



LEADERS INTERVIEW:

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"WHAT WE SEE MORE AND MORE ARE PLANTS OPERATING WITH SEVERAL DIFFERENT ENERGY SOURCES AT ONCE (E.G. BIOMASS, WIND, SOLAR AND BATTERIES). SPPA-T3000 CAN ALSO ANSWER THE REQUEST OF THESE HYBRID PLANTS, AND HAS ONBOARDED FORECAST FUNCTIONALITIES."



Today we sit down with Dieter Fluck, of [Siemens Energy](#), the Siemens spin off company launched earlier this year that

combines the worlds of conventional and renewable energy. This new organisation will have a particular focus on harnessing the expertise and insight of Siemens to support their customers transition further to a more sustainable world. Dieter has held numerous positions in his time at Siemens Energy and joins us exclusively to discuss the benefits of automation, sustainability developments, the impact of COVID-19 and more.

Luke Upton (LU): Thanks for joining us today. For our readers working with biomass, but are new to opportunities around automation, could you give a brief introduction to what it is?

Dieter Fluck (DF): My pleasure Luke, the automation system or more exactly the Distributed Control System (DCS) is the "brain and central nervous system" of the plant and ensures reliable and predictable plant operation for maximum performance. The DCS is designed to operate processes in a plant without the permanent interaction of people at site. It collects all relevant data from the plant, monitors and controls the plant.

LU: Thanks, so with this in mind, what are the most important aspects of an automation system?

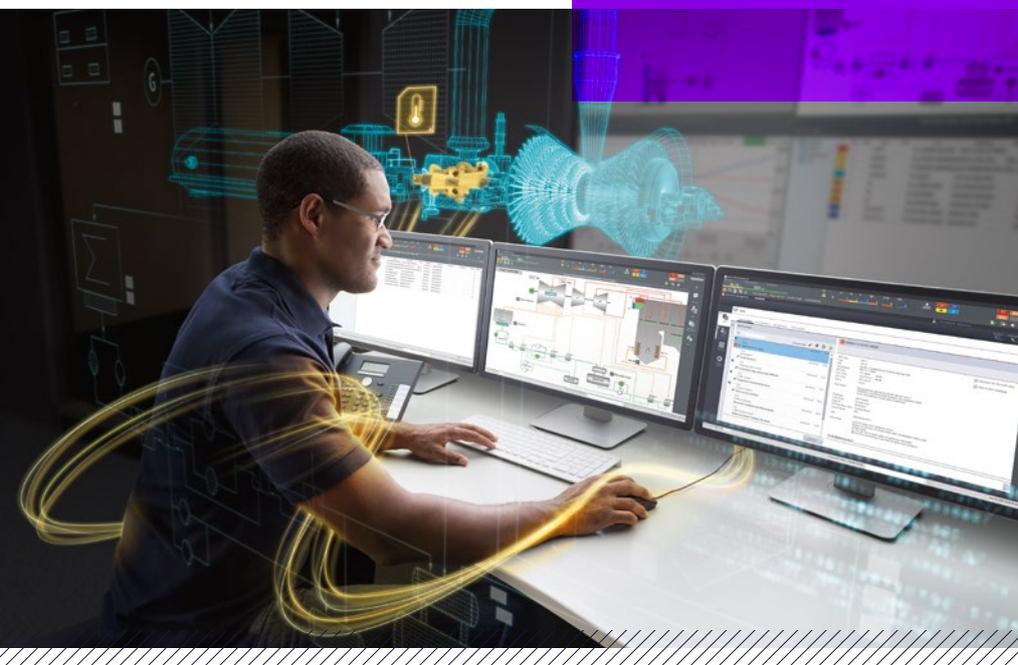
DF: The DCS must be designed to perform all tasks safely and reliably. The operator's

performance is crucial for the performance of the entire plant. A modern intuitive User Interface is key for efficient and effective operation. Serviceability is also important and is one of the key characteristics of our DCS, the SPPA-T3000, as it comes with a built-in redundancy concept which boosts both the online upgrade / update capabilities and the installation of security patches.

LU: Just to focus on bioenergy plants, can you give some specific examples of how automation benefits (efficiency, operator effectiveness, plant availability, costs, etc.) are achieved?

DF: The reliability and predictability of bioenergy operations greatly depend on the control room operator's ability to take the right action at the right time. The DCS should be specifically tailored to the operator's tasks and requirements. As with the SPPA-T3000, it should feature intuitive and safe operation, ergonomic design, and adaptability to the needs of each plant supports the operator during daily routines as well as during critical situations. This improves operator effectiveness and efficiency – and directly affects the availability of the entire plant's operations.

At Siemens Energy, we believe it is important to develop durable systems and to support them for the entire lifetime of a power plant. Upgrades, migrations and concepts for the transition to new technologies are an integral part of our system development from day one. With the SPPA-T3000, different generations of control systems can run in parallel. This



provides the flexibility to tailor lifecycle concepts to specific requirements. Innovations and technical advances are designed to be integrated without system changes – for long-term stability due to a future-proof system.

LU: With scale up, and commercialization always challenges for the growth of the bioeconomy, how is Siemens Energy's work with automation helping the growth of the sustainable business?

DF: Bioenergy plants definitely bring new challenges for automation. The plants are often smaller and the combustion performance of the biomass is less stable than fossil fuels. The Siemens Energy solution SPPA-T3000 has introduced new compact solutions for these new markets, which also bring targeted functions. Siemens Energy has developed new combustion concepts as an example, which allow the combustion to be kept stable, even with different degrees of humidity of the Bioenergy or Biofuels.

SPPA-T3000 offers a multi-unit function that allows several systems to be bundled and operated centrally. Siemens Energy has also increased the degree of automation of the systems in order to minimize the operating costs and to allow the systems to run in a semi-automatic mode. This means that an operator can control and monitor multiple systems at the same time and also take on additional work. What we see more and more are plants operating with several different energy sources at once (e.g. Biomass, Wind, Solar and batteries). SPPA-T3000 can also answer the request

of these hybrid plants, and has onboarded forecast functionalities.

LU: As Siemens Energy has such extensive experience in this sector, what are some of the major changes you've seen when it comes to automation in power plants.

DF: Multi-tasking: Besides operating and monitoring the operator must also perform engineering and maintenance tasks. We recognized this from the beginning and therefore designed the SPPA-T3000 to offer a Single User Interface for engineering, configuration, commissioning, operation, diagnostics and service.

Central control rooms are the answer to current demographic and economic developments, such as a lack of experienced personnel or plants running below capacity to the extent that around-the-clock staffing is, at times, no longer viable. However, central control rooms only make sense if they are more than just multiple control desks for different plants in one single room.

Ready for the future with digitalization. Thinking about the 4th industrial revolution with Industry 4.0 and digitalization, the DCS comes more and more important as it is the source for all relevant data needed for data analytics, asset management and optimization. If requested, the SPPA-T3000 can transfer, with highest security standards, data from the power plant or biomass plant to a data analytics platform.

LU: Has COVID-19 had an impact in the demand for automation?

DF: Particularly in times of COVID-19, many plants must rely on less on-site personnel and therefore reliable automation is essential. The way our customers conduct business is shifting during the pandemic with an extreme focus on health, safety and mitigation protocols. They must do as much as possible remotely and at an unprecedented scale. Fortunately, power plants with the SPPA-T3000 can operate from distributed locations to allocate operating personnel. To support our customers during this difficult time, we are offering temporary operating licenses for SPPA-T3000, free of charge. With the ability to increase remote operations, they can help keep their employees safe, their operations reliable and deliver energy to the communities they serve during this critical time.

LU: And finally, in a growing area for the bioeconomy, what sets out Siemens Energy apart from the competition?"

DF: Siemens Energy has 150 years of experience in power plant automation. The SPPA-T3000 was developed by power plant experts for power plant experts. We gained a great deal of experience from the design of our fleet installed across the globe. And we have incorporated all this knowledge into our SPPA-T3000 control system.

The availability of a biomass/bioenergy and/or multifuel power plants is even more crucial as the energy production can be twice as expensive in comparison to coal fired power plants. To support the on-site staff, Siemens Energy has Remote Expert Centers (RECs) on four continents available around the clock, 365 days a year. And with an average problem-solving time of less than 60 minutes, Siemens Energy experts are exemplary in their field.

With special service contracts to fulfill the needs for maximum availability and continuous performance improvements, Siemens Energy offers maintenance contracts and lifecycle services over the whole 15 to 20-year lifecycle of the biomass plants.

LU: Thanks very much Dieter, we look forward to being kept updated with your latest news and innovations. ■