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TIM VAN
STEENDAM

PIONEERS

THE BIOGRAPHY OF **DEME**

PELCKMANS

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Kieldrecht, Belgium. 30 May 2025.

The small village of Kieldrecht is not exactly known as a place of historical importance. Situated in the Waasland region of Belgium, it has a church, a supermarket, and a sandwich shop that also sells delicious homemade soup. Workers' cottages nestle side by side around a concrete village centre that offers very little in the way of green space. For a breath of fresh air, it's a short bike ride to the polders of Zeeland or the Drowned Land of the Saeftinghe nature reserve. Kieldrecht is also so close to the Dutch border that some washing lines start in one country and end in the other; trousers in Belgium, socks in the Netherlands. In days gone by it had a clear, albeit questionable identity. In 1848, poet and playwright Jan Frans Willems wrote a song mocking the village, the inhabitants of which – he believed – were guilty of laziness and loose morals. *In Kieldrecht, in Kieldrecht / where the girls are not shy / they make love until midnight / and sleep till the sun is high.* Kieldrecht is undoubtedly still home to unshy girls making love and sleeping until noon, but times have changed. In the twentieth century, the village played a special role in the story we are about to tell. And in the summer of 2025 – as parts of the prestigious Oosterweel Tunnel make their way down the River Scheldt – the riverbank in Kieldrecht is an excellent place to watch a piece of Belgian construction history take shape.

To fully understand the significance of this event, a bit of background information is required. Since time immemorial, Antwerp has had a mobility problem. In 1443, the city council issued regulations to prevent traffic jams of cows, goats and pigs on the ramparts, and since then not much has improved. Even in modern times, the 'biscuit town' (as Antwerp is affectionately known) tops the list of European cities with the most troublesome traffic. In the early 1990s, people thought the answer was to complete the Antwerp Ring Road, turning it from a twisted paperclip into a free flowing fully formed circle. A lengthy saga followed, involving public debates, referendums on various routes, and the rejection of the elegant but eye-wateringly expensive Lange Wapper Bridge.

The alternative was a new tunnel – the Oosterweel – under the Scheldt in the port area. It would become the largest infrastructure project Flanders has ever seen. But a reinforced concrete tube 1.8 kilometres long is not something you simply build wherever you want. As much as the people of Antwerp like to boast about their city, even they didn't have access to a construction site that big. The solution was found in Zeebrugge, a hundred kilometres away. Modern geniuses excavated a 900-metre-long dock and wove 200,000 cubic metres of concrete and 50,000 tonnes of steel together to form eight tunnel elements, each one 160 metres long, 42 metres wide and 10 metres high. They then devised a plan to transport these concrete giants by water to their final destination. Yesterday, the first part entered the North Sea in Zeebrugge. From there it will travel via Vlissingen and Terneuzen through the Kieldrecht Lock to a 'car park' on the left bank of the Scheldt. As the Oosterweel works progress, these sections of tunnel will be sunk via Kallo to their eternal resting place at the bottom of the Scheldt. From the riverbank in Kieldrecht, we can see the grey spine of the first section ploughing its way through the water. It weighs an impressive 60,000 tonnes. To put that in perspective, the Atomium in Brussels weighs 2,500 tonnes and the Eiffel Tower 10,000 tonnes. Four Multratugs and a towboat move agonisingly slowly through the glistening water with the equivalent of six Eiffel Towers in their wake.

This is the piece of Belgian construction history that three retirees and I are watching take shape. Born and bred in Kieldrecht, Marc Warrens, Eddy Goossens and Eddy Van Walle are commentators with a lilting Waasland dialect. They know the capacity of the tugboat engines, the traction of the bow winches and the radius of the turning basin in front of the lock. "Submersible catamarans and ballast tanks will lower the tunnel section into the dredged trench in a controlled manner," says Eddy. It's all Greek to a layman like me, but these guys love all the jargon and are visibly pleased to be able to showcase their expertise once more. Part of the concrete colossus we're observing was built by the Antwerp-based company Dredging, Environmental and Marine Engineering (DEME), an international pioneer in hydraulic engineering. Decades ago now, the three men carried out similar operations on the same stretch of water as employees of the same company, known simply as Ackermans & van Haaren (AvH) until 1974. That year, AvH and Société Générale de

Dragage (SGD) merged its dredging activities to form the new company, Dredging International, with its assets valued at 5 million euros (200 million Belgian francs). In 1991, it transformed into yet another new entity, DEME, and has since experienced phenomenal growth, culminating in a listing on Euronext Brussels on 30 June 2022. Today it boasts a market capitalisation of more than 4 billion euros. But that was after their time. Back then, the men worked for a different company, in a different sector, in a different world. So much has changed since then.

"Like what?" I ask.

They shrug. Too many changes to list them all.

One centimetre at a time, the convoy edges its way through the enormous Kieldrecht Lock – at 500 metres long and 68 metres wide, it's the largest in the world in terms of volume. The contrast with the tiny Multratug boats, which look like they've come straight out of a cartoon, would be cute if it weren't for the fact they're dragging along a project worth billions of euros. They drift backwards through the lock, narrowly skirting the concrete walls. With barely any room on either side, the slightest steering error could bring the whole lot to a crashing halt.

"The captains of all those boats have spent months preparing for this in a simulator in Wageningen in the Netherlands," I say, echoing what I've gleaned from previous conversations with various people involved. "Ebb, flow, waves – everything is simulated until they can do it blindfolded."

Unlike me, the men aren't impressed. "We were doing that back in the 1960s, and without the technology to help us."

I ask them to describe what the work was like, and it really does sound like a scene from an old-school children's series like *Captain Zeppos*, which now only exists in the form of YouTube clips. "The biggest danger on the Scheldt was fog," says Marc. Today, all ships virtually sail themselves thanks to radars and sonars, automatic target tracking, Electronic Chart Display and Information System, GPS, AIS, GNSS, DGPS and Real Time Kinematic corrections for centimetre-level precision. All these

acronyms are blasphemy for experienced sailors. There was no radar back then, so they did it by feel. In fog, they had to drop anchor and wait for it to clear. "One Christmas, we got stuck for four days," says Eddy. "We ran out of food, so I jumped in a dinghy and went in search of bread. We ate it with a tin of sardines."

With your feet in the grass on a warm late spring day, it's easy to romanticise such stories, but it was, of course, gruelling work. It was with vessels like these that they dredged the trenches for the Kennedy Tunnel in 1964. Using the Semois, a small cutter suction dredger. The men from Ackermans & van Haaren and SGD were tasked with preparing the bottom of the Scheldt for the tunnel sections, but they finished two months too early. The dredged trench silted up again, so a suction dredger was used to refloat the sections. "Nobody ever knew," Eddy says with a wink and a smile.

Marc Warrens, Eddy Goossens and Eddy Van Walle came aboard in the early 1960s. As early as age fourteen, some boys started out in the weaving mills in neighbouring Nieuw-Namen until they were man enough to work on the water. School had always been an afterthought. Fathers, grandfathers and great-grandfathers had all charted the exact same course. The left bank of the Lower Scheldt has been inhabited since time immemorial and the first written sources from the twelfth century onwards contain extensive references to flooding. The locals knew all about the sea and the treacherous currents in the river and built up unique expertise in dike construction and land reclamation. But it wasn't a fair fight. Man built his defensive walls, only to be confronted by yet another flood, each more devastating than the last. Time and again, the dikes along the Scheldt were breached and the monks at Ter Doest and Ter Duinen abbeys had them repaired. The eternal battle of the Low Countries against the sea and its army of rivers, brooks and creeks turned the locals into water management experts. It's no coincidence then that the world's largest dredging companies are now in Belgian and Dutch hands. If it wasn't the raging sea that had to be kept at bay, it was the ditches and canals that had to be excavated or diverted. It's also no coincidence that over the centuries the Dutch language was flooded with words to describe water. People

often talk about the Inuit and their dozens of words for snow, but Dutch is said to have more than a thousand water-related words.

The Industrial Revolution, propelled by steam engines and electricity, settled the battle in humanity's favour. By the mid-twentieth century, the large dredging companies employed up to ninety per cent of the men in Kieldrecht and the surrounding area. The small village was the hands and feet, the ears and eyes of the Belgian dredging industry. Captains, ship's cooks, pile drivers, crane workers, engineers. They either worked for Ackermans & van Haaren or for SGD. The Société Générale de Dragage was founded in 1930 as a dredging subsidiary by the Compagnie Générale de Chemins de Fer Secondaires (CFE), the largest Belgian construction company in what, at the time, was a country run by French speakers. The men from Kieldrecht always thought it was a French company. "You either worked for Ackermans... or for 'the Frenchman'." This division caused just the right level of animosity in the thirty or so pubs along Dorpsstraat at the time. On Friday evenings, when the men started drinking their weekly wages, the discussions about who was the best got increasingly louder.

The nationality of the main shareholder didn't really matter to the workers. Every day they set off to deepen the silty riverbed for the increasing freight traffic. When there was no fog, they were away for several days a week: from 7 am on Monday to Wednesday afternoon, and from Thursday to Friday afternoon. Each crew member brought their own meat, and the ship's cook provided the coffee, potatoes and salt. Marc and the two Eddys talk about the vessels they worked on – the dredging mill Dijle, the cutter suction dredger Scheldt, the suction hoppers, the trailing suction dredgers and the barge dredgers – like old sweethearts. With a twinkle in their eyes, they recall all their curves and undulations in detail. But work was regularly halted whenever they found war ammunition. Or scrap metal. Or the feet of Manneken Pis.

"The feet of Manneken Pis?"

A laugh ripples across the grassy verge.

"As I live and breathe!"

While dredging the River Scheldt, Eddy once fished the feet and lower legs of Brussels' infamous 'peeing boy' statue out of the suction pump. He cups his hands together to indicate a lower body the size of a carp. Just another sailor's tale? Online articles do seem to confirm the statue's mysterious disappearance during the period he's describing.

This was the same period that Eddy and Marc worked together on the dredging mill Rupel. "Along with Crazy Oscar," says Marc. "What an oddball he was."

Oscar wasn't just crazy, but apparently also incredibly jealous. Eddy had started on the Rupel as a third engineer, but quickly worked his way up to first. Meanwhile, Oscar had worked at the same rank for years and was infuriated that he was being leapfrogged by a younger engineer. So he decided to mess with the engine during Eddy's shifts. This led to delays, cursing and finger pointing. But lo and behold, as soon as Crazy Oscar showed up to work the next morning, the engine was fixed. It later transpired that he had been taking the valve lifter home with him, which stopped the engine from starting up. The skipper who turned a blind eye to it all was incidentally nicknamed Tall Frans.

Crazy Oscar and Tall Frans... I can almost picture the two villains tearing through the water, chased by the heroic Captain Zeppos in his Amphicar 770.

Our gaze follows the tides of the mighty river on which they toiled away for much of their working lives. Bocht van Bath, Overloop van Hansweert, Schor van Baalhoek, Vloedschaar van Waarde, Drempel van Baarland... all names of places that were home from home for the local seafarers. The Scheldt runs like a blue vein through the history of people like them, but also through the history of a company and even a country. The playful ebb and flow of the tides and the churning and squirming of sand and silt on the seabed mean that harbour rivers like this require ongoing daily maintenance to be kept at a navigable depth. Ultra-modern, high-tech seagoing vessels can only reach the Port of Antwerp when the Scheldt

"The view of the river presents an unusually grand spectacle."

Hendrik Willem Ackermans,
co-founder of Ackermans & van Haaren,
DEME's parent company

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is 16 metres deep. In the 1960s, when the men started working for Ackermans or 'the Frenchman', they were still only dredging to 8 metres. Depth measurements were done manually using a lead weight on a rope. A government official would roll out his huge maps of the Scheldt in the galley and show them where they had to deepen the bottom that week. A few back-of-the-envelope calculations told them how many tonnes of silt they needed to dredge and deposit elsewhere. They smoked a cigarette, rolled up their sleeves, and got to work.

There weren't a lot of checks, Marc admits. He hesitates for a moment, as if revealing this secret might cost him his pension. "We had a few tricks up our sleeve to increase our yield," he says. "Like holding a candle under the pipe with the air pressure. When it heated up, the pressure rose and the gauge went up. So it looked like the vessel was fully loaded and the job was done."

A knowing nod and a cheeky grin from the others. There were more tricks where those came from.

Further north-east, a cream-coloured top hat rises above the harbour.

"That was one of ours," says Marc.

"You built the Doel nuclear power plant?"

"No, no, we reclaimed the land that it's standing on."

For them at that time, this was nothing special. They were creating land from water, a building site out of waves. That was their job.

The anecdotes surface naturally, some glistening in the sunshine, others perhaps better off eternally submerged in the murky waters. That piece of land in Doel is etched into their memories. Especially Eddy's. During the land reclamation, the river police suddenly appeared alongside them in a panic. "Do you have gas cylinders on board? And someone who knows how to work them?"

Intrigued, Eddy emerged from the cabin.

"Put on your helmet, life jacket and goggles. And come with us!"

Eddy jumped into the police boat with his gas cylinders and welding equipment and sped off to the other side. A boat owned by the Dutch company Dekkers had capsized while building the dam at Doel. Two men had been asleep in the cabin and failed to get out in time. With the water rising, they could hear their desperate pounding from inside the hull. Eddy sprang into action, burning a hole two centimetres wide on the port side. Air rushed out.

"It's rising," the two men from the Dutch border shouted. "We're barely keeping our heads above water."

"How long would it take to burn a manhole?" asked the policeman.

"At least ten minutes."

He saw defeat in his eyes. Eddy kept going, but the water was rising too quickly. The pounding stopped.

"You tried your best," the officer said.

Eddy stares silently at the water as it slowly reveals its secrets.

"You carry things like that with you for the rest of your life," he says.

The Scheldt gives and the Scheldt takes away. And right now, it is mostly giving. We silently watch the fleet in the lock. The men give the impression they've seen it all before, but from their body language and tense gazes you can tell that even for these retired veterans, it's a remarkable spectacle.

The excitement and wonder of it all remind me of a sentence from Hendrik Willem Ackermans' diary. At the beginning of the twentieth century, the co-founder of Ackermans & van Haaren, DEME's parent

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company, was busy putting his construction firm on the international map. Before the First World War, it had generated more than half of its revenue in Latin America and operated out of eleven different shipyards in Argentina, four in Brazil and two in Uruguay. In May 1903, the spritely 48-year-old set off for Argentina on an ocean liner to visit one of their prestigious projects. After a refreshing bath at the Hôtel de France et d'Angleterre in Buenos Aires, he was immediately whisked off to the port under construction in Rosario. From the quay, he watched the dance of the Flemish tugboats and dredgers, quite far inland in South America. Perhaps, like Marc now, with his hands in his pockets. Or like Eddy, with a hand shielding his eyes from the sun.

"The view of the river presents an unusually grand spectacle," he later wrote in his diary.

The simplest words hold the greatest truth. Even now, in the late spring of 2025, the view of the river presents an unusually grand spectacle. A bit further up, ministers and mayors are delivering bombastic speeches to the local and national press about the importance of the Oosterweel Tunnel. A bugle player in a captain's costume entertains the guests with an infectious stride. It is Belgian innovation at its finest. But with a smile and a quip, as if our inherent modesty forbids us from emphasising the fact that for years we've been an international leader in the technological revolution in the construction of tunnels, wind farms and deep-sea ports. While watching this astonishing feat of engineering with these three men, old and new converge. Past, present and future, viewed from a riverbank in Kieldrecht.

In 2026, DEME now celebrates its 150th anniversary. This book hopes to offer a glimpse into the impressive history of a Belgian giant that has remained hidden below the surface of public perception for years. For a century and a half, they have been the masters of maritime architecture, Belgian building contractors both in and on the water. Like a river, DEME is a meandering body. It has no time to waste, always wanting to press on, to the next bend, the next riverbank. Silicon Valley may boast apps and shiny gadgets, but there's another kind of technology developing: that of the underground, the offshore, infrastructure. A dredger that

pumps sand kilometres off an Asian coast to create an artificial island? A wind turbine installation platform that operates in waves 12 metres high? A drill that digs a tunnel under a river without disrupting the traffic? Each and every one is a feat of engineering, accomplished with much trial and error. A company biography is more a biography of its people. It is an ode to pioneers like the Eddys and Marc, who spent a large part of their working lives in Uruguay, Nigeria or New Zealand. Without a phone, without internet, without being able to tuck their children in each night. It's a story of collaboration between engineers, managers, geologists, mechanics and ecologists. It covers thousands of projects in hundreds of countries, spanning more than 150 years. But every project is a lesson in trust. In nature. In each other. And above all, in the power of plans so grand that on the drawing board they seem impossible. Until you're standing next to them, at a lock in Kieldrecht, watching 60,000 tonnes of concrete slide silently through the landscape.

To learn about history, we have to retrace our steps. And if you want to learn about the history of DEME in particular, you'll need sturdy, preferably waterproof shoes. We'll be trekking through the muddy interior of Argentina, the mangroves of Nigeria, the coral reefs off the coast of Mexico, and along the sandy beaches of Vietnam. Our journey will take us to the opening of the world's largest trade canals in Panama and Suez, and to the recent wars in the Middle East. We'll continue through both world wars and the Russian Revolution of 1917. But first, let's hold our breath as we dive into the history of the Low Countries, swimming past the beginnings of Belgium in 1830, and keep going until we resurface in the early nineteenth century in a small Dutch village on the River Meuse near 's-Hertogenbosch called Kerkdriel.

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The Netherlands and Belgium. Nineteenth century.

Barely 130 kilometres north-east of Kieldrecht lies the Dutch town of Kerkdriel. The two places have more in common than just vowels and consonants. Here, too, the inhabitants have long been embroiled in a battle with rising water levels. The original village arose on a natural elevation, a ridge of the Meuse offering protection against the whims of the river. Throughout its long history, it has had to contend with devastating storms, dike breaches and floods. As recently as 1995, the water level of the Meuse was so high that it led to the largest evacuation of a population since the Second World War. And like in Kieldrecht, another artist paid tribute to the region in rhyming verse when Boudewijn De Groot sang about the 'Land of Maas and Waal' in 1967. But his lyrics make no mention of immoral girls spending the whole morning asleep. Another thing you won't find in Kerkdriel is a tribute, memorial or any kind of tangible reminder of one of its most remarkable inhabitants and descendants. Strange, because in 1806 this is where Hendrikus van Haaren was born. And it is with him that the story of DEME truly begins, some 220 years ago. Unfortunately, not much is known about the man himself. His father and mother died prematurely of unknown causes. Around 1820, at the age of fourteen, the orphan boy must have carried out his first masonry work. A private residence on Sint-Engelbertusstraat? A warehouse or workshop on Alemschepad? We don't know, but it can't have been an easy upbringing. The work–life balance tilted firmly to one side, with long hours from sunrise to sunset in primitive conditions. Young masons start as an apprentice, work their way up to journeyman, and may eventually reach master. We do not know how ambitious Hendrikus is, but the National Archives in The Hague hold documents on smaller, public works in which his name pops up. Small projects to increase the height of dikes, wooden barriers at water crossings, repairs to small bridges and culverts. His three sons – Nicolaas, Gijsbertus and Cornelis – join the business and expand their father's masonry activities. The Iron Age in the

Netherlands is also a lucrative period for entrepreneurs. The industrial boom and the rapid developments in technology and science see railways, bridges and harbours sprouting up all over the country.

We are approaching the all-important milestone of 1876 and the merger between two local families that will leave its mark on the global industrial history of the coming century and a half. The marriage between Elisabeth Ackermans and Nicolaas van Haaren must have turned Kerkdriel upside down. In the preceding years, the van Haarens had worked their way up to respectable entrepreneurs. Meanwhile, the Ackermans family is also well-off, with Hendrik Willem educated at the prestigious Terborg public school in Geldrop near Eindhoven. We do not know what the guests were served, but since the wedding involved two well-to-do bourgeois families, it is quite possible they had exclusive delicacies brought in, including turtle soup, salmon in hollandaise sauce, roast duck and, for dessert, a pudding with rum or vanilla. These are the kinds of banquets where the guests gorge themselves until the highlight of the evening – an orchestra and a ball – but it is doubtful whether Hendrik Willem would have done a jig across the dance floor. The bride's 21-year-old brother is ambitious and opportunistic enough to regale his in-laws with his wild plans and dreams for the future. His serious attire – a cream-coloured fine cotton shirt with a detachable, starched collar and a dark waistcoat with a gilded pocket watch – is at odds with his boyish blush and slicked-back quiff. His brother-in-law, Nicolaas van Haaren, twenty years his senior, had already made a name for himself from 1868 to 1871 with the project for the substructure of the bridge over the Hollands Diep near Moerdijk. The execution of the work, which involved bucket dredgers among other equipment, was considered an impossible task on account of the ice run-off and the high cost of bridging the 2.5-kilometre-wide estuary, with its deep channels and powerful currents. The bridge is 50 kilometres from Delft Polytechnic, where Hendrik Willem had finished his engineering degree. So many times he had come by to admire the bolts and supports of that masterpiece... The length of the bridge, never before seen on the continent, captures his imagination. This is his calling! It must have been a compelling conversation, because a family letter in the archives reveals that Hendrik Willem Ackermans starts working at van Haaren's con-