

# Environmental, Safety and Health



# Chairman's Letter

TI's commitment to Environmental, Safety and Health is critical to our pursuit of overall corporate excellence. I'm proud of what TI employees have achieved in ESH, yet the things we've accomplished are simply milestones on a longer and larger road to a sustainable and safe ecology.

Our ESH goal for TI facilities, employees and suppliers is zero wasted resources and zero injuries and illnesses. That is an ambitious objective, yet TI is making steady progress thanks to one of the leading ESH programs in the industry.

In 2002, we reduced recordable injuries and illnesses by 15 percent in the U.S., continuing the positive trends TI established in prior years. Our rate of lost time injuries in the U.S. is almost 20 percent lower than the average for the semiconductor industry, itself one of the 10 safest industries in which to work in the nation. We reduced the amount of hazardous waste generated by 35 percent, and increased the amount of hazardous waste recycled by 8 percent. Our non-hazardous waste recycling program channeled 80 percent of our waste stream to be reused in other viable products and activities.

As you will see throughout this Review and accompanying Operations Report, ESH stewardship is pervasive at TI and works to the benefit of all TI stakeholders:

- For customers, ESH excellence helps us deliver high-quality products via safe and efficient manufacturing techniques.
- For communities in which we operate, it augments the company's near-term economic contributions by enhancing the long-term quality of life and assures a safe, responsible neighbor.
- For employees, ESH stewardship is a driving force behind a wide range of on- and off-the-job health and safety programs. We want our employees and their families to live these values everyday, just like we do.
- For shareholders, it adds value by improving productivity and reducing costs and liabilities.

Perfection is the goal. Continuing to make progress is the only way to get there. I want to thank every TI employee for their hard work in these areas, and I challenge employees to keep working hard to make ESH performance at TI even better.

I also would like to invite all the readers of this report to help TI make further progress. Please use the response section to submit your ideas and feedback. We appreciate your time. We're all in this together.

Thanks for your interest and support,



**Tom Engibous**

TI Chairman, President & Chief Executive Officer



# TI Awards - 2002

## **Governor's Award for Outstanding Achievement in Toxics Use Reduction**

Commonwealth of Massachusetts  
Attleboro, Massachusetts, USA

For pollution prevention advancements in the leadframe and batch plating shops since 1997

## **Massachusetts Environmental Stewardship Award**

Massachusetts Executive Office of Environmental Affairs  
Attleboro, Massachusetts, USA

For excellence and commitment to the environment

## **Texas Environmental Excellence Award - Finalist**

Large Technical Business category

Texas Commission on Environmental Quality  
North Campus, Dallas, Texas, USA

For outstanding excellence in recycling and resource management

## **Blue Thumb "Silver" Award**

City of Dallas Water Utilities Department  
North Campus, Dallas, Texas USA

For achieving full industrial wastewater compliance for one year

## **Blue Thumb "Gold" Award**

City of Dallas Water Utilities Department  
South Campus, Dallas, Texas, USA

For achieving full industrial wastewater compliance for five years

## **The Fourth Grade of Zero Lost Day Award**

Labor Standards Bureau, Ministry of Labor in Japan,  
TI Japan, Hiji, Japan

For Zero Lost Day Case Rate after 23.7 million working man hours (since September 1993). Fourth Grade signifies a high level of achievement for worker safety

## **Prime Minister's Hibiscus Award**

Prime Minister of Malaysia  
TI Malaysia, Kuala Lumpur, Malaysia  
For environmental excellence

## **Mexico National ENERCON Award**

President of the Mexican Republic  
TI Mexico, Aguascalientes, Mexico

For the best energy conservation efficiency index in the middle industry category

## **Recognition of Participation in Environmental Education**

Technological Institute of Aguascalientes  
TI Mexico, Aguascalientes, Mexico

For training students at the institute for an environmental career

## **PEZA Environmental Performance (PEP) Award – Recipient**

Philippines Export Processing Zone  
TI Philippines, Baguio, Philippines

For performance in sustaining compliance and innovative systems for continued improvement in environmental protection

## **Certificate of Recognition**

Environmental Management Bureau  
TI Philippines, Baguio, Philippines

For excellent environmental performance

## **National Safety/IH Excellence Award**

Minister of Council of Labor Affairs, Executive Yuan  
TI Taiwan, Taipei, Taiwan

For outstanding safety and industrial hygiene performances that are benchmarked to companies nationwide

## **Taipei County Safety/IH Excellence Award**

Government of Taipei County (Hsien)

TI Chung Ho A/T Site, TI Taiwan

For outstanding safety and industrial hygiene performances that are benchmarked for other companies

## **TI ESH Excellence Awards**

TI's ESH Excellence Award Program recognizes significant internal achievements by site, individual or team. These awards are presented to sites that demonstrate an outstanding commitment to compliance, integration of ESH principles (including utility conservation and integration of fire prevention/protection into their products, processes, and services), continuous improvement and commitment to world-class performance.

### **2002**

#### **Gold**

- Aguascalientes, Mexico
- Baguio, Philippines
- Hiji, Japan
- Taipei, Taiwan

#### **Silver**

- DMOS IV/East Building Test, Dallas, Texas, USA
- Kuala Lumpur, Malaysia
- Miho, Japan

#### **Bronze**

- Dallas South Building, Dallas, Texas, USA

### **2001**

#### **Gold**

- Baguio, Philippines

#### **Silver**

- Taipei, Taiwan
- Aguascalientes, Mexico
- Miho, Japan

#### **Bronze**

- Chinchon, South Korea
- Kuala Lumpur, Malaysia

#### **Honorable Mention**

- Kilby Center, Dallas, Texas, USA

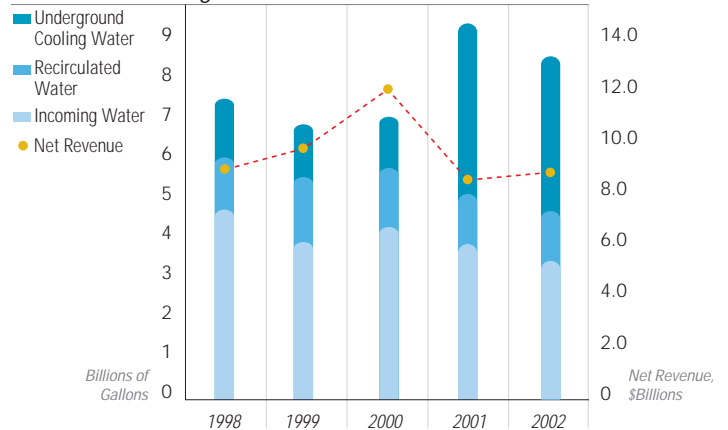


2002 National Safety/IH Excellence Award

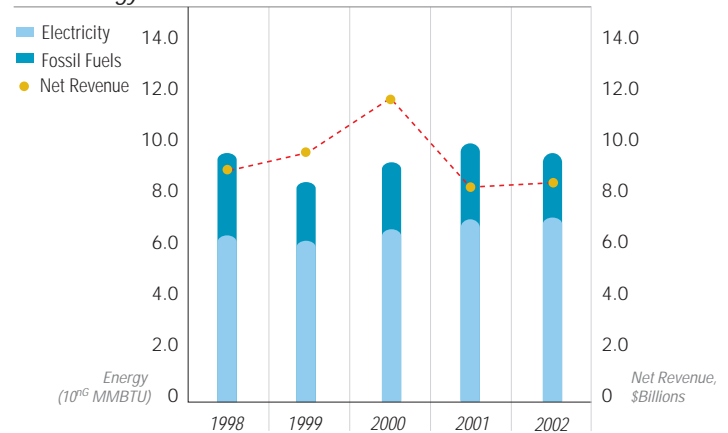
*During recent years, numerous divestitures and acquisitions have changed the face of our business and of our ESH performance metrics. As our company focuses on the digital signal processing, analog and mixed-signal solutions markets, we have greatly increased our manufacturing operations, particularly in the United States.*

*These dynamic operational changes make it difficult to compare our performance from year to year, but we believe there is value in tracking our trends. You'll see we have provided five years of data throughout this report, a reflection of our continued innovative efforts to operate safely and sustainably at all of our facilities worldwide.*

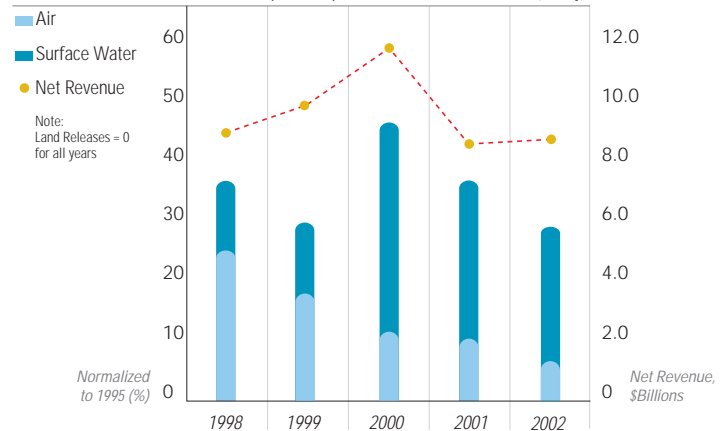
**Total TI Water Usage**



**Total Energy Use**



**Permitted Releases to Air, Land, & Water** EPA TRI Chemicals (US Only)



1930

1930 Founded as "Geophysical Service"

1946 Established Lab & Manufacturing Division

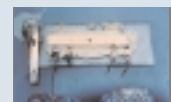
1940

1951 Name changed to Texas Instruments Incorporated (TI)

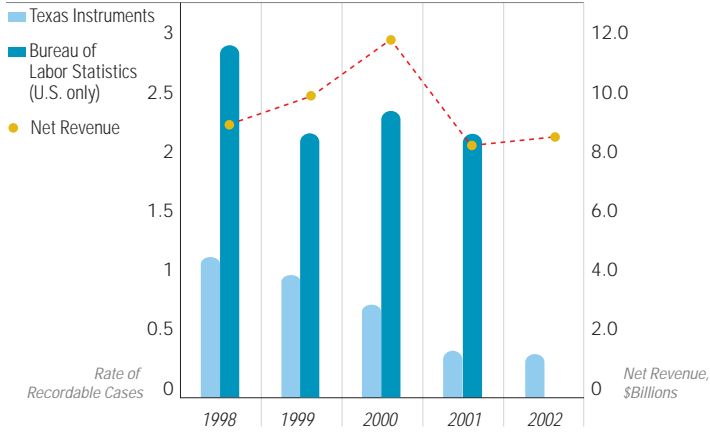
1950

1954 First commercial silicon transistor

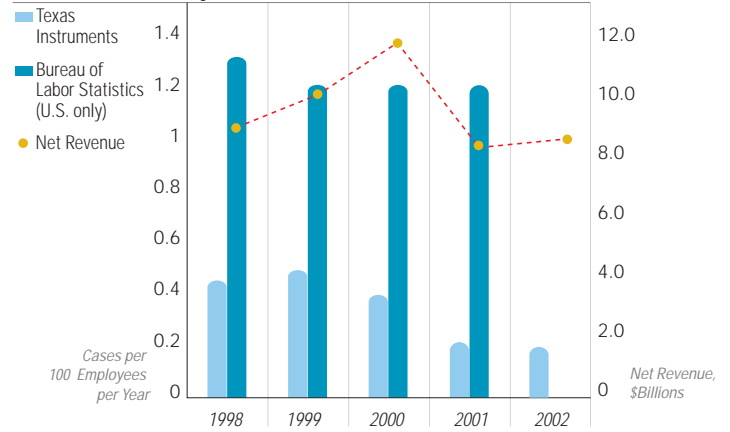
1958 First integrated circuit (IC) by Jack Kilby



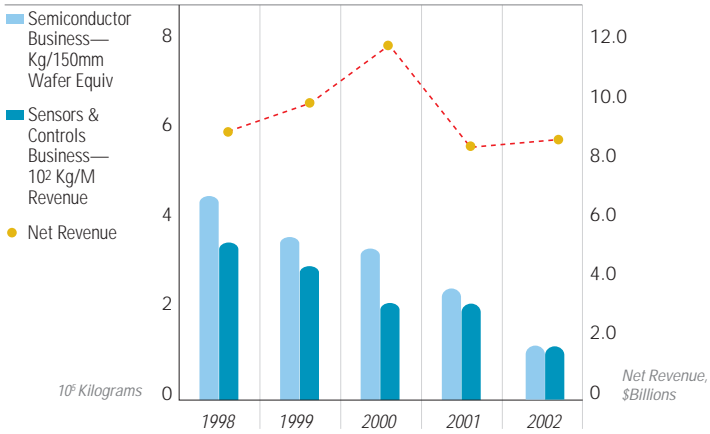
### Recordable Cases



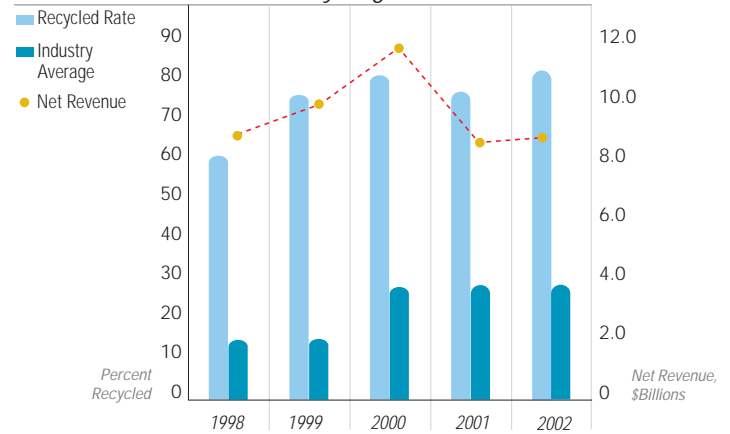
### Lost/Restricted Day Cases



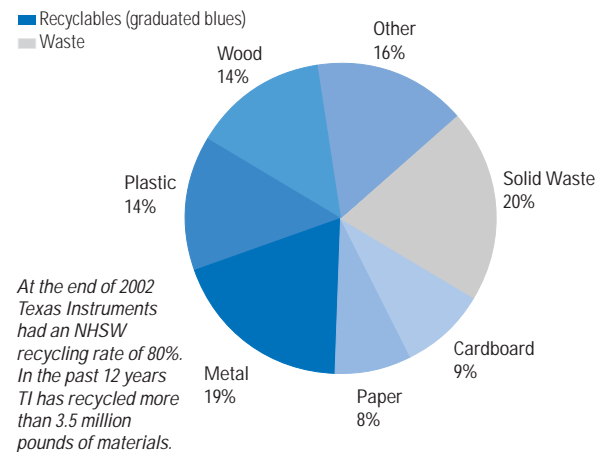
### Worldwide Hazardous Waste



### Non-Hazardous Materials Recycling Rate



### Non-Hazardous Solid Waste and Recyclables



1961 First TI ethics booklet published

1967 Invented electronic hand-held calculator

1969 Apollo mission landed with aid of TI products



1970



1970s First environmental standards adopted

1970s First safety standards adopted

1973 Established energy management program

1982 Introduced single-chip digital signal processor

1984 Launched Worldwide ESH Audit Program

1989 TI Malaysia received Malaysia Award for Excellence in Manufacturing

1989 Introduced first lead-free alternative to IC market

1980



# Students Explore Science During 2003 Earth Day Celebration

More than 2,000 minority and low income students from classrooms near the Texas Instruments' Headquarters complex touched science firsthand during the 2003 Neighborhood Service Council, Inc. (NSCI) Earth Day celebration on May 2 at Cottonwood Trail Park. The event marked TI's ninth year as a co-sponsor helping civic organizations and businesses, including the City of Dallas, and TI's strategic chemical and gas partner Air Liquide, promote ecology and science to students in first through sixth grades.

"We know that building students' interest in the sciences and math encourages them to keep studying those subjects," said J.P. Suplita, an environmental specialist and one of 12 TI employees who gave demonstrations and staffed the company's four booths at the event. "If we can get more kids involved in the sciences, that's a potential building block for TI and its future."

Students toured more than 100 booths and experienced demonstrations by TI. The demonstrations detailed how TI handles chemicals safely, recycles materials such as broken silicon



wafers and maintains water quality. Students also participated in hands-on activities, including determining the pH balance of various materials and taking a microscopic look at different species in water drawn from a nearby creek.

"I try to stress to students that they could be doing this, doing science, but it takes education," JP said. "We're giving them an opportunity to better their future and helping to grow the pool of qualified engineers, which is critical to our industry."

# TI Helps Make Vehicles Safer: Sensors to Protect Small Passengers

TI entered the vehicle airbag market about a year ago and, through some early successes, is well poised to capture growing market share while contributing to safer vehicles that protect lives.

TI's Occupant Weight Sensor (OWS) measures the weight of front-seat passengers through four sensors mounted under each corner of a seat, adjusting the force of airbag activation to help protect children and small adults from injury.

"Providing safety with our products is part of our culture," said Ray Lizotte, a senior environmental engineer. "As a result, we keep and maintain high quality people because they're contributing to making society safer and enjoy their work."



According to Lizotte, Sensors & Controls (S&C) group has a long history of looking for market discontinuities and products that address them. "A good percentage of S&C products have come as a response to government regulation; from motor protectors and circuit breakers to auto safety devices, including the OWS."

TI's solution, built with core silicon sensing technology from the company's successful MSG sensor, responds to federal legislation that requires 20 percent of new passenger vehicles next year to protect small riders from overly forceful airbags. By 2006, all cars, vans, pickups and SUVs must provide such protection.

To accommodate variations in vehicles types, the OWS design team is working on 23 different versions of the sensor.

- 1990** Initiated NHSW recycling worldwide
- 1990** TI Ergonomics Program established
- 1991** Management-driven safety policies established



- 1992** TI-Freising ammonia recycling program established
- 1993** ODS's eliminated in operations
- 1996** TI ESH Policies & Principles adopted
- 1996** TI-Freising became the company's first site to obtain ISO 14001 and EMAS certification
- 1997** Announced biological sensor technology
- 1997** TI-Dallas received Texas Governor's Award for Environmental Excellence

1990

# For Second Straight Year, TI-Taiwan Captures ESH Gold

For the second consecutive year, TI-Taiwan earned the company's prestigious Gold Environmental, Safety and Health (ESH) Excellence Award for its long-standing successful programs and drive for continual improvement.

TI-Taiwan joined eight other sites in winning ESH excellence awards, including TI-Aguascalientes, which also captured gold. TI-Taiwan also received a gold award last year, silver awards in the three previous years and a bronze in 1997.

"Since May 2002 when TI-Taiwan first won the gold award, we benchmarked all the award winning sites of that year and found where TI-Taiwan could improve," said Mark Hsu, TI-Taiwan ESH and Security.

Through the support of site management, the ESH team was able to implement several new programs and improve on existing ESH initiatives, including:

- Enhancement of ergonomics promotion programs to improve working environment and tools on the manufacturing line
- Improved relations with the site's community by involving neighbors, particularly young school children, in ESH activities
- Partnership with the site's Health Center and the Incident Investigation Team to study near-miss injury incidents and identify appropriate preventative actions
- Water and energy reductions resulting in \$35,000 annual savings
- Innovative recycling projects and continuation of general non-hazardous solid waste recycling. The site achieved an 87 percent NHSW recycling rate and \$152,000 in savings



"TI-Taiwan is honored to have received this award and recognition from top management for our continuous improvement in ESH performance," Hsu said. "We will continue to strive for excellence and maintain our Gold."

TI sites that apply for the ESH excellence awards are judged by a panel of ESH specialists and are scored by many criteria, including off-the-job and community leadership programs, performance trends, interaction with other sites, companies and regulatory agencies and demonstrated ESH programs and successes. TI-Taiwan received high marks on its application and is considered to be a benchmark site.



Through its worldwide ESH program TI aims for each of its sites to earn gold awards. The program recognizes TI sites' achievement in environmental, safety and health practices, encourages continuous improvement in those practices, identifies best practices within the company, and creates an atmosphere of involvement and participation.

- 1998** Wafer recycling program established: Recycled wafers converted to solar panels reduce energy consumption
- 1998** Continued acquisitions to strengthen the company's DSP, analog and end-equipment portfolios
- 1999** Sulfuric Acid Reuse Program established
- 1999** Acquisition activity accelerated to strengthen semiconductor leadership



# 2000

- 2000** Jack Kilby awarded the Nobel Prize
- 2000** Company record low for L/RDC Rate\* – 0.34
- 2001** Company record low for L/RDC Rate – 0.19
- 2001** TI announced agreement to not use products made from old growth wood
- 2002** Company record low for L/RDC Rate – 0.18
- 2003** TI launched U.S. mobile phone re-use program

\*Lost/restricted day case rates (L/RDC) – metric that tracks

# Environmental Management Systems

As we develop and formalize our environmental management systems, each TI site chooses the environmental management system that best satisfies the needs of local customers and governments. We consider the International Standard on Environmental Management Systems (ISO 14001) and the European Union Environmental Management and Audit Scheme (EMAS) to be tools that may help individual sites meet TI ESH goals. These certifications may also help sites meet regional standards and marketplace expectations.

## ISO 14001 Certification Status:

### Semiconductor Business Group



#### **Baguio, Philippines**

- Initial certification: 2/13/97, EMSC-1081, Auditor: DNV
- Current certification: 01 104 010820/2, Auditor: TUV



#### **Freising, Germany**

- Initial certification: 1996, DE-S-155-00018, Auditor: Intechnika
- Current certification: DE-S-155-00018, Auditor: Intechnika
- EMAS certification: 11/11/96 & 11/23/99, DE-S-155-00018, Auditor: Intechnika GmbH



#### **Hiji, Japan**

- Initial certification: 11/11/98, CERT-02138-99-AE-HOU-RAB, Auditor: DNV
- Current certification: 1/08/01, CERT-01 104 010820 / 3, Auditor: TUV



#### **Kuala Lumpur, Malaysia**

- Initial certification: 9/3/1999, EMSC-1572, Auditor: Rva, and CERT-024595-99-AQ-HOU-RAB, Auditor: DNV
- Current certification: 01 104 010820/1, Auditor: TUV



#### **Miho, Japan**

- Initial certification: 11/11/98, CERT-02138-99-AE-HOU-RAB, Auditor: DNV
- Current certification: 1/08/01, CERT-01 104 010820/4, TUV



#### **Taipei, Taiwan**

- Initial certification: 1996, EMSC-1047, Auditor: DNV
- Current certification: 01 104 010820, Auditor: TUV



#### **Tucson, Arizona, USA**

- Initial certification: 2000, certificate # 950 99 0473, Auditor: TUV



#### **Aguascalientes, Mexico**

- Initial certification in progress, Auditor: DNV



#### **Sherman, Texas, USA**

- Structured ESH programs addressing ISO 14001 components in place. No certification currently planned.



#### **Dallas, Texas, USA**

- Structured ESH programs addressing ISO 14001 components in place. No certification currently planned.



#### **Houston, Texas, USA**

- Structured ESH programs addressing ISO 14001 components in place. No certification currently planned.

### Sensors & Controls Business Group



#### **Campinas, Brazil**

- Structured ESH programs addressing ISO 14001 components in place. No certification currently planned.



#### **Baoying, China**

- Initial certification: 02/01, 01 104 000634, Auditor: TUV



#### **Chinchon, Korea**

- Initial certification: 10/5/2000, EAC-02438, Auditor: Korean Foundation for Quality



#### **Attleboro, Massachusetts, USA**

- Initial certification: 11/15/2002, 113099, Auditor: Lloyds Registrar Quality Assurance, Inc. (LRQA)



#### **Aguascalientes, Mexico**

- Initial certification: 10/10/2001, Certificate No. 74 300 9897, Auditor: TUV



#### **Almelo, The Netherlands**

- Initial certification: 7/1/2002, 2010855, Auditor: KEMA (Bas Cuypers)



#### **Oyama, Japan**

- Structured ESH programs addressing most ISO14001 components in place. Certification planned during 2003.

The sites which do not have ISO14001 certification operate under TI's ESH Policy and Principles and in compliance with TI Environmental, Safety and Health Standards. A gap analysis has been completed and is under consideration for improvement as business dictates.