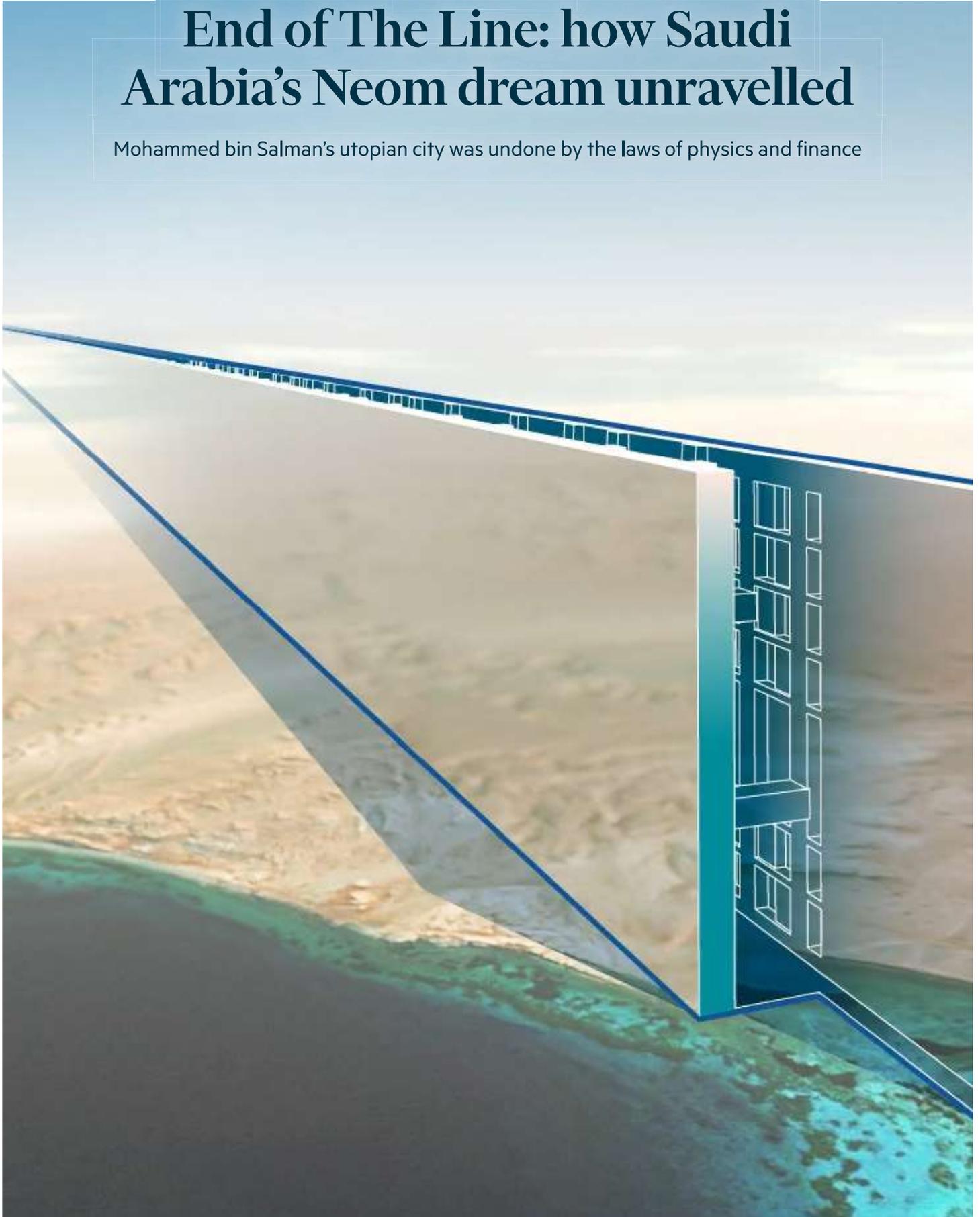


Visual investigation

End of The Line: how Saudi Arabia's Neom dream unravelled

Mohammed bin Salman's utopian city was undone by the laws of physics and finance



Alison Killing in London NOVEMBER 6 2025



The centrepiece of The Line, a vast, glass-clad linear city in Saudi Arabia, was to be the “hidden marina”. The world’s largest cruise ships would glide through a gate as tall as London’s Shard over a deepwater harbour carved from the desert. Suspended above it, like a chandelier, a 30-storey glass-and-steel building would hang from the arch, a sci-fi vision dreamed up by a Hollywood art director. Even its designers warned that physics might not cooperate.

Beneath the marina, engineers planned a high-speed rail station. Above the chandelier, another flourish: a 45,000-seat football stadium perched 350 metres above sea level, ready for Saudi Arabia’s 2034 World Cup. “This stadium will be like nothing you have ever seen,” Denis Hickey, The Line’s chief development officer, told an audience in Davos earlier this year. “Everyone says: ‘Can you build it?’”

His own team was unsure of the answer. As architects worked through the plans, the chandelier began to seem implausible. One recalled warning Tarek Qaddumi, The Line’s executive director, of the difficulty of suspending a 30-storey building upside down from a bridge hundreds of metres in the air. “You do realise the earth is spinning? And that tall towers sway?” he said. The chandelier, the architect explained, could “start to move like a pendulum”, then “pick up speed”, and eventually “break off”, crashing into the marina below.



A Neom promotional video shows the planned construction stages of The Line's 'hidden marina' © Neom

Qaddumi listened — and the work continued. Yet with an upside-down building, even simple things became complex. “When you flush the toilet, the stuff goes downhill, right?” the architect asked. “We’ve worked that out,” Qaddumi replied, according to the architect. “We’re going to have hundreds of shuttle cars running back and forth, picking up the sewage on retractable bridges.”

Such was the gravity-defying spirit of Neom — the vast mega-project with The Line at its heart — that Crown Prince Mohammed bin Salman hoped would redefine life in the kingdom and beyond. The chandelier was just one part of The Line, a 500 metre-tall mirror-glass structure running 170km across the sand and designed to house 9mn people: a city built into a wall higher than the Empire State Building.

When construction began three years ago, The Line was meant to be a symbol of unstoppable momentum: transformative urban living without traditional streets or cars, powered by renewables, running uninterrupted from the Gulf of Aqaba to the Hejaz mountains. It would be the centrepiece of Neom, the futuristic metropolis through which Prince Mohammed intended to prove the scale of his ambition as Saudi Arabia aims to transition from oil to a digital economy.



Computer-generated images of the football stadium above the 'hidden marina' © Saudi Arabia FIFA World Cup 2034 bid

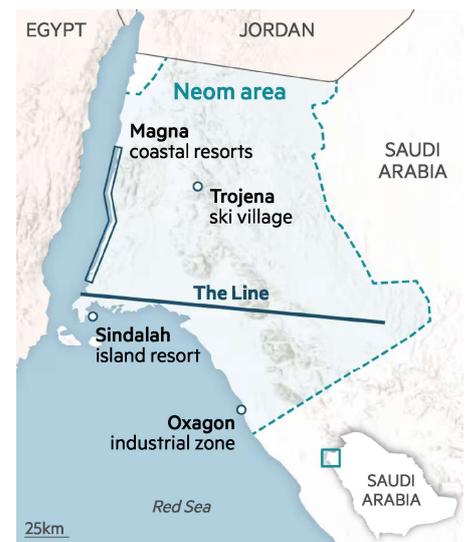
“They say in a lot of projects that happen in Saudi Arabia, it can’t be done, this is very ambitious,” said Prince Mohammed, known as MBS, in a Discovery Channel documentary about The Line that first aired in July 2023. “They can keep saying that. And we can keep proving them wrong.”

But as the designs advanced, his dream collided with reality. The Line’s own architects began to question whether the structure could ever be built as imagined. Costs ballooned, timelines slipped and the foreign investment that Riyadh had banked on failed to materialise.

Today, with at least \$50bn spent, the desert is pock-marked with piling, and deep trenches stretch across the landscape. But Prince Mohammed, who chairs Neom, has dramatically scaled back the first phase of the plans. Neom told the FT that The Line remained “a strategic priority” that would ultimately “provide a new blueprint for humanity by changing the way people live”. But they described it as a “multi-generational development of unprecedented scale and complexity”.

While Neom employees say that much of The Line might still be technically buildable, they are not convinced anyone is ready to pay for it. Construction work across Neom has slowed, with the desert ski resort Trojena, the [intended venue](#) for the 2029 Asian Winter Games, one of the few sites still moving ahead at pace. Neom says that the attention has now moved to “the complex engineering and detailed design work associated with the first phase” of The Line. But one former employee has said that everyone knows the project won’t work; it is now just a matter of letting MBS down gently.

Based on interviews with more than 20 people who worked on The Line — from architects to engineers and former senior executives — this is the inside account of how MBS’s dream was designed and undone by the laws of physics and finance. All requested anonymity, fearing legal repercussions. Together, their stories trace one of the boldest urban experiments in modern history — an attempt to build a metropolis from scratch,



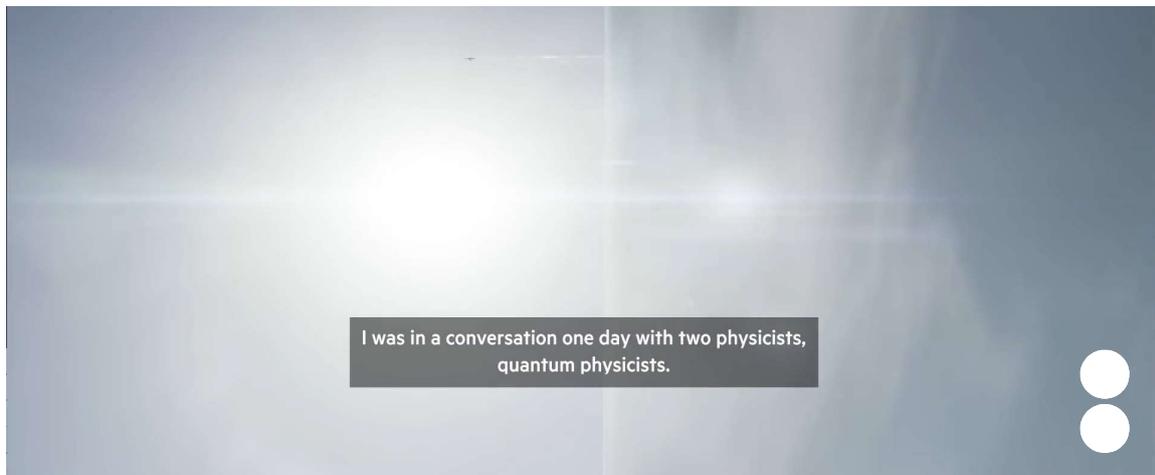
unconstrained by geography or precedent — that is now in danger of joining the ranks of the world's grandest follies.

The time of the poets

Prince Mohammed consolidated his position as Saudi Arabia's de facto ruler in 2017, becoming heir apparent aged just 31 in what critics described as a palace coup. He was already spearheading sweeping — if autocratic — plans to modernise the Gulf state and wean it from its addiction to oil. Neom — launched months after he became crown prince — was a testament to that vision: a vast desert complex encompassing The Line, Trojena, a luxury coastal development, an industrial zone and a “subterranean digitalised community of the future”.

The idea for the linear city came from the prince himself. The original proposal, developed by Los Angeles architecture firm Morphosis, envisaged a 2km-wide strip of settlements running from the sea to the mountains and connected by rail — a relatively traditional urban plan.

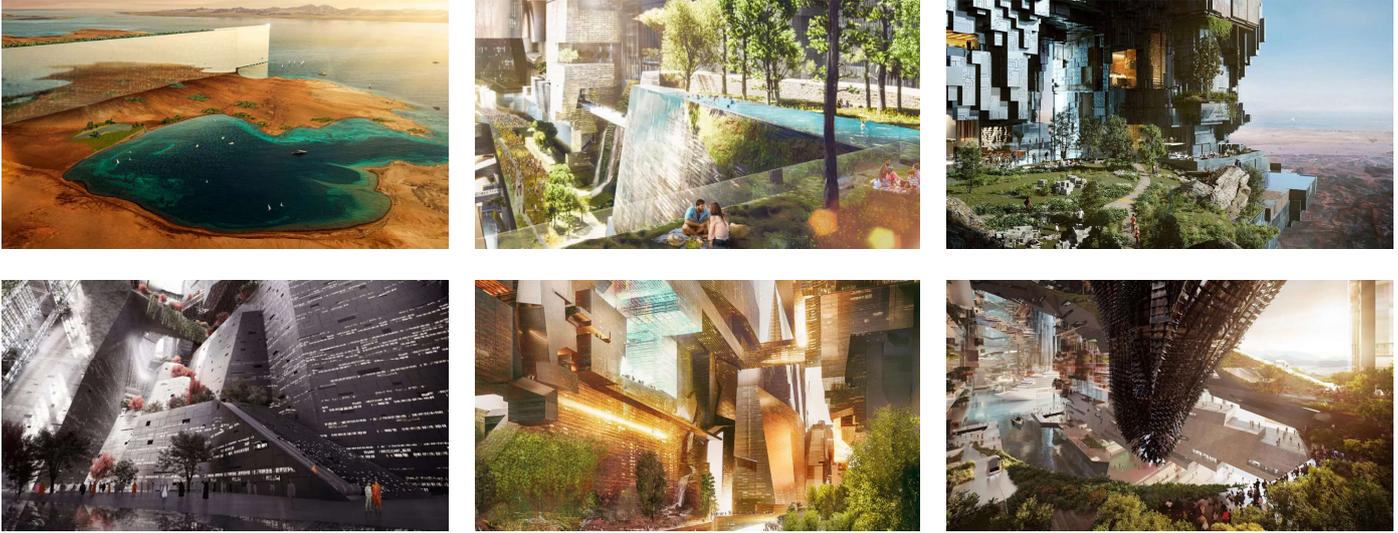
But in late 2020, Prince Mohammed issued new instructions. “I told the team — ‘how about if we take that two kilo[metres] and we flip it to two towers?’” he explained in the Discovery documentary. As he spoke, he folded his hands together as if closing a book.



Saudi Crown Prince Mohammed bin Salman and the project team behind The Line outlined their plans in a 2023 Discovery UK documentary © [DiscoveryTV/YouTube](#)

The guidance went beyond setting The Line's width at 200 metres. “I want it contiguous and I want it mirrored,” MBS told his staff, according to one person who was involved in the planning. With its roof at a constant 500 metres above sea level, The Line would rank among the world's tallest buildings. But unlike most skyscrapers, it would be occupied to its summit — a continuous wall of glass and steel.

Some advisers suggested limiting the height to 100 metres to preserve the view and contain costs. Prince Mohammed was unmoved. “It had to be 500m high and it had to be 200m across. That was all down to him,” said the planner.



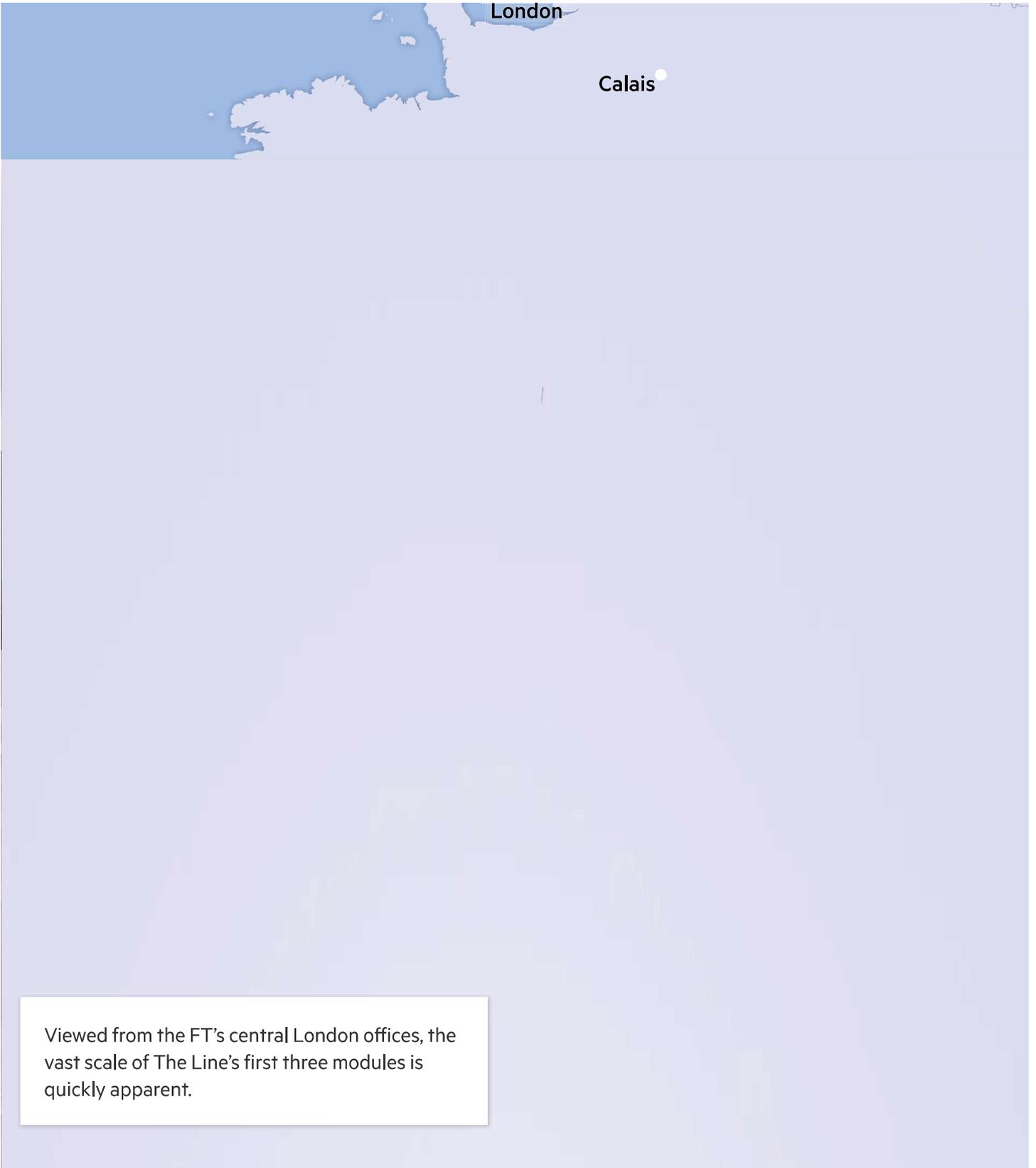
Computer-generated images of The Line showcase its architectural ambition © Neom

The concept for The Line was unveiled in 2021, and gradually the hiring began. Thousands of architects, engineers, construction managers, designers and others took up roles with Neom. Many were asked to base themselves in the desert itself, where Neom workers lived in small cabins and ate in a communal dining hall. Some were lured by generous salaries; others by the chance to work on a project of unprecedented scale.

An ambitious schedule was set. Sixteen kilometres of The Line — comprising 20 “modules” — would be completed by 2030, with the first residents expected as early as 2025. Executives boasted that even a single module would be the world’s largest occupied structure. The budget for The Line was \$1.6tn, Neom executives were told in late 2021. But an updated internal estimate the following spring put the cost at around \$4.5tn, according to a person familiar with the estimates. That is roughly the size of Germany’s annual economic output.

Teams then began tackling the unprecedented design and engineering challenges raised: imagining what life would be like inside a 500 metre-high, 170km-long wall; sourcing the steel and cement that would consume much of global supply; and making water circulate in a manmade deepwater port with no current.





Viewed from the FT's central London offices, the vast scale of The Line's first three modules is quickly apparent.



At 500 metres tall it would tower over **22**
Bishopsgate and the **Shard** — the UK's tallest
buildings.

The first phase is 2.4km. If the full 170km building is completed, it would stretch from London to the Norfolk coast.

Or from the capital to Calais — a singular structure that would become the world's largest.

Nothing like this had ever been tried before, and some of the Neom team sounded as if their main obstacle was conventional thinking. “I was in a conversation one day with two physicists, quantum physicists,” Antoni Vives, then Neom’s chief urban development officer, told Discovery. “One of them looks at the other and looks at me, and says: ‘you know what, perhaps it’s the time of the poets now. We need poets’.”

The Neom board would make decisions based on renderings, according to one ex-staffer, who said the detailed design work needed to establish whether it was feasible had not been carried out. The message seemed to be: “now you have to make this work,” the ex-staffer said.

A city that would eat up the world

Size can bring advantages in construction. For The Line, it was an epic burden. Its staggering requirements for materials were enough to overwhelm both the capacity of its local infrastructure, and its pricing power.

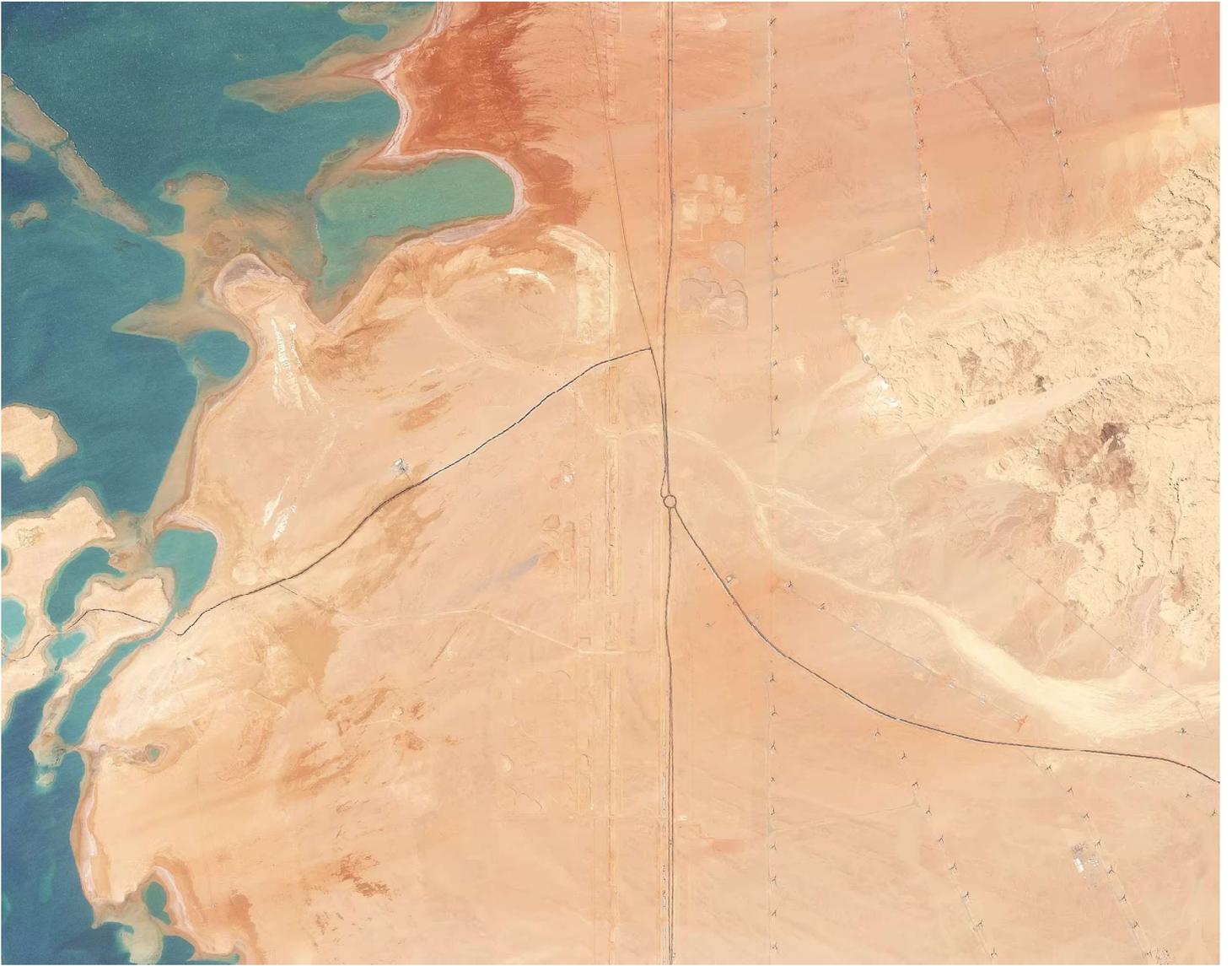
One ex-employee who worked on the building’s construction said that to make the concrete for the first 20 modules, the contractors would need a supply of cement every year that would be greater than France’s annual output.

Each 800-metre module required, by design, about 3.5mn tonnes of structural steel, 5.5mn cubic metres of concrete and 3.5mn tonnes of reinforcement steel — the narrow steel bars twisted into cage forms to strengthen the reinforced concrete. “We were going to take something like 60 per cent of the global production of green steel [per year], which causes the price to go up,” said a senior design manager.

To clad them, they would need the equivalent of the entire yearly output of the world’s largest cladding manufacturer. Each module was worth \$48bn in construction terms. “If you want to buy all the cladding in the world, the price rises,” said an architect who worked on The Line. “You were going to pay a premium for these buildings,” said a senior construction manager. “You’re taking a huge percentage of the world’s capacity.”

For all the supplies, meanwhile, there was just one small sleepy port 80km to the south of Neom, connected to the construction site by a single dual carriageway, satellite images show.





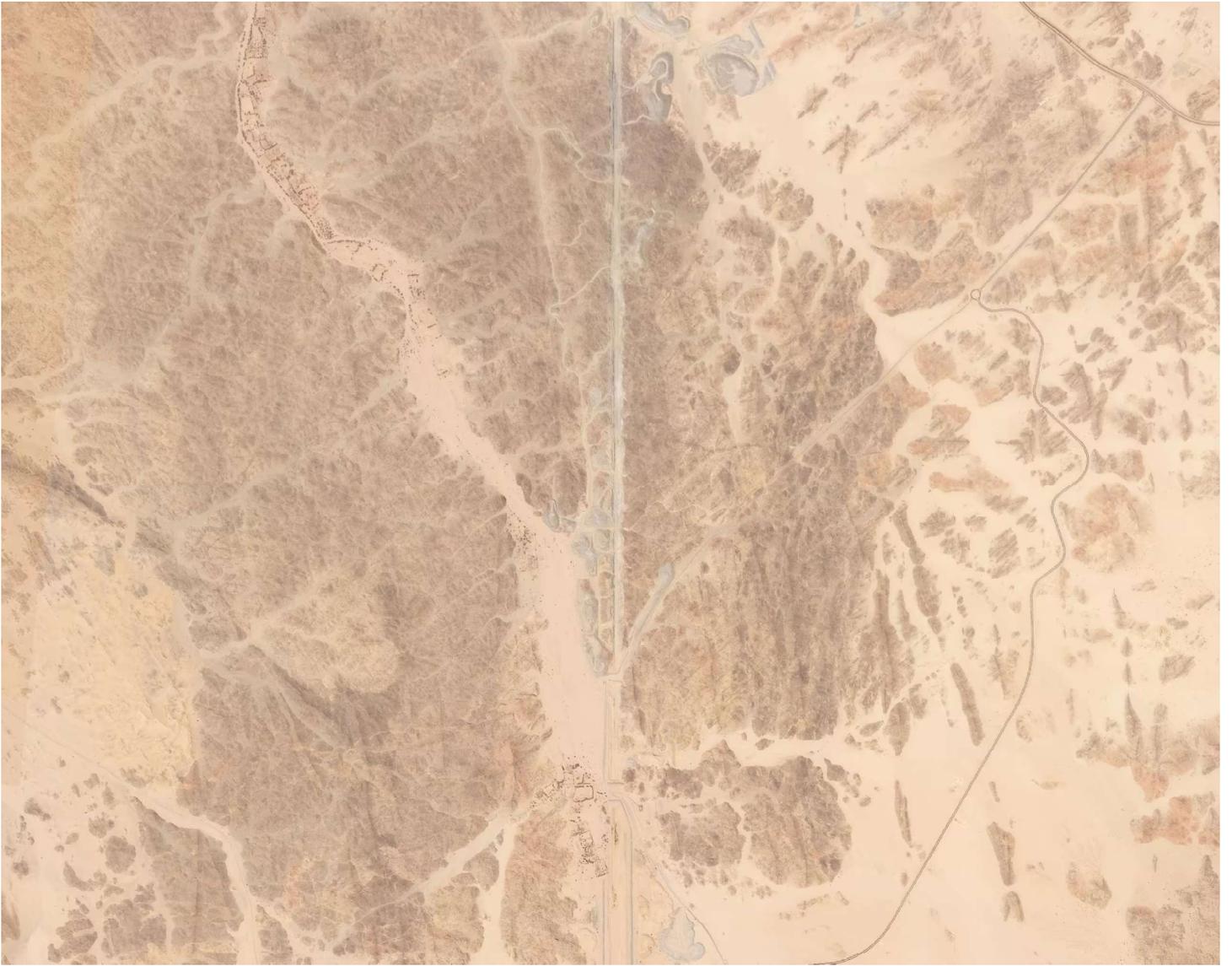




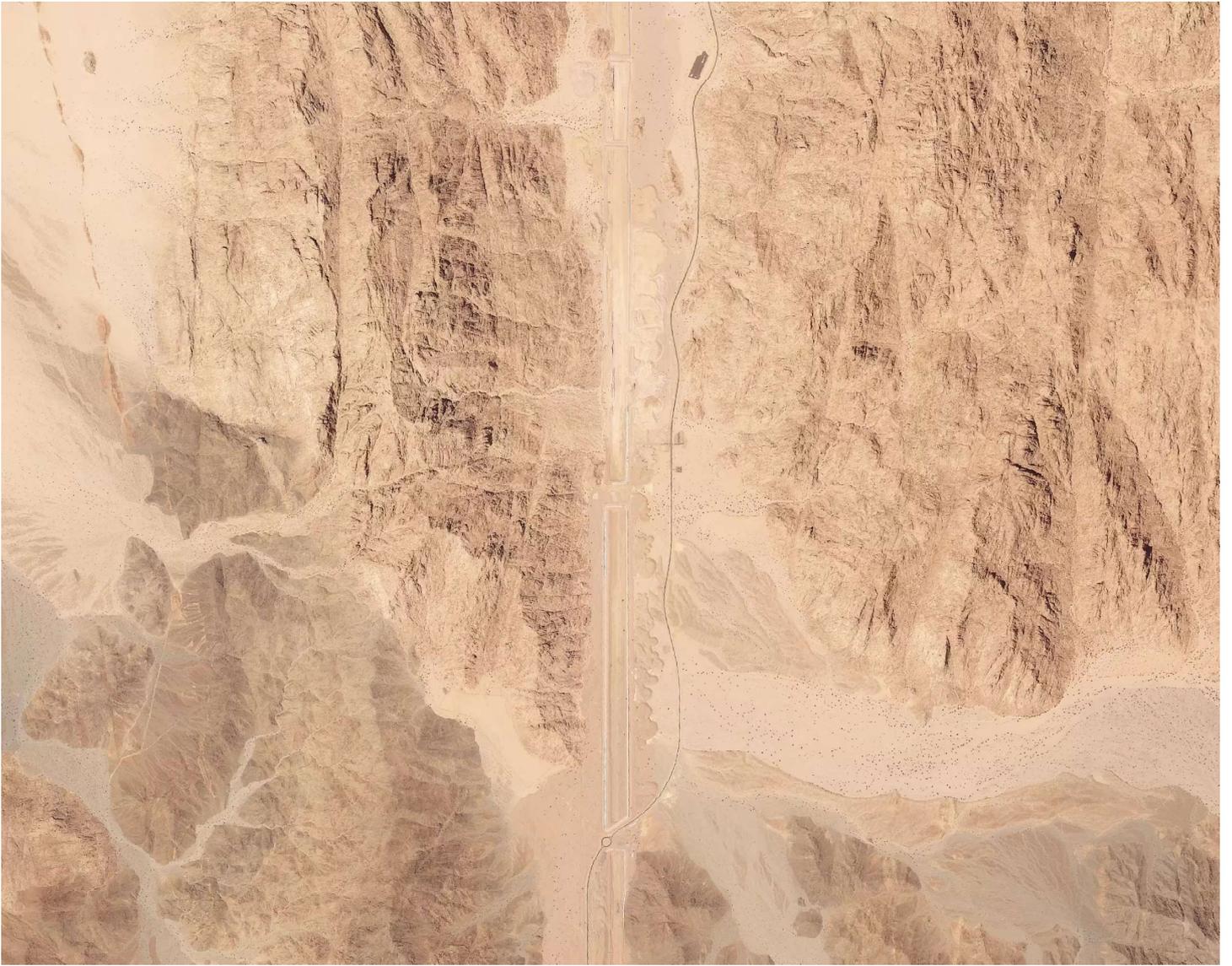


















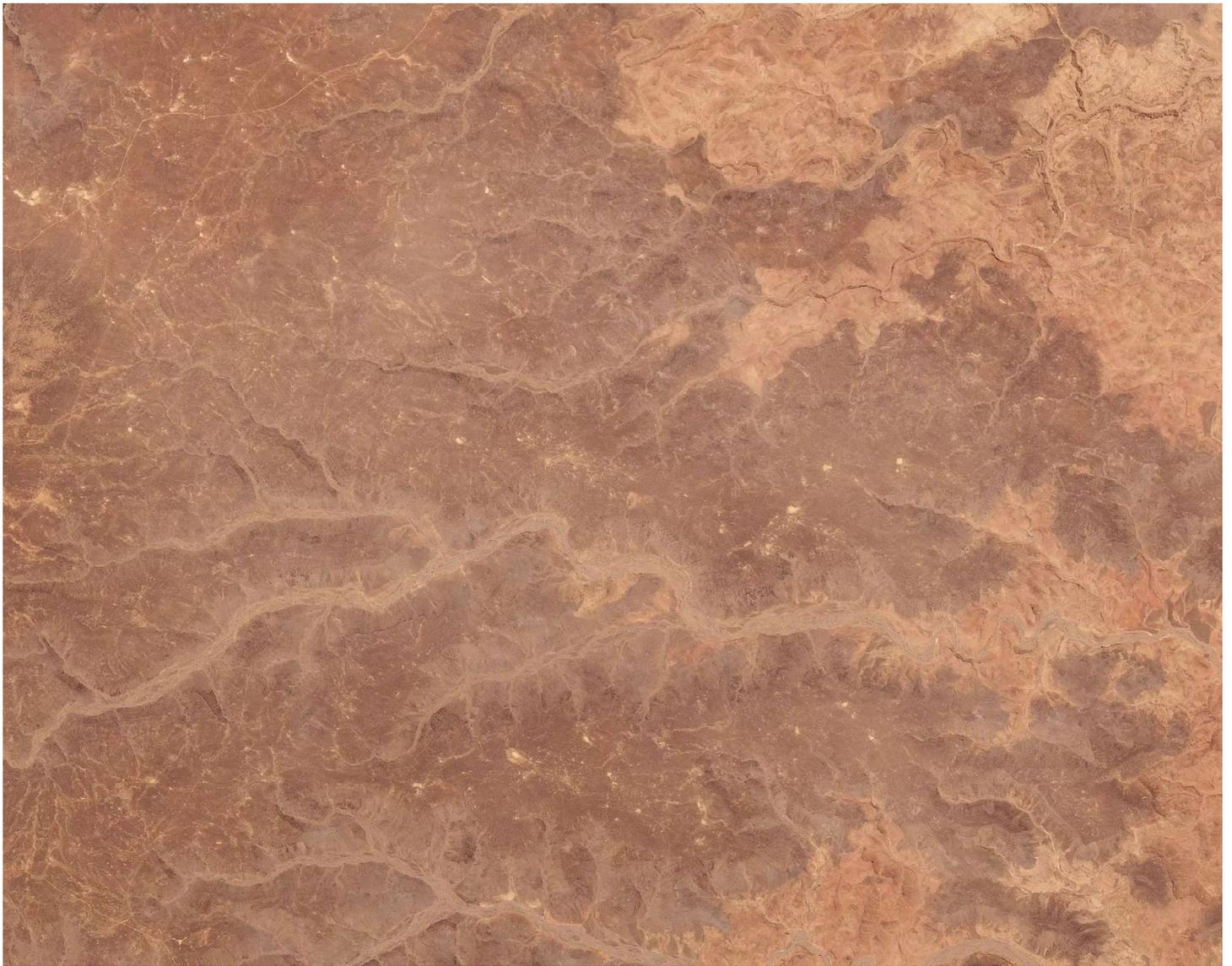
neighbourhoods of The Line. Every one was supposed to be distinctive. The proposal even included a 500 metre-tall royal palace. “It’s got hospitals, it’s got universities, it is a full-blown city,” said Hickey at Davos. The vertical stacking would mean residents could find everything within five minutes.



In 2024, Hickey explained how Manhattan's grid system would fold into a linear city . . .

Turn sound on





... and outlined the bold vision for the marina.

Drone footage showed the excavation work carried out so far.

A light rail system inside The Line's primary deck would stop every 150 metres. On top there would be buses and driverless pods as well as the pedestrian boulevards. Grand, sweeping staircases would link generous public spaces. "You could create some absolutely spectacular vistas," said Olivier Pron, the Hollywood art director who produced the concept design for the "hidden marina".

But natural light was a problem. Most public spaces were located near the middle of the building, which lacked daylight, said a designer who worked on the detailed design of the neighbourhoods. The stadium, which would span the full width of The Line, also cast an immense shadow over other sections.

Gardens were an antidote to high-density living. However they had to be concentrated in just one “blade” of the building, facing the canyon. The rest of the structure lacked the necessary sun.

Many other things in The Line had to be rethought from scratch. Water and sewage, mail delivery, insurance systems and rubbish removal became unique challenges in a vertical city. Fire safety required a complete rethink: rather than down and out, residents would move sideways, to buildings on the left or right, in the event of an emergency.

James Middling of engineering firm Mott MacDonald, the city infrastructure engineer for the project, compared working on The Line to developing the light bulb, which had revolutionised how people live. “Those opportunities are presented daily on The Line,” he told the Cityscape Global event in Riyadh in 2024. “And at times it’s having that ambition and bravery.”

Travel to the airport was also reimaged. One senior architect, who had significant experience of transport projects, noticed something unusual in the design for the high-speed rail station: the platforms and elevators were significantly smaller than usual. The trains also lacked luggage racks.

After inquiring, they were told that the station hadn’t been “sized for any passengers bringing luggage” from the airport. The plan was for people to instead send them via a separate system, with pickups from outside their home.

“So when do you have to leave your bag by the door?” the architect asked. The reply: “Eight hours before your flight.”

Few parts of the planning process proved as fraught as transport. Infrastructure needed to be scaled to cope with The Line once it became a thriving metropolis — even if that seemed a far-off prospect.

The aspirations seemed limitless. “Somebody told [MBS] very early on that he could have a high-speed rail from the airport to the coast and he could do it in 20 minutes. So he wanted one,” said the planner.

Timeline

2017 Neom launched by MBS

Jan 2021 The Line announced

Early 2022 Piling begins

Jul 2022 Designs unveiled

Mid-2023 Internal audit begins

2030 Deadline for first phase



Prince Mohammed in 2021 © Bandar Algaloud/Saudi Royal Court/Reuters

There was, however, a hitch. The 20-minute estimate assumed the train did not stop along the route to pick up or drop off passengers. “A high-speed train only works when it’s got a long, contiguous run. Without that, you don’t need one,” the person added. “Again, it was one of those fantasies that it was just not permitted to discuss.”

The marina, dug deep enough to handle vast cruise liners, also proved more viable on paper than in practice. The planner said it “doesn’t work”. The water lacked a natural current, meaning that without some artificial circulation the marina would become stagnant and a potential health hazard.

Neom’s answer was to install giant pumps, which would need to run 24 hours a day, 365 days a year. “Given the size of the marina and the distance to the coast, this is a significant undertaking,” the planner added.

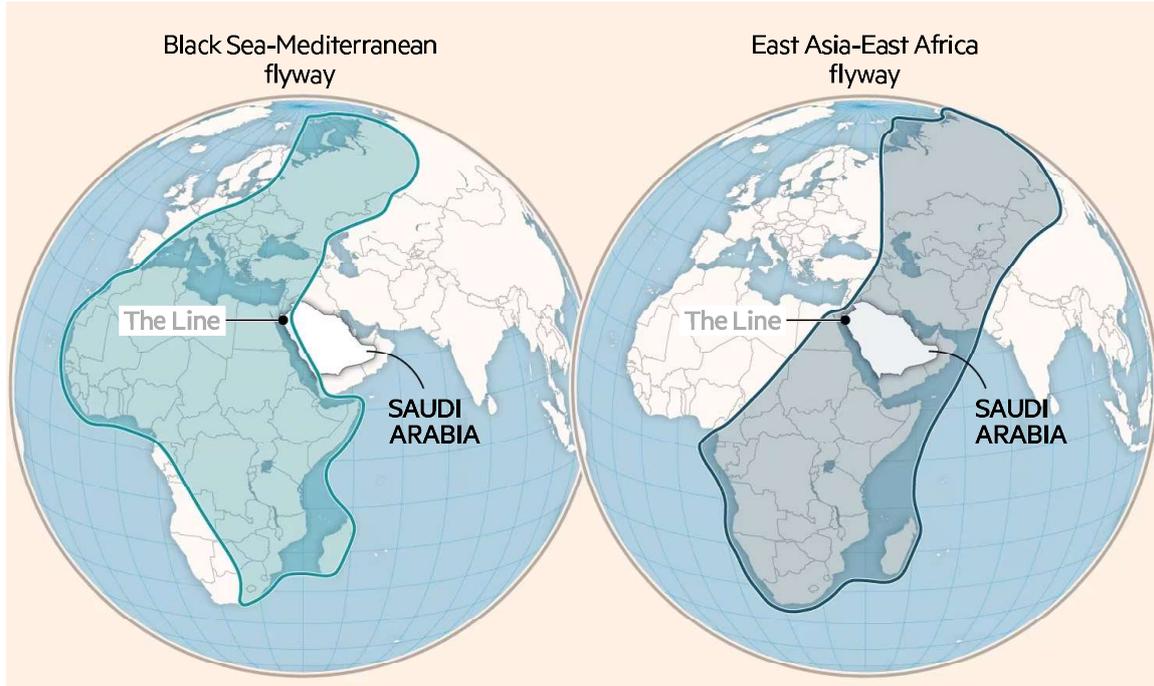
Construction also started on Neom International Airport at the eastern end of The Line — with five-runways it would eventually be big enough for up to 100mn annual passengers. One runway would be dedicated to supersonic jets.

But a decision was then taken to prioritise the existing Neom Bay airport, near the Red Sea coast, since it had a more attractive position for tourists, according to the senior architect.

Neom International, meanwhile, was indefinitely paused. But without it, in the words of the senior architect, “there’s no point in digging that tunnel under the mountain range. And there’s no point in doing the high-speed rail.” Much of the excavation and tunnelling has nevertheless been done.

Some design challenges could not be resolved. The Line would block the migration routes through the mountains for several species of mammal. It also crosses a migratory route used by millions of birds flying south from Europe and Asia to overwinter in Africa, including endangered species such as the greater spotted eagle and European turtle dove. In early 2024, conservation experts named The Line as an “emerging issue of concern for global biodiversity conservation”.

The Line crosses vital routes for millions of migratory birds



Source: BirdLife International

A planned wind farm north of The Line added to worries. “If the birds aren’t being sliced and diced by going through the wind turbines, they are going to run into a 500 metre-high mirrored finish,” said the planner. “We would sit in hundreds, literally hundreds of meetings about birds,” said the senior architect.

Designers proposed fritting — printing small ceramic dots on the glass — to make it more visible to the birds. But Livio Rey, of the Swiss Ornithological Institute, explained that this would not address the issue. Even if they spotted the obstacle, they would “have to fly 90km along The Line to go around it”.

Former employees explained that it could be possible to create large gaps in the facade, both at ground level and higher up the building, to allow mammals and birds to pass through. But Rey explained that birds migrated at the altitude where there are tailwinds, and the height can vary. “Some holes in the building will not solve the problem at all,” he added.

Shrinking ambition

To meet the 2030 deadline, construction work needed to start quickly. Piling began in the spring of 2022, even though detailed design for the actual building had yet to be done. To cope with the uncertainty, the design team maximised the size, making the piles 2.5 to 3 metres in diameter. “Some of these piles are the biggest in the world; they’re absolutely colossal,” said a construction specialist who worked on The Line.

On site, 60 piling rigs worked around the clock, putting in 60 to 65 piles a day. About 6,000 of them were drilled into the ground, stretching across 2km of desert. The foundation work cost several billion dollars. “I clearly only did what I thought was sensible,” said the senior construction manager.

But even as this work was being done, plans for The Line were being scaled back. Neom’s owner, the Public Investment Fund, the near-\$1tn sovereign wealth fund chaired by Prince Mohammed and tasked with spearheading his development plans, was coming under increasing pressure to deliver returns after a years-long spending splurge. In tandem, a mood of realism was taking hold in Riyadh as the government sought to manage its resources as oil prices softened, leading to reprioritisation of its — and the PIF’s — vast financial commitments.

Saudi spending on ‘giga-projects’ has slowed

Contracts granted (\$bn) Neom Other

Benchmark oil price (\$ per barrel)

Sources: Meed Projects (as of Oct 2025), LSEG

The Line’s 20 modules dropped to 12, then seven, then four. At the end of 2023 it dropped to three. “When it dropped to three,” said the senior construction manager, “those 6,000 piles are no use at all. Not yet. It was a classic result of trying to run before you could walk.”

Yet a “critical mass” of planned inhabitants was also needed to make the project attractive to external investors. This was estimated to be 300,000

and 500,000 people, or seven modules. “As you went below seven, it started becoming ever more difficult to sell it as an investment,” the senior construction manager said. “[That is] why I think it has died . . . it’s just uninvestable.”

Senior executives were constantly asking for more money, but The Line was competing with other Neom projects. Some wealthy Saudi families put modest sums into the project, but the large investments Riyadh hoped to lure from foreign backers never materialised.

At that point, said the senior construction manager, they became convinced that The Line would never be built.

Residential compounds for workers



Multiple residential compounds with football pitches, swimming pools, mosques and schools have been built near The Line for workers and their families © Planet Labs

In mid-2023 an internal audit, codenamed Project Moon, was set up. It planned “to look at the way that the costs had grown and . . . the schedule had extended beyond what had initially been estimated”, said a senior executive. They would be “auditing the auditors”.

But the person in charge was stonewalled, said the senior executive. “The guy got so fed up he just left.” Senior staff took their concerns to the governing board, which included Prince Mohammed, who “dismissed it”, they said.

Several former Neom employees likened the working culture to the atmosphere in Hans Christian Andersen’s fairy tale *The Emperor’s New Clothes*. Dissent was ignored or punished, concerns failed to reach the leadership and adjusting course became impossible as the project started to go awry.



Visitors at a Riyadh expo on The Line in 2022 © Balkis Press/Abaca

Exhibitions of design work would be set up for Prince Mohammed, who was a hands-on chair of Neom. “The underlying emotion that was felt in the room was fear, people would just mimic whatever he had to say,” said the planner. “MBS would arrive with his entourage of about 40-50 people. And as he walks around, there’s absolute silence.” At one point he would say that he liked something and “he would turn to his entourage and they’d all go, ‘love it’”. Then he would see something he didn’t like and his entourage would all shake their heads, tutting.

Some managers would challenge decisions. “I thought he was a tyrant, and tyrants usually don’t entertain debates. But this guy engaged, especially with the foreigners,” said the senior executive. Several former employees described Prince Mohammed as intelligent, hard working and with a thorough understanding of the Neom projects. His weakness was his love for fantastical, science-fiction creations, said one. “That’s what happened in The Line.”



At a 2017 conference, MBS illustrated his vision for Neom by comparing two phones. A later display at the Neom Museum near The Line shows a Nokia 215 phone next to a traditional city layout and an iPhone next to The Line's vertical layout. © AlArabiyaEnglish/YouTube, Darren Spillett/LinkedIn

Executives raised myriad questions with management. From the outset, “we did a fair amount of warnings to make sure that the leadership, especially at

the board level, were aware of these risks”, said the senior executive.

Where would the 9mn people due to populate The Line come from? How quickly could they be reasonably expected to arrive? Could construction and manufacturing start quickly enough? Would the levels of imports required overheat the economy? What if oil prices sank, drying up Saudi Arabia’s key source of revenue? What if the necessary materials could not be found? And did the Gulf nation really have the scientific and technical expertise to execute such a vast scheme?

Yet the pressure to deliver was relentless. The board expected the chief executive to “move things very quickly”, said the senior executive. “Dates had been given to the crown prince about what was achievable, but without the detail of knowing how it could be done,” said the senior design manager. When those dates were made public, there would be a loss of face if they weren’t met. “That’s where tensions grew.”

Staff were “being put into a position of effectively having to lie about the timescales and the cost of delivering the vision”, they added.

What remains

The Line — or at least its beginnings — can already be seen from space. Satellite imagery shows excavation and tunnelling work for the railway system, the “spine” connecting The Line to Neom International Airport, stretching for 150km — from the coast into the Hejaz mountains.

In a valley between two mountain ranges, levelling work is evident for the airport and its runways. “In true Neom fashion, there’s a mountain at the end of the runway that had to be blown up,” said the senior architect. Construction work has now stopped on both the spine and the airport. No new target for the airport has been set.

The foundations for The Line’s first modules — perhaps the largest piles ever laid by man — are also visible, waiting to support the world’s largest occupied building, if it ever arrives. The village of Qayal, which was a few kilometres from the “hidden marina”, has been razed. Fifteen members of the Huwaitat tribe who protested against their eviction were sent to prison, some for up to 50 years, and three others were sentenced to death, according to human rights observers.

At the marina, excavations by late last year had dug out 100mn cubic metres of soil, the equivalent of 40 Great Pyramids of Giza. Ships will access it via a canal leading more than a kilometre inland from the coast.

The chandelier, the upside-down office building hanging from the giant arch above the marina, remains in the plans. But Neom no



Construction of a water pipeline near The Line is shown in an August 2025 video © AL_khaldi_SA/X

longer intends to base its headquarters there. Neom's deputy chief executive Rayan Fayeze acknowledged last month that the project's budget "evolves every day", adding that it was a good point to "reassess what worked and what hasn't worked".

With the goal now to build just three of the 20 modules originally planned, the ambition for The Line's first phase is a faint echo of what it once was. One person familiar with the project said work had effectively stopped, with efforts now focused on completing a few small buildings around the marina. Some of the earlier piling work has been covered with sand.

"I think as a thought experiment, great," said one urban planning expert who works in Saudi Arabia. "But don't build thought experiments."

Additional work by [Chris Campbell](#), [Peter Andringa](#), [Sam Joiner](#), [Ian Bott](#), [Ray Douglas](#) and [Steven Bernard](#).

Satellite images from [Planet Labs](#).



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Saudi Arabia



Saudi Aramco steps up gas push to meet surging electricity demand

TUESDAY, 11 NOVEMBER 2025



End of The Line: how Saudi Arabia's Neom dream unravelled

THURSDAY, 6 NOVEMBER 2025



Yes, I'm in Saudi for the money. Why else would I go?

MONDAY, 27 OCTOBER 2025



Saudi Arabia in talks for US defence pact

FRIDAY, 17 OCTOBER 2025



How the Pompidou took over the world

FRIDAY, 17 OCTOBER 2025



Western arts institutions embrace Saudi Arabia's riches

WEDNESDAY, 8 OCTOBER 2025



"The glory days are over": consultants in Saudi Arabia curb expansion plans

TUESDAY, 7 OCTOBER 2025



Gulf states rush to load up on foreign debt at lowest premiums on record

FRIDAY, 3 OCTOBER 2025