

“Mega-trends drive demand for solutions”



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DUPONT WATER SOLUTIONS

DuPont Water Solutions is preparing to be separated out from the mega-firm Dow DuPont as part of the new DuPont company in June 2019. Global vice president and general manager HP Nanda explains why expectations are favourable

Hara Prasad Nanda - or HP as he is known - is as bullish as you'd expect of a vice president about his business's outlook. The mechanical engineer-turned-business leader was appointed global vice president and general manager of DuPont Water Solutions in January 2018. The business forms part of the Safety & Construction segment within DowDuPont's Specialty Products division (see graphic p10). The mega-size DowDuPont was created through the merger of Dow Chemical and DuPont on 31 August 2017. The group reported \$86 billion of annual revenue in 2018.

Nanda will this year steer the water business through the group's upcoming separation into three companies. The Materials Science division will be spun out to form new company Dow on 1 April 2019. On 1 June, new firm Corteva Agriscience will be created by separating out the Agriculture division. And the remaining business named Specialty Products - which includes Water Solutions - will become DuPont.

GDP-plus growth

Nanda has worked for DuPont for 21 years. He joined the company in his home country of India in 1998, and moved with the business to Taipei, Taiwan. Then came senior roles at DuPont's then \$600 million Asia Pacific business in Shanghai, China, in 2008, before a move to the US in 2015. Nanda's knowledge of company culture will undoubtedly be useful in guiding the business through the change that lies ahead.

The challenge, as in any business transformation, will be to maintain performance amidst the structural overhaul. The figures for 2018 tell a good story, Nanda says. Business is growing at 1.5 to 2 per cent above annual increases in gross domestic product (GDP) in each of Water Solutions' regional markets. The GDP growth works out roughly as follows, according to World Bank data China 6.5 per cent, South East Asia approximately 6.3 per cent, India 7.3 per cent, and Middle East and Africa approximately 2 to 3 per cent. The water businesses' implied growth is therefore 1.5 to 2 per cent above these levels in each market.

Nanda says that these healthy regional growth rates result from "the global mega-trends that are supporting the demand for our solutions". These mega-trends are "growing populations, lessening quality of water, constraints on wastewater and the growth of the semi-conductors industry," he adds.

Jubail factory

DuPont Water Solutions has built a new, large-scale membrane manufacturing facility in Jubail, Saudi Arabia, to help keep up with the rising demand. "This is our second

big industrial reverse osmosis (RO) membrane manufacturing plant and the only one outside of the US, where we have our mother plant in Minnesota. The new facility has the same capabilities and quality standards as in the US. We have fabricated RO elements there for two years. We introduced end-to-end membrane production there in December 2018," says Nanda.

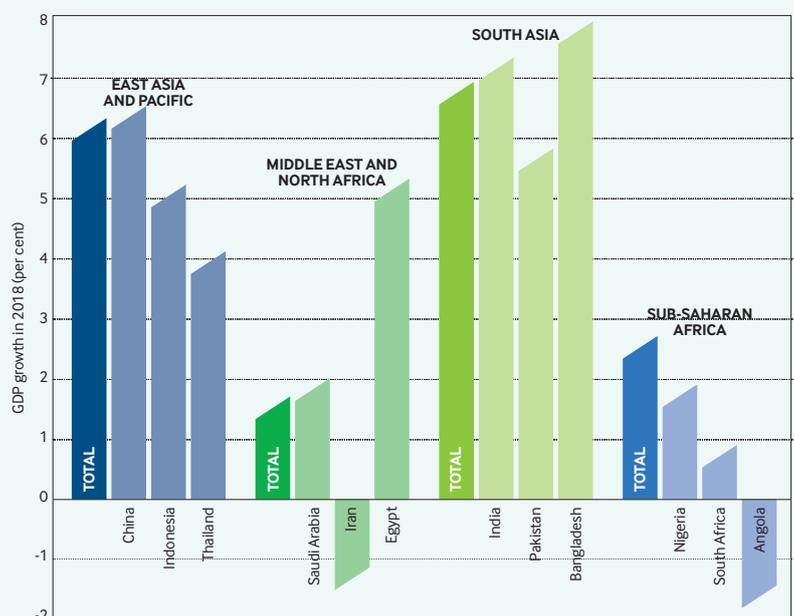
The Water Solutions portfolio combines parts of the DuPont and Dow product lines. It includes the Dow Filmtec Fortilife reverse osmosis elements and Fortilife XCN ion-separation membranes, Dow ultrafiltration membranes, particle filters and electro-deionisation products.

The facility will begin full commercial production of membrane products from late Q1 or Q2 2019. They will be distributed from the Saudi site to markets across the Middle East, Africa, South East Asia including Singapore and Indonesia, India and China. The new plant is intended to reduce lead-times on membrane products which have sometimes "been longer-than-expected," says Nanda. "We want to go where the growth is. We want to be closer to our

HP Nanda started out as a mechanical engineer in the oil and gas industry, then studied for an MBA, before joining DuPont India in 1998

World regions' GDP growth

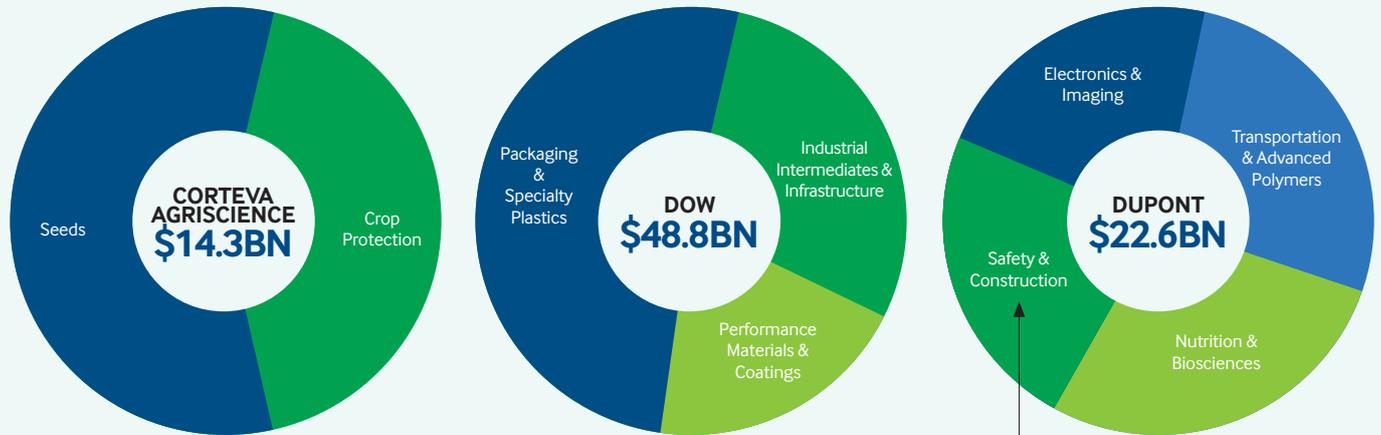
DuPont Water Solutions' business is growing at 1.5 to 2 per cent above annual rises in gross domestic product (GDP) in the five sub-regions China, South East Asia, India, Middle East and Africa.



Source: World Bank global economic prospects January 2019. Estimated GDP growth, 2018.

The new DuPont company will include Water Solutions

Dow DuPont's three business divisions will be spun off into separate companies during 2019. DuPont Water Solutions is a business division of Safety & Construction within DuPont. The water business will form part of the new DuPont company from 1 June.



* The Water Solutions business forms part of Safety & Construction. It combines parts of the DuPont and Dow portfolios. The product range includes Filmtec Fortilife reverse osmosis elements and Fortilife XCN ion-separation membranes, and ultrafiltration membranes, particle filters and electro-deionisation products.

customers. We have to do this today in order to do business," he adds.

"In the Middle East, desalination remains very strong with a number of big desalination projects. As a technology provider our job is to sell our value. We bring product quality and peace-of-mind from technical support on the ground. The Middle East is a classic case where we have technical and sales and marketing teams," Nanda says.

Bigger, better, bolder

The business' ambition is encapsulated in Nanda's three Bs strategy: "Bigger, better, bolder." Bigger is, perhaps, the most self-explanatory. "Getting bigger is going to be critical. There are still hundreds of customers and many new countries that we are yet to reach," Nanda says. In other words, if Water Solutions can capture a healthy share of the new growth markets it can then use that initial foothold to deepen market penetration.

The second B, "better", represents a softer form of competition that centres on partnering with third parties. "We are ready to reach out to end-users, systems integrators, distributors and others to grow that mindset of collaboration," says Nanda. The idea here is to develop and grow business opportunities by developing mutually-beneficial relationships with other organisations.

Finally, "bolder" refers to developing solutions for the most challenging problems which exist within these growing markets. "The big challenge we really have to solve is minimal liquid discharge (MLD). It's very rarely the case that one technology can work. We have to bring in multiple technologies. This challenges the existing paradigms and tests us to create new solutions," says Nanda.

The demand for MLD technologies in China is strong. The Chinese market is a "big focus area," Nanda says. The business has set its

sights on the household market in tier one, two and three cities. The model is to sell membranes to manufacturers of household water purification units. "There are hundreds of brand owners in the market," he adds.

Tradewinds

The demand for MLD solutions is high among industrial end-users in China particularly, after new regulations on wastewater discharge were introduced. The semi-conductor manufacturing industry is seeking solutions. DuPont Water Solutions has designed and executed a project for the largest paper manufacturing company in China.

The project is one of the largest installations in the world comprising 10,000 Dow Filmtec Fortilife CR100 RO elements and 3,000 Dow UF modules. Nanda describes the CR100 as "the best from the new innovative portfolio." The Water Solutions team worked closely with the client to design the system. The project needed to be sympathetic to existing processes and handle the complexities of the wastewater streams. The new MLD system has increased the proportion of water reused at the site from 40 to 90 per cent. The volume of wastewater discharge was cut to five million m³/y, down from 50 million m³/y. The project completed within 18 months.

Notwithstanding the opportunity, the business outlook has its challenges. Water Solutions has raised the price of its RO membranes and ion exchange resins this year by varying amounts according to region and application. The price rise for RO membranes was five to 10 per cent, and for ion exchange resins five to 20 per cent. (The move may reflect the cost of new tariffs introduced by jurisdictions such as China in response to US import tariffs.) Still, given the strength of the mega-trends blowing across the East, Nanda says: "We are developing our business and growing it nicely. My

expectation is very favourable because these mega-trends support the need for solutions."

As a technology provider our job is to sell our value. We bring product quality and peace of mind from technical support on the ground.