



KADANT DISCLOSURE

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INNOVATION FOR COMPETITIVENESS

2018 has been a year full of turnarounds. After a short period of optimism and a few signs of economic recovery following the turbulence of recent years, we see ourselves once again immersed in economic uncertainties and a lack of political direction, hindering this fragile scenario of recovery. And again, the productive sector continues rowing against the current for the country's recovery. Without a doubt, the Pulp and Paper sector should be commended for its remarkable performance over the last years, now ranking among the top five production sectors in Brazil's economy. Worldwide, Brazil is already the second biggest pulp producer.

At present, there's widespread awareness about the continuity of innovation and its relevance for companies in the sector. Their highly-competitive position was achieved through entrepreneurship based on sustainable development, productivity increases, technological advancements in processes and the management of people and information technology. Equally important are the significant advancements in the development of new products and industrial processes. The implications and trends that support innovation are actively discussed in terms of strategic, organizational, behavioral and legal knowledge and, most importantly, business perspectives and their economic implications.

New technologies and trends are now necessary to align the supply chain to generate value and leverage the sector's development. Communication and information technology are developing rapidly, and many disruptive technologies have surfaced, such as cloud computing, the Internet of Things, data storage capacity and artificial intelligence. These technologies permeate the process industry and allow joining the physical and virtual worlds, through cyber-physical systems, marking the advent of the fourth phase of industrial production and tools for the intelligent monitoring of internal and external activities.

Mixed Reality and Artificial Intelligence stand out as key technological changes, as they transform and redefine how we can communicate, work and learn. Their capacity to merge the physical and digital worlds allows for the interaction of different users and objects in different locations, producing new environments in which physical and virtual items coexist and interact in real time.

To deal with the competencies and knowledge related to new technologies and processes in Industry 4.0, new strategic approaches are necessary for managing human resources. Due to the continuous automation of simple production processes, there will be more room for work with a high level of complexity, which will result in the need for a high level of education and specialization on the part of employees. The challenge will be to qualify employees to work in spaces with more complex processes and ensure the maximization of new resources, seeking the continuity of improvements and development of new processes.

With this scope, Kadant has promoted exhaustive discussions and debates on the management of new technologies, maintaining focus on how and where innovation can add value to intensive-knowledge processes, as observed in the Pulp and Paper segment. We thus foster a creative interpretation and adaptation of value propositions, or business models, in each situation. In other words, there are important implications for new and emerging methods that can provide gains to customers, be it in the optimization of energy consumption, utilities and inputs, or maximization of productivity and end-product quality.

New technologies include attributes that can boost knowledge and support industry processes. However, they require focus and study for their potential to not be wasted and be targeted at adding value and boosting competitiveness. ■