

## Statement at Press conference – Opening of ACHEMA 2018

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(The spoken word takes precedence.)

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### I. The business situation of the German chemical-pharmaceutical industry

Ladies and Gentlemen:

The chemical-pharmaceutical industry in Germany is a strong and innovation-oriented core industry with over 450,000 staff. At present, it is doing very well economically. 2017 was a record year for chemistry. In 2018, some 2,000 companies want to build on this excellent development, and it looks like they can succeed: We had a positive start in the present year. In particular, exports in the EU developed encouragingly. For 2018, we are generally expecting good business to last – with a production increase by 3.5 percent in this year overall.

**Chart 1**  
Key Figures  
2017 and  
Forecast 2018

However, there are also some negative aspects, as the geopolitical risks for setbacks in the global economy have further increased most recently. Above all, there is uncertainty about the protectionist trade policy of the United States. China's industrial policy strategy is not unproblematic, either: The People's Republic buys European companies in a targeted manner, in order to close technology gaps – while keeping direct investments in China difficult for foreign companies. This unequal treatment impairs international cooperation.

## II. Topics at ACHEMA 2018

Apart from that, the German chemical industry has excellent prospects in the long term too. This is also because our companies see the chances of digitalisation and circular economy and valiantly make them a reality.

Both developments are the current drivers of change in our industry: towards even more sustainability.

This is precisely what the organisers of the world's leading show for the process industry might have had at the back of their minds when they decided to make a focuspoint on climate protection, resource conservation and digitalisation. Thus, ACHEMA depicts exactly those trends that are high priorities for German chemical companies.

I am particularly pleased that ACHEMA here in Frankfurt highlights the promising approaches for the innovative solutions of tomorrow. This is important – because with the current state of technology alone we will not be able to solve the huge challenges of the future.

## III. Solutions for climate protection

Innovative solutions are called for, particularly in climate protection. Realistic reduction pathways are needed for these greenhouse gases if the global climate goals under the Paris Agreement are to be reached.

Especially regarding climate protection, there are – quite rightly – great expectations to the chemical industry:

- Production in our industry is to become less CO<sub>2</sub>-intensive and even greenhouse gas-neutral in the long run. By cutting our CO<sub>2</sub> emissions by half since 1990, the German chemical industry has already achieved much in this respect.
- Our industry is to make contributions to resource efficiency and climate protection in customer industries. The companies increasingly do so. Ever better performing products help cut CO<sub>2</sub> emissions in use. Some examples are light-weight construction materials, insulants or new materials for energy storage.
- Last but not least, the chemical industry is to develop alternatives to today's largely fossil raw material base (oil, natural gas), in order to also reduce the greenhouse gas emissions associated with products at the end of their lifecycles.

**Chart 2**  
Decoupling  
Production and  
CO<sub>2</sub> Emissions

In Germany, many clever minds in science, research and industry are already working on these tasks. Their common goal: contribute to “decarbonisation” as is sought by society and politicians.

Let me note that the term “decarbonisation” is misleading in respect of our industry. A total carbon phase-out cannot be a meaningful goal for the chemical-pharma-ceutical industry whose products largely build on carbon-containing raw materials. Quite the contrary: The chemical element carbon and its compounds are and remain the material basis for our production. Therefore, our goal is “greenhouse gas neutrality” and not “decarbonisation”.

In order to get closer to greenhouse gas neutrality, it is ever more important to manage carbon in cycles. We do so, for example, by recycling carbon in various recycling methods. But we also give more emphasis on the use of non-fossil resources.

- In this context, I would mention, for example, the manifold efforts to use renewables, mainly in biotechnological processes.
- We are also working to use CO<sub>2</sub> as a direct carbon source for organic chemical production. You know such processes as “carbon capture and utilization” – or CCU, for short.
- Moreover, today the pyrolysis of plastic waste is again being tested as another raw material source for basic chemicals.

**Chart 3**  
Circular  
economy /  
closing the  
loops

Not all projects already deliver marketable products. Companies need time and patience for their realisation. According to a study by DECHEMA, it will be technically feasible to produce the most important basic chemicals in a more climate-neutral way by resorting to CO<sub>2</sub> as the basis. However, this would take enormous amounts of electricity from renewable sources:

The complete changeover of our industry to CO<sub>2</sub> as raw material would require – for the production of the necessary hydrogen – an amount of electricity that equals today’s total electricity consumption in Germany. At present, it is open whether wind and sun can make this possible at affordable prices in Germany and Europe. To give you some orientation: At the moment, the share of “green” electricity is only one third of power production in Germany.

It takes more than technical feasibility for research projects to lead to concrete applications – and it takes more than the efforts from just one industry to cope with the energy transition Energiewende. For this purpose, all stakeholders in the value chain “renewable energy” need to cooperate as partners. Planning security

is an important prerequisite for the companies. This calls for suitable and reliable political framework conditions.

In particular, this holds true for the challenge of climate change – a challenge that cannot be solved regionally and in no way by national go-it-alone action. This means for us: A climate-neutral chemical industry is thinkable only globally.

But we are still a long way away from global harmonisation. The reality is that the EU has set comparatively high and concrete climate goals and enforces them through the EU emission trading scheme for the energy sector and industry. So far, there are no comparable ambitions in many other regions of the world.

Up until now, the climate policy has no global structure. However, it needs to result in a level playing field in competition, both for the chemical industry and other sectors with significant CO<sub>2</sub> emissions.

Therefore, the VCI speaks for a global pricing of CO<sub>2</sub> emissions. The same conditions should apply at least for the countries of the G20, as 80 percent of global CO<sub>2</sub> emissions worldwide fall to their share. Also, they have well-established channels of negotiation, so that a political agreement would be difficult to reach but is within the realm of the possible if all countries take climate protection seriously.

A global CO<sub>2</sub> price could be determined in an emission trading scheme as in the EU or – in a political approach – it could be laid down as a uniform CO<sub>2</sub> tax. It is important that this prevents distortions of competition and a relocation of productions away from Germany or the EU. Climate protection needs to be organised worldwide as efficiently and favourably priced as possible – and it needs to allow further growth and prosperity gains. We can motivate other regions to join the effort in the first place only if these conditions are met.

#### IV. Digitalisation and circular economy

Climate protection is just one important facet in the present era of the chemical industry which we call “Chemistry 4.0”. At many stands of ACHEMA yet more fields of work can be seen and experienced. These include digitalisation and resource conservation where the German chemical industry is among the trailblazers too.

Digitalisation is nothing new for chemistry in Germany: Many companies have already automated their productions through digital control. Now, ever more companies are also putting their own digital business models into place.

**Chart 4**  
Digitalisation  
in the chemical  
industry

The use of big data brings new opportunities for our industry. This instrument supports better targeted research and more efficient production, and it enables a faster development of solutions tailored to the customers' wishes. Today, companies cannot only interlink their own operational processes. Increasingly, they are also part of digital networks with their customers for a more successful cooperation.

For this reason, German chemical companies want to invest 1 billion euros in digitalisation projects or new digital business models in the next 3 to 5 years. Add to this every year several billions of euros for the development of resource-saving innovations.

Especially digitalisation and the sparing use of scarce resources are closely linked with each other and enable further progress in the circular economy.

Meanwhile, "circular economy" is an often used term in Europe – and a focus in European politics. Circular economy comprises various approaches. Inter alia, it is about creating substance loops. Here, big data and digitalisation are of help. In the future, more and more items of information will be collected across the entire life cycle of products. Such data can be used, for example, by product recyclers for the recovery of raw materials.

Furthermore, the collection and evaluation of digital data streams make predictive maintenance a reality for large-scale plants. For example, in steam crackers several thousands of sensors can measure process data – such as temperature and pressure in the reactor – around the clock. This makes an optimal control of plants much easier, facilitates real-time monitoring and reduces maintenance times. For these reasons, predictive maintenance is likely to become the technical standard of the future in large-scale production plants everywhere. The picture is comparable for pumps.

Furthermore, digitalisation opens up new niches in the market for start-ups. Some of their business models do not need own capital-intensive production facilities in the background. All this shows that Chemistry 4.0 is already fully underway.

## V. Chemistry and sustainability

Ladies and Gentlemen:

A sustainable management style is a prerequisite for the successful future of the chemical-pharmaceutical industry in Germany. Therefore, this is at the core of a strategy for our industry's future within our sustainability initiative Chemistry<sup>3</sup>. We are working to underpin sustainability as a guiding principle in all companies of the

Chart 5  
SDG and  
Chemistry 4.0

industry. With this, we are on the right way – as is shown by the 17 Sustainable Development Goals of the United Nations where our industry makes manifold contributions. Here, resource efficiency and climate protection have an important role. The German chemical industry is a major driver of innovation in these fields, which is emphasised at Achema 2018 too. I am certain that sustainability needs more chemistry, not less.

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