

Kries Company Mission

Alongside the expansion of renewable energy generation, the provision of highly available distribution grids represents one of the most important fields of action for the energy transition and, at the same time, our overarching mission. Regardless of whether it is called 'digitized distribution grid', 'smart grid' or 'intelligent distribution grid', the goal remains the same.

Germany has decided to phase out its current energy generation and has thus set itself a task that we must properly classify in terms of its consequences for the entire energy distribution system. Other countries will also follow this path if Germany is successful in doing so.

For many years, nuclear power, coal and gas were the stable, plannable energy sources. Now, with renewable energies and the temporary purchase of energy reserves from neighboring countries, the task is to ensure the previous stability. We measure stability with the grid frequency. This depends on the balance between generation and consumption every second. If the feeders do not supply enough energy, the frequency may drop below 49 Hz and consumers have to be switched off. If feeders supply too much energy, the frequency may rise above 50.2 Hz, then feeders must be reduced. Consumers or feeders must be shut down if the aim is to prevent a large-scale power failure in the interconnected grid with unforeseeable consequences. The more widespread the power outage, the more difficult it is to restart it, since the number of black-start capable generators in Germany is no longer sufficient for a short-term network reconstruction.

The positive aspect of our new, decentralized power generation is the opportunity to operate isolated grids. Island grids based on emergency generators and combined heat and power plants are already commonplace in many countries around the world, where there is no stable power supply. But the goal must be to operate island grids with the energy sources of the future that we have chosen, which can be controlled remotely and connected to form larger grids. Then we will have a sustainable, highly available energy supply and an internationally relevant contribution from the original task.

Sensors and actuators from Kries have been used in many distribution networks worldwide since 1994 to continuously improve the availability and security of distribution networks. Whereas in times of classical energy sources it was primarily the short-term, local failures of the distribution network that had to be shortened or prevented, the core task of the 2020s is the development of decentralized distribution network intelligences that ensure stable interaction between generation and consumption.

Designing these distribution grids is what drives us.

Gunter Kries, CEO