

## Can We Engineer Our Way Out of a Climate Crisis?

By DAVID GELLES

REYKJAVIK, Iceland — On a windswept Icelandic plateau, an international team of engineers and executives is powering up an innovative machine designed to

### BUYING TIME

*The Risks of Manipulating Nature*

alter the very composition of Earth's atmosphere.

If all goes as planned, the enormous vacuum will soon be sucking up vast quantities of air, stripping out carbon dioxide and then locking away those greenhouse gases deep underground in ancient stone — greenhouse gases that would otherwise continue heating up the globe.

Just a few years ago, technologies like these, that attempt to re-engineer the natural environment, were on the scientific fringe. They were too expensive, too impractical, too sci-fi. But with the dangers from climate change worsening, and the world failing to meet its goals of slashing greenhouse gas emissions, they are quickly moving to the mainstream among both scientists and investors, despite questions about their effectiveness and safety.

First in a series on the risky ways humans are starting to manipulate nature to fight climate change. Once science fiction, today these ideas are becoming reality.

Researchers are studying ways to block some of the sun's radiation. They are testing whether adding iron to the ocean could carry carbon dioxide to the sea floor. They are hatching plans to build giant parasols in space. And with massive facilities like the one in Iceland, they are seeking to reduce the concentration of carbon dioxide in the air.

As the scale and urgency of the climate crisis has crystallized, "people have woken up and are

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In Iceland, captured carbon dioxide will be pumped into bedrock to be turned into a solid.

In Texas, Occidental's new plant will lock up carbon dioxide but use some of it to extract oil.

## Crisis in Gaza Prompts Berlin To Change Tone

By ERIKA SOLOMON

BERLIN — Days after Hamas launched its Oct. 7 attacks on Israel, Germany's chancellor, Olaf Scholz, was one of the first Western leaders to arrive in Tel Aviv. Standing beside the Israeli prime minister, Benjamin Netanyahu, he declared that Germany had "only one place — and it is alongside Israel."

That place now feels increasingly awkward for Germany, Israel's second-largest arms supplier and a nation whose leadership calls support for the country a "Staatsräson," a national reason for existence, as a way of atoning for the Holocaust.

Last week, with Israel's deadly offensive continuing in Gaza, the chancellor again stood next to Mr. Netanyahu in Tel Aviv, and struck a different tone. "No matter how important the goal," he asked, "can it justify such terribly high costs?"

With international outrage growing over a death toll that Gazan health authorities say exceeds 32,000, and the looming prospect of famine in the enclave, German officials have begun to question whether their country's support has gone too far.

"What changed for Germany is that it's untenable, this uncondi-

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### TURKEY DISPATCH

## An Enchanting Bond Forged by Time, and Fish

By BEN HUBBARD  
and SAFAK TIMUR

ESKIKARAAGAC, Turkey — Thirteen years ago, a poor fisherman in a small Turkish village was retrieving his net from a lake when he heard a noise behind him and turned to find a majestic being standing on the bow of his rowboat.

Gleaming white feathers covered its head, neck and chest, yielding to black plumes on its wings. It stood atop skinny orange legs that nearly matched

the color of its long, pointy beak.

The fisherman, Adem Yilmaz, recognized it as one of the white storks that had long summered in the village, he recalled, but he had never seen one so close, much less hosted one on his boat.

Wondering if it was hungry, he tossed it a fish, which the bird devoured. He tossed another. And another.

So began an unlikely tale of man and bird that has captivated Turkey as the passing years — and a deft social media campaign by a local nature photographer — have spread the pair's story as

a modern-day fable of cross-species friendship.

The stork, nicknamed Yaren, or "companion," in Turkish, not only returned to Mr. Yilmaz's boat repeatedly that first year, the fisherman said, but after migrating south for the winter, returned the next spring to the same village, the same nest — and the same boat.

Last month, after Yaren appeared in the village for the 13th year in a row, the local news media gleefully covered his arrival like the springtime sight-

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Each spring on Lake Uluabat, a stork named Yaren joins Adem Yilmaz on his fishing boat.

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Donald J. Trump raised hundreds of millions of dollars off his claims of a stolen election, then proceeded to funnel much of it to pay his legal bills. PAGE 15

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New York City's streets have no dedicated space for garbage awaiting collection day. And it shows. Can a new container plan change that? PAGE 6

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The pop star's new country album, "Cowboy Carter," both explores the genre and transcends it, our critic Jon Caramanica writes. PAGE 12

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The wealth of the tech investor Garry Tan is valued by his allies, but his online bravado is creating enemies in a city he says he wants to save. PAGE 6

SUNDAY OPINION

### Hanna Notte

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## 'Shortcuts' Paint a Picture Of Boeing Ceding Quality

### An Emphasis on Building Planes Quickly, Even After the 737 Max's Problems

This article is by Niraj Chokshi, Sydney Ember and Santul Nerkar.

In February last year, a new Southwest Airlines Boeing 737 Max plane was on one of its first flights when an automated stabilizing system appeared to malfunction, forcing the pilots to make an emergency landing soon after they took off.

Less than two months later, an Alaska Airlines 737 Max plane with eight hours of total flight time was briefly grounded until mechanics resolved a problem with a fire detection system. And in November, an engine on a just-delivered United Airlines 737 Max failed at 37,000 feet.

These incidents, which the airlines disclosed to the Federal Aviation Administration, were not widely reported. There were no indications that anyone was in danger, and it was not clear who was ultimately responsible for those problems. But since Jan. 5, when a panel on a two-month-old Alaska Airlines 737 Max jet blew off in midair, episodes like these have taken on new resonance, raising further questions about the quality of the planes Boeing is producing.

"There's a lot of areas where things don't seem to be put together right in the first place," said Joe Jacobsen, an engineer and aviation safety expert who spent more than a decade at Boeing and more than 25 years at the F.A.A.

"The theme is shortcuts everywhere — not doing the job right," he added.

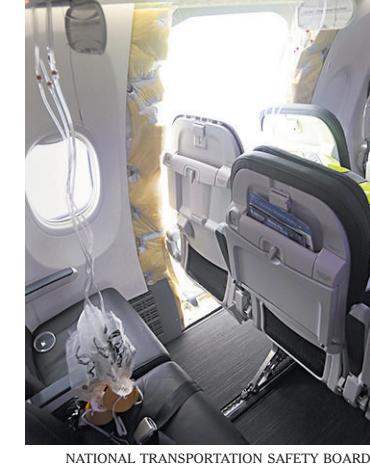
Such reports, and interviews with aviation safety experts and more than two dozen current and former Boeing employees, paint a worrying picture about a company long considered to be at the pinnacle of American engineering. They suggest that Boeing is

struggling to improve quality years after two crashes of Max 8 planes in 2018 and 2019 killed nearly 350 people.

Some of the crucial layers of redundancies that are supposed to ensure that Boeing's planes are safe appear to be strained, the people said. The experience level of Boeing's work force has dropped since the start of the pandemic. The inspection process intended to provide a vital check on work done by its mechanics has been weakened over the years. And some suppliers have struggled to adhere to quality standards while producing parts at the pace Boeing wanted them.

Under pressure to show regulators, airlines and passengers that the company is taking its latest crisis seriously, Boeing announced sweeping changes to its leadership on Monday. The chief executive, Dave Calhoun, will leave at the end of the year, and

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NATIONAL TRANSPORTATION SAFETY BOARD  
On Jan. 5, a panel on a two-month-old Alaska Airlines 737 Max jet blew off in midair.

## A Russian Defector, a Hit Squad And Signs of a Spy Ring in Spain

By MICHAEL SCHWIRTZ  
and JOSÉ BAUTISTA

VILLAJOYOSA, Spain — The men who killed Maksim Kuzminov wanted to send a message. This was obvious to investigators in Spain even before they discovered who he was. Not only did the killers shoot him six times in a parking garage in southern Spain, they ran over his body with their car.

They also left an important clue to their identity, according to investigators: shell casings from 9-millimeter Makarov rounds, a standard ammunition of the former Communist bloc.

"It was a clear message," said a senior official from Guardia Civil, the Spanish police force overseeing the investigation into the killing. "I will find you, I will kill you, I will run you over and humiliate you."

Mr. Kuzminov defected from Russia to Ukraine last summer, flying his Mi-8 military helicopter into Ukrainian territory and handing the aircraft along with a cache of secret documents to Ukrainian intelligence operatives. In doing so, he committed the one offense President Vladimir V. Putin of Russia has said again and again he will never forgive: treachery.

His killing in the seaside resort town of Villajoyosa last month has raised fears that Russia's European spy networks continue to operate and are targeting enemies of

Killing in Seaside Town Suggests Far Reach of the Kremlin

the Kremlin, despite concerted efforts to dismantle them after Mr. Putin invaded Ukraine in 2022.

Russia's intelligence services have been put on a war footing and begun operating at a level of aggressiveness at home and abroad reminiscent of the Stalin era, said Andrei Soldatov, an author and expert on Russia's military and security services.

"It's not about conventional espionage anymore," he said. "It's about operations — and these operations might include assassinations."

In Spain, Mr. Kuzminov lived "an indiscreet life," the senior Guardia Civil official said. He went to bars popular with Russian and Ukrainian clientele, burning through the money he had received from the Ukrainian state. He drove around Villajoyosa in a black Mercedes S-Class.

Exactly how the killers found him has not been established, though two senior Ukrainian officials said he had reached out to a former girlfriend, still in Russia, and invited her to come see him in Spain.

"This was a grave mistake," one

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