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PROFILE

Interview with Karl-Heinz Streibich on "Artificial Intelligence"

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Karl-Heinz Streibich is President of acatech – National Academy of Science and Engineering. From 2003 until 2018 he served as chairman of the executive board and CEO of Software AG.

BISE How are things going for you in these times, both privately and professionally?

Streibich I am fine. Privately, I spend more time with my family, which is unusual but valuable. Professionally, I feel drained by the large number of video calls. The experience of having 8-10 video calls per day is very exhausting and new. However, I have learned to manage my resources a little better.

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BISE You had an incredibly successful time as CEO of Software AG. Many people claim that you have saved Software AG. What exactly made you join acatech?

Streibich The voluntary work as acatech president is very intensive – it is the perfect choice after a strenuous demanding professional life (laughs). But honestly, this position is closely connected with Germany's and Europe's goal of achieving technological sovereignty in the digital world. We will only maintain our standards of living if we continue the recent decades' success in future innovations, and particular in the digital world. For achieving this success, we need digital sovereignty: A society that understands and evaluates technological change in a responsible manner as well as an economy and public sector that pushes ahead with technological progress.

BISE How will artificial intelligence change the future of companies, and what advice would you give companies who want to get involved in AI now?

Streibich AI is simply the next evolutionary step in using IT and digital systems, nothing more and nothing less. AI, therefore, represents the fundamental basis for technological development in the digital world. Most of the new intellectual property (IP) of companies is digitally mapped, which is different from classical IT. Neither ERP software nor CRM software are part of the IP. However, the data within it is, of course, company property. AI adds value from this data. Thus, AI is simply the next level of technology, and it is indispensable to master the application of AI proficiently.

BISE What do you see as the greatest challenges for companies when they want to use AI algorithms?

Streibich One of the main challenges is that preparatory work has been done. We have developed a platform called "Lernende Systeme" for artificial intelligence, which offers guidelines and application scenarios that help companies to establish AI. These guidelines are available online. One exciting example is the support of AI-based assistance systems in case of an outbreak of fire, e.g., in a chemical factory. The use of intelligent robots could be helpful in such dangerous situations. Unmanned ground vehicles could support rescue teams and analyze hazardous situations with the help of multi-sensors. They could monitor the condition of rescue teams and update the situation in real time. It is essential to understand that not merely large companies profit from AI but also medium-sized businesses and the public sector. For example, SMEs can use their already established "feedback loops". They could continuously gain training data from their interaction with customers and improve their data-driven services. The guidelines, therefore, contain many recommendations for SMEs. One of these suggestion is to establish AI in the long term. This can be achieved through strategic research cooperation to create data science competencies.

BISE What do you expect? How will AI change the work of employees?

Streibich There will be many AI-based assistance systems in every aspect of our business: "Ask the computer first, then decide" will be a common way of working, which is definitely a fundamental change.

BISE Do you worry that AI may cause unemployment?

Streibich In the last centuries of technological progress, the amount of work has increased due to technological advancement. If technical progress is not used for a company's economic benefit, unemployment will occur because then companies will collapse. During the Industrial Revolution, machines took over jobs in farms and factories. Many jobs disappeared but new work emerged. Railroad workers, telephone operators, people guiding helpless drivers through the streets, and lantern lighters are jobs that do not exist anymore. It is easy for us to see how machines are replacing these jobs. Simultaneously, technology enables new products, new services, new business models, and new jobs. For example, specialists are needed who design and maintain technologies, and sometimes whole new industries build on technologies. Furthermore, companies become more productive and can offer lower prices. That means consumers can buy more of their products. Such processes have improved standards of living over time, and workers are always required.

BISE Data is used to train self-learning algorithms - what are the problems with collecting AI training data?

Streibich The collection of data is a difficult challenge for companies. Think of the organisational silo mentality of companies, which makes it challenging to work across departments. Moreover, consistent data across applications to ensure high-quality data sets for AI applications pose another challenge. In other words, managing heterogeneous IT landscapes is an issue. However, self-learning is not only about collecting data. It's also about data science, choosing algorithms, and encoding rules to represent specific knowledge.

BISE What are the impacts of data protection and the GDPR on collecting and processing training data?

Streibich Data protection is essential, and the legislator has already put it in place. Without data protection, people cannot trust and accept innovative technologies.

BISE Please let us briefly discuss the hotly disputed topic of artificial intelligence and ethics: What do you think? Is the debate justified and necessary?

Streibich This debate is legitimate. In the case of autonomous systems, even if they only assist humans, AI proposals must follow our ethical principles. Humans are influenced by their conscience when making decisions, but software and algorithms are invisible, so ethics by design will be crucial to autonomous systems' success.

BISE Which application areas for AI do you find exciting when you look into the future?

Streibich All AI-based assistance systems, I make no distinctions here. The most valuable will be those which actively consider ethical and moral principles. Of course, everything that concerns predictions is exciting and there is no limit to imagination - an old dream of mankind is to predict the future. We will see if we come as far as described in the book "The Singularity is Near," I am convinced we will!

BISE What do you think - how are Germany and Europe positioned in the global AI market?

Streibich That depends on the economic success of Germany, i.e., on our ability to develop, build, sell information systems, and sell many of them. There is still more economic success for us out there to achieve.

BISE One more final question: You will return to Software AG as chairman of the supervisory board. Congratulations on your election. What goals do you want to achieve in this new position?

Streibich I will continue to expand global economic success based on good corporate governance to provide an attractive economic foundation for all stakeholders, employees, customers, partners, and investors. These are also the operational management goals which we seek to accompany in a constructive, critical, and team-oriented manner.

BISE Thank you very much for this interview and for your valuable time.