stead of pricier, petroleum-derived naphtha (the feedstock typically used outside America) to make chemicals.

The cost advantage is most evident in the "shale crescent", a gas-rich swathe of land the size of Germany that includes parts of Ohio, Pennsylvania and West Virginia. Not only is the ethylene produced there much cheaper than naphtha abroad, but making more sophisticated chemicals and plastics in this region also saves on transport costs since much of American manufacturing is close by. Royal Dutch Shell, a European oil giant, is building a $10bn chemicals complex in Pennsylvania.

Exciting stuff, but there are potential snags. One is inadequate infrastructure. Mark Lashier, boss of CPC, is worried about congestion at Houston's busy port and so has invested in alternative routes involving both rail and sea. Shell's Graham van't Hoff observes that in Texas and Louisiana, "you just connect to a gas pipeline and off you go." In contrast, the shale crescent requires a massive buildout of pipelines, ports and logistics facilities.

Another potential obstacle to expansion is rising costs. The capital cost of a new petrochemical plant is at least 50% higher in America than in China today, estimates IHS Markit. Because of its many fallow years, the American chemicals industry has lost a generation of talented field managers, welders and other workers. Labour shortages are a big headache and expense.

The darkest cloud, though, is politics. Consider Mr Trump's tariffs on imports of Chinese steel and aluminium. Dow says that the steel tariffs alone will add $300m to the cost of its new plants in Texas, and threatens to build its next facilities in shale-rich Argentina or in Canada instead. The ACC observes that China imports 11% of all American plastic resins, noting with alarm that 40% of the American products to which China has assigned retaliatory tariffs are chemicals. This tit-for-tat may, in the end, prove mostly bluster. However, it would be rum indeed if Mr Trump's efforts to support local heavy industry ended up derailing the ongoing revival of America's once-moribund chemicals sector. ■

Volkswagen

New hands on the wheel

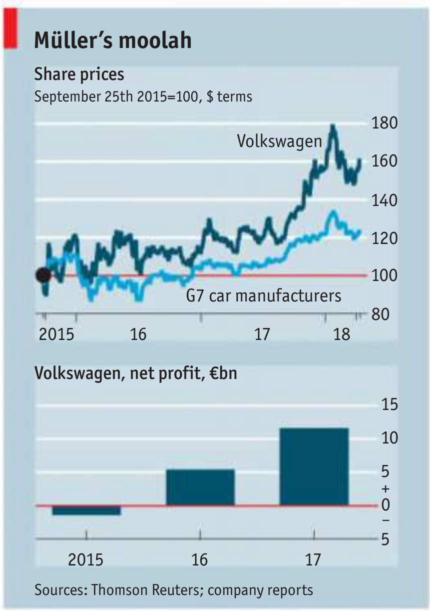
The unexpected departure of the boss of VW heralds a big shake-up

MOST chief executives relish a jump in their company's share price. But spare a thought for Volkswagen's Matthias Müller as he watched the gauge of value leap by 4.5% on April 10th. That was galling because investors were responding to rumours, in effect promptly confirmed by VW's board, that he was to depart this week after less than three years as head of one of the world's top three carmakers.

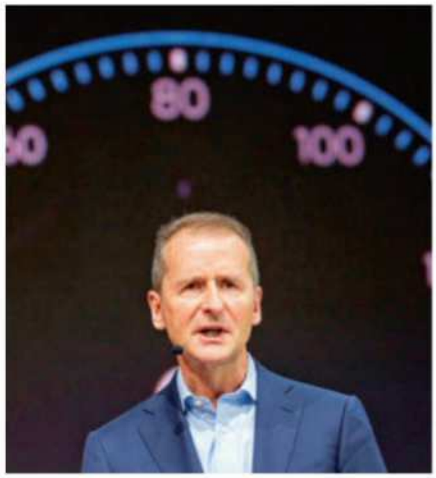
The pensive Mr Müller, 64, rarely had the air of a man enjoying the limelight. His contract ran until 2020, but he had become increasingly frustrated at internal opposition to his efforts to change the way the company was run in the aftermath of "dieselgate", a crisis sparked by VW's rigging of car-emissions tests. To an outsider, changes such as more decentralisation and the sale of peripheral businesses hardly seemed controversial. But they were too much for some. He may be happy to go; the board referred to his "general willingness" to accept the pending management shake-up.

The supervisory board's motivations are mixed. One is that a new face could help VW move on from dieselgate. Mr Müller, a long-serving insider, was installed in September 2015 to handle the furore. In the aftermath he faced a slump in sales of diesel cars, the jailing of staff in America and a bill of some $30bn (made up of fines and the cost of buying back vehicles from aggrieved consumers).

Mr Müller handled a difficult job competently. VW today is back to roughly the same financial shape it was in just before the scandal broke in mid-2015, with a market capitalisation of some €85bn ($105bn). Its share price has outperformed those of its peers. Last year it doubled profits and sold a record 10.7m vehicles.



Sources: Thomson Reuters; company reports


From dieselgate to Diess?

Investors now want more than competence. As *The Economist* went to press, the most likely replacement was thought to be Herbert Diess, who was also expected to keep his current job as head of the VW brand. As a recruit from BMW who arrived only in mid-2015, he can be presented as an outsider untainted by VW's old scandals.

As important is his reputation for keeping down costs. He has been effective in his handling of influential trade unions, and is likely to press for more efficient use of costly capital goods such as robots—the firm is notorious for investing heavily in them to little avail. Bernstein, an equity-research firm, wrote in January that "periodically, VW decides it needs to improve its competitiveness and profitability—and brings in an outsider to help it with this task." It sees Mr Diess as the latest white knight, able to accelerate cashflow and profits.

The challenges are numerous, though. VW still needs to simplify its sprawl and focus on fewer brands. That is easy to say, but unions, fearing job losses among 640,000 staff, oppose any shrinkage. In December they blocked even Mr Müller's modest sale of Ducati, an Italian motorcycle brand of no strategic importance.

Above all, the firm has to place a bet on the future of the car itself. Mr Müller had made it a priority to persuade shareholders, as well as engineers devoted to the internal combustion engine, that electric vehicles (EVs) are the way to go. He promised that VW would launch a new battery-powered car almost every month, from next year. In March VW said it would equip 16 plants (up from three) to build EVs in the next four years. It also says it has deals with suppliers for batteries worth €20bn. Such actions will not spare Mr Diess, if indeed he is the next boss, a huge strategic question: of all carmakers, should VW have the biggest electric ambitions? ■