

**ELECTRIFIED**

Read about Volvo CE's launch of compact electric machines.

**IN FOCUS**

Cities around the world are threatened by rising sea levels.

**THE PROFILE**

Meet the operator who is working on Egypt's new capital.

**OPERATOR HACKS**

Have a look at the stunt-driver's tips on fuel efficient driving.



# SPIRIT

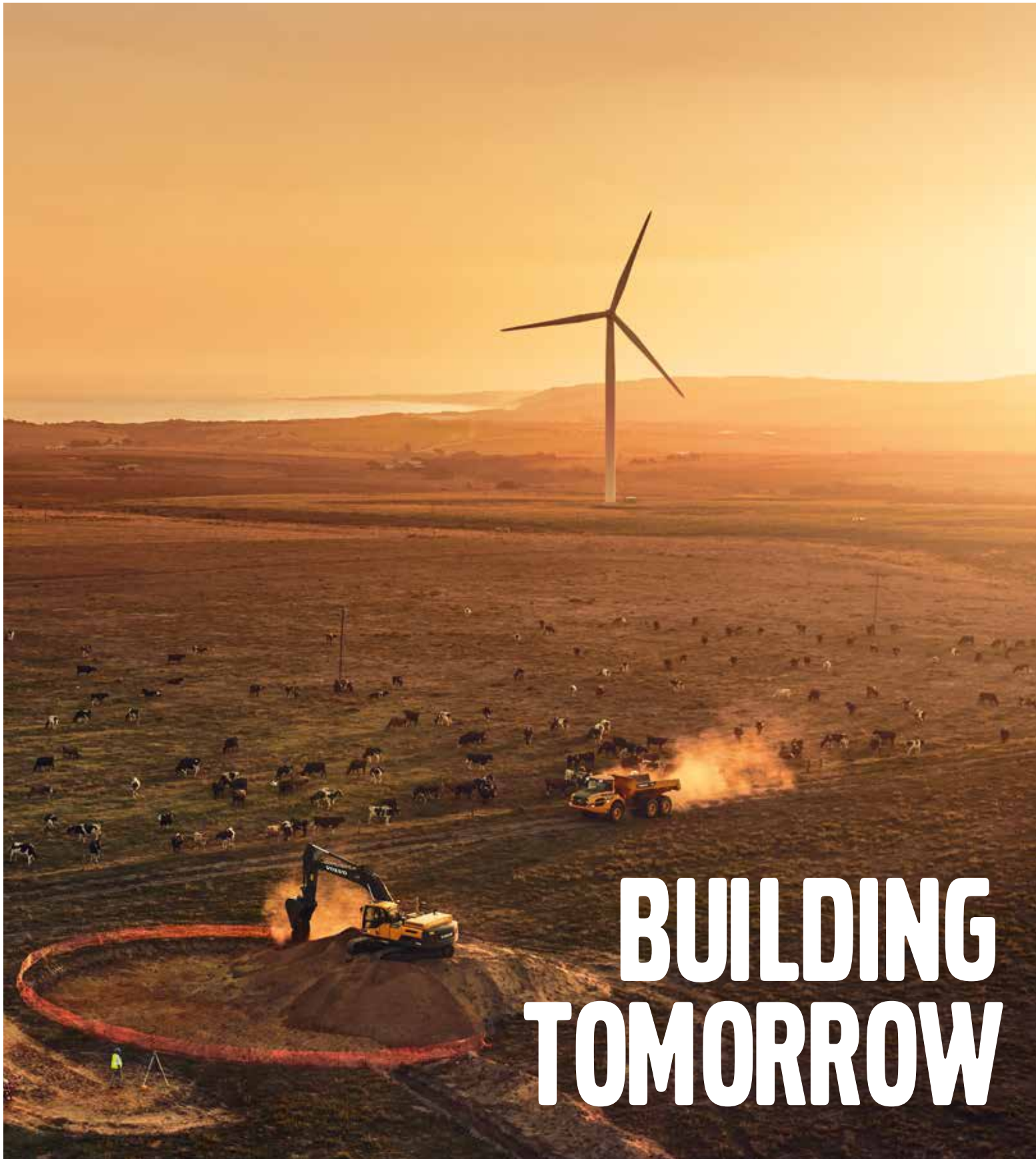
Volvo Construction Equipment Magazine, Summer 2019



## SAFE FROM THE FLOODS

New machine-built embankments in Sundarbans give the population new hope for the future.





At Volvo Construction Equipment we are driven by the idea that through imagination, hard work and technological innovation we will lead the way towards developing a world that is cleaner, smarter, and more connected. We believe in a sustainable future. And with the global construction industry as our arena, we work together with our customers to turn this belief into reality for people everywhere.

Together we're building the world we want to live in.

[www.volvoce.com/buildingtomorrow](http://www.volvoce.com/buildingtomorrow)

Volvo Construction Equipment



Welcome

## BUILDING A BRIGHTER FUTURE IN CHALLENGING TIMES

**A**t a time of radical social and economic change, it can be hard to keep in mind that we have a bigger purpose. To remember that we stand for something more than the products and services that drive our bottom line. At Volvo, we know that doing well means doing good. Which is why it is so heartening to read in these pages about the incredible work being carried out in the Sundarbans, between India and Bangladesh. After a major cyclone swept away large parts of the old mud walls some years ago – walls that were needed to protect villagers and farmland from rising sea levels – 20 Volvo excavators are now on site building new embankments to protect the land.

**You can also** read here about the construction of a brand new capital city outside Cairo, Egypt. In a city as famous for its congestion as it is for its history, residents will soon be able to breathe a little easier when this new metropolis helps to free Cairo's streets from polluting traffic jams. This is the second city that Volvo has helped to build from scratch – projects that go some way to ease the pressure of global overcrowding.

But we are aiming for more than just words on a page. We want to lead the charge in sustainability and inspire our partners to effect change too. Which is why we are proud to have become the first

construction equipment manufacturer to commit to an electric future for its compact machine range. You may have seen the unveiling of our new electric ECR25 excavator and L25 wheel loader at bauma Munich. But if not you can find out here what drove us to make this pledge, what this will mean for our business and why these machines are designed the way they are.



**The construction industry** is rightly under increased scrutiny over its environmental impact. And at Volvo, we know that one of our most important contributions to society is to drive sustainable, long-term investment in our land and our communities.

Because of this, we will continue to explore ways in which all of us within the industry can become a force for good. In addition, we are always looking for pioneering projects that contribute to a better tomorrow. Do not hesitate to get in touch if you have a story you want to tell.

**Tiffany Cheng**  
Director, External Communications  
Volvo Construction Equipment

## SPIRIT

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# THE GLOBAL RACE AGAINST THE WAVES

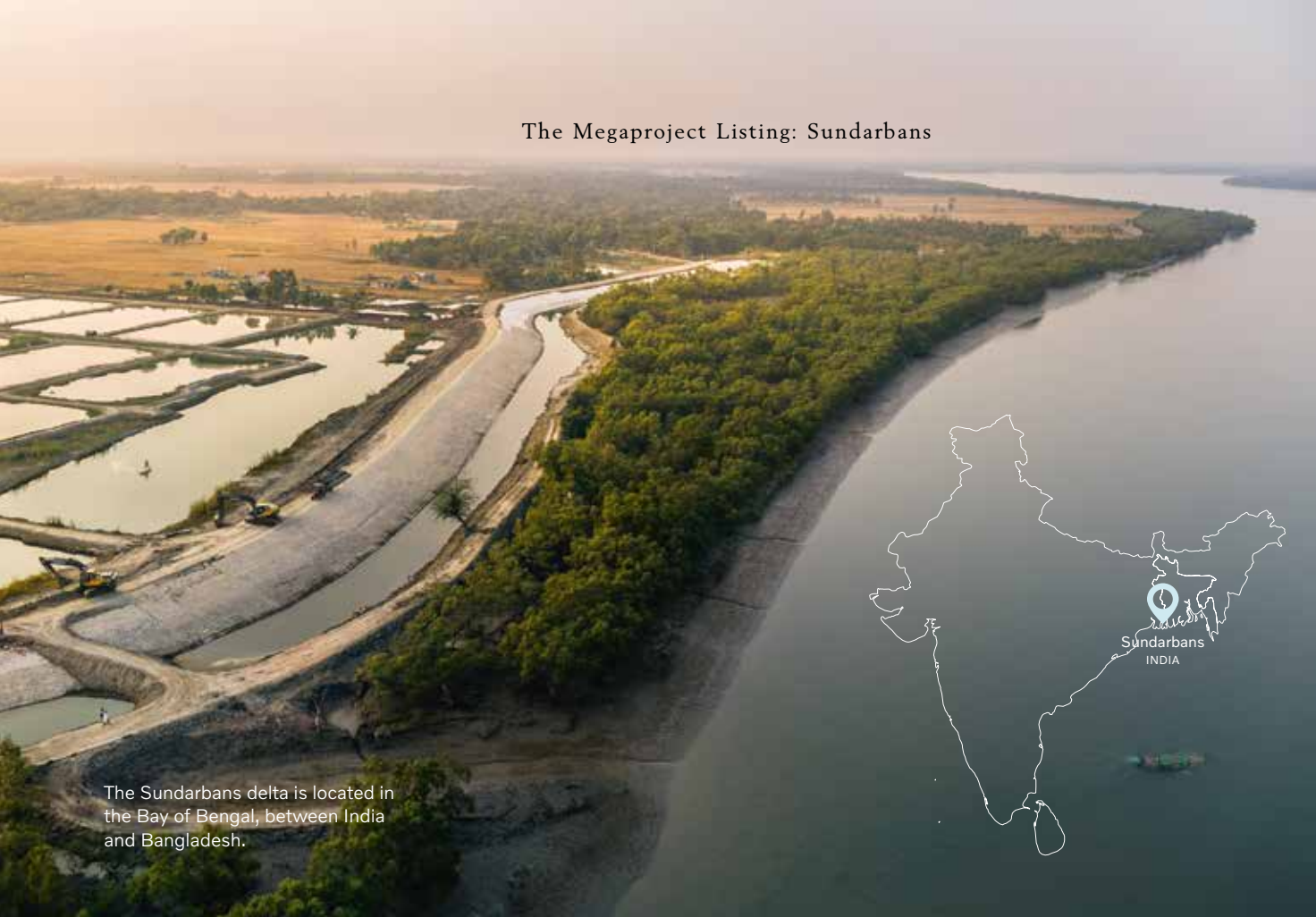
By **Carl Undéhn** Photos by **Kalyan Varma**

Rising sea levels are globally considered to be one of the greatest climate challenges. In some parts of the world it has already a big impact on people's lives. This is particularly true for low-lying coastal areas, as Sundarbans between India and Bangladesh, where severe storms are a recurring threat and major construction measures are needed to protect the fertile delta soil from devastating salination.





The Megaproject Listing: Sundarbans



The Sundarbans delta is located in the Bay of Bengal, between India and Bangladesh.



Protected with new embankments, Sundarbans has the potential to become a granary in this highly populated part of the world.

The sun rises over the archipelago in the Bay of the Bengal and Reba Rani Mondal is already out with her fishing net. She is one of the 4.5 million inhabitants in the area, and lives in a village on one of the more than 100 islands in the Sundarbans delta. She walks on the mudbanks that protects her village from being flooded and throws her net in the water, hoping to catch Indian Mackerel. The village has been her home for 32 years.

“Life here has never been easy. To have enough food and to take care of our children, it has always been critical,” she says.

The archipelago in the Bay of Bengal is the scene for one of the most dramatic examples of rising sea levels around the globe. The sea level rise in Sundarbans reaches 3–8 mm per year, meaning up to twice as much as the global average. On some islands the coastline has retreated with 200 metres per year and only in the past few years, 9,000 hectares of mangrove forest have disappeared due to land erosion. Living conditions have been even more difficult since the cyclone Aila hit in 2009 and swept

away large parts of the old embankments that used to protect the area from floods.

**To create new** protection for the islanders, the Indian Government initiated the Sundarbans Embankment Reconstruction Project, where new walls and dams are being built and old embankments are being reconstructed along the coast.

The former structures date back to the 18<sup>th</sup> century when the British rulers began to cut down mangroves to use the land for agriculture. When finalized, the old walls covered a total of 3,500 kilometres – the majority were made up of mud embankments which did not offer sufficient protection as the sea level rose. That became clear when Aila hit, which brought heavy rain and wind speeds of 140 km/h over Sundarbans. Hundreds of thousands of homes were destroyed and, as the water finally pulled back after several days, over 400 kilometers of the embankments were breached.

Now, thanks to the use of heavy construction equipment, the embankments are fortified with broad concrete blocks to create a more resistant protection of the islands and their inhabitants.

“It feels good to work on a project like this. I think anyone involved in this kind



Paritosh Biswas



Cyclone Aila hit Sunderbans in 2009. Then their school served as rescue center for the village inhabitants.

of work, where you make life better for others, feels proud,” says Paritosh Biswas, Project Manager at Bardan Construction, responsible at the construction site in Sundarbans.

He has 20 Volvo excavators working at the site and is pleased with their performance.

“The Volvo machines can move more mud in a shorter time, compared to other machines. They are robust and the buckets are big. Then of course, we are always worried the machines will get stuck in the mud. But that is just part of the challenging conditions here, and we work the challenges out,” says Paritosh Biswas.

“The Volvo machines can move more mud in a shorter time, compared to other machines. They are robust and the buckets are big.”

PARITOSH BISWAS, PROJECT MANAGER AT BARDAN CONSTRUCTION



The new embankments will serve as both protection against flooding and as roads.



Reba Rani Mondal is out with her fishing net, hoping to catch Indian Mackerel.

“It feels good to work on a project like this. I think anyone involved in this kind of work, where you make life better for others, feels proud.”

PARITOSH BISWAS, PROJECT MANAGER AT BARDAN CONSTRUCTION





Photo by Shutterstock

On the other side of the globe, southern Florida is facing similar challenges, as well as a comparable geographical situation.

The Everglades National Park is home to the largest mangrove forest in the western hemisphere. And, as in Sundarbans, the mangroves of Florida are both a natural protection against tides as well as threatened by rising sea levels and increased salinity in the water.

“Lately, the highest tide of the year has been happening almost every year in October. The most affected area that has been in the news a lot is Miami Beach. We call this ‘sunny day flooding’ because the sky is clear, but water comes back into the streets through storm drain systems,” says professor Jayantha Obeysekera, from Sea Level Solutions Center in Miami.

Both in the highly urban Miami-Dade and rural villages of Sundarbans, engineering is a key factor to manage the threat of flooding.

“In terms of infrastructure, raising sea levels and adding drainage pumps are popular measures. In areas such as Miami Beach and in the Florida Keys, roads are being raised and new regulations are being developed for first floor elevations of buildings,” says professor Obeysekera.

Rising sea levels and more extreme weather are big challenges for every society. But by adapting their structures using modern engineering, Florida and Sundarbans will be better suited for the challenges of tomorrow.

“I feel happy the new walls are being built. We feel safer. Our lives depend on this,” says Reba Rani Mondal, picking up her fishing net as the sun goes down over Sundarbans.



Professor Jayantha Obeysekera

Flooding is an increasing challenge in many parts of the world. Miami Beach is one of them.

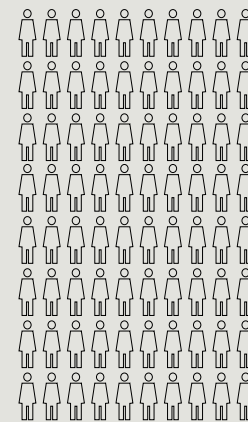
“In terms of infrastructure, raising sea levels and adding drainage pumps are popular measures. In areas such as Miami Beach and in the Florida Keys, roads are being raised and new regulations are being developed for first floor elevations of buildings.”

PROFESSOR JAYANTHA OBEYSEKERA



**SAVING INVALUABLE LAND**  
Watch the film from Sundarbans  
[www.volvoce.com/spirit](http://www.volvoce.com/spirit)

The Megaproject Listing: Sundarbans fact file



**4.5 MILLION**

The population in Sundarbans.

**4,000  
SQUARE MILE**

The Sundarbans delta area, spread across the mouth of Bay of Bengal, from India to Bangladesh. Proclaimed a UNESCO World Heritage Site.

**102**

The number of islands, on the Indian side of Sundarbans.

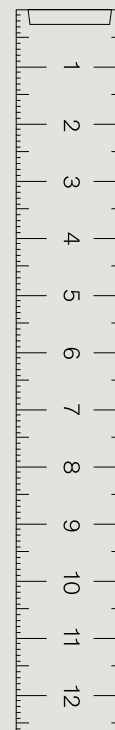
**54**

The number of inhabited islands in Sundarbans, on the Indian side.

## THE SUNDARBANS PROJECT IN NUMBERS

Sundarbans, between India and Bangladesh, is a beautiful yet dangerous patchwork of mangrove islands. Rising sea levels and recurring tsunamis have made living in the area hazardous. The construction of new embankments will create a new future for the population – here is the unique project in numbers.

By **Anna Werner**



**3,500 KILOMETERS**

The length of the old embankments, built during the British rule some 250 years ago.

**5 METERS**

The height of the new embankments currently being constructed in Sundarbans.

**5,000 METERS**

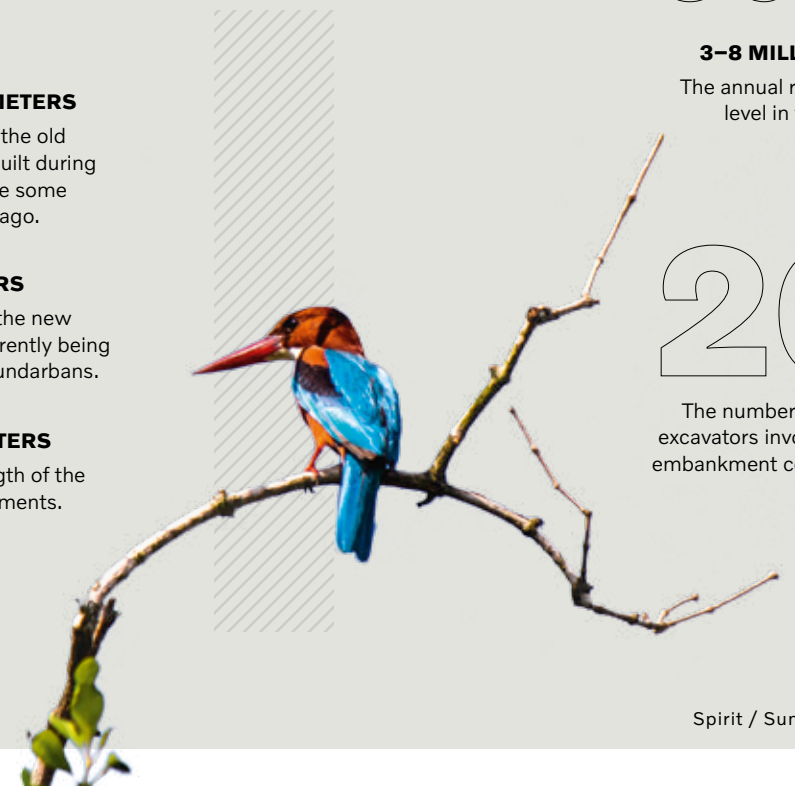
The current length of the new embankments.

**3–8 MILLIMETERS**

The annual rise of the sea level in the area.

**20**

The number of Volvo excavators involved in the embankment construction.



## HE IS BUILDING PROTECTION AGAINST RISING SEA LEVELS AND EXTREME WEATHER CONDITIONS

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Sundarbans, between India and Bangladesh, is threatened by rising sea levels and extreme weather. A small team of operators is working non-stop to protect the land. Sameer Manna is one of them.

By **Anna Werner** Photos by **Kalyan Varma**







Sameer Manna enjoys working as an excavator operator. “I never feel that I work long hours. The cab is comfortable, even air-conditioned, and I just enjoy operating it,” he says.



After cyclone Aila hit, the inhabitants in Sundarbans tried to protect their land by building mud walls by hand. Today, machine built embankments are under construction.

Just to reach the construction site in Sundarbans is a challenge. The nearest city, Kolkata, is 100 kilometers away, and the only way to travel to the delta area of Sundarbans is by boat. Both humans and machines are transported via the water ways to the islands in the delta.

Sameer Manna lives in a small village on one of the islands. Each morning he steps in to his Volvo excavator and continues the construction of the embankments that will prevent the village from being flooded, making it safe for the people living here.

“I have liked being an operator here from the start. To build the embankments feels very good. There is no way the village can be flooded after we are finished,” says Sameer Manna, who has worked as an excavator operator for five years.

He is one of the 50 construction workers, from operators to managers, who are working in the area. 20 Volvo excavators are currently working on the embankments. The new walls are made of concrete blocks and will be 5 meters tall and up to 40 meters wide at the base. They will also serve as roads, a welcome addition to this isolated area.

The construction site is not large, but the project is unique in many ways as Sundarbans is an exceptional part of the world. The delta is the world's largest and wildlife is something extra, the area being home to the Bengal tiger. For the 4.5 million

“I have liked being an operator here from the start. To build the embankments feels very good. There is no way the village can be flooded after we are finished.”

**SAMEER MANNA, OPERATOR**

inhabitants, living conditions have always been difficult – even more so after cyclone Aila hit in 2009.

The cyclone swept away a majority of the old embankments that had prevented



A small team of operators is working in Sundarbans.

flooding and both cattle and people died in the catastrophe. Since then, rising sea levels and reoccurring cyclones have continued to make living in this area very challenging. The villagers have been trying to rebuild some of the mud walls by hand, but all their hard work is swept away by the strong tide that is part of everyday life in the area. After Aila hit, the Sundarbans Embankment Reconstruction Project was initiated by the Indian Government. Now, the machine-built walls are starting to make a difference to the people living in Sundarbans.

**Reba Rani Mondal** is one of the villagers in Sundarbans that is grateful for the new walls. She works at home taking care of the children and cattle. She is also responsible for providing the family

with fresh fish every day. With the new embankments she foresees a better future for herself and her family.

“We all feel safer now,” she says.

Having the villagers’ appreciation is one of Sameer Manna’s joys in work. He also appreciates the operator role in itself – and his Volvo machine.

“I never feel that I work long hours. The cab is comfortable, even air-conditioned, and I just enjoy operating it,” he says.

**Before being an** operator, Sameer Manna never really felt fully content at work. When he came across construction work he started out as a helper for one year. Given the opportunity to become an operator himself, he jumped aboard and never looked back.

“I think I will do this forever,” he concludes with a smile.



# RISING SEA LEVELS

## 5 BIG CITIES AT RISK

We hear about it every day. Climate changes affect and will affect our lives – now and in the future. In the Treaty of Paris, a majority of the countries in the world have agreed on to try stopping the global temperature rise at 1.5°C. An increase in temperatures will also lead to rising sea levels. The consequence? Urban areas covered in water, affecting up to 800 million people with high costs as an aftermath. Here, we list five major cities that are at risk. But keep in mind – if we manage to stop the rising temperatures, we could also save our cities.

By **Kerstin Magnusson**

Sources: The Guardian, C40 Cities, The City Fix (World Resources Institute).

### 01 / RIO DE JANEIRO, BRAZIL

When we picture the world's biggest carnival city, we see Rio's Copacabana in front of us. With global warming, and an increase in temperatures, there is a big risk that the landmark will disappear entirely. But it is not only Copacabana that is at stake. The inland area Barra de Tijuca, where the Olympic Games were held in 2016, is also threatened.

Although being fairly close to the coast, it has not been prepared or built to survive high sea levels at all. Storms and heavy rains have even led to fatal accidents in this area. Recently, the city government has started to realize the seriousness in both the beach area, where we have Copacabana, and in the inland areas. Different studies have been carried out to deal with vulnerabilities in areas such as transport, health and housing. A concrete plan is the next step, to be able to deal with the rising sea levels in this densely populated part of the world.





## 02 / NEW YORK CITY, U.S.

The teeny tiny island of Manhattan, and the surroundings, hold just over 8 million inhabitants. And it is located just by the coast. Research estimates that the East Coast states of America are specifically vulnerable to the melting ices of Antarctica. However, New York City is not built in a high risk low-lying delta like for instance New Orleans – also very exposed to our rising sea levels – but it is still a delicate piece of land.

When storms do hit, like hurricane Sandy in 2012, the socio-economic effects are immense. Many of the most valuable properties in the world were affected, and the commercial activities in one of the world's biggest centers for economic activity were disrupted for days. All in all, it cost NYC over 19 billion US dollars.

Rising sea levels, covering for instance the tip of Manhattan where the economic center is located, would be a challenge. The administration in NYC now works on building a strong, protective line along its entire coast.

Photo by Shutterstock



## 03 / OSAKA, JAPAN

Asia's mega cities are among the most vulnerable places when it comes to the rising sea levels. The Japanese city of Osaka, situated just by the coast, is particularly exposed.

It is a major port and commercial hub in Japan, hosting millions of people. The city's off-shore airport, Kansai International Airport, was flooded after a severe typhoon in the fall of 2018. Where you normally would see a runway, you saw only water. One could also see a glimpse of the future, as typhoons and severe rains will be much more common if we have a global temperature rise – and in turn the sea levels will rise permanently.

It will also threaten the economy. Repairing and building banks are costly, and calculations say that as much as 1 billion US dollars would have to be put into repairs and preventive work by the 2070's, if the sea levels keep rising in Osaka.



Photo by Shutterstock



## 04 / ALEXANDRIA, EGYPT

The famous and imposing Alexandria library is situated close to the shoreline in this ancient city. With more extreme weather, the premises are facing big risks. Research even reports that the beaches in Alexandria could be submerged with a 0.5 meters sea level rise and 8 million people would then be affected.

The real challenge in this Egyptian city is that, so far, little or no protective measures have been taken. And the inhabitants are poorly educated about the risks. That Alexandria faces rising sea levels is no news, and the city has been exposed for thousands of years. There is a sea wall, built in 1830, but it is not enough if the temperatures rise. A 3°C increase in temperature would be devastating.

The Egyptian government says that it spends millions of US dollars every year on protection. An independent group called Save Alexandria Initiative has been formed to raise awareness about the problems that are getting closer and closer, literally.



Photo by Shutterstock



## 05 / SHANGHAI, CHINA

This mega city, once a fishing village, has one the world's biggest ports, with vibrant activity going on both day and night. Water is surrounding large parts of the city: the Yangtze river in the north and divided through the middle by the Huangpu river.

The greater Shanghai area involves several islands, two long coastlines, shipping ports, and miles of canals, rivers and waterways. Exposed to rising sea levels, to say the least. In 2012, a report from international scientists declared that Shanghai was one of the most vulnerable cities in the world, when it comes to flooding. This based on the amount of people living by the coastlines, time that is needed for recovery etcetera. The incredible number of 17.5 million people would be displaced if the global temperature rises with 3°C. With a lower rise in temperature, lots of people will still be affected.

Since the 2012 report, the Chinese Government has worked steadily on building protection, including China's largest deep-water drainage system beneath Suzhou creek, designed to lead rainwater away.



# THE CONSTRUCTION SITE THAT PROTECTS INVALUABLE LAND

Logistics is a challenge when working in Sundarbans. Follow us to the construction site where the land disappears and recurs with the tide every day.

By **Anna Werner** Photos by **Kalyan Varma**

**T**he Sundarbans is the world's largest delta, spread across 4,000 kilometers from India to Bangladesh. The area consists of mangrove islands and many of them changes daily with the tide. Rising sea levels and recurring cyclones have made living conditions for the 4.5 million inhabitants even more challenging – especially after cyclone Aila hit in 2009. Large parts of the old embankments that had made living possible in Sundarbans were swept away. The catastrophe was fatal for both people and animals. Now, new embankments are being built to bring new life to Sundarbans.

The Indian Government initiated the Sundarbans Embankment Reconstruction Project where Volvo has been involved for two years. Today excavators are working daily in the area. So far, 5,000 meters of new embankments have been constructed. “The biggest advantage with the Volvo machines is their output. A Volvo machine can in five hours do the same job that takes another machine more than eight,”

says Paritosh Biswas, Project Manager at Bardan Construction and responsible at the construction site in Sundarbans. His biggest concern is that the machines easily get stuck in the mud and that getting spare parts, when that is needed, can take some time. The closest city is Kolkata, 100 kilometers away, and there are no sustainable roads to travel by. The only way to bring both machines and people to Sundarbans is by boat. “Sometimes we need to walk for a couple of kilometers too. It is not easy, but we work very hard to maintain our services here,” says Pratik Biswas at Suchita Group. Suchita is the Volvo dealer in the area, which is responsible for customer support in West Bengal.

**Pratik Biswas hopes** the new embankments will make life easier for the population in Sundarbans. At first as protection from flooding and making farming the land easier. In a longer perspective, Pratik Biswas hopes the new walls will lead to new development for the people living in Sundarbans.

“I think they will have better connection to the city in the future. That in turn can lead to people having better education,” says Pratik Biswas. Shantanu Mukherjee, Regional Sales Manager at Volvo CE in West Bengal shares Pratik Biswas pride in the project. “This project has always been very interesting to Volvo as well as to our dealers. It is a government project which is actually helping improve the livelihood of people. We are excited and proud that Volvo machines are working in Sundarbans,” he says.



Pratik Biswas

- 01** 20 Volvo excavators are working in the area.
- 02** Shantanu Mukherjee, Regional Sales Manager at Volvo CE.
- 03** Paritosh Biswas, Project Manager at Bardan Construction.
- 04** All machines were transported to the construction site by boat.



01



02

“The biggest advantage with the Volvo machines is their output. A Volvo machine can in five hours do the same job that takes another machine more than eight.”

**PARITOSH BISWAS, PROJECT MANAGER AT BARDAN CONSTRUCTION**



03



04



# THE FUTURE IS ELECTRIC

The future belongs to electromobility – the technology that ensures that eco-friendly and efficient vehicles will populate future construction sites. There are still certain challenges to overcome before the many advantages of the electric powertrain can be leveraged. We take a look at the current status of electrification in the construction business.

By **Anna Werner**

**C**limate change, oil shortage and air pollution are all global challenges. Electric vehicles do not emit exhaust gases like vehicles with combustion engines and are therefore very important in the transition to a more sustainable society. And the development of electromobility is currently happening fast. Electric cars and buses are already a reality and The International Energy Agency predicts that the number of electric cars on the road could be as high as 220 million in 2030. Off-road machinery is now following suit and at bauma Munich, Volvo CE presented its first electric compact excavator and compact wheel

loader. The two machines will be on the market by 2020.

But what does switching to electromobility actually mean, and what are its consequences? We take a look at key questions.

## **How does electromobility work?**

The common feature of all electric vehicles is that they are fully or partly driven electrically, they can store energy on board, and they obtain their energy mainly from the power grid.

## **Why is electromobility so important in the construction industry?**

Electromobility offers reduced or zero emissions from the machines, higher

machine efficiency, significantly lower noise levels, and reduced machine operation cost. It offers the opportunity to incorporate functions that can better assist operators, which in turn can provide higher quality outcomes in less time and with less effort.

Of course in some applications hybrid power systems are necessary to provide the most flexibility for the machine when there is a higher demand for power or where there is a lack of electrical infrastructure available. But overall, the future of the industry is leading towards electrification with cleaner, quieter and more efficient machines, which not only support customer success, but will also be better for the environment.

## **How environmentally friendly is an electric vehicle?**

It depends on how the energy is produced. But electric vehicles are almost always more environmentally friendly than diesel and gas-powered vehicles, because they are so energy efficient. For example, the energy consumption of a fully electric bus from Volvo Buses is 80 percent lower than that of a diesel bus. And when it comes to toxic emissions, electric vehicles are emission free.

## **How are batteries taken care of?**

The recycling of batteries is directed by regional regulations. In the EU, it is the Battery Directive from 2006, 2006/66/EC.

For instance, Volvo Group, as a supplier of a product that incorporates a battery, is responsible for the waste management of the batteries. The Group takes full responsibility for the batteries during their entire lifecycle and is working to find other applications for the batteries when they have been used in the electric vehicle. The company is pursuing a project where they put used batteries from their electric buses into residential buildings in Gothenburg, Sweden and use them to store solar energy.

## **Is electromobility expensive?**

The development of new technologies has been relatively expensive, but the

cost of energy storage systems such as lithium-ion batteries is steadily decreasing, and so this is making electromobility a more financially attractive option.

## **What about the Total Cost of Ownership?**

The arrival of electric, hybrid or even autonomous machines will undoubtedly drive down the total cost of ownership. But while much of the input data will be different, the arrival of these new forms of equipment will not fundamentally change the complexity – or importance – of accurately calculating Total Cost of Ownership.



# THIS IS WHAT THE ELECTRIC FUTURE WILL LOOK LIKE

By Anna Werner

Photo by Shutterstock



In an industry-first move, Volvo CE will start the launch of an electric range of Volvo branded compact wheel loaders and compact excavators in 2020. We asked Design Director Gustavo Guerra to guide us through the products' most important features. Why are they designed the way they are?

In January this year, Volvo CE announced that by mid-2020 it will begin to launch a range of electric compact excavators and wheel loaders, stopping new diesel engine-based development of these models.

The range for excavators will span from EC15 to EC27, and for wheel loaders from L20 to L28, and the very first models were unveiled at bauma Munich, in April.

Today, we let Design Director Gustavo Guerra guide us through the most prominent features on the new machines.



Gustavo Guerra

## IN THE CAB: THE DIGITAL INTERFACE

"Operators will come across a whole set of new digital input, inside the cab. There will be data showing how much battery you have left, for example, and several other new input that operators do not receive today, which will indicate the machine status at any given time, which is crucial for an efficient operation. It will be absolute key that operators find the interface intuitive to work with, so that their transition into electromobility becomes smooth."

## OUTSIDE THE CAB: THE ELECTRIC IDENTIFIER

"How do we make sure that people around the machine can understand what the machine is about to do? This question has led to our most animated discussions within the design team. Now, we have created a light feature with a set of communication skills that we can build on. Compared to a diesel driven machine, the electric ones will be very quiet. It will be important that people on the outside, especially as compact machines will work in the city with the public coming rather close, can understand what the different light signals mean. If not, we did not do a good job."

## THE BENEFITS OF ELECTRIFICATION

- delivers zero exhaust emissions
- significantly lower noise levels
- reduced energy costs
- improved efficiency
- less maintenance requirements, compared to their conventional counterparts.



# A NEW MARVEL ON VIRGIN SANDS

Cairo, in Egypt, is one of the world's most famous cities – full of history. It is also infamous for its congestion. As a solution, a new capital is being constructed, bigger than any planned city before. Will the new city give Egypt a greener future?

By **Kerstin Magnusson** Photos by **Mahmoud Seddawy**





Just a few years ago, the Egyptian Government delivered the news: the old core of Cairo can no longer hold the city. The congestion in the old center is becoming too heavy and it is over-populated. The administrative center needs to be moved to a new area, on virgin sands 40 kilometers outside Cairo. Housing and other buildings also need to be added which will make the new administrative center a real city, and one of the first smart cities in Africa. This is also exactly what is going on now, in a time frame that is anything but forgiving. The whole move and the building of a new city, for now called the New Administrative City, is set to be finished in just a couple of years. Upon completion, it will have 660 hospitals, 1,250 mosques and a huge theme park – besides the administrative buildings that will house the government. On top of it, the city plans to complete the tallest building in Africa, 345 meters high.

But perhaps more impressive: solar parks and a smart public transportation system are also part of the plans. **The construction of the new administrative capital** is the latest in Egypt's long history of megaprojects and hopes are high on the effects, both for the country's economy and self-esteem. "Egypt has more wonders than any other country in the world and provides more works that defy description. This is why it is necessary for us, as Egyptians, to enrich this picture – and to add something to it that our grandchildren will be able to say enhances Egypt's characteristics," said Mostafa Madbouly, the housing minister of Egypt, when the project was revealed. He has also emphasized that something has to be done to lighten the load on Cairo, with a projected population of 40 million in 2050.

**01** Traffic on the 6<sup>th</sup> of October bridge in down-town Cairo, Egypt.  
**02** Street life in down-town Cairo.  
**03** The home of 20 million people.



"Egypt has more wonders than any other country in the world and provides more works that defy description. This is why it is necessary for us, as Egyptians, to enrich this picture – and to add something to it that our grandchildren will be able to say enhances Egypt's characteristics."

**MOSTAFA MADBOULY,**  
**HOUSING MINISTER OF EGYPT**







**01** Man delivering bread on his bike in down-town Cairo.  
**02** Ahmed Abdallah, Cairo citizen, is looking forward to less traffic.  
**03** Infrastructure being finalized in the new capital of Egypt.



“Cairo isn’t suitable for Egyptian people. There are traffic jams on every street, the infrastructure can’t support the population, and it’s very crowded. Without any specific master-plan, it has started to become ugly. There is no humanity.”

**KHALED EL-HUSSEINY,  
SPOKESMAN FOR ACUD**

the new city will, if anything, increase the ecological footprint with more transports going back and forth. ACUD and other key actors, say that the crucial problems, the congestion and the over-population, need to be solved in any case. And the transports between the cities will be mostly by train.

The pyramids were not built in one day, and it took lots of sweat and work force. When the new city is settled, it might not be as original as the pyramids, but it can parade with iconic landmarks as well as an ambitious plan for making the world a little greener.

“We need a landmark, a new capital. We have the right to have a dream, and this is our dream,” concludes Khaled El-Husseiny.



**EGYPT’S NEW WONDER**  
Watch the film from Cairo  
[www.volvoce.com/spirit](http://www.volvoce.com/spirit)

**TIME LINE – CAIRO**

The area where Cairo is located has been inhabited for thousands of years, long before the foundation of the city. One of the most famous landmarks is the Babylon Fortress, from around 100 BC. You can see the remains of it in Coptic Cairo, a part of the old city center.

**969**

The modern Cairo is founded, under the name al-Qāhira. Founded by the Fatimid dynasty, a Shia Islamic caliphate, that spanned over a large area in North Africa.



**1798**

Napoleon enters the scene and for a few years, Cairo is part of the battles between the French and the British and Ottoman forces. In 1801, the French surrender, and Cairo and Egypt fall into British hands.

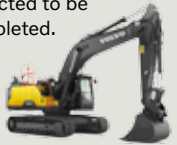


**1952**

A coup d'état that leads to the overthrowing of the king. Nasser becomes leader of Egypt.

**2022**

The new capital is expected to be completed.



**1168**

Cairo becomes Egypt's capital, taking over from Fustat.



**1517**

Cairo is conquered by the Ottoman Empire and becomes the capital of the Mamluk Sultanate.



**1856**

Ramses Railway station is built.

**1922**

The British admits Egypt as an independent country. Tutankhamun's tomb is discovered.

**2011**

Uprising against the Mubarak regime during the Arab spring. Its center was located in the Tahir square in Cairo, and the world was watching.

**Ahmed Abdallah** is one of Cairo's citizens today. He works in downtown Cairo and spends hours in traffic every day when he picks up his children from school. He believes the new capital will change the old city for the better.

“I think this is the big boom that will change our country. At least half of the traffic will be taken off the streets of the old city,” he says.

The New Administrative City will be able to house more than five million residents. One of the main purposes of moving and building is to decrease Cairo's ecological footprint. As all cities around the world, the capital is fighting congestion. And again – as with all cities around the world – there is not much time. In this specific project, this is taken literally. The speed that the project is moving forward with is impressive, and many investors see the new city as a chance to be a part of something big, and something green.

The company overseeing the project, Administrative Capital for Urban Development (ACUD), says that most of the government buildings will be scheduled to move already in June 2019. With that, the move of people comes too. Hopefully, citizens of Cairo will start buying and moving into apartments and houses as soon as possible.

**A spokesman for ACUD**, Khaled El-Husseiny, explains the current problem to the Guardian: “Cairo isn’t suitable for Egyptian people. There are traffic jams on every street, the infrastructure can’t support the population, and it’s very crowded. Without any specific masterplan, it has started to become ugly. There is no humanity.”

This problem will now be addressed with green parks and open water, and most importantly, more space. In turn, this will hopefully help the city decrease the ecological footprint. Critics claim that only wealthy people will be able to live in the new city. And that the distance between Old Cairo and

**40 million**  
projected population  
of Cairo in 2050.





01



02



- 01** Ibrahim Mohamed enjoys a tea with his colleagues.  
**02** He has been an operator for 25 years.  
**03** The new capital of Egypt will spread out over 700 square kilometers, equivalent the size of Singapore.



03

# MOVING WITH THE CONSTRUCTION SITE

To be an excavator operator has become Ibrahim Mohamed's life. His work brings him to new places and he lives at the construction sites one month at the time, spending precious time away from his family. But for him, the job is always worth it.

By **Anna Werner** Photos by **Mahmoud Seddawy**

**I**t is a windy day at the construction site in the desert outside Cairo. Ibrahim Mohamed and his co-workers seek protection from the swirling dust as they take a sip of hot tea. Today, they will take down the cabins that have served as offices and resting area while they have been doing ground work here, at one of the many parallel construction sites that together become the mega project of constructing a new capital city.

The new city will spread out over 700 square kilometers, which is about the size of Singapore. It will be one of the first smart cities in Africa with large green spaces and an electrified and smart public transportation system. When finalized, the city will be home to five million people.

"This is our Egyptian DNA. We have always constructed big, since the Pharaonic time," says Ibrahim Mohamed, half joking, half serious.

**He is a** tall man who moves with confidence at the work site. His colleagues look up to him, both literally and because of his experience and skills. Ibrahim has been an operator for 25 years and is one of the best trained and experienced operators at the site.

"I am proud of my job. I am skilled, I can do the most complicated jobs an excavator operator can do. My experi-

ence and knowledge gives me a good position within the company," he says.

His home is in Benha. His wife and three sons live there. When working on

"Houses, churches, mosques, a lot of buildings are already in place. Today you would think we have been working here for 30 years. However, three years ago, there was nothing at all here."

**IBRAHIM MOHAMED**

a project he divides his time between family and work. He spends ten days at home with the family and twenty days at the construction site each month.

"This is my life. I have always worked like this and I am used to it. It is difficult from time to time, but with cell phones

and modern technology it has become easier," Ibrahim explains.

**He arrived at** the construction site this morning, transported by bus together with his co-workers. They started off their day with checking the machines and then doing some final ground work. This afternoon, the machines will be moved on trucks to another site within the new capital. Himself and his colleagues will be picked up at five in the afternoon to be transported back to the camp where he is staying while working. He will have dinner and then go straight to sleep.

"I work hard and while working I don't think about anything else but work," he says.

When having some time off, all colleagues sometimes play football together.

"I like it, I used to be quite good when I was younger. Today, anyone among us colleagues can be a striker, we take turns," Ibrahim says with a smile.

**Wherever they work,** the team works hard to meet the tight deadlines and Ibrahim is proud of how fast the new capital is taking shape.

"Houses, churches, mosques, a lot of buildings are already in place. Today you would think we have been working here for 30 years. However, three years ago, there was nothing at all here," he concludes.



# SIX CITIES BUILT FROM SCRATCH

The construction of a new Cairo is doubtless one of the world's most spectacular urban projects. But history holds examples of other cities built from scratch.

By **Anna Werner**

## 01 / BRASILIA, BRAZIL. FOUNDED: 1960

Brazil's modernist utopia is arguably the most famous planned city in the world. It is certainly one of the most successful in the simple terms of population statistics. 2.5 million inhabitants live in the city that was founded 1960. It is distinguished by its modern architecture, chiefly designed by Oscar Niemeyer, and it was named a UNESCO World Heritage Site in 1987.

Photo by [ekuristando on Unsplash](#)



Photo by [Shutterstock](#)



## 02 / NUR-SULTAN (ASTANA), KAZAKHSTAN. FOUNDED: 1997

Founded as a Russian settlement in 1830, the Kazakh capital was moved here in 1997. A whole new governing district of nearly 80 square miles was constructed at the time. The urban plan for Nur-Sultan was drawn up by Japanese architect Kisho Kurokawa, and the city is known for its futuristic buildings. Among them a shopping center in the shape of an enormous silver tent, a 77 meters high glass pyramid and a concert hall by the Italian architect Manfredi Nicoletti. Nursultan was previously named Astana. The city changed name in 2019, as a tribute to the former president Nursultan Nazarbayev.

## 03 / CANBERRA, AUSTRALIA. FOUNDED: 1913

Canberra was the solution to the rivalry between Sydney and Melbourne, Australia's two largest cities. Construction of the capital began in 1913 but it took until 1927 before the Commonwealth parliament moved to Canberra. The design of the city was made by husband-and-wife-team Walter Burley and Marion Mahony Griffin. The capital is made out of geometric shapes adjusted to the landscape. Despite its high standard of living, the city is little known overseas and plays a low-key role even within Australia.

## 04 / NAYPYIDAW, MYANMAR. FOUNDED: 2005

The capital of Myanmar was moved from Yangon to the center of the country in 2005. The government of Myanmar claimed to create a new capital in response to the overcrowding of the former capital. Naypyidaw spreads out over a staggering 2,700 square miles, about four times the size of London. The city features a 20-lane avenue, a parliament complex of 31 buildings and the Uppatasanti Pagoda, a replica of Yangon's famous Shwedagon Pagoda.

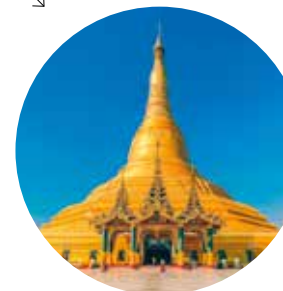


Photo by [Shutterstock](#)



Photo by [Shutterstock](#)



## 05 / ISLAMABAD, PAKISTAN. FOUNDED: 1947

Also founded as part of the legacy of the 1947 partition, Pakistan's capital of Islamabad was built from a desire to balance development across the country and move government further from the easily attacked coast. Constantinos Doxiadis created the masterplan and the city was built on the idea that urban areas should be scientifically created. The capital today houses 2.2 million in the metropolitan area.



## 06 / CHANDIGARH, INDIA. FOUNDED: 1947

If any city can compete with Brasilia's modernist credentials, it is Chandigarh. It was founded in 1947, after the division of British India when India and Pakistan became two separate dominions. Swiss-French architect Le Corbusier created the masterplan. Today, Chandigarh is one of the wealthiest cities in India, with a quality of life that is second to none in the country. The city's framing against the mountains, green space and hierarchical road planning make use of the natural geography of the site.



Under construction:  
**NUEVA SANTA CRUZ, BOLIVIA**

Cairo is the most spectacular project. But Egypt is not the only place in the world where new cities are being built from scratch. Take a look at how Latin America's boomtown Santa Cruz is doubling up.  
[www.volvoce.com/spirit](http://www.volvoce.com/spirit)





# REDEFINING SUSTAINABILITY

Think Florida, and instantly Disney and oranges come to mind, and rightly so, as tourism and agriculture are the state's first and second largest industries. Financially, greenhouse and nursery products are Florida's top leading crops, yielding \$1.79 billion per year, and Cherrylake is one of the largest producers of ornamental trees in the state, growing over one million trees a year on their 1800-acre farm in Groveland.

By **Amy Crouse** Photos by **Amy Crouse**



Ornamental potted trees were not the crop Cherrylake's founders, Veronique and Michel Sallin, envisioned when they move to Central Florida from France in the late 1970s.

"My parents started Cherrylake as a citrus company and were exporting to Europe. Then in 1983 and 1985 there were 100-year freezes in Florida, which killed off a lot of the citrus trees in the region. Everyone in the business was devastated, including our family. All the trees on our land were dead to the roots," says Cherrylake's president, Timothee Sallin.

**From adversity, Cherrylake** regrew into a stronger company. The Sallins moved their citrus crop to land farther south in the state with less risk of freeze, then reclaimed five burnt-out acres on the Cherrylake property, where orange and grapefruit trees once stood, as a proving grounds for a new venture.

"There were new methods in containerized growing that were producing a better root system. My parents felt they could leverage this technology and innovation to bring a better product to market," says Chloe Gentry, the Sallins' daughter and director of marketing and organizational development.

Today, Cherrylake grows a select mix of shrubs, palms and trees in containers up to 300 gallons in size, some of which can take 14 years to reach maturity for market. The most popular product is the live oak, a key-stone species in many of the states to which Cherrylake sells. Rounding out the inventory are magnolia, crepe myrtle, holly, maple, elm and Leyland cypress trees. Customers are wholesale commercial landscape contractors, theme parks and PGA golf courses.

"Our customers come to us because we provide true solutions that are unique and customized to each one of them. We produce quality trees that are sustainable and will thrive on their landscapes, and we offer services

"We put them to the test and they perform exceptionally well."

**HERMAN VAN DEN BOGAERT**

— whether it is logistics, horticulture expertise, or landscape installation — that can really bring them value," says Chloe. The plants at Cherrylake are zealously consistent in color, size, shape and fullness. It is the result of lean production transplanted into a nursery operation. This starts, quite literally, at the roots, in the greenhouse, where employees hand-plant thousands of cuttings and saplings per day. Over the next weeks, months and years they are repotted into larger containers and moved across the campus, undergoing exacting quality controls including precision pruning and targeted irrigation, before being selected for their end destinations.

**Lean production extends** to the farm's footprint. To maximize growing space, the entire tract is subdivided by plant type and age, with each compact section separated by narrow rows.

Since 2004, Cherrylake has relied on a stable of Volvo L20 and L25 loaders to handle virtually all aspects of the plant lifecycle.

"First and foremost, the L20s are used at our loading dock, fitted with forks, to load onto trucks. We also use them to pull trailers loaded with containerized trees or plant material, sometimes up to six trailers at once, several miles up and down sandy hills. With the customized tree boom attachment, we can transplant trees to larger containers. And with the auger attachment we can drill post holes for our trellis irrigation system. We put them to the test and they perform exceptionally well," says Herman Van den Bogaert, fleet manager. Some of the first L20B loaders Cherrylake purchased are still working with over 13,000 hours.

The Volvo L20 and L25 are compatible with skid steer attachments, one of the big selling points for Cherrylake. And at less than 6 feet wide, the loaders can fit completely inside a tractor trailer to load trees for shipping.

"When we choose equipment, there are three things we look for. Number one is quality. Second is serviceability. It's the serviceability for us to maintain it, and then the service of the dealer or manufacturer if we have issues beyond our mechanic's ability. And the third factor is obviously the cost. We're a business; cost is big," adds Herman.

## CHERRYLAKE

**Location:**  
Groveland, Florida  
**Employees:** 350  
**Established:** 1985





All eyes on our customer: USA

“When we choose equipment, there are three things we look for. Number one is quality. Second is serviceability. It’s the serviceability for us to maintain it, and then the service of the dealer or manufacturer if we have issues beyond our mechanic’s ability. And the third factor is obviously the cost. We’re a business; cost is big.”

HERMAN VAN DEN BOGAERT

**Speed is another** reason Cherrylake chooses the Volvo loaders, says John Comrie, product manager for Volvo Construction Equipment.

“The L20H travels at 19 miles per hour, so you can get around the farm quickly. And the Volvo patented center oscillation joint gives great stability over rough terrain when carrying heavier, unusual loads.”

Volvo loaders have two separate hydraulic systems, one for steering and one for work hydraulics.

“When Cherrylake’s operators are going through the rows of trees and they want to articulate or steer while lifting out tree boxes, they always have the maximum oil flow available so it makes work very smooth and efficient,” says John.

Volvo also increased cooling capacity with the H-series. The improved cooling when running high flow attachments gives longer life to components, especially in hot climates.

“I have referred Volvo to other partners – and competitors – in our nursery industry. If they didn’t work, I wouldn’t have 37 of them. I would encourage anyone who is thinking of Volvo to go to their local dealer and ask for a demo. Try it out. We’ve run them against all the competition and we are sticking with Volvo,” says Todd Gentry, director of operations.

Eric Beer, account manager with local Volvo dealer Flagler Construction Equipment, has worked with Cherrylake for a dozen years. In that time, he has seen an uptick in compact wheel loader acceptance with clients in other segments across Central Florida.

“The applications where they are a perfect fit are smaller jobsites to shuttle dirt, or residential areas with limited space but where you need lift and dump capacity to load into a truck. For landscaping contractors, these are the ideal machines to move mulch and small aggregate. Waste and scrap contractors are also adding more compact loaders into their fleets, equipped with a grapple bucket,” he says.

**A tree farm** is, by nature, a flagship for sustainability. But Cherrylake takes that to a higher level.

“We don’t want to just rely on the quality of our products but continuously find ways to improve how we produce it and minimize impacts on natural



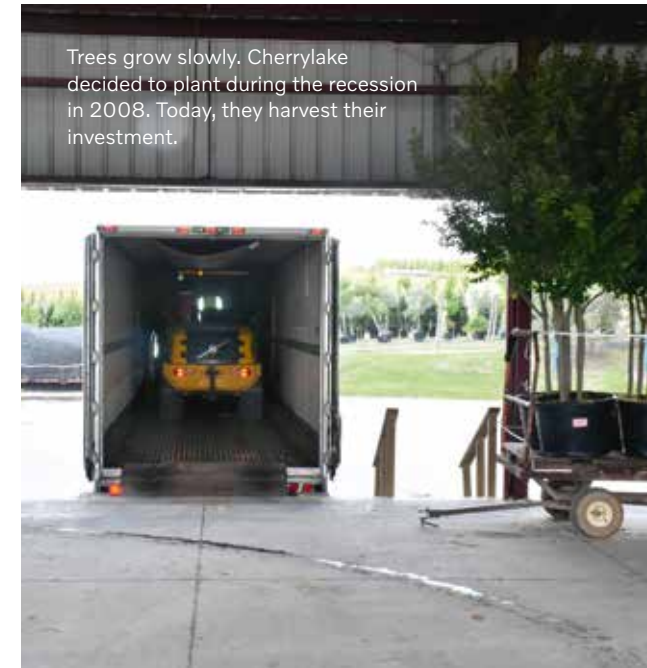
Todd Gentry, Director of Operations at Cherrylake.

resources. We do that through water management, beneficial pest management, and partnering with vendors and universities and customers to move the industry forward with the end goal; we are here to provide a sustainable product for generations to come,” says Chloe.

In 2016, Cherrylake was awarded the Agricultural Environmental Leadership Award from the State of Florida. Over the past five years, Cherrylake reduced its water consumption by 15 percent, while simultaneously increasing its production by 15 percent. They employ simple but effective methods, such as grouping plants with similar water needs in the same irrigation zones. In addition, the farm has converted to a new irrigation emitter that saves approximately 80 million gallons of water each year. They are also taking advantages of new agriculture technologies to reduce fertilizer and pesticides.

**Sustainability also refers** to a business philosophy that, on the surface, runs in the face of convention.

“Growing trees requires time and a long-term perspective. When the Great Recession hit in 2008, many nurseries were forced out of business as tree



Trees grow slowly. Cherrylake decided to plant during the recession in 2008. Today, they harvest their investment.

prices fell by over 50 percent. Most nurseries, including ours, were losing money for every tree sold. It was very easy for nurseryman to make the decision that it’s not a good time to plant,” says Timothee.

Cherrylake took the counter approach.

“We had the foresight to say, no, when other people are not planting, that is when you want to be planting. We had confidence the economy would recover and we believed the trees we planted would be of high value four, five, six years later, when the supply would be tighter. And that’s exactly what happened,” says Timothee.

Cherrylake has recently branched into specialized landscape and irrigation construction and maintenance services.

“We don’t define sustainability as, ‘once we accomplish this we can say that we’re sustainable.’ It’s rather something that’s always set in front of our employees, and we look for ways to be a little bit more sustainable and reduce our impact every day,” says Timothee.

On the business and production sides of sustainability, Volvo equipment helps contribute to those efforts.



Cherrylake reduced water consumption by 15 percent the last five years. Grouping plants with similar water needs is one success factor.



Going digital

# THREE DIGITAL DEVICES TO HELP YOU BUILD A BETTER TOMORROW

By **Katrina Schollenberger**

Apps do not just make it easier to communicate with friends, they are also increasingly important on our construction sites. We have browsed through the many devices and apps on the market and chosen three of our favorites for making job-site efficiency just that little bit easier to handle.



## CAB PARTNER

The system Volvo Co-Pilot provides machine management solutions at the touch of a button. Designed to support task accuracy, site safety and fuel efficiency, Volvo Co-Pilot boosts performance and profitability. The high-definition, touchscreen display hosts a variety of apps that provide real-time progress and intelligence for site tasks.

The Load Assist app, for instance, provides machine operators with load data using pressure and position sensors on the machine. It works by continually collecting load statistics and feeding it to the app's CareTrack telematics system. The data is then translated into easy-to-read information such as total transported loads per liter of fuel, total number of cycles, and total transported loads. This effectively manages overloading, preventing tire damage, machine wear and surplus fuel consumption. Similar technology provides efficiency and results for operators in apps like the Haul Assist, Dig Assist, Compact Assist and Pave Assist – all available on the device.

## SAFETY IN NUMBERS

Spot-r devices by Triax incorporate technology that has vastly improved modern construction site safety. The devices are connected to an all-encompassing Spot-r network cloud, reporting alerts to a dashboard regarding safety threats, manpower, and potential emergency scenarios. The wearable Spot-R Clip for workers intuitively detects jobsite falls including the area, person, and distance, improving emergency response time up by to 91%.

Spot-r Clips track worker attendance and provides real-time location information, enabling supervisors to oversee active areas. Spot-r EquipTag detects and records utilization of equipment, identifies unauthorised use of machinery, and senses workers with the Spot-r Clip that are in proximity of tagged machines. With unlimited user licences, all site workers can be equipped with the devices.



Photo by **Loop Rocks**



## ROCK AND ROLL

Loop Rocks seeks to change the way construction sites handle aggregates, cutting both costs and CO<sub>2</sub> emissions. The marketplace app allows users to view and request aggregates from advertisers around the world. Once an ad is responded to via the built-in messaging service, users can then arrange transportation and pay for loads – all from the ease of a smartphone or tablet. From largescale construction projects to smaller home improvement developments, the app's filter settings (materials, locations, dates) help to cater suitable aggregate ads to the user's needs. With environmental responsibility a key component for the company, Loop Rocks has saved up to 15,000 metric tons of CO<sub>2</sub> by reducing both mass and transportation distances.

Photo by **Triax Technologies**





# HE BUILT HIS CAREER ON ROCK-SOLID PERSEVERANCE

Wu Lianming started his career with only a hammer in hand. Today, the Zaozhuang Jinxing Group consists of 16 companies ranging from mining and construction to ecotourism and real estate.

By **Wang Chuanjun, Hao Houchen, Liu Lianjing, Yi Ning**  
Photos by **Liu Tao**

**W**u Lianming was born in 1968 in a small village called Xiazhuang, close to Zaozhuang in East China. He came from a poor family and left school early to start working and make money for himself and his family. Wu's first job involved using a steel chisel and a big hammer. It was a time-consuming and arduous job, so hard that many people gave up after only a few days. But Wu was not one to surrender easily. On the contrary, he began to like what he was doing.

"My first job trained me to become resilient and devoted to whatever task I have at hand. I took on more responsibility and strived to grow with every challenge. I still benefit from those abilities," says Wu Lianming.

Wu's determination and hard work led him to a point where he decided to start his own company. In 1998 Wu set up the Jinxing Blasting Company.

**Volvo machines have** been part of the Jinxing Group's business since the early 2000s. In 2004, Wu ordered his first

Volvo excavator, and during the next 15 years he ordered as many as 135 sets of Volvo equipment, ranging from excavators, loaders to hinge trucks.

After nearly 20 years of painstaking efforts, Jinxing Group has developed into a large private enterprise group comprising of 16 companies operating in eight segments including construction, mining, aggregate production, processing of building refuse, household waste treatment, real estate development, and ecotourism. For five consecutive years, the Group has made large contributions to the regional economic construction and social development in Zaozhuang.

**Wu has never** forgot his background. He is investing in schools in his home area and donates large sums of money to help children from poor families.

"I was born and raised in the countryside. I love the village where I grew up and I will do my best to keep contributing to my hometown," Wu concludes.



Wu Lianming

The Jinxing Group has ordered more than 135 sets of Volvo machines over the years.



"My first job trained me to become resilient and devoted to whatever task I have at hand. I took on more responsibility and strived to grow with every challenge. I still benefit from those abilities."

WU LIANMING,  
ZAOZHUANG JINGXING GROUP

## FACT FILE THE JINGXING GROUP

- **Earth and stone work:**  
The Group's blasting segment involves an annual volume of 3 million cubic meters.
- **Limestone and rock mining:**  
The Group excavates limestone for 5 cement enterprises.
- **Aggregate production.**
- **Processing of building refuse:**  
Building refuse from blasting work is crushed, sieved and grounded on-the-spot using movable crushing equipment imported from Sweden. The processed materials are then reclassified and supplied to cement enterprises for production of clinker and cement.
- **Construction and building materials:**  
Jinxing Group has its own building construction team and perforated brick factory. The latter uses coal ash generated in Zaozhuang and waste from cement enterprises to produce perforated bricks.
- **Mine restoration and treatment:**  
The Jinxing Group has worked to find a solution to this challenge. The group has a developed a technique used for example in the mine at Donggu Hill which lays the foundation for mine restoration and treatment work.
- **Household waste treatment:**  
Jinxing Group will form a project to drive the promotion of household waste treatment in surrounding provinces and cities.
- **Ecotourism:**  
Beginning in 2014, Jinxing Group invested in an ecotourism project in the southern part of Yong'an city.



# THE STUNT DRIVER'S TOP TIPS FOR FUEL-EFFICIENT DRIVING

He is the operator who performed a pull-up with his excavator in Volvo CE's much-talked-about film Pump It Up. And Adam Lindberg has more tricks up his sleeve – not as spectacular, but more useful. Here, the stunt driver shares his best tips on fuel-efficient driving.

By **Anna Werner** Photos by **Jonas Bilberg**

01



02

Photo by John Hertov



**01** Adam Lindberg, at Volvo CE's Customer Center in Eskilstuna.  
**02** On location at the Pump It Up campaign. Adam Lindberg with colleagues Arvid Rinaldo and Bobbie Frank.  
**03** Place your excavator wisely on site, for maximum efficiency.

03



**A**dam Lindberg works at Volvo Construction Equipment's demonstration site in Eskilstuna. Customers from all over the world come here to test drive machines they are interested in, and Adam Lindberg is their instructor out on the field. He has a background as a driver at Volvo events, and it was that experience that led to one of the most challenging roles in Volvo's renowned film Pump It Up. He was the driver that performed a pull-up – with his excavator.

"I was really nervous at first. But we took safety seriously. The excavator was attached to a mobile crane with chains, which had caught the machine if something happened," says Adam Lindberg.

**Adam Lindberg does** not perform spectacular tricks in his everyday life, but he is keen to share his knowledge of smart and fuel-efficient driving when he acts as instructor for Volvo's eco-operator training program.

Here, he shares his list on how to become a better excavator operator that drives more fuel-efficiently.

## **1. Do you have the right machine for the task?**

Consider the task you are about to perform. How large masses are you moving? Choose a machine that is suited for the job.

## **2. Have you chosen the right equipment for the machine?**

Choose tires that are adapted to the surface. But above all – choose the right bucket. A lot of drivers want to use as big bucket as possible, but that is not always the best choice. With a big bucket you can carry a big load, but it can wear out the machine. Sometimes it is more efficient to work with a smaller bucket to improve fuel economy as a whole.

## **3. What engine speed is best?**

For Volvo excavators, it is generally good with a rotational speed between G1 and G4, to drive as energy-efficiently as possible. Avoid heavy mode or power boost, unless you need to pull a really heavy load in a very short time. And not least, use Volvo's eco mode, it is an efficient way to save fuel.

## **4. What about placement on the construction site?**

Place the machine so that the cycles are kept as short as possible. For example, make sure to avoid fully extending the machine's dipper arm – the work will take longer, and you will use more fuel. Place yourself wisely.

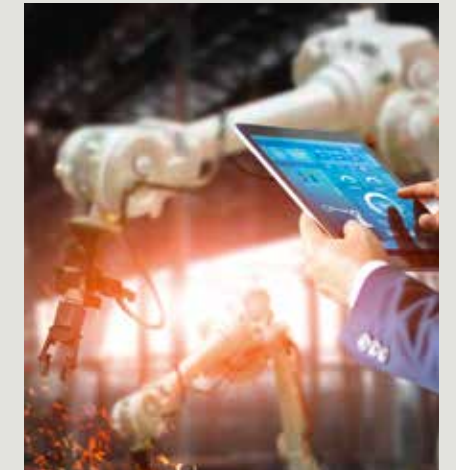


## BAUMA MUNICH APRIL 2019

Volvo CE presented sustainable innovations for its customers today and tomorrow at bauma 2019 with its most advanced portfolio of machines and services yet – all built on market-leading knowledge from across the Volvo Group.

The Volvo Group stole the show at this year's bauma exhibition in Munich, Germany. With Volvo CE, Volvo Penta, Volvo Trucks and Volvo Financial Services combining forces to offer a package of integrated products and services under the theme of Building Tomorrow.

Volvo Group energized its customers across the value chain with a pioneering display of product and service durability across its two stands – a 2,293m<sup>2</sup> indoor stand 203 in Hall C6, as well as a 5,870m<sup>2</sup> outdoor live demo arena and additional 297m<sup>2</sup> outdoor stand at FM714.



## POLL ON AUTOMATION

Artificial intelligence (AI) and automation is a source to both fear and optimism among construction workers. Half of all construction employees fear safety could be put at risk on job sites when AI becomes the norm. On the other hand, half of the workforce believes productivity will be increased with smarter machines.

The figures come from a recent survey among construction workers, carried out on behalf of Volvo Construction Equipment.

The poll reveals that safety tops job security as the number one concern connected to automation and AI, among construction workers. Among the respondents did 46% highlight the increased risk to site safety, compared to 31% who were anxious for their jobs. Meanwhile, loss of sociability (26%) and not knowing who to blame if something goes wrong (17%) follows in their list of worries.

On the other hand, smarter machines can also be cause for optimism. Over half of the respondents (54%) think autonomous machines and AI will be a boost to productivity, while 48% believe advanced technology like this will increase the speed of every day construction tasks.

Interestingly, a small number of those surveyed are divided on the topic of safety, with three in 10 workers confident that automation could actually make construction safer.

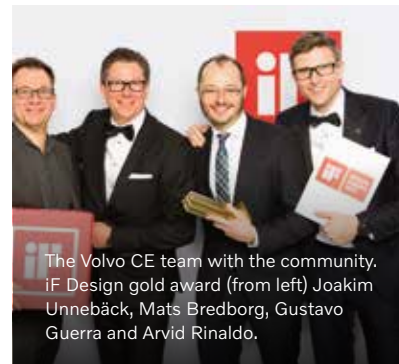


## VOLVO AND LEGO'S UNIQUE COLLABORATION WINS TOP PRIZE

Volvo CE's unique collaboration with LEGO has proven fruitful in yet another way. The Zeux play-set, created by multi-disciplinary teams from both companies, scooped a top prize at the design industry's most prestigious awards.

The gold medal in the iF Design Awards puts the Volvo and Lego in the same esteemed company as Ferrari, BMW, Apple and Samsung. A judging panel of 67 independent design experts stated: "This is more than a toy construction play set with a drone for young talents who want to improve their technical skills. Volvo and LEGO teams have combined their professional experience to create a constructive concept for future engineers. What a great way to get the next generation interested in complex thinking while playing!"

Showcasing clever innovations, such as a roaming eye camera boom and mapping drone – features that came to life following feedback from a focus group of children – the ergonomic wheel loader has been designed to bring a more human aspect to AI-driven vehicles. And not only did the extensive brainstorm result in a toy set released last



August, but it has also led to a number of potentially revolutionary patents.

The iF Design Awards are now in their 66<sup>th</sup> year and hold the enviable position of being the oldest and most celebrated design competitions in the world, welcoming more than 5,000 submissions each year from over 70 countries. Volvo CE's winning entry will be presented in the 'Design Excellence' section of the iF World Design Guide, the world's largest design portal, and will also be displayed at the iF design exhibition in Hamburg this spring.



# 5G

Telia, Ericsson and Volvo CE have launched Sweden's first 5G network for industrial use at Volvo CE's facility in Eskilstuna. Volvo CE is one of the first in the world to use 5G technology to test remote-controlled machines and autonomous solutions.

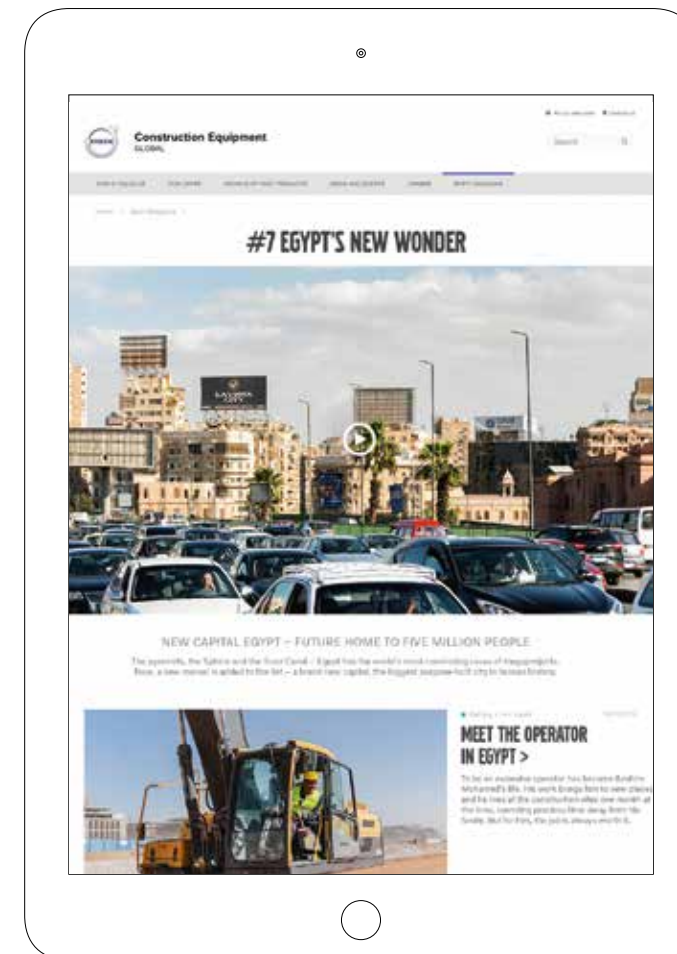
## VOLVO'S ELECTRIC ECR25 BUILDS A GARDEN FIT FOR THE ROYALS

Volvo CE's newly launched ECR25 Electric excavator was used to construct one of the main show gardens at the iconic Chelsea Flower Show in London, UK. Hot off the factory floor, it was the machine's first major construction project since its launch at bauma this April and a unique opportunity for Volvo CE to be part of a prestigious event attended by members of the Royal Family. The emissions-free machine worked on the site for 8 days in May to trench, excavate and help build the foundations of The Morgan Stanley Garden – one of the show's most renowned award-winning gardens built by celebrity gardener Chris Beardshaw. In keeping with the garden's sustainability theme, every feature within the garden itself was donated to the local community.



# SPIRIT ONLINE

The magazine you are holding in your hands is just one part of the new Spirit. On our global website [volvoce.com](http://volvoce.com), you will find more exclusive content from films to articles from around the world. Here are some highlights.



## ↑ FOLLOW MEGAPROJECTS AROUND THE WORLD

Florida, Paris, Dubai, Bolivia, Sundarbans and Cairo have one thing in common – they are all home to a mega project. In The Megaproject Listing we follow projects which re-shape society and truly build tomorrow.

Come with us to these fascinating places and meet the people working on the mega projects. Video material, on site images, interviews and more on [volvoce.com/spirit](http://volvoce.com/spirit).



## HOW CAN THE CIRCULAR ECONOMY MAKE INFRASTRUCTURE MORE SUSTAINABLE?

With a growing global population, the need for new infrastructure is becoming ever more prevalent. But how do we make it sustainable? Simple answer: combine it with investment in technological innovation, says expert Paul Toyne.



## WILL AUTOMATION EVER TAKE OFF IN CONSTRUCTION?

We took this key question to automation expert Paul Newman, co-founder of autonomous vehicle software company Oxbotica. He is leaning towards a yes – automation will take off in construction. "It is about supercharging humans", he says.

## VOLVO CE EXCEEDS WWF ENERGY SAVINGS TARGET TWO YEARS EARLY

Volvo CE has already surpassed its 2020 energy saving target as part of a global commitment with the World Wide Fund for Nature (WWF).

Read all about the news at [volvoce.com](http://volvoce.com)



# JUST LIKE THE REAL THING



The incredible true-to-life Volvo A60H Kids Toy from Bruder is a faithful replica of the real 60-ton engineering powerhouse by Volvo Construction Equipment – just smaller. Bringing construction to life in the imaginations of children around the world, the 1:16 toy model is a miniature marvel.

**Volvo Construction Equipment**  
Building Tomorrow

