Through a number of actual project experiences in the Southeast Asia, Kajima developed a step-wise evaluation methodology comprising preliminary study (Surface Methane Flux/Concentration Study), diagnosis study (Passive Gas-Well Test) and detailed study (Pumping Gas-Well Test). The preliminary study that measures methane concentration and methane flux on the landfill surface provides economical and quick perception on further studies, the diagnosis study that measures the volume and composition of the LFG emitting through a few small observation wells and conducts chemical analysis on waste samples provides approximate estimation, and the detailed study that pumps LFG from a few actual production wells and studies the relation between pumping power and methane concentration provides accurate LFG collection volume data and operational data.

#### Kajima Corporation

6-5-11 Akasaka, Minato-ku, Tokyo 107-8348, Japan  
Tel 81-3-5544-0734 Fax 81-3-5544-1733  
E-mail [env-act@ml.kajima.com](mailto:env-act@ml.kajima.com)  
URL [http://www.kajima.co.jp/tech/g\\_warming/index.html](http://www.kajima.co.jp/tech/g_warming/index.html)



Global warming



Pumping Gas-Well Test

## Eco-services

ES-3-002

Outsourcing services

ecowise ceramic membrane system

### Solid liquid separation. Oily wastewater treatment. Ceramic membrane system

ecoWise Ceramic membrane system is able to carry out solid-liquid separation or liquid-liquid separation effectively. The inorganic material makes it durable under conditions of high temperature, extreme pH conditions, oily wastewater and solvent rich liquid. ecoWise have Microfiltration and Ultrafiltration ceramic membrane systems with pore size ranges up to 20nm.

ecoWise ceramic membrane system can be applied in biotech and pharmaceutical, food and beverage, cosmetic and petrochemical industries for product enrichment and separation. It can also be applied in environmental industry for effective oily wastewater treatment, solvent or coolant recovery and acid/alkaline recovery.

#### ecoWise Holdings Ltd

3 Phillip Street, #14-01 Commerce Point 048693, Singapore  
Tel 65-6536-2489 Fax 65-6536-7672  
E-mail [enquiries@ecowise.com.sg](mailto:enquiries@ecowise.com.sg)  
URL <http://www.ecowise.com.sg>



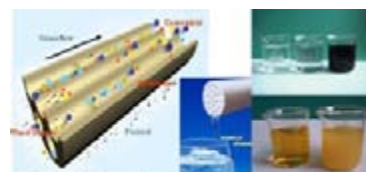
Waste



Recyclable



Purification



ecoWise Ceramic membrane working principle schematic

Available in : ASEAN



## Eco-services

ES-3-003

Outsourcing services

hydrox electrochemical unit

### Electrochemical waste water treatment.

The Hydrox technology (electrochemical reaction) generates ions that targets wastewaters and effluents. The multi-compartment electrolytic cells allow large volumes of polluted water to be treated quickly and quietly at high efficiency. Pollution removal using proprietary electrolytic materials/processes and design covers a wide range of industrial waste streams. It can achieve high removal efficiency of suspended solid, COD and color. It has a much smaller foot print comparing to conventional treatment method. Hydraulic retention is typically 1 to 2 minutes.



#### ecoWise Holdings Ltd

3 Phillip Street, #14-01 Commerce Point 048693, Singapore  
Tel 65-6536-2489 Fax 65-6536-7672  
E-mail enquiries@ecowise.com.sg  
URL <http://www.ecowise.com.sg>



Available in : Asia

## Eco-services

ES-3-004

Outsourcing services

energy management / energy audit services

### Energy Management Service

UGL Premas is a leading total asset management company in Asia headquartered in Singapore. With staff strength of 2000, we provide facilities management and engineering services for various types of facilities across Asia and Middle East regions. Our Energy Centre, the first accredited ESCO, specialises in energy management solutions and procurement services. It has helped building owners identified savings of more than S\$10 million annually in total.



#### United Premas Limited

Block 750 Oasis, Chai Chee Road, Technopark @ Chai Chee #01-01 469000, Singapore  
Tel 65-6876-0088 Fax 65-6538-8146  
E-mail corporatemarketing@unitedpremas.com  
URL <http://www.uglpremas.com>



Available in : Asia, Middle East

## Eco-services

ES-4-001

Management - related services

environmental management

### Information collecting and analysing tool supporting Environmental Management

"Eco rates" supports, as a real managing system, the information management that is the base of the environment management. Main features are as follows.

- The system is a WEB-base scheme that is yielded from actual business needs and has an enough record about being used.
- In one platform (server), installed are three sub-systems for collecting and analyzing the information, for controlling the waste with the administration of agents, and for monitoring the chemical substances.
- "ECO rates" is a total package in which each sub-system is connected each other. Of course, the customers can use a sub-system only.
- We offer "version up" service every year to conform to the latest law and acts. We help the customer's compliance.
- "Add on" operation and customization of the function can be arranged so as to meet the customer's business uses. In addition, we support the customers on the whole from the introduction of system to the practical use policy and operative rules.



#### Mitsubishi Electric Information Network Corporation

1-4-4 Koujimachi, Chiyoda-ku, Tokyo 102-8483, Japan  
Tel 81-3-5276-6811 Fax 81-3-5276-6850  
E-mail  
URL

Available in : Japan

ECOrates Integrated Environmental Information system

## Eco-services

ES-4-002

Management - related services

Wastewater Management

### Wastewater Treatment Technology-MSABP™, HiPOx™ and ELCAT™

Teijin provide total water treatment solution & system provision with following technologies.

- 1) No-sludge biological treatment system 'MSABP™'  
The attached growth process for treatment of municipal and industrial wastewater based on microorganism food chains. This design minimizes the "exceed sludge", cut the cost and reduce the foot print.
- 2) Advanced treatment systems 'HiPOx™' and 'ELCAT™';  
For wastewater purification after biological treatment and/or including toxic, persistent components.
  - HiPOx™ is an advanced oxidation process using H<sub>2</sub>O<sub>2</sub> with ozone to achieve oxidation of organic materials such as VOCs, 1,4-dioxane etc. Multiple ozone injection points maximize efficiency and minimize byproduct formation.
  - ELCAT™ is two stage electro-catalytic wastewater treatment process for oxidative-purification such as phenols, detergents etc. This combine system is high efficiency and low cost.
- 3) High performance purification materials 'carbon fiber'
  - Carbon fiber is rapidly fixed microorganisms, SS etc. and accelerates water purification only set up. So, using carbon fiber save energy and manpower.



MSABP™



HiPOx™



ELCAT™

#### Teijin Limited

2-1, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo 100-8585, Japan  
Tel 81-3-3506-4593 FAX  
E-mail  
URL <http://www.teijin.co.jp/english/index.html>

## Eco-services

ES-4-003

Management - related services

document management system

### Document Solution "LIBINITY"

LIBINITY is a new unified brand of the document solution of Hitachi Systems & Services, Ltd. We release product line such as image document filing system "LIBINITY Millemasse" and enterprise document management system "LIBINITY ECM".

"LIBINITY ECM" is featured by "scalability" which can adjust the system scale by step-by-step expansion depending on the number of the documents. The users can easily establish a full document system covering all works in an entire company to realize "compliance", "security", and "reliability". "LIBINITY Millemasse" is a high-performance filing system to store and integrate a large quantity of documents and images. It easily realizes high document management with low cost.

The reduction of CO<sub>2</sub> equivalent emission 42.3 % has been achieved through reducing the amount of papers used, and decreasing the amount of transported/distributed papers with information sharing on the WWW.

#### Hitachi Systems & Services, Ltd.

JR Shinagawa East Building, 2-18-1 Konan, Minato-ku, Tokyo  
108-8250, Japan  
Tel 81-3-6718-5853 Fax 81-3-6718-5859  
E-mail kaz-hashimoto@hitachi-system.co.jp  
URL <http://www.hitachi-system.co.jp/libinity/>



Global warming



Waste



Screen image of "LIBINITY ECM"

## Eco-services

ES-4-004

Management - related services

library management system

### A library system "Livre"

"Livre" is library system which Hitachi Systems & Services, Ltd. offers. The features of "Livre" are as follows.

- Easy borrowing and return of books
- Easy search for the book.
- Automated generation of various statistics concerning the books in the library "Livre" can reduce 66.6% of CO<sub>2</sub> equivalent emission.



Global warming



Waste



#### Hitachi Systems & Services, Ltd.

Nagoya Lucent Tower, 6-1 Ushijimacho Nishi-ku, Nagoya 451-6028, Japan  
Tel 81-52-569-2128 Fax 81-52-569-2132  
E-mail h-miyazaki@hitachi-system.co.jp  
URL <http://www.hitachi-system.co.jp/lvr/>



Main Menu of 'Livre'

## Eco-services

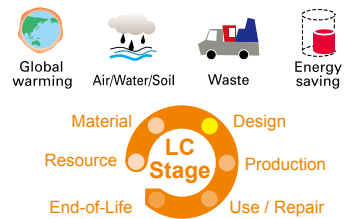
ES-4-005

Management - related services

LCA software

### System Integration Life Cycle Assessment SI-LCA

SI-LCA is a software integrated with quantitative evaluation methodology on the environmental load of IT-system & service products. The environmental load for application of an IT-system & service product is estimated on the basis of the equivalent amount of CO<sub>2</sub> emission for quantitative evaluation. The life cycle of the IT-system & service product is evaluated at multiple steps of stages; e.g. equipment manufacture, use, collection, recycle, waste, and software design and development. This methodology also calculates employment costs and environmental load cost accompanying the system development and implementation.



#### Hitachi, Ltd.

Hitachi Omori 2nd Bldg., 27-18, Minami Oi 6-chome, Shinagawa-ku,  
Tokyo 140-0013, Japan  
Tel 81-3-5471-2745 Fax 81-3-5471-2746  
E-mail  
URL



Assessment Stage for SI-LCA

## Eco-services

ES-4-006

Management - related services

LCA software

### Life Cycle Assessment Software "Easy-LCA"

Easy-LCA is a supporting tool to practice the life cycle assessment (LCA) effectively.

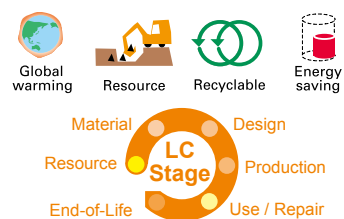
It evaluates quantitatively the influence of the product on the environment at the stage of design, and combines scientifically the results with the analysis and improvement of the product.

#### Main features

- The latest database based on the economical statistics table of the 2000 fiscal year (publicized in 2004) has been mounted.
- Assessment of the discharge of environmental loading is possible according to the distinction of units and parts.
- Comparison of an old product and the new one is possible
- Impact evaluation
- Inventory evaluation of 30 kinds including CO<sub>2</sub> / NO<sub>x</sub> / SO<sub>x</sub> is possible.

#### TOSHIBA PLANT SYSTEMS & SERVICES CORPORATION

Muza Kawasaki Central Tower, 1310, Omiya-cho, Saiwai-ku,  
Kawasaki-shi 212-8551, Japan  
Tel 81-44-548-7711 Fax 81-44-548-7884  
E-mail [eco.master@toshiba-tpsc.co.jp](mailto:eco.master@toshiba-tpsc.co.jp)  
URL <http://www.toshiba-tpsc.co.jp/eco/>



"Easy-LCA" screens

## Eco-services

ES-4-007

Management - related services

IT solution

### SLIMOFFICE/SLIMOFFICE-EX, solution for the strategic environment management

The product is the solution that supports the strategic management of environment issues. It carries out effectively a series of work that includes the collection of the data, the management of them, and the analysis of the environmental performance.

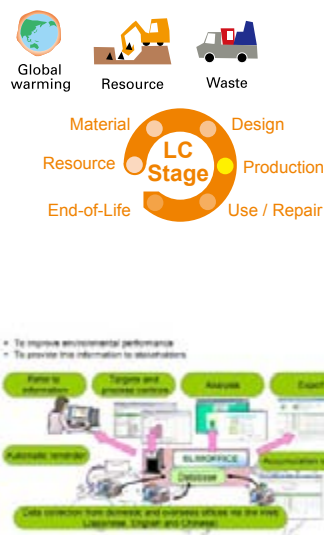
In order to clarify the issues and connect with the business activity, it is important to grasp the environment-related information such as the energy consumption, the amount of waste and the chemical substances that were used.

The product will collect information from each site, analyze them, and visualize the environment performance. It can provide the timely information and index that is needed to raise the corporate's value by means of the environmental management.

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

Available in : Japan



SLIMOFFICE/SLIMOFFICE-EX

## Eco-services

ES-4-008

Management - related services

IT solution

### PLEMIA/ECODUCE for the management of hazardous substances

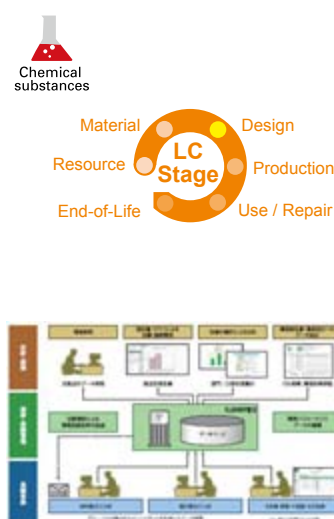
This product is a solution which supports "things making" not using hazardous substances from the design stage. The product searches the hazardous substances speedily. The product makes it possible to save energy for the enormous works which relate to the business: designing, supplying, information collecting and offering. The main feature is as follows.

- (1) "Design for Environment (DFE)" is realized. Constituent chemical substances are summarized every product, every unit, on the basis of the parts data table". Compliance with the acts of RoHS, ELV, etc and with the regulation of company is possible.
- (2) The efficiency of the inquiry-answer business has been enhanced. The process from the inquiry request to the answer has been unified. It has become possible to carry out the survey business for clients step by step, while confirming the progress. Input-output by JPG data files and output by IDMS (XMS) data file is possible.
- (3) The user can easily survey the parts, the units and the products that were made from any substances and materials. The real-time specification of products and suppliers is also possible by means of the reverse retrieval.

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

Available in : Japan



PLEMIA/ECODUCE



## Eco-services

ES-4-009

Management - related services

IT solution

### Environmental integration database visibility solution

This product is a visibility solution, which visualize the environmental information which has dispersed in the company. It realizes the unified management of the environmental information by "add-on" software.

In general, the necessary data for environmental information analysis is scattered in plural systems. When the environmental staffs of factory, office, and branch judge the validity of the environmental load in such situation, the following demands are increasing. One is to retrieve the dispersed environmental information, put the necessities together, and sum up, and the other is to want to extract the issue in the diversified viewpoint.

The visibility solution integrates the existing environmental related data dispersing in plural systems into the XML-DB, retrieves by combining various information from various viewpoints, and displays the result by table and graph. The thing that you wanted to do but couldn't do until now or the thing didn't even try to do it will be able.

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

Available in : Japan

Environmental integration database visibility solution



## Eco-services

ES-4-010

Management - related services

IT solution

### Logistics Solution for business logistics

This solution supports the reduction of the environmental load in the distribution field. The support includes planning of a transverse measure for the CO<sub>2</sub> reduction in the range from the warehouse to the transport domain, grasp of the actual situation by means of IT such as GPS and in-vehicle station, and improvement of the business by selecting an optimum delivery root. For example, the improvement of mileage by 7% and a decrease of car by 5-15% have been achieved. The results suggest a large contribution to the restraint of CO<sub>2</sub> discharge. Furthermore, a synergistic effect due to both services is expected.

As for the calculation system of CO<sub>2</sub> emission, realized was the enhancement of business efficiency was realized by the automation of the preparation of the report submitted to the related government office. This contributes to the environmental management.

The solution checks the customer's distribution system structurally. Moreover, it realizes optimization of the whole of the customer's supply chain. The solution contributes to cost reduction, service improvement and environment load reduction.

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

Available in : Japan

Logistics Solution





## Eco-services

ES-4-011

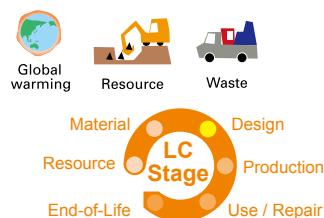
Management - related services

IT solution

### LCASLIM, a support system of Life Cycle Assessment

It is a software to estimate and analysis the environment load, for example the CO<sub>2</sub> emission in the material's life cycle ranging from its supply to its disposal, about the product which the user's company treats with now or the product which the company will develop in future.

Though it is indispensable to grasp the environmental effect of the product for the environment management, many labor is required to collect and arrange the necessary data. This software offers various functions that include the editing of the primary unit data, the comparison of the products and the inventory analysis, and thereby it supports the company's LCA.



#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

Available in :Japan

LCASLIM

## Eco-services

ES-4-012

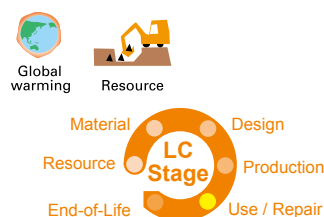
Management - related services

IT solution

### Method to quantitatively evaluate the benefits of adopting IT solutions

This is the method to teach us "how much environmental load (CO<sub>2</sub>) is reduced by the introduction of IT solutions?"

- The method shows the environment contribution effect caused by the introduction of IT solution. The effect includes the potential effect of IT solution on energy saving and resources saving and the effect due to an increase of the efficiency of duties.
- On the basis of the evaluation from the both sides (increase factor and decrease factor) of environmental load, the method demonstrates the effect of the integrated contribution to the environment.
- The method evaluates the environmental load by converting it to the amount of the discharged carbon dioxide. The method is based on the environment impact assessment technology developed by FUJITSU LABORATORIES LTD.



#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

CO<sub>2</sub> emissions Before/After Introductions of IT solutions

## Eco-services

ES-4-013

Management - related services

IT solution

### The "glovia.com", a solution for the assembling and manufacturing industry

This product is a solution of production control. It is applicable at any kind of assembling/ manufacturing industry. This product integrates the information of the whole of company from that of a factory, and unifies the system and the factory. It gets correctly the moving of person, thing and money, and enhances the permeability and the transmission speed of information. On the basis of the production control in the factory and the management of the materials to be purchased, CO<sub>2</sub> reduction is 30.5%. In addition, the rotation period of stock is shortened, and the indirect personnel are reduced.

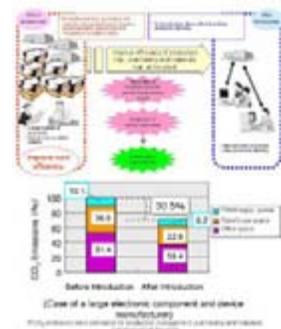
(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Global warming



Environmental Contribution Effect

## Eco-services

ES-4-014

Management - related services

IT solution

### Internet Navigware, e-learning system offering 93.1% CO<sub>2</sub> reduction

"Internet Navigware" (Internet navigation wear) is a real LMS (Learning Management System) which supports generally the steps of textbook making, learning, and grade management.

The clients can study anywhere and anytime from the Web browser screen in Internet or in Intranet environments of office and school.

The adoption of "Internet Navigware" brings the CO<sub>2</sub> reduction of 93.1%, in addition to the effective skill up of the employee, the effective use of time and distance, and the cost reduction.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Global warming



Resource



Environmental Contribution Effect

## Eco-services

ES-4-015

Management - related services

IT solution

### Certificate automatic grant system, "Conbrio-J".

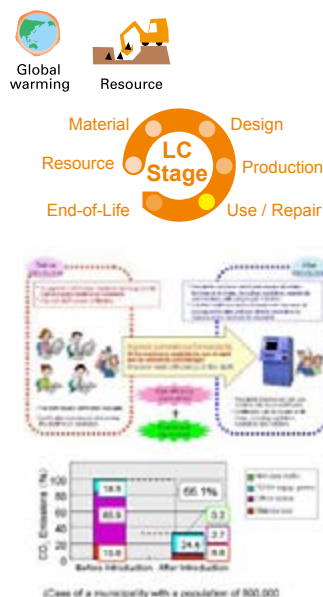
This product is an information service station that supports a variety of administrative services; the automatic grant of the certificates (the residential card, the personal-seal registration-proof), the reservation of the facilities, the guidance, etc.

Information service station for the certificate issuance yields a CO<sub>2</sub> reduction of 66.1%, as well as the promotion of the convenience of inhabitants and that of the office work efficiency of the staff.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## Eco-services

ES-4-016

Management - related services

IT solution

### Document filing software, "RAKU-2 library" offering 38.8% CO<sub>2</sub> reduction.

The "RAKU-2 library" is software of the document management beyond the common sense of the conventional personal computer. With the same feeling as that when using a binder every day, the user is able to storage and manage the paper documents and the electronic data.

Using of the software yields the comfortable office environment, the improvement of efficiency of the duties, and the efficient use of space due to paper-less environment. The "one touch" management of electronic documents is realized by converting paper documents to data files with scanner. The reduction of CO<sub>2</sub> is 38.8% by use of the "RAKU-2 library", in addition to the reduction of the keeping space of paper documents and the improvement of the search efficiency of documents.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## Poynting, three-dimensional electromagnetic wave analysis software

This software is a simulator having various functions for high frequency analysis. It supports the research and development by means of the solver based on FDTD method<sup>1)</sup> and also by means of the GUI (graphical user interface) excellent in operability.

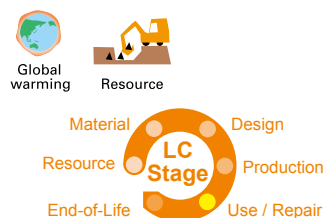
The reduction of CO<sub>2</sub> is 27.8% by use of "Poynting", in addition to the promotion of efficiency of the design and reduction of cost by the enforcement of the prior simulation.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

\*1) FDTD method is a kind of technique to calculate the behavior of electromagnetic wave by the computer, and FDTD is abbreviation of Finite-Difference Time-Domain Method. It can dissolve the Maxwell equation by finite difference method about time and space.

### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## WebEDI solution, "ChainFlow", for the half-cost slip processing.

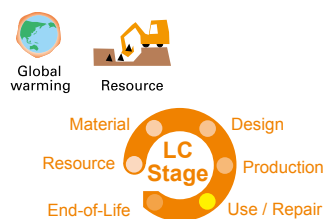
By the construction of an easy EDI system, the slip processing cost is reduced to half.

"ChainFlow" support the cost reduction of the whole of accepting and ordering duties by realizing "slipless" and no inspection. By the EDI system, "ChainFlow" realizes electronic slip and ASP of the slip. The reduction of CO<sub>2</sub> is 80.3% by the introduction of "ChainFlow", in addition to business efficiency improvement and reduction of the cost.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## Eco-services

ES-4-019

Management - related services

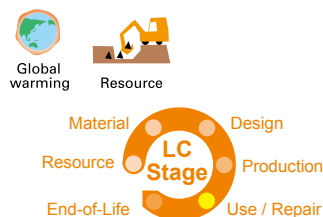
IT solution

### Multi-document management system "PLEMIA/eD-Binder"

This system constructs the document management system in the short term without requesting a burden of the skill to users. Furthermore, its high-speed search function realizes that the datum of the purpose is drawn from a large quantity of data in a moment.

The reduction of CO<sub>2</sub> is 89.4% by the introduction of "PLEMIA/eD-Binder", in addition to the efficient use of the space and the improvement of business efficiency due to the unification of the contents (document, drawing, etc) in the company.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)



Environmental Contribution Effect

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

## Eco-services

ES-4-020

Management - related services

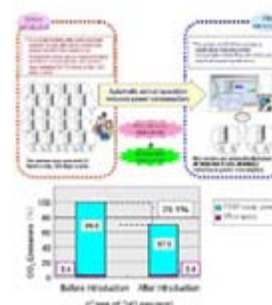
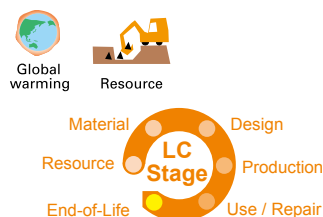
IT solution

### Systemwalker Operation Manager

This product realize the automatic driving of duties form power supply injection to power supply cutting through start / stop of the service. Moreover, Furthermore, it realizes the automatic business operations for scheduling of job, operation, monitoring and others, and realizes stable work and low-cost operation.

By the utilization of this product, 29.1% of CO<sub>2</sub> is reduced. The efficiency of server operation is improved and the power consumption is reduced by the power ON/OFF automation of the server.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)



Environmental Contribution Effect

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>

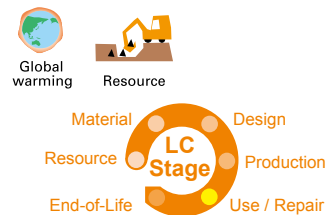
## "GLOVIA/SCP FA", a production scheduling system

GLOVIA/SCP has adopted a way of thinking of the APS (Advanced Planning & Scheduling) with the powerful simulation ability. It can draft the high-precise production planning to which added the operation limitation such as production capacity plan and material supply plan.

Reduction of CO<sub>2</sub> is 60%. The other effects are the standardization and labor saving of planning duties due to the production scheduling system and the reduction of surplus stock. (The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## "SupportDesk Expert", administration service of IT resource

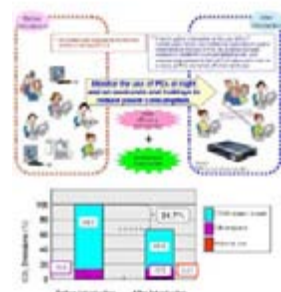
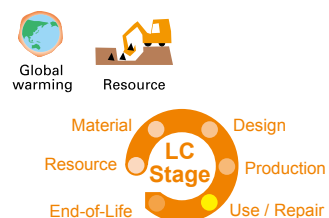
This is the service which is based on the operation information of the device, and the service engineer who is in charge of client reports periodically the following items: power consumption / estimation of CO<sub>2</sub>, number of printed sheets / temperature and humidity situation of the office room.

A collecting tool of the IT infrastructure operation (SDB: System Defender BOX) is installed, by which the operation state is grasped. From the result, the unnecessary power supply equipment is specified, and reduction of the power consumption is carried out. The introduction effect of "SupportDesk Expert" is a CO<sub>2</sub> reduction of 34.7%.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect



## Eco-services

ES-4-023

Management - related services

IT solution

### "Ub! Point", a knowledge shared learning system

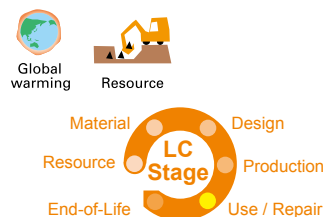
This product is a knowledge shared learning system of the on-demand type. The system delivers the streaming picture and sound, and the document made by PowerPoint and HTML, after synchronizing them. By utilizing this product (the preparation of moving picture by capturing of the screen, and the delivery of information), it is able to make up knowledge information simply and swiftly and to transmit knowledge information.

The introduction effect of "Ub! Point" is a reduction of 82.6% of CO<sub>2</sub> in addition to the enhancement of business efficiency and the reduction of moving cost due to the switching from the cluster education to the imaging education.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## Eco-services

ES-4-024

Management - related services

IT solution

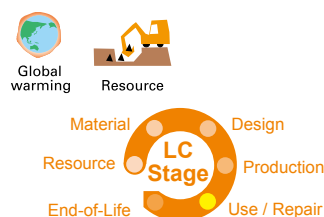
### "GlobalSTOREIII", a POS system for mass sale shops.

This POS system is for mass sale shops and realizes "the headquarters concentrated server system" which put together the store server function of plural store. The system does the business judgement speedy by using real-time information. It promotes the efficiency of system use, so the manpower can be concentrated on original sale duties. It is an advanced POS system realizing the strategic store management by headquarters concentration type server system.

The effect of "GlobalSTORE" is a CO<sub>2</sub> reduction of 30.4% in addition to "paper-less" and the improvement of business efficiency. (The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## Eco-services

ES-4-025

Management - related services

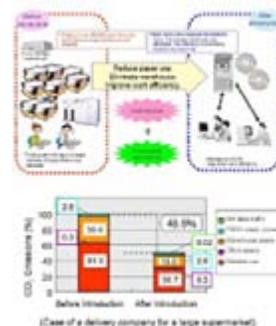
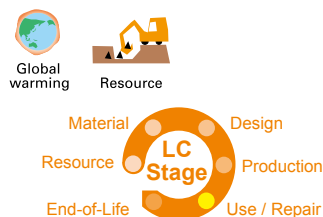
IT solution

### "Interstage List Works" for electronic sales-slip management

This product is a electronic sales-slip system which put together the sales-slips output from various platforms and does the unified management by the use of electronic sales slip. The system provides the base of sales slips management in the internet environment, which covers the assortment of the electronic sales slips, the save, the management, the circulation, and the utilization. The system is equipped with anti-security measures and information sharing environment. It realizes the enhancement of business efficiency and the reduction of running cost. The effect of "Interstage List Works" is a CO<sub>2</sub> reduction of 48.6%, in addition to the improvement of business efficiency and cost reduction due to the realization of effective management of electronic sales slips. (The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## Eco-services

ES-4-026

Management - related services

IT solution

### "Interstage List Creator", for the design and formation of various sales slips

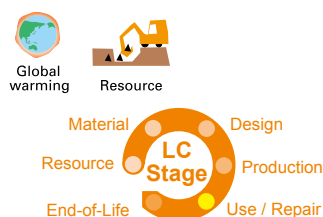
This software makes and output various clear sales slips simply and safely, supports internal control, and promote the improvement of business efficiency and reduction in cost. It is easily applicable to the sales slip which has the complexity and fineness peculiar to Japan, and its practical use.

It realizes the change from the reporting by the output of paper-made sales slip to by electronic data, by use of high-speed formation by the PDF format. The effect of "Interstage List Creator" is a CO<sub>2</sub> reduction of 70.3%, in addition to the cost reduction due to the electronic report.

(The trial calculation is due to the method of the environment impact assessment of FUJITSU LABORATORIES LTD.)

#### Fujitsu Limited

1-1 Kamikodanaka 4-chome, Nakahara-ku, Kawasaki, Kanagawa  
211-8588, Japan  
Tel 81-44-754-3413 Fax 81-44-754-3326  
E-mail <http://jp.fujitsu.com/about/csr/eco/contact/>  
URL <http://jp.fujitsu.com/about/csr/eco/>



Environmental Contribution Effect

## Eco-services

ES-4-027

Management - related services

Consulting service

### Consulting service for geothermal and hydraulic power generation

Mitsubishi Materials have long been actively involved in the development and utilization of renewable energy sources, such as geothermal and hydraulic energy, taking advantage of the technology we have acquired in the underground resources business.

We have six hydroelectric power plants (approx.17MW total) and two geothermal power plants: the Ohnuma Geothermal Power Plant (9.5MW:since1974) and the Sumikawa Geothermal Power Plant (50MW:since1994), operating at Akita Prefecture in Japan. These power plants generate clean electric power of around 530,000MWh per year(2004). Geothermal power generation utilizes steam energy extracted from underground by drilling wells as deep as 2,000 meters.

It requires specialized techniques and technology to utilize effectively this kind of high temperature-underground resources in all stages of site survey, drilling, and maintenance of output power.

We have acquired the necessary techniques and technology through our direct involvement in developing and operating our two geothermal power plants. With this experience, we are actively participating in geothermal area surveys and technological development projects at home and abroad.

#### Mitsubishi Materials Corporation (Geothermal & Electric Power Center)

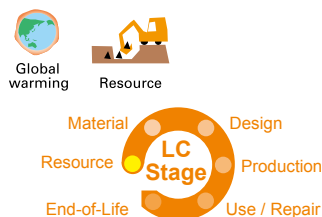
1-297, Kitabukuro-cho, Omiya-ku, Saitama-shi, Saitama 330-8508, Japan

Tel 81-48-641-5624 Fax 81-48-641-5632

E-mail

URL <http://www.mmc.co.jp/english/corporate/business/energy.html>

Available in : Global



Ohnuma Geothermal Power Plant (9.5MW)

## Eco-services

ES-4-028

Management - related services

electrical machinery,equipment and supplies

### ESCO(Energy Service Company)

The ESCO business forms a new business scheme that offers the comprehensive services for energy savings to customers, and covers cost required for repairing energy saving equipments with fee saved by energy saving.

The service includes energy saving diagnosis, energy saving proposal, equipment installation, finance, and maintenance. The project aims to substantially reduce energy consumption and CO<sub>2</sub> emissions. Taking advantage of the Group's collective strengths, Hitachi has already achieved remarkable success in a wide variety of sites, including factories, hospitals, office buildings, and research facilities. In projects undertaken between 2000 and 2007, it has achieved an aggregate reduction of approximately 220,000 tons per year of CO<sub>2</sub> emission reductions

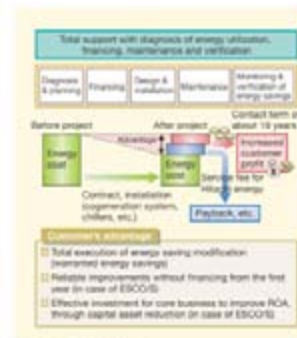
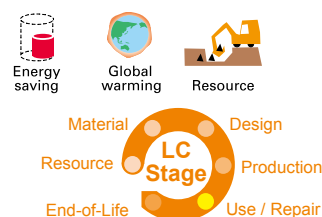
#### Hitachi, Ltd., Urban Planning and Development Systems

14-1,Sotokanda 4-chome, Chiyoda-ku, Tokyo 101-8010, Japan

Tel 81-3-3620-1040 Fax 81-3-5697-2624

E-mail [info.toshi.bk@hitachi.com](mailto:info.toshi.bk@hitachi.com)

URL <http://www.hitachi.co.jp/products/urban/energy/index.html>



ESCO(Energy Service Company)

## Eco-services

ES-4-029

Management - related services

energy-saving service

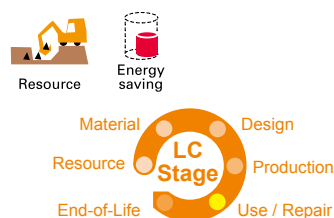
### Energy-Saving Service Solution [HDRIVE]

HDRIVE, is a service that helps industrial customers conserve energy without paying any initial costs. Hitachi offers to install inverters and high-voltage motors for equipments in which energy-saving can be expected, e.g. for fans, blowers and pumps, at customer facilities free of charge.

Under a ten-year contract, a fixed percentage of the cost savings generated from monthly energy savings is applied as a service charge.

The amount of energy saved is calculated from the equipments operating data, measured by monitoring devices.

HDRIVE also offers a new financing approach that prioritizes the customer's cash-flow and reduces investment risks when the customer changes their operations.



**Hitachi, Ltd.**

5-2-1 Ohmika, Hitachi-shi, Ibaragi-ken 319-1221, Japan

Tel Fax

E-mail [project\\_hdrive@pis.hitachi.co.jp](mailto:project_hdrive@pis.hitachi.co.jp)

URL <http://www.hitachi.co.jp/Div/hitachi/inv/hdrive/> (Japanese Only)

Outline of Energy-Saving Service Solution

## Eco-services

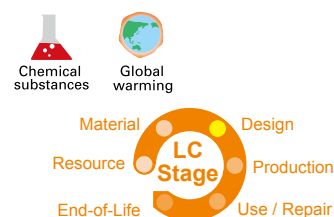
ES-4-030

Management - related services

system integrator

### Green Procurement and Chemical Substance Management system

- 1) Accelerated data collection from suppliers through this web based database system
- 2) Costs and labor saving through enhancing efficiency of tasks needed to comply with RoHS directive
- 3) Functions to evaluate conformity with chemical substance composition requirement specific to each legal and customer requirements at the level of components of a product.
- 4) Automated request generation to suppliers who have not yet registered relevant data filed concerning their products through checking data records.



**Hitachi, Ltd**

2-5-12, Kounan, Minato-ku, Tokyo 108-0075, Japan

Tel 81-3-5495-6833 Fax 81-3-5495-6835

E-mail

URL

## Eco-services

ES-4-031

Management - related services

system integrator

### Professional Design & System Integrator for Clean Energy

**GRENZONE** provides clean energy and energy efficient solutions for sustainable development in support of global effort to improve the environment. Our services include:

1. System Consultancy and Design
2. Engineering, Procurement, Installation & Commissioning
3. Maintenance Service
4. Training on Renewable Energy Technology

Apart from the above, our company engages heavily in product development. We are continuously improving our products and developing new solutions to meet the increasing need for renewable energy and higher energy efficiency.

Please write to us for our list of reference projects.

#### GRENZONE PTE LTD

51 Ayer Rajah Crescent, #06-16/17 139948, Singapore  
Tel 65-6872-2350 Fax 65-6872-5610  
E-mail [info@grenzone.com](mailto:info@grenzone.com)  
URL <http://www.grenzone.com>

Available in : Worldwide



System Integration

## Eco-services

ES-4-032

Management - related services

LCA software

### LCA software "JEMAI-LCA Pro"

JEMAI-LCA Pro is LCA software developed by the Research Center for Life Cycle Assessment, National Institute of Advanced Industrial Science and Technology (AIST) and Japan Environmental Management Association for Industry (JEMAI). JEMAI-LCA series have been released since 2000, and over 1000 copies have been sold, occupying the largest share in Japan's LCA software market. Now, English version is available. The software is equipped following functions:

- The modifiable inventory database containing a wide range of processes where the resource consumption and emissions.
- New data adding through process sheet or visual input output sheet.
- Process tree management.
- Estimation of environmental impact in overseas countries using electricity data and import model of 200 countries/regions.
- Inventory analysis and impact assessment including Japanese and European methods.
- Report writing support based on the format outlined in the ISO 14040s specifications.

#### Japan Environmental Management Association for Industry (JEMAI)

2-1 Kajicho 2-chome, Chiyoda-ku, Tokyo 101-0044, Japan  
Tel 81-3-5209-7708 Fax 81-3-5209-7716  
E-mail [jemai-lca@jemai.or.jp](mailto:jemai-lca@jemai.or.jp)  
URL <http://www.jemai.or.jp/>

Available in : Worldwide



JEMAI-LCA Pro



## Eco-services

ES-5-001

Others

transportation service by rail

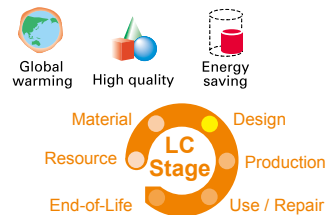
### The series N700 with enhanced energy efficiency

The Tokaido and Sanyo Shinkansen, playing an important role in the main intercity transportation in Japan, can be regarded as a transportation mode with more energy-efficient performance (e.g. lower CO<sub>2</sub> emissions per unit carriage of passengers) compared with other transportation modes such as airplanes. The Series N700, newly developed and commercially launched in the summer 2007 with the three concepts of "The fastest cutting edge rolling stock", "Superior comfort", and "Superior environmental performance", realized further energy efficiency, for example, by reducing air resistance as a result of the thorough pursuit of smooth body surface by developing a new nose shape and cover-all hood, and by introducing the body inclining system.

**Central Japan Railway Company,  
West Japan Railway Company**

JR Central Towers, 1-1-4, Meieki, Nakamura-ku, Nagoya, Aichi 450-6101, Japan  
4-24, Shibata 2-chome, Kita-ku, Osaka, 530-8341, Japan  
Tel Fax  
E-mail  
URL <http://jr-central.co.jp>, <http://www.westjr.co.jp>

Available in : Tokaido and Sanyo Shinkansen



series N700

## Eco-services

ES-5-002

Others

transportaiton service by rail

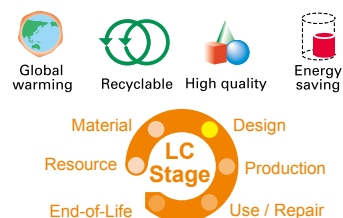
### Environmentally Friendly E231 Series

The E231 series reduces operational energy consumption by 50% compared to that of the 103 series, and in terms of weight, 90% of the E231 series railcar can be recycled. Servicing the Yamanote, Takasaki, Utsunomiya, and other metropolitan lines, the E231 series currently realized the most environmentally friendly design.

**East Japan Railway Company**

2-2, Yoyogi 2-chome, Shibuya-ku, Tokyo 151-8578, Japan  
Tel 81-3-5334-1122 Fax  
E-mail [eco@jreast.co.jp](mailto:eco@jreast.co.jp)  
URL <https://www.jreast.co.jp/eco/>

Available in : Metropolitan Area



E231 series run on the Utsunomiya line



## Eco-services

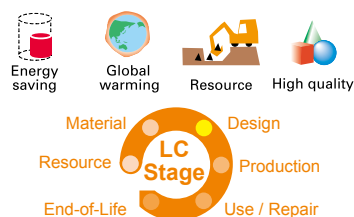
ES-5-003

Others

transportation service by rail

### E2-Series of Railcars Conserved Energy

As for energy consumption, by making improvements such as reduction in the weight of railcar bodies, the Shinkansen's energy consumption was reduced by about 30% compared to 20 years ago. Regenerative brakes utilize energy generated during the braking, and return this electricity to the overhead wires.



#### East Japan Railway Company

2-2, Yoyogi 2-chome, Shibuya-ku, Tokyo 151-8578, Japan  
Tel 81-3-5334-1122 Fax  
E-mail [eco@jreast.co.jp](mailto:eco@jreast.co.jp)  
URL <http://www.jreast.co.jp/eco/>



Available in : Touhoku,Jouetsu,Nagano Shinkansen

E2-series for Asama and Hayate Shinkansen trains

## Eco-services

ES-5-004

Others

transportation service by rail

### Operation of the world's first diesel hybrid railcar

In July 2007, the world's first diesel hybrid railcars, the Kiha E200 Type, entered service on the Koumi Line. Diesel hybrid railcar operate efficiently by using electricity generated by a diesel engine to charge a battery which reduces emissions and by regenerative brakes, which charge the battery when braking.

Efficiency in tests was approximately 20% better than a standard diesel railcar\*. The diesel hybrid railcar is quiet when idling at a station (approx. 30dB). Hazardous substances in the exhaust, such as NOx and graphite, are reduced approximately 60%.

\* Results are based on test runs on level ground. On the Koumi Line, which has steep grades, efficiency improved by approximately 10%.



#### East Japan Railway Company

2-2, Yoyogi 2-chome, Shibuya-ku, Tokyo 151-8578, Japan  
Tel 81-3-5334-1122 Fax  
E-mail  
URL <http://www.jreast.co.jp/eco/>



Available in : Koumi Line

The world's first diesel hybrid railcars kiha E200 Type

## Eco-services

ES-5-005

Others

insurance

### Eco-friendly Automobile Insurance of a Customer Participation Type through the Website

We will introduce a new system of automobile insurance under which the clauses are shown on the homepage of our company ("the web clauses"), and under which the understanding of the clauses is made much easier by means of the incorporated link and terminology search functions. (Scheduled to be provided in May, 2008)

In the case that customers say that "insurance clauses in paper are no longer necessary" because of the easiness to understand and convenience they will really feel toward the web clauses, we can expect a large-scale reduction in the use of paper and also make contributions to the mangrove reforestation project, etc. We contribute two mangrove trees per one contract. According to our company's research, the total volume of CO<sub>2</sub> which two trees absorb in their lifetime is almost equal to the volume of CO<sub>2</sub> an ordinary automobile discharges in covering 1,000 km.

This attempt, the first in the Japanese non-life insurance industry, tackles the problem of global warming by the joint efforts of customers, agents and our company in the area of automobile insurance which is the most familiar to our customers.

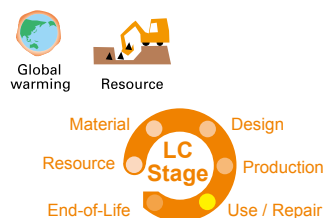
#### Tokio Marine & Nichido Fire Insurance Co., Ltd.

1-2-1 Marunouchi, Chiyoda-ku, Tokyo 100-8050, Japan

Tel Fax

E-mail mailgw04@tmnf.jp

URL <http://www.tokiomarine-nichido.co.jp/>



Available in : Japan

Mangrove

## Eco-services

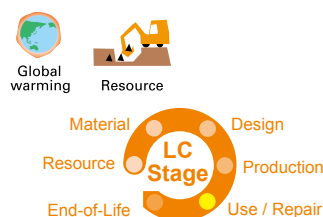
ES-5-006

Others

derivative products

### Contribution to the Environmental Field by Providing Derivative Products

Tokio Marine Nichido provides derivative products to commercial clients who face risks of property damage and loss of profits due to natural disasters such as climate change, typhoons and earthquakes. Conventional insurance products which indemnify losses caused by wind and earthquake conditioned the indemnification to an actual loss occurring, however, for derivative products the decision of a settlement and the amount is decided by climate indexes and target indexes such as seismic intensity, so it is possible to apply the product to a wide variety of risks such as the increase in expense or decrease in profit due to the increased number of typhoons approaching land.



#### Tokio Marine & Nichido Fire Insurance Co., Ltd.

1-2-1 Marunouchi, Chiyoda-ku, Tokyo 100-8050, Japan

Tel Fax

E-mail mailgw04@tmnf.jp

URL <http://www.tokiomarine-nichido.co.jp/>

Image of Natural Disaster

## Eco-services

ES-5-007

Others

books

### A. Miyazaki & M. Miyazaki, *Love, Peace & Green, Missing Peace 2*, Shogakukan, Tokyo

This book is a photographic travel sketch of Greenland, which was planned and produced by the 2025PROJECT which offers the vision that the earth will be in sustainable state in 2025. To make the vision a reality, it works actively to find "missing peace". Here, the "peace" has two meanings; one is the literal meaning and "serenity"; the other is the homonymy and a "piece" of key to solve the puzzle of finding out peace. A feature of this book is carbon offset. Until we put the book on sale, CO<sub>2</sub> is discharged by boarding airplane to report and take a photograph, by producing and printing, and by carrying to bookstores, etc. Total CO<sub>2</sub> is evaluated to be 33.1 tons. To offset this CO<sub>2</sub>, a royalty of 75 yen per 1 copy is donated by A. & M. Miyazaki to the Greenhouse-gas Reduction Project through the Carbon Offset Japan. The money is equivalent to 37.5kg of CO<sub>2</sub>, and so 33.1 tons /37.5 kg = 883. The carbon offset of this book is therefore completed at 883 copies, and the money of extra copies is used in further CO<sub>2</sub> reduction.

#### 2025PROJECT

Setagaya, Tokyo 154-0011, Japan

Tel Fax

E-mail

URL [http://www.2025.jp/pc/english/index\\_e.htm](http://www.2025.jp/pc/english/index_e.htm)



Global warming



## Eco-services

ES-5-008

Others

energy saving solution for the comfort air conditioning

### Air conditioning control system for building, of comfort and energy saving type

"Neuro-PMV®" is a comfort control system of the air conditioning, and it can perform energy saving without marring the user's amenity. As the index of the control, PMV (Predicted Mean Vote: ISO7730) is used. It can change the setting temperature in real time so as to do uniform PMV control. The radiation temperature in the calculation of PMV is determined by IT, so a special sensor is unnecessary. The system is applicable to old building as well as new one. In addition, we promote the "ESCO" business to realize the energy saving on the whole of building. We offer the total service including planning, construction and maintenance about the facilities of air conditioning, heat source, lighting, and sanitation.

- **Energy Saving:** The energy saving is tried by improving the control and operation of air conditioning equipment. It is possible to realize the energy saving, while keeping the initial cost lower than the replacement of facility.

#### TOSHIBA CORPORATION Social Infrastructure Systems Company

1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan

Tel 81-3-3457-4368 Fax 81-3-5444-9280

E-mail

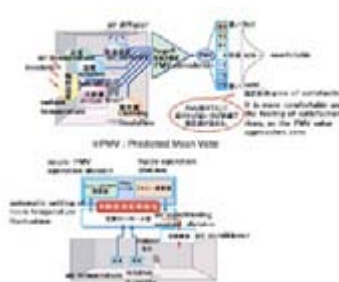
URL [http://www3.toshiba.co.jp/snis/bldg/index\\_j.htm](http://www3.toshiba.co.jp/snis/bldg/index_j.htm)



Global warming



Energy saving



Predicted Mean Vote(up side) ,  
Energy saving solution for the comfort air conditioning(down side)

ES-5-009	Others
environment education contents	
Environment Education Contents Series "Environmental Communication Club"	
<p>Environmental communications club is an environmental educational contents to understand global environmental problems and the negative environmental impact , and to consider the environment. Contents include Animation and Games. User can enjoy and learn the environmental issues. These contents are used to study by school child's class trip in the garbage incinerator and the recycling plaza of the municipality.</p> <p><b>TOSHIBA PLANT SYSTEMS &amp; SERVICES CORPORATION</b></p> <p>Muza Kawasaki Central Tower, 1310, Omiya-cho, Saiwai-ku, Kawasaki-shi 212-8551, Japan Tel 81-44-548-7711 Fax 81-44-548-7884 E-mail <a href="mailto:eco.master@toshiba-tpsc.co.jp">eco.master@toshiba-tpsc.co.jp</a> URL <a href="http://www.toshiba-tpsc.co.jp/eco/">http://www.toshiba-tpsc.co.jp/eco/</a></p>	  <p>Various Contents</p>