



Three diamonds made from ashes by the Swiss company Algordanza are pictured in this undated photograph. At the end of their days, most people end up six feet under or up in flames, but some are choosing to spend eternity as sparkling diamonds.

PHOTO: AFP

Coffins are out, diamonds are ... forever

A Swiss company is receiving orders from around the globe, and especially Japan, for a chemical transformation that can turn human ashes into gemstones

BY **PATRICK BAERT**
AFP, CHUR, SWITZERLAND

At the end of their days, most people end up six feet under or up in flames; others get frozen or mummified.

But some lucky ones are spending eternity as sparkling diamonds, thanks to a peculiar chemical transformation.

For a fee, a company called Algordanza in the eastern Swiss canton of Graubünden offers a service to turn ashes into precious stones.

Every month, it gets 40 to 50 commissions — some as far away as Japan.

One came from secretary Lilly Hess-Sollberger, who saw an article about the service and made her daughter Michele Galmarini-Hess promise to call Algordanza when she passed away.

She died three years ago at 82 and her ashes are now a half-carat blue diamond pendant that adorns her daughter's neck.

"I wear it day and night, even when I go to bed. For me she's alive, and it does me good," said Galmarini-Hess, who lives in Montreux.

When asked about the diamond, she said some have shuddered but most people find it a "great" idea. "You can't imagine how many of them ask if they can kiss the stone," she said.

Rinaldo Willy, 28, one of two co-founders of Algordanza, said the commissions come from "all kinds of people — they could be bus drivers or professors in philosophy."

At the firm's laboratory, about 15 machines run non-stop alongside

employees wearing plastic protective glasses who work behind a yellow and black line that visitors are not allowed to cross — out of respect for the dead.

"Five hundred grams of ashes is enough to make a diamond, while a human body leaves behind on average 2.5 to 3 kilograms of ashes," Willy said.

Potassium and calcium, which make up some 85 percent of the ashes, are first separated from the carbon.

The carbon is then subject to extremely high pressure and heat — 1,700°C — a process which compresses it into graphite: a carbon allotrope, or a structurally different form of carbon. More pressure and heat are applied to the graphite to turn it into diamonds — the hardest

allotrope of carbon.

The entire process takes six to eight weeks, hardly a fraction of the time it takes for the formation of natural diamonds, which takes thousands of years.

When the process is complete, the crude diamond still requires polishing and cutting. Many are cut into heart-shaped stones that can be worn as a pendant or mounted on a ring.

"Each diamond is unique — the color varies from dark blue to almost white," Willy said. "It's a reflection of the personality."

Willy acknowledges that it is impossible to prove that each diamond is indeed made from a particular person's ashes.

"DNA burns," he explained.

But the "chemical imprint" of

the ashes, determined at its arrival to the lab, allows for documentation to be made and for the finished product to be traced, he said.

The whole process costs between 4,500 Swiss Francs and 17,000 Swiss francs (US\$4,400 and US\$16,700), depending on the weight of the resulting stone (from 0.25 to one carat), and does not include the setting of the stone.

Algordanza, which means "remembrance" in Romansch, one of the four official languages in Switzerland, defends this as a reasonable price.

"A burial could be very expensive: It costs 12,000 euros [US\$19,000] in Germany," said Willy, who would not divulge his company's revenues.

Not all agree with the process.

Undertaker Yannick Abel-Coindez at Geneva's Murith funeral home said he had never received a request to make a "life gem," as some call the stones, and has no plans to offer the service.

"It's not in line with our ethics of burial and remembrance," he said. "To wear your loved one as a ring and carry it with you everywhere prevents you from distancing yourself and thereby recovering from the loss."

Yet the industry of "human diamonds" is booming, with similar companies in Russia, Spain, Ukraine and the US.

Founded in 2004, Algordanza has expanded to 20 countries, including six outside Europe, and employs about 100 people.

Willy said it is particularly

popular in Japan, which sends between two to four urns daily, and the firm is setting its sights on China and India.

For Willy, a mobile world is fueling demand for such services. As people move farther from home, grave upkeep becomes difficult. And though cremation is increasingly popular, special permission is generally needed to transport urns across borders.

Though most life gem requests come from families after a loved one's death, Willy said people are starting to ask for his firm's services themselves in living wills before they die.

Individuals can even pay beforehand, with an insurance policy that covers their wish to become a diamond ... forever.

German firms pulling out of China

Some manufacturers are finding quality concerns, fuel prices and high turnover of staff make Chinese plants less profitable

BY **SYLVIA WESTALL**
REUTERS, GIENGEN AN DER BRENZ, GERMANY

Wafts of golden fluff whirl in the air as Irene Basan wedges a bundle of material onto a spike and gently turns it inside-out, right ear, left ear, then a snout, to reveal a Steiff teddy bear head.

She has been hand-making Steiff toys for 18 years in Giengen, the tiny south German town where the maker of collectible teddy bears — some worth hundreds of thousands of dollars — was founded more than 125 years ago.

Chasing lower costs, Steiff outsourced around a fifth of its production to China in 2003 but has now decided to come back because of concerns about quality and staff turnover.

Steiff is one of a small number of German firms that are swimming against the tide and leaving China, despite its cheaper workforce and a burgeoning consumer population. With fuel at record highs, some cite mounting transport costs.

Production of Steiff toys, which include a distinctive long-limbed bear with a melancholy growl, will come back to Germany and other countries in Europe by the end of next year.

"A Steiff animal has to look cute, it has to look at you and say, 'take me in your arms and hug me, I'm here for you, I'm your friend,'" said Martin Frechen, Steiff's managing director. "If the symmetry is off and if it looks like it's been run over by a car, it's not what we want. People don't pay for that."

Consisting of around 35 parts and with an average price of 40 euros to 70 euros (US\$63 to US\$110), the toys take up to a



A seamstress at toymaker Steiff fastens an eye to a handmade teddy bear in Giengen, Germany, on July 7.

PHOTO: REUTERS

year to learn to make and around 80 percent of the work is done by hand.

But with twisted legs, bald patches and open seams, a "cumbersome" number of the Steiff toys made in China had to be rejected, Frechen said, because high staff turnover in a fast-growing economy meant workers did not have long enough to train.

"We don't really fit in over there," he said, pointing out that Steiff's typical orders of around 500 were too small to reap good cost savings in factories more accustomed to mass production.

Germany has been the world's largest exporter of goods since 2003, but China has been snapping at its heels for the top spot — even though Chinese manufacturing was cast in a poor light last year after US toymaker Mattel had to recall more than 20 million Chinese-made toys.

The world's leading toymaker, which produces more than half of its products in China, has since stood by its Chinese partners and ramped up quality checks.

But for smaller companies, such quality control is difficult to implement, said Harald Kayser, head of the China Business Group at auditors PricewaterhouseCoopers (PwC).

"If you don't have people from your own head office in China then it is very difficult to manage the process," he said. "Smaller companies have more problems in this area."

A PwC study showed that companies could save up to 50 percent making their goods in China instead of Germany, but that firms often underestimate logistics costs.

Around a third actually incurred losses by moving production east, the study showed.

Companies fail to take into account the total cost of business in China, including training, time delays and monitoring of production systems, said Paul Midler, president of business consultants China Advantage.

"For every foreign company that is honest with itself and admits that manufacturing in China comes with a higher cost, there are countless others that will fool themselves into thinking that they can manage it with fewer resources than it actually requires," he said.

And some companies say higher shipping and fuel costs mean producing goods in China no longer makes good business sense.

Global oil prices have doubled in the past year. A study by Jeff

Rubin and Benjamin Tal of CIBC World Markets showed that over the last three years, every US\$1 rise in world oil prices has fed directly into a 1 percent rise in transport costs.

A study by the German engineers' association (VDI) shows one in five German firms returns to Germany after a brief foray abroad.

"This figure shows us that the 'Made in Germany' label remains a mark of quality," VDI president Bruno Braun said in a statement.

Analysts have queried the VDI figures and say there is little evidence to show firms are quitting China or other emerging market countries en masse for Germany.

The German Chambers of Industry and Commerce (DIHK), which surveyed 8,000 German firms, says only 3 percent to 5 percent of companies come back to Germany and around a third have ambitions to grow in China.

"It is absolutely normal that some companies fail," DIHK chief economist Volker Treier said.

Given a lack of resources for proper research, companies sometimes have to "jump into cold water" and see if they can swim, he said. "For a small company with an emphasis on very high quality, it is very difficult."

For many hoteliers in Southeast Asia, going green is easier said than done

BY **PATRICK FALBY**
AFP, PHNOM PENH

As climate change guilt among tourists grows, many hotels and resorts in emerging hotspots like Cambodia are touting their environmental credentials in an effort to cash in on the "eco" tag.

But some are finding that in a nation still pulling itself out of poverty and rebuilding after decades of civil war, it is not always easy being green.

The new minimalist 16-room riverfront Quay Hotel in the capital Phnom Penh boasts that it is one of the first businesses in Cambodia to completely offset its carbon emissions.

But their all-natural soap is flown in from Thailand and there is nowhere to buy items such as chemical-free linen, said Michelle Duncan, operations manager for FCC, the group that owns the hotel. "We're a hotel trying to do our bit to offset emissions in the country," Duncan said. "In London or Australia or wherever, it's a lot easier to recycle."

What exactly makes an "eco-resort" also remains to be defined, with no worldwide standards that hotels and resorts have to meet to claim the tag.

In Cambodia, tycoon Sok Kong recently said the environment was his "first concern," despite his plans to build two luxury golf courses in the country's Bokor Mountain protected area.

Yin Sorya, an eco-tourism adviser to the Cambodian government, said that local officials often do not understand what makes sustainable tourism.

"When they [Cambodian officials] talk about eco-tourism, they talk about golf courses or five-star hotels," Yin Sorya said. "Here in Southeast Asia, they want high-market mass tourism."

Many of the resorts marketing their green credentials in Cambodia and neighboring Laos are modest properties in pristine jungle settings.

They use locally sourced materials, some solar power and try and give back to poor local



Motorists ride past a hotel in Phnom Penh, Cambodia, on June 25. As climate change guilt among tourists grows, many hotels and resorts are touting their environmental credentials in an effort to cash in on the "eco" tag.

PHOTO: AFP

communities while causing as little impact as possible.

In Thailand, environmentally friendly policies are becoming more high-tech, with homemade biofuels, intelligent lighting and organically fertilized herb gardens all wooing tourists concerned about their carbon footprint.

electricity into local grids by 2020, Seidel said.

"Every year there's a 10 or 20 percent increase of travelers in this niche market we're providing," he said.

A UN report last year found that tourism, in particular air travel, accounted for about 5 percent of global emissions of carbon dioxide.

However, as the travel industry adopts more sustainable practices, there are so many different "green" standards on the market right now that tourists are left scratching their heads.

Environmental activists hope that tourism, in particular air travel, accounted for about 5 percent of global emissions of carbon dioxide.

But as tourist arrivals soar, jumping 20 percent from 2006 to last year alone and bringing much-needed money to this poor nation, a high-end hotel building boom sweeping the country is worrying some activists.

Yet Touch Nimith, an eco-tourism officer for Conservation International in Cambodia, holds out hope that the environmental tourism trend will help save protected areas.

"The eco-tourism we're thinking about is for conservation, not local economics," Touch Nimith said.

“When they [Cambodian officials] talk about eco-tourism, they talk about golf courses or five-star hotels.”

— Yin Sorya, eco-tourism adviser to Cambodia

"People are saying: 'If I want to travel, I'd better make it environmentally conscientious,'" said Juergen Seidel, a director for Six Senses, which has hotels and resorts in Thailand and Vietnam. Six Senses plans to produce enough clean energy to power all of its operations as well as feed